

General Purpose Catalog

Valves, Controls and System Protectors

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EmersonClimate.com/flowcontrols

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Quick Select Guide

Application	Nominal Capacity		Valve Family	Adjustable Superheat	Internal Check	Style			Connections		Configuration		Port		
	R-22	R-410A				Hermetic	Replaceable Power Element	Field Serviceable	SAE	ODF	Angle	Straight	Conventional	Balanced	
Air Conditioning and Refrigeration	1/4 to 5	1 ¼ to 5	AA	X		X				X		X	X		
	1/4 to 5	1 ¼ to 5	AN			X				X	X	X	X		
	1/4 to 5	1 ¼ to 5	AAC	X	X	X				X		X	X		
	1/4 to 5	1 ¼ to 5	ANC		X	X				X	X	X	X		
	1/4 to 5		AFA	X		X			X	X			X		
	1/2 to 6	½ to 7 ½	BA	X		X				X		X		X	
	1/2 to 6	½ to 7 ½	BN			X				X	X	X	X	X	
		½ to 15	NXT	X	X	X				X	X	X	X		X
	1/4 to 5 1/2		HFK	X			X	X	X	X	X	X	X		X
	1/4 to 5 1/2		HF	X			X			X	X	X	X		X
	8 to 20		HF EXT	X			X			X	X	X			X
	1/3 to 5		TI	X				X		X		X		X	
	8 to 20	12 to 20	TF	X			X			X		X			X
	1/2 to 12		TL					X	X	X	X	X	X		
	1/2 to 12		TCL	X				X	X	X	X	X	X		
	11 and 14		TJL	X				X		X	X	X	X		
	14 and 18		TJR	X				X		X	X	X			X
	22 to 45		TER	X				X		X	X	X			X
	55		TIR	X				X		X	X	X			X
	70 and 85		THR	X				X		X	X	X			X
100		TMR	X				X		X	X	X			X	
10 to 40		TRAE+	X				X		X		X			X	
50 to 70		TRAE	X			X			X		X			X	
Constant Pressure	1/2 to 5		ACP			X				X		X	X		
Ultra-Low Temp	3/4 to 8		ZZ	X				X	X	X	X	X	X		
De-Superheating			LA	X		X				X		X	X		
			LCL	X				X	X	X	X	X	X		

Charge Code Selector

Applications	Operating Ranges										
R-134a/R-12 Domestic Refrigerators and Freezers, Ice Makers, Dehumidifiers, Transport Refrigeration, Medium Temperature Supermarket Equipment, Medium Temperature Commercial Equipment	MC/FC										
	MZ/FZ										
	MW35/FW35 (MOP)										
	MW55										
R-22 Residential Air Conditioners & Heat Pumps, Commercial and Industrial Chillers, Medium Temperature Supermarket Equipment, Commercial Air Handlers	HCA/HAA AIR COND. & HEAT PUMP										
	HW/HW100										
	HC										
	HW65 (MOP)										
	HZ										
R-404A/R-507/R-502 Low Temperature Cases, Ice Makers, Commercial Air Handlers, Conditioners, Soft Ice Cream Machines, Environmental Chambers	SC/RC										
	SZ/RZ										
	SW45/RW45 (MOP)										
R-410A	ZW195										

-50 -40 -30 -20 -10 0 +10 +20 +30 +40 +50

The A-series is used for heat pump, air conditioning, food services and commercial applications.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Hermetic, leak-free construction
- Compact size allows installation in limited spaces
- Mass spectrometer tested to ensure less than 0.10 oz/year external leakage rate



Options

- ZW195 charge available for R-410A systems
- Adjustable or non-adjustable superheat
- SAE or ODF connections standard – Chatleff or Aeroquip are available
- External or internal equalizer
- Internal check valve allows reverse flow for heat pump applications, eliminating the need for external piping and external check valve
- Bleed type pressure equalization to accommodate PSC type compressors
- Pressure limiting charges (MOP) available

Specifications

Maximum working pressure: 700 psig
UR/CUR file number: SA 5312

Nomenclature

example: AACEB 2 HC 30 IN 3/8 x 1/2 ODF ANG

A	A	C	E	B	2	H	C	30 IN	3/8 x 1/2	ODF	ANG
Valve Series Hermetic Design	Superheat Adjustment A = Adjustable N = Non-Adjustable	Internal Check Valve (optional) Reverse Flow Bypass Application	Equalizer E=External (Omit for Internal)	Bleed Hole (optional) (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A Z = R-410A *B = R-448A /R-449A +D = R-450A /R-513A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp AA = wide range	Capillary Tube Length 30 IN & 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2 1/2 x 5/8 5/8 x 7/8	Connection Type SAE=flare ODF = solder Chatleff (optional) Aeroquip (optional)	Configuration S/T = straight-thru ANG = 90° angle

+ = R-12, R-134a, R-450A and R-513A are interchangeable refrigerant charges
* = R-507, R-502, R-404A, R-448A and R-449A are interchangeable refrigerant charges
• = R-22 and R-407C are interchangeable refrigerant charges

AA/AN Series – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-450A/R-513A	R-22	R-410A	R-502	R-507/R-404A	**R-448A/R-449A	R-407C
–	1/8 (0.4)	1/8 (0.4)	1/5 (0.7)	–	–	1/8 (0.4)	1/5 (0.7)	1/5
1/8 (0.4)	1/4 (0.9)	1/5 (0.7)	1/4 (0.9)	1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/4 (0.9)	1/4 (0.9)
1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1/2 (1.8)	1 (3.5)	1 (3.5)	1/2 (1.8)	3/4	1 (3.5)	1 (3.5)
1 (3.5)	1 (3.5)	3/4 (2.7)	1½ (5.3)	1½ (5.3)	1 (3.5)	1 (3.5)	1½ (5.3)	1¼ (4.4)
–	1½ (5.3)	1 (3.5)	2 (7.0)	2 (7.0)	–	1¼ (4.4)	2 (7.0)	2 (7.0)
1½ (5.3)	2 (7.0)	1½ (5.3)	2½ (8.8)	3 (11.0)	1½ (5.3)	2 (7.0)	2¾ (9.7)	2½ (8.8)
2 (7.0)	2½ (9.0)	2 (7.0)	3 (11.0)	4 (14.0)	2 (7.0)	2¼ (8.0)	3½ (12.0)	3¼ (11.5)
2½ (9.0)	3 (11.0)	2½ (9.0)	4 (14.0)	5 (17.0)	2½ (8.8)	2½ (8.8)	4 (14.0)	4 (14.0)
3 (11.0)	4 (14.0)	3 (11.0)	5 (17.0)	–	3 (11.0)	3½ (12.0)	5½ (20.0)	5¼ (19.0)

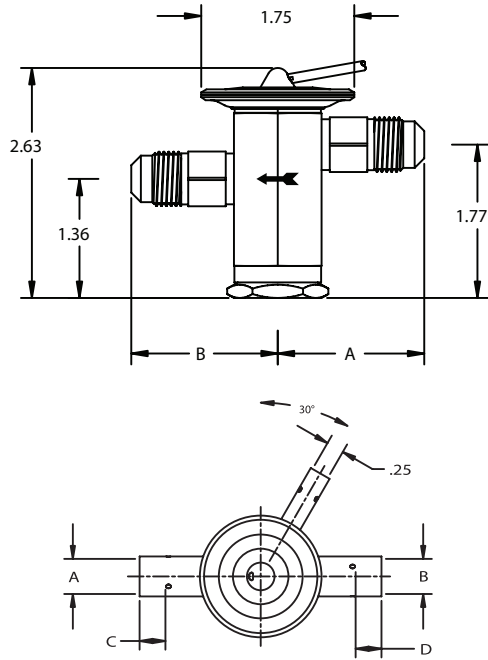
All capacities shown are at 100°F condensing, 40°F evaporator temperature.

*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

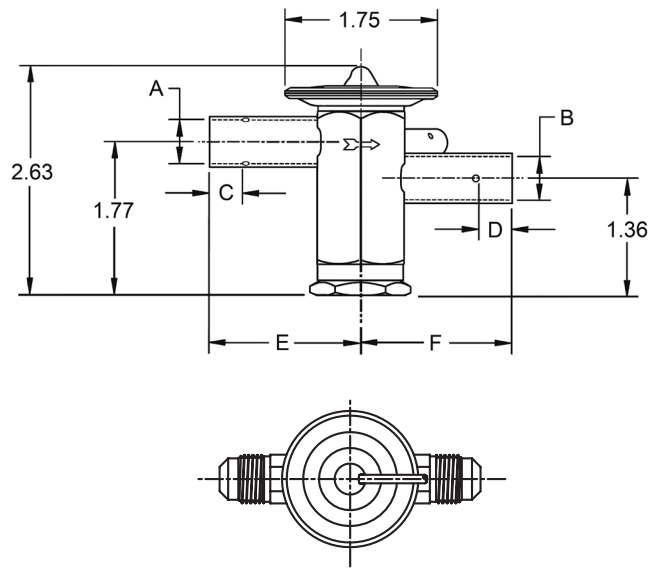
ANCE SAE Dimensional Data

Connection Size		A	B
Inlet	Outlet		
3/8 SAE	3/8 SAE	1.67	1.67
1/2 SAE	1/2 SAE	1.75	1.75



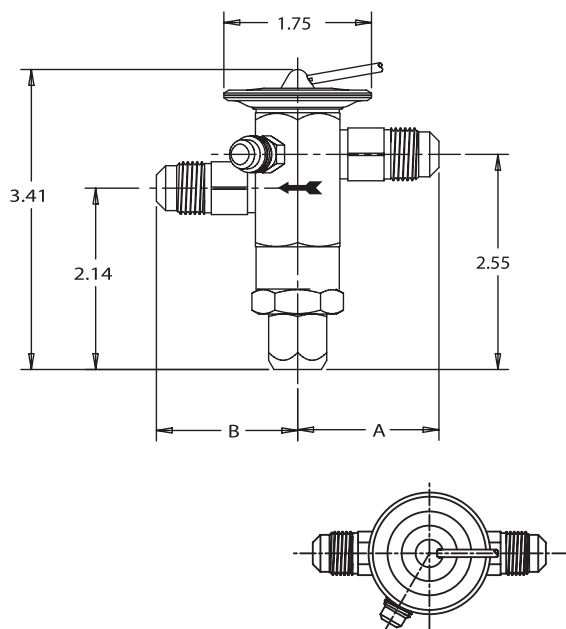
ANCE ODF Dimensional Data

Connection Size		A± .002	B± .002	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.32	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.70	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.38	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.38	0.38	1.73	1.73
1/2 ODF	5/8 ODF	0.63	0.61	0.38	0.50	1.75	1.75



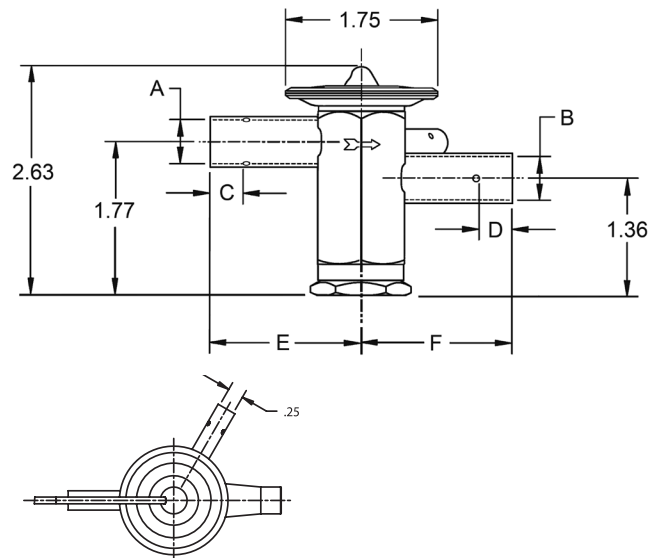
AACE SAE Dimensional Data

Connection Size		A	B
Inlet	Outlet		
3/8 SAE	3/8 SAE	1.67	1.67
1/2 SAE	1/2 SAE	1.75	1.75



AACE ODF Dimensional Data

Connection Size		A± .002	B± .002	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.32	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.70	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.38	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.38	0.38	1.73	1.73
1/2 ODF	5/8 ODF	0.63	0.61	0.38	0.50	1.75	1.75



Ordering Information

Without Internal Check Valve

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN		
R-410A	AAE	1½	ZW195	3/8 X 1/2 ODF S/T	30 IN	066515		
			ZW195	3/8 X 3/8 ODF S/T	30 IN	064595		
		3	ZW195	3/8 X 1/2 ODF S/T	30 IN	065579		
			ZW195	CHATLEFF	30 IN	015776		
		5	ZW195	1/2 X 5/8 ODF S/T	30 IN	065580		
			ZW195	CHATLEFF	30 IN	015794		
R-134a R-12 R-450A R-513A	AA	1/8	MC	1/4 X 3/8 ODF S/T	30 IN	066030		
			MC	1/4 X 1/2 ODF S/T	30 IN	065821		
		1/4	MC	1/4 X 3/8 ODF S/T	30 IN	062051		
			MC	1/4 X 1/2 ODF S/T	5 FT	065623		
		1	MC	3/8 X 1/2 ODF S/T	30 IN	065776		
			MC	1/4 X 3/8 SAE S/T	30 IN	058985		
	AAE	1/2	MC	1/4 X 1/2 ODF S/T	5 FT	065624		
			MZ	1/4 X 3/8 SAE S/T	30 IN	058986		
		1/2	MC	1/4 X 1/2 ODF S/T	5 FT	065630		
			1	MC	3/8 X 1/2 ODF S/T	5 FT	065631	
		R-22 R-407C	AA	1/4	HC	1/4 X 3/8 ODF S/T	5 FT	056315
					HC	1/4 X 1/2 ODF S/T	5 FT	055932
1/2	HC			1/4 X 1/2 ODF S/T	5 FT	065626		
	HC			3/8 X 3/8 ODF S/T	30 IN	056547		
1	HC			3/8 X 1/2 SAE S/T	5 FT	057828		
	HC			1/4 X 1/2 ODF S/T	5 FT	065632		
AAE	1/2		HC	3/8 X 1/2 ODF S/T	5 FT	065633		
			HC	3/8 X 1/2 SAE ST	5 FT	057987		
	1		HC	1/4 X 3/8 ODF ST	30 IN	059582		
			HC	1/4 X 1/2 ODF S/T	5 FT	065634		
	1½		HC	3/8 X 1/2 ODF S/T	5 FT	064424		
			HC	3/8 X 1/2 ODF S/T	5 FT	064425		
AAE	2	HCA	3/8 X 1/2 ODF S/T	30 IN	049632			
		HAA	3/8 X 1/2 ODF S/T	30 IN	063648			
	2½	HAA	CHATLEFF	30 IN	013938			
		HCA	3/8 X 1/2 ODF S/T	30 IN	049633			
	3	HC	3/8 X 1/2 ODF S/T	5 FT	062376			
		HC	3/8 X 1/2 SAE S/T	5 FT	056686			
		HCA	3/8 X 1/2 ODF S/T	30 IN	049634			
		HCA	1/2 X 5/8 ODF S/T	30 IN	060643			
		4	HC	1/2 X 5/8 ODF S/T	5 FT	061960		
			HCA	3/8 X 1/2 ODF S/T	30 IN	049638		
	AAEB	5	HCA	1/2 X 1/2 ODF S/T	30 IN	061247		
			HAA	3/8 X 1/2 ODF S/T	30 IN	063649		
2		HAA	CHATLEFF	30 IN	013939			
		HC	1/2 X 5/8 ODF S/T	5 FT	059565			
3		HC	5/8 X 7/8 ODF S/T	30 IN	061805			
		HCA	3/8 X 1/2 ODF S/T	30 IN	054024			
HCA	1/2 X 5/8 ODF S/T	30 IN	059683					
HW100	3/8 X 5/8 ODF S/T	5 FT	062088					
2	HCA	3/8 X 1/2 ODF S/T	30 IN	059616				
3	HCA	3/8 X 1/2 ODF S/T	30 IN	059603				
4	HCA	1/2 X 1/2 ODF S/T	30 IN	059605				
5	HCA	1/2 X 1/2 ODF S/T	30 IN	059607				

Chatleff Gasket Kit – KG 10045 (PCN: 066031)

* For interchangeable refrigerant charges R-134a/R-12/R-450A/R-513A, R-404A/R-507/R-502/R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected?

Solution: From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

Without Internal Check Valve (cont.)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN	
R-404A R-507 R-502 **R-448A **R-449A	AA	1/8	SC	1/4 X 3/8 ODF S/T 6A	30 IN	065921	
			SC	1/4 X 1/2 ODF S/T	30 IN	063503	
		1/4	SW45	1/4 X 3/8 ODF S/T	5 FT	065676	
			SZ	1/4 X 3/8 ODF S/T	5 FT	065675	
		1/2	SC	1/4 X 1/2 ODF S/T	30 IN	063504	
			SW45	1/4 X 1/2 ODF S/T	5 FT	065685	
			SZ	1/4 X 1/2 ODF S/T	5 FT	065682	
			SZ	3/8 X 1/2 ODF S/T	30 IN	063925	
		3/4	SC	3/8 X 1/2 ODF S/T	30 IN	066200	
			SW45	3/8 X 1/2 ODF S/T	30 IN	065686	
		1	SZ	3/8 X 1/2 ODF S/T	30 IN	065149	
			SC	3/8 X 1/2 ODF S/T	30 IN	066201	
		AAE	1/4	SC	1/4 X 1/2 ODF S/T	30 IN	066422
				SZ	1/4 X 1/2 ODF S/T	30 IN	066435
			1/2	SC	1/4 X 1/2 ODF S/T	30 IN	066423
				SC	3/8 X 1/2 ODF S/T	5 FT	066085
				SW45	1/4 X 1/2 ODF S/T	5 FT	065636
				SW45	3/8 X 1/2 ODF S/T	5 FT	065688
			3/4	SZ	1/4 X 1/2 ODF S/T	30 IN	066436
				SZ	3/8 X 1/2 ODF S/T	5 FT	065687
			1	SC	3/8 X 1/2 ODF S/T	5 FT	066086
				SZ	1/4 X 1/2 ODF S/T	30 IN	066437
			1	SC	3/8 X 1/2 ODF S/T	5 FT	066087
				SW45	3/8 X 1/2 ODF S/T	5 FT	065637
	SZ	3/8 X 1/2 ODF S/T		5 FT	065183		
	SC	3/8 X 1/2 ODF S/T		5 FT	066081		
	SW45	3/8 X 1/2 ODF S/T		5 FT	066079		
	SZ	3/8 X 1/2 ODF S/T		5 FT	066080		
	1½	SC	3/8 X 1/2 ODF S/T	5 FT	066448		
		SW45	3/8 X 1/2 ODF S/T	5 FT	065698		
	2	SZ	3/8 X 1/2 ODF S/T	5 FT	065697		
		SC	3/8 X 1/2 ODF S/T	30 IN	065330		
	2	SW45	3/8 X 1/2 ODF S/T	5 FT	065690		
		SZ	3/8 X 1/2 ODF S/T	5 FT	065689		
	2¼	SW45	3/8 X 1/2 ODF S/T	5 FT	066082		
		SZ	3/8 X 1/2 ODF S/T	5 FT	066083		
	2½	SC	3/8 X 1/2 ODF S/T	5 FT	066084		
		SW45	1/2 X 5/8 ODF S/T	5 FT	065148		
	3	SZ	1/2 X 5/8 ODF S/T	5 FT	065691		
		SW45	3/8 X 1/2 ODF S/T	5 FT	065693		
	SZ	3/8 X 1/2 ODF S/T	5 FT	065692			

**Use SZ charge for all R-449A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

With Internal Check Valve

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN	
R-410A	AAE	1½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065871	
			ZW195	CHATLEFF	30 IN	016432	
		2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065872	
			ZW195	CHATLEFF	30 IN	016615	
		3	ZW195	3/8 X 1/2 ODF S/T	5 FT	065873	
			ZW195	CHATLEFF	30 IN	015795	
		4	ZW195	3/8 X 1/2 ODF S/T	5 FT	065874	
			ZW195	CHATLEFF	30 IN	016433	
		5	ZW195	1/2 X 5/8 ODF S/T	5 FT	065875	
			ZW195	CHATLEFF	30 IN	015796	
		AAECB	1½	ZW195	3/8 X 1/2 ODF S/T	30 IN	065946
				ZW195	3/8 X 1/2 ODF S/T	30 IN	065942
	3		ZW195	3/8 X 1/2 ODF S/T	30 IN	065943	
			ZW195	3/8 X 1/2 ODF S/T	30 IN	065944	
	4		ZW195	3/8 X 1/2 ODF S/T	30 IN	065945	
			ZW195	3/8 X 1/2 ODF S/T	30 IN	065945	
	AAE		1	HCA	3/8 X 1/2 ODF S/T	30 IN	063795
				HCA	3/8 X 1/2 ODF S/T	5 FT	058923
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	063676	
			HAA	3/8 X 1/2 ODF S/T	30 IN	064102	
		2½	HAA	CHATLEFF	30 IN	014091	
			HCA	3/8 X 1/2 ODF S/T	5 FT	065868	
		3	HCA	1/2 X 5/8 ODF S/T	5 FT	065797	
			HCA	3/8 X 1/2 ODF S/T	5 FT	065869	
5		HAA	3/8 X 1/2 ODF S/T	30 IN	064103		
		HAA	CHATLEFF	30 IN	014092		
AAECB		1½	HCA	3/8 X 1/2 ODF S/T	30 IN	065842	
			HCA	3/8 X 1/2 ODF S/T	30 IN	065959	
	3	HCA	3/8 X 1/2 ODF S/T	30 IN	065941		
		HCA	3/8 X 5/8 ODF S/T	30 IN	065844		

AFA(E) Series

Thermal Expansion Valves

The AFA series is designed for air conditioning and commercial refrigeration applications requiring angle configuration SAE connections. The AFA is ideal for those applications requiring compact size combined with stable and accurate control over wide load and evaporator temperature ranges.



Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- External superheat adjustment
- Replaceable inlet strainer
- SAE connections only
- Wrench flats on inlet and outlet

Options

- External or internal equalizer

Specifications

- Maximum working pressure: 700 psig
- UR/CUR file number: SA 5312

Nomenclature example: AFAE 1/2 HC 5 FT 3/8 x 1/2 SAE ANG

AF	A	E	1/2	H	C	5 FT	3/8 x 1/2	SAE	ANG
Valve Series Hermetic Design, Flare Connections	Superheat Adjustment A = Adjustable	Equalizer E=External (Omit for Internal)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A Z = R-410A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp AA = wide range	Capillary Tube Length 30 IN & 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2	Connection Type SAE=flare	Configuration ANG = 90° angle

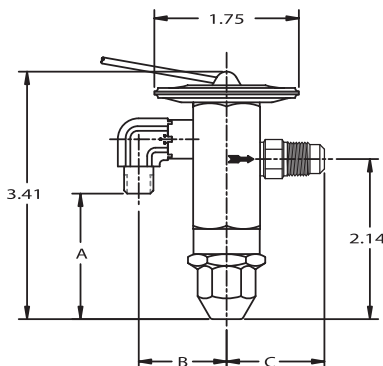
+ = R-12 and R-134a are interchangeable refrigerant charges, * = R-507, R-502 and R-404A are interchangeable refrigerant charges, • = R-22 and R-407C are interchangeable refrigerant charges

AFA Series – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-22	R-502	R-507/R-404A	R-407C
-	1/8 (0.4)	1/5 (0.7)	-	1/8 (0.4)	1/5 (0.7)
1/8 (0.4)	1/4 (0.9)	1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/4 (0.9)
1/4 (0.9)	1/2 (1.8)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1 (3.5)	1/2 (1.8)	3/4 (2.7)	1 (3.5)
1 (3.5)	1 (3.5)	1½ (5.3)	1 (3.5)	1 (3.5)	1¼ (4.4)
-	1½ (5.3)	2 (7.0)	-	1¼ (4.4)	2 (7.0)
1½ (5.3)	2 (7.0)	2½ (9.0)	1½ (5.3)	2 (7.0)	2½ (9.0)
2 (7.0)	2½ (9.0)	3 (11.0)	2 (7.0)	2¼ (8.0)	3¼ (11.5)
-	3 (11.0)	-	-	2½ (9.0)	4 (14.0)
3 (11.0)	4 (14.0)	5 (17.0)	3 (11.0)	3½ (12.0)	5¼ (19.0)

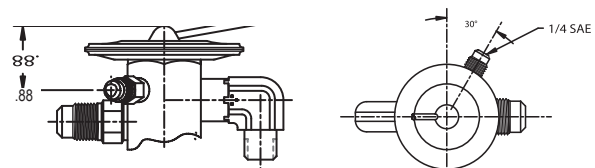
All capacities shown are at 100°F condensing, 40°F evaporator temperature.
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

Dimensional Data



Remote Bulb Tubing Length 30" or 5' Standard

AFA(E) Connections (in)				
Inlet	Outlet	A	B	C
1/4 SAE elbow	3/8 SAE	1.56	1.31	1.64
	1/2 SAE			1.35
	5/8 SAE			1.98
	3/8 – 1/2 SAE			1.73
3/8 SAE elbow	3/8 SAE	1.47	1.31	1.34
	1/2 SAE			1.36
	5/8 SAE			1.98
	3/8 – 1/2 SAE			1.73



Ordering Information

Internally Equalized

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN		
R-12	AFA	1/4	FC	1/4 X 3/8-1/2 SAE	5 FT	047753		
			FC	1/4 X 3/8-1/2 SAE	30 IN	057047		
			FC	3/8 X 3/8-1/2 SAE	5 FT	054258		
		1/2	FC	1/4 X 3/8-1/2 SAE	5 FT	047752		
			FC	1/2 X 3/8-1/2 SAE	30 IN	057028		
			FC	3/8 X 3/8-1/2 SAE	5 FT	054226		
		1	FC	3/8 X 3/8-1/2 SAE	30 IN	057027		
			FC	3/8 X 3/8-1/2 SAE	5 FT	047758		
		FC	3/8 X 3/8-1/2 SAE	30 IN	057029			
R-134a R-12	AFA	1/4	MC	1/4 X 3/8-1/2 SAE	5 FT	058536		
			MC	1/4 X 3/8-1/2 SAE	30 IN	057607		
		1/2	MC	1/4 X 3/8-1/2 SAE	30 IN	057606		
			MC	3/8 X 3/8-1/2 SAE	30 IN	059625		
		1	MC	1/4 X 3/8-1/2 SAE	30 IN	057605		
R-22 R-407C	AFA	1/4	HC	1/4 X 3/8-1/2 SAE	30 IN	057261		
			HZ	1/4 X 3/8-1/2 SAE	30 IN	059575		
		1/2	HC	1/4 X 3/8-1/2 SAE	30 IN	057260		
			HC	3/8 X 3/8-1/2 SAE	5 FT	054229		
		1	HC	3/8 X 3/8-1/2 SAE	5 FT	054231		
			HZ	3/8 X 3/8-1/2 SAE	5 FT	057555		
		1 1/2	HC	3/8 X 3/8-1/2 SAE	5 FT	054232		
		2	HC	3/8 X 3/8-1/2 SAE	5 FT	054233		
		3	HC	3/8 X 3/8-1/2 SAE	5 FT	054234		
		R-404A R-507 R-502	AFA	1/4	SC	1/4 X 3/8-1/2 SAE	5 FT	064072
					SW45	1/4 X 3/8-1/2 SAE	30 IN	066498
SZ	1/4 X 3/8-1/2 SAE				30 IN	066438		
1/2	SC			1/4 X 3/8-1/2 SAE	30 IN	066424		
	SW45			1/4 X 3/8-1/2 SAE	30 IN	066499		
	SZ			1/4 X 3/8-1/2 SAE	30 IN	066439		
3/4	SC			3/8 X 3/8-1/2 SAE	30 IN	066425		
	SW45			3/8 X 3/8-1/2 SAE	30 IN	066500		
	SZ			3/8 X 3/8-1/2 SAE	30 IN	066440		
1	SC			3/8 X 3/8-1/2 SAE	30 IN	066426		
	SW45			3/8 X 3/8-1/2 SAE	30 IN	066501		
	SZ	3/8 X 3/8-1/2 SAE	30 IN	066441				

* For interchangeable refrigerant charges R-134a/R-12, R-404A/R-507/R-502, and R-22/R-407C, the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? **Solution:** From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

Ordering Information

Externally Equalized

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN		
R-134a R-12	AFAE	1/4	MC	3/8 X 3/8-1/2 SAE	30 IN	063898		
		1/2	MC	1/4 X 3/8-1/2 SAE	30 IN	057853		
			MC	3/8 X 3/8-1/2 SAE	30 IN	061904		
		1	MC	3/8 X 3/8-1/2 SAE	30 IN	057613		
		1½	MC	3/8 X 3/8-1/2 SAE	30 IN	060865		
		2	MC	3/8 X 3/8-1/2 SAE	30 IN	061906		
		3	MC	3/8 X 3/8-1/2 SAE	30 IN	061908		
R-22 R-407C	AFAE	1/2	HC	1/4 X 3/8-1/2 SAE	5 FT	054243		
		1	HC	3/8 X 3/8-1/2 SAE	5 FT	054246		
			HC	1/4 X 3/8-1/2 SAE	5 FT	054245		
			HZ	3/8 X 3/8-1/2 SAE	5 FT	057163		
		1½	HC	3/8 X 3/8-1/2 SAE	5 FT	054247		
			HZ	3/8 X 3/8-1/2 SAE	5 FT	057950		
		2	HZ	3/8 X 3/8-1/2 SAE	5 FT	057951		
			HC	3/8 X 3/8-1/2 SAE	5 FT	054248		
		3	HC	3/8 X 3/8-1/2 SAE	5 FT	054249		
			HZ	3/8 X 3/8-1/2 SAE	5 FT	057556		
		5	HC	3/8 X 3/8-1/2 SAE	5 FT	054250		
			HZ	3/8 X 3/8-1/2 SAE	5 FT	058484		
		R-404A R-507 R-502	AFAE	1/4	SC	1/4 X 3/8-1/2 SAE	30 IN	066427
					SW45	1/4 X 3/8-1/2 SAE	30 IN	066502
SZ	1/4 X 3/8-1/2 SAE				30 IN	066442		
1/2	SC			1/4 X 3/8-1/2 SAE	30 IN	066428		
	SW45			3/8 X 3/8-1/2 SAE	30 IN	066453		
	SZ			1/4 X 3/8-1/2 SAE	30 IN	066443		
3/4	SC			3/8 X 3/8-1/2 SAE	30 IN	061911		
	SW45			3/8 X 3/8-1/2 SAE	30 IN	066504		
	SZ			1/4 X 3/8-1/2 SAE	30 IN	066444		
1	SC			3/8 X 3/8-1/2 SAE	30 IN	061912		
	SW45			3/8 X 3/8-1/2 SAE	30 IN	066452		
	SZ			1/4 X 3/8-1/2 SAE	30 IN	066445		
1½	SZ			3/8 X 3/8-1/2 SAE	5 FT	063464		
	SC			3/8 X 3/8-1/2 SAE	5 FT	066454		
	SZ			3/8 X 3/8-1/2 SAE	5 FT	063465		
2	SC			3/8 X 3/8-1/2 SAE	30 IN	061914		
	SW45			3/8 X 3/8-1/2 SAE	5 FT	066505		
	SZ			3/8 X 3/8-1/2 SAE	5 FT	061646		

* For interchangeable refrigerant charges R-134a/R-12, R-404A/R-507/R-502, and R-22/R-407C, the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? **Solution:** From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

The BA/BN series is a balanced ported valve. Typical applications include: refrigerated cases, coolers, freezers, ice machines and air conditioning systems. BA/BN valves operate over widely varying operating conditions.



Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Hermetic, leak-free construction
- Compact size allows installation in limited spaces
- Bi-Flow capability allows one valve to control the superheat in both cooling and heating modes for heat pump applications
- Balanced port construction compensates for changes in operating pressures due to varying ambients, gas defrost, heat reclaim, or widely varying evaporator loads

Specifications

- Maximum working pressure: 700 psig

Options

- ZW195 charge available for R-410A systems
- External or internal equalizer
- Bleed type pressure equalization available to accommodate PSC type compressors
- SAE or ODF connections standard – Chatleff or Aeroquip are available
- Adjustable or non-adjustable superheat

Nomenclature example: BAEB 1/2 HCA 5 FT 3/8 x 1/2 ODF S/T

B	A	E	B	1/2	H	CA	5 FT	3/8 x 1/2	ODF	S/T
Valve Series Hermetic Balanced Port Design	Superheat Adjustment A = Adjustable N = Non-Adjustable	Equalizer E=External (Omit for Internal)	Bleed Hole (optional) (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A Z = R-410A *B = R-448A/ R-449A +D = R-450A/ R-513A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length 30 IN & 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2 1/2 x 5/8 5/8 x 7/8	Connection Type SAE=flare ODF = solder	Configuration S/T = straight-thru ANG = 90° angle

+ = R-12, R-134a, R-450A and R-513A are interchangeable refrigerant charges
 * = R-507, R-502, R-404A, R-448A, R-449A and R-404A are interchangeable refrigerant charges
 • = R-22 and R-407C are interchangeable refrigerant charges

BA/BN Series – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-450A/R-513A	R-22/R-407C	R-410A	R-502/R-404A/R-507	**R-448A/R-449A
1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1/2 (1.8)	1 (3.5)	1 (3.5)	1/2 (1.8)	1 (3.5)
1 (3.5)	1 (3.5)	3/4 (2.7)	1½ (5.3)	1½ (5.3)	1 (3.5)	1½ (5.3)
1¼ (4.4)	1½ (5.3)	1 (3.5)	2 (7.0)	2 (7.0)	1¼ (4.4)	2 (7.0)
1½ (5.3)	2 (7.0)	1½ (5.3)	2½ (9.0)	3 (11.0)	1½ (5.3)	2½ (8.8)
2 (7.0)	2¼ (8.0)	1¾ (9.5)	3 (11.0)	3½ (12.0)	2 (7.0)	3 (11.0)
2½ (9.0)	3 (11.0)	2½ (8.0)	4 (14.0)	4½ (16.0)	2½ (9.0)	4 (14.0)
3 (11.0)	3½ (12.0)	3 (11.0)	5 (17.0)	6 (21.0)	3 (11.0)	5 (17.5)
3½ (12.0)	4 (15.0)	3½ (12.0)	6 (21.0)	7½ (26.0)	4 (14.0)	6 (21.0)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.

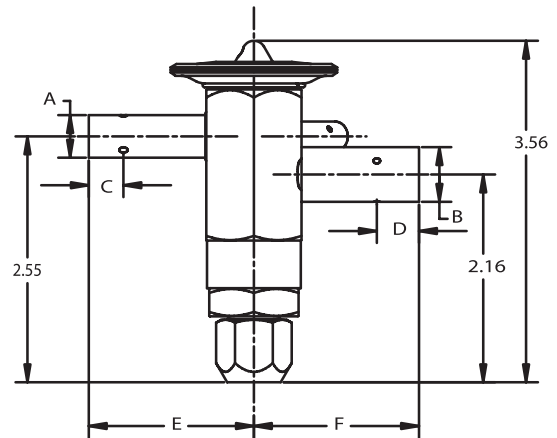
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750

** Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

BA/BN Dimensional Data (in)

BAE							
Connection Size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.41	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.41	0.41	1.73	1.73
1/2 ODF	5/8 ODF	0.50	0.63	0.41	0.50	1.73	1.75
5/8 ODF	5/8 ODF	0.63	0.61	0.50	0.50	1.75	1.75
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.62	1.75	1.73

BA(E) Dimensional Diagram

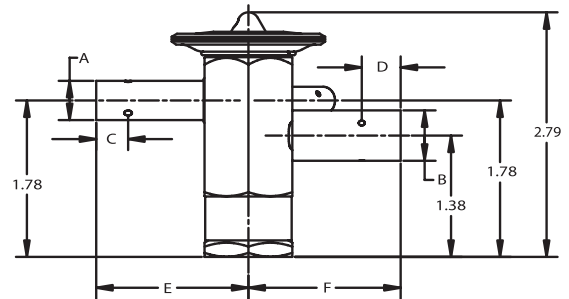


ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

BN(E) Dimensional Data (in)

BAE							
Connection Size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.41	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.41	0.41	1.73	1.73
1/2 ODF	5/8 ODF	0.50	0.63	0.41	0.50	1.73	1.75
5/8 ODF	5/8 ODF	0.63	0.61	0.50	0.50	1.75	1.75
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.62	1.75	1.73

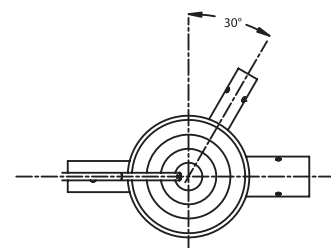
BN(E) Dimensional Diagram



ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

Remote Bulb Tubing Length 30" or 5' Standard

BA(E) & BN(E) Remote Bulb Dimensions		
Refrigerant Charge	Length	Diameter
HCA, HAA	2.31	0.75
MC, MZ, MW (MOP), RW (MOP)	2.09	0.50
RC, SC, SZ, SW (MOP),		
PC, PZ, PW (MOP)		



TOP VIEW SHOWING
EXTERNAL EQUALIZER LOCATION

Ordering Information

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-410A	BAE	1½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065876
		2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065877
		3	ZW195	3/8 X 1/2 ODF S/T	5 FT	065878
		4½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065880
		6	ZW195	1/2 X 3/8 ODF S/T	5 FT	065586
	BAEB	7½	ZW195	5/8 X 7/8 ODF S/T	5 FT	066088
		1½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065336
		2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065337
		3	ZW195	3/8 X 1/2 ODF S/T	5 FT	065338
		4½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065339
R-134a R-12 R-450A R-513A	BAE	6	ZW195	3/8 X 1/2 ODF S/T	5 FT	065340
		6	ZW195	1/2 X 3/8 ODF S/T	5 FT	065978
		¾	MC	3/8 X 1/2 ODF S/T	30 IN	062754
		1	MC	3/8 X 1/2 ODF S/T	30 IN	061967
		1½	MC	3/8 X 1/2 ODF S/T	30 IN	063129
R-22 R-407C	BAE	2	MC	3/8 X 1/2 ODF S/T	30 IN	062830
		3	MC	3/8 X 1/2 ODF S/T	30 IN	063201
		1	HCA	3/8 X 1/2 ODF S/T	30 IN	063200
		1½	HCA	3/8 X 1/2 ODF S/T	30 IN	061954
			HW100	3/8 X 1/2 ODF S/T	30 IN	062831
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	061955
			HCA	1/2 X 1/2 ODF S/T	5 FT	063018
		2½	HCA	3/8 X 1/2 ODF S/T	30 IN	061956
			HCA	1/2 X 5/8 ODF S/T	30 IN	061962
			HW100	3/8 X 1/2 ODF S/T	30 IN	062616
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	061957
			HCA	1/2 X 5/8 ODF S/T	5 FT	063019
			HW100	3/8 X 1/2 ODF S/T	30 IN	062372
			HCA	3/8 X 1/2 ODF S/T	30 IN	061958
		4	HCA	1/2 X 5/8 ODF S/T	30 IN	061963
			HCA	5/8 X 5/8 ODF S/T	5 FT	063020
			HCA	3/8 X 1/2 ODF S/T	30 IN	062373
			HW100	3/8 X 1/2 ODF S/T	30 IN	062373
		5	HCA	3/8 X 1/2 ODF S/T	5 FT	062839
			HCA	1/2 X 1/2 ODF S/T	5 FT	062852
	HCA		1/2 X 5/8 ODF S/T	5 FT	061964	
	HCA		5/8 X 5/8 ODF S/T	5 FT	062838	
	HW100		3/8 X 1/2 ODF S/T	30 IN	062374	
	6	HCA	1/2 X 1/2 ODF S/T	5 FT	062853	
		HCA	1/2 X 5/8 ODF S/T	5 FT	062736	
	BNE	3	HCA	3/8 X 1/2 ODF S/T	5 FT	064166
			HCA	1/2 X 1/2 ODF S/T	5 FT	062289
		4	HCA	3/8 X 3/8 ODF S/T	30 IN	063132
			HCA	3/8 X 1/2 ODF S/T	30 IN	061971
		5	HCA	1/2 X 1/2 ODF S/T	5 FT	062290
	HCA		1/2 X 5/8 ODF S/T	5 FT	065226	
	BAEB	1½	HCA	3/8 X 1/2 ODF S/T	30 IN	062789
			HCA	1/2 X 1/2 ODF S/T	30 IN	063006
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	062790
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	061968
			HCA	1/2 X 1/2 ODF S/T	30 IN	063015
		4	HCA	1/2 X 5/8 ODF S/T	5 FT	063348
			HCA	3/8 X 1/2 ODF S/T	30 IN	063939
		5	HCA	1/2 X 1/2 ODF S/T	5 FT	063010
			HCA	3/8 X 1/2 ODF S/T	5 FT	061980
6		HCA	1/2 X 1/2 ODF S/T	30 IN	063128	
		HCA	1/2 X 1/2 ODF S/T	30 IN	063940	
		HCA	1/2 X 5/8 ODF S/T	5 FT	064805	
			HCA	5/8 X 5/8 ODF S/T	5 FT	065977

* For interchangeable refrigerant charges R-134a/R-12/R-450A/R-513A, R-404A/R-507/R-502/R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.
Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? **Solution:** From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

The B-series with strainer series is a balanced ported valve. Typical applications include: refrigerated cases, coolers, freezers, ice machines and air conditioning systems that operate over widely varying operating conditions. This valve series also features a removable inlet strainer.



Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Removable inlet strainer assembly
- Balanced port design compensates for changes in operating pressures due to varying ambients or widely varying evaporator loads
- Hermetic, leak-free construction
- Solid copper ODF connections, angle style only

Options

- Adjustable and non-adjustable configurations
- Ratings from 1/2 to 6 tons

Specifications

- Maximum Working Pressure: 450 psig

Nomenclature example: BAESB 1/2 HC 5 FT 3/8 x 1/2 ODF

B	A	E	S	B	1/2	H	CA	5 FT	3/8 x 1/2	ODF
Valve Series	Superheat Adjustment A = Adjustable N = Non-Adjustable	Equalizer E=External (Omit for Internal)	Strainer Removable Inlet Screen	Bleed Hole (optional) (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A *B = R-448A /R-449A +D = R-450A /R-513A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length 30 IN (std) & 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2 1/2 x 5/8 5/8 x 7/8	Connection Type ODF = solder

+ = R-12, R-134a, R-450A/R-513R are interchangeable refrigerant charges
 * = R-507, R-502, R-404A, R-448A and R-448A are interchangeable refrigerant charges
 • = R-22 and R-407C are interchangeable refrigerant charges

B Series with Strainer – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-450A/R-513A	R-22/R-407C	R-502/R-507/R-404A	**R-448A/R-449A
1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1/2 (1.8)	1 (3.5)	1/2 (1.8)	1 (3.5)
1 (3.5)	1 (3.5)	3/4 (2.7)	1½ (5.3)	1 (3.5)	1½ (5.3)
1¼ (4.4)	1½ (5.3)	1 (3.5)	2 (7.0)	1¼ (4.4)	2 (7.0)
1½ (5.3)	2 (7.0)	1½ (5.3)	2½ (9.0)	1½ (5.3)	2½ (8.8)
2 (7.0)	2¼ (8.0)	1¾ (9.5)	3 (11.0)	2 (7.0)	3 (11.0)
2½ (9.0)	3 (11.0)	2½ (8.0)	4 (14.0)	2½ (9.0)	4 (14.0)
3 (11.0)	3½ (12.0)	3 (11.0)	5 (17.0)	3 (11.0)	5 (17.5)
3½ (12.0)	4 (15.0)	3½ (12.0)	6 (21.0)	4 (14.0)	6 (21.0)

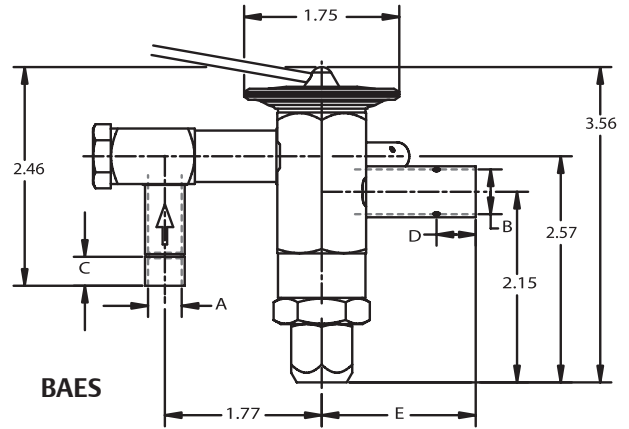
All capacities shown are at 100°F condensing, 40°F evaporator temperature.

*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

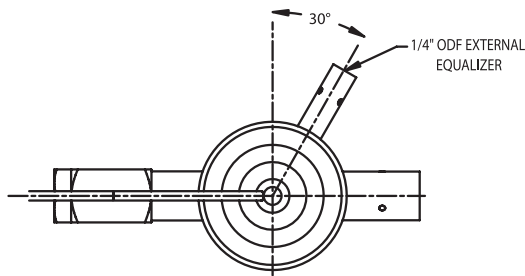
**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

BAES/BNES Dimensional Data (in) ODF Connections, Angle Style Only

Connection Size		A	B	C MIN	D MIN	E
Inlet	Outlet					
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.32	1.73
1/4 ODF	1/2 ODF	0.25	0.50	0.31	0.41	1.73
1/4 ODF	5/8 ODF	0.25	0.63	0.31	0.50	1.75
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.41	1.73
3/8 ODF	5/8 ODF	0.38	0.63	0.32 <td 0.50	1.75	
3/8 ODF	7/8 ODF	0.38	0.88	0.32	0.62	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.41	0.41	1.73
1/2 ODF	5/8 ODF	0.50	0.63	0.41	0.50	1.75
1/2 ODF	7/8 ODF	0.50	0.88	0.41	0.62	1.73

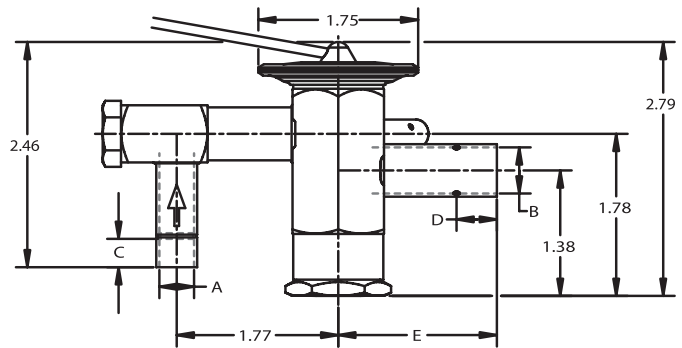


BAES



**ODF
Top View**

Showing External Equalizer Location



BNES

Remote Bulb Tubing Length 30" or 5' Standard

BAES & BNES Remote Bulb Dimensions		
Refrigerant Charge	Diameter	Length
HCA, NCA, HAA	0.75	2.38
MC, MZ, MW (MOP), RW (MOP) RC, SC, SZ, SW (MOP), PC, PZ, PW (MOP)	0.50	2.13

Ordering Information (BAES Only)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-134a R-12 R-450A R-513A	BAES	1/2	MC	3/8 X 1/2 ODF ANG	30 IN	064244
		3/4	MC	3/8 X 1/2 ODF ANG	30 IN	064245
		1	MC	3/8 X 1/2 ODF ANG	30 IN	064246
		1½	MC	3/8 X 1/2 ODF ANG	30 IN	064247
		2	MC	3/8 X 1/2 ODF ANG	30 IN	064248
		3	MC	3/8 X 1/2 ODF ANG	30 IN	064250
R-22 R-407C	BAES	1/2	HC	3/8 X 1/2 ODF ANG	30 IN	064235
		1	HC	3/8 X 1/2 ODF ANG	30 IN	064236
		1½	HC	3/8 X 1/2 ODF ANG	30 IN	064237
		2	HC	3/8 X 1/2 ODF ANG	30 IN	064238
		2½	HC	3/8 X 1/2 ODF ANG	30 IN	064239
		3	HC	3/8 X 1/2 ODF ANG	30 IN	064240
		4	HC	3/8 X 1/2 ODF ANG	30 IN	064241
		5	HC	3/8 X 1/2 ODF ANG	30 IN	064242
R-404A R-507 R-502 **R-448A **R-449A	BAES	1/4	SC	3/8 X 1/2 ODF ANG	30 IN	064137
			SZ	3/8 X 1/2 ODF ANG	30 IN	064295
		1/2	SC	3/8 X 1/2 ODF ANG	30 IN	064138
			SZ	3/8 X 1/2 ODF ANG	30 IN	064144
		1	SC	3/8 X 1/2 ODF ANG	30 IN	064139
			SZ	3/8 X 1/2 ODF ANG	30 IN	064145
		1¼	SC	3/8 X 1/2 ODF ANG	30 IN	064140
			SZ	3/8 X 1/2 ODF ANG	30 IN	064146
		1½	SC	3/8 X 1/2 ODF ANG	30 IN	064141
			SZ	3/8 X 1/2 ODF ANG	30 IN	064273
		2	SC	3/8 X 1/2 ODF ANG	30 IN	064142
			SZ	3/8 X 1/2 ODF ANG	30 IN	064537
		2½	SC	3/8 X 1/2 ODF ANG	30 IN	064280
			SZ	3/8 X 1/2 ODF ANG	30 IN	064434
		3	SC	3/8 X 1/2 ODF ANG	30 IN	064281
			SZ	3/8 X 1/2 ODF ANG	30 IN	064538
		4	SC	3/8 X 1/2 ODF ANG	30 IN	064460
			SZ	3/8 X 1/2 ODF ANG	30 IN	064780

* For interchangeable refrigerant charges R-134a/R-12/R-450A/R-513A, R-404A/R-507/R-502/R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected?

Solution: From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

** Use SZ charge for all R-450A/R-513A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

The Emerson NXT Series is a balanced ported valve designed for high efficiency R-410A air conditioning and heat pump applications. NXT Series valves operate over a wide range of conditions and applications, while offering excellent performance, superior reliability, and unparalleled valve life.

Features

- Precision superheat control optimized for R-410 A systems
- Enhanced power element design offers extended valve life
- Stainless steel power element eliminates corrosion and prevents valve failure
- Laser etched identification markings for permanent legibility
- Hermetic, leak-free construction of all joints
- Compact size allows installation in limited spaces
- Bi-Flow capability allows one valve to control the superheat in both cooling and heating modes for close-coupled or packaged heat pump applications
- Balanced port construction compensates for changes in operating pressures due to varying ambients, gas defrost, heat reclaim, or widely varying evaporator loads
- External equalizer is standard
- Screens on ODF inlet connections

Specifications

- Maximum working pressure (MWP): 700 psig
- R-410A operating range: -20°F to +50°F
- UR/CUR file number: SA 5312



Non-Adjustable

Adjustable

Options

- High flow internal check valve (1-7 tons) allows reverse flow for heat pump applications, eliminating the need for external check valve and improving overall system efficiency
- Adjustable or non-adjustable superheat
- Bleed type pressure equalization available to accommodate PSC type compressors
- ODF connections are standard - Chatleff connections are available
- External equalizer (1/4" ODF) is a standard offering. Other configurations are available
- External equalizer 1/8" tube with 45° end cut is a standard offering - other terminations are available

Nomenclature example: NAE 3 ZAA ODF B15%

N	A	E	3	ZAA	ODF	B15%
NXT Series	Body Type A = Adjustable, With Check, Straight-Through B = Adjustable, No Check, Straight-Through C = Non-Adjustable, With Check, Straight-Through D = Non-Adjustable, No Check, Straight-Through	Equalizer E = External Equalizer	Capacity (In Tons)	Refrigerant Code ZAA = R-410A	Connection Type ODF = Solder CHA = Chatleff	Bleed % (Omit for None)

Ordering Information

Adjustable, Straight-Through Body Style, Individually Packaged

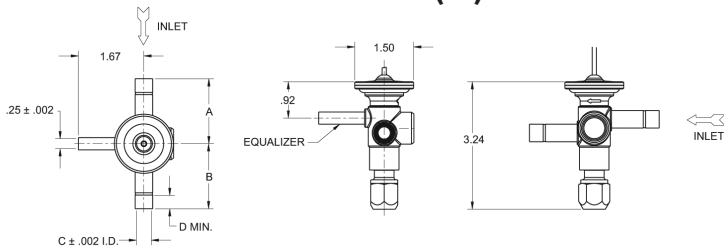
Refrigerant	Capacity (Tons)	Check Valve	Bleed	Inlet X Outlet	Bulb Cap Tube Length	External Equalizer	PCN
R-410A	1/2		-	3/8 ODF X 3/8 ODF	30"	30" With Angle Cut	095064
			15%	3/8 ODF X 3/8 ODF	30"	30" With Angle Cut	095065
	1	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095066
		√	15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095000
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095002
		√	-	3/8 ODF X 1/2 ODF	5 ft	5 ft With Angle Cut	095003
			-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095004
			15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095005
	1-1/2	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095006
		√	15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095007
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095008
		√	-	3/8 ODF X 1/2 ODF	5 ft	5 ft With Angle Cut	095009
			-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095010
			15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095011
	2	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095012
		√	15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095013
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095014
		√	-	3/8 ODF X 1/2 ODF	5 ft	5 ft With Angle Cut	095015
			-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095016
			15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095017
	3	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095018
		√	15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095019
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095020
		√	-	3/8 ODF X 1/2 ODF	5 ft	5 ft With Angle Cut	095021
			-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095022
			15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095023
	4	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095024
		√	15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095025
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095026
		√	-	3/8 ODF X 1/2 ODF	5 ft	5 ft With Angle Cut	095027
			-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095028
			15%	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095029
	5	√	-	3/8 ODF X 1/2 ODF	5 ft	1/4" ODF	095063
		√	-	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095030
		√	15%	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095031
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095032
		√	-	1/2 ODF X 5/8 ODF	5 ft	5 ft With Angle Cut	095033
			-	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095034
	6		15%	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095035
		√	-	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095036
		√	15%	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095037
		√	-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095038
		√	-	1/2 ODF X 5/8 ODF	5 ft	5 ft With Angle Cut	095039
			-	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095040
	7		15%	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095041
		√	-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095042
		√	15%	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095043
√		-	Chatleff X Chatleff	5 ft	5 ft With 1/4" SAE Flare Nut	095044	
√		-	5/8 ODF X 7/8 ODF	5 ft	5 ft With Angle Cut	095045	
		-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095046	
	15%	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095047		

Ordering Information

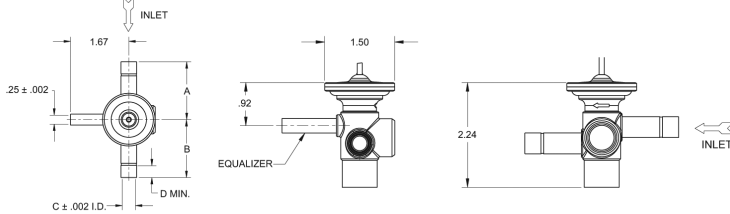
Adjustable, Straight-Through Body Style, Individually Packaged (continued)

Refrigerant	Capacity (Tons)	Check Valve	Bleed	Inlet X Outlet	Bulb Cap Tube Length	External Equalizer	PCN
R-410A	8		-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095048
			15%	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095049
	10		-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095050
			15%	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095051
	12		-	1/2 ODF X 5/8 ODF	5 ft	1/4" ODF	095060
			-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095052
			15%	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095053
			-	5/8 ODF X 1-1/8 ODF	5 ft	1/4" ODF	095054
			-	7/8 ODF X 1-1/8 ODF	5 ft	1/4" ODF	095055
			-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095056
	15		-	5/8 ODF X 7/8 ODF	5 ft	1/4" ODF	095057
			-	5/8 ODF X 1-1/8 ODF	5 ft	1/4" ODF	095058
		-	7/8 ODF X 1-1/8 ODF	5 ft	1/4" ODF	095059	

NXT Series Dimensional Data (in)



Adjustable - ODF Connections with 1/4 ODF Equalizer Shown



Non-Adjustable - ODF Connections with 1/4 ODF Equalizer Shown

Connections	Dimension			
	A	B	C	D
3/8 ODF	1.65	1.65	0.379	0.34
1/2 ODF	1.65	1.65	0.504	0.48
5/8 ODF	2.15	2.15	0.629	0.75
7/8 ODF	2.15	2.15	0.879	0.75
1-1/8 ODF	2.40	2.40	1.129	0.91
Chatleff	1.80	1.36	-	-

Emerson™ TXV Connect kits include our latest generation thermal expansion valves plus chatleff and aeroquip adapters that are easy to install into all residential air conditioning systems.

Features

- ODF TXVs with chatleff and aeroquip adapters
- One valve to fit all systems
- TXV with internal check, bulb strap, and connection options all in one box
- R-410A and R-22 kits in multiple capacities
- Easy field replacement of fixed orifice for increased efficiency

Specifications

- Maximum Working Pressure (MWP): 700 psig
- UL File number (valves): SA 5312

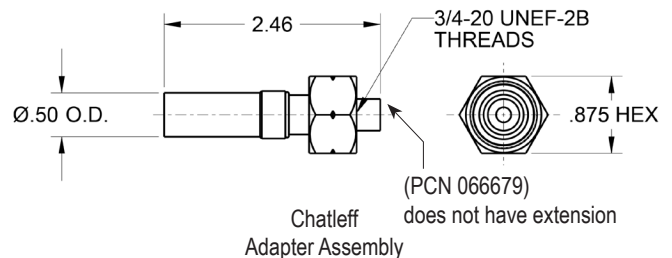
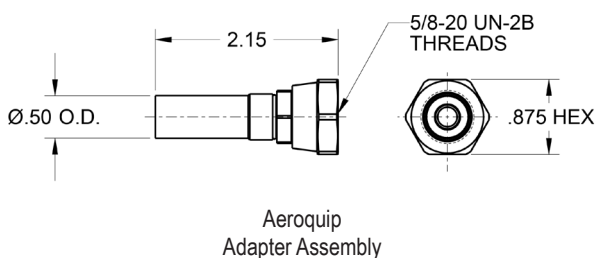


Individual adapter kits

PCN	Description	Capacity(tons)*	Refrigerant
066657	TXV + CONNECT 2½T R-22	1½ to 3	R-22
066658	TXV + CONNECT 5T R-22	3½ to 5	
066660	TXV + CONNECT 1½T R-410A	1½	R-410A
066661	TXV + CONNECT 2T R-410A	2	
066662	TXV + CONNECT 3T R-410A	3	
066663	TXV + CONNECT 4T R-410A	4	
066664	TXV + CONNECT 5T R-410A	5	
066653	CHATLEFF ADAPTER ASSEMBLY	N/A	N/A
066679	CHATLEFF ADAPTER ASSEMBLY	(SHORT)	N/A
066654	AEROQUIP ADAPTER ASSEMBLY	N/A	N/A

* For extended capacity tables, use NXT series for R-410A applications and A-Series for R-22

Dimension Data



HF/HFK Series

Thermal Expansion Valves

The HF series is a balanced ported valve designed for refrigeration, air conditioning and heat pump applications.

Features

- Stainless steel replaceable power element eliminates corrosion and prevents valve failure
- Two body sizes provide capacities from 1/4 to 20 tons

Standard Body – HF & HFK

- The HF is offered several ways:
 - *Pre-packaged HFK service kits* – Include a mix of bodies and power elements with a complete set of cages to serve the most applications with a minimum of parts
 - *Individual components* – Bodies, cages, & power elements may be ordered separately
 - *Finished valves* – Assembled valves ready for immediate installation
- Bi-Flow capability up to 5-1/2 tons R-22 allows one valve to control the superheat in both cooling and heating modes

Extended Body – HF

- Capacity range from 8 to 20 tons (R-22)
- Finished valve only



NOTE: If the HF body is stamped HFK, then the cage is replaceable.

Options

- ODF or SAE connections
- Straight-through or angle flow configurations
- Removable inlet strainer (ODF only)
- Internal or external equalizer

Specifications

- Maximum working pressure: 450 psig
- UR/CUR file number: SA5312

Nomenclature example: HFESC 2 HC 5 FT 3/8 x 1/2 ODF S/T

HF	N	E	S	C	B	2	H	C	5 FT	3/8 x 1/2	ODF	S/T
Valve Series Balanced Port Design	Superheat Adjustment N = Non-Adjustable Omit for Adjustable	Equalizer E=External (Omit for Internal)	Connection Type S = Solder (Omit for SAE Flare)	Removable Inlet Strainer (optional) C = Inlet Strainer (ODF only)	Bleed Hole (optional) (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C * P = R-507 * R = R-502 * S = R-404A *B = R-448A /R-449A +D=R-450A /R-513A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp AA = wide range	Capillary Tube Length 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2	Connection Type SAE = flare ODF = solder	Configuration ANG = 90° angle S/T = straight-thru

+ = R-12, R-134a, R-450A and R-513A are interchangeable refrigerant charges
 * = R-507, R-502, R-404A, R-448A and R-449A are interchangeable refrigerant charges
 • = R-22 and R-407C are interchangeable refrigerant charges

HF Series-Nominal* Capacity Tables in Tons (kW)

Standard Body HF

R-12	R-134a	R-450A/ R-513A	R-22/ R-407C	R-502/ R-404A/ R-507	**R-448A/ R-449A
1/8 (0.4)	1/4 (0.9)	1/5 (0.7)	1/4 (0.9)	1/8 (0.4)	1/4 (0.9)
1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1/2 (1.8)	1 (3.5)	1/2 (1.8)	1 (3.5)
1 (3.5)	1 (3.5)	3/4 (2.7)	1½ (5.3)	1 (3.5)	1-1/2 (5.3)
1¼ (4.4)	1½ (5.3)	1 (3.5)	2 (7.0)	1¼ (4.4)	2 (7.0)
1½ (5.3)	1¾ (6.2)	1½ (5.3)	2½ (8.8)	1½ (5.3)	2-1/2 (9.0)
2 (7.0)	2½ (8.8)	2 (7.0)	3 (11.0)	2 (7.0)	3-1/2 (12.0)
3½ (12.0)	4 (14.0)	3½ (12.0)	5½ (20.0)	3½ (12.0)	6 (21.0)

Extended Body HF

R-12	R-134a	R-450A/ R-513A	R-22/ R-407C	R-502/ R-404A/ R-507	**R-448A/ R-449A
5 (17.0)	6 (2.1)	4½ (16.0)	8 (28.0)	5 (17.0)	8½ (30.0)
6 (21.0)	7½ (27.0)	6 (21.0)	10 (35.0)	7 (27.0)	10½ (37.0)
9 (32.0)	11 (39.0)	9 (32.0)	15 (53.0)	10 (35.0)	16 (56.0)
12 (42.0)	14 (50.0)	11½ (40.0)	20 (70.0)	13 (46.0)	20 (70.0)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.

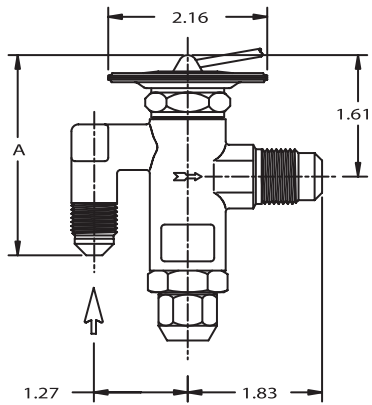
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

Dimensional Data

Standard Body HF

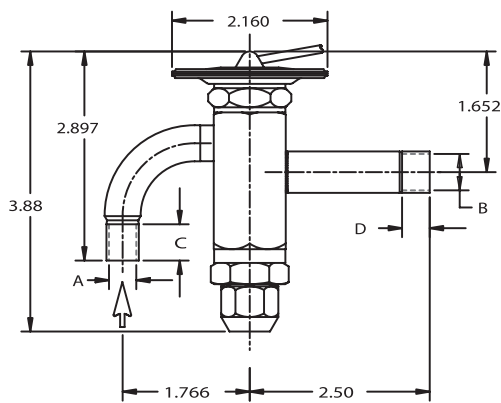
¼ thru 5½ tons R-22



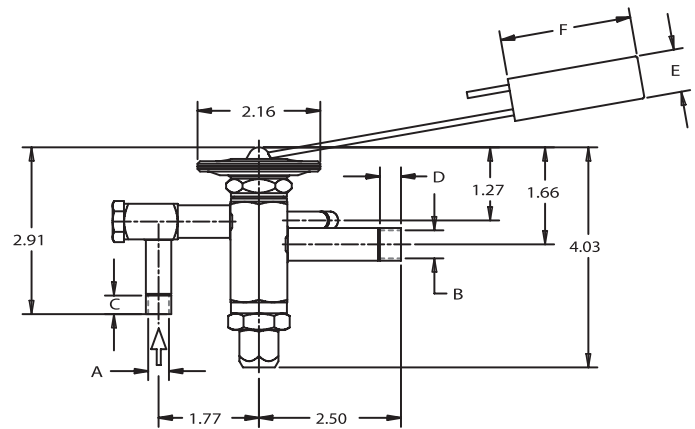
SAE

HF SAE

Connection Size		A	B	C
Inlet	Outlet			
1/4 SAE	1/2 SAE	3.11	1.27	1.83
3/8 SAE	1/2 SAE	2.72		



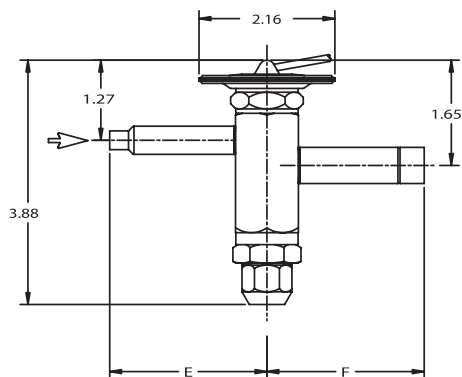
ODF



ODF
w/optional strainer
at inlet

Extended Body HF

8, 10, 15 & 20 ton R-22



ODF

HF ODF

Connection Size		A± .002	B± .002	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.31	2.50	2.50
3/8 ODF	1/2 ODF	0.25	0.50	0.31	0.37		
3/8 ODF	1/2 ODF	0.38	0.50	0.37	0.37		

Ordering Information

Use the following tables to order individual components.

HFK Body Selection Table

PCN	Description	Type	Connections (Inlet x Outlet)
064881	KT-20298-1	HFK	1/4 x 1/2 SAE Ang Inlet
064882	KT-20298-2	HFK	3/8 x 1/2 SAE Ang Inlet
064883	KT-20298-3	HFKE	1/4 x 1/2 SAE Ang Inlet
064884	KT-20298-4	HFKE	3/8 x 1/2 SAE Ang Inlet
064885	KT-20298-5	HFKSC	3/8 x 1/2 ODF Ang Inlet w/ Strainer
064886	KT-20298-6	HFKESC	3/8 x 1/2 ODF Ang Inlet w/ Strainer
064887	KT-20298-7	HFKS	3/8 x 1/2 ODF S/T
064888	KT-20298-8	HFKS	3/8 x 5/8 ODF S/T
064889	KT-20298-9	HFKS	1/2 x 5/8 ODF S/T
064890	KT-20298-10	HFKS	1/2 x 7/8 ODF S/T
064891	KT-20298-11	HFKES	3/8 x 1/2 ODF S/T
064892	KT-20298-12	HFKES	3/8 x 5/8 ODF S/T
064895	KT-20298-13	HFKES	1/2 x 5/8 ODF S/T
064896	KT-20298-14	HFKES	1/2 x 7/8 ODF S/T

HF & HFK Power Element Table

PCN	Description	System Refrigerant(s)	Application
053769	X26300-FW15-1	R-134a/R-12	Low Temp MOP
054798	X26300-FW35-1	R-134a/R-12	Low Temp MOP
063869	X26300-FW55-1	R-134a/R-12	Low Temp MOP
053766	X26300-FZ-1	R-134a/R-12	Low Temp
053763	X26300-FC-1	R-134a/R-12	Medium Temp
058074	X26300-MC-1	R-134a	Medium Temp
053767	X26300-HZ-1	R-22/R-407C	Low Temp
057834	X26300-HCA-1	R-22/R-407C	Heat Pump
057764	X26300-HW100-1	R-22/R-407C	AC MOP
053764	X26300-HC-1	R-22/R-407C	A/C Med. Temp
058085	X26300-SW45-1	R-404/ R-507/ R-502	Low Temp MOP
058082	X26300-SZ-1	R-404/ R-507/ R-502	Low Temp
058083	X26300-SC-1	R-404/ R-507/ R-502	Medium Temp

HFK Cage Nominal* Capacity Table

PCN	Description ¹	Cage Code	R-12	R-22	R-134a	R-404	R-507	R-502	R-407C
064868	KT-20299-0	0	1/8	1/4	1/4	1/8	1/8	1/8	1/4
064869	KT-20299-1	1	1/4	1/2	1/2	1/4	1/4	1/4	1/2
064870	KT-20299-2	2	1/2	1	3/4	1/2	1/2	1/2	1
064871	KT-20299-3	3	1	1 1/2	1	1	1	1	1 1/2
064872	KT-20299-4	4	1 1/4	2	1 1/2	1 1/4	1 1/4	1 1/4	2
064873	KT-20299-5	5	1 1/2	2 1/2	1 3/4	1 1/2	1 1/2	1 1/2	2 1/2
064874	KT-20299-6	6	2	3	2 1/2	2	2	2	3
064875	KT-20299-7	7	3 1/2	5 1/2	4	3 1/2	3 1/2	3 1/2	5 1/2

¹ Cage Kit includes Cage, Insertion Tool and ID Clips.

*All capacities shown are at 100°F condensing, 40°F evaporator temperature.

See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

Cage Kit (PCN 064879)

Item	Qty
Size 0 Cage (1/4 ton R-22)	2
Size 1 Cage (1/2 ton R-22)	2
Size 2 Cage (1 ton R-22)	2
Size 3 Cage (1 1/2 ton R-22)	2
Size 4 Cage (2 ton R-22)	2
Size 5 Cage (2 1/2 ton R-22)	2
Size 6 Cage (3 ton R-22)	2
Size 7 Cage (5 1/2 ton R-22)	2
Insertion Tool	1
Oil Bottle	1
Cage ID Tags	16

Replacement Parts – SAE Inlet

PCN	Part Number	Description
027385	X-11176-1	3/8" Inlet Filter Screen
058707	27676-1	Seal Cap
048638	X-11176-7	1/4" Inlet Filter Screen

Replacement Parts- HFSC & HFESC Only

PCN	Kit Number	Description
057686	KT-20264	Includes seal cap, gasket o-ring, screen, spring

HFK Accessories

PCN	Description
064897	Cage Box (Empty)
064898	Insertion Tool
064899	Oil Bottle
065203	Cage Gasket Kit (12 sets)

Ordering Information

HFK Pre-Packaged Kits

The HFK is a pre-packaged kit consisting of a mix of popular bodies and power elements with a complete selection of cages. These kits provide great flexibility allowing valves to be assembled as needed for each application. Three kits are provided as shown below, along with the cage kit which is included in each pre-packaged kit. In addition, custom kits can be assembled by stocking an empty kit case with desired components.



SAE/ODF Kit (PCN 065135)

Item	Qty
HFK 3/8 x 1/2 SAE ANG	1
HFKE 3/8 x 1/2 SAE ANG	1
HFKS 3/8 x 1/2 ODF S/T	1
HFKES 3/8 x 1/2 ODF S/T	1
Cage Kit (PCN 064879)	1
Insertion Tool (PCN 064898)	1
Service Box	1
FC Power Element	1
FZ Power Element	1
HC Power Element	1
HZ Power Element	1
SC Power Element	1
SW45 Power Element	1

SAE Kit (PCN 064876)

Item	Qty
HFK 1/4 X 1/2 Body	1
HFK 3/8 X 1/2 Body	1
HFKE 3/8 X 1/2 Body	2
FC Power Element	2
HC Power Element	1
HZ Power Element	1
SZ Power Element	2
Cage Kit (PCN 064879)	1

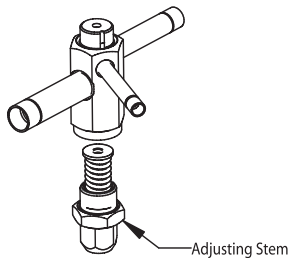
ODF Kit (PCN 064877)

Item	Qty
HFKSC 3/8 X 1/2 Body	1
HFKES 3/8 X 1/2 Body	1
HFKESC 3/8 X 1/2 Body	2
FC Power Element	2
HC Power Element	1
HZ Power Element	1
SZ Power Element	2
Cage Kit (PCN 064879)	1

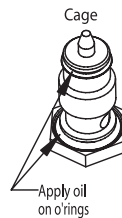
Cage Kit (PCN 064879)

Item	Qty
Size 0 Cage (1/4 ton R-22)	2
Size 1 Cage (1/2 ton R-22)	2
Size 2 Cage (1 ton R-22)	2
Size 3 Cage (1 1/2 ton R-22)	2
Size 4 Cage (2 ton R-22)	2
Size 5 Cage (2 1/2 ton R-22)	2
Size 6 Cage (3 ton R-22)	2
Size 7 Cage (5 1/2 ton R-22)	2
Insertion Tool	1
Oil Bottle	1
Cage ID Tags	16

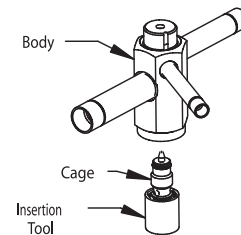
HFK Assembly Procedure (see 6 assembly steps & diagrams below)



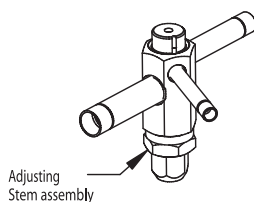
1. Remove adjusting stem assembly from body with 15/16" wrench.



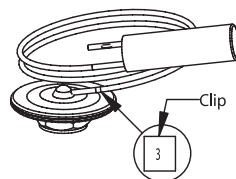
2. Lubricate both o-rings on cage.



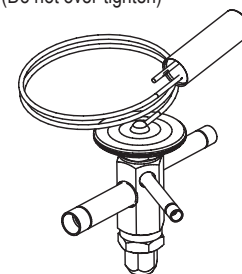
3. Insert cage into body with driver and insertion tool and hand tighten. (Do not over-tighten)



4. Replace adjustment stem assembly to body and hand tighten. Use the 15/16" wrench to tighten adjustment stem assembly 60° or one wrench flat. (300-360 inch lbs. - Do not over-tighten)



5. Attach cage identification clip on power element cap tube.



6. Screw power element to top of valve body and hand tighten. Use the 1" wrench to tighten power element 60° or one wrench flat. (300-360 inch lbs. - Do not over-tighten)

Ordering Information

Use the following tables to order factory assembled valves.

HF Series – Internally Equalized

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-12	HF HFS	1/4	FC	1/4 X 1/2 SAE ANG	5 FT	009811
			FC	3/8 X 1/2 SAE ANG	5 FT	054134
		1/2	FC	1/4 X 1/2 SAE ANG	5 FT	009810
			FC	3/8 X 1/2 ODF ANG	5 FT	056063
			FC	3/8 X 1/2 ODF S/T	5 FT	056013
			FC	3/8 X 1/2 SAE	5 FT	054966
			FC	3/8 X 1/2 SAE ANG	5 FT	054892
		1	FC	3/8 X 1/2 ODF S/T	5 FT	056119
			FC	3/8 X 1/2 SAE ANG	5 FT	057619
		1 1/2	FC	3/8 X 1/2 SAE ANG	5 FT	054914
2	FC	3/8 X 1/2 SAE	5 FT	053060		
R-134a R-12 R-450A R-513A	HF HFS	1/4	MC	3/8 X 1/2 ODF ANG	5 FT	058545
			MC	3/8 X 1/2 SAE ANG	5 FT	057618
		1/2	MC	3/8 X 1/2 ODF S/T	5 FT	058100
			MC	3/8 X 1/2 SAE ANG	5 FT	057620
1	MC	3/8 X 1/2 ODF S/T	5 FT	065641		
R-22 R-407C	HF HFS	1/4	HC	1/4 X 1/2 SAE ANG	5 FT	058430
			HC	3/8 X 1/2 ODF ANG	5 FT	055493
			HC	3/8 X 1/2 ODF S/T	5 FT	055633
			HC	3/8 X 1/2 SAE	5 FT	054921
			HZ	1/4 X 1/2 SAE ANG	5 FT	059653
			HZ	3/8 X 1/2 ODF S/T	5 FT	056169
		1/2	HC	1/4 X 1/2 SAE ANG	5 FT	009812
			HC	3/8 X 1/2 ODF ANG	5 FT	054723
			HC	3/8 X 1/2 ODF S/T	5 FT	054136
			HC	3/8 X 1/2 SAE	5 FT	054135
			HZ	3/8 X 1/2 SAE	5 FT	054364
			HC	3/8 X 1/2 ODF ANG	5 FT	055702
		1	HC	3/8 X 1/2 ODF S/T	5 FT	055928
			HC	3/8 X 1/2 SAE	5 FT	054927
			HZ	3/8 X 1/2 SAE	5 FT	054928
			HC	3/8 X 1/2 ODF ANG	5 FT	055969
		1 1/2	HC	3/8 X 1/2 ODF S/T	5 FT	056018
			HC	3/8 X 1/2 SAE	5 FT	054933
		2	HC	3/8 X 1/2 SAE	5 FT	054939
			HZ	3/8 X 1/2 SAE ANG	5 FT	054940
		2 1/2	HC	3/8 X 1/2 SAE	5 FT	054947
		3	HC	3/8 X 1/2 SAE	5 FT	053316
			HC	3/8 X 1/2 ODF S/T	5 FT	053915
		R-404A R-507 R-502 **R-448A **R-449A	HF HFS	1/4	SC	1/4 X 1/2
SW45	1/4 X 1/2				30 IN	066517
SZ	1/4 X 1/2				30 IN	066518
1/2	SC			1/4 X 1/2	30 IN	066519
	SW45			1/4 X 1/2	30 IN	066520
	SZ			1/4 X 1/2	30 IN	066521
1	SC			3/8 X 1/2 ODF S/T	5 FT	065643
	SW45			3/8 X 1/2	5 FT	066522
	SZ			3/8 X 1/2	5 FT	066523
1/2	SC			3/8 X 1/2	5 FT	066524
	SW45			3/8 X 1/2	5 FT	066525
	SZ			3/8 X 1/2	5 FT	066526
2	SC			3/8 X 1/2	5 FT	066527
	SW45			3/8 X 1/2	5 FT	066528
	SZ			3/8 X 1/2	5 FT	066529
3 1/2	SC			3/8 X 1/2	5 FT	066530
	SW45			3/8 X 1/2	5 FT	066531
	SZ			3/8 X 1/2	5 FT	066532

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve by 50% for low temperature applications.

HF Series – Internally Equalized (continued)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-502	HF HFS	1/4	RC	1/4 X 1/2 SAE ANG	5 FT	059304
			RC	3/8 X 1/2 ODF ANG	5 FT	055490
			RC	3/8 X 1/2 SAE	5 FT	054137
			RZ	1/4 X 3/8 ODF S/T	5 FT	055792
			RZ	3/8 X 1/2 ODF S/T	5 FT	056228
			RZ	3/8 X 1/2 SAE	5 FT	054369
		1/2	RC	3/8 X 1/2 SAE	5 FT	054964
			RZ	3/8 X 1/2 ODF ANG	5 FT	055874
			RZ	3/8 X 1/2 ODF S/T	5 FT	056008
			RZ	3/8 X 1/2 SAE	5 FT	054965
			RC	3/8 X 1/2 SAE	5 FT	054976
			RC	3/8 X 1/2 SAE ANG	5 FT	054905
		1	RZ	3/8 X 1/2 ODF ANG	5 FT	055785
			RZ	3/8 X 1/2 SAE	5 FT	054977
			RC	3/8 X 1/2 SAE	5 FT	054984
		1½	RZ	3/8 X 1/2 SAE	5 FT	054986
			RC	3/8 X 1/2 SAE	5 FT	053061
		2	RC	3/8 X 1/2 SAE	5 FT	053061
3½	RC	3/8 X 1/2 SAE	5 FT	055936		

Ordering Information (continued)

HF Series – Externally Equalized (continued)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-12	HFE HFES	1/4	FC	3/8 X 1/2 SAE ANG	5 FT	054360
			FC	1/4 X 1/2 SAE ANG	5 FT	009955
		1/2	FC	3/8 X 1/2 ODF ANG	5 FT	056021
			FC	3/8 X 1/2 ODF S/T	5 FT	056331
			FC	3/8 X 1/2 SAE ANG	5 FT	054895
			FC	3/8 X 1/2 ODF ANG	5 FT	055993
		1	FC	3/8 X 1/2 ODF S/T	5 FT	056151
			FC	3/8 X 1/2 SAE ANG	5 FT	054909
			FC	3/8 X 1/2 ODF ANG	5 FT	055994
		1½	FC	3/8 X 1/2 SAE ANG	5 FT	054917
			FC	3/8 X 1/2 ODF ANG	5 FT	053266
		2	FC	3/8 X 1/2 ODF S/T	5 FT	053069
FC	3/8 X 1/2 SAE ANG		5 FT	054138		
R-134a R-12 R-450A R-513A	HFE HFES	1/4	MC	3/8 X 1/2 SAE ANG	30 IN	057860
		1/2	MC	3/8 X 1/2 ODF S/T	5 FT	065645
			MC	3/8 X 1/2 SAE ANG	5 FT	057616
		3/4	MC	3/8 X 1/2 ODF ANG	5 FT	057784
			MC	3/8 X 1/2 SAE ANG	30 IN	057861
			MC	3/8 X 1/2 ODF S/T	5 FT	059422
		1	MC	3/8 X 1/2 ODF ANG	5 FT	058546
			MC	3/8 X 1/2 ODF S/T	5 FT	065646
			MC	3/8 X 1/2 SAE ANG	5 FT	057617
		1½	MC	3/8 X 1/2 SAE ANG	5 FT	057895
			MC	3/8 X 1/2 ODF S/T	5 FT	065647
		1¾	MC	3/8 X 1/2 SAE	5 FT	058152
MC	3/8 X 1/2 SAE ANG		5 FT	057896		
MC	3/8 X 1/2 SAE ANG		5 FT	057897		
4	MC	3/8 X 1/2 SAE ANG	5 FT	057897		
6	MC	5/8 X 7/8 ODF S/T	5 FT	057903		
11	MC	5/8 X 7/8 ODF S/T	5 FT	057906		
	MC	7/8 X 1 1/8 ODF S/T	5 FT	058681		
14	MC	7/8 X 1 3/8 ODF S/T	5 FT	064000		
R-22 R-407C	HFE HFES	1/4	HC	3/8 X 1/2 ODF S/T	5 FT	055927
			HC	3/8 X 1/2 SAE	5 FT	054924
			HZ	3/8 X 1/2 SAE	5 FT	054925
		1/2	HC	1/4 X 1/2 SAE ANG	5 FT	059079
			HC	3/8 X 1/2 ODF ANG	5 FT	054838
			HC	3/8 X 1/2 ODF S/T	5 FT	055827
			HC	3/8 X 1/2 SAE	5 FT	054361
			HZ	3/8 X 1/2 ODF S/T	5 FT	055889
			HZ	3/8 X 1/2 SAE	5 FT	054365
		1	HC	3/8 X 1/2 ODF ANG	5 FT	055494
			HC	3/8 X 1/2 ODF S/T	5 FT	055708
			HC	3/8 X 1/2 SAE	5 FT	054930
			HW 35	3/8 X 1/2 SAE	5 FT	054932
		1½	HZ	3/8 X 1/2 SAE	5 FT	054931
			HC	3/8 X 1/2 ODF ANG	5 FT	055495
			HC	3/8 X 1/2 ODF S/T	5 FT	055863
			HC	3/8 X 1/2 SAE	5 FT	054936
			HZ	3/8 X 1/2 ODF S/T	5 FT	055870
		2	HZ	3/8 X 1/2 SAE	5 FT	054937
			HC	3/8 X 1/2 ODF S/T	5 FT	055706
			HC	3/8 X 1/2 SAE	5 FT	054942
			HC	3/8 X 1/2 ODF ANG	5 FT	054946
		2½	HZ	3/8 X 1/2 SAE	5 FT	054943
			HC	3/8 X 1/2 ODF ANG	5 FT	056042
			HC	3/8 X 1/2 ODF S/T	5 FT	055931
		3	HC	3/8 X 1/2 SAE	5 FT	054950
			HC	3/8 X 1/2 ODF ANG	5 FT	054756
			HC	3/8 X 1/2 ODF S/T	5 FT	053916
			HC	3/8 X 1/2 SAE	5 FT	053317
			HC	1/2 X 5/8 ODF ANG	5 FT	064761
HCA	3/8 X 1/2 ODF S/T		5 FT	058648		
HCA	1/2 X 5/8 ODF S/T		5 FT	061730		
HZ	3/8 X 1/2 ODF S/T	5 FT	055924			
HZ	3/8 X 1/2 SAE	5 FT	053191			

Ordering Information (continued)

HF Series – Externally Equalized (continued)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-22 R-407C	HFE HFES	5½	HC	3/8 X 1/2 ODF S/T	5 FT	054141
			HC	3/8 X 1/2 SAE	5 FT	054140
			HC	1/2 X 5/8 ODF ANG	5 FT	054778
			HC	1/2 X 7/8 ODF S/T	5 FT	055187
			HC	5/8 X 7/8 ODF S/T	5 FT	054779
			HCA	3/8 X 1/2 ODF S/T	5 FT	065649
		HCA	1/2 X 5/8 ODF ANG	5 FT	057378	
		HZ	3/8 X 1/2 ODF S/T	5 FT	054780	
		HZ	3/8 X 1/2 SAE	5 FT	054777	
		8	HC	1/2 X 5/8 ODF S/T	5 FT	057312
			HC	5/8 X 1 1/8 ODF ST	5 FT	057313
			HCA	1/2 X 7/8 ODF S/T	5 FT	056818
			HCA	5/8 X 1 1/8 ODF ST	5 FT	056819
		10	HC	1/2 X 5/8 ODF S/T	5 FT	057315
			HC	5/8 X 7/8 ODF S/T	5 FT	057256
			HC	7/8 X 1 1/8 ODF S/T	5 FT	057316
			HCA	5/8 X 7/8 ODF S/T	5 FT	056820
		12	HCA	5/8 X 1 1/8 ODF S/T	5 FT	056821
			HC	5/8 X 1 1/8 ODF S/T	5 FT	062737
		15	HC	5/8 X 7/8 ODF S/T	5 FT	057317
			HC	7/8 X 1 1/8 ODF S/T	5 FT	057318
			HCA	5/8 X 1 1/8 ODF S/T	5 FT	056824
			HCA	5/8 X 7/8 ODF S/T	5 FT	056823
		20	HCA	7/8 X 1 1/8 ODF S/T	5 FT	056825
HC	7/8 X 1 1/8 ODF S/T		5 FT	062055		
HCA	7/8 X 1 1/8 ODF S/T	5 FT	058490			
	SC	1/4 X 1/2 ODF S/T	30IN	066533		
R-404A R-507 R-502 **R-448A **R-449A	HFE HFES	1/4	SW 45	3/8 X 1/2 ODF S/T	5 FT	065734
			SW 45	3/8 X 1/2 SAE ANG	5 FT	066623
			SZ	3/8 X 1/2 ODF S/T	5 FT	065733
		1/2	SC	3/8 X 1/2 ODF ANG	5 FT	058975
			SW 45	3/8 X 1/2 ODF S/T	5 FT	065736
			SW 45	3/8 X 1/2 SAE ANG	5 FT	066040
			SZ	3/8 X 1/2 ODF ANG	5 FT	058995
		1	SZ	3/8 X 1/2 ODF S/T	5 FT	065735
			SC	3/8 X 1/2 ODF S/T	5 FT	065650
			SC	3/8 X 1/2 ODF ANG	5 FT	058976
			SW 45	3/8 X 1/2 ODF ANG	5 FT	059086
			SW 45	3/8 X 1/2 SAE ANG	5 FT	066624
		1¼	SW 45	3/8 X 1/2 ODF S/T	5 FT	065651
			SZ	3/8 X 1/2 ODF S/T	5 FT	064289
			SC	3/8 X 1/2 ODF ANG	5 FT	058977
		1½	SW 45	3/8 X 1/2 ODF S/T	5 FT	057976
			SZ	3/8 X 1/2 ODF S/T	5 FT	065737
			SC	3/8 X 1/2 ODF S/T	5 FT	057974
		2	SW 45	3/8 X 1/2 ODF S/T	5 FT	057974
			SW 45	3/8 X 1/2 ODF S/T	5 FT	065738
			SW 45	3/8 X 1/2 SAE ANG	5 FT	066625
			SZ	3/8 X 1/2 ODF S/T	5 FT	064290
		3½	SC	3/8 X 1/2 ODF S/T	5 FT	057958
			SW 45	3/8 X 1/2 ODF S/T	5 FT	065740
			SW 45	3/8 X 1/2 SAE ANG	5 FT	066627
			SZ	3/8 X 1/2 ODF S/T	5 FT	065739
		5	SC	3/8 X 1/2 ODF S/T	5 FT	065652
			SC	5/8 X 7/8 ODF S/T	5 FT	062151
			SW 45	1/2 X 5/8 ODF S/T	5 FT	066534
			SZ	1/2 X 5/8 ODF S/T	5 FT	061694
		7	SW 45	5/8 X 7/8 ODF S/T	5 FT	064170
			SC	5/8 X 7/8 ODF S/T	5 FT	066536
			SZ	5/8 X 7/8 ODF S/T	5 FT	058451
		10	SC	5/8 X 7/8 ODF S/T	5 FT	066537
			SW45	5/8 X 7/8 ODF S/T	5 FT	066537
			SZ	5/8 X 7/8 ODF S/T	5 FT	064291
		SC	5/8 X 7/8 ODF S/T	5 FT	066538	
			SW 45	5/8 X 7/8 ODF S/T	5 FT	064195
		SZ	5/8 X 7/8 ODF S/T	5 FT	062828	

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing capacity by 50% for low temperature applications.

Ordering Information (continued)

HF Series – Externally Equalized (continued)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN			
R-502	HFE (HFES)	1/4	RC	3/8 X 1/2 SAE	5 FT	054366			
			RC	3/8 X 1/2 ODF ANG	5 FT	055092			
			RZ	3/8 X 1/2 ODF ANG	5 FT	055491			
			RZ	3/8 X 1/2 SAE	5 FT	054370			
		1/2	RC	3/8 X 1/2 ODF ANG	5 FT	055992			
			RC	3/8 X 1/2 ODF S/T	5 FT	056022			
			RC	3/8 X 1/2 SAE	5 FT	054967			
			RW 45	3/8 X 1/2 ODF ANG	5 FT	055996			
			RW 45	3/8 X 1/2 SAE	5 FT	054969			
			RZ	3/8 X 1/2 ODF ANG	5 FT	055497			
			RZ	3/8 X 1/2 ODF S/T	5 FT	056024			
			RZ	3/8 X 1/2 SAE	5 FT	054968			
			R-502	HFE (HFES)	1	RC	3/8 X 1/2 ODF ANG	5 FT	054983
						RC	3/8 X 1/2 ODF S/T	5 FT	056029
RC	3/8 X 1/2 SAE	5 FT				054979			
RW 45	3/8 X 1/2 SAE	5 FT				054981			
RZ	3/8 X 1/2 ODF ANG	5 FT				055496			
RZ	3/8 X 1/2 ODF S/T	5 FT				056225			
1½	RZ	3/8 X 1/2 SAE			5 FT	054980			
	RC	3/8 X 1/2 ODF ANG			5 FT	055657			
	RC	3/8 X 1/2 ODF S/T			5 FT	056031			
	RC	3/8 X 1/2 SAE			5 FT	054988			
	RW 45	3/8 X 1/2 ODF ANG			5 FT	055991			
	RW 45	3/8 X 1/2 ODF S/T			5 FT	056032			
2	RW 45	3/8 X 1/2 SAE			5 FT	054990			
	RZ	3/8 X 1/2 ODF ANG			5 FT	055498			
	RZ	3/8 X 1/2 SAE			5 FT	054989			
	RC	3/8 X 1/2 ODF ANG			5 FT	054768			
	RC	3/8 X 1/2 ODF S/T			5 FT	053270			
	RC	3/8 X 1/2 SAE			5 FT	053070			
3½	RW 45	3/8 X 1/2 SAE			5 FT	054992			
	RZ	3/8 X 1/2 ODF S/T			5 FT	053271			
	RZ	3/8 X 1/2 ODF ANG	5 FT	054844					
	RZ	3/8 X 1/2 SAE	5 FT	053071					
	RC	3/8 X 1/2 ODF ANG	5 FT	054783					
	RC	3/8 X 1/2 ODF S/T	5 FT	054143					
5	RC	3/8 X 1/2 SAE	5 FT	054142					
	RW 45	3/8 X 1/2 ODF ANG	5 FT	058907					
	RZ	3/8 X 1/2 ODF ANG	5 FT	054785					
	RZ	3/8 X 1/2 ODF S/T	5 FT	054784					
	RZ	3/8 X 1/2 SAE	5 FT	054145					
	RC	3/8 X 1/2 ODF S/T	5 FT	058875					
7	RC	5/8 X 7/8 ODF S/T	5 FT	058608					
	RW 45	5/8 X 7/8 ODF S/T	5 FT	058305					
	RZ	1/2 X 5/8 ODF ANG	5 FT	061196					
10	RC	5/8 X 7/8 ODF S/T	5 FT	058607					
	RW 45	5/8 X 7/8 ODF S/T	5 FT	059291					
		10	RC	5/8 X 7/8 ODF S/T	5 FT	058808			

* For interchangeable refrigerant charges R-134a, R-12, R-450A/R-513A, R-404A, R-507, R-502, R-448A/R-449A and R-22/R-407C, the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected?

Solution: From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

Ordering Information (continued)

HFESC Series – Externally Equalized (continued)

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-12	HFESC	1/2	FC	3/8 X 1/2 ODF ANG	5 FT	057397
		1	FC	3/8 X 1/2 ODF ANG	5 FT	057398
		1½	FC	3/8 X 1/2 ODF ANG	5 FT	057399
R-134a R-12 R-450A R-513A	HFESC	1/4	MC	3/8 X 1/2 ODF ANG	5 FT	057572
		1/2	MC	3/8 X 1/2 ODF ANG	5 FT	058069
		1	MC	3/8 X 1/2 ODF ANG	5 FT	057570
		1½	MC	3/8 X 1/2 ODF ANG	5 FT	057568
		2½	MC	3/8 X 1/2 ODF ANG	5 FT	058421
R-22 R-407C	HFESC	1/4	HC	3/8 X 1/2 ODF ANG	5 FT	057409
			HZ	3/8 X 1/2 ODF ANG	5 FT	057428
		1/2	HC	3/8 X 1/2 ODF ANG	5 FT	057291
			HZ	3/8 X 1/2 ODF ANG	5 FT	057429
		1	HC	3/8 X 1/2 ODF ANG	5 FT	057410
			HZ	3/8 X 1/2 ODF ANG	5 FT	057430
		1½	HC	3/8 X 1/2 ODF ANG	5 FT	057292
			HZ	3/8 X 1/2 ODF ANG	5 FT	057321
		2	HZ	3/8 X 1/2 ODF ANG	5 FT	057433
			HC	3/8 X 1/2 ODF ANG	5 FT	057294
		2½	HC	3/8 X 1/2 ODF ANG	5 FT	057411
			HZ	3/8 X 1/2 ODF ANG	5 FT	057434
		3	HC	3/8 X 1/2 ODF ANG	5 FT	057412
			HZ	3/8 X 1/2 ODF ANG	5 FT	057748
5½	HC	3/8 X 1/2 ODF ANG	5 FT	057781		
	HC	3/8 X 1/2 ODF ANG	5 FT	058609		
R-502 R-404A R-507 **R-448A **R-449A	HFESC	1/4	SC	1/4 X 1/2 ODF ANG	30 IN	066539
			SW45	1/4 X 1/2 ODF ANG	30 IN	066540
			SZ	1/4 X 1/2 ODF ANG	30 IN	066542
		1/2	SC	1/4 X 1/2 ODF ANG	30 IN	066543
			SW45	1/4 X 1/2 ODF ANG	30 IN	066544
			SZ	1/4 X 1/2 ODF ANG	30 IN	066545
		1	SC	3/8 X 1/2 ODF ANG	5 FT	058135
			SW45	3/8 X 1/2 ODF ANG	5 FT	058157
			SZ	3/8 X 1/2 ODF ANG	5 FT	058118
		1½	SC	3/8 X 1/2 ODF ANG	5 FT	058119
			SW45	3/8 X 1/2 ODF ANG	5 FT	058136
			SZ	3/8 X 1/2 ODF ANG	5 FT	058121
		2	SC	3/8 X 1/2 ODF ANG	5 FT	058122
			SW45	3/8 X 1/2 ODF ANG	5 FT	058212
			SZ	3/8 X 1/2 ODF ANG	5 FT	058214
		3½	SC	3/8 X 1/2 ODF ANG	5 FT	058071
			SW45	3/8 X 1/2 ODF ANG	5 FT	066547
			SZ	3/8 X 1/2 ODF ANG	5 FT	066548
		5	SC	3/8 X 1/2 ODF ANG	5 FT	058220
			SW45	3/8 X 1/2 ODF ANG	5 FT	058221
			SZ	3/8 X 1/2 ODF ANG	5 FT	066549
		7	SC	5/8 X 7/8 ODF ANG	5 FT	065458
			SW45	5/8 X 7/8 ODF ANG	5 FT	066550
			SZ	5/8 X 7/8 ODF ANG	5 FT	064058
		10	SC	5/8 X 7/8 ODF ANG	5 FT	064219
			SW45	5/8 X 7/8 ODF ANG	5 FT	066551
			SZ	5/8 X 7/8 ODF ANG	5 FT	064059
		1/4	RC	3/8 X 1/2 ODF ANG	5 FT	057436
			RZ	3/8 X 1/2 ODF ANG	5 FT	057454
		1/2	RC	3/8 X 1/2 ODF ANG	5 FT	057437
			RZ	3/8 X 1/2 ODF ANG	5 FT	057455
		1	RC	3/8 X 1/2 ODF ANG	5 FT	057438
			RW 45	3/8 X 1/2 ODF ANG	5 FT	057446
			RZ	3/8 X 1/2 ODF ANG	5 FT	057456
		1½	RC	3/8 X 1/2 ODF ANG	5 FT	057439
			RW 45	3/8 X 1/2 ODF ANG	5 FT	057448
			RZ	3/8 X 1/2 ODF ANG	5 FT	057322
		2	RC	3/8 X 1/2 ODF ANG	5 FT	057440
			RZ	3/8 X 1/2 ODF ANG	5 FT	057457
		2½	RC	3/8 X 1/2 ODF ANG	5 FT	057441
			RZ	3/8 X 1/2 ODF ANG	5 FT	057458
		5	RC	3/8 X 1/2 ODF ANG	5 FT	058595
			RZ	3/8 X 1/2 ODF ANG	5 FT	059654

*For interchangeable refrigerant charges R-134a, R-12, R-450A/R-513A, R-404A/R-507/R-502/R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? Solution: From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing capacity by 50% for low temperature applications.

HFSC Series – Internally Equalized

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-134a R-12 R-450A R-513A	HFSC	1/4	MC	3/8 X 1/2 ODF ANG	5 FT	057573
		1/2	MC	3/8 X 1/2 ODF ANG	5 FT	058067
R-22 R-407C	HFSC	1/4	HC	3/8 X 1/2 ODF ANG	5 FT	057467
		1/2	HC	3/8 X 1/2 ODF ANG	5 FT	057293
			HZ	3/8 X 1/2 ODF ANG	5 FT	057482
		1	HC	3/8 X 1/2 ODF ANG	5 FT	057468
R-404A R-507 R-502 **R-448A **R-449A	HFSC	1/8	SC	3/8 X 1/2 ODF ANG	5 FT	058248
			SW45	1/4 X 1/2 ODF ANG	30 IN	066552
			SZ	1/4 X 1/2 ODF ANG	30 IN	066553
		1/4	SC	3/8 X 1/2 ODF ANG	5 FT	058249
			SW45	1/4 X 1/2 ODF ANG	30 IN	066554
			SZ	1/4 X 1/2 ODF ANG	30 IN	066555
		1/2	SC	3/8 X 1/2 ODF ANG	5 FT	058250
			SW45	1/4 X 1/2 ODF ANG	30 IN	066556
			SZ	1/4 X 1/2 ODF ANG	30 IN	066557
		1	SC	3/8 X 1/2 ODF ANG	5 FT	058251
			SW45	3/8 X 1/2 ODF ANG	5 FT	066558
			SZ	3/2 X 1/2 ODF ANG	5 FT	066559
		1/4	SC	3/8 X 1/2 ODF ANG	5 FT	058252
			SW45	3/8 X 1/2 ODF ANG	5 FT	066560
			SZ	3/8 X 1/2 ODF ANG	5 FT	066561
		R-502	HFSC	1/4	RC	3/8 X 1/2 ODF ANG
RZ	3/8 X 1/2 ODF ANG				5 FT	057484
1/2	RC			3/8 X 1/2 ODF ANG	5 FT	057488
	RZ			3/8 X 1/2 ODF ANG	5 FT	057485
1	RC			3/8 X 1/2 ODF ANG	5 FT	057489
	RZ			3/8 X 1/2 ODF ANG	5 FT	057486

* For interchangeable refrigerant charges R-134a, R-12, R-450A/R-513A, R-404A/R-507/R-502, R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? **Solution:** From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.

**Use SZ charge for all R-448A/R-449A applications. Recommend oversizing capacity by 50% for low temperature applications.

The TRAE Plus series is a large capacity valve designed for refrigeration, air conditioning, heat pump, and chiller applications.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Suitable for Bi-Flow applications
- Replaceable power element and cage assembly for full serviceability
- Double balanced port design improves operation and stability over wide loads and evaporator temperature ranges
- Square body with straight-thru connections
- Solid copper connections
- External superheat adjustment
- Large diaphragm provides superior stability
- Permanent inlet strainer



Options

- Cages (For available cage kits, see page 26.)

Specifications

- Maximum working pressure: 450 psig
- Torque Power Assembly: 375 - 425 in. lb.
- UR/CUR file number: SA5312

Nomenclature example: TRAE+ 30 HC 10 FT 7/8 x 1 1/8 ODF S/T

TRA	E	+	30	H	C	10 FT	7/8 x 1 1/8	ODF	S/T
Valve Series	Equalizer	Replaceable Components	Capacity Nominal Rating in Tons	Refrigerant Code	Charge Code	Capillary Tube Length	Inlet x Outlet Connection Sizes	Connection Type	Configuration
Double Balanced Port Design	E=External 1/4"SAE	Cage and Power Assembly	(See nominal capacity table below)	+F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A	C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	10 FT (std)	5/8 x 7/8 7/8 x 1 1/8 1 1/8 x 1 1/8	ODF = solder (Only)	S/T = straight-thru (Only)

- + = R-12 and R-134a are interchangeable refrigerant charges
- * = R-507, R-502 and R-404A are interchangeable refrigerant charges
- = R-22 and R-407C are interchangeable refrigerant charges

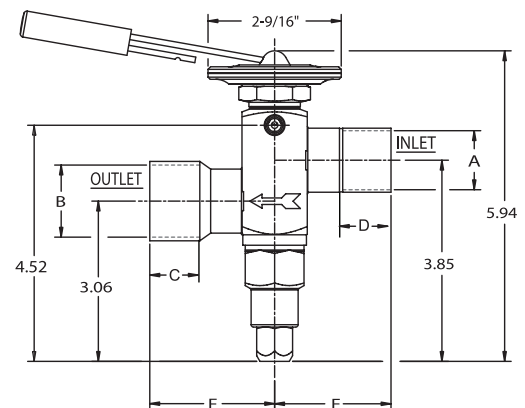
TRAE+ Series – Nominal * Capacity Table in Tons (kW)

R-12	R-134a	R-22/R-407C	R-507/R-404A/R-502
7 1/2 (27)	9 (32)	10 (35)	8 (28)
10 (35)	13 (46)	15 (53)	12 (42)
12 (42)	14 (50)	20 (71)	14 (50)
18 (64)	22 (78)	30 (106)	20 (71)
25 (88)	30 (106)	40 (142)	30 (106)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

TRAE+ Dimensional Data (in)

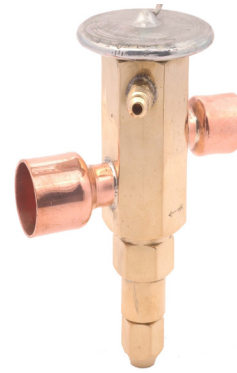
TRAE Valve Type	Nominal Inlet (B)	Sizes (ODF) Inlet (C) Outlet (E)	Inlet		Inlet	
			A	C	D	F
TRAE+ 10-40 Tons	5/8	7/8	1.57	0.50	2.09	0.75
	5/8	1 1/8	1.57	0.50	2.21	0.91
	7/8	7/8	2.09	0.75	2.09	0.75
	7/8	1 1/8	2.09	0.75	2.21	0.91
	7/8	1 1/8	2.09	0.75	2.39	0.97
	1 1/8	1 1/8	2.21	0.91	2.21	0.97
	1 1/8	1-3/8	2.21	0.91	2.39	0.97



The TRAE series is a large capacity valve for chiller, heat pump, refrigeration, and air conditioning applications.

Features

- Suitable for Bi-Flow applications
- External superheat adjustment
- Integral body with straight-thru connections
- Balanced port design improves valve operation and stability over wide loads and evaporator temperature range
- Solid copper connections
- Large diaphragm provides superior stability



Specifications

- Maximum Working Pressure: 450 psig
- UR/CUR file number: SA5312

Nomenclature example: TRAE 50 HC 10 FT 7/8 x 1 1/8 ODF S/T

TRA	E	50	H	C	10 FT	7/8 x 1 1/8	ODF	S/T
Valve Series Hermetic Balanced Port Design	Equalizer E=External 1/4"SAE	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length 10 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2	Connection Type ODF = solder (Only)	Configuration S/T = straight-thru (Only)

- + = R-12 and R-134a are interchangeable refrigerant charges
- * = R-507, R-502 and R-404A are interchangeable refrigerant charges
- = R-22 and R-407C are interchangeable refrigerant charges

TRAE Series – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-22/R-407C	R-507/R-404A/R-502
30 (106)	40 (142)	50 (177)	35 (124)
35 (124)	45 (159)	60 (212)	40 (142)
40 (142)	50 (177)	70 (248)	50 (177)

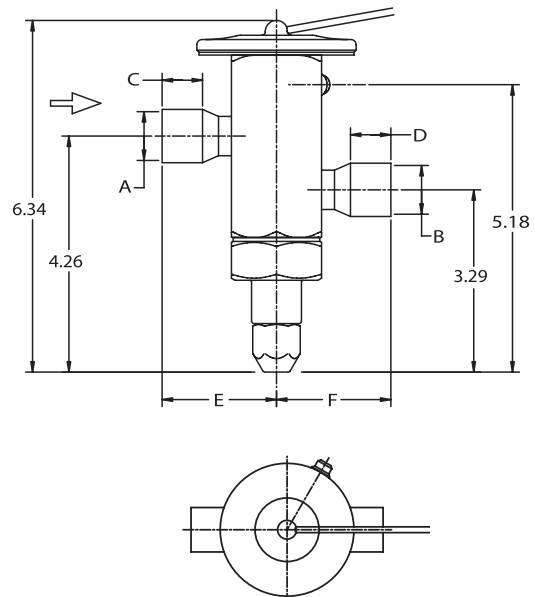
All capacities shown are at 100°F condensing, 40°F evaporator temperature.
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

Dimensional Data (in) Remote Bulb Tubing Length 10' Standard

Connection Size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
7/8 ODF	7/8 ODF	0.88	0.88	0.75	0.75	2.09	2.09
7/8 ODF	1 1/8 ODF	0.88	1.13	0.75	0.91	2.90	2.21
7/8 ODF	1 1/2 ODF	0.88	1.38	0.75	0.97	2.90	2.39
1 1/8 ODF	1 1/8 ODF	1.13	1.13	0.91	0.91	2.21	2.21
1 1/8 ODF	1 1/2 ODF	1.13	1.38	0.91	0.97	2.21	2.39
1 1/2 ODF	1 1/2 ODF	1.38	1.38	0.91	0.97	2.39	2.39

Remote Bulb Table

Remote Bulb Tubing Length	Bulb Length
5, 10, 15 ft.	4 7/8
20, 30 ft.	
40, 50 ft.	6 3/16



Ordering Information

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN	
R-22 R-407C R-404A R-134A	TRAE+	10	HC	5/8 X 7/8 ODF S/T	5 FT	062718	
			HCA	5/8 X 7/8 ODF S/T	10 FT	063138	
			HCA	7/8 X 1 1/8 ODF S/T	10 FT	063554	
			HC	7/8 X 1 1/8 ODF S/T	15 FT	063100	
		15	HC	7/8 X 1 1/8 ODF S/T	10 FT	062721	
			HCA	5/8 X 7/8 ODF S/T	10 FT	063510	
			HCA	7/8 X 1 1/8 ODF S/T	10 FT	062722	
			HCA	7/8 X 1 1/8 ODF S/T	10 FT	063141	
		20	HW100	5/8 X 7/8 ODF S/T	10 FT	063103	
			HC	7/8 X 1 1/8 ODF S/T	10 FT	063650	
			HCA	7/8 X 1 1/8 ODF S/T	10 FT	062725	
			HCA	1 1/8 X 1 1/8 ODF S/T	10 FT	064581	
			HW90	7/8 X 1 1/8 ODF S/T	15 FT	064018	
			HC	7/8 X 1 1/8 ODF S/T	10 FT	062724	
			SC	7/8 X 1 1/8 ODF S/T	10 FT	063461	
		30	SZ	5/8 X 7/8 ODF S/T	10 FT	064923	
			HC	7/8 X 1 1/8 ODF S/T	10 FT	062727	
			HC	1-1/8 X 1 3/8 ODF S/T	10 FT	062728	
			HCA	1-1/8 X 1 3/8 ODF S/T	10 FT	062730	
			HW100	7/8 X 1 1/8 ODF S/T	5 FT	063425	
		40	MC	1-1/8 X 1 3/8 ODF S/T	10 FT	064001	
			HC	1-1/8 X 1 3/8 ODF S/T	10 FT	062733	
			HC	1-1/8 X 1 3/8 ODF S/T	15 FT	063153	
		TRAE	50	HCA	1-1/8 X 1 3/8 ODF S/T	10 FT	062734
	35			SC	1-1/8 X 1 3/8 ODF S/T	10 FT	064217
	40			MC	1-1/8 X 1 3/8 ODF S/T	15 FT	063941
	50			HC	1-1/8 X 1 3/8 ODF S/T	10 FT	061700
	60			HC	1-1/8 X 1 3/8 ODF S/T	10 FT	061865
	70	HC	1-1/8 X 1 3/8 ODF S/T	10 FT	061866		

(+) Replaceable Power Assembly

Cage Replacement Kits for TRAE+ Series Valves

Cage kits are cross referenced by capacity and tonnage in the table below. Each cage kit consists of a replacement cage and cage removal wrench. In addition, the cage removal wrench (KT-20294) can be ordered as a separate item.

PCN	TRAE+ KIT	Nominal Capacity - Tons		
		R-22	R-12/R-134a	R-507/R-404A/ R-502
063387	KT-20289 CAGE KIT	10	9	8
063388	KT-20290 CAGE KIT	15	13	12
063389	KT-20291 CAGE KIT	20	14	14
063390	KT-20292 CAGE KIT	30	22	20
063391	KT-20293 CAGE KIT	40	30	30
063392	KT-20294 CAGE WRENCH KIT	All tonnages		

Replacement Parts

Description	Part Number	PCN
Power Assembly	X-28458 HCA-2	063414
	X-28458 MC	063593
	X-28458 SC	065439
	X-28458 HW100-2	063416
	X-28458 SW45-2	065298
Seal Nut	27676-1	058707

The T-series Take-Apart valves, with adjustable superheat and replaceable, interchangeable components are ideal for original equipment and field replacements in air conditioning, heat pump, and refrigeration applications.

Features

- Take-Apart construction for easy field service
- External superheat adjustment
- Bi-Flow capability
- Stainless steel power assembly up to 18 tons



Options

- Interchangeable, replaceable cages
- Interchangeable body flanges
- Interchangeable power assemblies
- 1/4 to 100 tons capacity

Specifications

- Maximum working pressure: 450 psig
- Torque Bolts: 300 in. lb.

Nomenclature example: TCLEB 5 HC 5 FT 3/8 x 1/2 SAE ANG

TCL	E	B	5	H	C	5 FT	3/8 x 1/2	SAE	ANG
Valve Series Take-Apart Adjustable	Equalizer E=External (Omit for Internal)	Bleed Hole (optional) B=Bleed Hole (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See Cage Assembly Interchangeability Tables)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R404A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length	Inlet x Outlet Connection Sizes Various sizes are available (valve is also available less flange)	Connection Type SAE=flare ODF=solder	Configuration ANG = 90° angle S/T=straight-thru

- + = R-12 and R-134a are interchangeable refrigerant charges
- * = R-507, R-502 and R-404A are interchangeable refrigerant charges
- = R-22 and R-407C are interchangeable refrigerant charges

Single Outlet “T” Series Body Flanges with Bleed Hole for Use with PSC Compressors

Valve Type			Bleed Hole Diameter ¹ for % Capacity Bypass											
R-12/R-134a	R-22/R-407C	R-507/ R-502/R-404A	10%		15%		20%		25%		30%		40%	
			Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size
TCL1/4F	TCL1/2H	TCL1/2R	–	–	0.02	1/64	0.02	77	0.02	76	0.02	74	0.03	72
TCL1/2F	TCL1H	TCL1/2R	0.02	77	0.02	75	0.02	73	0.03	71	0.03	69	0.04	65
TCL1F	TCL2H	TCL1R	0.03	71	0.03	1/32	0.04	64	0.04	60	0.05	56	0.05	55
TCL2F	TCL3H	TCL2R	0.03	70	0.04	65	0.04	60	0.04	57	0.05	3/4	0.06	54
TCL3F	TCL5H	TCL3R	0.04	65	0.04	57	0.05	55	0.06	54	0.06	1/16	0.07	50
TCL4F	TCL7-1/2H	TCL4-1/2R	0.04	57	0.05	55	0.06	53	0.07	51	0.08	48	0.09	44
TCL6-1/2F	TCL10H	TCL7R	0.05	55	0.06	53	0.07	50	0.08	47	0.09	44	0.10	39
TCL7-1/2F	TCL12H	TCL8R	0.05	55	0.06	53	0.07	50	0.08	47	0.09	44	0.10	39

¹Bleed hole sizes shown above are based on a percent of full effective port area of the valve. This does not necessarily indicate the percent of valve capacity that will be bypassed. The hole sizes shown above should be used for reference only. Normal industry practice is to equalize systems 3 to 5 minutes.

T-Series – Take-Apart

Thermal Expansion Valves

Small Capacity ½ to 18 tons

(R-22 Nominal – Bi Flow)

Step 1: Select Cage from Capacity Table

Externally Adjustable Cage Assembly



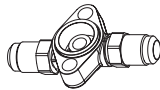
Valve Type	Nominal Capacity - Tons						Cage Assembly ¹	
	R-12	R-134a	R-22	R-404A R-507	R-502	R-407C	Description	PCN
TCL TCLE	1/4	1/4	1/2	1/4	1/4	1/2	X22440B1A	037034
	1/4	1/4	1/2	1/4	1/4	1/2	X22440B1B	037035
	1/2	3/4	1	1/2	1/2	1	X22440B2A	037036
	1/2	3/4	1	1/2	1/2	1	X22440B2B	037037
	1	1½	2	1	1	2	X22440B3A	037038
	1	1½	2	1	1	2	X22440B3B	037039
	2	2½	3	2	2	3	X22440B4A	037040
	2	2½	3	2	2	3	X22440B4B	037041
	3	3½	5	3	3	5	X22440B5B	037043
	4	5½	7½	4½	4½	7½	X22440B6B	037045
TJLE	7	9	11	7	7	11	XC724B4B	093343
	8	11	14	9	9	14	XC724B5B	038699
TJR	8	11	14	9	9	14	X11873B4B	088837
	11	13	18	12	12	18	X11873B5B	089058

¹ Gaskets included on cage.

Gasket strip X13455-1 (PCN: 027579) replaces all older T-Series Gasket kits.



Angle, ODF



Straight-Thru, SAE

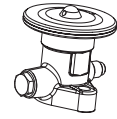
Step 2: Select Flange

Valve Type	Flow	Size & Style Connections		Body Flange Part	
		Inlet	Outlet	Number	PCN
TCL TCLE	Angle	3/8 SAE	1/2 SAE	C500-4	056932
		3/8 SAE	5/8 SAE	C500-5	057153
		1/2 SAE	5/8 SAE	C500-6	056294
		3/8 ODF	1/2 ODF	C501-4	065527
		3/8 OFD	5/8 ODF	C501-5	065748
		1/2 ODF	5/8 ODF	C501-7	065861
		5/8 ODF or 7/8 ODM	7/8 ODF or 1½ ODM	A576	027764
		3/8 SAE	1/2 SAE	X6669-4	051176
		3/8 SAE	5/8 SAE	X6669-1	050563
		1/2 SAE	1/2 SAE	X6669-5	083378
	Straight-Thru	1/2 SAE	5/8 SAE	X6669-2	050842
		3/8 ODF	1/2 ODF	9761-5	027769
		3/8 ODF	5/8 ODF	9761-3	027771
		1/2 ODF	1/2 ODF	9761-6	027766
		1/2 ODF	5/8 ODF	9761-4	027268
		1/2 ODF	7/8 ODF	9761-2	027770
		5/8 ODF	5/8 ODF	X6346-16	044733
		5/8 ODF	7/8 ODF	X6346-17	044846
		5/8 ODF	1½ ODF	X6346-18	094038
		7/8 ODF	1½ ODF	X6346-34	071757
TJLE	Angle	5/8 ODF or 7/8 ODM	7/8 ODF or 1½ ODM	B504	044984
	Straight-Thru	5/8 ODF	1½ ODF	X6347-2	094289
		7/8 ODF	1½ ODF	X6347-6	057210
		7/8 ODF	1½ ODF	X6347-7	057323
TJR ²	Angle	5/8 ODF or 1½ ODM	7/8 ODF or 1½ ODM	10331	029411
	Straight-Thru	7/8 ODF or 1½ ODM	7/8 ODF or 1½ ODM	10332	032988

² TJR is balanced ported. TJR flange includes extended length capscrews.

2004FC-118 R16 (01/16)

Superheat Plug
X28124-1 (ODM)
(PCN: 058336)



Capscrews



Step 3: Select Power Assembly

Refrigerant	Equalizer Type	Cap Tube Length	Application		Power ⁵ Assembly	PCN	
			Temp. Range	MOP ⁴ (psi)			
			R-12	Internal			5 FT
R-12	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019FC1B	049881	
	Internal	10 FT	-20 to +50	NONE	XB-1019FC2A	032374	
	1/4 SAE	10 FT	-20 to +50	NONE	XB-1019FC2B	052954	
	1/4 SAE	15 FT	-20 to +50	NONE	XB-1019FC3B	058569	
	1/4 SAE	5 FT	-50 to +50	35	XB-1019FW351B	079346	
	1/4 SAE	5 FT	-50 to +50	55	XB-1019FW551B	057432	
	1/4 SAE	10 FT	-50 to +50	55	XB-1019FW552B	050981	
	1/4 SAE	5 FT	-50 to 0	15	XB-1019FW151B	077063	
	R-22	Internal	5 FT	-20 to +50	NONE	XB-1019HC1A	062078
		1/4 SAE	5 FT	-20 to +50	NONE	XB-1019HC1B	053416
1/4 SAE		10 FT	-20 to +50	NONE	XB-1019HC2B	054390	
1/4 SAE		5 FT	-20 to +50	NONE	XB-1019HCA1B	056039	
1/4 SAE		5 FT	-50 to +5	35	XB-1019HW351B	089975	
1/4 SAE		5 FT	-50 to +20	55	XB-1019HW551B	039152	
1/4 SAE		5 FT	-50 to +30	65	XB-1019HW651B	089445	
1/4 SAE		5 FT	-50 to +50	100	XB-1019HW1001B	062437	
1/4 SAE		20 FT	-10 to +50	NONE	XB-1019HW4B	055703	
1/4 SAE		10 FT	-50 to +50	100	XB-1019HW1002B	062658	
R-407C	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019HZ1B	040568	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019HZ2B	054105	
	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019NC1B	064837	
	1/4 SAE	5 FT	-20 to +50	100	XB-1019NW1001B	063069	
R-507	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019PC1B	061949	
	1/4 SAE	5 FT	-50 to 0	40	XB-1019PW401B	062400	
R-134a	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019PZ1B	061951	
	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019MC1B	057878	
	1/4 SAE	10 FT	-20 to +50	NONE	XB-1019MC2B	059548	
	1/4 SAE	5 FT	-50 to +50	55	XB-1019MW551B	057370	
R-502	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019M21B	061946	
	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019RC1B	052955	
	1/4 SAE	10 FT	-20 to +50	NONE	XB-1019RC2B	054415	
	1/4 SAE	5 FT	-50 to +20	15	XB-1019RW151B	070346	
	1/4 SAE	5 FT	-50 to +5	35	XB-1019RW351B	063644	
	1/4 SAE	5 FT	-50 to +5	45	XB-1019RW451B	055881	
	1/4 SAE	10 FT	-50 to +5	45	XB-1910RW452B	055704	
	1/4 SAE	5 FT	-50 to +25	65	XB-1019RW651B	063114	
	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019RZ1B	046474	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019RZ2B	047358	
R-404A	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019SC-1B	059189	
	1/4 SAE	5 FT	-50 to 0	40	XB-1019SW401B	059130	
	1/4 SAE	5 FT	-50 to +25	65	XB-1019SW651B	063541	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019SZ2B	061948	
Misc.	Internal	5 FT	Liquid Injection	NONE	XB-1019A-1A	037389	
	1/4 SAE	5 FT		NONE	XB-1019A-1B	034803	
	1/4 SAE	5 FT		NONE	XB-1019B-1B	032207	
	1/4 SAE	5 FT		NONE	XB-1019C-1B	035162	
	1/4 SAE	5 FT		NONE	XB-1019CW-1B	084768	

³ Capscrews included with Power Assembly

⁴ Maximum Operating Pressure Limit to prevent motor overload

⁵ Power Assembly final character: A=Internally Equalized, B=Externally Equalized

NOTE: Nominal capacities shown here are based on 40°F evaporator temperature and 100°F vapor-free liquid refrigerant entering the valve. R-12 and R-134a rated at 60 PSID. All other refrigerants rated at 100 PSID.

Large Capacity 22 to 100 tons (R22 Nominal – Balanced Ported and Bi Flow)

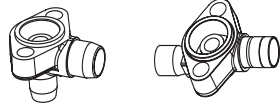


Externally Adjustable
Double Ported
Cage Assembly

Step 1: Select Cage from Capacity Table

Valve Type	Nominal Capacity - Tons						Cage Assembly ¹	
	R-12	R-134a	R-22	R-404A R-507	R-502	R-407C	Description	PCN
TER	13	16	22	14	14	22	X9117B6B	077896
	15	19	26	16	16	26	X9117B7B	078117
	20	25	35	21	21	35	X9117B8B	071155
	25	31	45	27	27	45	X9117B9B	029429
TIR	35	45	55	37	37	55	X9166B10B	070738
THR	35	45	55	37	37	55	X9144B10B	071238
	45	55	75	48	48	70	X9144B11B	020846
	55	68	85	60	60	85	X9144B13B	021067
TMR	55	68	100	60	--	100	X9144B14B	065123

¹ Gaskets included on cage.
Gasket strip X13455-1 (PCN: 027579) replaces all older T-Series Gasket kits.



Step 2: Select Flange

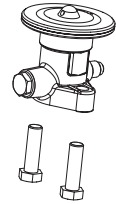
Angle, ODF Straight-Thru, ODF

Valve Type	Style	Size & Style Connections		Body Flange Part	
		Inlet	Outlet	Number	PCN
TER ²	ANGLE	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9153	027919
	STRAIGHT- THRU	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9152	027918
TIR	ANGLE	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9151	027926
	STRAIGHT- THRU	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9150	028849
THR	ANGLE	1 1/8 ODM	1 1/8 ODM	9149	028030
	STRAIGHT- THRU	1 1/8 ODM	1 1/8 ODM	9148	028032
TMR ²	ANGLE	1 1/8 ODM	1 1/8 ODM	9149-1	065124
	STRAIGHT- THRU	1 1/8 ODM	1 1/8 ODM	9148-1	065125

² TER-TMR Flange includes extended length capscrews.

NOTE: Nominal capacities shown here are based on 40°F evaporator temperature and 100°F vapor-free liquid refrigerant entering the valve. R-12 and R-134a rated at 60 PSID. All other refrigerants rated at 100 PSID.

Superheat Plug
X28124-1 (ODM)
(PCN: 058336)



Step 3: Select Power Assembly

Capscrews

TER-TIR-THR-TMR Power Assemblies ³						
Refrigerant	Equalizer Type	Cap Tube Length	Application		Power Assembly	PCN
			Temp. Range	MOP ⁴ (psi)		
R-12	1/4 SAE	10 FT	-20 to +40	NONE	XC-726FC2B	052957
	1/4 SAE	10 FT	-50 to +50	55	XC-726FW552B	035000
R-22	1/4 SAE	10 FT	-20 to +50	NONE	XC-726HC2B	056421
	1/4 SAE	10 FT	-50 to +50	35	XC-726HW352B	024511
	1/4 SAE	10 FT	-50 to +30	65	XC-726HW652B	025011
	1/4 SAE	10 FT	-20 to +50	NONE	XC-726HCA2B	059333
	1/4 SAE	10 FT	-50 to +50	100	XC-726HW1002B	036750
R-134A	1/4 SAE	10 FT	-50 to +10	NONE	XC-726HZ2B	040569
	1/4 SAE	10 FT	-20 to +50	NONE	XC-726MC2B	057235
	1/4 SAE	10 FT	-50 to +50	55	XC-726MW552B	057372
	1/4 SAE	10 FT	-50 to +10	NONE	XC-726MZ2B	063075
R-502	1/4 SAE	10 FT	-20 to +50	NONE	XC-726RC2B	052958
	1/4 SAE	10 FT	-50 to +20	15	XC-726RW152B	023351
	1/4 SAE	10 FT	-50 to +50	35	XC-726RW352B	070866
	1/4 SAE	10 FT	-50 to +25	65	XC-726RW652B	071421
R-404A	1/4 SAE	10 FT	-50 to +10	NONE	XC-726RZ2B	046692
	1/4 SAE	10 FT	-20 to +50	NONE	XC-726SC2B	062303
	1/4 SAE	10 FT	-50 to +10	40	XC-726SW402B	063127
	1/4 SAE	10 FT	-50 to +25	65	XC-726SW652B	061692
1/4 SAE	10 FT	-50 to +10	NONE	XC-726SZ2B	063974	

³ Capscrews included with Power Assembly

⁴ Maximum Operating Pressure Limit to prevent motor overload

Additional Parts

Description	PCN
Packing Nut Wrench	039862
Gasket Strip	027579
Superheat Adjustment Plug	058336

Ordering Information

Valves less flange – (VLF)

TCLE, TJLE & TJRE

SAE External 5 FT. Cap Tube Length

Valve Description					
R-12	PCN	R-22	PCN	R-502	PCN
TCLE 1/2 FC	054413	TCLE 1 HC	062884	TCLE 2 RC	061215
TCLE 1 FC	052940	TCLE 2 HC	061724	TCLE 3 RC	055501
TCLE 2 FC	052941	TCLE 3 HC	054395	TCLE 8 RC	063501
TCLE 3 FC	052942	TCLE 5 HC	054399		
TCLE 4 FC	052943	TCLE 7-1/2 HC	054401		
TCLE 6½ FC	052944	TCLE 7-1/2 HW100	054079		
TCLE 7½ FC	052945	TCLE 10 HC	054404		
TJLE 8 FC	055104	TCLE 10 HW100	059076		
TJRE 11 FC	055105	TCLE 12 HC	060854		
		TJLE 11 HC	060855		
		TJLE 14 HC	060856		
		TJRE 14 HC	060857		
		TJRE 18 HC	060858		

TCLE/TJLE/TJRE

Rapid Response Power Assemblies

Description	PCN
X-8019 FWS 1B	031654
X-8019 HWS 1B	055652
X-8019 HWS 2B	055873
X-8019 RWS 1A	032131
X-8019 RWS 2B	042426

Nomenclature Cross-Reference

Refrigerant	New	Old
R-12	TJLE7	TJLE800
	TJLE8	TJLE1100
R-22	TJLE11	TJLE1400
	TJLE14	TJLE1800
R-502	TJLE7	TJLE900
	TJLE9	TJLE1200

TER, TIR & THR

10 FT. Cap Tube Length

Valve Description					
R-12	PCN	R-22	PCN	R-502	PCN
TER 20 FC	055109	TER 22 HC	061673	TER 14 RC	060788
TER 25 FC	055111	TER 22 HW100	058582		
		TER 26 HC	061674		
		TER 35 HC	061675		
		TER 35 HW100	058038		
		TER 45 HC	061676		
		TIR 55 HC	061677		
		THR 75 HC	064961		
		THR 100 HC	062036		
		THR 100 HW100	052912		

TER/TIR/THR

Rapid Response Power Assemblies

Description	PCN
X-7726 FWS 2B	035083
X-7726 HWS 2B	093565
X-7726 RWS 2B	036616

Replacement Cap Screw Kits

PCN	Description	Contains Screw #	Pcs. Per Pkg.
054569	KT-30021	PS-286-5	10
054570	KT-30022	PS-168-5	10
054571	KT-30023	PS-259	10
054572	KT-30024	PS-370	10
054573	KT-30025	PS-514-5	10
054574	KT-30026	PS-517-5	10

The TLE series is designed for air conditioning, heat pumps, transportation and commercial refrigeration. Take-Apart construction improves serviceability with replaceable/interchangeable parts. TLE valves do not have an external superheat adjustment.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Non-adjustable superheat to maintain factory setting
- Bi-Flow capability for heat pump applications (external equalizer required)
- Take-Apart construction for easy field service



Options

- Interchangeable capacity cages, power assemblies and flanges

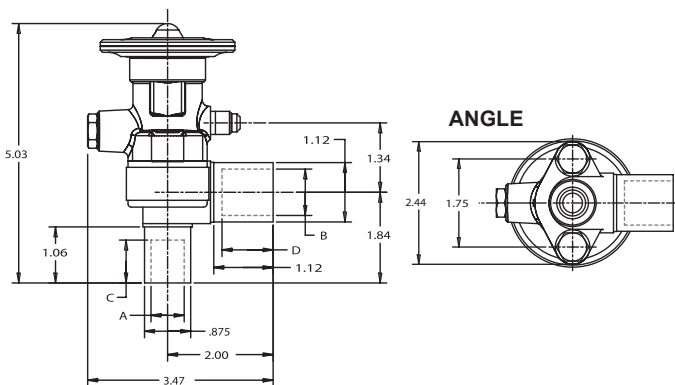
Specifications

- Maximum working pressure: 450 psig
- Capscrew Torque: 300 in. lbs.

Nomenclature example: TLEB 5 HCA 5 FT 3/8 x 1/2 ODF S/T

TL	E	B	5	H	C	5 FT	3/8 x 1/2	ODF	S/T
Valve Series* Take-Apart	Equalizer E=External 1/4" SAE Standard 1/4" ODF Available (Omit for Internal)	Bleed Hole (optional) B=Bleed Hole (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See Cage Capacity Table)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length 5 FT (std)	Inlet x Outlet Connection Sizes Various sizes are available (valve is available also less flange)	Connection Type SAE=flare ODF=solder	Configuration ANG = 90° angle S/T = straight-thru

- + = R-12 and R-134a are interchangeable refrigerant charges
- * = R-507, R-502 and R-404A are interchangeable refrigerant charges
- = R-22 and R-407C are interchangeable refrigerant charges



Dimensional Data (in)

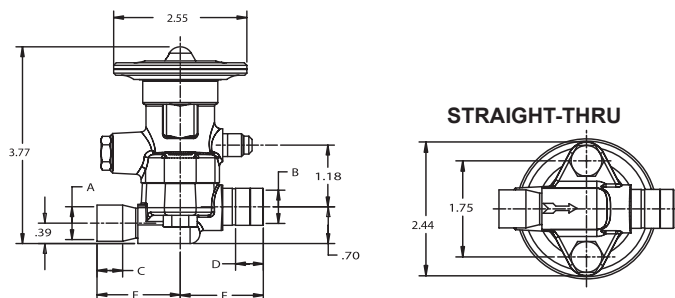
TLE Angle

Connection Size		A	B	C MIN	D MIN
Inlet	Outlet				
ODF:ODM 5/8:7/8	ODF:ODM 7/8:1 1/8	0.63	0.88	0.81	1.00

TLE Straight Thru

Connection Size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
5/8 ODF	1 1/8 ODF	0.63	1.13	0.53	0.91	1.63	2.50
7/8 ODF	1 1/8 ODF	0.88	1.13	0.75	0.91	1.94	2.50
7/8 ODF	1 1/8 ODF	0.88	1.38	0.75	0.97	1.94	2.69

Allow 2-1/8" above valve for removal of power assembly.



Ordering Information

Valve Less Flange (VLF)

Valve Less Flange ¹	PCN	Equalizer Type	Refrigerant
TLE 1/2 HW	--	1/4 SAE External	R-22
TLE 1 HW	--		
TLE 2 HW	--		
TLE 3 HW	041734		
TLE 5 HW	054793		
TLE 7-1/2 HW	054794		
TLE 10 HW	055125		
TLE 12 HW	054795		

¹Also available with "HCA" charge for heat pump and air conditioning applications.

Cage Capacities in Tons

PCN	Description	R-12	R-134A	R-22/R-407C	R-404/R-507/ R-502
041551	X-22517 B1B	1/4	1/4	1/2	1/4
041556	X-22517 B3B	1	1½	2	1
041560	X-22517 B4A	2	2½	3	2
041558	X-22517 B4B	2	2½	3	2
041562	X-22517 B5B	3	3½	5	3
041564	X-22517 B6B	4	5½	7½	4½
041566	X-22517 B7B	6½	7½	10	7

Flanges

PCN	Description	Connections
027770	9761-2	1/2 X 7/8 ODF S/T
027771	9761-3	3/8 X 5/8 ODF S/T
027268	9761-4	1/2 X 5/8 ODF S/T
027769	9761-5	3/8 X 1/2 ODF S/T
027766	9761-6	1/2 X 1/2 ODF S/T
027764	A-576	5/8 X 7/8 ODF ANG
056932	C-500-4	3/8 X 1/2 SAE ANG
057153	C-500-5	3/8 X 5/8 SAE ANG
056294	C-500-6	1/2 X 5/8 SAE ANG
065527	C-501-4	3/8 X 1/2 ODF ANG
065748	C-504-5	3/8 X 5/8 ODF ANG
065861	C-504-7	1/2 X 5/8 ODF ANG
044733	X-6346-16	5/8 X 5/8 ODF S/T
044846	X-6346-17	5/8 X 7/8 ODF S/T
094038	X-6346-18	5/8 X 1-1/8 ODF S/T
071757	X-6346-34	7/8 X 1-1/8 ODF S/T
050563	X-6669-1	3/8 X 5/8 SAE S/T
050842	X-6669-2	1/2 X 5/8 SAE S/T
051176	X-6669-4	3/8 X 1/2 SAE S/T
083378	X-6669-5	1/2 X 1/2 SAE S/T

Replacement Power Assemblies

PCN	Description
083765	XB1033 FW25-1B
061760	XB1033 HW-1B
077201	XB1033 HW-15A
089748	XB1033 HW-75B
095534	XB1033 HW100-15B
095813	XB1033 HW100-1B

Power Assembly Nomenclature

Description
XB-1033 XXX-YZ
xxx = charge code
y = cap tube length code
z = internal (A) or external (B) equalizer

TFE Series R-22

Thermal Expansion Valves

The TFE R-22 series is designed for large tonnage heat pump, air conditioning, and commercial refrigeration applications.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Replaceable power element
- External superheat adjustment
- ODF connections
- Balanced port construction compensates for changes in operating pressures due to varying ambients, or widely varying evaporator loads
- Bi-Directional control capacity
- External equalizer



Specifications

- Maximum working pressure: 450 psig

TFE Nominal* Capacity Table in Tons

R-134a	R-22/R-407C	R-502, R-404a/R-507
6	8	5
8	10	7
10	12	9
15	20	14

*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750

Nomenclature example: TFES 10 HCA 5/8 x 7/8 ODF S/T

TF	E	S	10	H	CA	5/8 x 7/8	ODF	S/T
Valve Series Balanced Port, Replaceable Power Assembly	Equalizer E=External 1/2" ODF	Connection Type S = solder (Only)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code • H = R-22 • M = R-134a • N = R-407C • P = R-507 • R = R-502 • S = R-404A	Charge Code C = medium temp CA = heat pump	Inlet x Outlet Connection Sizes (See ordering information table below)	Connection Type ODF=solder	Configuration S/T = Straight- thru

* = R-507, R-502 and R-404A are interchangeable refrigerant charges, • = R-22 and R-407C are interchangeable refrigerant charges

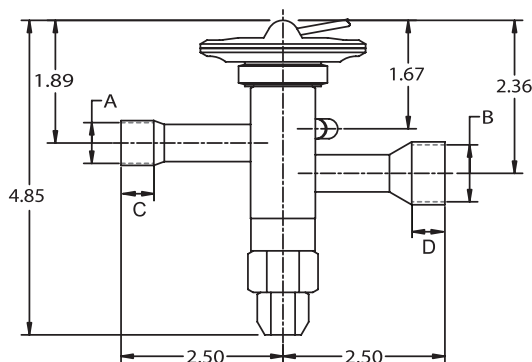
Ordering Information

Valve Series	Capacity Tons* (R-22 Nominal)	Connections	PCN HCA Charge (R-22 Heat Pump)
TFES	8	5/8 X 7/8 ODF S/T 6A ODF EE	061608
	10	5/8 X 7/8 ODF S/T 6A ODF EE	061610
	12	5/8 X 7/8 ODF S/T 6A	061609
	20	5/8 X 7/8 ODF S/T 6A	064493

Inlet/Outlet Fittings Dimensional Data (in)

Connections		Inlet		Outlet		Equalizer	
Inlet	Outlet	A	B	C MIN	D MIN.	1/4 ODF	SAE
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.31	1.70	1.65
	1/2 ODF	0.25	0.50		0.37		
	5/8 ODF	0.25	0.63		0.50		
3/8 ODF	3/8 ODF	0.38	0.38		0.31		
	1/2 ODF	0.38	0.50		0.37		
	5/8 ODF	0.38	0.63		0.50		
1/2 ODF	7/8 ODF	0.38	0.88	0.76			
	1/2 ODF	0.50	0.50	0.37	0.37		
	5/8 ODF	0.50	0.63	0.37	0.50		
5/8 ODF	7/8 ODF	0.50	0.88	0.37	0.76		
	5/8 ODF	0.63	0.63	0.50	0.50		
	7/8 ODF	0.63	0.88	0.50	0.76		
7/8 ODF	1-1/8 ODF	0.63	1.13	0.50	0.91		
	7/8 ODF	0.88	0.88	0.76	0.76		
	1-1/8 ODF	0.88	1.13	0.76	0.91		

Dimensional Data (in)



Replacement Parts

Description	P/N	PCN
Power Assembly	X-28458 HC-2	036413
	X-28458 HCA-2	063414
	X-28458 HW100-2	063416
	X-28458 MC-3	063593
	X-28458 MW45-3	063594
	X-28458 SC-2	065439
	X-28458 SW45-2	065298
Seal Nut	27676-1	058707

TFE Series R-410A

Thermal Expansion Valves

The TFE R-410A series is designed for large tonnage heat pump, air conditioning, and commercial refrigeration applications.



Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Replaceable power element
- External superheat adjustment
- ODF connections
- Balanced port construction compensates for changes in operating pressures due to varying ambients, or widely varying evaporator loads
- Bi-Directional control capacity
- External equalizer
- ZAA charge for R-410A systems

Specifications

- Maximum working pressure: 630 psig

TFE Nominal* Capacity Table in Tons

Model	Typical System Application
TFE 12	10-13 Tons
TFE 16	14-17 Tons
TFE 20	18-20 Tons

*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750

Nomenclature example: TFES 16 ZAA 5/8 x 7/8 ODF S/T

TF	E	S	16	Z	AA	5/8 x 7/8	ODF	S/T
Valve Series Balanced Port, Replaceable Power Assembly	Equalizer E=External 1/2" ODF	Connection Type S = solder	Capacity Nominal Rating in Tons	Refrigerant Code Z = R-410A	Charge Code AA = wide range	Inlet x Outlet Connection Sizes (See ordering information table below)	Connection Type ODF=solder	Configuration S/T = Straight- thru

Ordering Information

Refrigerant	Tons	Bleed	Inlet x Outlet	Sensing Bulb Capillary Tube Length	PCN
R-410A	12	-	5/8 ODF x 7/8 ODF	5 ft.	066146
		15%	5/8 ODF x 7/8 ODF	5 ft.	066147
		-	7/8 ODF x 1 1/2 ODF	10 ft.	066148
	16	-	5/8 ODF x 7/8 ODF	5 ft.	066149
		15%	5/8 ODF x 7/8 ODF	5 ft.	066150
		-	7/8 ODF x 1 1/2 ODF	10 ft.	066151
	20	-	5/8 ODF x 7/8 ODF	5 ft.	066152
		15%	5/8 ODF x 7/8 ODF	5 ft.	066153
		-	7/8 ODF x 1 1/2 ODF	10 ft.	066154

Inlet/Outlet Fittings Dimensional Data (in)

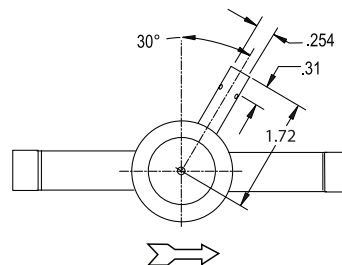
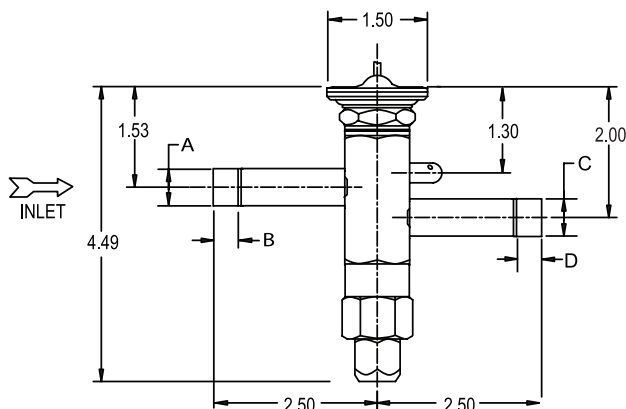
Connections		Inlet		Outlet	
Inlet	Outlet	A	B MIN.	C	D MIN.
1/2 ODF	1/2ODF	0.50	0.37	0.50	0.37
	5/8 ODF	0.50	0.37	0.63	0.50
	7/8ODF	0.50	0.37	0.88	0.76
5/8 ODF	5/8 ODF	0.63	0.50	0.63	0.50
	7/8ODF	0.63	0.50	0.88	0.76
	1 1/2 ODF	0.63	0.50	1.13	0.91
7/8 ODF	7/8ODF	0.88	0.76	0.88	0.76
	1 1/2 ODF	0.88	0.76	1.13	0.91

Replacement Parts

Description	P/N	PCN
R-410 A Power Assembly*	KT-30032 (X-30669 ZAA-2)	066155*
Seal Nut	27676-1	058707

*Approved for use only on TEF Series R-410A valves (with ZAA charge)

Dimensional Data (in)



The TI series has interchangeable cages capable of changing valve capacity in the field.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Wrench flats on inlet and outlet
- Forged brass valve body
- Inlet strainer assembly



Options

- Interchangeable capacity cages

Specifications

- Inlet connection size: 3/8" SAE, Outlet 1/2" SAE
- Maximum working pressure: 652 psig
- Maximum bulb temperature: 165°F

Nomenclature example: TIE4 HW

TI	E	4	H	W
Valve Series	Equalizer	Orifice Size	Refrigerant Code	Charge Code
	E=External (Omit for internal)	Valves sold less cage (Select proper cage from interchangeability table below)	• H = R-22 M = R-134a • N = R-407C *P = R-507 *S = R-404A	W = medium temp W(MOP) = press. limiting

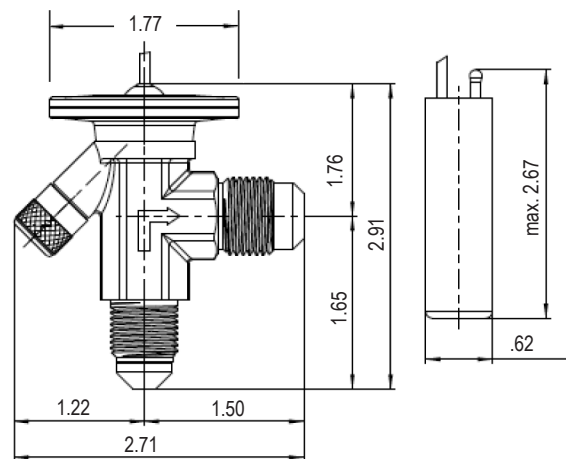
* = R-507 and R-404a are interchangeable refrigerant charges
• = R-22 and R-407C are interchangeable refrigerant charges

Interchangeable Cages

Cage Size	Type	PCN	Nominal Capacity (kW)		
			R-134a	R-22/R-407C	R-404A/R-507
00	TIO-00X	065087	0.03	0.05	0.04
0	TIO-000	065088	0.08	1.30	1.00
1	TIO-001	065090	1.90	3.20	2.30
2	TIO-002	065091	3.10	5.30	3.90
3	TIO-003	065092	5.00	8.50	6.20
4	TIO-004	065093	8.30	13.90	10.10
5	TIO-005	065094	10.10	16.90	12.30
6	TIO-006	065095	11.70	19.50	14.20

NOTE: Nominal capacities shown on pages at the end of this section are based on European standards of +38°C condensing temperature, +4°C evaporating temperature and 1°K liquid subcooling at the inlet of the expansion valve. This methodology varies from the rest of the capacity tables in this catalog.

Dimensional Data (in)



TI(E) Series – Valve bodies, Flare type

Evaporating Temp Range °F	Refrigerant						
	Equalizer Type	R-134a		R-22/R-407C		R-404A/R-507	
		Valve	PCN	Valve	PCN	Valve	PCN
-10 to +40	internal	TI-MW	066387	TI-HW	066389	TI-SW	066391
	external	TIE-MW	066388	TIE-HW	066390	TIE-SW	066392

The ZZ series is designed for ultra low temperature applications such as environmental test chambers and other applications where the desired evaporator temperature is below -40°F.



Features

- Take-Apart construction for easy field service
- Improved internal construction extends valve life
- External equalizer standard
- Exclusive cage bellows eliminates friction at low temperatures
- External superheat adjustment

Specifications

Maximum working pressure: 450 psig

Options

- Interchangeable cages, power assemblies, and flanges for maximum flexibility

Nomenclature example: ZZC 6 B G125 10 FT 3/8 x 5/8 ODF ANG

ZZC	6	B	G125	10 FT	3/8 x 5/8	ODF	ANG
Valve Series Ultra Low Temperature Take-Apart	Capacity (nominal @ -40°F) Tons	Refrigerant Code B = R-13/R-23 H = R-22 R = R-502	Charge Code Z = low temp G(MOP) = press.limiting	Capillary Tube Length 10 FT (std)	Inlet x Outlet Connection Sizes	Connection Type SAE = flare ODF=solder	Configuration ANG = 90° angle S/T = straight-thru

R-13/R-23 Valve Type	R-22 Valve Type	Standard Connections
ZZC 1BG	ZZC 3/4HZ	3/8 ODF x 5/8 ODF
ZZC 2½BG	ZZC 1½HZ	
ZZC 4BG	ZZC 2½HZ	
ZZC 6BG	ZZC 4HZ	1/2 ODF x 5/8 ODF
ZZC 9BG	ZZC 6HZ	
ZZC 13BG	ZZC 8HZ	
ZZ ER 20BG	--	7/8 ODF x 1½ ODM

NOTE: Nominal capacities shown here are based upon the following conditions:

Refrigerant	Evaporator Temperature	Liquid Temperature at Valve Inlet	Pressure Drop Across Valve
R-23	-40°F	0°F	150 psig
R-22	-40°F	20°F	150 psig

Ordering Information

Cage Assemblies & Gaskets

Valve	Description	PCN
ZZC1BG, ZZC3/4RHW, ZZC3/4RW	X10110-B1B	021288
ZZC2½BG, ZZC1½HW, ZZC1½RW	X10110-B2B	020871
ZZC4BG, ZZC2½HW, ZZC2½RW	X10110-B3B	096091
ZZC6BG, ZZC4HW, ZZC3½RW	X10110-B4B	096312
ZZC9BG, ZZC6HW, ZZC5RW	X10110-B5B	096425
ZZC13BG, ZZC8HW, ZZC8RW	X10110-B6B	096646
ZZER6BG, ZZER4HW, ZZC3½RW	X10059-B4B	045362
ZZER9BG, ZZER6HW, ZZER5RW	X10059-B5B	033697
ZZER20BG, ZZER12HW, ZZER11RW	X10059-B6B	030071
ZZER21BG, ZZER13HW, ZZER13RW	X10059-B7B	025100
ZZER29BG, ZZER18HW, ZZER18RW	X10059-B8B	025101
ZZIR48BG, ZZIR30HW, ZZIR29RW	X10060-B10B	025090
ZZJR16BG, ZZJR10HW, ZZJR9RW	X10111-B5B	089306

Power Assemblies

PCN	Description
094594	XC-726 BG 30-2B 10FT. SAE EE
039130	XC-726 BG 125-2B 10 FT. SAE EE
024511	XC-726 HW 35-2B 10 FT. SAE EE
025011	XC-726 HW 65-2B 10 FT. SAE EE
023357	XC-726 HW 85-3B 15 FT. SAE EE
036750	XC-726 HW 100-2B 10FT. SAE EE
040569	XC-726 HZ-2B 10FT. SAE EE

Replacement Power Assembly consists of: power assembly, and bulb clamps

Replacement Gasket Set

PCN	Description
027579	X-13455-1

Gasket Set includes necessary body flange gasket & seat gasket

Flanges

PCN	Description	Connections
027770	9761-2	1/2 X 7/8 ODF S/T
027771	9761-3	3/8 X 5/8 ODF S/T
027268	9761-4	1/2 X 5/8 ODF S/T
027769	9761-5	3/8 X 1/2 ODF S/T
027766	9761-6	1/2 X 1/2 ODF S/T
027764	A-576	5/8 X 7/8 ODF ANG
056932	C-500-4	3/8 X 1/2 SAE ANG
057153	C-500-5	3/8 X 5/8 SAE ANG
056294	C-500-6	1/2 X 5/8 SAE ANG
065527	C-501-4	3/8 X 1/2 ODF ANG
065748	C-501-5	3/8 X 5/8 ODF ANG
065861	C-501-7	1/2 X 5/8 ODF ANG
044733	X-6346-16	5/8 X 5/8 ODF S/T
044846	X-6346-17	5/8 X 7/8 ODF S/T
094038	X-6346-18	5/8 X 1½ ODF S/T
071757	X-6346-34	7/8 X 1½ ODF S/T
050563	X-6669-1	3/8 X 5/8 SAE S/T
050842	X-6669-2	1/2 X 5/8 SAE S/T
051176	X-6669-4	3/8 X 1/2 SAE S/T
083378	X-6669-5	1/2 X 1/2 SAE S/T

The LCL Take-Apart series is a desuperheating (Liquid Injection) valve used in conjunction with hot gas bypass to prevent excessive suction line superheat. LCL valves can be used for interstage cooling in compound systems.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- Take-Apart construction for easy field service

Options

- Interchangeable, replaceable cages for versatility
- External superheat adjustment
- Interchangeable body flanges
- Interchangeable power assemblies



Specifications

- Maximum working pressure: 450 psig

Nomenclature example: LCLE 2 B 5 FT 3/8 x 1/2 ODF S/T

LCL	E	2	B	5 FT	3/8 x 1/2	ODF	S/T
Valve Series De-Superheating Liquid Injection Take-Apart	Equalizer E=External (Omit for Internal)	Capacity Nominal NOTE: This is not system capacity (Contact Application Engineering for sizing)	Refrigerant Code	Capillary Tube Length 5 FT (std)	Inlet x Outlet Connection Sizes (see table below)	Connection Type SAE = flare ODF=solder	Configuration ANG = 90° angle S/T = straight-thru

Ordering Information

Description	Equalizer Type	PCN By Charge			Connections
		Select From Table Below			
		A	B	C	
LCL 1	Internal	022018	022017	--	Same as TCL & TCLE
LCL 2		022005	021996	045527	
LCL 3		055093	021987	--	
LCL 6		047759	--	--	
LCLE 1	1/4"SAE External	055096	--	--	
LCLE 2		022003	021997	--	
LCLE 3		021991	021985	--	
LCLE 4		--	061054	055097	

NOTE: Add charge suffix symbol "A", "B", or "C" based on the following table.
Example: LCLE4-A

Replacement Valve Guide

If have:	Replace with:
LA(E)S 1/2	LCL 1
LA(E)S 1	LCL 2
LA(E)S 2	LCL 3
LA(E)S 3	LCL 4
LA(E)S 5	LCL 6
LCL 5	LCL 6
LCLE 5	LCLE 6
LCL 8	LCL 9
LCLE 8	LCLE 9

Note: Valve sizes LCL5, LCL8, LCLE5 and LCLE8 are OBSOLETE.

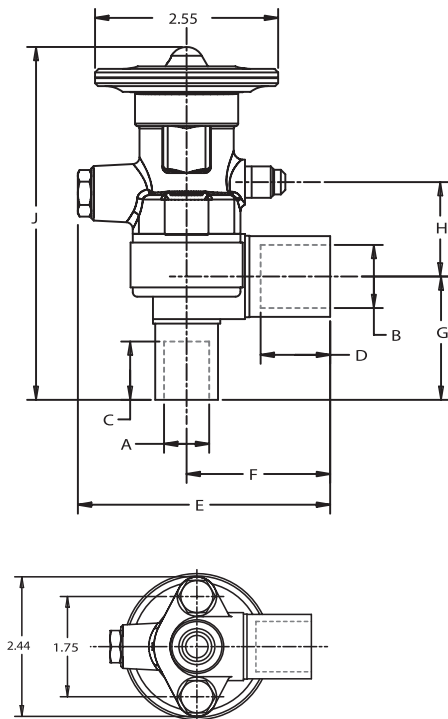
LCL (LA) Charge Codes

Saturated Suction	Refrigerant					
	R-134A		R-22		R-404A/R-507	
	Required Suction Gas		Required Suction Gas		Required Suction Gas	
TEMP.	45°F	65°F	45°F	65°F	45°F	65°F
40°F	--	B (GL)	--	A (CL)	--	--
30°F	B (GL)	B (GL)	--	A (CL)	--	A (CL)
20°F	B (GL)	C (UL)	A (CL)	B (GL)	--	A (CL)
10°F	B (GL)	C (UL)	B (GL)	B (GL)	A (CL)	B (GL)
0°F	C (UL)	C (UL)	B (GL)	B (GL)	A (CL)	B (GL)
-10°F	C (UL)	C (UL)	B (GL)	C (UL)	B (GL)	B (GL)
-20°F	C (UL)	C (UL)	B (GL)	C (UL)	B (GL)	C (UL)
-30°F	C (UL)	C (UL)	C (UL)	C (UL)	B (GL)	C (UL)
-40°F	C (UL)	C (UL)	C (UL)	C (UL)	B (GL)	C (UL)

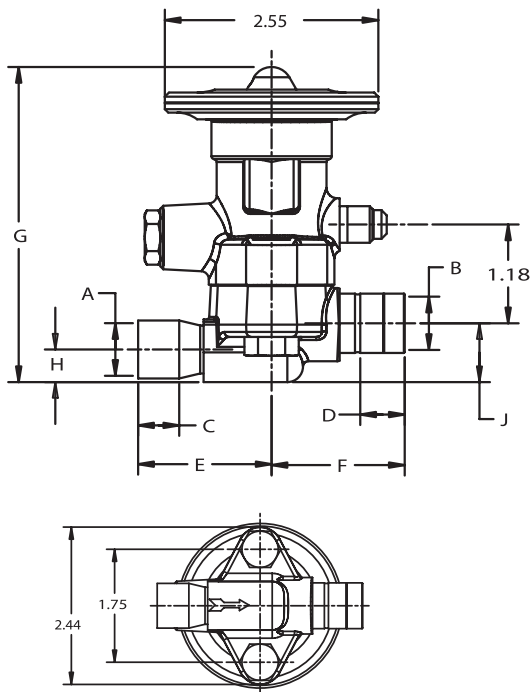
() Denotes LA Series valve charge code.

Dimensional Data

Angle



Straight-Thru



LCL(E) Dimensional Data (in)

LCL Angle

Connection Size		A	B	C	D	E	F	G	H	J
Inlet	Outlet			MIN.	MIN.					
3/8 SAE	1/2 SAE					3.06	1.50	1.13	1.20	4.14
3/8 SAE	5/8 SAE					3.19	1.63	1.13	1.20	4.14
1/2 SAE	5/8 SAE					3.19	1.63	1.38	1.20	4.39
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.31	2.91	1.34	0.94	1.20	3.95
3/8 ODF	1/2 ODF	0.38	0.50	0.31	0.38	3.03	1.47	1.06	1.20	4.11
3/8 ODF	5/8 ODF	0.38	0.63	0.31	0.50	3.16	1.59	1.06	1.20	4.11
1/2 ODF	5/8 ODF	0.50	0.63	0.38	0.50	3.16	1.59	1.90	1.20	4.20
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.75	3.56	2.00	1.69	1.20	4.83

LCL Straight Thru

3/8 SAE	1/2 SAE					1.78	1.98	3.70	0.38	0.69
3/8 SAE	5/8 SAE					1.78	2.16	3.70	0.38	0.69
1/2 SAE	1/2 SAE					1.97	1.56	3.70	0.38	0.69
3/8 ODF	1/2 ODF	0.38	0.50	0.31	0.38	1.41	1.58	3.69	0.38	0.69
3/8 ODF	5/8 ODF	0.38	0.63	0.31	0.50	1.41	1.63	3.69	0.36	0.67
1/2 ODF	1/2 ODF	0.50	0.38	0.38	0.38	1.41	1.56	3.70	0.38	0.69
1/2 ODF	5/8 ODF	0.50	0.63	0.38	0.50	1.59	1.63	3.69	0.36	0.67
5/8 ODF	5/8 ODF	0.63	0.63	0.50	0.50	1.59	1.63	3.70	0.38	0.69
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.75	1.59	1.94	3.70	0.38	0.69
5/8 ODF	1-1/8 ODF	0.88	1.13	0.50	0.91	1.59	2.38	3.70	0.38	0.69
7/8 ODF	1-1/8 ODF	0.88	1.13	0.75	0.91	1.94	2.38	3.81	0.38	0.69

Allow 2-1/8" above valve for removal of power assembly.

Remote Bulb Dimensions

Capillary Tubing Length (Ft)	Standard Remote Bulb	
	Diameter	Length
5	5/8	3-1/16
10		3-9/16
15 or 20		4-13/16

LA(E) Series – DeSuperheating

Thermal Expansion Valves

The LA(E) series is a desuperheating (Liquid Injection) valve used in conjunction with hot gas bypass to prevent excessive suction line superheat. LA(E) valves can be used for interstage cooling in compound systems.

Features

- Stainless steel power element eliminates corrosion and prevents valve failure
- May operate at superheat settings in excess of 20°F allowing the valve to perform in desuperheating applications



Options

- External superheat adjustment
- SAE or ODF connections
- External or internal equalizer
- Wrench flats on inlets and outlets (SAE only)
- Replaceable inlet strainer (SAE only)

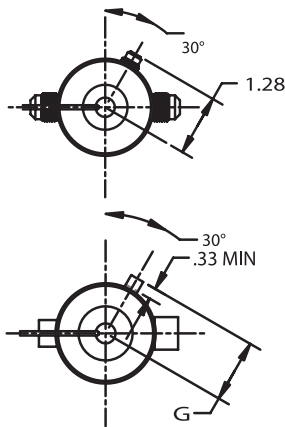
Specifications

- Maximum working pressure: 500 psig

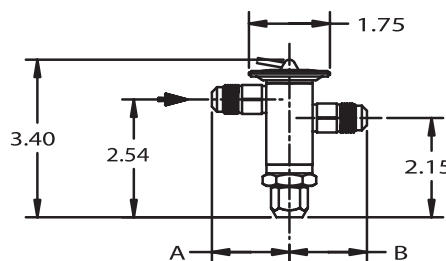
Nomenclature example: LAES 2 CL 5 FT 3/8 x 1/2 ODF S/T

LA	E	S	2	C	L	5 FT	3/8 x 1/2	ODF	S/T
Valve Series De-Superheating Liquid Injection	Equalizer E=External (Omit for Internal)	Connection Type S = solder (Omit for flare)	Capacity NOTE: This is not system capacity (Contact Application Engineering for sizing)	Refrigerant Code	Charge Code L = liquid injection (See hot gas bypass charts for valve selection)	Capillary Tube Length 5 FT (std)	Inlet x Outlet Connection Sizes (See tables below)	Connection Type ODF=solder SAE=flare	Configuration S/T = straight-thru (Only)

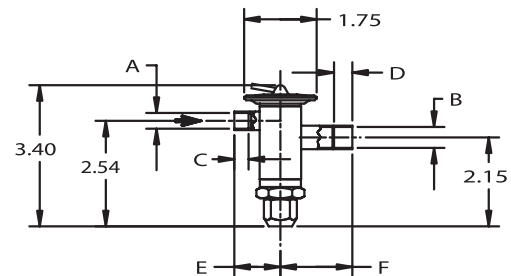
Dimensional Data (in)



SAE Connections



ODF Connections



External Equalizer Fitting

Type	I.D.	G	Socket Depth
1/4 SAE	-	1.28	-
1/4 ODF	0.25	1.41	0.33

SAE

Connection Size		A MIN	B MIN
Inlet	Outlet		
1/4 SAE	3/8 SAE	1.50	1.64
3/8 SAE	3/8 SAE	1.64	1.64
3/8 SAE	1/2 SAE	1.64	1.72
1/4 SAE	1/2 SAE	1.50	1.72
1/4 SAE	5/8 SAE	1.50	1.98
3/8 SAE	5/8 SAE	1.64	1.98

ODF

Connection Size		A	B	C MIN	D MIN	E	F	G Equalizer	
Inlet	Outlet							1/4 ODF	SAE
1/4 ODF	3/8 ODF	0.25	0.38	0.32	0.32	1.70	1.73	1.28	1.41
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.38	1.73	1.73		
1/2 ODF	5/8 ODF	0.50	0.63	0.38	0.50	1.73	1.73		
1/4 ODF	3/8 ODF	0.25	0.38	0.32	0.32	1.70	1.73		
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73	1.73		
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.38	1.73	1.73		
1/2 ODF	1/2 ODF	0.50	0.50	0.38	0.38	1.73	1.73		
1/2 ODF	5/8 ODF	0.50	0.63	0.38	0.50	1.73	1.75		
3/8 ODF	5/8 ODF	0.38	0.63	0.32	0.38	1.73	1.75		
1/2 ODF	7/8 ODF	0.50	0.88	0.38	0.75	1.73	1.73		

The ACP is designed for small cooling units where the heat load is reasonably constant. The ACP is ideal for room air conditioners, domestic refrigerators, drink dispensers, food dispensers, ice cream cabinets, bottle coolers, home freezers, ice cube makers, ice cream freezers, and milk coolers.

Features

- Friction-free floating design
- Can be used as a small capacity hot gas bypass valve
- Fully adjustable from 0-80 psig (factory setting 40 psig)
- Wrench flats on inlets and outlets



Options

- Internal or external equalizer
- SAE or ODF connections

Specifications

- Maximum working pressure: 500 psig
- Maximum working temperature: 300°F
- UL/CUL file number: SA5312

Nomenclature example: ACPE 6 SAE EE 1/4 x 3/8 ODF ANG

ACP	E	6	SAE EE	1/4 x 3/8	ODF	ANG
Valve Series	Equalizer E=External (optional)	Port Size (diameter) see table below	External Equalizer Type	Inlet x Outlet Connection Sizes	Connection Type ODF or SAE	Body Style ANG = Angle S/T = Straight-thru

Ordering Information

PCN	Description	PCN	Description
046838	ACP 1 IE 1/4 x 3/8-1/2 SAE ANG	049204	ACP 5 IE 3/8 X 3/8-1/2 SAE ANG
047652	ACP 6 IE 1/4 x 3/8 ODF ANG	047653	ACP 6 IE 1/4 x 3/8 SAE ANG
047680	ACP 1 IE 1/4 x 3/8 ODF ANG	057233	ACP 1 IE 1/4 x 3/8 ODF S/T
056240	ACP 1 IE 1/4 X 3/8 SAE ANG	065922	ACP 6 IE 3/8 x 3/8 ODF ANG
046839	ACP 2 IE 1/4 X 3/8 SAE ANG	047654	ACP 7 IE 3/8 x 1/2 ODF ANG
047651	ACP 2 IE 1/4 x 3/8 ODF ANG	047285	ACP 7 IE 3/8 x 3/8-1/2 SAE ANG
047283	ACP 3 IE 1/4 X 3/8 ODF ANG	047655	ACP 8 IE 3/8 x 1/2 ODF ANG
046840	ACP 3 IE 1/4 x 3/8 SAE ANG	047657	ACP 9 IE 3/8 X 1/2 ODF ANG
047105	ACP 4 IE 1/4 x 3/8 ODF ANG	057209	ACP 9 IE 3/8 X 3/8 ODF ANG
047101	ACP 4 IE 1/4 X 3/8 SAE ANG	057771	ACP 9 IE 1/2 x 5/8 ODF ANG
047284	ACP 5 IE 1/4 x 3/8 ODF ANG	052773	ACP 9 IE 1/4 X 3/8 ODF ANG
047332	ACP 5 IE 1/4 X 3/8 SAE ANG	047658	ACP 9 IE 3/8 x 3/8-1/2 SAE ANG
053374	ACP 5 IE 3/8 x 3/8 ODF ANG	057327	ACP 9 IE 3/8 X 3/8 SAE S/T
		047280	ACPE 1 SAE EE 1/4 x 3/8 SAE S/T
		053231	ACPE 1 SAE EE 1/4 x 3/8 ODF ANG
		047790	ACPE 7 SAE EE 3/8 x 1/2 ODF ANG
		048657	ACPE 9 SAE EE 3/8 x 1/2 ODF S/T
		058674	ACPE 9 SAE EE 1/2 x 5/8 ODF S/T
		057017	ACPE 9 ODF EE 3/8 x 1/2 ODF ANG

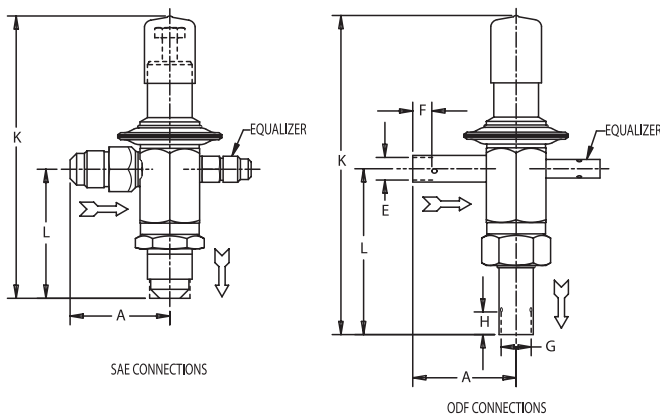
ACP(E)- Nominal* Capacity Table in Tons

Valve	Port Diameter (in)	R-12/R-134a	R-407C/R-22	R-502/R-404A/R-507
		Pressure Drop Across Valve – PSI		
		60	100	100
ACP(E)1	0.05	0.31	0.44	0.29
ACP(E)2	0.06	0.41	0.57	0.38
ACP(E)3	0.10	0.65	0.91	0.61
ACP(E)4	0.11	0.90	1.30	0.87
ACP(E)5	0.13	1.40	1.96	1.31
ACP(E)6	0.14	1.90	2.67	1.78
ACP(E)7	0.17	2.30	3.28	2.19
ACP(E)8	0.20	2.70	3.75	2.50
ACP(E)9	0.23	3.80	5.32	3.55

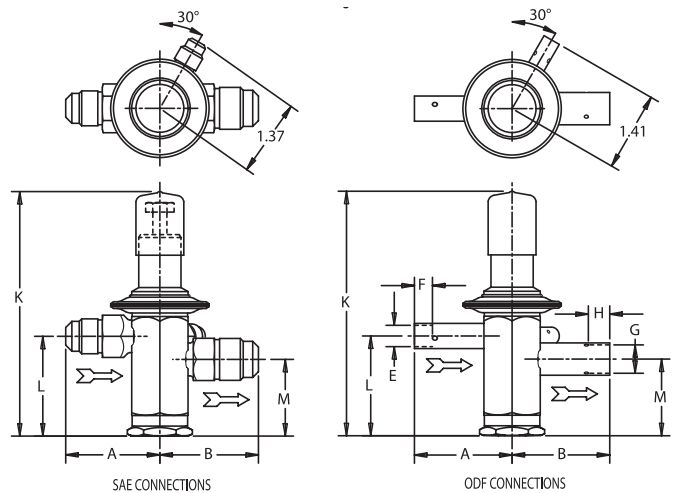
*All capacities shown are at 100°F Condensing, 40°F Evaporator Temperature, with a solid column of liquid at the valve inlet.

ACP Dimensional Data

ACP Angle



ACP Straight-Thru



Dimensional Data (in)

ACP(E) Valve Type	Inlet	Outlet	A	B	E DIA.	F MIN.	G DIA.	H MIN.	K	L	
Angle	1/4	3/8	1.50	-	-	-	-	-	4.50	2.13	
	3/8	3/8 - 1/2	1.64								
	1/2	3/8 - 1/2	1.72								
	1/4	3/8 - 1/2	1.50								
SAE	3/8	5/8	1.64	-	-	-	-	-	4.61	2.23	
	1/2	5/8	1.72								
	1/4	3/8	1.25								
	3/8	3/8	1.19								
Angle ODF	1/2	3/8	1.19	-	0.25	0.32	0.37	0.32	4.55	2.17	
	3/8	1/2	1.19		0.37	0.32	0.50	0.38			
	1/2	5/8	1.38		0.50	0.38	0.62	0.50	4.73	2.36	
	5/8	5/8	1.38		0.62	0.50					
	1/4	5/8	1.25		0.25	0.32					
	3/8	5/8	1.19		0.37	0.32	0.50	0.38	4.55	2.17	
	1/4	1/2	1.25		0.25	0.32					
	1/2	1/2	1.19		0.25	0.32					
	1/2	7/8	1.19		1.19	0.50	0.38	0.87	0.75	5.11	2.73

ACP(E) Valve Type	Inlet	Outlet	A	B	E DIA.	F MIN.	G DIA.	H MIN.	K	L	M
Straight-Thru	1/4	3/8	1.50	1.64	-	-	-	-	4.25	1.88	1.48
	3/8	3/8	1.64	1.64							
	1/2	1/2	1.72	1.72							
	1/4	5/8	1.50	1.98							
	3/8	5/8	1.64	1.98							
Straight-Thru ODF	1/2	3/8	1.25	1.19	0.25	0.32	0.37	0.32	4.25	1.88	1.48
	3/8	1/2	1.19		0.37	0.32	0.50	0.38			
	1/2	5/8	1.38		0.50	0.38	0.62	0.50			
	5/8	5/8	1.38		0.62	0.50					
	1/4	5/8	1.25		0.25	0.32					
	3/8	5/8	1.19		0.37	0.32	0.50	0.38			
	1/4	1/2	1.25		0.25	0.32					
	1/2	1/2	1.19		0.25	0.32					
	1/2	7/8	1.19		1.75	0.50	0.38	0.87	0.75		
	3/8	7/8	1.19		1.75	0.37	0.32	0.87	0.75		

R-12 Conventional Valves (Tons)– A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F					40°F					20°F							
		Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/8	0.20	0.23	0.26	0.29	0.32	0.34	0.20	0.23	0.26	0.29	0.32	0.34	0.19	0.22	0.25	0.27	0.30	0.32
AA/AN/AAC/ANC/AFA	1/4	0.35	0.40	0.45	0.51	0.55	0.60	0.34	0.39	0.44	0.49	0.54	0.58	0.33	0.38	0.43	0.48	0.52	0.56
AA/AN/AAC/ANC/AFA	1/2	0.56	0.65	0.72	0.81	0.89	0.96	0.55	0.64	0.71	0.79	0.87	0.94	0.53	0.61	0.68	0.76	0.84	0.91
AA/AN/AAC/ANC/AFA	1	0.80	0.92	1.03	1.15	1.26	1.37	0.79	0.91	1.02	1.14	1.25	1.35	0.76	0.88	0.98	1.10	1.20	1.30
AA/AN/AAC/ANC/AFA	1-1/2	1.66	1.92	2.14	2.40	2.62	2.83	1.63	1.88	2.10	2.35	2.58	2.78	1.58	1.80	2.01	2.25	2.47	2.66
AA/AN/AAC/ANC/AFA	2	2.04	2.36	2.63	2.94	3.23	3.48	2.00	2.31	2.58	2.89	3.16	3.42	1.92	2.22	2.48	2.77	3.04	3.28
AA/AN/AAC/ANC/AFA	2-1/2	2.42	2.79	3.12	3.49	3.83	4.13	2.37	2.74	3.06	3.42	3.75	4.05	2.28	2.63	2.94	3.29	3.60	3.89
AA/AN/AAC/ANC/AFA	3	3.31	3.82	4.27	4.78	5.23	5.65	3.24	3.74	4.18	4.68	5.12	5.53	3.11	3.59	4.01	4.49	4.92	5.31
TCLE	1/4	0.30	0.35	0.38	0.43	0.47	0.51	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
TCLE	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.53	0.61	0.68	0.76	0.84	0.91
TCLE	1	1.15	1.33	1.48	1.66	1.82	1.96	1.13	1.30	1.48	1.63	1.79	1.93	1.08	1.25	1.39	1.56	1.71	1.84
TCLE	2	2.12	2.45	2.74	3.06	3.35	3.62	2.08	2.40	2.69	3.00	3.29	3.55	1.99	2.30	2.57	2.97	3.15	3.40
TCLE	3	3.09	3.57	3.99	4.46	4.89	5.28	3.03	3.50	3.91	4.37	4.79	5.17	2.90	3.35	3.74	4.19	4.59	4.95
TCLE	4	4.48	5.17	5.78	6.47	7.08	7.65	4.39	5.07	5.67	6.34	6.94	7.50	4.21	4.86	5.44	6.08	6.66	7.19
TCLE	6-1/2	6.17	7.12	7.97	8.91	9.76	10.54	6.05	6.99	7.81	8.73	9.57	10.33	5.80	6.70	7.49	8.37	9.17	9.91
TCLE	7-1/2	7.44	8.59	9.60	10.74	11.76	12.71	7.30	8.43	9.42	10.54	11.54	12.47	7.00	8.08	9.04	10.10	11.07	11.95
TJL	7	6.59	7.51	8.51	9.51	10.42	11.25	6.47	7.47	8.35	9.34	10.23	11.05	6.20	7.16	8.00	8.95	9.80	10.59
TJL	8	8.41	9.71	10.86	12.14	13.30	14.36	8.25	9.53	10.65	11.91	13.04	14.09	7.91	9.13	10.21	11.42	12.51	13.51

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F					-20°F					-40°F							
		Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/8	0.17	0.2	0.22	0.25	0.27	0.29	0.13	0.15	0.16	0.18	0.19	0.21	0.08	0.09	0.1	0.11	0.12	0.13
AA/AN/AAC/ANC/AFA	1/4	0.29	0.33	0.37	0.42	0.46	0.5	0.23	0.26	0.29	0.31	0.34	0.36	0.15	0.17	0.19	0.21	0.22	0.24
AA/AN/AAC/ANC/AFA	1/2	0.47	0.54	0.61	0.68	0.74	0.8	0.37	0.41	0.46	0.51	0.55	0.59	0.24	0.27	0.3	0.33	0.35	0.38
AA/AN/AAC/ANC/AFA	1	0.67	0.77	0.86	0.97	1.06	1.14	0.53	0.59	0.66	0.73	0.78	0.84	0.34	0.38	0.43	0.47	0.5	0.54
AA/AN/AAC/ANC/AFA	2-1/2	1.39	1.61	1.79	2.01	2.2	2.37	1.09	1.22	1.36	1.49	1.61	1.72	0.71	0.79	0.89	0.97	1.05	1.12
AA/AN/AAC/ANC/AFA	2	1.7	1.96	2.19	2.45	2.69	2.9	1.33	1.49	1.66	1.82	1.97	2.1	0.87	0.97	1.09	1.19	1.29	1.38
AA/AN/AAC/ANC/AFA	2-1/2	2.02	2.33	2.61	2.92	3.19	3.45	1.58	1.77	1.98	2.16	2.34	2.50	1.03	1.15	1.29	1.41	1.52	1.63
AA/AN/AAC/ANC/AFA	3	2.76	3.19	3.56	3.98	4.36	4.71	2.16	2.41	2.7	2.96	3.19	3.42	1.4	1.57	1.75	1.92	2.07	2.21
TCLE	1/4	0.25	0.29	0.32	0.36	0.4	0.43	0.2	0.22	0.25	0.27	0.3	0.32	0.13	0.15	0.16	0.18	0.19	0.21
TCLE	1/2	0.47	0.54	0.61	0.68	0.74	0.8	0.37	0.41	0.46	0.51	0.55	0.59	0.24	0.27	0.3	0.33	0.35	0.38
TCLE	1	0.96	1.11	1.24	1.39	1.52	1.64	0.75	0.84	0.94	1.03	1.11	1.19	0.49	0.55	0.61	0.67	0.72	0.77
TCLE	2	1.76	2.03	2.27	2.54	2.78	3.01	1.38	1.54	1.73	1.89	2.04	2.18	0.9	1.01	1.13	1.23	1.33	1.42
TCLE	3	2.57	2.97	3.32	3.71	4.06	4.39	2.01	2.25	2.51	2.75	2.97	3.18	1.31	1.46	1.64	1.79	1.94	2.07
TCLE	4	3.73	4.31	4.82	5.38	5.9	6.37	2.92	3.26	3.65	4	4.32	4.62	1.9	2.12	2.38	2.6	2.81	3
TCLE	6-1/2	5.14	5.94	6.64	7.42	8.13	8.78	4.03	4.51	5.04	5.52	5.96	6.37	2.62	2.93	3.28	3.59	3.88	4.14
TCLE	7-1/2	6.2	7.16	8	8.95	9.8	10.59	4.86	5.43	6.08	6.65	7.19	7.68	3.16	3.53	3.95	4.33	4.67	5
TJL	7	5.49	6.34	7.09	7.92	8.68	9.38	4.3	4.81	5.38	5.89	6.36	6.8	2.8	3.13	3.5	3.83	4.14	4.43
TJL	8	7	8.08	9.04	10.1	11.07	11.95	5.49	6.14	6.86	7.52	8.12	8.68	3.57	3.99	4.46	4.89	5.28	5.64

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Conventional Valves (Tons)– A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175	
AA/AN/AFA	1/5	0.15	0.17	0.19	0.22	0.24	0.26	0.15	0.17	0.19	0.21	0.23	0.25	0.14	0.16	0.18	0.20	0.22	0.24
AA/AN/AAC/ANC	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.26	0.30	0.33	0.37	0.40	0.44	0.25	0.29	0.32	0.36	0.40	0.43
AA/AN/AAC/ANC/AFA	1/2	0.46	0.53	0.59	0.66	0.73	0.79	0.45	0.52	0.58	0.65	0.71	0.77	0.44	0.51	0.57	0.64	0.70	0.75
AA/AN/AAC/ANC/AFA	1	0.73	0.84	0.94	1.05	1.15	1.25	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20
AA/AN/AAC/ANC/AFA	1-1/2	1.05	1.21	1.36	1.52	1.66	1.79	1.03	1.19	1.33	1.49	1.63	1.76	1.01	1.17	1.30	1.46	1.60	1.72
AA/AN/AAC/ANC/AFA	2	1.54	1.78	1.99	2.22	2.43	2.63	1.52	1.75	1.96	2.19	2.40	2.59	1.48	1.71	1.91	2.14	2.34	2.53
AA/AN/AAC/ANC/AFA	2-1/2	2.16	2.49	2.79	3.12	3.42	3.69	2.13	2.46	2.75	3.07	3.37	3.64	2.08	2.40	2.69	3.00	3.29	3.55
AA/AN/AAC/ANC/AFA	3	2.65	3.06	3.42	3.82	4.19	4.53	2.61	3.01	3.37	3.77	4.13	4.46	2.55	2.94	3.29	3.68	4.03	4.35
AA/AN/AAC/ANC/AFA	4	3.14	3.63	4.05	4.53	4.96	5.36	3.10	3.58	4.00	4.47	4.90	5.29	3.03	3.50	3.91	4.37	4.79	5.17
AA/AN/AAC/ANC/AFA	5	4.30	4.97	5.55	6.21	6.80	7.34	4.24	4.89	5.47	6.12	6.70	7.24	4.14	4.78	5.34	5.98	6.55	7.07
TCLE	1/2	0.39	0.45	0.50	0.56	0.62	0.67	0.39	0.45	0.50	0.56	0.61	0.66	0.38	0.44	0.49	0.55	0.60	0.65
TCLE	1	0.74	0.85	0.96	1.07	1.17	1.26	0.73	0.84	0.94	1.05	1.15	1.24	0.71	0.82	0.92	1.02	1.12	1.21
TCLE	2	1.49	1.72	1.92	2.15	2.36	2.54	1.47	1.70	1.90	2.12	2.33	2.51	1.44	1.66	1.86	2.08	2.28	2.46
TCLE	3	2.75	3.18	3.55	3.97	4.35	4.70	2.71	3.13	3.50	3.91	4.29	4.63	2.65	3.06	3.42	3.82	4.19	4.53
TCLE	5	4.01	4.63	5.18	5.79	6.34	6.85	3.95	4.56	5.10	5.70	6.25	6.75	3.86	4.46	4.98	5.57	6.10	6.59
TCLE	7-1/2	5.82	6.72	7.51	8.40	9.20	9.94	5.75	6.64	7.42	8.30	9.09	9.82	5.60	6.47	7.23	8.08	8.85	9.56
TCLE	10	8.02	9.26	10.35	11.58	12.68	13.70	7.92	9.15	10.23	11.44	12.53	13.53	7.72	8.91	9.97	11.14	12.21	13.18
TCLE	12	9.67	11.17	12.48	13.96	15.29	16.51	9.55	11.03	12.33	13.79	15.10	16.31	9.31	10.75	12.02	13.44	14.72	15.90
TJL	11	8.57	9.90	11.06	12.37	13.55	14.64	8.47	9.78	10.93	12.22	13.39	14.46	8.25	9.53	10.65	11.91	13.04	14.09
TJL	14	10.92	12.61	14.10	15.76	17.27	18.65	10.80	12.47	13.94	15.59	17.07	18.44	10.52	12.15	13.58	15.18	16.63	17.97

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200	
AA/AN/AFA	1/5	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.13	0.14	0.15	0.16	0.07	0.08	0.09	0.10	0.10	0.11
AA/AN/AAC/ANC	1/4	0.23	0.27	0.30	0.33	0.36	0.39	0.18	0.20	0.23	0.25	0.27	0.28	0.12	0.13	0.15	0.16	0.18	0.19
AA/AN/AAC/ANC/AFA	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.32	0.36	0.40	0.44	0.47	0.51	0.21	0.23	0.26	0.29	0.31	0.33
AA/AN/AAC/ANC/AFA	1	0.64	0.74	0.83	0.92	1.01	1.09	0.51	0.57	0.64	0.70	0.75	0.81	0.34	0.38	0.43	0.47	0.50	0.54
AA/AN/AAC/ANC/AFA	1-1/2	0.91	1.05	1.17	1.31	1.44	1.55	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
AA/AN/AAC/ANC/AFA	2	1.35	1.56	1.74	1.95	2.13	2.31	1.07	1.20	1.34	1.47	1.58	1.69	0.71	0.79	0.89	0.97	1.05	1.12
AA/AN/AAC/ANC/AFA	2-1/2	1.89	2.18	2.44	2.73	2.99	3.23	1.51	1.69	1.89	2.07	2.23	2.39	0.99	1.11	1.24	1.36	1.46	1.57
AA/AN/AAC/ANC/AFA	3	2.31	2.67	2.98	3.33	3.65	3.95	1.85	2.07	2.31	2.53	2.74	2.93	1.22	1.36	1.53	1.67	1.80	1.93
AA/AN/AAC/ANC/AFA	4	2.75	3.18	3.55	3.97	4.35	4.70	2.19	2.45	2.74	3.00	3.24	3.46	1.44	1.61	1.80	1.97	2.13	2.28
AA/AN/AAC/ANC/AFA	5	3.75	4.33	4.84	5.41	5.93	6.40	3.00	3.35	3.75	4.11	4.44	4.74	1.97	2.20	2.46	2.70	2.91	3.11
TCLE	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.27	0.30	0.34	0.37	0.40	0.43	0.18	0.20	0.23	0.25	0.27	0.28
TCLE	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
TCLE	2	1.30	1.50	1.68	1.88	2.06	2.22	1.04	1.16	1.30	1.42	1.54	1.64	0.69	0.77	0.86	0.94	1.02	1.09
TCLE	3	2.40	2.77	3.10	3.46	3.79	4.10	1.92	2.15	2.40	2.63	2.84	3.04	1.26	1.41	1.58	1.73	1.86	1.99
TCLE	5	3.50	4.04	4.52	5.05	5.53	5.98	2.79	3.12	3.49	3.82	4.13	4.41	1.84	2.06	2.30	2.52	2.72	2.91
TCLE	7-1/2	5.08	5.87	6.56	7.33	8.03	8.68	4.05	4.53	5.06	5.55	5.99	6.40	2.67	2.99	3.34	3.66	3.95	4.22
TCLE	10	7.00	8.08	9.04	10.10	11.07	11.95	5.59	6.25	6.99	7.65	8.27	8.84	3.68	4.11	4.60	5.04	5.44	5.82
TCLE	12	8.44	9.75	10.90	12.18	13.34	14.41	6.74	7.54	8.43	9.23	9.97	10.66	4.44	4.96	5.55	6.08	6.57	7.02
TJL	11	7.48	8.64	9.66	10.80	11.83	12.77	5.97	6.67	7.46	8.17	8.83	9.44	3.93	4.39	4.91	5.38	5.81	6.21
TJL	14	9.54	11.02	12.32	13.77	15.08	16.29	7.62	8.52	9.53	10.43	11.27	12.05	5.02	5.61	6.28	6.87	7.42	7.94

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Conventional Valves (Tons)- A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175	
AA/AN/AFA	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
AA/AN/AAC/ANC/AFA	1/2	0.43	0.50	0.56	0.62	0.68	0.73	0.43	0.50	0.56	0.62	0.68	0.73	0.41	0.47	0.53	0.59	0.65	0.70
AA/AN/AAC/ANC/AFA	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16	0.65	0.75	0.84	0.94	1.03	1.11
AA/AN/AAC/ANC/AFA	1	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.93	1.07	1.20	1.34	1.47	1.59
AA/AN/AAC/ANC/AFA	1-1/2	1.47	1.70	1.90	2.12	2.32	2.51	1.44	1.66	1.86	2.08	2.28	2.46	1.38	1.59	1.78	1.99	2.18	2.36
AA/AN/AAC/ANC/AFA	2	2.06	2.38	2.66	2.97	3.26	3.52	2.02	2.33	2.61	2.92	3.19	3.45	1.93	2.23	2.49	2.79	3.05	3.30
AA/AN/AAC/ANC/AFA	2-1/2	2.53	2.92	3.27	3.65	4.00	4.32	2.47	2.85	3.19	3.57	3.91	4.22	2.37	2.74	3.06	3.42	3.75	4.05
AA/AN/AAC/ANC/AFA	3	3.00	3.46	3.87	4.33	4.74	5.12	2.94	3.39	3.80	4.24	4.65	5.02	2.81	3.24	3.63	4.06	4.44	4.80
AA/AN/AAC/ANC/AFA	4	4.10	4.73	5.29	5.92	6.48	7.00	4.02	4.64	5.19	5.80	6.36	6.87	3.84	4.43	4.96	5.54	6.07	6.56
TCLE	1/4	0.37	0.43	0.48	0.53	0.59	0.63	0.37	0.43	0.48	0.53	0.59	0.63	0.35	0.40	0.45	0.51	0.55	0.60
TCLE	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.69	0.80	0.89	1.00	1.09	1.18	0.66	0.76	0.85	0.95	1.04	1.13
TCLE	1-1/2	1.42	1.64	1.83	2.05	2.25	2.43	1.39	1.61	1.79	2.01	2.20	2.37	1.33	1.54	1.72	1.92	2.10	2.27
TCLE	2-1/2	2.62	3.03	3.38	3.78	4.14	4.47	2.57	2.97	3.32	3.71	4.06	4.39	2.46	2.84	3.18	3.55	3.89	4.20
TCLE	3-1/2	3.82	4.41	4.93	5.51	6.04	6.52	3.74	4.32	4.83	5.40	5.91	6.39	3.58	4.13	4.62	5.17	5.66	6.11
TCLE	5-1/2	5.55	6.41	7.17	8.01	8.78	9.48	5.43	6.27	7.01	7.84	8.59	9.27	5.20	6.00	6.71	7.51	8.22	8.88
TCLE	7-1/2	7.65	8.83	9.88	11.04	12.10	13.06	7.49	8.65	9.67	10.81	11.84	12.79	7.16	8.27	9.24	10.33	11.32	12.23
TCLE	9	9.22	10.65	11.90	13.31	14.58	15.75	9.03	10.43	11.66	13.03	14.28	15.42	8.64	9.98	11.15	12.47	13.66	14.76
TJL	9	8.17	9.43	10.55	11.79	12.92	13.95	8.00	9.24	10.33	11.55	12.65	13.66	7.65	8.83	9.88	11.04	12.10	13.06
TJL	11	10.42	12.03	13.45	15.04	16.48	17.80	10.20	11.78	13.17	14.72	16.13	17.42	9.76	11.27	12.60	14.09	15.43	16.67

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200	
AA/AN/AFA	1/8	0.11	0.13	0.14	0.16	0.17	0.19	0.08	0.09	0.10	0.11	0.12	0.13	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.14	0.16	0.18	0.19	0.21	0.22	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.25	0.28	0.31	0.34	0.37	0.40	0.15	0.17	0.19	0.21	0.22	0.24
AA/AN/AAC/ANC/AFA	3/4	0.54	0.62	0.70	0.78	0.85	0.92	0.40	0.45	0.50	0.55	0.59	0.63	0.25	0.28	0.31	0.34	0.37	0.40
AA/AN/AAC/ANC/AFA	1	0.77	0.89	0.99	1.11	1.22	1.32	0.57	0.64	0.71	0.78	0.84	0.90	0.35	0.39	0.44	0.48	0.52	0.55
AA/AN/AAC/ANC/AFA	1-1/2	1.13	1.30	1.46	1.63	1.79	1.93	0.85	0.95	1.06	1.16	1.26	1.34	0.52	0.58	0.65	0.71	0.77	0.82
AA/AN/AAC/ANC/AFA	2	1.59	1.84	2.05	2.29	2.51	2.72	1.19	1.33	1.49	1.63	1.76	1.88	0.73	0.82	0.91	1.00	1.08	1.15
AA/AN/AAC/ANC/AFA	2-1/2	1.95	2.25	2.52	2.81	3.08	3.33	1.45	1.62	1.81	1.99	2.14	2.29	0.89	1.00	1.11	1.22	1.32	1.41
AA/AN/AAC/ANC/AFA	3	2.31	2.67	2.98	3.33	3.65	3.95	1.72	1.92	2.15	2.36	2.54	2.72	1.06	1.19	1.33	1.45	1.57	1.68
AA/AN/AAC/ANC/AFA	4	3.16	3.65	4.08	4.56	5.00	5.40	2.36	2.64	2.95	3.23	3.49	3.73	1.45	1.62	1.81	1.99	2.14	2.29
TCLE	1/4	0.29	0.33	0.37	0.42	0.46	0.50	0.22	0.25	0.28	0.30	0.33	0.35	0.13	0.15	0.16	0.18	0.19	0.21
TCLE	3/4	0.54	0.62	0.70	0.78	0.85	0.92	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
TCLE	1-1/2	1.10	1.27	1.42	1.59	1.74	1.88	0.82	0.92	1.03	1.12	1.21	1.30	0.50	0.56	0.63	0.68	0.74	0.79
TCLE	2-1/2	2.02	2.33	2.61	2.92	3.19	3.45	1.51	1.69	1.89	2.07	2.23	2.39	0.93	1.04	1.16	1.27	1.38	1.47
TCLE	3-1/2	2.95	3.41	3.81	4.26	4.66	5.04	2.20	2.46	2.75	3.01	3.25	3.48	1.35	1.51	1.69	1.85	2.00	2.13
TCLE	5-1/2	4.28	4.94	5.53	6.18	6.77	7.31	3.19	3.57	3.99	4.37	4.72	5.04	1.96	2.19	2.45	2.68	2.90	3.10
TCLE	7-1/2	5.90	6.81	7.62	8.52	9.33	10.08	4.40	4.92	5.50	6.02	6.51	6.96	2.70	3.02	3.38	3.70	3.99	4.27
TCLE	9	7.11	8.21	9.18	10.26	11.24	12.14	5.30	5.93	6.63	7.26	7.84	8.38	3.26	3.64	4.08	4.46	4.82	5.15
TJL	9	6.30	7.27	8.13	9.09	9.96	10.76	4.70	5.25	5.88	6.44	6.95	7.43	2.89	3.23	3.61	3.96	4.27	4.57
TJL	11	8.03	9.27	10.37	11.59	12.70	13.71	5.99	6.70	7.49	8.20	8.86	9.47	3.68	4.11	4.60	5.04	5.44	5.82

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-450A/R-513A Conventional Valves (Tons) A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/8	0.11	0.13	0.15	0.16	0.18	0.19	0.11	0.13	0.14	0.16	0.17	0.19	0.10	0.12	0.13	0.15	0.16	0.18
AA/AN/AAC/ANC/AFA	1/5	0.19	0.22	0.25	0.28	0.30	0.33	0.19	0.22	0.24	0.27	0.30	0.32	0.18	0.21	0.23	0.26	0.28	0.31
AA/AN/AAC/ANC/AFA	1/4	0.35	0.40	0.45	0.50	0.55	0.59	0.34	0.39	0.44	0.49	0.53	0.58	0.32	0.37	0.41	0.46	0.51	0.55
AA/AN/AAC/ANC/AFA	1/2	0.55	0.63	0.70	0.79	0.86	0.93	0.53	0.62	0.69	0.77	0.84	0.91	0.51	0.58	0.65	0.73	0.80	0.86
AA/AN/AAC/ANC/AFA	3/4	0.79	0.91	1.02	1.14	1.24	1.34	0.77	0.89	0.99	1.11	1.21	1.31	0.73	0.84	0.94	1.05	1.15	1.25
AA/AN/AAC/ANC/AFA	1	1.16	1.33	1.49	1.67	1.83	1.97	1.13	1.30	1.46	1.63	1.78	1.93	1.07	1.24	1.38	1.55	1.70	1.83
AA/AN/AAC/ANC/AFA	1-1/2	1.62	1.87	2.09	2.34	2.56	2.77	1.58	1.83	2.04	2.29	2.50	2.70	1.50	1.74	1.94	2.17	2.38	2.57
AA/AN/AAC/ANC/AFA	2	1.98	2.29	2.56	2.86	3.14	3.39	1.94	2.24	2.50	2.79	3.06	3.31	1.84	2.12	2.37	2.65	2.91	3.14
AA/AN/AAC/ANC/AFA	2-1/2	2.36	2.73	3.05	3.41	3.73	4.03	2.30	2.66	2.97	3.33	3.64	3.94	2.19	2.53	2.83	3.16	3.46	3.74
AA/AN/AAC/ANC/AFA	3	3.23	3.73	4.17	4.66	5.10	5.51	3.15	3.64	4.07	4.55	4.98	5.38	2.99	3.46	3.86	4.32	4.73	5.11

Note: Standard Capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/8	0.08	0.09	0.10	0.11	0.12	0.13	0.06	0.06	0.07	0.08	0.08	0.09	0.03	0.04	0.04	0.04	0.05	0.05
AA/AN/AAC/ANC/AFA	1/5	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.12	0.13	0.15	0.16	0.06	0.06	0.07	0.08	0.08	0.09
AA/AN/AAC/ANC/AFA	1/4	0.23	0.27	0.30	0.34	0.37	0.40	0.18	0.20	0.22	0.24	0.26	0.28	0.10	0.11	0.13	0.14	0.15	0.16
AA/AN/AAC/ANC/AFA	1/2	0.37	0.42	0.47	0.53	0.58	0.63	0.28	0.31	0.35	0.38	0.41	0.44	0.16	0.18	0.20	0.22	0.24	0.25
AA/AN/AAC/ANC/AFA	3/4	0.53	0.61	0.68	0.76	0.84	0.90	0.40	0.45	0.50	0.55	0.59	0.63	0.23	0.26	0.29	0.31	0.34	0.36
AA/AN/AAC/ANC/AFA	1	0.78	0.90	1.00	1.12	1.23	1.33	0.59	0.66	0.74	0.81	0.87	0.93	0.34	0.38	0.42	0.46	0.50	0.53
AA/AN/AAC/ANC/AFA	1-1/2	1.09	1.26	1.41	1.58	1.73	1.86	0.83	0.93	1.03	1.13	1.22	1.31	0.47	0.53	0.59	0.65	0.70	0.75
AA/AN/AAC/ANC/AFA	2	1.33	1.54	1.72	1.93	2.11	2.28	1.01	1.13	1.26	1.39	1.50	1.60	0.58	0.65	0.72	0.79	0.85	0.91
AA/AN/AAC/ANC/AFA	2-1/2	1.59	1.83	2.05	2.29	2.51	2.71	1.20	1.35	1.51	1.65	1.78	1.90	0.69	0.77	0.86	0.94	1.02	1.09
AA/AN/AAC/ANC/AFA	3	2.17	2.51	2.80	3.14	3.44	3.71	1.65	1.84	2.06	2.25	2.44	2.60	0.94	1.05	1.17	1.29	1.39	1.49

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-404A/R-507 Conventional Valves (Tons)– A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/8	0.11	0.13	0.14	0.16	0.17	0.19	0.11	0.13	0.14	0.16	0.17	0.19	0.10	0.12	0.13	0.14	0.16	0.17
AA/AN/AAC/ANC/AFA	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.19	0.22	0.25	0.27	0.30	0.32	0.18	0.21	0.23	0.26	0.28	0.31
AA/AN/AAC/ANC/AFA	1/2	0.33	0.38	0.43	0.48	0.52	0.56	0.33	0.38	0.43	0.48	0.52	0.56	0.31	0.36	0.40	0.45	0.49	0.53
AA/AN/AAC/ANC/AFA	3/4	0.54	0.62	0.70	0.78	0.85	0.92	0.52	0.60	0.67	0.75	0.82	0.89	0.50	0.58	0.65	0.72	0.79	0.85
AA/AN/AAC/ANC/AFA	1	0.77	0.89	0.99	1.11	1.22	1.32	0.75	0.87	0.97	1.08	1.19	1.28	0.71	0.82	0.92	1.02	1.12	1.21
AA/AN/AAC/ANC/AFA	1-1/4	1.13	1.30	1.46	1.63	1.79	1.93	1.10	1.27	1.42	1.59	1.74	1.88	1.05	1.21	1.36	1.52	1.66	1.79
AA/AN/AAC/ANC/AFA	2	1.58	1.82	2.04	2.28	2.50	2.70	1.55	1.79	2.00	2.24	2.45	2.65	1.47	1.70	1.90	2.12	2.32	2.51
AA/AN/AAC/ANC/AFA	2-1/4	1.94	2.24	2.50	2.80	3.07	3.31	1.89	2.18	2.44	2.73	2.99	3.23	1.80	2.08	2.32	2.60	2.85	3.07
AA/AN/AAC/ANC/AFA	2-1/2	2.30	2.66	2.97	3.32	3.64	3.93	2.25	2.60	2.90	3.25	3.56	3.84	2.14	2.47	2.76	3.09	3.38	3.65
AA/AN/AAC/ANC/AFA	3-1/2	3.15	3.64	4.07	4.55	4.98	5.38	3.08	3.56	3.98	4.45	4.87	5.26	2.92	3.37	3.77	4.21	4.62	4.99
TCLE	1/4	0.29	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.48	0.27	0.31	0.35	0.39	0.43	0.46
TCLE	1/2	0.54	0.62	0.70	0.78	0.85	0.92	0.53	0.61	0.68	0.76	0.84	0.91	0.50	0.58	0.65	0.72	0.79	0.85
TCLE	1	1.09	1.26	1.41	1.57	1.72	1.86	1.07	1.24	1.38	1.54	1.69	1.83	1.01	1.17	1.30	1.46	1.60	1.72
TCLE	2	2.01	2.32	2.59	2.90	3.18	3.43	1.97	2.27	2.54	2.84	3.11	3.36	1.87	2.16	2.41	2.70	2.96	3.19
TCLE	3	2.94	3.39	3.80	4.24	4.65	5.02	2.87	3.31	3.71	4.14	4.54	4.90	2.72	3.14	3.51	3.93	4.30	4.65
TCLE	4-1/2	4.26	4.92	5.50	6.15	6.74	7.28	4.16	4.80	5.37	6.00	6.58	7.10	3.95	4.56	5.10	5.70	6.25	6.75
TCLE	7	5.87	6.78	7.58	8.47	9.28	10.02	5.73	6.62	7.40	8.27	9.06	9.79	5.45	6.29	7.04	7.87	8.62	9.31
TCLE	8	7.08	8.18	9.14	10.22	11.19	12.09	6.91	7.98	8.92	9.97	10.93	11.80	6.57	7.59	8.48	9.48	10.39	11.22
TJL	7	6.27	7.24	8.09	9.05	9.91	10.71	6.13	7.08	7.91	8.85	9.69	10.47	5.82	6.72	7.51	8.40	9.20	9.94
TJL	9	8.00	9.24	10.33	11.55	12.65	13.66	7.81	9.02	10.08	11.27	12.35	13.34	7.42	8.57	9.58	10.71	11.73	12.67

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/8	0.09	0.10	0.12	0.13	0.14	0.15	0.07	0.08	0.09	0.10	0.10	0.11	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.12	0.13	0.15	0.16	0.18	0.19	0.08	0.09	0.10	0.11	0.12	0.13
AA/AN/AAC/ANC/AFA	1/2	0.28	0.32	0.36	0.40	0.44	0.48	0.22	0.25	0.28	0.30	0.33	0.35	0.14	0.16	0.18	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	3/4	0.44	0.51	0.57	0.64	0.70	0.75	0.35	0.39	0.44	0.48	0.52	0.55	0.23	0.26	0.29	0.31	0.34	0.36
AA/AN/AAC/ANC/AFA	1	0.63	0.73	0.81	0.91	1.00	1.08	0.50	0.56	0.63	0.68	0.74	0.79	0.32	0.36	0.40	0.44	0.47	0.51
AA/AN/AAC/ANC/AFA	1-1/4	0.93	1.07	1.20	1.34	1.47	1.59	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
AA/AN/AAC/ANC/AFA	2	1.31	1.51	1.69	1.89	2.07	2.24	1.03	1.15	1.29	1.41	1.52	1.63	0.67	0.75	0.84	0.92	0.99	1.06
AA/AN/AAC/ANC/AFA	2-1/4	1.61	1.86	2.08	2.32	2.55	2.75	1.26	1.41	1.58	1.73	1.86	1.99	0.82	0.92	1.03	1.12	1.21	1.30
AA/AN/AAC/ANC/AFA	2-1/2	1.91	2.21	2.47	2.76	3.02	3.26	1.50	1.68	1.88	2.05	2.22	2.37	0.98	1.10	1.23	1.34	1.45	1.55
AA/AN/AAC/ANC/AFA	3-1/2	2.61	3.01	3.37	3.77	4.13	4.46	2.04	2.28	2.55	2.79	3.02	3.23	1.34	1.50	1.68	1.83	1.98	2.12
TCLE	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.19	0.21	0.24	0.26	0.28	0.30	0.12	0.13	0.15	0.16	0.18	0.19
TCLE	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.35	0.39	0.44	0.48	0.52	0.55	0.23	0.26	0.29	0.31	0.34	0.36
TCLE	1	0.91	1.05	1.17	1.31	1.44	1.55	0.71	0.79	0.89	0.97	1.05	1.12	0.46	0.51	0.58	0.63	0.68	0.73
TCLE	2	1.67	1.93	2.16	2.41	2.64	2.85	1.31	1.46	1.64	1.79	1.94	2.07	0.86	0.96	1.08	1.18	1.27	1.36
TCLE	3	2.43	2.81	3.14	3.51	3.84	4.15	1.91	2.14	2.39	2.62	2.82	3.02	1.25	1.40	1.56	1.71	1.85	1.98
TCLE	4-1/2	3.53	4.08	4.56	5.10	5.58	6.03	2.77	3.10	3.46	3.79	4.10	4.38	1.81	2.02	2.26	2.48	2.68	2.86
TCLE	7	4.86	5.61	6.27	7.01	7.68	8.30	3.81	4.26	4.76	5.22	5.64	6.02	2.49	2.78	3.11	3.41	3.68	3.94
TCLE	8	5.86	6.77	7.57	8.46	9.27	10.01	4.60	5.14	5.75	6.30	6.80	7.27	3.01	3.37	3.76	4.12	4.45	4.76
TJL	7	5.19	5.99	6.70	7.49	8.21	8.86	4.07	4.55	5.09	5.57	6.02	6.44	2.66	2.97	3.33	3.64	3.93	4.21
TJL	9	6.62	7.64	8.55	9.56	10.47	11.31	5.20	5.81	6.50	7.12	7.69	8.22	3.40	3.80	4.25	4.66	5.03	5.38

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-448A/R-449A Conventional Valves (Tons) - A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/5	0.15	0.18	0.20	0.22	0.24	0.26	0.15	0.17	0.19	0.22	0.24	0.26	0.15	0.17	0.19	0.21	0.23	0.25
AA/AN/AAC/ANC/AFA	1/4	0.27	0.31	0.34	0.38	0.42	0.45	0.26	0.30	0.34	0.38	0.41	0.45	0.26	0.30	0.33	0.37	0.40	0.44
AA/AN/AAC/ANC/AFA	1/2	0.47	0.54	0.60	0.67	0.74	0.80	0.46	0.53	0.60	0.67	0.73	0.79	0.45	0.52	0.58	0.65	0.71	0.77
AA/AN/AAC/ANC/AFA	1	0.75	0.86	0.96	1.08	1.18	1.28	0.74	0.85	0.95	1.07	1.17	1.26	0.72	0.83	0.93	1.04	1.14	1.23
AA/AN/AAC/ANC/AFA	1-1/2	1.07	1.23	1.38	1.54	1.69	1.82	1.06	1.22	1.36	1.53	1.67	1.81	1.03	1.19	1.33	1.49	1.63	1.76
AA/AN/AAC/ANC/AFA	2	1.57	1.82	2.03	2.27	2.49	2.69	1.56	1.80	2.01	2.25	2.46	2.66	1.52	1.76	1.96	2.20	2.40	2.60
AA/AN/AAC/ANC/AFA	2-3/4	2.21	2.55	2.85	3.19	3.49	3.77	2.19	2.52	2.82	3.16	3.46	3.73	2.13	2.46	2.75	3.08	3.37	3.64
AA/AN/AAC/ANC/AFA	3-1/2	2.71	3.13	3.49	3.91	4.28	4.62	2.68	3.09	3.46	3.87	4.24	4.57	2.61	3.02	3.38	3.77	4.13	4.47
AA/AN/AAC/ANC/AFA	4	3.21	3.71	4.15	4.64	5.08	5.49	3.18	3.67	4.10	4.59	5.03	5.43	3.10	3.58	4.01	4.48	4.91	5.30
AA/AN/AAC/ANC/AFA	5-1/2	4.39	5.07	5.67	6.34	6.95	7.50	4.35	5.02	5.61	6.28	6.87	7.43	4.24	4.90	5.48	6.13	6.71	7.25

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/5	0.14	0.17	0.19	0.21	0.23	0.24	0.13	0.15	0.16	0.18	0.19	0.21	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.39	0.43	0.23	0.25	0.28	0.31	0.34	0.36	0.15	0.17	0.19	0.21	0.23	0.24
AA/AN/AAC/ANC/AFA	1/2	0.44	0.51	0.57	0.63	0.69	0.75	0.40	0.45	0.50	0.55	0.59	0.63	0.27	0.30	0.34	0.37	0.40	0.43
AA/AN/AAC/ANC/AFA	1	0.70	0.81	0.91	1.01	1.11	1.20	0.64	0.72	0.80	0.88	0.95	1.01	0.43	0.48	0.54	0.59	0.64	0.68
AA/AN/AAC/ANC/AFA	1-1/2	1.00	1.16	1.30	1.45	1.59	1.71	0.92	1.02	1.15	1.26	1.36	1.45	0.62	0.69	0.77	0.85	0.92	0.98
AA/AN/AAC/ANC/AFA	2	1.48	1.71	1.91	2.14	2.34	2.53	1.35	1.51	1.69	1.85	2.00	2.14	0.91	1.02	1.14	1.25	1.35	1.44
AA/AN/AAC/ANC/AFA	2-3/4	2.08	2.40	2.68	3.00	3.28	3.54	1.90	2.12	2.37	2.60	2.80	3.00	1.28	1.43	1.60	1.75	1.89	2.02
AA/AN/AAC/ANC/AFA	3-1/2	2.54	2.94	3.28	3.67	4.02	4.34	2.32	2.60	2.90	3.18	3.44	3.67	1.57	1.75	1.96	2.15	2.32	2.48
AA/AN/AAC/ANC/AFA	4	3.02	3.49	3.90	4.36	4.77	5.16	2.76	3.08	3.45	3.77	4.08	4.36	1.86	2.08	2.33	2.55	2.75	2.94
AA/AN/AAC/ANC/AFA	5-1/2	4.13	4.77	5.33	5.96	6.53	7.05	3.77	4.21	4.71	5.16	5.58	5.96	2.55	2.85	3.18	3.49	3.76	4.02

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Conventional Valves (Tons)– A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F					40°F					20°F							
		Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/5	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
AA/AN/AAC/ANC/AFA	1/2	0.44	0.51	0.57	0.64	0.70	0.75	0.43	0.50	0.56	0.62	0.68	0.73	0.41	0.47	0.53	0.59	0.65	0.70
AA/AN/AAC/ANC/AFA	1	0.70	0.81	0.90	1.01	1.11	1.20	0.69	0.80	0.89	1.00	1.09	1.18	0.66	0.76	0.85	0.95	1.04	1.13
AA/AN/AAC/ANC/AFA	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.95	1.10	1.23	1.37	1.50	1.62
AA/AN/AAC/ANC/AFA	2	1.48	1.71	1.91	2.14	2.34	2.53	1.45	1.67	1.87	2.09	2.29	2.48	1.39	1.61	1.79	2.01	2.20	2.37
AA/AN/AAC/ANC/AFA	2-1/2	2.07	2.39	2.67	2.99	3.27	3.54	2.04	2.36	2.63	2.94	3.23	3.48	1.95	2.25	2.52	2.81	3.08	3.33
AA/AN/AAC/ANC/AFA	3-1/4	2.54	2.93	3.28	3.67	4.02	4.34	2.49	2.88	3.21	3.59	3.94	4.25	2.39	2.76	3.09	3.45	3.78	4.08
AA/AN/AAC/ANC/AFA	4	3.02	3.49	3.90	4.36	4.78	5.16	2.96	3.42	3.82	4.27	4.68	5.06	2.84	3.28	3.67	4.10	4.49	4.85
AA/AN/AAC/ANC/AFA	5-1/4	4.12	4.76	5.32	5.95	6.51	7.04	4.05	4.68	5.23	5.85	6.40	6.92	3.89	4.49	5.02	5.61	6.15	6.64
TCLE	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.37	0.43	0.48	0.53	0.59	0.63	0.36	0.42	0.46	0.52	0.57	0.61
TCLE	1	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
TCLE	2	1.43	1.65	1.85	2.06	2.26	2.44	1.41	1.63	1.82	2.04	2.23	2.41	1.35	1.56	1.74	1.95	2.13	2.31
TCLE	3	2.64	3.05	3.41	3.81	4.17	4.51	2.59	2.99	3.34	3.74	4.10	4.42	2.49	2.88	3.21	3.59	3.94	4.25
TCLE	5	3.85	4.45	4.97	5.56	6.09	6.58	3.77	4.35	4.87	5.44	5.96	6.44	3.62	4.18	4.67	5.23	5.72	6.18
TCLE	7-1/2	5.58	6.44	7.20	8.05	8.82	9.53	5.48	6.33	7.07	7.91	8.66	9.36	5.26	6.07	6.79	7.59	8.32	8.98
TCLE	10	7.69	8.88	9.93	11.10	12.16	13.13	7.55	8.72	9.75	10.90	11.94	12.89	7.25	8.37	9.36	10.46	11.46	12.38
TCLE	12	9.27	10.70	11.97	13.38	14.66	15.83	9.10	10.51	11.75	13.13	14.39	15.54	8.74	10.09	11.28	12.62	13.82	14.93
TJL	11	8.22	9.49	10.61	11.86	13.00	14.04	8.07	9.32	10.42	11.65	12.76	13.78	7.75	8.95	10.01	11.19	12.25	13.24
TJL	14	10.48	12.10	13.53	15.13	16.57	17.90	10.29	11.88	13.28	14.85	16.27	17.57	9.88	11.41	12.76	14.26	15.62	16.87

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F					-20°F					-40°F							
		Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)					Pressure Drop Across Valve (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/5	0.11	0.13	0.14	0.16	0.17	0.19	0.09	0.10	0.11	0.12	0.13	0.14	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.20	0.23	0.26	0.29	0.32	0.34	0.15	0.17	0.19	0.21	0.22	0.24	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/2	0.35	0.40	0.45	0.51	0.55	0.60	0.26	0.29	0.33	0.36	0.38	0.41	0.17	0.19	0.21	0.23	0.25	0.27
AA/AN/AAC/ANC/AFA	1	0.56	0.65	0.72	0.81	0.89	0.96	0.42	0.47	0.53	0.58	0.62	0.66	0.27	0.30	0.34	0.37	0.40	0.43
AA/AN/AAC/ANC/AFA	1-1/4	0.80	0.92	1.03	1.15	1.26	1.37	0.61	0.68	0.76	0.84	0.90	0.96	0.38	0.42	0.48	0.52	0.56	0.60
AA/AN/AAC/ANC/AFA	2	1.18	1.36	1.52	1.70	1.87	2.02	0.90	1.01	1.13	1.23	1.33	1.42	0.56	0.63	0.70	0.77	0.83	0.89
AA/AN/AAC/ANC/AFA	2-1/2	1.65	1.91	2.13	2.38	2.61	2.82	1.26	1.41	1.58	1.73	1.86	1.99	0.79	0.88	0.99	1.08	1.17	1.25
AA/AN/AAC/ANC/AFA	3-1/4	2.02	2.33	2.61	2.92	3.19	3.45	1.54	1.72	1.93	2.11	2.28	2.43	0.97	1.08	1.21	1.33	1.43	1.53
AA/AN/AAC/ANC/AFA	4	2.40	2.77	3.10	3.46	3.79	4.10	1.83	2.05	2.29	2.51	2.71	2.89	1.15	1.29	1.44	1.57	1.70	1.82
AA/AN/AAC/ANC/AFA	5-1/4	3.28	3.79	4.23	4.73	5.19	5.60	2.50	2.80	3.13	3.42	3.70	3.95	1.57	1.76	1.96	2.15	2.32	2.48
TCLE	1/2	0.30	0.35	0.39	0.43	0.47	0.51	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
TCLE	1	0.56	0.65	0.72	0.81	0.89	0.96	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
TCLE	2	1.14	1.32	1.47	1.65	1.80	1.95	0.87	0.97	1.09	1.19	1.29	1.38	0.55	0.61	0.69	0.75	0.81	0.87
TCLE	3	2.10	2.42	2.71	3.03	3.32	3.59	1.60	1.79	2.00	2.19	2.37	2.53	1.01	1.13	1.26	1.38	1.49	1.60
TCLE	5	3.06	3.53	3.95	4.42	4.84	5.23	2.33	2.61	2.91	3.19	3.45	3.68	1.47	1.64	1.84	2.01	2.17	2.32
TCLE	7-1/2	4.44	5.13	5.73	6.41	7.02	7.58	3.38	3.78	4.23	4.63	5.00	5.34	2.13	2.38	2.66	2.92	3.15	3.37
TCLE	10	6.12	7.07	7.90	8.83	9.68	10.45	4.66	5.21	5.83	6.38	6.89	7.37	2.93	3.28	3.66	4.01	4.33	4.63
TCLE	12	7.38	8.52	9.53	10.65	11.67	12.60	5.62	6.28	7.03	7.70	8.31	8.89	3.54	3.96	4.43	4.85	5.24	5.60
TJL	11	6.54	7.55	8.44	9.44	10.34	11.17	4.98	5.57	6.23	6.82	7.37	7.87	3.13	3.50	3.91	4.29	4.63	4.95
TJL	14	8.34	9.63	10.77	12.04	13.19	14.24	6.35	7.10	7.94	8.70	9.39	10.04	4.00	4.47	5.00	5.48	5.92	6.32

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Conventional Valves (Tons)– A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		110	140	160	210	245	285	110	140	160	210	245	285	110	140	160	210	245	285
AA/AN/AAC/ANC/AFA	1/4	0.34	0.38	0.41	0.47	0.51	0.55	0.34	0.38	0.41	0.47	0.51	0.55	0.33	0.37	0.40	0.46	0.49	0.53
AA/AN/AAC/ANC/AFA	1/2	0.60	0.68	0.72	0.83	0.90	0.97	0.59	0.67	0.71	0.82	0.88	0.95	0.58	0.65	0.70	0.80	0.87	0.93
AA/AN/AAC/ANC/AFA	1	0.96	1.08	1.16	1.33	1.43	1.55	0.95	1.07	1.15	1.31	1.42	1.53	0.93	1.05	1.12	1.28	1.39	1.50
AA/AN/AAC/ANC/AFA	1-1/2	1.38	1.56	1.66	1.91	2.06	2.22	1.36	1.53	1.64	1.88	2.03	2.19	1.33	1.50	1.60	1.84	1.98	2.14
AA/AN/AAC/ANC/AFA	2	2.03	2.29	2.45	2.80	3.03	3.27	2.01	2.27	2.42	2.78	3.00	3.24	1.96	2.21	2.36	2.71	2.93	3.15
AA/AN/AAC/ANC/AFA	3	2.85	3.22	3.44	3.94	4.25	4.59	2.82	3.18	3.40	3.90	4.21	4.54	2.74	3.09	3.30	3.79	4.09	4.41
AA/AN/AAC/ANC/AFA	4	3.49	3.94	4.21	4.82	5.21	5.62	3.45	3.89	4.16	4.77	5.15	5.55	3.36	3.79	4.05	4.64	5.01	5.41
AA/AN/AAC/ANC/AFA	5	4.14	4.67	4.99	5.72	6.18	6.66	4.10	4.63	4.94	5.66	6.12	6.60	3.99	4.50	4.81	5.51	5.95	6.42

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 160 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		140	160	210	245	285	330	140	160	210	245	285	330	140	160	210	245	285	330
AA/AN/AAC/ANC/AFA	1/4	0.34	0.36	0.42	0.45	0.49	0.52	0.24	0.26	0.29	0.32	0.34	0.37	0.16	0.17	0.20	0.21	0.23	0.25
AA/AN/AAC/ANC/AFA	1/2	0.60	0.64	0.73	0.79	0.86	0.92	0.41	0.44	0.50	0.54	0.58	0.63	0.27	0.29	0.33	0.36	0.39	0.41
AA/AN/AAC/ANC/AFA	1	0.95	1.02	1.16	1.26	1.36	1.46	0.66	0.71	0.81	0.87	0.94	1.01	0.44	0.47	0.54	0.58	0.63	0.68
AA/AN/AAC/ANC/AFA	1-1/2	1.36	1.45	1.67	1.80	1.94	2.09	0.95	1.02	1.16	1.26	1.36	1.46	0.63	0.67	0.77	0.83	0.90	0.97
AA/AN/AAC/ANC/AFA	2	2.01	2.15	2.46	2.66	2.87	3.09	1.40	1.50	1.71	1.85	2.00	2.15	0.93	0.99	1.14	1.23	1.33	1.43
AA/AN/AAC/ANC/AFA	3	2.82	3.01	3.45	3.73	4.02	4.33	1.96	2.10	2.40	2.59	2.80	3.01	1.30	1.39	1.59	1.72	1.85	2.00
AA/AN/AAC/ANC/AFA	4	3.46	3.70	4.24	4.58	4.94	5.31	2.40	2.57	2.94	3.17	3.42	3.68	1.60	1.71	1.96	2.12	2.28	2.46
AA/AN/AAC/ANC/AFA	5	4.10	4.38	5.02	5.42	5.85	6.29	2.85	3.05	3.49	3.77	4.07	4.38	1.89	2.02	2.31	2.50	2.70	2.90

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-502 Conventional Valves (Tons)– A Series and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/8	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
AA/AN/AAC/ANC/AFA	1/4	0.30	0.35	0.39	0.43	0.47	0.51	0.29	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.48
AA/AN/AAC/ANC/AFA	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.47	0.54	0.61	0.68	0.74	0.80	0.45	0.52	0.58	0.65	0.71	0.77
AA/AN/AAC/ANC/AFA	1	0.68	0.79	0.88	0.98	1.08	1.16	0.67	0.77	0.86	0.97	1.06	1.14	0.64	0.74	0.83	0.92	1.01	1.09
AA/AN/AAC/ANC/AFA	1-1/2	1.41	1.63	1.82	2.04	2.23	2.41	1.38	1.59	1.78	1.99	2.18	2.36	1.32	1.52	1.70	1.91	2.09	2.25
AA/AN/AAC/ANC/AFA	2	1.73	2.00	2.23	2.50	2.74	2.95	1.69	1.95	2.18	2.44	2.67	2.89	1.62	1.87	2.09	2.34	2.56	2.77
AA/AN/AAC/ANC/AFA	2-1/2	2.05	2.37	2.65	2.96	3.24	3.50	2.01	2.32	2.59	2.90	3.18	3.43	1.92	2.22	2.48	2.77	3.04	3.28
AA/AN/AAC/ANC/AFA	3	2.81	3.24	3.63	4.06	4.44	4.80	2.75	3.18	3.55	3.97	4.35	4.70	2.62	3.03	3.38	3.78	4.14	4.47
TCLE	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41
TCLE	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.47	0.54	0.61	0.68	0.74	0.80	0.45	0.52	0.58	0.65	0.71	0.77
TCLE	1	0.97	1.12	1.25	1.40	1.53	1.66	0.95	1.10	1.23	1.37	1.50	1.62	0.91	1.05	1.17	1.31	1.44	1.55
TCLE	2	1.80	2.08	2.32	2.60	2.85	3.07	1.76	2.03	2.27	2.54	2.78	3.01	1.68	1.94	2.17	2.42	2.66	2.87
TCLE	3	2.62	3.03	3.38	3.78	4.14	4.47	2.56	2.96	3.30	3.70	4.05	4.37	2.44	2.82	3.15	3.52	3.86	4.17
TCLE	4-1/2	3.80	4.39	4.91	5.48	6.01	6.49	3.72	4.30	4.80	5.37	5.88	6.35	3.55	4.10	4.58	5.12	5.61	6.06
TCLE	7	5.23	6.04	6.75	7.55	8.27	8.93	5.12	5.91	6.61	7.39	8.10	8.74	4.89	5.65	6.31	7.06	7.73	8.35
TCLE	8	6.31	7.29	8.15	9.11	9.98	10.78	6.18	7.14	7.98	8.92	9.77	10.55	5.90	6.81	7.62	8.52	9.33	10.08
TJL	7	5.59	6.45	7.22	8.07	8.84	9.55	5.47	6.32	7.06	7.90	8.65	9.34	5.22	6.03	6.74	7.53	8.25	8.91
TJL	9	7.13	8.23	9.20	10.29	11.27	12.18	6.98	8.06	9.01	10.07	11.04	11.92	6.66	7.69	8.60	9.61	10.53	11.37

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/8	0.15	0.17	0.19	0.22	0.24	0.26	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.09	0.10	0.10	0.11
AA/AN/AAC/ANC/AFA	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
AA/AN/AAC/ANC/AFA	1/2	0.41	0.47	0.53	0.59	0.65	0.70	0.32	0.36	0.40	0.44	0.47	0.51	0.21	0.23	0.26	0.29	0.31	0.33
AA/AN/AAC/ANC/AFA	1	0.59	0.68	0.76	0.85	0.93	1.01	0.46	0.51	0.58	0.63	0.68	0.73	0.29	0.32	0.36	0.40	0.43	0.46
AA/AN/AAC/ANC/AFA	1-1/2	1.21	1.40	1.56	1.75	1.91	2.07	0.96	1.07	1.20	1.31	1.42	1.52	0.61	0.68	0.76	0.84	0.90	0.96
AA/AN/AAC/ANC/AFA	2	1.49	1.72	1.92	2.15	2.36	2.54	1.17	1.31	1.46	1.60	1.73	1.85	0.75	0.84	0.94	1.03	1.11	1.19
AA/AN/AAC/ANC/AFA	2-1/2	1.76	2.03	2.27	2.54	2.78	3.01	1.39	1.55	1.74	1.90	2.06	2.20	0.89	1.00	1.11	1.22	1.32	1.41
AA/AN/AAC/ANC/AFA	3	2.41	2.78	3.11	3.48	3.81	4.12	1.90	2.12	2.38	2.60	2.81	3.00	1.21	1.35	1.51	1.66	1.79	1.91
TCLE	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.17	0.19	0.21	0.23	0.25	0.27	0.11	0.12	0.14	0.15	0.16	0.17
TCLE	1/2	0.41	0.47	0.53	0.59	0.65	0.70	0.33	0.37	0.41	0.45	0.49	0.52	0.21	0.23	0.26	0.29	0.31	0.33
TCLE	1	0.84	0.97	1.08	1.21	1.33	1.43	0.66	0.74	0.83	0.90	0.98	1.04	0.42	0.47	0.53	0.58	0.62	0.66
TCLE	2	1.54	1.78	1.99	2.22	2.43	2.63	1.22	1.36	1.53	1.67	1.80	1.93	0.78	0.87	0.98	1.07	1.15	1.23
TCLE	3	2.25	2.60	2.90	3.25	3.56	3.84	1.78	1.99	2.23	2.44	2.63	2.81	1.13	1.26	1.41	1.55	1.67	1.79
TCLE	4-1/2	3.26	3.76	4.21	4.71	5.15	5.57	2.58	2.88	3.23	3.53	3.82	4.08	1.64	1.83	2.05	2.25	2.43	2.59
TCLE	7	4.50	5.20	5.81	6.50	7.12	7.69	3.55	3.97	4.44	4.86	5.25	5.61	2.26	2.53	2.83	3.09	3.34	3.57
TCLE	8	5.42	6.26	7.00	7.82	8.57	9.26	4.28	4.79	5.35	5.86	6.33	6.77	2.73	3.05	3.41	3.74	4.04	4.32
TJL	7	4.81	5.55	6.21	6.94	7.61	8.21	3.80	4.25	4.75	5.20	5.62	6.01	2.42	2.71	3.03	3.31	3.58	3.83
TJL	9	6.13	7.08	7.91	8.85	9.69	10.47	4.84	5.41	6.05	6.63	7.16	7.65	3.08	3.44	3.85	4.22	4.56	4.87

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-12 Balanced Ported Valves (Tons)– B, HF, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.30	0.35	0.39	0.43	0.47	0.51	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
BA/BN	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.54	0.62	0.70	0.78	0.85	0.92
BA/BN	1	0.90	1.04	1.16	1.30	1.42	1.54	0.88	1.02	1.14	1.27	1.39	1.50	0.84	0.97	1.08	1.21	1.33	1.43
BA/BN	1-1/4	1.20	1.39	1.55	1.73	1.90	2.05	1.17	1.35	1.51	1.69	1.85	2.00	1.13	1.30	1.46	1.63	1.79	1.93
BA/BN	1-1/2	1.51	1.74	1.95	2.18	2.39	2.58	1.48	1.71	1.91	2.14	2.34	2.53	1.42	1.64	1.83	2.05	2.25	2.43
BA/BN	2	1.83	2.11	2.36	2.64	2.89	3.13	1.80	2.08	2.32	2.60	2.85	3.07	1.72	1.99	2.22	2.48	2.72	2.94
BA/BN	2-1/2	2.37	2.74	3.06	3.42	3.75	4.05	2.33	2.69	3.01	3.36	3.68	3.98	2.23	2.57	2.88	3.22	3.53	3.81
BA/BN	3	3.00	3.46	3.87	4.33	4.74	5.12	2.94	3.39	3.80	4.24	4.65	5.02	2.82	3.26	3.64	4.07	4.46	4.82
BA/BN	3-1/2	3.73	4.31	4.82	5.38	5.90	6.37	3.66	4.23	4.73	5.28	5.79	6.25	3.51	4.05	4.53	5.07	5.55	5.99
HF	1/8	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
HF	1/4	0.32	0.37	0.41	0.46	0.51	0.55	0.31	0.36	0.40	0.45	0.49	0.53	0.30	0.35	0.39	0.43	0.47	0.51
HF	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.54	0.62	0.70	0.78	0.85	0.92
HF	1	0.88	1.02	1.14	1.27	1.39	1.50	0.86	0.99	1.11	1.24	1.36	1.47	0.82	0.95	1.06	1.18	1.30	1.40
HF	1-1/4	1.18	1.36	1.52	1.70	1.87	2.02	1.16	1.34	1.50	1.67	1.83	1.98	1.11	1.28	1.43	1.60	1.76	1.90
HF	1-1/2	1.51	1.74	1.95	2.18	2.39	2.58	1.48	1.71	1.91	2.14	2.34	2.53	1.42	1.64	1.83	2.05	2.25	2.43
HF	2	2.00	2.31	2.58	2.89	3.16	3.42	1.96	2.26	2.53	2.83	3.10	3.35	1.88	2.17	2.43	2.71	2.97	3.21
HF	3-1/2	3.55	4.10	4.58	5.12	5.61	6.06	3.48	4.02	4.49	5.02	5.50	5.94	3.34	3.86	4.31	4.82	5.28	5.70
HF	5	4.94	5.70	6.38	7.13	7.81	8.44	4.85	5.60	6.26	7.00	7.67	8.28	4.65	5.37	6.00	6.71	7.35	7.94
HF	6	6.26	7.23	8.08	9.04	9.90	10.69	6.13	7.08	7.91	8.85	9.69	10.47	5.88	6.79	7.59	8.49	9.30	10.04
HF	9	9.28	10.72	11.98	13.39	14.67	15.85	9.10	10.51	11.75	13.13	14.39	15.54	8.73	10.08	11.27	12.60	13.80	14.91
HF	12	12.22	14.11	15.78	17.64	19.32	20.87	11.98	13.83	15.47	17.29	18.94	20.46	11.49	13.27	14.83	16.58	18.17	19.62
TRAE+	7-1/2	7.14	8.24	9.22	10.31	11.29	12.19	7.00	8.08	9.04	10.10	11.07	11.95	6.71	7.75	8.66	9.69	10.61	11.46
TRAE+	10	10.41	12.02	13.44	15.03	16.46	17.78	10.20	11.78	13.17	14.72	16.13	17.42	9.78	11.29	12.63	14.12	15.46	16.70
TRAE+	12	11.62	13.42	15.00	16.77	18.37	19.84	11.39	13.15	14.70	16.44	18.01	19.45	10.92	12.61	14.10	15.76	17.27	18.65
TRAE+	18	17.61	20.33	22.73	25.42	27.84	30.07	17.26	19.93	22.28	24.91	27.29	29.48	16.55	19.11	21.37	23.89	26.17	28.26
TRAE+	25	24.20	27.94	31.24	34.93	38.26	41.33	23.73	27.40	30.64	34.25	37.52	40.53	22.75	26.27	29.37	32.84	35.97	38.85
TRAE	30	32.67	37.72	42.18	47.16	51.66	55.79	32.03	36.99	41.35	46.23	50.64	54.70	30.72	35.47	39.66	44.34	48.57	52.46
TRAE	35	35.64	41.15	46.01	51.44	56.35	60.87	34.94	40.35	45.11	50.43	55.24	59.67	33.51	38.69	43.26	48.37	52.98	57.23
TRAE	40	42.41	48.97	54.75	61.21	67.06	72.43	41.58	48.01	53.68	60.02	65.74	71.01	39.88	46.05	51.48	57.56	63.06	68.11
TJR	8	8.89	10.27	11.48	12.83	14.06	15.18	8.72	10.07	11.26	12.59	13.79	14.89	8.36	9.65	10.79	12.07	13.22	14.28
TJR	11	10.65	12.30	13.75	15.37	16.84	18.19	10.44	12.06	13.48	15.07	16.51	17.83	10.01	11.56	12.92	14.45	15.83	17.10
TER	13	13.31	15.37	17.18	19.21	21.04	22.73	13.05	15.07	16.85	18.84	20.63	22.29	12.51	14.45	16.15	18.06	19.78	21.36
TER	15	15.73	18.16	20.31	22.70	24.87	26.86	15.42	17.81	19.91	22.26	24.38	26.33	14.79	17.08	19.09	21.35	23.39	25.26
TER	20	21.18	24.46	27.34	30.57	33.49	36.17	20.76	23.97	26.80	29.96	32.82	35.45	19.91	22.99	25.70	28.74	31.48	34.00
TER	25	27.23	31.44	35.15	39.30	43.05	46.50	26.69	30.82	34.46	38.52	42.20	45.58	25.60	29.56	33.05	36.95	40.48	43.72
TIR	35	31.29	36.13	40.40	45.16	49.47	53.44	23.63	27.29	30.51	34.11	37.36	40.36	31.29	36.13	40.40	45.16	49.47	53.44
THR	45	42.35	48.90	54.67	61.13	66.96	72.33	41.52	47.94	53.60	59.93	65.65	70.91	39.82	45.98	51.41	57.48	62.96	68.01
THR	55	51.43	59.39	66.40	74.23	81.32	87.83	50.42	58.22	65.09	72.78	79.72	86.11	48.35	55.83	62.42	69.79	76.45	82.57
TMR	55	60.50	69.86	78.11	87.32	95.66	103.32	59.32	68.50	76.58	85.62	93.79	101.31	56.89	65.69	73.44	82.11	89.95	97.16

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-12 Balanced Ported Valves (Tons)– B, HF, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
BA/BN	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.38	0.42	0.48	0.52	0.56	0.60	0.24	0.27	0.30	0.33	0.35	0.38
BA/BN	1	0.75	0.87	0.97	1.08	1.19	1.28	0.58	0.65	0.73	0.79	0.86	0.92	0.38	0.42	0.48	0.52	0.56	0.60
BA/BN	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.78	0.87	0.98	1.07	1.15	1.23	0.51	0.57	0.64	0.70	0.75	0.81
BA/BN	1-1/2	1.26	1.45	1.63	1.82	1.99	2.15	0.99	1.11	1.24	1.36	1.46	1.57	0.64	0.72	0.80	0.88	0.95	1.01
BA/BN	2	1.53	1.77	1.98	2.21	2.42	2.61	1.20	1.34	1.50	1.64	1.77	1.90	0.78	0.87	0.98	1.07	1.15	1.23
BA/BN	2-1/2	1.98	2.29	2.56	2.86	3.13	3.38	1.55	1.73	1.94	2.12	2.29	2.45	1.01	1.13	1.26	1.38	1.49	1.60
BA/BN	3	2.50	2.89	3.23	3.61	3.95	4.27	1.96	2.19	2.45	2.68	2.90	3.10	1.27	1.42	1.59	1.74	1.88	2.01
BA/BN	3-1/2	3.11	3.59	4.01	4.49	4.92	5.31	2.44	2.73	3.05	3.34	3.61	3.86	1.58	1.77	1.98	2.16	2.34	2.50
HF	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/4	0.27	0.31	0.35	0.39	0.43	0.46	0.21	0.23	0.26	0.29	0.31	0.33	0.14	0.16	0.18	0.19	0.21	0.22
HF	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.38	0.42	0.48	0.52	0.56	0.60	0.24	0.27	0.30	0.33	0.35	0.38
HF	1	0.73	0.84	0.94	1.05	1.15	1.25	0.57	0.64	0.71	0.78	0.84	0.90	0.37	0.41	0.46	0.51	0.55	0.59
HF	1-1/4	0.98	1.13	1.27	1.41	1.55	1.67	0.77	0.86	0.96	1.05	1.14	1.22	0.50	0.56	0.63	0.68	0.74	0.79
HF	1-1/2	1.26	1.45	1.63	1.82	1.99	2.15	0.99	1.11	1.24	1.36	1.46	1.57	0.64	0.72	0.80	0.88	0.95	1.01
HF	2	1.66	1.92	2.14	2.40	2.62	2.83	1.30	1.45	1.63	1.78	1.92	2.06	0.85	0.95	1.06	1.16	1.26	1.34
HF	2-1/2	2.16	2.42	2.64	2.90	3.12	3.33	1.65	1.81	2.00	2.16	2.30	2.44	1.10	1.21	1.33	1.44	1.54	1.63
HF	3	2.73	3.09	3.31	3.57	3.79	4.00	2.00	2.17	2.37	2.53	2.67	2.80	1.35	1.47	1.60	1.71	1.80	1.88
HF	4	3.30	3.76	3.97	4.23	4.45	4.66	2.35	2.53	2.74	2.90	3.04	3.17	1.60	1.73	1.86	1.97	2.05	2.12
HF	5	4.12	4.76	5.32	5.95	6.51	7.04	3.23	3.61	4.04	4.42	4.78	5.11	2.10	2.35	2.63	2.88	3.11	3.32
HF	6	5.21	6.02	6.73	7.52	8.24	8.90	4.08	4.56	5.10	5.59	6.03	6.45	2.66	2.97	3.33	3.64	3.93	4.21
HF	9	7.73	8.93	9.98	11.16	12.22	13.20	6.06	6.78	7.58	8.30	8.96	9.58	3.94	4.41	4.93	5.40	5.83	6.23
HF	12	10.17	11.74	13.13	14.68	16.08	17.37	7.97	8.91	9.96	10.91	11.79	12.60	5.18	5.79	6.48	7.09	7.66	8.19
TRAE+	7-1/2	5.95	6.87	7.68	8.59	9.41	10.16	4.66	5.21	5.83	6.38	6.89	7.37	3.03	3.39	3.79	4.15	4.48	4.79
TRAE+	10	8.67	10.01	11.19	12.51	13.71	14.81	6.79	7.59	8.49	9.30	10.04	10.74	4.42	4.94	5.53	6.05	6.54	6.99
TRAE+	12	9.67	11.17	12.48	13.96	15.29	16.51	7.58	8.47	9.48	10.38	11.21	11.99	4.93	5.51	6.16	6.75	7.29	7.80
TRAE+	18	14.66	16.93	18.93	21.16	23.18	25.04	11.49	12.85	14.36	15.73	16.99	18.17	7.47	8.35	9.34	10.23	11.05	11.81
TRAE+	25	20.15	23.27	26.01	29.08	31.86	34.41	15.80	17.66	19.75	21.64	23.37	24.98	10.27	11.48	12.84	14.06	15.19	16.24
TRAE	30	27.21	31.42	35.13	39.27	43.02	46.47	21.33	23.85	26.66	29.21	31.55	33.73	13.87	15.51	17.34	18.99	20.51	21.93
TRAE	35	29.68	34.27	38.32	42.84	46.93	50.69	23.26	26.01	29.08	31.85	34.40	36.78	15.13	16.92	18.91	20.72	22.38	23.92
TRAE	40	35.32	40.78	45.60	50.98	55.85	60.32	27.68	30.95	34.60	37.90	40.94	43.77	18.00	20.12	22.50	24.65	26.62	28.46
TJR	8	7.41	8.56	9.57	10.70	11.72	12.65	5.81	6.50	7.26	7.96	8.59	9.19	3.77	4.21	4.71	5.16	5.58	5.96
TJR	11	8.87	10.24	11.45	12.80	14.02	15.15	6.95	7.77	8.69	9.52	10.28	10.99	4.52	5.05	5.65	6.19	6.69	7.15
TER	13	11.08	12.79	14.30	15.99	17.52	18.92	8.69	9.72	10.86	11.90	12.85	13.74	5.65	6.32	7.06	7.74	8.36	8.93
TER	15	13.10	15.13	16.91	18.91	20.71	22.37	10.27	11.48	12.84	14.06	15.19	16.24	6.68	7.47	8.35	9.15	9.88	10.56
TER	20	17.64	20.37	22.77	25.46	27.89	30.13	13.82	15.45	17.28	18.92	20.44	21.85	8.99	10.05	11.24	12.31	13.30	14.21
TER	25	22.67	26.18	29.27	32.72	35.84	38.72	17.77	19.87	22.21	24.33	26.28	28.10	11.56	12.92	14.45	15.83	17.10	18.28
TIR	35	27.71	32.00	35.77	40.00	43.81	47.32	21.72	24.28	27.15	29.74	32.12	34.34	14.12	15.79	17.65	19.33	20.88	22.33
THR	45	35.27	40.73	45.53	50.91	55.77	60.23	27.64	30.90	34.55	37.85	40.88	43.70	17.98	20.10	22.48	24.62	26.59	28.43
THR	55	42.83	49.46	55.29	61.82	67.72	73.15	33.57	37.53	41.96	45.97	49.65	53.08	21.83	24.41	27.29	29.89	32.29	34.52
TMR	55	50.39	58.19	65.05	72.73	79.67	86.06	39.49	44.15	49.36	54.07	58.41	62.44	25.68	28.71	32.10	35.16	37.98	40.60

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.39	0.45	0.50	0.56	0.62	0.67	0.39	0.45	0.50	0.56	0.61	0.66	0.38	0.44	0.49	0.55	0.60	0.65
BA/BN	1	0.75	0.87	0.97	1.08	1.19	1.28	0.74	0.85	0.95	1.06	1.16	1.26	0.72	0.83	0.93	1.04	1.14	1.23
BA/BN	1-1/2	1.16	1.34	1.50	1.67	1.83	1.98	1.15	1.32	1.48	1.65	1.81	1.96	1.12	1.29	1.45	1.62	1.77	1.91
BA/BN	2	1.56	1.80	2.01	2.25	2.47	2.66	1.53	1.77	1.98	2.21	2.42	2.62	1.50	1.73	1.94	2.17	2.37	2.56
BA/BN	2-1/2	1.96	2.26	2.53	2.83	3.10	3.35	1.94	2.24	2.50	2.80	3.06	3.31	1.89	2.18	2.44	2.73	2.99	3.23
BA/BN	3	2.38	2.75	3.07	3.44	3.76	4.06	2.35	2.71	3.03	3.39	3.71	4.01	2.29	2.64	2.96	3.31	3.62	3.91
BA/BN	4	3.08	3.56	3.98	4.45	4.87	5.26	3.04	3.51	3.92	4.38	4.80	5.19	2.97	3.43	3.83	4.29	4.70	5.07
BA/BN	5	3.90	4.50	5.03	5.63	6.17	6.66	3.85	4.45	4.97	5.56	6.09	6.57	3.75	4.33	4.84	5.41	5.93	6.40
BA/BN	6	4.85	5.60	6.26	7.00	7.67	8.28	4.78	5.52	6.17	6.90	7.56	8.16	4.67	5.39	6.03	6.74	7.38	7.98
HF	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.22	0.25	0.28	0.31	0.34	0.37	0.21	0.24	0.27	0.30	0.33	0.36
HF	1/2	0.42	0.48	0.54	0.61	0.66	0.72	0.41	0.47	0.53	0.59	0.65	0.70	0.40	0.46	0.52	0.58	0.63	0.68
HF	1	0.75	0.87	0.97	1.08	1.19	1.28	0.74	0.85	0.95	1.06	1.16	1.26	0.72	0.83	0.93	1.04	1.14	1.23
HF	1-1/2	1.14	1.32	1.47	1.65	1.80	1.95	1.12	1.30	1.45	1.62	1.78	1.92	1.10	1.27	1.42	1.59	1.74	1.88
HF	2	1.53	1.77	1.98	2.21	2.42	2.61	1.52	1.75	1.96	2.19	2.40	2.59	1.48	1.71	1.91	2.14	2.34	2.53
HF	2-1/2	1.96	2.26	2.53	2.83	3.10	3.35	1.94	2.25	2.51	2.81	3.07	3.32	1.89	2.18	2.44	2.73	2.99	3.23
HF	3	2.59	2.99	3.34	3.74	4.10	4.42	2.56	2.96	3.31	3.70	4.05	4.38	2.50	2.89	3.23	3.61	3.95	4.27
HF	5-1/2	4.61	5.32	5.95	6.65	7.29	7.87	4.56	5.27	5.89	6.59	7.21	7.79	4.44	5.13	5.73	6.41	7.02	7.58
HF	8	6.42	7.41	8.29	9.27	10.15	10.96	6.34	7.33	8.19	9.16	10.03	10.83	6.18	7.14	7.98	8.92	9.77	10.55
HF	10	8.13	9.39	10.50	11.73	12.85	13.88	8.06	9.30	10.40	11.63	12.74	13.76	7.83	9.04	10.11	11.30	12.38	13.37
HF	15	12.05	13.91	15.56	17.39	19.05	20.58	11.91	13.77	15.40	17.22	18.86	20.37	11.61	13.41	14.99	16.76	18.36	19.83
HF	20	15.87	18.33	20.49	22.91	25.09	27.10	15.68	18.07	20.20	22.58	24.74	26.72	15.28	17.64	19.73	22.05	24.16	26.10
TFE	8	6.30	7.27	8.13	9.09	9.96	10.76	6.23	7.19	8.04	8.99	9.85	10.64	6.07	7.01	7.84	8.76	9.60	10.37
TFE	10	8.63	9.97	11.14	12.46	13.65	14.74	8.53	9.85	11.01	12.31	13.48	14.56	8.31	9.60	10.73	11.99	13.14	14.19
TFE	12	10.71	12.37	13.83	15.46	16.93	18.29	10.59	12.23	13.67	15.28	16.74	18.08	10.32	11.92	13.32	14.90	16.32	17.62
TFE	20	16.35	18.88	21.11	23.60	25.85	27.92	16.17	18.67	20.87	23.33	25.56	27.61	15.75	18.19	20.33	22.73	24.90	26.90
TRAE+	10	9.27	10.70	11.97	13.38	14.66	15.83	9.16	10.58	11.83	13.23	14.49	15.65	8.93	10.31	11.53	12.89	14.12	15.25
TRAE+	15	13.52	15.61	17.45	19.51	21.38	23.09	13.36	15.43	17.25	19.29	21.13	22.82	13.02	15.03	16.81	18.79	20.59	22.24
TRAE+	20	15.09	17.42	19.48	21.78	23.86	25.77	14.91	17.22	19.25	21.52	23.58	25.47	14.53	16.78	18.76	20.97	22.97	24.81
TRAE+	30	22.87	26.41	29.53	33.01	36.16	39.06	22.60	26.10	29.18	32.62	35.74	38.60	22.02	25.43	28.43	31.78	34.82	37.61
TRAE+	40	31.43	36.29	40.58	45.37	49.70	53.68	31.07	35.88	40.11	44.84	49.12	53.06	30.27	34.95	39.08	43.69	47.86	51.70
TRAE	50	42.43	48.99	54.78	61.24	67.09	72.46	41.94	48.42	54.14	60.53	66.31	71.62	40.87	47.19	52.76	58.99	64.62	69.80
TRAE	60	46.28	53.44	59.75	66.80	73.18	79.04	45.75	52.82	59.06	66.03	72.33	78.13	44.58	51.48	57.55	64.35	70.49	76.13
TRAE	70	55.09	63.61	71.12	79.52	87.10	94.08	54.45	62.87	70.29	78.59	86.09	92.98	53.06	61.27	68.50	76.59	83.90	90.62
TJR	14	11.55	13.34	14.91	16.67	18.26	19.73	11.42	13.18	14.74	16.48	18.05	19.50	11.13	12.85	14.37	16.06	17.60	19.01
TJR	18	13.83	15.97	17.85	19.96	21.87	23.62	13.67	15.79	17.65	19.73	21.62	23.35	13.32	15.38	17.20	19.23	21.06	22.75
TER	22	17.29	19.96	22.32	24.96	27.34	29.53	17.09	19.73	22.06	24.66	27.02	29.18	16.65	19.23	21.50	24.03	26.33	28.44
TER	26	20.43	23.59	26.38	29.49	32.30	34.89	20.19	23.32	26.07	29.15	31.93	34.49	19.68	22.72	25.41	28.41	31.12	33.61
TER	35	27.50	31.75	35.50	39.69	43.48	46.97	27.18	31.39	35.09	39.23	42.98	46.42	26.49	30.59	34.20	38.24	41.88	45.24
TER	45	35.36	40.83	45.65	51.04	55.91	60.39	34.95	40.36	45.12	50.45	55.26	59.69	34.06	39.33	43.97	49.16	53.85	58.17
TER	55	43.22	49.91	55.80	62.38	68.34	73.81	42.72	49.33	55.15	61.66	67.54	72.96	41.63	48.07	53.74	60.09	65.82	71.10
THR	75	55.01	63.52	71.02	79.40	86.98	93.95	54.37	62.78	70.19	78.47	85.96	92.85	52.98	61.18	68.40	76.47	83.77	90.48
THR	85	66.79	77.12	86.23	96.40	105.60	114.07	66.02	76.23	85.23	95.29	104.39	112.75	64.33	74.28	83.05	92.85	101.71	109.86
TMR	100	78.58	90.74	101.45	113.42	124.25	134.20	77.67	89.68	100.27	112.11	122.81	132.64	75.69	87.40	97.72	109.25	119.68	129.27

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.27	0.30	0.34	0.37	0.40	0.43	0.18	0.20	0.23	0.25	0.27	0.28
BA/BN	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
BA/BN	1-1/2	1.02	1.18	1.32	1.47	1.61	1.74	0.81	0.91	1.01	1.11	1.20	1.28	0.53	0.59	0.66	0.73	0.78	0.84
BA/BN	2	1.36	1.57	1.76	1.96	2.15	2.32	1.08	1.21	1.35	1.48	1.60	1.71	0.71	0.79	0.89	0.97	1.05	1.12
BA/BN	2-1/2	1.72	1.99	2.22	2.48	2.72	2.94	1.37	1.53	1.71	1.88	2.03	2.17	0.90	1.01	1.13	1.23	1.33	1.42
BA/BN	3	2.08	2.40	2.69	3.00	3.29	3.55	1.66	1.86	2.08	2.27	2.46	2.62	1.09	1.22	1.36	1.49	1.61	1.72
BA/BN	4	2.69	3.11	3.47	3.88	4.25	4.59	2.15	2.40	2.69	2.94	3.18	3.40	1.41	1.58	1.76	1.93	2.09	2.23
BA/BN	5	3.40	3.93	4.39	4.91	5.38	5.81	2.72	3.04	3.40	3.72	4.02	4.30	1.79	2.00	2.24	2.45	2.65	2.83
BA/BN	6	4.23	4.88	5.46	6.11	6.69	7.22	3.38	3.78	4.23	4.63	5.00	5.34	2.23	2.49	2.79	3.05	3.30	3.53
HF	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.15	0.17	0.19	0.21	0.22	0.24	0.10	0.11	0.13	0.14	0.15	0.16
HF	1/2	0.36	0.42	0.46	0.52	0.57	0.61	0.29	0.32	0.36	0.40	0.43	0.46	0.19	0.21	0.24	0.26	0.28	0.30
HF	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
HF	1-1/2	1.00	1.15	1.29	1.44	1.58	1.71	0.79	0.88	0.99	1.08	1.17	1.25	0.52	0.58	0.65	0.71	0.77	0.82
HF	2	1.34	1.55	1.73	1.93	2.12	2.29	1.07	1.20	1.34	1.47	1.58	1.69	0.70	0.78	0.88	0.96	1.04	1.11
HF	2-1/2	1.72	1.99	2.22	2.48	2.72	2.94	1.37	1.53	1.71	1.88	2.03	2.17	0.90	1.01	1.13	1.23	1.33	1.42
HF	3	2.26	2.61	2.92	3.26	3.57	3.86	1.81	2.02	2.26	2.48	2.68	2.86	1.19	1.33	1.49	1.63	1.76	1.88
HF	5-1/2	4.03	4.65	5.20	5.82	6.37	6.88	3.22	3.60	4.03	4.41	4.76	5.09	2.12	2.37	2.65	2.90	3.14	3.35
HF	8	5.61	6.48	7.24	8.10	8.87	9.58	4.48	5.01	5.60	6.13	6.63	7.08	2.95	3.30	3.69	4.04	4.36	4.66
HF	10	7.10	8.20	9.17	10.25	11.23	12.13	5.67	6.34	7.09	7.76	8.39	8.97	3.73	4.17	4.66	5.11	5.52	5.90
HF	15	10.53	12.16	13.59	15.20	16.65	17.98	8.40	9.39	10.50	11.50	12.42	13.28	5.53	6.18	6.91	7.57	8.18	8.74
HF	20	13.86	16.00	17.89	20.01	21.91	23.67	11.06	12.37	13.83	15.14	16.36	17.49	7.28	8.14	9.10	9.97	10.77	11.51
TFE	8	5.50	6.35	7.10	7.94	8.70	9.39	4.39	4.91	5.49	6.01	6.49	6.94	2.89	3.23	3.61	3.96	4.27	4.57
TFE	10	7.54	8.71	9.73	10.88	11.92	12.88	6.02	6.73	7.53	8.24	8.90	9.52	3.96	4.43	4.95	5.42	5.86	6.26
TFE	12	9.35	10.80	12.07	13.50	14.78	15.97	7.47	8.35	9.34	10.23	11.05	11.81	4.92	5.50	6.15	6.74	7.28	7.78
TFE	20	14.28	16.49	18.44	20.61	22.58	24.39	11.40	12.75	14.25	15.61	16.86	18.02	7.51	8.40	9.39	10.28	11.11	11.87
TRAE+	10	8.10	9.35	10.46	11.69	12.81	13.83	6.47	7.23	8.09	8.86	9.57	10.23	4.26	4.76	5.33	5.83	6.30	6.74
TRAE+	15	11.80	13.63	15.23	17.03	18.66	20.15	9.42	10.53	11.78	12.90	13.93	14.89	6.21	6.94	7.76	8.50	9.18	9.82
TRAE+	20	13.18	15.22	17.02	19.02	20.84	22.51	10.52	11.76	13.15	14.41	15.56	16.63	6.93	7.75	8.66	9.49	10.25	10.96
TRAE+	30	19.97	23.06	25.78	28.82	31.58	34.11	15.94	17.82	19.93	21.83	23.58	25.20	10.50	11.74	13.13	14.38	15.53	16.60
TRAE+	40	27.45	31.70	35.44	39.62	43.40	46.88	21.92	24.51	27.40	30.02	32.42	34.66	14.43	16.13	18.04	19.76	21.34	22.82
TRAE	50	37.06	42.79	47.84	53.49	58.60	63.29	29.59	33.08	36.99	40.52	43.76	46.79	19.48	21.78	24.35	26.67	28.81	30.80
TRAE	60	40.42	46.67	52.18	58.34	63.91	69.03	32.27	36.08	40.34	44.19	47.73	51.02	21.25	23.76	26.56	29.10	31.43	33.60
TRAE	70	48.11	55.55	62.11	69.44	76.07	82.16	38.41	42.94	48.01	52.60	56.81	60.73	25.29	28.28	31.61	34.63	37.40	39.99
TJR	14	10.09	11.65	13.03	14.56	15.95	17.23	8.05	9.00	10.06	11.02	11.91	12.73	5.30	5.93	6.63	7.26	7.84	8.38
TJR	18	12.08	13.95	15.60	17.44	19.10	20.63	9.64	10.78	12.05	13.20	14.26	15.24	6.35	7.10	7.94	8.70	9.39	10.04
TER	22	15.10	17.44	19.49	21.79	23.88	25.79	12.05	13.47	15.06	16.50	17.82	19.05	7.94	8.88	9.93	10.87	11.74	12.55
TER	26	17.84	20.60	23.03	25.75	28.21	30.47	14.25	15.93	17.81	19.51	21.08	22.53	9.38	10.49	11.73	12.84	13.87	14.83
TER	35	24.02	27.74	31.01	34.67	37.98	41.02	19.18	21.44	23.98	26.26	28.37	30.33	12.63	14.12	15.79	17.29	18.68	19.97
TER	45	30.88	35.66	39.87	44.57	48.83	52.74	24.66	27.57	30.83	33.77	36.47	38.99	16.24	18.16	20.30	22.24	24.02	25.68
TIR	55	37.75	43.59	48.74	54.49	59.69	64.47	30.13	33.69	37.66	41.26	44.56	47.64	19.84	22.18	24.80	27.17	29.34	31.37
THR	75	48.04	55.47	62.02	69.34	75.96	82.04	38.35	42.88	47.94	52.51	56.72	60.64	25.26	28.24	31.58	34.59	37.36	39.94
THR	85	58.33	67.35	75.30	84.19	92.23	99.62	46.57	52.07	58.21	63.77	68.88	73.63	30.67	34.29	38.34	42.00	45.36	48.49
TMR	100	68.63	79.25	88.60	99.06	108.51	117.21	54.79	61.26	68.49	75.02	81.04	86.63	36.08	40.34	45.10	49.40	53.36	57.05

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.37	0.43	0.48	0.53	0.59	0.63	0.37	0.43	0.48	0.53	0.59	0.63	0.35	0.40	0.45	0.51	0.55	0.60
BA/BN	3/4	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
BA/BN	1	1.11	1.28	1.43	1.60	1.76	1.90	1.09	1.26	1.41	1.57	1.72	1.86	1.04	1.20	1.34	1.50	1.64	1.78
BA/BN	1-1/2	1.48	1.71	1.91	2.14	2.34	2.53	1.45	1.67	1.87	2.09	2.29	2.48	1.39	1.61	1.79	2.01	2.20	2.37
BA/BN	2	1.87	2.16	2.41	2.70	2.96	3.19	1.84	2.12	2.38	2.66	2.91	3.14	1.76	2.03	2.27	2.54	2.78	3.01
BA/BN	2-1/4	2.27	2.62	2.93	3.28	3.59	3.88	2.22	2.56	2.87	3.20	3.51	3.79	2.13	2.46	2.75	3.07	3.37	3.64
BA/BN	3	2.94	3.39	3.80	4.24	4.65	5.02	2.88	3.33	3.72	4.16	4.55	4.92	2.75	3.18	3.55	3.97	4.35	4.70
BA/BN	3-1/2	3.72	4.30	4.80	5.37	5.88	6.35	3.64	4.20	4.70	5.25	5.76	6.22	3.48	4.02	4.49	5.02	5.50	5.94
BA/BN	4-1/4	4.62	5.33	5.96	6.67	7.30	7.89	4.53	5.23	5.85	6.54	7.16	7.74	4.33	5.00	5.59	6.25	6.85	7.39
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.36	0.21	0.24	0.27	0.30	0.33	0.36	0.20	0.23	0.26	0.29	0.32	0.34
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.39	0.45	0.50	0.56	0.62	0.67	0.37	0.43	0.48	0.53	0.59	0.63
HF	3/4	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
HF	1	1.09	1.26	1.41	1.57	1.72	1.86	1.06	1.22	1.37	1.53	1.68	1.81	1.02	1.18	1.32	1.47	1.61	1.74
HF	1-1/2	1.46	1.69	1.88	2.11	2.31	2.49	1.43	1.65	1.85	2.06	2.26	2.44	1.37	1.58	1.77	1.98	2.17	2.34
HF	1-3/4	1.87	2.16	2.41	2.70	2.96	3.19	1.84	2.12	2.38	2.66	2.91	3.14	1.76	2.03	2.27	2.54	2.78	3.01
HF	2-1/2	2.47	2.85	3.19	3.57	3.91	4.22	2.42	2.79	3.12	3.49	3.83	4.13	2.32	2.68	3.00	3.35	3.67	3.96
HF	4	4.40	5.08	5.68	6.35	6.96	7.51	4.31	4.98	5.56	6.22	6.81	7.36	4.12	4.76	5.32	5.95	6.51	7.04
HF	6	6.12	7.07	7.90	8.83	9.68	10.45	6.00	6.93	7.75	8.66	9.49	10.25	5.74	6.63	7.41	8.28	9.08	9.80
HF	7-1/2	7.75	8.95	10.01	11.19	12.25	13.24	7.59	8.76	9.80	10.96	12.00	12.96	7.26	8.38	9.37	10.48	11.48	12.40
HF	11	11.50	13.28	14.85	16.60	18.18	19.64	11.26	13.00	14.54	16.25	17.80	19.23	10.77	12.44	13.90	15.55	17.03	18.39
HF	14	15.13	17.47	19.53	21.84	23.92	25.84	14.82	17.11	19.13	21.39	23.43	25.31	14.18	16.37	18.31	20.47	22.42	24.22
TFE	6	6.01	6.94	7.76	8.67	9.50	10.26	5.89	6.80	7.60	8.50	9.31	10.06	5.63	6.50	7.27	8.13	8.90	9.62
TFE	8	8.23	9.50	10.62	11.88	13.01	14.06	8.06	9.31	10.41	11.63	12.74	13.77	7.71	8.90	9.95	11.13	12.19	13.17
TFE	10	10.22	11.80	13.19	14.75	16.16	17.45	10.01	11.56	12.92	14.45	15.83	17.10	9.57	11.05	12.35	13.81	15.13	16.34
TFE	15	15.60	18.01	20.14	22.52	24.67	26.64	15.28	17.64	19.73	22.05	24.16	26.10	14.61	16.87	18.86	21.09	23.10	24.95
TRAE+	9	8.84	10.21	11.41	12.76	13.98	15.10	8.66	10.00	11.18	12.50	13.69	14.79	8.29	9.57	10.70	11.97	13.11	14.16
TRAE+	13	12.89	14.88	16.64	18.61	20.38	22.01	12.63	14.58	16.31	18.23	19.97	21.57	12.08	13.95	15.60	17.44	19.10	20.63
TRAE+	14	14.39	16.62	18.58	20.77	22.75	24.58	14.09	16.27	18.19	20.34	22.28	24.06	13.48	15.57	17.40	19.46	21.31	23.02
TRAE+	22	21.81	25.18	28.16	31.48	34.48	37.25	21.36	24.66	27.58	30.83	33.77	36.48	20.43	23.59	26.38	29.49	32.30	34.89
TRAE+	30	29.98	34.62	38.70	43.27	47.40	51.20	29.36	33.90	37.90	42.38	46.42	50.14	28.09	32.44	36.26	40.54	44.41	47.97
TRAE	40	40.48	46.74	52.26	58.43	64.00	69.13	39.64	45.77	51.18	57.22	62.68	67.70	37.92	43.79	48.95	54.73	59.96	64.76
TRAE	45	44.15	50.98	57.00	63.73	69.81	75.40	43.24	49.93	55.82	62.41	68.37	73.85	41.36	47.76	53.40	59.70	65.40	70.64
TRAE	50	52.54	60.67	67.83	75.83	83.07	89.73	51.46	59.42	66.43	74.28	81.37	87.88	49.22	56.83	63.54	71.04	77.82	84.06
TJR	11	11.02	12.72	14.23	15.91	17.42	18.82	10.79	12.46	13.93	15.57	17.06	18.43	10.32	11.92	13.32	14.90	16.32	17.62
TJR	13	13.19	15.23	17.03	19.04	20.86	22.53	12.92	14.92	16.68	18.65	20.43	22.07	12.36	14.27	15.96	17.84	19.54	21.11
TER	16	16.49	19.04	21.29	23.80	26.07	28.16	16.15	18.65	20.85	23.31	25.54	27.58	15.45	17.84	19.95	22.30	24.43	26.39
TER	19	19.49	22.51	25.16	28.13	30.82	33.29	19.09	22.04	24.65	27.55	30.18	32.60	18.26	21.08	23.57	26.36	28.87	31.18
TER	25	26.23	30.29	33.86	37.86	41.47	44.80	25.69	29.66	33.17	37.08	40.62	43.87	24.58	28.38	31.73	35.48	38.86	41.98
TER	31	33.73	38.95	43.55	48.69	53.33	57.60	33.03	38.14	42.64	47.67	52.23	56.41	31.60	36.49	40.80	45.61	49.96	53.97
TIR	45	41.23	47.61	53.23	59.51	65.19	70.41	40.37	46.62	52.12	58.27	63.83	68.94	38.62	44.59	49.86	55.74	61.06	65.96
THR	55	52.47	60.59	67.74	75.73	82.96	89.61	51.38	59.33	66.33	74.16	81.24	87.75	49.15	56.75	63.45	70.94	77.71	83.94
THR	68	63.71	73.57	82.25	91.96	100.73	108.81	62.40	72.05	80.56	90.07	98.66	106.57	59.69	68.92	77.06	86.16	94.38	101.94
TMR	68	74.95	86.54	96.76	108.18	118.51	128.00	73.41	84.77	94.77	105.96	116.07	125.37	70.22	81.08	90.65	101.35	111.03	119.92

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.29	0.33	0.37	0.42	0.46	0.50	0.22	0.25	0.28	0.30	0.33	0.35	0.13	0.15	0.16	0.18	0.19	0.21
BA/BN	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
BA/BN	1	0.86	0.99	1.11	1.24	1.36	1.47	0.64	0.72	0.80	0.88	0.95	1.01	0.39	0.44	0.49	0.53	0.58	0.62
BA/BN	1-1/2	1.14	1.32	1.47	1.65	1.80	1.95	0.85	0.95	1.06	1.16	1.26	1.34	0.52	0.58	0.65	0.71	0.77	0.82
BA/BN	2	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
BA/BN	2-1/4	1.75	2.02	2.26	2.53	2.77	2.99	1.31	1.46	1.64	1.79	1.94	2.07	0.80	0.89	1.00	1.10	1.18	1.26
BA/BN	3	2.27	2.62	2.93	3.28	3.59	3.88	1.69	1.89	2.11	2.31	2.50	2.67	1.04	1.16	1.30	1.42	1.54	1.64
BA/BN	3-1/2	2.87	3.31	3.71	4.14	4.54	4.90	2.14	2.39	2.68	2.93	3.17	3.38	1.31	1.46	1.64	1.79	1.94	2.07
BA/BN	4-1/4	3.57	4.12	4.61	5.15	5.64	6.10	2.66	2.97	3.33	3.64	3.93	4.21	1.63	1.82	2.04	2.23	2.41	2.58
HF	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.12	0.13	0.15	0.16	0.18	0.19	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/2	0.31	0.36	0.40	0.45	0.49	0.53	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
HF	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
HF	1	0.84	0.97	1.08	1.21	1.33	1.43	0.63	0.70	0.79	0.86	0.93	1.00	0.38	0.42	0.48	0.52	0.56	0.60
HF	1-1/2	1.13	1.30	1.46	1.63	1.79	1.93	0.84	0.94	1.05	1.15	1.24	1.33	0.52	0.58	0.65	0.71	0.77	0.82
HF	1-3/4	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
HF	2-1/2	1.91	2.21	2.47	2.76	3.02	3.26	1.42	1.59	1.78	1.94	2.10	2.25	0.87	0.97	1.09	1.19	1.29	1.38
HF	4	3.39	3.91	4.38	4.89	5.36	5.79	2.53	2.83	3.16	3.46	3.74	4.00	1.55	1.73	1.94	2.12	2.29	2.45
HF	6	4.72	5.45	6.09	6.81	7.46	8.06	3.52	3.94	4.40	4.82	5.21	5.57	2.16	2.41	2.70	2.96	3.19	3.42
HF	7-1/2	5.98	6.91	7.72	8.63	9.46	10.21	4.46	4.99	5.58	6.11	6.60	7.05	2.74	3.06	3.43	3.75	4.05	4.33
HF	11	8.87	10.24	11.45	12.80	14.02	15.15	6.62	7.40	8.28	9.06	9.79	10.47	4.06	4.54	5.08	5.56	6.00	6.42
HF	14	11.67	13.48	15.07	16.84	18.45	19.93	8.71	9.74	10.89	11.93	12.88	13.77	5.34	5.97	6.68	7.31	7.90	8.44
TFE	6	4.64	5.36	5.99	6.70	7.34	7.92	3.46	3.87	4.33	4.74	5.12	5.47	2.12	2.37	2.65	2.90	3.14	3.35
TFE	8	6.35	7.33	8.20	9.17	10.04	10.84	4.74	5.30	5.93	6.49	7.01	7.49	2.91	3.25	3.64	3.98	4.30	4.60
TFE	10	7.88	9.10	10.17	11.37	12.46	13.46	5.88	6.57	7.35	8.05	8.70	9.30	3.61	4.04	4.51	4.94	5.34	5.71
TFE	15	12.03	13.89	15.53	17.36	19.02	20.55	8.97	10.03	11.21	12.28	13.27	14.18	5.51	6.16	6.89	7.54	8.15	8.71
TRAE+	9	6.82	7.88	8.80	9.84	10.78	11.65	5.09	5.69	6.36	6.97	7.53	8.05	3.12	3.49	3.90	4.27	4.61	4.93
TRAE+	13	9.94	11.48	12.83	14.35	15.72	16.98	7.42	8.30	9.28	10.16	10.97	11.73	4.55	5.09	5.69	6.23	6.73	7.19
TRAE+	14	11.1	12.82	14.33	16.02	17.55	18.96	8.28	9.26	10.35	11.34	12.25	13.09	5.08	5.68	6.35	6.96	7.51	8.03
TRAE+	22	16.82	19.42	21.71	24.28	26.59	28.73	12.55	14.03	15.69	17.18	18.56	19.84	7.70	8.61	9.63	10.54	11.39	12.17
TRAE+	30	23.12	26.70	29.85	33.37	36.56	39.48	17.25	19.29	21.56	23.62	25.51	27.27	10.59	11.84	13.24	14.50	15.66	16.74
TRAE	40	31.21	36.04	40.29	45.05	49.35	53.30	23.29	26.04	29.11	31.89	34.45	36.82	14.29	15.98	17.86	19.57	21.14	22.59
TRAE	45	34.04	39.31	43.95	49.13	53.82	58.13	25.40	28.40	31.75	34.78	37.57	40.16	15.59	17.43	19.49	21.35	23.06	24.65
TRAE	50	40.52	46.79	52.31	58.49	64.07	69.20	30.23	33.80	37.79	41.39	44.71	47.80	18.55	20.74	23.19	25.40	27.44	29.33
TJR	11	8.50	9.81	10.97	12.27	13.44	14.52	6.34	7.09	7.93	8.68	9.38	10.02	3.89	4.35	4.86	5.33	5.75	6.15
TJR	13	10.17	11.74	13.13	14.68	16.08	17.37	7.59	8.49	9.49	10.39	11.23	12.00	4.66	5.21	5.83	6.38	6.89	7.37
TER	16	12.72	14.69	16.42	18.36	20.11	21.72	9.49	10.61	11.86	12.99	14.04	15.01	5.82	6.51	7.28	7.97	8.61	9.20
TER	19	15.03	17.36	19.40	21.69	23.76	25.67	11.21	12.53	14.01	15.35	16.58	17.72	6.88	7.69	8.60	9.42	10.18	10.88
TER	25	20.23	23.36	26.12	29.20	31.99	34.55	15.09	16.87	18.86	20.66	22.32	23.86	9.26	10.35	11.58	12.68	13.70	14.64
TER	31	26.01	30.03	33.58	37.54	41.13	44.42	19.41	21.70	24.26	26.58	28.71	30.69	11.91	13.32	14.89	16.31	17.62	18.83
TIR	45	31.79	36.71	41.04	45.88	50.26	54.29	23.72	26.52	29.65	32.48	35.08	37.50	14.56	16.28	18.20	19.94	21.53	23.02
THR	55	40.46	46.72	52.23	58.40	63.97	69.10	30.19	33.75	37.74	41.34	44.65	47.73	18.53	20.72	23.16	25.37	27.41	29.30
THR	68	49.13	56.73	63.43	70.91	77.68	83.91	36.66	40.99	45.83	50.20	54.22	57.96	22.50	25.16	28.13	30.81	33.28	35.58
TMR	68	57.80	66.74	74.62	83.43	91.39	98.71	43.12	48.21	53.90	59.04	63.78	68.18	26.47	29.59	33.09	36.25	39.15	41.85

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

TXV Extended Capacity Tables

R-450A/R-513A Conventional Valves (Tons) B Series and HF Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.30	0.34	0.38	0.43	0.47	0.51	0.29	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.47
BA/BN	1/2	0.56	0.65	0.73	0.81	0.89	0.96	0.55	0.63	0.71	0.79	0.87	0.94	0.52	0.60	0.67	0.75	0.82	0.89
BA/BN	3/4	0.88	1.01	1.13	1.26	1.38	1.49	0.85	0.99	1.10	1.23	1.35	1.46	0.81	0.94	1.05	1.17	1.28	1.39
BA/BN	1	1.16	1.34	1.50	1.68	1.84	1.99	1.14	1.31	1.47	1.64	1.80	1.94	1.08	1.25	1.39	1.56	1.71	1.84
BA/BN	1-1/2	1.48	1.71	1.91	2.13	2.34	2.52	1.44	1.67	1.86	2.08	2.28	2.46	1.37	1.58	1.77	1.98	2.17	2.34
BA/BN	1-3/4	1.78	2.06	2.30	2.57	2.82	3.04	1.74	2.01	2.25	2.51	2.75	2.97	1.65	1.91	2.13	2.39	2.61	2.82
BA/BN	2-1/4	2.31	2.67	2.99	3.34	3.66	3.95	2.26	2.61	2.91	3.26	3.57	3.85	2.14	2.48	2.77	3.10	3.39	3.66
BA/BN	3	2.92	3.37	3.77	4.22	4.62	4.99	2.85	3.29	3.68	4.12	4.51	4.87	2.71	3.13	3.50	3.91	4.29	4.63
BA/BN	3-1/2	3.64	4.20	4.70	5.25	5.75	6.21	3.55	4.10	4.58	5.12	5.61	6.06	3.37	3.89	4.35	4.87	5.33	5.76
HF	1/5	0.17	0.19	0.22	0.24	0.27	0.29	0.16	0.19	0.21	0.24	0.26	0.28	0.16	0.18	0.20	0.23	0.25	0.27
HF	1/4	0.31	0.36	0.40	0.45	0.50	0.53	0.31	0.35	0.39	0.44	0.48	0.52	0.29	0.34	0.37	0.42	0.46	0.50
HF	1/2	0.56	0.65	0.73	0.81	0.89	0.96	0.55	0.63	0.71	0.79	0.87	0.94	0.52	0.60	0.67	0.75	0.82	0.89
HF	3/4	0.85	0.98	1.10	1.23	1.35	1.45	0.83	0.96	1.07	1.20	1.31	1.42	0.79	0.91	1.02	1.14	1.25	1.35
HF	1	1.15	1.33	1.48	1.66	1.82	1.96	1.12	1.29	1.45	1.62	1.77	1.91	1.06	1.23	1.37	1.54	1.68	1.82
HF	1-1/2	1.48	1.71	1.91	2.13	2.34	2.52	1.44	1.67	1.86	2.08	2.28	2.46	1.37	1.58	1.77	1.98	2.17	2.34
HF	2	1.94	2.24	2.51	2.80	3.07	3.32	1.90	2.19	2.45	2.74	3.00	3.24	1.80	2.08	2.33	2.60	2.85	3.08
HF	3-1/2	3.46	4.00	4.47	4.99	5.47	5.91	3.38	3.90	4.36	4.88	5.34	5.77	3.21	3.71	4.14	4.63	5.07	5.48
HF	4-1/2	4.82	5.56	6.22	6.95	7.62	8.23	4.70	5.43	6.07	6.79	7.44	8.03	4.47	5.16	5.77	6.45	7.06	7.63
HF	6	6.09	7.04	7.87	8.80	9.63	10.41	5.95	6.87	7.68	8.59	9.41	10.16	5.65	6.53	7.30	8.16	8.94	9.65
HF	9	9.04	10.44	11.67	13.05	14.29	15.44	8.82	10.19	11.39	12.74	13.95	15.07	8.38	9.68	10.82	12.10	13.26	14.32
HF	11-1/2	11.90	13.74	15.36	17.17	18.81	20.32	11.61	13.41	14.99	16.76	18.36	19.84	11.03	12.74	14.25	15.93	17.45	18.84

Note: Standard capacity is rate at 100F liquid inlet and 40F evaporator temperature; with 60 Psi pressure drop across the TXV.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.20	0.23	0.26	0.29	0.32	0.34	0.15	0.17	0.19	0.21	0.22	0.24	0.09	0.10	0.11	0.12	0.13	0.14
BA/BN	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.29	0.32	0.36	0.39	0.42	0.45	0.16	0.18	0.20	0.22	0.24	0.26
BA/BN	3/4	0.59	0.68	0.76	0.85	0.93	1.01	0.45	0.50	0.56	0.61	0.66	0.71	0.25	0.28	0.32	0.35	0.38	0.40
BA/BN	1	0.78	0.90	1.01	1.13	1.24	1.34	0.59	0.66	0.74	0.81	0.88	0.94	0.34	0.38	0.42	0.46	0.50	0.54
BA/BN	1-1/2	0.99	1.15	1.28	1.44	1.57	1.70	0.75	0.84	0.94	1.03	1.11	1.19	0.43	0.48	0.54	0.59	0.64	0.68
BA/BN	1-3/4	1.20	1.39	1.55	1.73	1.90	2.05	0.91	1.02	1.14	1.25	1.35	1.44	0.52	0.58	0.65	0.71	0.77	0.82
BA/BN	2-1/4	1.56	1.80	2.01	2.25	2.46	2.66	1.18	1.32	1.47	1.62	1.74	1.87	0.67	0.75	0.84	0.92	1.00	1.06
BA/BN	3	1.97	2.27	2.54	2.84	3.11	3.36	1.49	1.67	1.86	2.04	2.21	2.36	0.85	0.95	1.06	1.17	1.26	1.35
BA/BN	3-1/2	2.45	2.83	3.16	3.53	3.87	4.18	1.86	2.07	2.32	2.54	2.74	2.93	1.06	1.18	1.32	1.45	1.57	1.67
HF	1/5	0.11	0.13	0.15	0.16	0.18	0.19	0.09	0.10	0.11	0.12	0.13	0.14	0.05	0.05	0.06	0.07	0.07	0.08
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.36	0.16	0.18	0.20	0.22	0.24	0.25	0.09	0.10	0.11	0.12	0.13	0.14
HF	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.29	0.32	0.36	0.39	0.42	0.45	0.16	0.18	0.20	0.22	0.24	0.26
HF	3/4	0.57	0.66	0.74	0.83	0.91	0.98	0.43	0.49	0.54	0.59	0.64	0.69	0.25	0.28	0.31	0.34	0.37	0.39
HF	1	0.77	0.89	1.00	1.12	1.22	1.32	0.59	0.65	0.73	0.80	0.87	0.93	0.33	0.37	0.42	0.46	0.49	0.53
HF	1-1/2	0.99	1.15	1.28	1.44	1.57	1.70	0.75	0.84	0.94	1.03	1.11	1.19	0.43	0.48	0.54	0.59	0.64	0.68
HF	2	1.31	1.51	1.69	1.89	2.07	2.23	0.99	1.11	1.24	1.36	1.47	1.57	0.57	0.63	0.71	0.77	0.84	0.89
HF	3-1/2	2.33	2.69	3.01	3.36	3.68	3.98	1.77	1.97	2.21	2.42	2.61	2.79	1.01	1.13	1.26	1.38	1.49	1.59
HF	4-1/2	3.24	3.74	4.19	4.68	5.13	5.54	2.46	2.75	3.07	3.37	3.64	3.89	1.40	1.57	1.75	1.92	2.07	2.22
HF	6	4.10	4.74	5.30	5.92	6.49	7.01	3.11	3.48	3.89	4.26	4.60	4.92	1.77	1.98	2.22	2.43	2.62	2.81
HF	9	6.09	7.03	7.86	8.78	9.62	10.39	4.61	5.16	5.77	6.32	6.82	7.29	2.63	2.94	3.29	3.60	3.89	4.16
HF	11-1/2	8.01	9.25	10.34	11.56	12.66	13.68	6.07	6.79	7.59	8.31	8.98	9.60	3.46	3.87	4.33	4.74	5.12	5.48

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.10	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	.93	.85	.78	.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	.92	.85	.77	.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-404A/R-507 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175	
BA/BN	1/4	0.29	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.48	0.27	0.31	0.35	0.39	0.43	0.46
BA/BN	1/2	0.55	0.64	0.71	0.79	0.87	0.94	0.53	0.61	0.68	0.76	0.84	0.91	0.51	0.59	0.66	0.74	0.81	0.87
BA/BN	1	0.85	0.98	1.10	1.23	1.34	1.45	0.83	0.96	1.07	1.20	1.31	1.42	0.79	0.91	1.02	1.14	1.25	1.35
BA/BN	1-1/4	1.14	1.32	1.47	1.65	1.80	1.95	1.11	1.28	1.43	1.60	1.76	1.90	1.06	1.22	1.37	1.53	1.68	1.81
BA/BN	1-1/2	1.44	1.66	1.86	2.08	2.28	2.46	1.41	1.63	1.82	2.04	2.23	2.41	1.34	1.55	1.73	1.93	2.12	2.29
BA/BN	2	1.74	2.01	2.25	2.51	2.75	2.97	1.70	1.96	2.19	2.45	2.69	2.90	1.62	1.87	2.09	2.34	2.56	2.77
BA/BN	2-1/2	2.26	2.61	2.92	3.26	3.57	3.86	2.20	2.54	2.84	3.18	3.48	3.76	2.09	2.41	2.70	3.02	3.30	3.57
BA/BN	3	2.85	3.29	3.68	4.11	4.51	4.87	2.79	3.22	3.60	4.03	4.41	4.76	2.65	3.06	3.42	3.82	4.19	4.53
BA/BN	4	3.55	4.10	4.58	5.12	5.61	6.06	3.47	4.01	4.48	5.01	5.49	5.93	3.29	3.80	4.25	4.75	5.20	5.62
HF	1/8	0.16	0.18	0.21	0.23	0.25	0.27	0.16	0.18	0.21	0.23	0.25	0.27	0.15	0.17	0.19	0.22	0.24	0.26
HF	1/4	0.31	0.36	0.40	0.45	0.49	0.53	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
HF	1/2	0.55	0.64	0.71	0.79	0.87	0.94	0.53	0.61	0.68	0.76	0.84	0.91	0.51	0.59	0.66	0.74	0.81	0.87
HF	1	0.83	0.96	1.07	1.20	1.31	1.42	0.82	0.95	1.06	1.18	1.30	1.40	0.77	0.89	0.99	1.11	1.22	1.32
HF	1-1/4	1.12	1.29	1.45	1.62	1.77	1.91	1.10	1.27	1.42	1.59	1.74	1.88	1.04	1.20	1.34	1.50	1.64	1.78
HF	1-1/2	1.44	1.66	1.86	2.08	2.28	2.46	1.41	1.63	1.82	2.04	2.23	2.41	1.34	1.55	1.73	1.93	2.12	2.29
HF	2	1.90	2.19	2.45	2.74	3.00	3.24	1.86	2.15	2.40	2.68	2.94	3.18	1.76	2.03	2.27	2.54	2.78	3.01
HF	3-1/2	3.38	3.90	4.36	4.88	5.34	5.77	3.30	3.81	4.26	4.76	5.22	5.64	3.13	3.61	4.04	4.52	4.95	5.35
HF	5	4.70	5.43	6.07	6.78	7.43	8.03	4.59	5.30	5.93	6.63	7.26	7.84	4.36	5.03	5.63	6.29	6.89	7.45
HF	7	5.95	6.87	7.68	8.59	9.41	10.16	5.81	6.71	7.50	8.39	9.19	9.92	5.52	6.37	7.13	7.97	8.73	9.43
HF	10	8.83	10.20	11.40	12.75	13.96	15.08	8.62	9.95	11.13	12.44	13.63	14.72	8.19	9.46	10.57	11.82	12.95	13.99
HF	13	11.62	13.42	15.00	16.77	18.37	19.84	11.35	13.11	14.65	16.38	17.95	19.38	10.78	12.45	13.92	15.56	17.04	18.41
TFE	5	4.62	5.33	5.96	6.67	7.30	7.89	4.51	5.21	5.82	6.51	7.13	7.70	4.28	4.94	5.53	6.18	6.77	7.31
TFE	7	6.32	7.30	8.16	9.12	9.99	10.79	6.17	7.12	7.97	8.91	9.76	10.54	5.86	6.77	7.57	8.46	9.27	10.01
TFE	9	7.84	9.05	10.12	11.32	12.40	13.39	7.66	8.85	9.89	11.06	12.11	13.08	7.28	8.41	9.40	10.51	11.51	12.43
TFE	14	11.98	13.83	15.47	17.29	18.94	20.46	11.70	13.51	15.10	16.89	18.50	19.98	11.11	12.83	14.34	16.04	17.57	18.97
TRAE+	8	6.79	7.84	8.77	9.80	10.74	11.60	6.63	7.66	8.56	9.57	10.48	11.32	6.30	7.27	8.13	9.09	9.96	10.76
TRAE+	12	9.90	11.43	12.78	14.29	15.65	16.91	9.67	11.17	12.48	13.96	15.29	16.51	9.19	10.61	11.86	13.26	14.53	15.69
TRAE+	14	11.05	12.76	14.27	15.95	17.47	18.87	10.79	12.46	13.93	15.57	17.06	18.43	10.25	11.84	13.23	14.79	16.21	17.51
TRAE+	20	16.75	19.34	21.62	24.18	26.48	28.61	16.36	18.89	21.12	23.61	25.87	27.94	15.54	17.94	20.06	22.43	24.57	26.54
TRAE+	30	23.02	26.58	29.72	33.23	36.40	39.31	22.49	25.97	29.03	32.46	35.56	38.41	21.36	24.66	27.58	30.83	33.77	36.48
TRAE	35	31.08	35.89	40.12	44.86	49.14	53.08	30.36	35.06	39.19	43.82	48.00	51.85	28.84	33.30	37.23	41.63	45.60	49.25
TRAE	40	33.90	39.14	43.76	48.93	53.60	57.90	33.11	38.23	42.74	47.79	52.35	56.55	31.45	36.32	40.60	45.39	49.73	53.71
TRAE	50	40.34	46.58	52.08	58.23	63.78	68.89	39.41	45.51	50.88	56.88	62.31	67.31	37.44	43.23	48.33	54.04	59.20	63.94
TJR	9	8.46	9.77	10.92	12.21	13.38	14.45	8.26	9.54	10.66	11.92	13.06	14.11	7.85	9.06	10.13	11.33	12.41	13.41
TJR	12	10.13	11.70	13.08	14.62	16.02	17.30	9.89	11.42	12.77	14.27	15.64	16.89	9.40	10.85	12.14	13.57	14.86	16.05
TER	14	12.66	14.62	16.34	18.27	20.02	21.62	12.37	14.28	15.97	17.85	19.56	21.13	11.75	13.57	15.17	16.96	18.58	20.07
TER	16	14.96	17.27	19.31	21.59	23.65	25.55	14.62	16.88	18.87	21.10	23.12	24.97	13.88	16.03	17.92	20.03	21.95	23.70
TER	21	20.14	23.26	26.00	29.07	31.84	34.40	19.68	22.72	25.41	28.41	31.12	33.61	18.69	21.58	24.13	26.98	29.55	31.92
TER	27	25.90	29.91	33.44	37.38	40.95	44.23	25.30	29.21	32.66	36.52	40.00	43.21	24.03	27.75	31.02	34.68	37.99	41.04
TIR	37	31.65	36.55	40.86	45.68	50.04	54.05	30.92	35.70	39.92	44.63	48.89	52.81	29.37	33.91	37.92	42.39	46.44	50.16
THR	48	40.29	46.52	52.01	58.15	63.70	68.81	39.35	45.44	50.80	56.80	62.22	67.20	37.38	43.16	48.26	53.95	59.10	63.84
THR	60	48.92	56.49	63.16	70.61	77.35	83.55	47.78	55.17	61.68	68.96	75.55	81.60	45.39	52.41	58.60	65.51	71.77	77.52
TMR	60	57.55	66.45	74.30	83.07	90.99	98.29	56.22	64.92	72.58	81.15	88.89	96.01	53.40	61.66	68.94	77.08	84.43	91.20

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-404A/R-507 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.19	0.21	0.24	0.26	0.28	0.30	0.12	0.13	0.15	0.16	0.18	0.19
BA/BN	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.36	0.40	0.45	0.49	0.53	0.57	0.23	0.26	0.29	0.31	0.34	0.36
BA/BN	1	0.71	0.82	0.92	1.02	1.12	1.21	0.55	0.61	0.69	0.75	0.81	0.87	0.36	0.40	0.45	0.49	0.53	0.57
BA/BN	1-1/4	0.94	1.09	1.21	1.36	1.49	1.61	0.74	0.83	0.93	1.01	1.09	1.17	0.48	0.54	0.60	0.66	0.71	0.76
BA/BN	1-1/2	1.19	1.37	1.54	1.72	1.88	2.03	0.93	1.04	1.16	1.27	1.38	1.47	0.61	0.68	0.76	0.84	0.90	0.96
BA/BN	2	1.44	1.66	1.86	2.08	2.28	2.46	1.13	1.26	1.41	1.55	1.67	1.79	0.74	0.83	0.93	1.01	1.09	1.17
BA/BN	2-1/2	1.87	2.16	2.41	2.70	2.96	3.19	1.47	1.64	1.84	2.01	2.17	2.32	0.96	1.07	1.20	1.31	1.42	1.52
BA/BN	3	2.36	2.73	3.05	3.41	3.73	4.03	1.85	2.07	2.31	2.53	2.74	2.93	1.21	1.35	1.51	1.66	1.79	1.91
BA/BN	4	2.94	3.39	3.80	4.24	4.65	5.02	2.31	2.58	2.89	3.16	3.42	3.65	1.51	1.69	1.89	2.07	2.23	2.39
HF	1/8	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.13	0.14	0.15	0.16	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
HF	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.36	0.40	0.45	0.49	0.53	0.57	0.23	0.26	0.29	0.31	0.34	0.36
HF	1	0.69	0.80	0.89	1.00	1.09	1.18	0.54	0.60	0.68	0.74	0.80	0.85	0.35	0.39	0.44	0.48	0.52	0.55
HF	1-1/4	0.93	1.07	1.20	1.34	1.47	1.59	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
HF	1-1/2	1.19	1.37	1.54	1.72	1.88	2.03	0.93	1.04	1.16	1.27	1.38	1.47	0.61	0.68	0.76	0.84	0.90	0.96
HF	2	1.57	1.81	2.03	2.27	2.48	2.68	1.23	1.38	1.54	1.68	1.82	1.94	0.81	0.91	1.01	1.11	1.20	1.28
HF	3-1/2	2.80	3.23	3.61	4.04	4.43	4.78	2.19	2.45	2.74	3.00	3.24	3.46	1.43	1.60	1.79	1.96	2.11	2.26
HF	5	3.89	4.49	5.02	5.61	6.15	6.64	3.05	3.41	3.81	4.18	4.51	4.82	2.00	2.24	2.50	2.74	2.96	3.16
HF	7	4.93	5.69	6.36	7.12	7.80	8.42	3.87	4.33	4.84	5.30	5.72	6.12	2.53	2.83	3.16	3.46	3.74	4.00
HF	10	7.31	8.44	9.44	10.55	11.56	12.48	5.73	6.41	7.16	7.85	8.47	9.06	3.75	4.19	4.69	5.13	5.55	5.93
HF	13	9.62	11.11	12.42	13.89	15.21	16.43	7.55	8.44	9.44	10.34	11.17	11.94	4.93	5.51	6.16	6.75	7.29	7.80
TFE	5	3.82	4.41	4.93	5.51	6.04	6.52	3.00	3.35	3.75	4.11	4.44	4.74	1.96	2.19	2.45	2.68	2.90	3.10
TFE	7	5.23	6.04	6.75	7.55	8.27	8.93	4.10	4.58	5.13	5.61	6.06	6.48	2.68	3.00	3.35	3.67	3.96	4.24
TFE	9	6.50	7.51	8.39	9.38	10.28	11.10	5.10	5.70	6.38	6.98	7.54	8.06	3.33	3.72	4.16	4.56	4.93	5.27
TFE	14	9.92	11.45	12.81	14.32	15.68	16.94	7.78	8.70	9.73	10.65	11.51	12.30	5.08	5.68	6.35	6.96	7.51	8.03
TRAE+	8	5.62	6.49	7.26	8.11	8.89	9.60	4.41	4.93	5.51	6.04	6.52	6.97	2.88	3.22	3.60	3.94	4.26	4.55
TRAE+	12	8.20	9.47	10.59	11.84	12.97	14.00	6.43	7.19	8.04	8.80	9.51	10.17	4.20	4.70	5.25	5.75	6.21	6.64
TRAE+	14	9.15	10.57	11.81	13.21	14.47	15.63	7.18	8.03	8.98	9.83	10.62	11.35	4.69	5.24	5.86	6.42	6.94	7.42
TRAE+	20	13.87	16.02	17.91	20.02	21.93	23.69	10.88	12.16	13.60	14.90	16.09	17.20	7.11	7.95	8.89	9.74	10.52	11.24
TRAE+	30	19.06	22.01	24.61	27.51	30.14	32.55	14.95	16.71	18.69	20.47	22.11	23.64	9.77	10.92	12.21	13.38	14.45	15.45
TRAE	35	25.73	29.71	33.22	37.14	40.68	43.94	20.19	22.57	25.24	27.65	29.86	31.92	13.19	14.75	16.49	18.06	19.51	20.86
TRAE	40	28.07	32.41	36.24	40.52	44.38	47.94	22.02	24.62	27.53	30.15	32.57	34.82	14.39	16.09	17.99	19.70	21.28	22.75
TRAE	50	33.41	38.58	43.13	48.22	52.83	57.06	26.20	29.29	32.75	35.88	38.75	41.43	17.13	19.15	21.41	23.46	25.34	27.08
TJR	9	7.01	8.09	9.05	10.12	11.08	11.97	5.50	6.15	6.88	7.53	8.13	8.70	3.59	4.01	4.49	4.92	5.31	5.68
TJR	12	8.39	9.69	10.83	12.11	13.27	14.33	6.58	7.36	8.23	9.01	9.73	10.40	4.30	4.81	5.38	5.89	6.36	6.80
TER	14	10.48	12.10	13.53	15.13	16.57	17.90	8.22	9.19	10.28	11.26	12.16	13.00	5.30	5.93	6.63	7.26	7.84	8.38
TER	16	12.39	14.31	16.00	17.88	19.59	21.16	9.72	10.87	12.15	13.31	14.38	15.37	6.35	7.10	7.94	8.70	9.39	10.04
TER	21	16.68	19.26	21.53	24.08	26.37	28.49	13.08	14.62	16.35	17.91	19.35	20.68	8.55	9.56	10.69	11.71	12.65	13.52
TER	27	21.45	24.77	27.69	30.96	33.92	36.63	16.82	18.81	21.03	23.03	24.88	26.59	11.00	12.30	13.75	15.06	16.27	17.39
TIR	37	26.21	30.26	33.84	37.83	41.44	44.76	20.56	22.99	25.70	28.15	30.41	32.51	13.44	15.03	16.80	18.40	19.88	21.25
THR	48	33.36	38.52	43.07	48.15	52.75	56.97	26.17	29.26	32.71	35.83	38.71	41.38	17.10	19.12	21.38	23.42	25.29	27.04
THR	60	40.51	46.78	52.30	58.47	64.05	69.18	31.77	35.52	39.71	43.50	46.99	50.23	20.77	23.22	25.96	28.44	30.72	32.84
TMR	60	47.66	55.03	61.53	68.79	75.36	81.39	37.38	41.79	46.73	51.18	55.29	59.10	24.43	27.31	30.54	33.45	36.13	38.63

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-448A/R-449A (Tons) Balance Ported Valves - B Series and H Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175		
BA/BN	1/2	0.40	0.46	0.52	0.58	0.64	0.69	0.40	0.46	0.51	0.57	0.63	0.68	0.39	0.45	0.50	0.56	0.61	0.66
BA/BN	1	0.76	0.88	0.99	1.10	1.21	1.30	0.76	0.87	0.97	1.09	1.19	1.29	0.74	0.85	0.95	1.06	1.17	1.26
BA/BN	1-1/2	1.19	1.37	1.53	1.72	1.88	2.03	1.18	1.36	1.52	1.70	1.86	2.01	1.15	1.33	1.48	1.66	1.82	1.96
BA/BN	2	1.59	1.84	2.05	2.30	2.51	2.72	1.57	1.82	2.03	2.27	2.49	2.69	1.54	1.77	1.98	2.22	2.43	2.62
BA/BN	2-1/2	2.01	2.32	2.59	2.90	3.18	3.43	1.99	2.29	2.57	2.87	3.14	3.39	1.94	2.24	2.50	2.80	3.07	3.31
BA/BN	3	2.43	2.81	3.14	3.51	3.85	4.16	2.41	2.78	3.11	3.48	3.81	4.11	2.35	2.71	3.04	3.39	3.72	4.02
BA/BN	4	3.15	3.64	4.06	4.54	4.98	5.38	3.12	3.60	4.02	4.50	4.93	5.32	3.04	3.51	3.93	4.39	4.81	5.19
BA/BN	5	3.99	4.61	5.15	5.76	6.31	6.82	3.95	4.56	5.10	5.70	6.25	6.75	3.86	4.45	4.98	5.57	6.10	6.59
BA/BN	6	4.96	5.72	6.40	7.15	7.84	8.46	4.90	5.66	6.33	7.08	7.75	8.38	4.79	5.53	6.18	6.91	7.57	8.18
HF	1/4	0.22	0.26	0.29	0.32	0.36	0.38	0.22	0.26	0.29	0.32	0.35	0.38	0.22	0.25	0.28	0.31	0.34	0.37
HF	1/2	0.43	0.49	0.55	0.61	0.67	0.73	0.42	0.49	0.54	0.61	0.67	0.72	0.41	0.47	0.53	0.59	0.65	0.70
HF	1	0.76	0.88	0.99	1.10	1.21	1.30	0.76	0.87	0.97	1.09	1.19	1.29	0.74	0.85	0.95	1.06	1.17	1.26
HF	1-1/2	1.16	1.34	1.50	1.68	1.84	1.99	1.15	1.33	1.49	1.66	1.82	1.97	1.13	1.30	1.45	1.62	1.78	1.92
HF	2	1.57	1.82	2.03	2.27	2.49	2.69	1.56	1.80	2.01	2.25	2.46	2.66	1.52	1.76	1.96	2.20	2.40	2.60
HF	2-1/2	2.02	2.33	2.60	2.91	3.19	3.44	2.00	2.30	2.58	2.88	3.15	3.41	1.95	2.25	2.51	2.81	3.08	3.33
HF	3-1/2	2.66	3.07	3.43	3.84	4.20	4.54	2.63	3.04	3.40	3.80	4.16	4.49	2.57	2.97	3.32	3.71	4.06	4.39
HF	6	4.73	5.46	6.11	6.83	7.48	8.08	4.68	5.41	6.04	6.76	7.40	8.00	4.57	5.28	5.90	6.60	7.23	7.81
HF	8-1/2	6.58	7.60	8.49	9.50	10.40	11.23	6.51	7.52	8.40	9.40	10.29	11.12	6.36	7.34	8.20	9.17	10.05	10.85
HF	10-1/2	8.35	9.65	10.78	12.06	13.21	14.27	8.27	9.55	10.67	11.93	13.07	14.12	8.07	9.32	10.42	11.65	12.76	13.78
HF	16	12.37	14.28	15.97	17.85	19.56	21.13	12.24	14.14	15.80	17.67	19.36	20.91	11.95	13.80	15.43	17.25	18.89	20.41
HF	10	16.23	18.74	20.95	23.42	25.65	27.71	16.06	18.54	20.73	23.18	25.39	27.42	15.67	18.10	20.24	22.62	24.78	26.77

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV.

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)						Pressure Drop Across Valve (psi)					
60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200		
BA/BN	1/2	0.38	0.44	0.49	0.54	0.60	0.64	0.34	0.39	0.43	0.47	0.51	0.54	0.23	0.26	0.29	0.32	0.34	0.37
BA/BN	1	0.72	0.83	0.93	1.03	1.13	1.22	0.65	0.73	0.82	0.90	0.97	1.04	0.44	0.49	0.55	0.61	0.65	0.70
BA/BN	1-1/2	1.12	1.29	1.44	1.61	1.77	1.91	1.02	1.14	1.27	1.40	1.51	1.61	0.69	0.77	0.86	0.94	1.02	1.09
BA/BN	2	1.49	1.73	1.93	2.16	2.36	2.55	1.36	1.53	1.71	1.87	2.02	2.16	0.92	1.03	1.15	1.26	1.36	1.46
BA/BN	2-1/2	1.89	2.18	2.44	2.72	2.98	3.22	1.72	1.93	2.15	2.36	2.55	2.72	1.16	1.30	1.45	1.59	1.72	1.84
BA/BN	3	2.29	2.64	2.95	3.30	3.62	3.91	2.09	2.33	2.61	2.86	3.09	3.30	1.41	1.58	1.76	1.93	2.09	2.23
BA/BN	4	2.96	3.42	3.82	4.27	4.68	5.05	2.70	3.02	3.38	3.70	4.00	4.27	1.82	2.04	2.28	2.50	2.70	2.88
BA/BN	5	3.75	4.33	4.84	5.41	5.93	6.41	3.43	3.83	4.28	4.69	5.07	5.42	2.31	2.59	2.89	3.17	3.42	3.66
BA/BN	6	4.66	5.38	6.01	6.72	7.36	7.95	4.25	4.75	5.32	5.82	6.29	6.72	2.87	3.21	3.59	3.93	4.25	4.54
HF	1/4	0.21	0.24	0.27	0.31	0.33	0.36	0.19	0.22	0.24	0.26	0.29	0.31	0.13	0.15	0.16	0.18	0.19	0.21
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.37	0.41	0.46	0.50	0.54	0.58	0.25	0.28	0.31	0.34	0.36	0.39
HF	1	0.72	0.83	0.93	1.03	1.13	1.22	0.65	0.73	0.82	0.90	0.97	1.04	0.44	0.49	0.55	0.61	0.65	0.70
HF	1-1/2	1.09	1.26	1.41	1.58	1.73	1.87	1.00	1.12	1.25	1.37	1.48	1.58	0.67	0.75	0.84	0.92	1.00	1.07
HF	2	1.48	1.71	1.91	2.14	2.34	2.53	1.35	1.51	1.69	1.85	2.00	2.14	0.91	1.02	1.14	1.25	1.35	1.44
HF	2-1/2	1.89	2.19	2.45	2.73	3.00	3.24	1.73	1.93	2.16	2.37	2.56	2.74	1.17	1.31	1.46	1.60	1.73	1.85
HF	3-1/2	2.50	2.88	3.23	3.61	3.95	4.27	2.28	2.55	2.85	3.12	3.37	3.61	1.54	1.72	1.93	2.11	2.28	2.44
HF	6	4.45	5.13	5.74	6.42	7.03	7.59	4.06	4.54	5.07	5.56	6.00	6.42	2.74	3.06	3.43	3.75	4.05	4.33
HF	8-1/2	6.18	7.14	7.98	8.92	9.77	10.56	5.64	6.31	7.06	7.73	8.35	8.92	3.81	4.26	4.76	5.22	5.64	6.03
HF	10-1/2	7.85	9.06	10.13	11.33	12.41	13.41	7.17	8.01	8.96	9.81	10.60	11.33	4.84	5.41	6.05	6.63	7.16	7.65
HF	16	11.62	13.42	15.01	16.78	18.38	19.85	10.61	11.87	13.27	14.53	15.70	16.78	7.17	8.01	8.96	9.81	10.60	11.33
HF	10	15.25	17.61	19.68	22.01	24.11	26.04	13.92	15.56	17.40	19.06	20.59	22.01	9.40	10.51	11.75	12.87	13.90	14.86

Refrigerant Liquid Temperature Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.37	0.43	0.48	0.53	0.59	0.63	0.36	0.42	0.46	0.52	0.57	0.61
BA/BN	1	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16
BA/BN	1-1/2	1.12	1.29	1.45	1.62	1.77	1.91	1.10	1.27	1.42	1.59	1.74	1.88	1.05	1.21	1.36	1.52	1.66	1.79
BA/BN	2	1.49	1.72	1.92	2.15	2.36	2.54	1.47	1.70	1.90	2.12	2.32	2.51	1.41	1.63	1.82	2.04	2.23	2.41
BA/BN	2-1/2	1.88	2.17	2.43	2.71	2.97	3.21	1.85	2.14	2.39	2.67	2.93	3.16	1.78	2.06	2.30	2.57	2.81	3.04
BA/BN	3	2.28	2.63	2.94	3.29	3.60	3.89	2.24	2.59	2.89	3.23	3.54	3.83	2.15	2.48	2.78	3.10	3.40	3.67
BA/BN	4	2.96	3.42	3.82	4.27	4.68	5.06	2.90	3.35	3.74	4.19	4.59	4.95	2.79	3.22	3.60	4.03	4.41	4.76
BA/BN	5	3.74	4.32	4.83	5.40	5.91	6.39	3.67	4.24	4.74	5.30	5.80	6.27	3.52	4.06	4.54	5.08	5.57	6.01
BA/BN	6	4.65	5.37	6.00	6.71	7.35	7.94	4.57	5.28	5.90	6.60	7.23	7.80	4.38	5.06	5.65	6.32	6.93	7.48
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.36	0.21	0.24	0.27	0.30	0.33	0.36	0.20	0.23	0.26	0.29	0.32	0.34
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.39	0.45	0.50	0.56	0.62	0.67	0.38	0.44	0.49	0.55	0.60	0.65
HF	1	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16
HF	1-1/2	1.09	1.26	1.41	1.57	1.72	1.86	1.07	1.24	1.38	1.54	1.69	1.83	1.03	1.19	1.33	1.49	1.63	1.76
HF	2	1.47	1.70	1.90	2.12	2.32	2.51	1.44	1.66	1.86	2.08	2.28	2.46	1.39	1.61	1.79	2.01	2.20	2.37
HF	2-1/2	1.88	2.17	2.43	2.71	2.97	3.21	1.85	2.14	2.39	2.67	2.93	3.16	1.78	2.06	2.30	2.57	2.81	3.04
HF	3	2.49	2.88	3.21	3.59	3.94	4.25	2.44	2.82	3.15	3.52	3.86	4.17	2.35	2.71	3.03	3.39	3.72	4.01
HF	5-1/2	4.43	5.12	5.72	6.39	7.00	7.57	4.34	5.01	5.60	6.26	6.86	7.41	4.17	4.82	5.38	6.02	6.59	7.12
HF	8	6.16	7.11	7.95	8.89	9.74	10.52	6.05	6.99	7.81	8.73	9.57	10.33	5.81	6.71	7.50	8.39	9.19	9.92
HF	10	7.80	9.01	10.07	11.26	12.33	13.32	7.65	8.83	9.88	11.04	12.10	13.06	7.35	8.49	9.49	10.61	11.62	12.55
HF	15	11.57	13.36	14.94	16.70	18.29	19.76	11.35	13.11	14.65	16.38	17.95	19.38	10.90	12.59	14.07	15.73	17.23	18.62
HF	20	15.22	17.57	19.65	21.97	24.06	25.99	14.94	17.25	19.29	21.56	23.62	25.51	14.35	16.57	18.53	20.71	22.69	24.51
TFE	8	6.05	6.99	7.81	8.73	9.57	10.33	5.94	6.86	7.67	8.57	9.39	10.14	5.70	6.58	7.36	8.23	9.01	9.73
TFE	10	8.28	9.56	10.69	11.95	13.09	14.14	8.13	9.39	10.50	11.73	12.85	13.88	7.80	9.01	10.07	11.26	12.33	13.32
TFE	12	10.28	11.87	13.27	14.84	16.25	17.56	10.09	11.65	13.03	14.56	15.95	17.23	9.69	11.19	12.51	13.99	15.32	16.55
TFE	20	15.69	18.12	20.26	22.65	24.81	26.80	15.40	17.78	19.88	22.23	24.35	26.30	14.79	17.08	19.09	21.35	23.39	25.26
TRAE+	10	8.90	10.28	11.49	12.85	14.07	15.20	8.73	10.08	11.27	12.60	13.80	14.91	8.39	9.69	10.83	12.11	13.27	14.33
TRAE+	15	12.97	14.98	16.74	18.72	20.51	22.15	12.73	14.70	16.43	18.37	20.13	21.74	12.22	14.11	15.78	17.64	19.32	20.87
TRAE+	20	14.48	16.72	18.69	20.90	22.89	24.73	14.21	16.41	18.35	20.51	22.47	24.27	13.64	15.75	17.61	19.69	21.57	23.29
TRAE+	30	21.94	25.33	28.32	31.67	34.69	37.47	21.45	24.77	27.69	30.96	33.92	36.63	20.68	23.88	26.70	29.85	32.70	35.32
TRAE+	40	30.16	34.83	38.94	43.53	47.69	51.51	29.60	34.18	38.21	42.72	46.80	50.55	28.43	32.83	36.70	41.04	44.95	48.55
TRAE	50	40.71	47.01	52.56	58.76	64.37	69.53	39.97	46.15	51.60	57.69	63.20	68.26	38.37	44.31	49.54	55.38	60.67	65.53
TRAE	60	44.41	51.28	57.33	64.10	70.22	75.84	43.59	50.33	56.27	62.92	68.92	74.44	41.86	48.34	54.04	60.42	66.19	71.49
TRAE	70	52.85	61.03	68.23	76.28	83.56	90.26	51.88	59.91	66.98	74.88	82.03	88.60	49.82	57.53	64.32	71.91	78.77	85.08
TJR	14	11.08	12.79	14.30	15.99	17.52	18.92	10.88	12.56	14.05	15.70	17.20	18.58	10.45	12.07	13.49	15.08	16.52	17.85
TJR	18	13.27	15.32	17.13	19.15	20.98	22.66	13.03	15.05	16.82	18.81	20.60	22.25	12.51	14.45	16.15	18.06	19.78	21.36
TER	22	16.59	19.16	21.42	23.95	26.23	28.33	16.28	18.80	21.02	23.50	25.74	27.80	15.63	18.05	20.18	22.56	24.71	26.69
TER	26	19.60	22.63	25.30	28.29	30.99	33.47	19.24	22.22	24.84	27.77	30.42	32.86	18.48	21.34	23.86	26.67	29.22	31.56
TER	35	26.39	30.47	34.07	38.09	41.73	45.07	25.90	29.91	33.44	37.38	40.95	44.23	24.87	28.72	32.11	35.90	39.32	42.47
TER	45	33.93	39.18	43.80	48.97	53.65	57.95	33.30	38.45	42.99	48.06	52.65	56.87	31.98	36.93	41.29	46.16	50.56	54.62
TIR	55	41.47	47.89	53.54	59.86	65.57	70.82	40.71	47.01	52.56	58.76	64.37	69.53	39.08	45.13	50.45	56.41	61.79	66.74
THR	75	52.78	60.95	68.14	76.18	83.45	90.14	51.81	59.83	66.89	74.78	81.92	88.48	49.74	57.43	64.21	71.79	78.65	84.95
THR	100	64.08	73.99	82.73	92.49	101.32	109.44	62.91	72.64	81.22	90.80	99.47	107.44	60.40	69.74	77.98	87.18	95.50	103.15
TMR	100	75.39	87.05	97.33	108.82	119.20	128.75	74.01	85.46	95.55	106.82	117.02	126.40	71.06	82.05	91.74	102.57	112.36	121.36

Note: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.30	0.35	0.39	0.43	0.47	0.51	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
BA/BN	1	0.57	0.66	0.74	0.82	0.90	0.97	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
BA/BN	1-1/2	0.89	1.03	1.15	1.28	1.41	1.52	0.68	0.76	0.85	0.93	1.01	1.08	0.43	0.48	0.54	0.59	0.64	0.68
BA/BN	2	1.19	1.37	1.54	1.72	1.88	2.03	0.90	1.01	1.13	1.23	1.33	1.42	0.57	0.64	0.71	0.78	0.84	0.90
BA/BN	2-1/2	1.50	1.73	1.94	2.17	2.37	2.56	1.14	1.27	1.43	1.56	1.69	1.80	0.72	0.80	0.90	0.99	1.06	1.14
BA/BN	3	1.82	2.10	2.35	2.63	2.88	3.11	1.38	1.54	1.73	1.89	2.04	2.18	0.87	0.97	1.09	1.19	1.29	1.38
BA/BN	4	2.35	2.71	3.03	3.39	3.72	4.01	1.79	2.00	2.24	2.45	2.65	2.83	1.13	1.26	1.41	1.55	1.67	1.79
BA/BN	5	2.98	3.44	3.85	4.30	4.71	5.09	2.27	2.54	2.84	3.11	3.36	3.59	1.43	1.60	1.79	1.96	2.11	2.26
BA/BN	6	3.70	4.27	4.78	5.34	5.85	6.32	2.82	3.15	3.53	3.86	4.17	4.46	1.77	1.98	2.21	2.42	2.62	2.80
HF	1/4	0.17	0.20	0.22	0.25	0.27	0.29	0.13	0.15	0.16	0.18	0.19	0.21	0.08	0.09	0.10	0.11	0.12	0.13
HF	1/2	0.32	0.37	0.41	0.46	0.51	0.55	0.24	0.27	0.30	0.33	0.35	0.38	0.15	0.17	0.19	0.21	0.22	0.24
HF	1	0.57	0.66	0.74	0.82	0.90	0.97	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
HF	1-1/2	0.87	1.00	1.12	1.26	1.38	1.49	0.66	0.74	0.83	0.90	0.98	1.04	0.42	0.47	0.53	0.58	0.62	0.66
HF	2	1.17	1.35	1.51	1.69	1.85	2.00	0.89	1.00	1.11	1.22	1.32	1.41	0.56	0.63	0.70	0.77	0.83	0.89
HF	2-1/2	1.50	1.73	1.94	2.17	2.37	2.56	1.14	1.27	1.43	1.56	1.69	1.80	0.72	0.80	0.90	0.99	1.06	1.14
HF	3	1.98	2.29	2.56	2.86	3.13	3.38	1.51	1.69	1.89	2.07	2.23	2.39	0.95	1.06	1.19	1.30	1.41	1.50
HF	5-1/2	3.52	4.06	4.54	5.08	5.57	6.01	2.68	3.00	3.35	3.67	3.96	4.24	1.69	1.89	2.11	2.31	2.50	2.67
HF	8	4.90	5.66	6.33	7.07	7.75	8.37	3.73	4.17	4.66	5.11	5.52	5.90	2.35	2.63	2.94	3.22	3.48	3.72
HF	10	6.20	7.16	8.00	8.95	9.80	10.59	4.72	5.28	5.90	6.46	6.98	7.46	2.97	3.32	3.71	4.07	4.39	4.70
HF	15	9.20	10.62	11.88	13.28	14.55	15.71	7.01	7.84	8.76	9.60	10.37	11.08	4.41	4.93	5.51	6.04	6.52	6.97
HF	20	12.11	13.98	15.63	17.48	19.15	20.68	9.22	10.31	11.53	12.63	13.64	14.58	5.81	6.50	7.26	7.96	8.59	9.19
TFE	8	4.81	5.55	6.21	6.94	7.61	8.21	3.66	4.09	4.58	5.01	5.41	5.79	2.31	2.58	2.89	3.16	3.42	3.65
TFE	10	6.59	7.61	8.51	9.51	10.42	11.25	5.02	5.61	6.28	6.87	7.42	7.94	3.16	3.53	3.95	4.33	4.67	5.00
TFE	12	8.18	9.45	10.56	11.81	12.93	13.97	6.23	6.97	7.79	8.53	9.21	9.85	3.92	4.38	4.90	5.37	5.80	6.20
TFE	20	12.49	14.42	16.12	18.03	19.75	21.33	9.51	10.63	11.89	13.02	14.07	15.04	5.98	6.69	7.48	8.19	8.84	9.46
TRAE+	10	7.08	8.18	9.14	10.22	11.19	12.09	5.39	6.03	6.74	7.38	7.97	8.52	3.39	3.79	4.24	4.64	5.01	5.36
TRAE+	15	10.32	11.92	13.32	14.90	16.32	17.62	7.86	8.79	9.83	10.76	11.63	12.43	4.95	5.53	6.19	6.78	7.32	7.83
TRAE+	20	11.52	13.30	14.87	16.63	18.21	19.67	8.77	9.81	10.96	12.01	12.97	13.87	5.52	6.17	6.90	7.56	8.16	8.73
TRAE+	30	17.46	20.16	22.54	25.20	27.61	29.82	13.30	14.87	16.63	18.21	19.67	21.03	8.37	9.36	10.46	11.46	12.38	13.23
TRAE+	40	24.00	27.71	30.98	34.64	37.95	40.99	18.28	20.44	22.85	25.03	27.04	28.90	11.50	12.86	14.38	15.75	17.01	18.18
TRAE	50	32.40	37.41	41.83	46.77	51.23	55.33	24.67	27.58	30.84	33.78	36.49	39.01	15.53	17.36	19.41	21.27	22.97	24.56
TRAE	60	35.34	40.81	45.62	51.01	55.88	60.35	26.91	30.09	33.64	36.85	39.80	42.55	16.94	18.94	21.18	23.20	25.05	26.78
TRAE	70	42.06	48.57	54.30	60.71	66.50	71.83	32.03	35.81	40.04	43.86	47.37	50.64	20.16	22.54	25.20	27.61	29.82	31.88
TJR	14	8.82	10.18	11.39	12.73	13.95	15.06	6.72	7.51	8.40	9.20	9.94	10.63	4.23	4.73	5.29	5.79	6.26	6.69
TJR	18	10.56	12.19	13.63	15.24	16.70	18.03	8.04	8.99	10.05	11.01	11.89	12.71	5.06	5.66	6.33	6.93	7.48	8.00
TER	22	13.20	15.24	17.04	19.05	20.87	22.54	10.05	11.24	12.56	13.76	14.86	15.89	6.33	7.08	7.91	8.67	9.36	10.01
TER	26	15.60	18.01	20.14	22.52	24.67	26.64	11.88	13.28	14.85	16.27	17.57	18.78	7.48	8.36	9.35	10.24	11.06	11.83
TER	35	21.00	24.25	27.11	30.31	33.20	35.86	15.99	17.88	19.99	21.90	23.65	25.28	10.06	11.25	12.58	13.78	14.88	15.91
TER	45	27.00	31.18	34.86	38.97	42.69	46.11	20.56	22.99	25.70	28.15	30.41	32.51	12.94	14.47	16.18	17.72	19.14	20.46
TIR	55	33.00	38.11	42.60	47.63	52.18	56.36	25.13	28.10	31.41	34.41	37.17	39.73	15.82	17.69	19.78	21.66	23.40	25.01
THR	75	42.00	48.50	54.22	60.62	66.41	71.73	31.98	35.75	39.98	43.79	47.30	50.56	20.13	22.51	25.16	27.56	29.77	31.83
THR	100	51.00	58.89	65.84	73.61	80.64	87.10	38.84	43.42	48.55	53.18	57.45	61.41	24.44	27.32	30.55	33.47	36.15	38.64
TMR	100	60.00	69.28	77.46	86.60	94.87	102.47	45.69	51.08	57.11	62.56	67.58	72.24	28.76	32.15	35.95	39.38	42.54	45.47

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Balanced Ported Valves (Tons) – B Series

Valve Type	Nominal Rating	Evaporator Temperature																					
		50 °F						40 °F						20 °F									
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)									
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285	
BA/BN	1	0.8	1.0	1.1	1.2	1.3	1.4	1.6	0.8	1.0	1.1	1.2	1.3	1.4	1.5	0.8	1.0	1.1	1.1	1.1	1.3	1.4	1.5
	1-1/2	1.3	1.6	1.8	1.9	2.2	1.4	1.6	1.3	1.6	1.7	1.9	2.1	2.3	2.5	1.3	1.5	1.7	1.8	2.1	2.2	2.4	2.4
	2	1.8	2.2	2.5	2.6	3.0	3.2	3.5	1.8	2.2	2.4	2.6	3.0	3.2	3.5	1.7	2.1	2.4	2.6	2.9	3.1	3.4	3.4
	3	2.3	2.8	3.1	3.3	3.8	4.1	4.5	2.3	2.8	3.1	3.3	3.8	4.1	4.4	2.2	2.7	3.0	3.2	3.7	4.0	4.3	4.3
	3-1/2	3.0	3.6	4.0	4.3	5.0	5.3	5.8	2.9	3.6	4.0	4.3	4.9	5.3	5.7	2.9	3.5	3.9	4.2	4.8	5.1	5.6	5.6
	4-1/2	4.1	5.0	5.6	6.0	6.9	7.4	8.0	4.1	5.0	5.6	6.0	6.9	7.3	8.0	4.0	4.9	5.5	5.9	6.7	7.2	7.8	7.8
	6	5.1	6.1	6.9	7.4	8.5	9.0	9.9	5.0	6.1	6.8	7.3	8.4	9.0	9.8	4.9	5.9	6.7	7.2	8.2	8.8	9.6	9.6
7-1/2	6.2	7.5	8.5	9.1	10.4	11.1	12.1	6.2	7.5	8.4	9.0	10.3	11.0	12.0	6.0	7.3	8.2	8.8	10.1	10.8	11.8	11.8	

Note: Standard capacity is rated at 100 °F liquid inlet and 40 °F evap temperature; with 160 Psi pressure drop across TXV per ARI-750-2001. These ratings assume vapor free liquid entering the thermal expansion valve.

R-410A Balanced Ported Valves (Tons) – NXT Series

Valve Type	Nominal Rating Tons	Evaporator Temperature																					
		50 °F						40 °F						20 °F									
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)									
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285	
NXT-Series	1/2	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7
	1	0.7	0.8	0.9	1.0	1.2	1.2	1.3	0.7	0.8	0.9	1.0	1.1	1.2	1.3	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3
	1-1/2	1.0	1.3	1.4	1.5	1.7	1.9	2.0	1.0	1.2	1.4	1.5	1.7	1.8	2.0	1.0	1.2	1.4	1.5	1.7	1.8	2.0	2.0
	2	1.4	1.7	1.9	2.0	2.3	2.5	2.7	1.4	1.7	1.9	2.0	2.3	2.4	2.7	1.3	1.6	1.8	2.0	2.2	2.4	2.4	2.6
	3	2.1	2.5	2.8	3.0	3.5	3.7	4.0	2.1	2.5	2.8	3.0	3.4	3.7	4.0	2.0	2.4	2.7	2.9	3.4	3.6	3.9	3.9
	4	2.8	3.3	3.8	4.0	4.6	4.9	5.4	2.7	3.3	3.7	4.0	4.6	4.9	5.3	2.7	3.2	3.7	3.9	4.5	4.8	5.2	5.2
	5	3.5	4.2	4.7	5.0	5.8	6.2	6.7	3.4	4.1	4.7	5.0	5.7	6.1	6.7	3.3	4.1	4.6	4.9	5.6	6.0	6.5	6.5
	6	4.1	5.0	5.7	6.1	6.9	7.4	8.1	4.1	5.0	5.6	6.0	6.9	7.3	8.0	4.0	4.9	5.5	5.9	6.7	7.2	7.8	7.8
	7	4.8	5.9	6.6	7.1	8.1	8.6	9.4	4.8	5.8	6.5	7.0	8.0	8.6	9.3	4.7	5.7	6.4	6.8	7.8	8.4	9.1	9.1
	8	5.8	7.0	7.9	8.5	9.7	10.4	11.3	5.7	7.0	7.8	8.4	9.6	10.3	11.2	5.6	6.8	7.7	8.2	9.4	10.1	11.0	11.0
	10	7.1	8.6	9.7	10.4	11.9	12.7	13.9	7.1	8.5	9.6	10.3	11.8	12.6	13.8	6.9	8.4	9.4	10.1	11.6	12.4	13.5	13.5
	12	8.7	10.6	11.9	12.7	14.6	15.6	17.0	8.6	10.5	11.8	12.6	14.5	15.5	16.9	8.5	10.2	11.6	12.4	14.2	15.1	16.5	16.5
	15	10.2	12.4	14.0	14.9	17.1	18.3	19.9	10.1	12.3	13.8	14.8	16.9	18.1	19.7	9.9	12.0	13.5	14.5	16.6	17.7	19.3	19.3

Note: Standard capacity is rated at 100 °F liquid inlet and 40 °F evap temperature; with 160 Psi pressure drop across TXV per ARI-750-2001. These ratings assume vapor free liquid entering the thermal expansion valve.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

R-410A Correction Factor	Refrigerant Liquid Temperature °F									
	50	60	70	80	90	100	110	120	130	140
	1.37	1.30	1.23	1.15	1.08	1.00	0.92	0.84	0.75	0.65

These factors include corrections for liquid refrigerant density and net refrigeration effect, and are based on an average evaporator temperature of 0°F with a maximum 7°F Change in Superheat. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-502 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41
BA/BN	1/2	0.49	0.57	0.63	0.71	0.77	0.84	0.48	0.55	0.62	0.69	0.76	0.82	0.46	0.53	0.59	0.66	0.73	0.79
BA/BN	1	0.76	0.88	0.98	1.10	1.20	1.30	0.74	0.85	0.96	1.07	1.17	1.26	0.71	0.82	0.92	1.02	1.12	1.21
BA/BN	1-1/4	1.02	1.18	1.32	1.47	1.61	1.74	0.99	1.14	1.28	1.43	1.57	1.69	0.95	1.10	1.23	1.37	1.50	1.62
BA/BN	1-1/2	1.28	1.48	1.65	1.85	2.02	2.19	1.26	1.45	1.63	1.82	1.99	2.15	1.20	1.39	1.55	1.73	1.90	2.05
BA/BN	2	1.55	1.79	2.00	2.24	2.45	2.65	1.52	1.76	1.96	2.19	2.40	2.60	1.45	1.67	1.87	2.09	2.29	2.48
BA/BN	2-1/2	2.01	2.32	2.59	2.90	3.18	3.43	1.97	2.27	2.54	2.84	3.11	3.36	1.88	2.17	2.43	2.71	2.97	3.21
BA/BN	3	2.54	2.93	3.28	3.67	4.02	4.34	2.49	2.88	3.21	3.59	3.94	4.25	2.38	2.75	3.07	3.44	3.76	4.06
BA/BN	4	3.17	3.66	4.09	4.58	5.01	5.41	3.10	3.58	4.00	4.47	4.90	5.29	2.96	3.42	3.82	4.27	4.68	5.06
HF	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
HF	1/4	0.27	0.31	0.35	0.39	0.43	0.46	0.27	0.31	0.35	0.39	0.43	0.46	0.25	0.29	0.32	0.36	0.40	0.43
HF	1/2	0.49	0.57	0.63	0.71	0.77	0.84	0.48	0.55	0.62	0.69	0.76	0.82	0.46	0.53	0.59	0.66	0.73	0.79
HF	1	0.74	0.85	0.96	1.07	1.17	1.26	0.73	0.84	0.94	1.05	1.15	1.25	0.70	0.81	0.90	1.01	1.11	1.20
HF	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.93	1.07	1.20	1.34	1.47	1.59
HF	1-1/2	1.28	1.48	1.65	1.85	2.02	2.19	1.26	1.45	1.63	1.82	1.99	2.15	1.20	1.39	1.55	1.73	1.90	2.05
HF	2	1.69	1.95	2.18	2.44	2.67	2.89	1.66	1.92	2.14	2.40	2.62	2.83	1.58	1.82	2.04	2.28	2.50	2.70
HF	3-1/2	3.01	3.48	3.89	4.34	4.76	5.14	2.95	3.41	3.81	4.26	4.66	5.04	2.81	3.24	3.63	4.06	4.44	4.80
HF	5	4.19	4.84	5.41	6.05	6.62	7.16	4.10	4.73	5.29	5.92	6.48	7.00	3.92	4.53	5.06	5.66	6.20	6.69
HF	7	5.30	6.12	6.84	7.65	8.38	9.05	5.19	5.99	6.70	7.49	8.21	8.86	4.96	5.73	6.40	7.16	7.84	8.47
HF	10	7.87	9.09	10.16	11.36	12.44	13.44	7.70	8.89	9.94	11.11	12.17	13.15	7.35	8.49	9.49	10.61	11.62	12.55
HF	13	10.36	11.96	13.37	14.95	16.38	17.69	10.14	11.71	13.09	14.64	16.03	17.32	9.68	11.18	12.50	13.97	15.31	16.53
TFE	5	4.11	4.75	5.31	5.93	6.50	7.02	4.03	4.65	5.20	5.82	6.37	6.88	3.84	4.43	4.96	5.54	6.07	6.56
TFE	7	5.63	6.50	7.27	8.13	8.90	9.62	5.51	6.36	7.11	7.95	8.71	9.41	5.26	6.07	6.79	7.59	8.32	8.98
TFE	9	6.99	8.07	9.02	10.09	11.05	11.94	6.85	7.91	8.84	9.89	10.83	11.70	6.53	7.54	8.43	9.43	10.32	11.15
TFE	14	10.68	12.33	13.79	15.42	16.89	18.24	10.45	12.07	13.49	15.08	16.52	17.85	9.97	11.51	12.87	14.39	15.76	17.03
TRAE+	8	6.05	6.99	7.81	8.73	9.57	10.33	5.93	6.85	7.66	8.56	9.38	10.13	5.66	6.54	7.31	8.17	8.95	9.67
TRAE+	12	8.82	10.18	11.39	12.73	13.95	15.06	8.64	9.98	11.15	12.47	13.66	14.76	8.24	9.51	10.64	11.89	13.03	14.07
TRAE+	14	9.85	11.37	12.72	14.22	15.57	16.82	9.64	11.13	12.45	13.91	15.24	16.46	9.20	10.62	11.88	13.28	14.55	15.71
TRAE+	20	14.93	17.24	19.27	21.55	23.61	25.50	14.61	16.87	18.86	21.09	23.10	24.95	13.95	16.11	18.01	20.14	22.06	23.82
TRAE+	30	20.52	23.69	26.49	29.62	32.44	35.04	20.09	23.20	25.94	29.00	31.77	34.31	19.17	22.14	24.75	27.67	30.31	32.74
TRAE	35	27.70	31.99	35.76	39.98	43.80	47.31	27.12	31.32	35.01	39.14	42.88	46.32	25.88	29.88	33.41	37.35	40.92	44.20
TRAE	40	30.22	34.90	39.01	43.62	47.78	51.61	29.58	34.16	38.19	42.70	46.77	50.52	28.23	32.60	36.44	40.75	44.64	48.21
TRAE	50	35.96	41.52	46.42	51.90	56.86	61.41	35.21	40.66	45.46	50.82	55.67	60.13	35.21	40.66	45.46	50.82	55.67	60.13
TJR	9	7.54	8.71	9.73	10.88	11.92	12.88	7.38	8.52	9.53	10.65	11.67	12.60	7.05	8.14	9.10	10.18	11.15	12.04
TJR	12	9.03	10.43	11.66	13.03	14.28	15.42	8.84	10.21	11.41	12.76	13.98	15.10	8.44	9.75	10.90	12.19	13.35	14.42
TER	14	11.29	13.04	14.58	16.30	17.85	19.28	11.05	12.76	14.27	15.95	17.47	18.87	10.56	12.19	13.63	15.24	16.70	18.03
TER	16	13.34	15.40	17.22	19.25	21.09	22.78	13.06	15.08	16.86	18.85	20.65	22.30	12.48	14.41	16.11	18.01	19.73	21.31
TER	21	17.96	20.74	23.19	25.92	28.40	30.67	17.58	20.30	22.70	25.37	27.80	30.02	16.80	19.39	21.68	24.24	26.56	28.69
TER	27	23.09	26.66	29.81	33.33	36.51	39.43	22.60	26.10	29.18	32.62	35.73	38.60	21.59	24.93	27.87	31.16	34.14	36.87
TIR	37	28.22	32.59	36.43	40.73	44.62	48.19	27.62	31.89	35.66	39.87	43.67	47.17	26.39	30.47	34.06	38.08	41.72	45.06
THR	48	35.91	41.47	46.36	51.83	56.78	61.33	35.15	40.59	45.38	50.73	55.58	60.03	33.58	38.77	43.35	48.47	53.09	57.35
THR	60	43.61	50.36	56.30	62.95	68.95	74.48	42.69	49.29	55.11	61.62	67.50	72.91	40.78	47.09	52.64	58.86	64.48	69.64
TMR	60	51.30	59.24	66.23	74.05	81.11	87.61	50.22	57.99	64.83	72.49	79.40	85.77	47.97	55.39	61.93	69.24	75.85	81.92

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-502 Balanced Ported Valves (Tons)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.17	0.19	0.21	0.23	0.25	0.27	0.11	0.12	0.14	0.15	0.16	0.17
BA/BN	1/2	0.42	0.48	0.54	0.61	0.66	0.72	0.33	0.37	0.41	0.45	0.49	0.52	0.21	0.23	0.26	0.29	0.31	0.33
BA/BN	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.33	0.37	0.41	0.45	0.49	0.52
BA/BN	1-1/4	0.87	1.00	1.12	1.26	1.38	1.49	0.69	0.77	0.86	0.94	1.02	1.09	0.44	0.49	0.55	0.60	0.65	0.70
BA/BN	1-1/2	1.10	1.27	1.42	1.59	1.74	1.88	0.87	0.97	1.09	1.19	1.29	1.38	0.55	0.61	0.69	0.75	0.81	0.87
BA/BN	2	1.34	1.55	1.73	1.93	2.12	2.29	1.05	1.17	1.31	1.44	1.55	1.66	0.67	0.75	0.84	0.92	0.99	1.06
BA/BN	2-1/2	1.73	2.00	2.23	2.50	2.74	2.95	1.36	1.52	1.70	1.86	2.01	2.15	0.87	0.97	1.09	1.19	1.29	1.38
BA/BN	3	2.19	2.53	2.83	3.16	3.46	3.74	1.73	1.93	2.16	2.37	2.56	2.74	1.10	1.23	1.38	1.51	1.63	1.74
BA/BN	4	2.72	3.14	3.51	3.93	4.30	4.65	2.15	2.40	2.69	2.94	3.18	3.40	1.37	1.53	1.71	1.88	2.03	2.17
HF	1/8	0.12	0.14	0.15	0.17	0.19	0.20	0.10	0.11	0.13	0.14	0.15	0.16	0.06	0.07	0.08	0.08	0.09	0.09
HF	1/4	0.23	0.27	0.30	0.33	0.36	0.39	0.18	0.20	0.23	0.25	0.27	0.28	0.12	0.13	0.15	0.16	0.18	0.19
HF	1/2	0.42	0.48	0.54	0.61	0.66	0.72	0.33	0.37	0.41	0.45	0.49	0.52	0.21	0.23	0.26	0.29	0.31	0.33
HF	1	0.64	0.74	0.83	0.92	1.01	1.09	0.50	0.56	0.63	0.68	0.74	0.79	0.32	0.36	0.40	0.44	0.47	0.51
HF	1-1/4	0.86	0.99	1.11	1.24	1.36	1.47	0.68	0.76	0.85	0.93	1.01	1.08	0.43	0.48	0.54	0.59	0.64	0.68
HF	1-1/2	1.10	1.27	1.42	1.59	1.74	1.88	0.87	0.97	1.09	1.19	1.29	1.38	0.55	0.61	0.69	0.75	0.81	0.87
HF	2	1.46	1.69	1.88	2.11	2.31	2.49	1.15	1.29	1.44	1.57	1.70	1.82	0.73	0.82	0.91	1.00	1.08	1.15
HF	2-1/2	2.59	2.99	3.34	3.74	4.10	4.42	1.65	1.84	2.06	2.26	2.44	2.61	1.30	1.45	1.63	1.78	1.92	2.06
HF	5	3.60	4.16	4.65	5.20	5.69	6.15	2.84	3.18	3.55	3.89	4.20	4.49	1.81	2.02	2.26	2.48	2.68	2.86
HF	7	4.56	5.27	5.89	6.58	7.21	7.79	3.60	4.02	4.50	4.93	5.32	5.69	2.29	2.56	2.86	3.14	3.39	3.62
HF	10	6.76	7.81	8.73	9.76	10.69	11.54	5.34	5.97	6.68	7.31	7.90	8.44	3.40	3.80	4.25	4.66	5.03	5.38
HF	13	8.90	10.28	11.49	12.85	14.07	15.20	7.03	7.86	8.79	9.63	10.40	11.12	4.48	5.01	5.60	6.13	6.63	7.08
TFE	5	3.54	4.09	4.57	5.11	5.60	6.05	2.79	3.12	3.49	3.82	4.13	4.41	1.78	1.99	2.23	2.44	2.63	2.81
TFE	7	4.84	5.59	6.25	6.99	7.65	8.27	3.82	4.27	4.78	5.23	5.65	6.04	2.43	2.72	3.04	3.33	3.59	3.84
TFE	9	6.01	6.94	7.76	8.67	9.50	10.26	4.75	5.31	5.94	6.50	7.03	7.51	3.02	3.38	3.78	4.14	4.47	4.78
TFE	14	9.18	10.60	11.85	13.25	14.51	15.68	7.25	8.11	9.06	9.93	10.72	11.46	4.61	5.15	5.76	6.31	6.82	7.29
TRAE+	8	5.20	6.00	6.71	7.51	8.22	8.88	4.11	4.60	5.14	5.63	6.08	6.50	2.62	2.93	3.28	3.59	3.88	4.14
TRAE+	12	7.58	8.75	9.79	10.94	11.99	12.95	5.99	6.70	7.49	8.20	8.86	9.47	3.81	4.26	4.76	5.22	5.64	6.02
TRAE+	14	8.47	9.78	10.93	12.23	13.39	14.47	6.69	7.48	8.36	9.16	9.89	10.58	4.26	4.76	5.33	5.83	6.30	6.74
TRAE+	20	12.83	14.81	16.56	18.52	20.29	21.91	10.13	11.33	12.66	13.87	14.98	16.02	6.45	7.21	8.06	8.83	9.54	10.20
TRAE+	30	17.64	20.37	22.77	25.46	27.89	30.13	13.93	15.57	17.41	19.07	20.60	22.03	8.87	9.92	11.09	12.15	13.12	14.02
TRAE	35	23.81	27.49	30.74	34.37	37.65	40.66	18.80	21.02	23.50	25.74	27.81	29.73	11.97	13.38	14.96	16.39	17.70	18.93
TRAE	40	25.97	29.99	33.53	37.48	41.06	44.35	20.51	22.93	25.64	28.08	30.33	32.43	13.06	14.60	16.33	17.88	19.32	20.65
TRAE	50	30.91	35.69	39.90	44.61	48.87	52.79	24.41	27.29	30.51	33.42	36.10	38.60	15.54	17.37	19.43	21.28	22.98	24.57
TJR	9	6.70	7.74	8.65	9.67	10.59	11.44	7.31	8.17	9.14	10.01	10.81	11.56	6.89	7.70	8.61	9.43	10.19	11.56
TJR	12	8.02	9.26	10.36	11.58	12.68	13.70	8.75	9.78	10.94	11.98	12.94	13.84	8.25	9.22	10.31	11.29	12.20	13.84
TER	14	10.03	11.58	12.95	14.48	15.86	17.13	10.95	12.24	13.68	14.99	16.19	17.31	10.31	11.53	12.89	14.12	15.26	17.31
TER	16	11.85	13.59	15.30	17.11	18.74	20.24	12.93	14.46	16.16	17.71	19.13	20.45	12.19	13.63	15.23	16.69	18.02	20.45
TER	21	15.96	18.43	20.60	23.03	25.23	27.26	17.14	19.47	21.76	23.84	25.75	27.53	16.41	18.35	20.51	22.47	24.27	27.53
TER	27	20.51	23.69	26.48	29.61	32.44	35.04	22.38	25.02	27.98	30.65	33.10	35.39	21.09	23.58	26.37	28.88	31.20	35.39
TIR	37	25.07	28.95	32.37	36.19	39.64	42.82	27.35	30.58	34.19	37.45	40.45	43.25	25.78	28.82	32.22	35.30	38.12	43.25
THR	48	31.90	36.84	41.19	46.05	50.44	54.49	34.81	38.92	43.51	47.66	51.48	55.04	32.80	36.67	41.00	44.92	48.52	55.04
THR	60	38.74	44.74	50.02	55.92	61.26	66.71	42.27	47.26	52.84	57.88	62.52	66.84	39.84	44.54	49.79	54.55	58.92	66.84
TMR	60	45.58	52.63	58.84	65.79	72.07	77.84	49.73	55.60	62.84	68.09	73.55	78.62	46.86	52.39	58.58	64.17	69.31	78.62

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Balance Ported Valves (Tons) - TFE Series

Valve Type	Nominal Rating	Evaporator Temperature																				
		50 °F							40 °F							20 °F						
		Pressure Drop Across Valve (PSI)							Pressure Drop Across Valve (PSI)							Pressure Drop Across Valve (PSI)						
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285
TFES	12	8.1	9.9	11.1	11.9	13.6	14.6	15.9	8.1	9.8	11.0	11.8	13.5	14.5	15.7	7.9	9.6	10.8	11.5	13.2	14.1	15.4
	16	12.4	15.0	16.9	18.1	20.7	22.1	24.1	12.3	14.8	16.7	17.9	20.5	21.9	23.9	12.0	14.5	16.4	17.5	20.1	21.5	23.4
	20	13.3	16.1	18.2	19.5	22.3	23.8	26.0	13.2	16.0	18.1	19.3	22.1	23.6	25.8	12.9	15.7	17.7	18.9	21.6	23.1	25.2
Valve Type	Nominal Rating	Evaporator Temperature																				
		0 °F							-20 °F							-40 °F						
		Pressure Drop Across Valve (PSI)							Pressure Drop Across Valve (PSI)							Pressure Drop Across Valve (PSI)						
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285
TFES	12	7.7	9.3	10.5	11.2	12.9	13.8	15.0	7.5	9.0	10.2	10.9	12.5	13.3	14.5	7.2	8.7	9.8	10.5	12.0	12.9	14.0
	16	11.7	14.1	16.0	17.1	19.5	20.9	22.8	11.3	13.7	15.5	16.5	18.9	20.2	22.1	10.9	13.2	14.9	15.9	18.3	19.5	21.3
	20	12.6	15.2	17.2	18.4	21.1	22.5	24.5	12.2	14.8	16.7	17.8	20.4	21.8	23.8	11.8	14.3	16.1	17.2	19.7	21.1	22.9

Note: Standard capacity is rated at 100 °F liquid inlet and 40 °F evap temperature; with 160 Psi pressure drop across TXV per ARI 750-2001. These ratings assume vapor free liquid entering the thermal expansion valve.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0 °F. However, they may be used for any evaporator temperature from -40 °F to +40 °F since the variation in the actual factors across this range is insignificant.

R-12 Conventional Valves (kWatts) – A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC	1/8	0.71	0.87	0.94	1.00	1.12	1.17	0.71	0.87	0.94	1.00	1.12	1.17	0.67	0.82	0.89	0.95	1.06	1.12
AA/AN/AAC/ANC/AFA	1/4	1.24	1.52	1.64	1.75	1.96	2.05	1.20	1.47	1.59	1.70	1.90	2.00	1.17	1.43	1.55	1.65	1.85	1.94
AA/AN/AAC/ANC/AFA	1/2	1.98	2.43	2.62	2.80	3.13	3.29	1.95	2.38	2.58	2.75	3.08	3.23	1.88	2.30	2.48	2.65	2.97	3.11
AA/AN/AAC/ANC/AFA	1	2.83	3.47	3.75	4.01	4.48	4.70	2.80	3.43	3.70	3.95	4.42	4.64	2.69	3.30	3.56	3.80	4.25	4.46
AA/AN/AAC/ANC/AFA	1-1/2	5.88	7.20	7.77	8.31	9.29	9.74	5.77	7.07	7.63	8.16	9.12	9.57	5.52	6.76	7.31	7.81	8.73	9.16
AA/AN/AAC/ANC/AFA	2	7.22	8.84	9.55	10.21	11.42	11.98	7.08	8.67	9.37	10.01	11.19	11.74	6.80	8.32	8.99	9.61	10.75	11.27
AA/AN/AAC/ANC	2-1/2	8.57	10.49	11.33	12.12	13.55	14.21	8.39	10.28	11.10	11.86	13.27	13.91	8.07	9.89	10.68	11.41	12.76	13.38
AA/AN/AAC/ANC/AFA	3	11.72	14.35	15.50	16.57	18.53	19.43	11.47	14.05	15.17	16.22	18.14	19.02	11.01	13.48	14.56	15.57	17.41	18.26
TCLE	1/4	1.06	1.30	1.40	1.50	1.68	1.76	1.06	1.30	1.40	1.50	1.68	1.76	0.99	1.21	1.31	1.40	1.57	1.64
TCLE	1/2	2.02	2.47	2.67	2.85	3.19	3.35	1.98	2.43	2.62	2.80	3.13	3.29	1.88	2.30	2.48	2.65	2.97	3.11
TCLE	1	4.07	4.99	5.39	5.76	6.44	6.75	4.00	4.90	5.29	5.66	6.32	6.63	3.82	4.68	5.06	5.41	6.05	6.34
TCLE	2	7.50	9.19	9.93	10.61	11.87	12.45	7.36	9.02	9.74	10.41	11.64	12.21	7.04	8.63	9.32	9.96	11.14	11.68
TCLE	3	10.94	13.40	14.47	15.47	17.30	18.14	10.73	13.14	14.19	15.17	16.96	17.79	10.27	12.57	13.58	14.52	16.23	17.02
TCLE	4	15.86	19.42	20.98	22.43	25.08	26.30	15.54	19.03	20.56	21.98	24.57	25.77	14.90	18.25	19.72	21.08	23.56	24.71
TCLE	6-1/2	21.84	26.75	28.89	30.89	34.53	36.22	21.42	26.23	28.33	30.29	33.86	35.52	20.53	25.15	27.16	29.04	32.46	34.05
TCLE	7-1/2	26.34	32.26	34.84	37.25	41.64	43.68	25.84	31.65	34.19	36.55	40.86	42.85	24.78	30.35	32.78	35.04	39.18	41.09
TJL	7	23.33	28.57	30.86	32.99	36.89	38.69	22.90	28.05	30.30	32.39	36.21	37.98	21.95	26.88	29.03	31.04	34.70	36.40
TJL	8	29.77	36.46	39.38	42.10	47.07	49.37	29.21	35.77	38.63	41.30	46.18	48.43	28.00	34.29	37.04	39.60	44.27	46.44

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
AA/AN/AAC/ANC	1/8	0.60	0.74	0.80	0.85	0.95	1.00	0.46	0.50	0.53	0.59	0.62	0.65	0.28	0.31	0.33	0.37	0.38	0.40
AA/AN/AAC/ANC/AFA	1/4	1.03	1.26	1.36	1.45	1.62	1.70	0.81	0.88	0.94	1.05	1.10	1.15	0.53	0.57	0.61	0.69	0.72	0.75
AA/AN/AAC/ANC/AFA	1/2	1.66	2.04	2.20	2.35	2.63	2.76	1.31	1.41	1.51	1.69	1.77	1.85	0.85	0.92	0.98	1.10	1.15	1.20
AA/AN/AAC/ANC/AFA	1	2.37	2.90	3.14	3.35	3.75	3.93	1.88	2.03	2.17	2.42	2.54	2.65	1.20	1.30	1.39	1.55	1.63	1.70
AA/AN/AAC/ANC/AFA	1-1/2	4.92	6.03	6.51	6.96	7.78	8.16	3.86	4.17	4.46	4.98	5.22	5.46	2.51	2.71	2.90	3.24	3.40	3.55
AA/AN/AAC/ANC/AFA	2	6.02	7.37	7.96	8.51	9.52	9.98	4.71	5.09	5.44	6.08	6.37	6.66	3.08	3.33	3.56	3.98	4.17	4.36
AA/AN/AAC/ANC	2-1/2	7.15	8.76	9.46	10.11	11.31	11.86	5.59	6.04	6.46	7.22	7.57	7.91	3.65	3.94	4.21	4.71	4.94	5.16
AA/AN/AAC/ANC/AFA	3	9.77	11.97	12.93	13.82	15.45	16.20	7.65	8.26	8.83	9.87	10.35	10.81	4.96	5.35	5.72	6.40	6.71	7.01
TCLE	1/4	0.89	1.08	1.17	1.25	1.40	1.47	0.71	0.76	0.82	0.91	0.96	1.00	0.46	0.50	0.53	0.59	0.62	0.65
TCLE	1/2	1.66	2.04	2.20	2.35	2.63	2.76	1.31	1.41	1.51	1.69	1.77	1.85	0.85	0.92	0.98	1.10	1.15	1.20
TCLE	1	3.40	4.16	4.50	4.81	5.37	5.64	2.66	2.87	3.07	3.43	3.59	3.75	1.73	1.87	2.00	2.24	2.35	2.45
TCLE	2	6.23	7.63	8.24	8.81	9.85	10.33	4.89	5.28	5.64	6.31	6.61	6.91	3.19	3.44	3.68	4.11	4.31	4.51
TCLE	3	9.10	11.14	12.04	12.87	14.38	15.09	7.12	7.69	8.22	9.19	9.63	10.06	4.64	5.01	5.35	5.99	6.28	6.56
TCLE	4	13.20	16.17	17.47	18.67	20.88	21.90	10.34	11.17	11.94	13.34	14.00	14.62	6.73	7.26	7.77	8.68	9.11	9.51
TCLE	6-1/2	18.20	22.28	24.07	25.73	28.77	30.17	14.27	15.41	16.47	18.42	19.32	20.18	9.27	10.02	10.71	11.97	12.56	13.12
TCLE	7-1/2	21.95	26.88	29.03	31.04	34.70	36.40	17.20	18.58	19.87	22.21	23.29	24.33	11.19	12.08	12.92	14.44	15.15	15.82
TJL	7	19.43	23.80	25.71	27.48	30.73	32.23	15.22	16.44	17.58	19.65	20.61	21.53	9.91	10.71	11.45	12.80	13.42	14.02
TJL	8	24.78	30.35	32.78	35.04	39.18	41.09	19.43	20.99	22.44	25.09	26.31	27.48	12.64	13.65	14.59	16.32	17.11	17.87

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Conventional Valves (kWatts) – A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AFA	1/5	0.53	0.65	0.70	0.75	0.84	0.88	0.52	0.64	0.69	0.74	0.82	0.86	0.50	0.61	0.66	0.70	0.78	0.82
AA/AN/AAC/ANC	1/4	0.92	1.13	1.22	1.30	1.46	1.53	0.90	1.11	1.20	1.28	1.43	1.50	0.89	1.08	1.17	1.25	1.40	1.47
AA/AN/AAC/ANC/AFA	1/2	1.63	1.99	2.15	2.30	2.57	2.70	1.59	1.95	2.10	2.25	2.51	2.64	1.56	1.91	2.06	2.20	2.46	2.58
AA/AN/AAC/ANC/AFA	1	2.58	3.16	3.42	3.65	4.09	4.29	2.55	3.12	3.37	3.61	4.03	4.23	2.48	3.03	3.28	3.50	3.92	4.11
AA/AN/AAC/ANC/AFA	1-1/2	3.72	4.55	4.92	5.26	5.88	6.16	3.65	4.47	4.82	5.16	5.77	6.05	3.58	4.38	4.73	5.06	5.65	5.93
AA/AN/AAC/ANC/AFA	2	5.45	6.68	7.21	7.71	8.62	9.04	5.37	6.58	7.11	7.60	8.50	8.91	5.24	6.42	6.93	7.41	8.28	8.69
AA/AN/AAC/ANC/AFA	2-1/2	7.65	9.36	10.12	10.81	12.09	12.68	7.54	9.24	9.98	10.66	11.92	12.50	7.36	9.02	9.74	10.41	11.64	12.21
AA/AN/AAC/ANC/AFA	3	9.38	11.49	12.41	13.27	14.83	15.56	9.24	11.32	12.22	13.07	14.61	15.32	9.03	11.06	11.94	12.77	14.27	14.97
AA/AN/AAC/ANC	4	11.12	13.61	14.70	15.72	17.58	18.43	10.97	13.43	14.51	15.51	17.34	18.19	10.73	13.14	14.19	15.17	16.96	17.79
AA/AN/AAC/ANC/AFA	5	15.22	18.64	20.14	21.53	24.07	25.24	15.00	18.37	19.84	21.21	23.72	24.87	14.66	17.95	19.39	20.73	23.17	24.30
TCLE	1/2	1.38	1.69	1.83	1.95	2.18	2.29	1.37	1.68	1.81	1.94	2.17	2.27	1.35	1.65	1.78	1.90	2.13	2.23
TCLE	1	2.62	3.21	3.47	3.70	4.14	4.34	2.58	3.16	3.41	3.65	4.08	4.27	2.51	3.08	3.32	3.55	3.97	4.17
TCLE	2	5.27	6.46	6.98	7.46	8.34	8.75	5.21	6.38	6.89	7.37	8.24	8.64	5.10	6.24	6.74	7.21	8.06	8.45
TCLE	3	9.74	11.92	12.88	13.77	15.39	16.14	9.60	11.75	12.70	13.57	15.17	15.92	9.38	11.49	12.41	13.27	14.83	15.56
TCLE	5	14.20	17.39	18.78	20.08	22.44	23.54	13.98	17.13	18.50	19.78	22.11	23.19	13.66	16.74	18.08	19.32	21.61	22.66
TCLE	7-1/2	20.60	25.23	27.25	29.14	32.58	34.17	20.35	24.92	26.92	28.77	32.17	33.74	19.82	24.28	26.22	28.04	31.34	32.87
TCLE	10	28.39	34.77	37.56	40.15	44.89	47.08	28.05	34.36	37.11	39.67	44.35	46.52	27.33	33.47	36.15	38.65	43.21	45.32
TCLE	12	34.23	41.93	45.28	48.41	54.13	56.77	33.81	41.41	44.73	47.81	53.46	56.07	32.96	40.36	43.60	46.61	52.11	54.65
TJL	11	30.34	37.16	40.13	42.90	47.97	50.31	29.97	36.71	39.65	42.39	47.39	49.70	29.21	35.77	38.63	41.30	46.18	48.43
TJL	14	38.66	47.34	51.14	54.67	61.12	64.11	38.22	46.82	50.57	54.06	60.44	63.39	37.24	45.61	49.26	52.67	58.88	61.76

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C					-30°C					-40°C							
		Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)							
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
AA/AN/AFA	1/5	0.46	0.56	0.61	0.65	0.73	0.76	0.35	0.38	0.41	0.46	0.48	0.50	0.25	0.27	0.29	0.32	0.34	0.35
AA/AN/AAC/ANC	1/4	0.81	1.00	1.08	1.15	1.29	1.35	0.64	0.69	0.74	0.82	0.86	0.90	0.42	0.46	0.49	0.55	0.58	0.60
AA/AN/AAC/ANC/AFA	1/2	1.42	1.73	1.87	2.00	2.24	2.35	1.13	1.22	1.31	1.46	1.53	1.60	0.74	0.80	0.86	0.96	1.01	1.05
AA/AN/AAC/ANC/AFA	1	2.27	2.77	3.00	3.20	3.58	3.76	1.81	1.95	2.08	2.33	2.44	2.55	1.20	1.30	1.39	1.55	1.63	1.70
AA/AN/AAC/ANC/AFA	1-1/2	3.22	3.95	4.26	4.56	5.09	5.34	2.58	2.79	2.98	3.34	3.50	3.65	1.70	1.84	1.96	2.19	2.30	2.40
AA/AN/AAC/ANC/AFA	2	4.78	5.85	6.32	6.76	7.56	7.93	3.79	4.09	4.37	4.89	5.13	5.36	2.51	2.71	2.90	3.24	3.40	3.55
AA/AN/AAC/ANC/AFA	2-1/2	6.69	8.19	8.85	9.46	10.58	11.10	5.35	5.77	6.17	6.90	7.24	7.56	3.50	3.79	4.05	4.52	4.75	4.96
AA/AN/AAC/ANC/AFA	3	8.18	10.02	10.82	11.56	12.93	13.56	6.55	7.07	7.56	8.45	8.87	9.26	4.32	4.66	4.99	5.58	5.85	6.11
AA/AN/AAC/ANC	4	9.74	11.92	12.88	13.77	15.39	16.14	7.75	8.37	8.95	10.01	10.50	10.96	5.10	5.51	5.89	6.58	6.90	7.21
AA/AN/AAC/ANC/AFA	5	13.28	16.26	17.56	18.77	20.99	22.01	10.62	11.47	12.26	13.71	14.38	15.02	6.97	7.53	8.05	9.00	9.44	9.86
TCLE	1/2	1.20	1.47	1.59	1.70	1.90	2.00	0.96	1.03	1.10	1.23	1.29	1.35	0.64	0.69	0.74	0.82	0.86	0.90
TCLE	1	2.30	2.82	3.04	3.25	3.64	3.82	1.84	1.99	2.13	2.38	2.49	2.60	1.20	1.30	1.39	1.55	1.63	1.70
TCLE	2	4.60	5.64	6.09	6.51	7.28	7.63	3.68	3.98	4.25	4.75	4.98	5.21	2.44	2.64	2.82	3.15	3.31	3.45
TCLE	3	8.50	10.41	11.24	12.02	13.43	14.09	6.80	7.34	7.85	8.77	9.20	9.61	4.46	4.82	5.15	5.76	6.04	6.31
TCLE	5	12.39	15.17	16.39	17.52	19.59	20.55	9.88	10.67	11.40	12.75	13.37	13.97	6.51	7.04	7.52	8.41	8.82	9.21
TCLE	7-1/2	17.98	22.02	23.79	25.43	28.43	29.82	14.34	15.49	16.55	18.51	19.41	20.28	9.45	10.21	10.91	12.20	12.80	13.37
TCLE	10	24.78	30.35	32.78	35.04	39.18	41.09	19.79	21.37	22.85	25.55	26.79	27.99	13.03	14.07	15.04	16.82	17.64	18.42
TCLE	12	29.88	36.59	39.52	42.25	47.24	49.55	23.86	25.77	27.55	30.80	32.31	33.74	15.72	16.98	18.15	20.29	21.28	22.23
TJL	11	26.48	32.43	35.03	37.45	41.87	43.91	21.13	22.83	24.40	27.28	28.62	29.89	13.91	15.03	16.06	17.96	18.84	19.67
TJL	14	33.77	41.36	44.68	47.76	53.40	56.00	26.97	29.14	31.15	34.82	36.52	38.15	17.77	19.19	20.52	22.94	24.06	25.13

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Conventional Valves (kWatts) – A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100	
AA/AN/AFA	1/8	0.50	0.61	0.66	0.70	0.78	0.82	0.50	0.61	0.66	0.70	0.78	0.82	0.46	0.56	0.61	0.65	0.73	0.76
AA/AN/AAC/ANC	1/4	0.89	1.08	1.17	1.25	1.40	1.47	0.85	1.04	1.12	1.20	1.34	1.41	0.81	1.00	1.08	1.15	1.29	1.35
AA/AN/AAC/ANC/AFA	1/2	1.52	1.86	2.01	2.15	2.41	2.52	1.52	1.86	2.01	2.15	2.41	2.52	1.45	1.78	1.92	2.05	2.29	2.41
AA/AN/AAC/ANC/AFA	3/4	2.48	3.03	3.28	3.50	3.92	4.11	2.41	2.95	3.18	3.40	3.81	3.99	2.30	2.82	3.04	3.25	3.64	3.82
AA/AN/AAC/ANC/AFA	1	3.54	4.34	4.68	5.01	5.60	5.87	3.47	4.25	4.59	4.91	5.49	5.75	3.29	4.03	4.36	4.66	5.21	5.46
AA/AN/AAC/ANC/AFA	1-1/2	5.20	6.37	6.88	7.36	8.23	8.63	5.10	6.24	6.74	7.21	8.06	8.45	4.89	5.98	6.46	6.91	7.72	8.10
AA/AN/AAC/ANC/AFA	2	7.29	8.93	9.65	10.31	11.53	12.09	7.15	8.76	9.46	10.11	11.31	11.86	6.83	8.37	9.04	9.66	10.80	11.33
AA/AN/AAC/ANC/AFA	2-1/2	8.96	10.97	11.85	12.67	14.16	14.85	8.74	10.71	11.57	12.37	13.83	14.50	8.39	10.28	11.10	11.86	13.27	13.91
AA/AN/AAC/ANC	3	10.62	13.01	14.05	15.02	16.79	17.61	10.41	12.75	13.77	14.72	16.46	17.26	9.95	12.18	13.16	14.07	15.73	16.50
AA/AN/AAC/ANC/AFA	4	14.51	17.78	19.20	20.53	22.95	24.07	14.23	17.43	18.83	20.13	22.50	23.60	13.59	16.65	17.98	19.22	21.49	22.54
TCLE	1/4	1.31	1.60	1.73	1.85	2.07	2.17	1.31	1.60	1.73	1.85	2.07	2.17	1.24	1.52	1.64	1.75	1.96	2.05
TCLE	3/4	2.48	3.03	3.28	3.50	3.92	4.11	2.44	2.99	3.23	3.45	3.86	4.05	2.34	2.86	3.09	3.30	3.69	3.87
TCLE	1-1/2	5.03	6.16	6.65	7.11	7.95	8.34	4.92	6.03	6.51	6.96	7.78	8.16	4.71	5.77	6.23	6.66	7.44	7.81
TCLE	2-1/2	9.27	11.36	12.27	13.12	14.66	15.38	9.10	11.14	12.04	12.87	14.38	15.09	8.71	10.67	11.52	12.32	13.77	14.44
TCLE	3-1/2	13.52	16.56	17.89	19.12	21.38	22.43	13.24	16.22	17.51	18.72	20.93	21.96	12.67	15.52	16.77	17.92	20.04	21.02
TCLE	5-1/2	19.65	24.06	25.99	27.79	31.06	32.58	19.22	23.54	25.43	27.18	30.39	31.88	18.41	22.55	24.35	26.03	29.11	30.53
TCLE	7-1/2	27.08	33.17	35.82	38.30	42.82	44.91	26.51	32.47	35.08	37.50	41.92	43.97	25.35	31.04	33.53	35.85	40.08	42.03
TCLE	9	32.64	39.97	43.18	46.16	51.61	54.13	31.97	39.15	42.29	45.21	50.54	53.01	30.59	37.46	40.46	43.25	48.36	50.72
TJL	9	28.92	35.42	38.26	40.90	45.73	47.96	28.32	34.68	37.46	40.05	44.78	46.96	27.08	33.17	35.82	38.30	42.82	44.91
TJL	11	36.89	45.18	48.80	52.17	58.32	61.17	36.11	44.22	47.77	51.06	57.09	59.88	34.55	42.32	45.71	48.86	54.63	57.30

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C					-30°C						-40°C						
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
AA/AN/AFA	1/8	0.39	0.48	0.52	0.55	0.62	0.65	0.28	0.31	0.33	0.37	0.38	0.40	0.18	0.19	0.20	0.23	0.24	0.25
AA/AN/AAC/ANC	1/4	0.67	0.82	0.89	0.95	1.06	1.12	0.50	0.54	0.57	0.64	0.67	0.70	0.32	0.34	0.37	0.41	0.43	0.45
AA/AN/AAC/ANC/AFA	1/2	1.20	1.47	1.59	1.70	1.90	2.00	0.89	0.96	1.02	1.14	1.20	1.25	0.53	0.57	0.61	0.69	0.72	0.75
AA/AN/AAC/ANC/AFA	3/4	1.91	2.34	2.53	2.70	3.02	3.17	1.42	1.53	1.64	1.83	1.92	2.00	0.89	0.96	1.02	1.14	1.20	1.25
AA/AN/AAC/ANC/AFA	1	2.73	3.34	3.61	3.85	4.31	4.52	2.02	2.18	2.33	2.60	2.73	2.85	1.24	1.34	1.43	1.60	1.68	1.75
AA/AN/AAC/ANC/AFA	1-1/2	4.00	4.90	5.29	5.66	6.32	6.63	3.01	3.25	3.47	3.88	4.07	4.26	1.84	1.99	2.13	2.38	2.49	2.60
AA/AN/AAC/ANC/AFA	2	5.63	6.89	7.45	7.96	8.90	9.33	4.21	4.55	4.86	5.44	5.70	5.96	2.58	2.79	2.98	3.34	3.50	3.65
AA/AN/AAC/ANC/AFA	2-1/2	6.90	8.45	9.13	9.76	10.91	11.45	5.13	5.54	5.93	6.63	6.95	7.26	3.15	3.40	3.64	4.07	4.27	4.46
AA/AN/AAC/ANC	3	8.18	10.02	10.82	11.56	12.93	13.56	6.09	6.58	7.03	7.86	8.24	8.61	3.75	4.05	4.33	4.84	5.08	5.31
AA/AN/AAC/ANC/AFA	4	11.19	13.70	14.80	15.82	17.69	18.55	8.35	9.02	9.65	10.79	11.31	11.81	5.13	5.54	5.93	6.63	6.95	7.26
TCLE	1/4	1.03	1.26	1.36	1.45	1.62	1.70	0.78	0.84	0.90	1.01	1.05	1.10	0.46	0.50	0.53	0.59	0.62	0.65
TCLE	3/4	1.91	2.34	2.53	2.70	3.02	3.17	1.45	1.57	1.68	1.87	1.97	2.05	0.89	0.96	1.02	1.14	1.20	1.25
TCLE	1-1/2	3.89	4.77	5.15	5.51	6.16	6.46	2.90	3.14	3.35	3.75	3.93	4.11	1.77	1.91	2.04	2.29	2.40	2.50
TCLE	2-1/2	7.15	8.76	9.46	10.11	11.31	11.86	5.35	5.77	6.17	6.90	7.24	7.56	3.29	3.56	3.80	4.25	4.46	4.66
TCLE	3-1/2	10.44	12.79	13.81	14.77	16.51	17.32	7.79	8.41	8.99	10.05	10.55	11.01	4.78	5.16	5.52	6.17	6.47	6.76
TCLE	5-1/2	15.15	18.56	20.04	21.43	23.96	25.13	11.29	12.20	13.04	14.58	15.29	15.97	6.94	7.49	8.01	8.96	9.39	9.81
TCLE	7-1/2	20.89	25.58	27.63	29.54	33.02	34.64	15.58	16.82	17.99	20.11	21.09	22.03	9.56	10.32	11.04	12.34	12.94	13.52
TCLE	9	25.17	30.83	33.30	35.59	39.80	41.74	18.76	20.27	21.66	24.22	25.40	26.53	11.54	12.47	13.33	14.90	15.63	16.32
TJL	9	22.30	27.31	29.50	31.54	35.26	36.98	16.64	17.97	19.21	21.48	22.53	23.53	10.23	11.05	11.81	13.21	13.85	14.47
TJL	11	28.43	34.81	37.60	40.20	44.95	47.14	21.20	22.90	24.48	27.38	28.71	29.99	13.03	14.07	15.04	16.82	17.64	18.42

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-450A/R-513A Conventional Valves (kWatts) A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC/AFA	1/8	0.40	0.46	0.51	0.57	0.63	0.68	0.39	0.45	0.50	0.56	0.61	0.66	0.37	0.42	0.47	0.53	0.58	0.63
AA/AN/AAC/ANC/AFA	1/5	0.68	0.78	0.88	0.98	1.07	1.16	0.66	0.76	0.85	0.96	1.05	1.13	0.63	0.73	0.81	0.91	0.99	1.07
AA/AN/AAC/ANC/AFA	1/4	1.22	1.40	1.57	1.75	1.92	2.08	1.19	1.37	1.53	1.71	1.88	2.03	1.13	1.30	1.45	1.63	1.78	1.92
AA/AN/AAC/ANC/AFA	1/2	1.92	2.22	2.48	2.77	3.04	3.28	1.88	2.17	2.42	2.71	2.97	3.20	1.78	2.06	2.30	2.57	2.82	3.04
AA/AN/AAC/ANC/AFA	3/4	2.77	3.20	3.58	4.00	4.38	4.73	2.70	3.12	3.49	3.90	4.27	4.62	2.57	2.97	3.32	3.71	4.06	4.39
AA/AN/AAC/ANC/AFA	1	4.07	4.70	5.25	5.87	6.43	6.95	3.97	4.59	5.13	5.73	6.28	6.78	3.77	4.36	4.87	5.45	5.97	6.45
AA/AN/AAC/ANC/AFA	1-1/2	5.71	6.59	7.37	8.24	9.03	9.75	5.57	6.43	7.19	8.04	8.81	9.52	5.29	6.11	6.83	7.64	8.37	9.04
AA/AN/AAC/ANC/AFA	2	6.98	8.06	9.01	10.08	11.04	11.92	6.81	7.87	8.80	9.84	10.77	11.64	6.47	7.47	8.36	9.34	10.24	11.06
AA/AN/AAC/ANC/AFA	2-1/2	8.31	9.59	10.73	11.99	13.14	14.19	8.11	9.37	10.47	11.71	12.82	13.85	7.71	8.90	9.95	11.12	12.18	13.16
AA/AN/AAC/ANC/AFA	3	11.36	13.12	14.67	16.40	17.96	19.40	11.09	12.81	14.32	16.01	17.53	18.94	10.54	12.17	13.60	15.21	16.66	17.99

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC/AFA	1/8	0.27	0.31	0.34	0.38	0.42	0.45	0.20	0.23	0.25	0.28	0.30	0.32	0.12	0.13	0.14	0.16	0.17	0.18
AA/AN/AAC/ANC/AFA	1/5	0.46	0.53	0.59	0.66	0.72	0.78	0.35	0.39	0.43	0.47	0.51	0.55	0.20	0.22	0.25	0.27	0.29	0.31
AA/AN/AAC/ANC/AFA	1/4	0.82	0.94	1.06	1.18	1.29	1.40	0.62	0.69	0.78	0.85	0.92	0.98	0.35	0.40	0.44	0.48	0.52	0.56
AA/AN/AAC/ANC/AFA	1/2	1.29	1.49	1.67	1.87	2.05	2.21	0.98	1.10	1.23	1.34	1.45	1.55	0.56	0.63	0.70	0.77	0.83	0.88
AA/AN/AAC/ANC/AFA	3/4	1.86	2.15	2.41	2.69	2.95	3.18	1.41	1.58	1.77	1.93	2.09	2.23	0.81	0.90	1.01	1.10	1.19	1.28
AA/AN/AAC/ANC/AFA	1	2.74	3.16	3.54	3.95	4.33	4.68	2.08	2.32	2.60	2.84	3.07	3.28	1.19	1.32	1.48	1.62	1.75	1.87
AA/AN/AAC/ANC/AFA	1-1/2	3.84	4.44	4.96	5.55	6.08	6.56	2.91	3.26	3.64	3.99	4.31	4.61	1.66	1.86	2.08	2.28	2.46	2.63
AA/AN/AAC/ANC/AFA	2	4.70	5.43	6.07	6.78	7.43	8.02	3.56	3.98	4.45	4.88	5.27	5.63	2.03	2.27	2.54	2.78	3.01	3.21
AA/AN/AAC/ANC/AFA	2-1/2	5.59	6.46	7.22	8.07	8.84	9.55	4.24	4.74	5.30	5.80	6.27	6.70	2.42	2.71	3.02	3.31	3.58	3.83
AA/AN/AAC/ANC/AFA	3	7.65	8.83	9.87	11.04	12.09	13.06	5.80	6.48	7.25	7.94	8.57	9.17	3.31	3.70	4.14	4.53	4.89	5.23

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-404A/R-507 Conventional Valves (kWatts) – A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C					0°C					-10°C							
		Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve(kPa)					Pressure Drop Across Valve (kPa)							
	400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100	
AA/AN/AFA	1/8	0.39	0.48	0.52	0.55	0.62	0.65	0.39	0.48	0.52	0.55	0.62	0.65	0.35	0.43	0.47	0.50	0.56	0.59
AA/AN/AAC/ANC	1/4	0.67	0.82	0.89	0.95	1.06	1.12	0.67	0.82	0.89	0.95	1.06	1.12	0.64	0.78	0.84	0.90	1.01	1.06
AA/AN/AAC/ANC/AFA	1/2	1.17	1.43	1.55	1.65	1.85	1.94	1.17	1.43	1.55	1.65	1.85	1.94	1.10	1.34	1.45	1.55	1.74	1.82
AA/AN/AAC/ANC/AFA	3/4	1.91	2.34	2.53	2.70	3.02	3.17	1.84	2.25	2.44	2.60	2.91	3.05	1.77	2.17	2.34	2.50	2.80	2.94
AA/AN/AAC/ANC/AFA	1	2.73	3.34	3.61	3.85	4.31	4.52	2.66	3.25	3.51	3.75	4.20	4.40	2.51	3.08	3.32	3.55	3.97	4.17
AA/AN/AAC/ANC/AFA	1-1/2	4.00	4.90	5.29	5.66	6.32	6.63	3.89	4.77	5.15	5.51	6.16	6.46	3.72	4.55	4.92	5.26	5.88	6.16
AA/AN/AAC/ANC/AFA	2	5.59	6.85	7.40	7.91	8.84	9.28	5.49	6.72	7.26	7.76	8.68	9.10	5.20	6.37	6.88	7.36	8.23	8.63
AA/AN/AAC/ANC/AFA	2-1/2	6.87	8.41	9.08	9.71	10.86	11.39	6.69	8.19	8.85	9.46	10.58	11.10	6.37	7.80	8.43	9.01	10.08	10.57
AA/AN/AAC/ANC	3	8.14	9.97	10.77	11.51	12.87	13.50	7.97	9.76	10.54	11.26	12.59	13.21	7.58	9.28	10.02	10.71	11.98	12.56
AA/AN/AAC/ANC/AFA	4	11.15	13.66	14.75	15.77	17.63	18.49	10.90	13.35	14.42	15.42	17.24	18.08	10.34	12.66	13.67	14.62	16.34	17.14
TCLE	1/4	1.03	1.26	1.36	1.45	1.62	1.70	0.99	1.21	1.31	1.40	1.57	1.64	0.96	1.17	1.26	1.35	1.51	1.59
TCLE	3/4	1.91	2.34	2.53	2.70	3.02	3.17	1.88	2.30	2.48	2.65	2.97	3.11	1.77	2.17	2.34	2.50	2.80	2.94
TCLE	1-1/2	3.86	4.73	5.10	5.46	6.10	6.40	3.79	4.64	5.01	5.36	5.99	6.28	3.58	4.38	4.73	5.06	5.65	5.93
TCLE	2-1/2	7.12	8.71	9.41	10.06	11.25	11.80	6.97	8.54	9.23	9.86	11.03	11.56	6.62	8.11	8.76	9.36	10.47	10.98
TCLE	3-1/2	10.41	12.75	13.77	14.72	16.46	17.26	10.16	12.44	13.44	14.37	16.06	16.85	9.63	11.79	12.74	13.62	15.22	15.97
TCLE	5-1/2	15.08	18.47	19.95	21.33	23.84	25.01	14.73	18.04	19.48	20.83	23.28	24.42	13.98	17.13	18.50	19.77	22.11	23.19
TCLE	7-1/2	20.78	25.45	27.49	29.39	32.86	34.46	20.28	24.84	26.83	28.69	32.07	33.64	19.29	23.63	25.52	27.28	30.50	31.99
TCLE	9	25.06	30.70	33.16	35.44	39.63	41.56	24.46	29.96	32.36	34.59	38.68	40.56	23.26	28.48	30.77	32.89	36.77	38.57
TJL	9	22.20	27.18	29.36	31.39	35.09	36.81	21.70	26.58	28.71	30.69	34.31	35.99	20.60	25.23	27.25	29.14	32.58	34.17
TJL	11	28.32	34.68	37.46	40.05	44.78	46.96	27.65	33.86	36.57	39.10	43.71	45.85	26.27	32.17	34.75	37.15	41.53	43.56

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C					-30°C					-40°C							
		Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)							
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
AA/AN/AFA	1/8	0.32	0.39	0.42	0.45	0.50	0.53	0.25	0.30	0.33	0.35	0.39	0.41	0.18	0.22	0.23	0.25	0.28	0.29
AA/AN/AAC/ANC	1/4	0.57	0.69	0.75	0.80	0.90	0.94	0.42	0.52	0.56	0.60	0.67	0.70	0.28	0.35	0.37	0.40	0.45	0.47
AA/AN/AAC/ANC/AFA	1/2	0.99	1.21	1.31	1.40	1.57	1.64	0.78	0.95	1.03	1.10	1.23	1.29	0.50	0.61	0.66	0.70	0.78	0.82
AA/AN/AAC/ANC/AFA	3/4	1.56	1.91	2.06	2.20	2.46	2.58	1.24	1.52	1.64	1.75	1.96	2.05	0.81	1.00	1.08	1.15	1.29	1.35
AA/AN/AAC/ANC/AFA	1	2.23	2.73	2.95	3.15	3.53	3.70	1.77	2.17	2.34	2.50	2.80	2.94	1.13	1.39	1.50	1.60	1.79	1.88
AA/AN/AAC/ANC/AFA	1-1/2	3.29	4.03	4.36	4.66	5.21	5.46	2.58	3.16	3.42	3.65	4.09	4.29	1.70	2.08	2.25	2.40	2.69	2.82
AA/AN/AAC/ANC/AFA	2	4.64	5.68	6.13	6.56	7.33	7.69	3.65	4.47	4.82	5.16	5.77	6.05	2.37	2.90	3.14	3.35	3.75	3.93
AA/AN/AAC/ANC/AFA	2-1/2	5.70	6.98	7.54	8.06	9.01	9.45	4.46	5.46	5.90	6.31	7.05	7.40	2.90	3.56	3.84	4.11	4.59	4.81
AA/AN/AAC/ANC	3	6.76	8.28	8.94	9.56	10.69	11.21	5.31	6.50	7.02	7.51	8.40	8.81	3.47	4.25	4.59	4.91	5.49	5.75
AA/AN/AAC/ANC/AFA	4	9.24	11.32	12.22	13.07	14.61	15.32	7.22	8.84	9.55	10.21	11.42	11.98	4.74	5.81	6.28	6.71	7.50	7.87
TCLE	1/4	0.85	1.04	1.12	1.20	1.34	1.41	0.67	0.82	0.89	0.95	1.06	1.12	0.42	0.52	0.56	0.60	0.67	0.70
TCLE	3/4	1.59	1.95	2.11	2.25	2.52	2.64	1.24	1.52	1.64	1.75	1.96	2.05	0.81	1.00	1.08	1.15	1.29	1.35
TCLE	1-1/2	3.22	3.95	4.26	4.56	5.09	5.34	2.51	3.08	3.32	3.55	3.97	4.17	1.63	1.99	2.15	2.30	2.57	2.70
TCLE	2-1/2	5.91	7.24	7.82	8.36	9.35	9.80	4.64	5.68	6.13	6.56	7.33	7.69	3.04	3.73	4.03	4.31	4.81	5.05
TCLE	3-1/2	8.60	10.54	11.38	12.17	13.60	14.27	6.76	8.28	8.94	9.56	10.69	11.21	4.43	5.42	5.85	6.26	7.00	7.34
TCLE	5-1/2	12.50	15.30	16.53	17.67	19.76	20.72	9.81	12.01	12.97	13.87	15.50	16.26	6.41	7.85	8.48	9.06	10.13	10.63
TCLE	7-1/2	17.20	21.07	22.76	24.33	27.20	28.53	13.49	16.52	17.84	19.07	21.33	22.37	8.81	10.80	11.66	12.47	13.94	14.62
TCLE	9	20.74	25.41	27.44	29.34	32.80	34.40	16.28	19.94	21.54	23.03	25.75	27.00	10.66	13.05	14.10	15.07	16.85	17.67
TJL	9	18.37	22.50	24.30	25.98	29.05	30.47	14.41	17.65	19.06	20.38	22.78	23.89	9.42	11.53	12.46	13.32	14.89	15.62
TJL	11	23.43	28.70	31.00	33.14	37.05	38.86	18.41	22.55	24.35	26.03	29.11	30.53	12.04	14.74	15.92	17.02	19.03	19.96

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-448A/R-449A Conventional Valves (kWatts) - A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC/AFA	1/5	0.54	0.62	0.69	0.78	0.85	0.92	0.53	0.61	0.69	0.77	0.84	0.91	0.52	0.60	0.67	0.75	0.82	0.89
AA/AN/AAC/ANC/AFA	1/4	0.93	1.08	1.20	1.35	1.48	1.59	0.92	1.07	1.19	1.33	1.46	1.58	0.90	1.04	1.16	1.30	1.43	1.54
AA/AN/AAC/ANC/AFA	1/2	1.64	1.89	2.12	2.37	2.59	2.80	1.62	1.87	2.10	2.34	2.57	2.77	1.58	1.83	2.05	2.29	2.50	2.71
AA/AN/AAC/ANC/AFA	1	2.63	3.04	3.39	3.80	4.16	4.49	2.60	3.00	3.36	3.76	4.11	4.44	2.54	2.93	3.28	3.67	4.02	4.34
AA/AN/AAC/ANC/AFA	1-1/2	3.76	4.34	4.85	5.43	5.95	6.42	3.72	4.30	4.80	5.37	5.88	6.36	3.63	4.19	4.69	5.24	5.74	6.20
AA/AN/AAC/ANC/AFA	2	5.54	6.40	7.15	8.00	8.76	9.46	5.48	6.33	7.08	7.92	8.67	9.37	5.35	6.18	6.91	7.73	8.46	9.14
AA/AN/AAC/ANC/AFA	2-3/4	7.78	8.98	10.04	11.22	12.29	13.28	7.69	8.88	9.93	11.11	12.17	13.14	7.51	8.67	9.70	10.84	11.88	12.83
AA/AN/AAC/ANC/AFA	3-1/2	9.53	11.00	12.30	13.75	15.07	16.27	9.43	10.89	12.17	13.61	14.91	16.10	9.20	10.63	11.88	13.29	14.55	15.72
AA/AN/AAC/ANC/AFA	4	11.31	13.06	14.60	16.32	17.88	19.31	11.19	12.92	14.45	16.15	17.70	19.11	10.93	12.62	14.10	15.77	17.27	18.66
AA/AN/AAC/ANC/AFA	5-1/2	15.47	17.86	19.97	22.32	24.45	26.41	15.31	17.67	19.76	22.09	24.20	26.14	14.94	17.25	19.29	21.56	23.62	25.52

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC/AFA	1/5	0.50	0.58	0.65	0.73	0.80	0.86	0.46	0.52	0.58	0.63	0.68	0.73	0.31	0.35	0.39	0.43	0.46	0.49
AA/AN/AAC/ANC/AFA	1/4	0.88	1.01	1.13	1.27	1.39	1.50	0.80	0.90	1.00	1.10	1.18	1.27	0.54	0.60	0.68	0.74	0.80	0.85
AA/AN/AAC/ANC/AFA	1/2	1.54	1.78	1.99	2.22	2.44	2.63	1.41	1.57	1.76	1.93	2.08	2.22	0.95	1.06	1.19	1.30	1.41	1.50
AA/AN/AAC/ANC/AFA	1	2.47	2.85	3.19	3.57	3.91	4.22	2.26	2.52	2.82	3.09	3.34	3.57	1.52	1.70	1.90	2.09	2.25	2.41
AA/AN/AAC/ANC/AFA	1-1/2	3.53	4.08	4.56	5.10	5.59	6.03	3.23	3.61	4.03	4.42	4.77	5.10	2.18	2.44	2.72	2.98	3.22	3.44
AA/AN/AAC/ANC/AFA	2	5.21	6.01	6.72	7.52	8.23	8.89	4.75	5.32	5.94	6.51	7.03	7.52	3.21	3.59	4.01	4.40	4.75	5.08
AA/AN/AAC/ANC/AFA	2-3/4	7.31	8.44	9.43	10.55	11.55	12.48	6.67	7.46	8.34	9.13	9.87	10.55	4.50	5.04	5.63	6.17	6.66	7.12
AA/AN/AAC/ANC/AFA	3-1/2	8.95	10.34	11.56	12.92	14.16	15.29	8.18	9.14	10.22	11.19	12.09	12.93	5.52	6.17	6.90	7.56	8.16	8.73
AA/AN/AAC/ANC/AFA	4	10.63	12.27	13.72	15.34	16.80	18.15	9.70	10.85	12.13	13.29	14.35	15.34	6.55	7.33	8.19	8.97	9.69	10.36
AA/AN/AAC/ANC/AFA	5-1/2	14.53	16.78	18.76	20.98	22.98	24.82	13.27	14.84	16.59	18.17	19.63	20.98	8.96	10.02	11.20	12.27	13.25	14.17

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Conventional Valves (kWatts) – A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AFA	1/8	0.50	0.61	0.66	0.70	0.78	0.82	0.50	0.61	0.66	0.70	0.78	0.82	0.50	0.61	0.66	0.70	0.78	0.82
AA/AN/AAC/ANC	1/4	0.89	1.08	1.17	1.25	1.40	1.47	0.85	1.04	1.12	1.20	1.34	1.41	0.81	1.00	1.08	1.15	1.29	1.35
AA/AN/AAC/ANC/AFA	1/2	1.56	1.91	2.06	2.20	2.46	2.58	1.52	1.86	2.01	2.15	2.41	2.52	1.45	1.78	1.92	2.05	2.29	2.41
AA/AN/AAC/ANC/AFA	3/4	2.48	3.03	3.28	3.50	3.92	4.11	2.44	2.99	3.23	3.45	3.86	4.05	2.34	2.86	3.09	3.30	3.69	3.87
AA/AN/AAC/ANC/AFA	1	3.54	4.34	4.68	5.01	5.60	5.87	3.47	4.25	4.59	4.91	5.49	5.75	3.36	4.12	4.45	4.76	5.32	5.58
AA/AN/AAC/ANC/AFA	1-1/2	5.24	6.42	6.93	7.41	8.28	8.69	5.13	6.29	6.79	7.26	8.12	8.51	4.92	6.03	6.51	6.96	7.78	8.16
AA/AN/AAC/ANC/AFA	2	7.33	8.97	9.69	10.36	11.59	12.15	7.22	8.84	9.55	10.21	11.42	11.98	6.90	8.45	9.13	9.76	10.91	11.45
AA/AN/AAC/ANC/AFA	2-1/2	8.99	11.01	11.89	12.72	14.22	14.91	8.81	10.80	11.66	12.47	13.94	14.62	8.46	10.36	11.19	11.97	13.38	14.03
AA/AN/AAC/ANC	3	10.69	13.09	14.14	15.12	16.90	17.73	10.48	12.83	13.86	14.82	16.57	17.38	10.05	12.31	13.30	14.22	15.90	16.67
AA/AN/AAC/ANC/AFA	4	14.58	17.86	19.29	20.63	23.06	24.19	14.34	17.56	18.97	20.28	22.67	23.78	13.77	16.87	18.22	19.47	21.77	22.84
TCLE	1/4	1.35	1.65	1.78	1.90	2.13	2.23	1.31	1.60	1.73	1.85	2.07	2.17	1.27	1.56	1.69	1.80	2.02	2.11
TCLE	3/4	2.51	3.08	3.32	3.55	3.97	4.17	2.48	3.03	3.28	3.50	3.92	4.11	2.37	2.90	3.14	3.35	3.75	3.93
TCLE	1-1/2	5.06	6.20	6.70	7.16	8.00	8.39	4.99	6.11	6.60	7.06	7.89	8.28	4.78	5.85	6.32	6.76	7.56	7.93
TCLE	2-1/2	9.35	11.45	12.36	13.22	14.78	15.50	9.17	11.23	12.13	12.97	14.50	15.20	8.81	10.80	11.66	12.47	13.94	14.62
TCLE	3-1/2	13.63	16.69	18.03	19.27	21.55	22.60	13.35	16.35	17.65	18.87	21.10	22.13	12.81	15.69	16.95	18.12	20.26	21.25
TCLE	5-1/2	19.75	24.19	26.13	27.94	31.23	32.76	19.40	23.76	25.66	27.43	30.67	32.17	18.62	22.81	24.63	26.33	29.44	30.88
TCLE	7-1/2	27.22	33.34	36.01	38.50	43.04	45.14	26.73	32.73	35.36	37.80	42.26	44.32	25.67	31.43	33.95	36.30	40.58	42.56
TCLE	9	32.82	40.19	43.41	46.41	51.89	54.42	32.21	39.45	42.62	45.56	50.93	53.42	30.94	37.89	40.93	43.76	48.92	51.31
TJL	9	29.10	35.64	38.49	41.15	46.01	48.25	28.57	34.99	37.79	40.40	45.17	47.37	27.44	33.60	36.29	38.80	43.38	45.50
TJL	11	37.10	45.44	49.08	52.47	58.66	61.52	36.43	44.61	48.19	51.51	57.60	60.41	34.98	42.84	46.27	49.46	55.30	58.00

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
AA/AN/AFA	1/8	0.39	0.48	0.52	0.55	0.62	0.65	0.32	0.39	0.42	0.45	0.50	0.53	0.18	0.22	0.23	0.25	0.28	0.29
AA/AN/AAC/ANC	1/4	0.71	0.87	0.94	1.00	1.12	1.17	0.53	0.65	0.70	0.75	0.84	0.88	0.32	0.39	0.42	0.45	0.50	0.53
AA/AN/AAC/ANC/AFA	1/2	1.24	1.52	1.64	1.75	1.96	2.05	0.92	1.13	1.22	1.30	1.46	1.53	0.60	0.74	0.80	0.85	0.95	1.00
AA/AN/AAC/ANC/AFA	3/4	1.98	2.43	2.62	2.80	3.13	3.29	1.49	1.82	1.97	2.10	2.35	2.47	0.96	1.17	1.26	1.35	1.51	1.59
AA/AN/AAC/ANC/AFA	1	2.83	3.47	3.75	4.01	4.48	4.70	2.16	2.64	2.86	3.05	3.41	3.58	1.35	1.65	1.78	1.90	2.13	2.23
AA/AN/AAC/ANC/AFA	1-1/2	4.18	5.12	5.53	5.91	6.60	6.93	3.19	3.90	4.21	4.51	5.04	5.28	1.98	2.43	2.62	2.80	3.13	3.29
AA/AN/AAC/ANC/AFA	2	5.84	7.15	7.73	8.26	9.24	9.69	4.46	5.46	5.90	6.31	7.05	7.40	2.80	3.43	3.70	3.95	4.42	4.64
AA/AN/AAC/ANC/AFA	2-1/2	7.15	8.76	9.46	10.11	11.31	11.86	5.45	6.68	7.21	7.71	8.62	9.04	3.43	4.21	4.54	4.86	5.43	5.69
AA/AN/AAC/ANC	3	8.50	10.41	11.24	12.02	13.43	14.09	6.48	7.93	8.57	9.16	10.24	10.74	4.07	4.99	5.39	5.76	6.44	6.75
AA/AN/AAC/ANC/AFA	4	11.61	14.22	15.36	16.42	18.36	19.25	8.85	10.84	11.71	12.52	13.99	14.68	5.56	6.81	7.35	7.86	8.79	9.22
TCLE	1/4	1.06	1.30	1.40	1.50	1.68	1.76	0.81	1.00	1.08	1.15	1.29	1.35	0.50	0.61	0.66	0.70	0.78	0.82
TCLE	3/4	1.98	2.43	2.62	2.80	3.13	3.29	1.52	1.86	2.01	2.15	2.41	2.52	0.96	1.17	1.26	1.35	1.51	1.59
TCLE	1-1/2	4.04	4.94	5.34	5.71	6.38	6.69	3.08	3.77	4.07	4.36	4.87	5.11	1.95	2.38	2.58	2.75	3.08	3.23
TCLE	2-1/2	7.43	9.10	9.83	10.51	11.75	12.33	5.66	6.94	7.49	8.01	8.96	9.39	3.58	4.38	4.73	5.06	5.65	5.93
TCLE	3-1/2	10.83	13.27	14.33	15.32	17.13	17.96	8.25	10.10	10.91	11.66	13.04	13.68	5.20	6.37	6.88	7.36	8.23	8.63
TCLE	5-1/2	15.72	19.25	20.79	22.23	24.85	26.06	11.97	14.65	15.83	16.92	18.92	19.84	7.54	9.23	9.97	10.66	11.92	12.50
TCLE	7-1/2	21.66	26.53	28.66	30.64	34.26	35.93	16.50	20.20	21.82	23.33	26.08	27.36	10.37	12.70	13.72	14.67	16.40	17.20
TCLE	9	26.13	32.00	34.56	36.95	41.31	43.32	19.89	24.37	26.32	28.14	31.46	32.99	12.53	15.35	16.58	17.72	19.81	20.78
TJL	9	23.15	28.35	30.63	32.74	36.61	38.39	17.63	21.59	23.32	24.93	27.87	29.23	11.08	13.57	14.66	15.67	17.52	18.37
TJL	11	29.52	36.16	39.06	41.75	46.68	48.96	22.48	27.53	29.74	31.79	35.54	37.28	14.16	17.34	18.73	20.03	22.39	23.48

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Conventional Valves (kWatts)– A Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		750	1000	1100	1450	1700	2000	750	1000	1100	1450	1700	2000	750	1000	1100	1450	1700	2000
AA/AN/AAC/ANC	1/4	1.20	1.39	1.46	1.67	1.81	1.97	1.20	1.39	1.46	1.67	1.81	1.97	1.17	1.35	1.41	1.62	1.76	1.91
AA/AN/AAC/ANC/AFA	1/2	2.12	2.45	2.57	2.95	3.20	3.47	2.09	2.41	2.53	2.90	3.14	3.41	2.05	2.37	2.49	2.85	3.09	3.35
AA/AN/AAC/ANC/AFA	1	3.40	3.92	4.12	4.73	5.12	5.55	3.36	3.88	4.07	4.68	5.06	5.49	3.29	3.80	3.99	4.58	4.96	5.38
AA/AN/AAC/ANC/AFA	1-1/2	4.89	5.64	5.92	6.79	7.35	7.98	4.81	5.56	5.83	6.69	7.25	7.86	4.71	5.44	5.70	6.55	7.09	7.69
AA/AN/AAC/ANC/AFA	2	7.19	8.30	8.70	9.99	10.82	11.74	7.12	8.22	8.62	9.89	10.71	11.62	6.94	8.01	8.40	9.65	10.45	11.33
AA/AN/AAC/ANC/AFA	3	10.09	11.65	12.22	14.03	15.19	16.48	9.98	11.53	12.09	13.88	15.03	16.30	9.70	11.20	11.75	13.49	14.60	15.84
AA/AN/AAC/ANC/AFA	4	12.35	14.27	14.96	17.18	18.60	20.17	12.21	14.10	14.79	16.98	18.39	19.94	11.89	13.73	14.40	16.54	17.91	19.42
AA/AN/AAC/ANC	5	14.66	16.92	17.75	20.38	22.06	23.93	14.51	16.76	17.58	20.18	21.85	23.70	14.12	16.31	17.11	19.64	21.27	23.07

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		1000	1100	1450	1700	2000	2300	1000	1100	1450	1700	2000	2300	1000	1100	1450	1700	2000	2300
AA/AN/AAC/ANC	1/4	1.20	1.26	1.45	1.57	1.70	1.83	0.85	0.89	1.02	1.11	1.20	1.29	0.57	0.59	0.68	0.74	0.80	0.86
AA/AN/AAC/ANC/AFA	1/2	2.12	2.23	2.56	2.77	3.00	3.22	1.45	1.52	1.75	1.89	2.05	2.20	0.96	1.00	1.15	1.25	1.35	1.45
AA/AN/AAC/ANC/AFA	1	3.36	3.53	4.05	4.38	4.76	5.10	2.34	2.45	2.81	3.05	3.30	3.54	1.56	1.63	1.88	2.03	2.20	2.36
AA/AN/AAC/ANC/AFA	1-1/2	4.81	5.05	5.80	6.28	6.81	7.30	3.36	3.53	4.05	4.38	4.76	5.10	2.23	2.34	2.69	2.91	3.15	3.38
AA/AN/AAC/ANC/AFA	2	7.12	7.46	8.57	9.28	10.06	10.79	4.96	5.20	5.97	6.46	7.01	7.52	3.29	3.45	3.96	4.29	4.66	4.99
AA/AN/AAC/ANC/AFA	3	9.98	10.47	12.02	13.02	14.12	15.14	6.94	7.28	8.35	9.05	9.81	10.52	4.60	4.83	5.54	6.00	6.51	6.98
AA/AN/AAC/ANC/AFA	4	12.25	12.85	14.75	15.97	17.32	18.58	8.50	8.91	10.23	11.08	12.02	12.88	5.66	5.94	6.82	7.38	8.01	8.59
AA/AN/AAC/ANC	5	14.51	15.22	17.48	18.92	20.53	22.01	10.09	10.58	12.15	13.15	14.27	15.30	6.69	7.02	8.06	8.72	9.46	10.15

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-502 Conventional Valves (kWatts)– A Series, T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
AA/AN/AAC/ANC	1/4	0.60	0.74	0.80	0.85	0.95	1.00	0.60	0.74	0.80	0.85	0.95	1.00	0.57	0.69	0.75	0.80	0.90	0.94
AA/AN/AAC/ANC/AFA	1/2	1.06	1.30	1.40	1.50	1.68	1.76	1.03	1.26	1.36	1.45	1.62	1.70	0.99	1.21	1.31	1.40	1.57	1.64
AA/AN/AAC/ANC/AFA	3/4	1.70	2.08	2.25	2.40	2.69	2.82	1.66	2.04	2.20	2.35	2.63	2.76	1.59	1.95	2.11	2.25	2.52	2.64
AA/AN/AAC/ANC/AFA	1	2.41	2.95	3.18	3.40	3.81	3.99	2.37	2.90	3.14	3.35	3.75	3.93	2.27	2.77	3.00	3.20	3.58	3.76
AA/AN/AAC/ANC/AFA	2	4.99	6.11	6.60	7.06	7.89	8.28	4.89	5.98	6.46	6.91	7.72	8.10	4.67	5.72	6.18	6.61	7.39	7.75
AA/AN/AAC/ANC/AFA	2-1/2	6.12	7.50	8.10	8.66	9.68	10.16	5.98	7.33	7.91	8.46	9.46	9.92	5.73	7.02	7.59	8.11	9.07	9.51
AA/AN/AAC/ANC	3	7.26	8.89	9.60	10.26	11.47	12.03	7.12	8.71	9.41	10.06	11.25	11.80	6.80	8.32	8.99	9.61	10.75	11.27
AA/AN/AAC/ANC/AFA	4	9.95	12.18	13.16	14.07	15.73	16.50	9.74	11.92	12.88	13.77	15.39	16.14	9.27	11.36	12.27	13.12	14.66	15.38
TCLE	1/4	0.92	1.13	1.22	1.30	1.46	1.53	0.89	1.08	1.17	1.25	1.40	1.47	0.85	1.04	1.12	1.20	1.34	1.41
TCLE	3/4	1.70	2.08	2.25	2.40	2.69	2.82	1.66	2.04	2.20	2.35	2.63	2.76	1.59	1.95	2.11	2.25	2.52	2.64
TCLE	1-1/2	3.43	4.21	4.54	4.86	5.43	5.69	3.36	4.12	4.45	4.76	5.32	5.58	3.22	3.95	4.26	4.56	5.09	5.34
TCLE	2-1/2	6.37	7.80	8.43	9.01	10.08	10.57	6.23	7.63	8.24	8.81	9.85	10.33	5.95	7.28	7.87	8.41	9.40	9.86
TCLE	3-1/2	9.27	11.36	12.27	13.12	14.66	15.38	9.06	11.10	11.99	12.82	14.33	15.03	8.64	10.58	11.43	12.22	13.66	14.32
TCLE	5-1/2	13.45	16.48	17.80	19.02	21.27	22.31	13.17	16.13	17.42	18.62	20.82	21.84	12.57	15.39	16.62	17.77	19.87	20.84
TCLE	7-1/2	18.51	22.68	24.49	26.18	29.27	30.70	18.12	22.20	23.98	25.63	28.66	30.06	17.31	21.20	22.90	24.48	27.37	28.71
TCLE	9	22.34	27.36	29.55	31.59	35.32	37.04	21.88	26.79	28.94	30.94	34.59	36.28	20.89	25.58	27.63	29.54	33.02	34.64
TJL	9	19.79	24.24	26.18	27.99	31.29	32.82	19.36	23.72	25.62	27.38	30.62	32.11	18.48	22.63	24.45	26.13	29.22	30.64
TJL	11	25.24	30.91	33.39	35.70	39.91	41.86	24.71	30.26	32.69	34.94	39.07	40.98	23.58	28.88	31.19	33.34	37.28	39.10

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
AA/AN/AAC/ANC	1/4	0.53	0.65	0.70	0.75	0.84	0.88	0.39	0.42	0.45	0.50	0.53	0.55	0.25	0.27	0.29	0.32	0.34	0.35
AA/AN/AAC/ANC/AFA	1/2	0.92	1.13	1.22	1.30	1.46	1.53	0.71	0.76	0.82	0.91	0.96	1.00	0.46	0.50	0.53	0.59	0.62	0.65
AA/AN/AAC/ANC/AFA	3/4	1.45	1.78	1.92	2.05	2.29	2.41	1.13	1.22	1.31	1.46	1.53	1.60	0.74	0.80	0.86	0.96	1.01	1.05
AA/AN/AAC/ANC/AFA	1	2.09	2.56	2.76	2.95	3.30	3.46	1.63	1.76	1.88	2.10	2.20	2.30	1.03	1.11	1.19	1.33	1.39	1.45
AA/AN/AAC/ANC/AFA	2	4.28	5.25	5.67	6.06	6.77	7.10	3.40	3.67	3.92	4.39	4.60	4.81	2.16	2.33	2.49	2.79	2.92	3.05
AA/AN/AAC/ANC/AFA	2-1/2	5.27	6.46	6.98	7.46	8.34	8.75	4.14	4.47	4.78	5.35	5.61	5.86	2.66	2.87	3.07	3.43	3.59	3.75
AA/AN/AAC/ANC	3	6.23	7.63	8.24	8.81	9.85	10.33	4.92	5.31	5.68	6.35	6.66	6.96	3.15	3.40	3.64	4.07	4.27	4.46
AA/AN/AAC/ANC/AFA	4	8.53	10.45	11.29	12.07	13.49	14.15	6.73	7.26	7.77	8.68	9.11	9.51	4.28	4.63	4.95	5.53	5.80	6.06
TCLE	1/4	0.78	0.95	1.03	1.10	1.23	1.29	0.60	0.65	0.69	0.78	0.81	0.85	0.39	0.42	0.45	0.50	0.53	0.55
TCLE	3/4	1.45	1.78	1.92	2.05	2.29	2.41	1.17	1.26	1.35	1.51	1.58	1.65	0.74	0.80	0.86	0.96	1.01	1.05
TCLE	1-1/2	2.97	3.64	3.93	4.21	4.70	4.93	2.34	2.52	2.70	3.02	3.16	3.30	1.49	1.61	1.72	1.92	2.01	2.10
TCLE	2-1/2	5.45	6.68	7.21	7.71	8.62	9.04	4.32	4.66	4.99	5.58	5.85	6.11	2.76	2.98	3.19	3.56	3.74	3.90
TCLE	3-1/2	7.97	9.76	10.54	11.26	12.59	13.21	6.30	6.81	7.28	8.13	8.53	8.91	4.00	4.32	4.62	5.16	5.42	5.66
TCLE	5-1/2	11.54	14.13	15.27	16.32	18.25	19.14	9.13	9.86	10.55	11.79	12.37	12.92	5.81	6.27	6.70	7.49	7.86	8.21
TCLE	7-1/2	15.93	19.51	21.07	22.53	25.19	26.42	12.57	13.57	14.51	16.22	17.02	17.77	8.00	8.64	9.24	10.33	10.83	11.31
TCLE	9	19.19	23.50	25.38	27.13	30.34	31.82	15.15	16.37	17.50	19.56	20.51	21.43	9.66	10.44	11.16	12.48	13.09	13.67
TJL	9	17.03	20.85	22.53	24.08	26.92	28.24	13.45	14.53	15.53	17.37	18.21	19.02	8.57	9.25	9.89	11.06	11.60	12.12
TJL	11	21.70	26.58	28.71	30.69	34.31	35.99	17.13	18.51	19.78	22.12	23.20	24.23	10.90	11.78	12.59	14.08	14.76	15.42

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-12 Balanced Ported Valves (kWatts)– B, HF, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100	
BA/BN	1/4	1.06	1.30	1.40	1.50	1.68	1.76	1.06	1.30	1.40	1.50	1.68	1.76	0.99	1.21	1.31	1.40	1.57	1.64
BA/BN	1/2	2.02	2.47	2.67	2.85	3.19	3.35	1.98	2.43	2.62	2.80	3.13	3.29	1.91	2.34	2.53	2.70	3.02	3.17
BA/BN	1	3.19	3.90	4.21	4.51	5.04	5.28	3.12	3.82	4.12	4.41	4.93	5.17	2.97	3.64	3.93	4.21	4.70	4.93
BA/BN	1-1/4	4.25	5.20	5.62	6.01	6.72	7.04	4.14	5.07	5.48	5.86	6.55	6.87	4.00	4.90	5.29	5.66	6.32	6.63
BA/BN	1-1/2	5.35	6.55	7.07	7.56	8.45	8.86	5.24	6.42	6.93	7.41	8.28	8.69	5.03	6.16	6.65	7.11	7.95	8.34
BA/BN	2	6.48	7.93	8.57	9.16	10.24	10.74	6.37	7.80	8.43	9.01	10.08	10.57	6.09	7.46	8.05	8.61	9.63	10.10
BA/BN	2-1/2	8.39	10.28	11.10	11.86	13.27	13.91	8.25	10.10	10.91	11.66	13.04	13.68	7.89	9.67	10.44	11.16	12.48	13.09
BA/BN	3	10.62	13.01	14.05	15.02	16.79	17.61	10.41	12.75	13.77	14.72	16.46	17.26	9.98	12.23	13.21	14.12	15.78	16.55
BA/BN	3-1/2	13.20	16.17	17.47	18.67	20.88	21.90	12.96	15.87	17.14	18.32	20.49	21.49	12.43	15.22	16.44	17.57	19.65	20.61
HF/HN	1/8	0.60	0.74	0.80	0.85	0.95	1.00	0.60	0.74	0.80	0.85	0.95	1.00	0.57	0.69	0.75	0.80	0.90	0.94
HF/HN	1/4	1.13	1.39	1.50	1.60	1.79	1.88	1.10	1.34	1.45	1.55	1.74	1.82	1.06	1.30	1.40	1.50	1.68	1.76
HF/HN	1/2	2.02	2.47	2.67	2.85	3.19	3.35	1.98	2.43	2.62	2.80	3.13	3.29	1.91	2.34	2.53	2.70	3.02	3.17
HF/HN	1	3.12	3.82	4.12	4.41	4.93	5.17	3.04	3.73	4.03	4.31	4.81	5.05	2.90	3.56	3.84	4.11	4.59	4.81
HF/HN	1-1/4	4.18	5.12	5.53	5.91	6.60	6.93	4.11	5.03	5.43	5.81	6.49	6.81	3.93	4.81	5.20	5.56	6.21	6.52
HF/HN	1-1/2	5.35	6.55	7.07	7.56	8.45	8.86	5.24	6.42	6.93	7.41	8.28	8.69	5.03	6.16	6.65	7.11	7.95	8.34
HF/HN	2	7.08	8.67	9.37	10.01	11.19	11.74	6.94	8.50	9.18	9.81	10.97	11.51	6.66	8.15	8.80	9.41	10.52	11.04
HF/HN	3-1/2	12.57	15.39	16.62	17.77	19.87	20.84	12.32	15.09	16.30	17.42	19.48	20.43	11.82	14.48	15.64	16.72	18.69	19.61
HF/HN	5	17.49	21.42	23.13	24.73	27.65	29.00	17.17	21.03	22.71	24.28	27.15	28.47	16.46	20.16	21.78	23.28	26.03	27.30
HF/HN	6	22.16	27.14	29.32	31.34	35.04	36.75	21.70	26.58	28.71	30.69	34.31	35.99	20.82	25.49	27.54	29.44	32.91	34.52
HF/HN	9	32.85	40.23	43.46	46.46	51.94	54.48	32.21	39.45	42.62	45.56	50.93	53.42	30.90	37.85	40.88	43.71	48.86	51.25
HF/HN	12	43.26	52.98	57.23	61.18	68.40	71.74	42.41	51.94	56.10	59.98	67.05	70.33	40.67	49.82	53.81	57.52	64.31	67.45
TRAE+	7-1/2	25.28	30.96	33.44	35.75	39.96	41.91	24.78	30.35	32.78	35.04	39.18	41.09	23.75	29.09	31.42	33.59	37.56	39.39
TRAE+	10	36.85	45.13	48.75	52.12	58.27	61.11	36.11	44.22	47.77	51.06	57.09	59.88	34.62	42.40	45.80	48.96	54.74	57.41
TRAE+	12	41.13	50.38	54.42	58.17	65.04	68.21	40.32	49.38	53.34	57.02	63.75	66.86	38.66	47.34	51.14	54.67	61.12	64.11
TRAE+	18	62.34	76.35	82.47	88.16	98.57	103.38	61.10	74.83	80.83	86.41	96.61	101.32	58.59	71.75	77.50	82.85	92.63	97.16
TRAE+	25	85.67	104.92	113.33	121.15	135.45	142.06	84.00	102.88	111.13	118.80	132.82	139.31	80.54	98.63	106.54	113.89	127.34	133.55
TRAE	30	115.65	141.64	152.99	163.56	182.86	191.79	113.39	138.87	150.00	160.35	179.28	188.03	108.75	133.19	143.86	153.79	171.95	180.34
TRAE	35	126.17	154.52	166.90	178.43	199.49	209.22	123.69	151.49	163.62	174.92	195.57	205.11	118.63	145.29	156.93	167.76	187.56	196.72
TRAE	40	150.13	183.87	198.61	212.32	237.38	248.96	147.19	180.27	194.72	208.16	232.73	244.09	141.18	172.90	186.76	199.65	223.22	234.11
TJR	8	31.47	38.54	41.63	44.51	49.76	52.19	30.87	37.81	40.84	43.66	48.81	51.19	29.59	36.25	39.15	41.85	46.79	49.08
TJR	11	37.70	46.17	49.87	53.32	59.61	62.52	36.96	45.26	48.89	52.27	58.44	61.29	35.44	43.40	46.88	50.11	56.03	58.76
TER	13	47.12	57.71	62.33	66.63	74.50	78.14	46.20	56.58	61.11	65.33	73.04	76.61	44.29	54.24	58.58	62.63	70.02	73.44
TER	15	55.68	68.20	73.66	78.75	88.04	92.34	54.59	66.85	72.21	77.20	86.31	90.52	52.36	64.12	69.26	74.04	82.78	86.82
TER	20	74.98	91.83	99.19	106.03	118.55	124.34	73.49	90.01	97.22	103.93	116.20	121.87	70.48	86.32	93.24	99.68	111.44	116.88
TER	25	96.39	118.06	127.52	136.32	152.41	159.85	94.48	115.72	124.99	133.62	149.39	156.68	90.62	110.99	119.88	128.16	143.29	150.28
TIR	35	110.77	135.66	146.53	156.65	175.14	183.69	83.65	102.45	110.66	118.30	132.26	138.72	110.77	135.66	146.53	156.65	175.14	183.69
THR	45	149.92	183.61	198.32	212.02	237.04	248.61	146.98	180.01	194.44	207.86	232.40	243.74	140.96	172.64	186.48	199.35	222.88	233.76
THR	55	182.06	222.98	240.85	257.47	287.87	301.92	178.49	218.60	236.12	252.42	282.21	295.99	171.16	209.63	226.42	242.06	270.63	283.84
TMR	55	214.17	262.30	283.32	302.88	338.63	355.16	209.99	257.19	277.79	296.97	332.03	348.23	201.39	246.65	266.41	284.81	318.43	333.97

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-12 Balanced Ported Valves (kWatts)– B, HF, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
BA/BN	1/4	0.89	1.08	1.17	1.25	1.40	1.47	0.71	0.76	0.82	0.91	0.96	1.00	0.46	0.50	0.53	0.59	0.62	0.65
BA/BN	1/2	1.70	2.08	2.25	2.40	2.69	2.82	1.35	1.45	1.55	1.74	1.82	1.90	0.85	0.92	0.98	1.10	1.15	1.20
BA/BN	1	2.66	3.25	3.51	3.75	4.20	4.40	2.05	2.22	2.37	2.65	2.78	2.90	1.35	1.45	1.55	1.74	1.82	1.90
BA/BN	1-1/4	3.54	4.34	4.68	5.01	5.60	5.87	2.76	2.98	3.19	3.56	3.74	3.90	1.81	1.95	2.08	2.33	2.44	2.55
BA/BN	1-1/2	4.46	5.46	5.90	6.31	7.05	7.40	3.50	3.79	4.05	4.52	4.75	4.96	2.27	2.45	2.62	2.92	3.07	3.20
BA/BN	2	5.42	6.63	7.16	7.66	8.56	8.98	4.25	4.59	4.91	5.48	5.75	6.01	2.76	2.98	3.19	3.56	3.74	3.90
BA/BN	2-1/2	7.01	8.58	9.27	9.91	11.08	11.62	5.49	5.93	6.34	7.08	7.43	7.76	3.58	3.86	4.13	4.62	4.84	5.06
BA/BN	3	8.85	10.84	11.71	12.52	13.99	14.68	6.94	7.49	8.01	8.96	9.39	9.81	4.50	4.86	5.19	5.80	6.09	6.36
BA/BN	3-1/2	11.01	13.48	14.56	15.57	17.41	18.26	8.64	9.33	9.97	11.15	11.70	12.22	5.59	6.04	6.46	7.22	7.57	7.91
HF/HN	1/8	0.50	0.61	0.66	0.70	0.78	0.82	0.39	0.42	0.45	0.50	0.53	0.55	0.25	0.27	0.29	0.32	0.34	0.35
HF/HN	1/4	0.96	1.17	1.26	1.35	1.51	1.59	0.74	0.80	0.86	0.96	1.01	1.05	0.50	0.54	0.57	0.64	0.67	0.70
HF/HN	1/2	1.70	2.08	2.25	2.40	2.69	2.82	1.35	1.45	1.55	1.74	1.82	1.90	0.85	0.92	0.98	1.10	1.15	1.20
HF/HN	1	2.58	3.16	3.42	3.65	4.09	4.29	2.02	2.18	2.33	2.60	2.73	2.85	1.31	1.41	1.51	1.69	1.77	1.85
HF/HN	1-1/4	3.47	4.25	4.59	4.91	5.49	5.75	2.73	2.94	3.15	3.52	3.69	3.85	1.77	1.91	2.04	2.29	2.40	2.50
HF/HN	1-1/2	4.46	5.46	5.90	6.31	7.05	7.40	3.50	3.79	4.05	4.52	4.75	4.96	2.27	2.45	2.62	2.92	3.07	3.20
HF/HN	2	5.88	7.20	7.77	8.31	9.29	9.74	4.60	4.97	5.31	5.94	6.23	6.51	3.01	3.25	3.47	3.88	4.07	4.26
HF/HN	3-1/2	10.48	12.83	13.86	14.82	16.57	17.38	8.21	8.87	9.48	10.60	11.12	11.61	5.35	5.77	6.17	6.90	7.24	7.56
HF/HN	5	14.58	17.86	19.29	20.63	23.06	24.19	11.43	12.35	13.20	14.76	15.48	16.17	7.43	8.03	8.58	9.60	10.07	10.51
HF/HN	6	18.44	22.59	24.40	26.08	29.16	30.58	14.44	15.60	16.68	18.65	19.56	20.43	9.42	10.17	10.87	12.16	12.75	13.32
HF/HN	9	27.36	33.51	36.20	38.70	43.27	45.38	21.45	23.17	24.77	27.69	29.05	30.34	13.95	15.07	16.11	18.01	18.89	19.72
HF/HN	12	36.00	44.09	47.63	50.91	56.92	59.70	28.21	30.47	32.58	36.42	38.20	39.90	18.34	19.81	21.17	23.67	24.83	25.93
TRAE+	7-1/2	21.06	25.80	27.86	29.79	33.30	34.93	16.50	17.82	19.05	21.30	22.34	23.33	10.73	11.59	12.39	13.85	14.52	15.17
TRAE+	10	30.69	37.59	40.60	43.40	48.53	50.90	24.04	25.96	27.76	31.03	32.55	33.99	15.65	16.90	18.07	20.20	21.19	22.13
TRAE+	12	34.23	41.93	45.28	48.41	54.13	56.77	26.83	28.98	30.98	34.64	36.33	37.95	17.45	18.85	20.15	22.53	23.63	24.68
TRAE+	18	51.90	63.56	68.65	73.39	82.06	86.06	40.67	43.93	46.97	52.51	55.07	57.52	26.44	28.56	30.53	34.14	35.81	37.40
TRAE+	25	71.33	87.36	94.36	100.88	112.78	118.29	55.93	60.41	64.58	72.21	75.73	79.10	36.36	39.27	41.98	46.94	49.23	51.41
TRAE	30	96.32	117.97	127.42	136.22	152.30	159.73	75.51	81.56	87.19	97.48	102.24	106.78	49.10	53.03	56.70	63.39	66.48	69.44
TRAE	35	105.07	128.68	138.99	148.59	166.13	174.23	82.34	88.94	95.08	106.30	111.49	116.45	53.56	57.85	61.85	69.15	72.52	75.75
TRAE	40	125.03	153.13	165.40	176.82	197.69	207.34	97.99	105.84	113.15	126.50	132.68	138.57	63.72	68.83	73.58	82.26	86.28	90.11
TJR	8	26.23	32.13	34.70	37.10	41.48	43.50	20.57	22.22	23.75	26.55	27.85	29.09	13.35	14.42	15.41	17.23	18.07	18.87
TJR	11	31.40	38.46	41.54	44.41	49.65	52.07	24.60	26.57	28.41	31.76	33.31	34.79	16.00	17.28	18.48	20.66	21.67	22.63
TER	13	39.22	48.04	51.89	55.47	62.02	65.04	30.76	33.23	35.52	39.71	41.65	43.50	20.00	21.60	23.10	25.82	27.08	28.29
TER	15	46.37	56.80	61.35	65.58	73.32	76.90	36.36	39.27	41.98	46.94	49.23	51.41	23.65	25.54	27.31	30.53	32.02	33.44
TER	20	62.45	76.48	82.61	88.31	98.74	103.55	48.92	52.84	56.49	63.16	66.24	69.19	31.82	34.37	36.75	41.09	43.09	45.01
TER	25	80.25	98.29	106.16	113.49	126.89	133.08	62.91	67.95	72.64	81.21	85.17	88.96	40.92	44.20	47.25	52.83	55.41	57.87
TIR	35	98.09	120.14	129.77	138.73	155.10	162.67	76.89	83.05	88.78	99.26	104.11	108.74	49.98	53.99	57.72	64.53	67.68	70.69
THR	45	124.86	152.92	165.17	176.57	197.41	207.05	97.85	105.69	112.98	126.32	132.48	138.37	63.65	68.75	73.50	82.17	86.18	90.01
THR	55	151.62	185.69	200.57	214.42	239.73	251.43	118.84	128.36	137.22	153.42	160.91	168.06	77.28	83.47	89.23	99.77	104.64	109.29
TMR	55	178.38	218.47	235.98	252.27	282.04	295.81	139.79	151.00	161.42	180.47	189.28	197.70	90.91	98.19	104.97	117.36	123.09	128.56

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.38	1.69	1.83	1.95	2.18	2.29	1.37	1.68	1.81	1.94	2.17	2.27	1.35	1.65	1.78	1.90	2.13	2.23
BA/BN	1	2.66	3.25	3.51	3.75	4.20	4.40	2.60	3.19	3.45	3.68	4.12	4.32	2.55	3.12	3.37	3.60	4.03	4.23
BA/BN	1-1/2	4.11	5.03	5.43	5.81	6.49	6.81	4.06	4.97	5.37	5.74	6.42	6.73	3.96	4.86	5.24	5.61	6.27	6.57
BA/BN	2	5.52	6.76	7.31	7.81	8.73	9.16	5.43	6.65	7.18	7.68	8.58	9.00	5.31	6.50	7.02	7.51	8.40	8.81
BA/BN	2-1/2	6.94	8.50	9.18	9.81	10.97	11.51	6.86	8.40	9.07	9.69	10.84	11.37	6.69	8.19	8.85	9.46	10.58	11.10
BA/BN	3	8.43	10.32	11.15	11.92	13.32	13.97	8.31	10.18	10.99	11.75	13.14	13.78	8.11	9.93	10.72	11.46	12.82	13.44
BA/BN	4	10.90	13.35	14.42	15.42	17.24	18.08	10.75	13.16	14.22	15.20	17.00	17.83	10.51	12.88	13.91	14.87	16.62	17.44
BA/BN	5	13.81	16.91	18.26	19.52	21.83	22.89	13.63	16.69	18.03	19.27	21.55	22.60	13.28	16.26	17.56	18.77	20.99	22.01
BA/BN	6	17.17	21.03	22.71	24.28	27.15	28.47	16.92	20.72	22.38	23.93	26.75	28.06	16.53	20.25	21.87	23.38	26.14	27.41
HF/HN	1/4	0.78	0.95	1.03	1.10	1.23	1.29	0.77	0.94	1.02	1.09	1.21	1.27	0.74	0.91	0.98	1.05	1.18	1.23
HF/HN	1/2	1.49	1.82	1.97	2.10	2.35	2.47	1.45	1.78	1.92	2.06	2.30	2.41	1.42	1.73	1.87	2.00	2.24	2.35
HF/HN	1	2.66	3.25	3.51	3.75	4.20	4.40	2.60	3.19	3.45	3.68	4.12	4.32	2.55	3.12	3.37	3.60	4.03	4.23
HF/HN	1-1/2	4.04	4.94	5.34	5.71	6.38	6.69	3.98	4.87	5.26	5.62	6.29	6.59	3.89	4.77	5.15	5.51	6.16	6.46
HF/HN	2	5.42	6.63	7.16	7.66	8.56	8.98	5.37	6.58	7.11	7.60	8.50	8.91	5.24	6.42	6.93	7.41	8.28	8.69
HF/HN	2-1/2	6.94	8.50	9.18	9.81	10.97	11.51	6.88	8.43	9.10	9.73	10.88	11.41	6.69	8.19	8.85	9.46	10.58	11.10
HF/HN	3	9.17	11.23	12.13	12.97	14.50	15.20	9.08	11.12	12.01	12.84	14.35	15.05	8.85	10.84	11.71	12.52	13.99	14.68
HF/HN	5-1/2	16.32	19.99	21.59	23.08	25.80	27.06	16.15	19.78	21.37	22.84	25.54	26.78	15.72	19.25	20.79	22.23	24.85	26.06
HF/HN	8	22.73	27.83	30.06	32.14	35.93	37.69	22.46	27.50	29.71	31.76	35.51	37.24	21.88	26.79	28.94	30.94	34.59	36.28
HF/HN	10	28.78	35.25	38.07	40.70	45.51	47.73	28.52	34.93	37.73	40.33	45.09	47.29	27.72	33.95	36.67	39.20	43.83	45.97
HF/HN	15	42.83	52.46	56.66	60.58	67.73	71.03	42.23	51.72	55.86	59.72	66.77	70.03	41.10	50.34	54.37	58.12	64.98	68.16
HF/HN	20	56.29	68.94	74.46	79.60	89.00	93.34	55.39	67.84	73.27	78.33	87.58	91.85	54.09	66.25	71.56	76.50	85.53	89.70
TFE	8	22.30	27.31	29.50	31.54	35.26	36.98	22.05	27.00	29.16	31.18	34.86	36.56	21.49	26.32	28.43	30.39	33.98	35.63
TFE	10	30.55	37.42	40.41	43.20	48.30	50.66	30.19	36.98	39.94	42.70	47.73	50.06	29.42	36.03	38.92	41.60	46.51	48.78
TFE	12	37.91	46.43	50.15	53.62	59.95	62.87	37.48	45.91	49.59	53.01	59.27	62.16	36.53	44.74	48.33	51.67	57.76	60.58
TFE	20	57.88	70.89	76.57	81.85	91.51	95.98	57.23	70.09	75.70	80.93	90.48	94.90	54.98	67.33	72.73	77.75	86.93	91.17
TRAE+	10	32.82	40.19	43.41	46.41	51.89	54.42	32.44	39.73	42.91	45.88	51.29	53.79	31.61	38.72	41.82	44.71	49.98	52.42
TRAE+	15	47.86	58.62	63.31	67.69	75.67	79.37	47.30	57.93	62.57	66.89	74.79	78.44	46.09	56.45	60.97	65.18	72.88	76.43
TRAE+	20	53.42	65.42	70.67	75.55	84.46	88.58	52.78	64.65	69.83	74.65	83.46	87.53	51.44	63.00	68.04	72.74	81.33	85.30
TRAE+	30	80.96	99.16	107.10	114.49	128.01	134.26	80.01	98.00	105.85	113.16	126.51	132.69	77.95	95.47	103.12	110.24	123.25	129.27
TRAE+	40	111.26	136.27	147.19	157.35	175.92	184.51	109.98	134.70	145.50	155.54	173.90	182.39	107.16	131.24	141.75	151.54	169.43	177.70
TRAE	50	150.20	183.96	198.70	212.42	237.49	249.08	148.46	181.82	196.39	209.95	234.73	246.19	144.68	177.20	191.39	204.61	228.76	239.92
TRAE	60	163.83	200.65	216.73	231.69	259.04	271.68	161.95	198.34	214.24	229.03	256.06	268.56	157.81	193.28	208.77	223.18	249.52	261.70
TRAE	70	195.02	238.85	257.99	275.80	308.35	323.40	192.74	236.06	254.97	272.58	304.75	319.62	187.83	230.05	248.48	265.64	296.99	311.48
TJR	14	40.89	50.08	54.09	57.82	64.65	67.80	36.14	44.26	47.81	51.11	57.14	59.93	39.40	48.26	52.12	55.72	62.30	65.34
TJR	18	48.96	59.96	64.77	69.24	77.41	81.19	48.40	59.27	64.02	68.44	76.52	80.26	47.15	57.75	62.38	66.68	74.56	78.19
TER	22	61.21	74.96	80.97	86.56	96.78	101.50	60.49	74.08	80.02	85.55	95.64	100.31	58.94	72.19	77.97	83.36	93.19	97.74
TER	26	72.32	88.58	95.67	102.28	114.35	119.93	63.95	78.32	84.59	90.43	101.11	106.04	69.67	85.32	92.16	98.52	110.15	115.53
TER	35	97.35	119.23	128.78	137.67	153.92	161.44	96.22	117.84	127.29	136.07	152.14	159.56	93.77	114.85	124.05	132.62	148.27	155.51
TER	45	125.17	153.31	165.59	177.02	197.92	207.58	123.72	151.53	163.67	174.97	195.62	205.17	120.57	147.67	159.50	170.52	190.64	199.95
TIR	55	153.00	187.38	202.40	216.37	241.91	253.72	151.23	185.21	200.05	213.86	239.11	250.78	147.37	180.49	194.95	208.41	233.01	244.39
THR	70	194.74	238.50	257.61	275.40	307.90	322.93	192.47	235.72	254.61	272.19	304.32	319.17	187.55	229.70	248.10	265.23	296.54	311.02
THR	85	236.44	289.57	312.78	334.37	373.84	392.09	233.71	286.23	309.17	330.51	369.52	387.56	227.73	278.91	301.26	322.06	360.07	377.64
TMR	100	278.17	340.69	367.99	393.40	439.83	461.30	274.95	336.74	363.72	388.83	434.73	455.95	267.94	328.16	354.45	378.93	423.65	444.33

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-22 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
BA/BN	1/2	1.20	1.47	1.59	1.70	1.90	2.00	0.96	1.03	1.10	1.23	1.29	1.35	0.64	0.69	0.74	0.82	0.86	0.90
BA/BN	1	2.30	2.82	3.04	3.25	3.64	3.82	1.84	1.99	2.13	2.38	2.49	2.60	1.20	1.30	1.39	1.55	1.63	1.70
BA/BN	1-1/2	3.61	4.42	4.78	5.11	5.71	5.99	2.87	3.10	3.31	3.70	3.88	4.06	1.88	2.03	2.17	2.42	2.54	2.65
BA/BN	2	4.81	5.90	6.37	6.81	7.61	7.98	3.82	4.13	4.41	4.94	5.18	5.41	2.51	2.71	2.90	3.24	3.40	3.55
BA/BN	2-1/2	6.09	7.46	8.05	8.61	9.63	10.10	4.85	5.24	5.60	6.26	6.57	6.86	3.19	3.44	3.68	4.11	4.31	4.51
BA/BN	3	7.36	9.02	9.74	10.41	11.64	12.21	5.88	6.35	6.79	7.59	7.96	8.31	3.86	4.17	4.46	4.98	5.22	5.46
BA/BN	4	9.52	11.66	12.60	13.47	15.06	15.79	7.61	8.22	8.79	9.83	10.31	10.76	4.99	5.39	5.76	6.44	6.76	7.06
BA/BN	5	12.04	14.74	15.92	17.02	19.03	19.96	9.63	10.40	11.12	12.43	13.04	13.62	6.34	6.84	7.32	8.18	8.58	8.96
BA/BN	6	14.97	18.34	19.81	21.18	23.68	24.83	11.97	12.92	13.82	15.45	16.20	16.92	7.89	8.53	9.12	10.19	10.69	11.16
HF/HN	1/4	0.67	0.82	0.89	0.95	1.06	1.12	0.53	0.57	0.61	0.69	0.72	0.75	0.35	0.38	0.41	0.46	0.48	0.50
HF/HN	1/2	1.27	1.56	1.69	1.80	2.02	2.11	1.03	1.11	1.19	1.33	1.39	1.45	0.67	0.73	0.78	0.87	0.91	0.95
HF/HN	1	2.30	2.82	3.04	3.25	3.64	3.82	1.84	1.99	2.13	2.38	2.49	2.60	1.20	1.30	1.39	1.55	1.63	1.70
HF/HN	1-1/2	3.54	4.34	4.68	5.01	5.60	5.87	2.80	3.02	3.23	3.61	3.79	3.95	1.84	1.99	2.13	2.38	2.49	2.60
HF/HN	2	4.74	5.81	6.28	6.71	7.50	7.87	3.79	4.09	4.37	4.89	5.13	5.36	2.48	2.68	2.86	3.20	3.36	3.50
HF/HN	2-1/2	6.09	7.46	8.05	8.61	9.63	10.10	4.21	4.55	4.86	5.44	5.70	5.96	3.19	3.44	3.68	4.11	4.31	4.51
HF/HN	3	8.00	9.80	10.58	11.31	12.65	13.27	6.41	6.92	7.40	8.27	8.68	9.06	4.21	4.55	4.86	5.44	5.70	5.96
HF/HN	5-1/2	14.27	17.47	18.87	20.18	22.56	23.66	11.40	12.31	13.16	14.72	15.43	16.12	7.50	8.11	8.67	9.69	10.16	10.61
HF/HN	8	19.86	24.32	26.27	28.09	31.40	32.93	15.86	17.13	18.31	20.47	21.47	22.43	10.44	11.28	12.06	13.48	14.14	14.77
HF/HN	10	25.13	30.78	33.25	35.54	39.74	41.68	20.07	21.68	23.18	25.91	27.18	28.39	13.20	14.26	15.25	17.05	17.88	18.67
HF/HN	15	37.17	45.52	49.17	52.57	58.77	61.64	29.74	32.12	34.34	38.39	40.26	42.05	19.58	21.14	22.60	25.27	26.51	27.68
HF/HN	20	49.21	60.26	65.09	69.59	77.80	81.60	39.15	42.29	45.21	50.55	53.01	55.37	25.77	27.84	29.76	33.27	34.89	36.45
TFE	8	19.47	23.85	25.76	27.53	30.78	32.29	15.54	16.79	17.94	20.06	21.04	21.98	10.23	11.05	11.81	13.21	13.85	14.47
TFE	10	26.69	32.69	35.31	37.75	42.20	44.26	21.31	23.02	24.61	27.51	28.85	30.14	14.02	15.14	16.19	18.10	18.98	19.83
TFE	12	33.10	40.54	43.79	46.81	52.33	54.89	26.44	28.56	30.53	34.14	35.81	37.40	17.42	18.81	20.11	22.48	23.58	24.63
TFE	20	50.55	61.91	66.87	71.49	79.93	83.83	40.36	43.59	46.60	52.10	54.64	57.07	26.59	28.72	30.70	34.32	36.00	37.60
TRAE+	10	28.67	35.12	37.93	40.55	45.34	47.55	22.90	24.74	26.45	29.57	31.01	32.39	15.08	16.29	17.41	19.47	20.42	21.33
TRAE+	15	41.77	51.16	55.26	59.07	66.05	69.27	33.35	36.02	38.51	43.05	45.15	47.16	21.98	23.74	25.38	28.38	29.77	31.09
TRAE+	20	46.66	57.14	61.72	65.98	73.77	77.37	37.24	40.22	43.00	48.08	50.42	52.67	24.53	26.50	28.33	31.67	33.22	34.69
TRAE+	30	70.69	86.58	93.52	99.98	111.78	117.23	56.43	60.95	65.16	72.85	76.40	79.80	37.17	40.15	42.92	47.99	50.33	52.57
TRAE+	40	97.17	119.01	128.55	137.42	153.64	161.14	77.60	83.81	89.60	100.18	105.07	109.74	51.08	55.18	58.98	65.95	69.17	72.24
TRAE	50	131.19	160.68	173.55	185.53	207.43	217.56	104.75	113.14	120.95	135.23	141.83	148.14	68.96	74.48	79.63	89.03	93.37	97.52
TRAE	60	143.09	175.24	189.29	202.36	226.24	237.28	114.24	123.39	131.91	147.48	154.68	161.55	75.23	81.25	86.86	97.12	101.86	106.38
TRAE	70	170.31	208.59	225.30	240.85	269.28	282.43	135.97	146.87	157.01	175.54	184.11	192.29	89.53	96.70	103.38	115.58	121.22	126.61
TJR	14	35.72	43.75	47.25	50.51	56.48	59.23	28.50	30.78	32.91	36.79	38.59	40.30	18.76	20.27	21.66	24.22	25.40	26.53
TJR	18	42.76	52.37	56.57	60.48	67.61	70.91	34.13	36.86	39.40	44.06	46.21	48.26	22.48	24.28	25.96	29.02	30.44	31.79
TER	22	53.45	65.47	70.71	75.60	84.52	88.64	42.66	46.07	49.26	55.07	57.76	60.33	28.11	30.36	32.46	36.29	38.06	39.75
TER	26	63.15	77.35	83.54	89.31	99.85	104.73	50.45	54.49	58.25	65.12	68.30	71.34	33.21	35.87	38.34	42.87	44.96	46.96
TER	35	85.03	104.14	112.49	120.25	134.45	141.01	67.90	73.34	78.40	87.65	91.93	96.02	44.71	48.29	51.63	57.72	60.54	63.23
TER	45	109.32	133.88	144.61	154.60	172.84	181.28	87.30	94.29	100.80	112.70	118.20	123.46	57.49	62.10	66.38	74.22	77.84	81.30
TIR	55	133.64	163.67	176.78	188.99	211.30	221.61	106.66	115.21	123.16	137.70	144.42	150.84	70.23	75.86	81.10	90.67	95.10	99.33
THR	70	170.06	208.28	224.97	240.50	268.89	282.02	135.76	146.64	156.76	175.26	183.82	191.99	89.42	96.59	103.25	115.44	121.08	126.46
THR	100	206.49	252.90	273.16	292.02	326.49	342.42	164.86	178.07	190.36	212.83	223.22	233.14	108.57	117.27	125.37	140.17	147.01	153.54
TMR	100	242.95	297.55	321.39	343.58	384.14	402.89	193.96	209.50	223.96	250.40	262.62	274.30	127.72	137.96	147.48	164.89	172.94	180.63

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.31	1.60	1.73	1.85	2.07	2.17	1.31	1.60	1.73	1.85	2.07	2.17	1.24	1.52	1.64	1.75	1.96	2.05
BA/BN	3/4	2.51	3.08	3.32	3.55	3.97	4.17	2.48	3.03	3.28	3.50	3.92	4.11	2.37	2.90	3.14	3.35	3.75	3.93
BA/BN	1	3.93	4.81	5.20	5.56	6.21	6.52	3.86	4.73	5.10	5.46	6.10	6.40	3.68	4.51	4.87	5.21	5.82	6.11
BA/BN	1-1/2	5.24	6.42	6.93	7.41	8.28	8.69	5.13	6.29	6.79	7.26	8.12	8.51	4.92	6.03	6.51	6.96	7.78	8.16
BA/BN	2	6.62	8.11	8.76	9.36	10.47	10.98	6.51	7.98	8.62	9.21	10.30	10.80	6.23	7.63	8.24	8.81	9.85	10.33
BA/BN	2-1/4	8.04	9.84	10.63	11.36	12.71	13.33	7.86	9.63	10.40	11.11	12.43	13.03	7.54	9.23	9.97	10.66	11.92	12.50
BA/BN	3	10.41	12.75	13.77	14.72	16.46	17.26	10.20	12.49	13.49	14.42	16.12	16.91	9.74	11.92	12.88	13.77	15.39	16.14
BA/BN	3-1/2	13.17	16.13	17.42	18.62	20.82	21.84	12.89	15.78	17.05	18.22	20.37	21.37	12.32	15.09	16.30	17.42	19.48	20.43
BA/BN	4-1/4	16.35	20.03	21.64	23.13	25.86	27.12	16.04	19.64	21.21	22.68	25.36	26.59	15.33	18.77	20.28	21.68	24.24	25.42
HF/HN	1/4	0.74	0.91	0.98	1.05	1.18	1.23	0.74	0.91	0.98	1.05	1.18	1.23	0.71	0.87	0.94	1.00	1.12	1.17
HF/HN	1/2	1.42	1.73	1.87	2.00	2.24	2.35	1.38	1.69	1.83	1.95	2.18	2.29	1.31	1.60	1.73	1.85	2.07	2.17
HF/HN	3/4	2.51	3.08	3.32	3.55	3.97	4.17	2.48	3.03	3.28	3.50	3.92	4.11	2.37	2.90	3.14	3.35	3.75	3.93
HF/HN	1	3.86	4.73	5.10	5.46	6.10	6.40	3.75	4.60	4.96	5.31	5.93	6.22	3.61	4.42	4.78	5.11	5.71	5.99
HF/HN	1-1/2	5.17	6.33	6.84	7.31	8.17	8.57	5.06	6.20	6.70	7.16	8.00	8.39	4.85	5.94	6.42	6.86	7.67	8.04
HF/HN	1-3/4	6.62	8.11	8.76	9.36	10.47	10.98	6.51	7.98	8.62	9.21	10.30	10.80	6.23	7.63	8.24	8.81	9.85	10.33
HF/HN	2-1/2	8.74	10.71	11.57	12.37	13.83	14.50	8.57	10.49	11.33	12.12	13.55	14.21	8.21	10.06	10.86	11.61	12.99	13.62
HF/HN	4	15.58	19.08	20.61	22.03	24.63	25.83	15.26	18.69	20.18	21.58	24.12	25.30	14.58	17.86	19.29	20.63	23.06	24.19
HF/HN	6	21.66	26.53	28.66	30.64	34.26	35.93	21.24	26.01	28.10	30.04	33.58	35.22	20.32	24.89	26.88	28.74	32.13	33.70
HF/HN	7-1/2	27.44	33.60	36.29	38.80	43.38	45.50	26.87	32.91	35.54	38.00	42.48	44.56	25.70	31.48	34.00	36.35	40.64	42.62
HF/HN	11	40.71	49.86	53.85	57.57	64.37	67.51	39.86	48.82	52.73	56.37	63.02	66.10	38.13	46.69	50.44	53.92	60.28	63.22
HF/HN	14	53.56	65.60	70.85	75.75	84.69	88.82	52.46	64.25	69.40	74.19	82.95	87.00	50.20	61.48	66.40	70.99	79.37	83.24
TFE	6	21.28	26.06	28.14	30.09	33.64	35.28	20.85	25.54	27.58	29.49	32.97	34.58	19.93	24.41	26.37	28.19	31.51	33.05
TFE	8	29.13	35.68	38.54	41.20	46.07	48.31	28.53	34.94	37.74	40.35	45.11	47.32	27.29	33.43	36.11	38.60	43.15	45.26
TFE	10	36.18	44.31	47.86	51.16	57.20	60.00	35.44	43.40	46.88	50.11	56.03	58.76	33.88	41.49	44.82	47.91	53.57	56.18
TFE	15	55.22	67.64	73.05	78.10	87.32	91.58	54.09	66.25	71.56	76.50	85.53	89.70	51.72	63.34	68.42	73.14	81.78	85.77
TRAE+	9	31.29	38.33	41.40	44.26	49.48	51.89	30.66	37.55	40.55	43.35	48.47	50.84	29.35	35.94	38.82	41.50	46.40	48.67
TRAE+	13	45.63	55.89	60.36	64.53	72.15	75.67	44.71	54.76	59.15	63.23	70.69	74.14	42.76	52.37	56.57	60.48	67.61	70.91
TRAE+	14	50.94	62.39	67.39	72.04	80.54	84.48	49.88	61.09	65.98	70.54	78.86	82.71	47.72	58.44	63.13	67.49	75.45	79.13
TRAE+	22	77.21	94.56	102.14	109.19	122.08	128.03	75.61	92.61	100.03	106.93	119.56	125.39	72.32	88.58	95.67	102.28	114.35	119.93
TRAE+	30	106.13	129.98	140.40	150.09	167.80	176.00	103.93	127.29	137.49	146.99	164.33	172.36	99.44	121.79	131.54	140.63	157.23	164.90
TRAE	40	143.30	175.50	189.57	202.66	226.58	237.63	140.33	171.86	185.63	198.45	221.87	232.70	134.24	164.41	177.58	189.84	212.25	222.61
TRAE	45	156.29	191.42	206.75	221.03	247.12	259.18	153.07	187.47	202.49	216.47	242.02	253.84	146.41	179.32	193.69	207.06	231.50	242.80
TRAE	50	185.99	227.79	246.04	263.03	294.08	308.43	182.17	223.11	240.99	257.63	288.03	302.09	174.24	213.40	230.50	246.41	275.50	288.94
TJR	11	39.01	47.78	51.61	55.17	61.68	64.69	38.20	46.78	50.53	54.02	60.39	63.34	36.53	44.74	48.33	51.67	57.76	60.58
TJR	13	46.69	57.19	61.77	66.03	73.83	77.43	45.74	56.02	60.50	64.68	72.32	75.85	43.75	53.59	57.88	61.88	69.18	72.56
TER	16	58.37	71.49	77.22	82.55	92.30	96.80	57.17	70.02	75.63	80.85	90.40	94.81	54.69	66.98	72.35	77.35	86.48	90.70
TER	19	68.99	84.50	91.27	97.57	109.09	114.41	67.58	82.77	89.40	95.57	106.85	112.07	64.64	79.17	85.51	91.42	102.21	107.19
TER	25	92.85	113.72	122.83	131.32	146.82	153.98	90.94	111.38	120.31	128.61	143.79	150.81	87.01	106.57	115.11	123.06	137.58	144.30
TER	31	119.40	146.24	157.96	168.86	188.79	198.01	116.93	143.20	154.68	165.36	184.88	193.90	111.86	137.00	147.98	158.20	176.87	185.51
TIR	45	145.95	178.76	193.08	206.41	230.77	242.04	142.91	175.03	189.05	202.10	225.96	236.99	136.71	167.44	180.86	193.34	216.17	226.72
THR	55	185.74	227.49	245.72	262.68	293.69	308.02	181.89	222.76	240.61	257.22	287.59	301.62	173.99	213.09	230.17	246.06	275.10	288.53
THR	68	225.53	276.22	298.35	318.95	356.60	374.00	220.90	270.54	292.22	312.39	349.27	366.31	211.30	258.79	279.53	298.83	334.10	350.41
TMR	68	265.32	324.95	350.99	375.22	419.51	439.99	259.87	318.28	343.78	367.51	410.89	430.95	248.58	304.45	328.84	351.54	393.04	412.22

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-134a Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
BA/BN	1/2	1.03	1.26	1.36	1.45	1.62	1.70	0.78	0.84	0.90	1.01	1.05	1.10	0.46	0.50	0.53	0.59	0.62	0.65
BA/BN	3/4	1.95	2.38	2.58	2.75	3.08	3.23	1.45	1.57	1.68	1.87	1.97	2.05	0.89	0.96	1.02	1.14	1.20	1.25
BA/BN	1	3.04	3.73	4.03	4.31	4.81	5.05	2.27	2.45	2.62	2.92	3.07	3.20	1.38	1.49	1.59	1.78	1.87	1.95
BA/BN	1-1/2	4.04	4.94	5.34	5.71	6.38	6.69	3.01	3.25	3.47	3.88	4.07	4.26	1.84	1.99	2.13	2.38	2.49	2.60
BA/BN	2	5.10	6.24	6.74	7.21	8.06	8.45	3.82	4.13	4.41	4.94	5.18	5.41	2.34	2.52	2.70	3.02	3.16	3.30
BA/BN	2-1/4	6.20	7.59	8.20	8.76	9.80	10.27	4.64	5.01	5.35	5.99	6.28	6.56	2.83	3.06	3.27	3.66	3.83	4.01
BA/BN	3	8.04	9.84	10.63	11.36	12.71	13.33	5.98	6.46	6.91	7.72	8.10	8.46	3.68	3.98	4.25	4.75	4.98	5.21
BA/BN	3-1/2	10.16	12.44	13.44	14.37	16.06	16.85	7.58	8.18	8.75	9.78	10.26	10.71	4.64	5.01	5.35	5.99	6.28	6.56
BA/BN	4-1/4	12.64	15.48	16.72	17.87	19.98	20.96	9.42	10.17	10.87	12.16	12.75	13.32	5.77	6.23	6.66	7.45	7.81	8.16
HF/HN	1/4	0.57	0.69	0.75	0.80	0.90	0.94	0.42	0.46	0.49	0.55	0.58	0.60	0.25	0.27	0.29	0.32	0.34	0.35
HF/HN	1/2	1.10	1.34	1.45	1.55	1.74	1.82	0.81	0.88	0.94	1.05	1.10	1.15	0.50	0.54	0.57	0.64	0.67	0.70
HF/HN	3/4	1.95	2.38	2.58	2.75	3.08	3.23	1.45	1.57	1.68	1.87	1.97	2.05	0.89	0.96	1.02	1.14	1.20	1.25
HF/HN	1	2.97	3.64	3.93	4.21	4.70	4.93	2.23	2.41	2.58	2.88	3.02	3.15	1.35	1.45	1.55	1.74	1.82	1.90
HF/HN	1-1/2	4.00	4.90	5.29	5.66	6.32	6.63	2.97	3.21	3.43	3.84	4.03	4.21	1.84	1.99	2.13	2.38	2.49	2.60
HF/HN	1-3/4	5.10	6.24	6.74	7.21	8.06	8.45	3.82	4.13	4.41	4.94	5.18	5.41	2.34	2.52	2.70	3.02	3.16	3.30
HF/HN	2-1/2	6.76	8.28	8.94	9.56	10.69	11.21	5.03	5.43	5.80	6.49	6.81	7.11	3.08	3.33	3.56	3.98	4.17	4.36
HF/HN	4	12.00	14.70	15.88	16.97	18.97	19.90	8.96	9.67	10.34	11.56	12.13	12.67	5.49	5.93	6.34	7.08	7.43	7.76
HF/HN	6	16.71	20.46	22.10	23.63	26.42	27.71	12.46	13.46	14.39	16.09	16.87	17.62	7.65	8.26	8.83	9.87	10.35	10.81
HF/HN	7-1/2	21.17	25.93	28.00	29.94	33.47	35.11	15.79	17.05	18.23	20.38	21.38	22.33	9.70	10.48	11.20	12.52	13.13	13.72
HF/HN	11	31.40	38.46	41.54	44.41	49.65	52.07	23.43	25.31	27.06	30.25	31.73	33.14	14.37	15.52	16.60	18.55	19.46	20.33
HF/HN	14	41.31	50.60	54.65	58.42	65.32	68.51	30.83	33.30	35.60	39.81	41.75	43.61	18.90	20.42	21.83	24.40	25.60	26.73
TFE	6	16.43	20.12	21.73	23.23	25.97	27.24	12.25	13.23	14.14	15.81	16.58	17.32	7.50	8.11	8.67	9.69	10.16	10.61
TFE	8	22.48	27.53	29.74	31.79	35.54	37.28	16.78	18.12	19.38	21.66	22.72	23.73	10.30	11.13	11.90	13.30	13.95	14.57
TFE	10	27.90	34.16	36.90	39.45	44.11	46.26	20.82	22.48	24.04	26.87	28.18	29.44	12.78	13.80	14.76	16.50	17.30	18.07
TFE	15	42.59	52.16	56.34	60.23	67.33	70.62	31.75	34.30	36.67	40.99	42.99	44.91	19.51	21.07	22.52	25.18	26.41	27.58
TRAE+	9	24.14	29.57	31.94	34.14	38.17	40.04	18.02	19.46	20.81	23.26	24.40	25.48	11.04	11.93	12.75	14.26	14.95	15.62
TRAE+	13	35.19	43.10	46.55	49.76	55.64	58.35	26.27	28.37	30.33	33.91	35.57	37.15	16.11	17.40	18.60	20.79	21.81	22.78
TRAE+	14	39.29	48.13	51.98	55.57	62.13	65.16	29.31	31.66	33.85	37.84	39.69	41.45	17.98	19.42	20.77	23.22	24.35	25.43
TRAE+	22	59.54	72.92	78.77	84.21	94.15	98.74	44.43	47.99	51.30	57.36	60.15	62.83	27.26	29.44	31.47	35.19	36.91	38.55
TRAE+	30	81.84	100.24	108.27	115.75	129.41	135.72	61.07	65.96	70.51	78.83	82.68	86.36	37.49	40.49	43.29	48.40	50.76	53.02
TRAE	40	110.48	135.31	146.16	156.25	174.69	183.22	82.45	89.05	95.20	106.44	111.63	116.60	50.59	54.64	58.41	65.31	68.49	71.54
TRAE	45	120.50	147.58	159.41	170.41	190.53	199.83	89.92	97.12	103.83	116.08	121.75	127.16	55.19	59.61	63.73	71.25	74.73	78.05
TRAE	50	143.44	175.68	189.75	202.86	226.80	237.87	107.01	115.59	123.57	138.15	144.90	151.34	65.67	70.93	75.83	84.78	88.91	92.87
TJR	11	30.09	36.85	39.81	42.55	47.58	49.90	22.44	24.24	25.92	28.97	30.39	31.74	13.77	14.87	15.90	17.78	18.65	19.47
TJR	13	36.00	44.09	47.63	50.91	56.92	59.70	26.87	29.02	31.03	34.69	36.38	38.00	16.50	17.82	19.05	21.30	22.34	23.33
TER	16	45.03	55.15	59.57	63.68	71.20	74.67	33.59	36.29	38.79	43.37	45.49	47.51	20.60	22.25	23.79	26.60	27.90	29.14
TER	19	53.21	65.16	70.39	75.24	84.13	88.23	39.68	42.86	45.82	51.23	53.73	56.12	24.36	26.31	28.12	31.44	32.98	34.44
TER	25	71.61	87.71	94.74	101.28	113.23	118.76	53.42	57.70	61.68	68.96	72.33	75.55	32.78	35.41	37.85	42.32	44.38	46.36
TER	31	92.08	112.77	121.80	130.21	145.58	152.69	68.71	74.22	79.34	88.71	93.04	97.17	42.16	45.54	48.68	54.43	57.09	59.63
TIR	45	112.54	137.83	148.87	159.15	177.94	186.62	83.97	90.70	96.96	108.40	113.69	118.75	51.54	55.67	59.52	66.54	69.79	72.89
THR	55	143.23	175.42	189.47	202.56	226.46	237.52	106.87	115.44	123.41	137.97	144.71	151.14	65.60	70.85	75.74	84.68	88.82	92.77
THR	68	173.92	213.01	230.07	245.96	274.99	288.41	129.78	140.17	149.85	167.54	175.72	183.53	79.65	86.03	91.97	102.83	107.85	112.64

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-450A/R-513A Balance Ported Valves (kWatts) - B Series and HF Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/4	1.05	1.21	1.35	1.51	1.65	1.79	1.02	1.18	1.32	1.47	1.61	1.74	0.97	1.12	1.25	1.40	1.53	1.66
BA/BN	1/2	1.98	2.28	2.55	2.86	3.13	3.38	1.93	2.23	2.49	2.79	3.05	3.30	1.83	2.12	2.37	2.65	2.90	3.13
BA/BN	3/4	3.08	3.56	3.98	4.45	4.87	5.26	3.01	3.47	3.88	4.34	4.75	5.14	2.86	3.30	3.69	4.12	4.52	4.88
BA/BN	1	4.10	4.73	5.29	5.91	6.48	7.00	4.00	4.62	5.16	5.77	6.32	6.83	3.80	4.39	4.91	5.49	6.01	6.49
BA/BN	1-1/2	5.20	6.00	6.71	7.51	8.22	8.88	5.08	5.86	6.55	7.33	8.03	8.67	4.82	5.57	6.23	6.96	7.62	8.24
BA/BN	1-3/4	6.27	7.24	8.10	9.06	9.92	10.71	6.12	7.07	7.91	8.84	9.68	10.46	5.82	6.72	7.51	8.40	9.20	9.94
BA/BN	2-1/4	8.14	9.40	10.51	11.75	12.87	13.90	7.95	9.17	10.26	11.47	12.56	13.57	7.55	8.72	9.74	10.89	11.93	12.89
BA/BN	3	10.29	11.88	13.28	14.85	16.26	17.57	10.04	11.60	12.96	14.49	15.88	17.15	9.54	11.02	12.32	13.77	15.08	16.29
BA/BN	3-1/2	12.80	14.78	16.53	18.48	20.24	21.86	12.50	14.43	16.13	18.04	19.76	21.34	11.87	13.71	15.33	17.14	18.77	20.28
HF	1/5	0.59	0.69	0.77	0.86	0.94	1.01	0.58	0.67	0.75	0.84	0.92	0.99	0.55	0.64	0.71	0.79	0.87	0.94
HF	1/4	1.10	1.27	1.42	1.59	1.74	1.88	1.08	1.24	1.39	1.55	1.70	1.84	1.02	1.18	1.32	1.48	1.62	1.75
HF	1/2	1.98	2.28	2.55	2.86	3.13	3.38	1.93	2.23	2.49	2.79	3.05	3.30	1.83	2.12	2.37	2.65	2.90	3.13
HF	3/4	3.00	3.46	3.87	4.32	4.74	5.12	2.92	3.38	3.78	4.22	4.62	4.99	2.78	3.21	3.59	4.01	4.39	4.74
HF	1	4.04	4.67	5.22	5.83	6.39	6.90	3.94	4.56	5.09	5.69	6.24	6.74	3.75	4.33	4.84	5.41	5.93	6.40
HF	1-1/2	5.20	6.00	6.71	7.51	8.22	8.88	5.08	5.86	6.55	7.33	8.03	8.67	4.82	5.57	6.23	6.96	7.62	8.24
HF	2	6.84	7.90	8.83	9.87	10.81	11.68	6.68	7.71	8.62	9.64	10.56	11.40	6.34	7.32	8.19	9.15	10.03	10.83
HF	3-1/2	12.18	14.06	15.72	17.58	19.26	20.80	11.89	13.73	15.35	17.16	18.80	20.31	11.30	13.04	14.58	16.30	17.86	19.29
HF	4-1/2	16.96	19.58	21.89	24.47	26.81	28.96	16.55	19.11	21.37	23.89	26.17	28.27	15.73	18.16	20.30	22.70	24.86	26.86
HF	6	21.45	24.77	27.69	30.96	33.91	36.63	20.94	24.18	27.03	30.22	33.11	35.76	19.89	22.97	25.68	28.71	31.45	33.97
HF	9	31.82	36.74	41.08	45.93	50.31	54.34	31.06	35.87	40.10	44.84	49.11	53.05	29.51	34.08	38.10	42.60	46.66	50.40
HF	11-1/2	41.88	48.36	54.07	60.45	66.22	71.53	40.88	47.21	52.78	59.01	64.64	69.82	38.84	44.85	50.14	56.06	61.41	66.33

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/4	0.70	0.81	0.91	1.02	1.11	1.20	0.53	0.60	0.67	0.73	0.79	0.84	0.30	0.34	0.38	0.42	0.45	0.48
BA/BN	1/2	1.33	1.54	1.72	1.92	2.11	2.27	1.01	1.13	1.26	1.38	1.49	1.60	0.58	0.64	0.72	0.79	0.85	0.91
BA/BN	3/4	2.07	2.39	2.68	2.99	3.28	3.54	1.57	1.76	1.96	2.15	2.32	2.49	0.90	1.00	1.12	1.23	1.33	1.42
BA/BN	1	2.76	3.19	3.56	3.98	4.36	4.71	2.09	2.34	2.61	2.86	3.09	3.31	1.19	1.33	1.49	1.63	1.76	1.89
BA/BN	1-1/2	3.50	4.04	4.52	5.05	5.53	5.98	2.65	2.97	3.32	3.63	3.92	4.20	1.51	1.69	1.89	2.07	2.24	2.39
BA/BN	1-3/4	4.22	4.88	5.45	6.10	6.68	7.21	3.20	3.58	4.00	4.38	4.73	5.06	1.83	2.04	2.28	2.50	2.70	2.89
BA/BN	2-1/4	5.48	6.33	7.07	7.91	8.66	9.36	4.15	4.64	5.19	5.69	6.14	6.57	2.37	2.65	2.96	3.25	3.51	3.75
BA/BN	3	6.92	8.00	8.94	10.00	10.95	11.83	5.25	5.87	6.56	7.19	7.76	8.30	3.00	3.35	3.74	4.10	4.43	4.74
BA/BN	3-1/2	8.62	9.95	11.13	12.44	13.63	14.72	6.53	7.30	8.16	8.94	9.66	10.33	3.73	4.17	4.66	5.10	5.51	5.89
HF	1/5	0.40	0.46	0.52	0.58	0.63	0.68	0.30	0.34	0.38	0.41	0.45	0.48	0.17	0.19	0.22	0.24	0.26	0.27
HF	1/4	0.74	0.86	0.96	1.07	1.17	1.27	0.56	0.63	0.70	0.77	0.83	0.89	0.32	0.36	0.40	0.44	0.47	0.51
HF	1/2	1.33	1.54	1.72	1.92	2.11	2.27	1.01	1.13	1.26	1.38	1.49	1.60	0.58	0.64	0.72	0.79	0.85	0.91
HF	3/4	2.02	2.33	2.60	2.91	3.19	3.44	1.53	1.71	1.91	2.09	2.26	2.42	0.87	0.98	1.09	1.19	1.29	1.38
HF	1	2.72	3.14	3.51	3.93	4.30	4.65	2.06	2.31	2.58	2.82	3.05	3.26	1.18	1.32	1.47	1.61	1.74	1.86
HF	1-1/2	3.50	4.04	4.52	5.05	5.53	5.98	2.65	2.97	3.32	3.63	3.92	4.20	1.51	1.69	1.89	2.07	2.24	2.39
HF	2	4.60	5.32	5.94	6.65	7.28	7.86	3.49	3.90	4.36	4.78	5.16	5.52	1.99	2.23	2.49	2.73	2.95	3.15
HF	3-1/2	8.20	9.47	10.59	11.83	12.96	14.00	6.21	6.95	7.77	8.51	9.19	9.83	3.55	3.97	4.43	4.86	5.25	5.61
HF	4-1/2	11.41	13.18	14.74	16.48	18.05	19.49	8.65	9.67	10.81	11.85	12.80	13.68	4.94	5.52	6.17	6.76	7.30	7.81
HF	6	14.44	16.67	18.64	20.84	22.83	24.66	10.94	12.24	13.68	14.99	16.19	17.30	6.25	6.98	7.81	8.55	9.24	9.88
HF	9	21.42	24.73	27.65	30.92	33.87	36.58	16.24	18.15	20.30	22.23	24.01	25.67	9.27	10.36	11.58	12.69	13.71	14.65
HF	11-1/2	28.19	32.56	36.40	40.69	44.58	48.15	21.37	23.89	26.71	29.26	31.61	33.79	12.20	13.64	15.25	16.70	18.04	19.28

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.10	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	.93	.85	.78	.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	.92	.85	.77	.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-404A/R-507 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.03	1.26	1.36	1.45	1.62	1.70	0.99	1.21	1.31	1.40	1.57	1.64	0.96	1.17	1.26	1.35	1.51	1.59
BA/BN	3/4	1.95	2.38	2.58	2.75	3.08	3.23	1.88	2.30	2.48	2.65	2.97	3.11	1.81	2.21	2.39	2.55	2.85	2.99
BA/BN	1	3.01	3.69	3.98	4.26	4.76	4.99	2.94	3.60	3.89	4.16	4.65	4.87	2.80	3.43	3.70	3.95	4.42	4.64
BA/BN	1-1/2	4.04	4.94	5.34	5.71	6.38	6.69	3.93	4.81	5.20	5.56	6.21	6.52	3.75	4.60	4.96	5.31	5.93	6.22
BA/BN	2	5.10	6.24	6.74	7.21	8.06	8.45	4.99	6.11	6.60	7.06	7.89	8.28	4.74	5.81	6.28	6.71	7.50	7.87
BA/BN	2-1/4	6.16	7.54	8.15	8.71	9.74	10.21	6.02	7.37	7.96	8.51	9.52	9.98	5.73	7.02	7.59	8.11	9.07	9.51
BA/BN	3	8.00	9.80	10.58	11.31	12.65	13.27	7.79	9.54	10.30	11.01	12.31	12.91	7.40	9.06	9.79	10.46	11.70	12.27
BA/BN	3-1/2	10.09	12.36	13.35	14.27	15.95	16.73	9.88	12.10	13.07	13.97	15.62	16.38	9.38	11.49	12.41	13.27	14.83	15.56
BA/BN	4-1/4	12.57	15.39	16.62	17.77	19.87	20.84	12.28	15.04	16.25	17.37	19.42	20.37	11.65	14.26	15.41	16.47	18.41	19.31
HF/HN	1/4	0.57	0.69	0.75	0.80	0.90	0.94	0.57	0.69	0.75	0.80	0.90	0.94	0.53	0.65	0.70	0.75	0.84	0.88
HF/HN	1/2	1.10	1.34	1.45	1.55	1.74	1.82	1.06	1.30	1.40	1.50	1.68	1.76	0.99	1.21	1.31	1.40	1.57	1.64
HF/HN	3/4	1.95	2.38	2.58	2.75	3.08	3.23	1.88	2.30	2.48	2.65	2.97	3.11	1.81	2.21	2.39	2.55	2.85	2.99
HF/HN	1	2.94	3.60	3.89	4.16	4.65	4.87	2.90	3.56	3.84	4.11	4.59	4.81	2.73	3.34	3.61	3.85	4.31	4.52
HF/HN	1-1/2	3.96	4.86	5.24	5.61	6.27	6.57	3.89	4.77	5.15	5.51	6.16	6.46	3.68	4.51	4.87	5.21	5.82	6.11
HF/HN	1-3/4	5.10	6.24	6.74	7.21	8.06	8.45	4.99	6.11	6.60	7.06	7.89	8.28	4.74	5.81	6.28	6.71	7.50	7.87
HF/HN	2-1/2	6.73	8.24	8.90	9.51	10.63	11.15	6.58	8.06	8.71	9.31	10.41	10.92	6.23	7.63	8.24	8.81	9.85	10.33
HF/HN	4	11.97	14.65	15.83	16.92	18.92	19.84	11.68	14.31	15.45	16.52	18.47	19.37	11.08	13.57	14.66	15.67	17.52	18.37
HF/HN	6	16.64	20.38	22.01	23.53	26.31	27.59	16.25	19.90	21.49	22.98	25.69	26.95	15.43	18.90	20.42	21.83	24.40	25.60
HF/HN	7-1/2	21.06	25.80	27.86	29.79	33.30	34.93	20.57	25.19	27.21	29.09	32.52	34.11	19.54	23.93	25.85	27.63	30.90	32.40
HF/HN	11	31.26	38.28	41.35	44.21	49.42	51.84	30.51	37.37	40.37	43.15	48.25	50.60	28.99	35.51	38.35	41.00	45.84	48.08
HF/HN	14	41.13	50.38	54.42	58.17	65.04	68.21	40.18	49.21	53.15	56.82	63.53	66.63	38.16	46.74	50.48	53.97	60.34	63.28
TFE	6	16.35	20.03	21.64	23.13	25.86	27.12	15.97	19.55	21.12	22.58	25.24	26.48	15.15	18.56	20.04	21.43	23.96	25.13
TFE	8	22.37	27.40	29.60	31.64	35.37	37.10	21.84	26.75	28.89	30.89	34.53	36.22	20.74	25.41	27.44	29.34	32.80	34.40
TFE	10	27.75	33.99	36.71	39.25	43.88	46.02	27.12	33.21	35.87	38.35	42.87	44.97	25.77	31.56	34.09	36.45	40.75	42.74
TFE	15	42.41	51.94	56.10	59.98	67.05	70.33	41.42	50.73	54.79	58.57	65.49	68.68	39.33	48.17	52.03	55.62	62.19	65.22
TRAE+	9	24.04	29.44	31.80	33.99	38.01	39.86	23.47	28.75	31.05	33.19	37.11	38.92	22.30	27.31	29.50	31.54	35.26	36.98
TRAE+	13	35.05	42.92	46.36	49.56	55.41	58.12	34.23	41.93	45.28	48.41	54.13	56.77	32.53	39.84	43.04	46.01	51.44	53.95
TRAE+	14	39.12	47.91	51.75	55.32	61.85	64.87	38.20	46.78	50.53	54.02	60.39	63.34	36.29	44.44	48.00	51.31	57.37	60.17
TRAE+	22	59.30	72.62	78.44	83.86	93.75	98.33	57.91	70.93	76.61	81.90	91.57	96.04	55.01	67.38	72.77	77.80	86.98	91.23
TRAE+	30	81.49	99.81	107.80	115.25	128.85	135.14	79.61	97.51	105.32	112.59	125.88	132.03	75.61	92.61	100.03	106.93	119.56	125.39
TRAE	40	110.02	134.75	145.55	155.60	173.96	182.45	107.47	131.63	142.18	151.99	169.93	178.23	102.09	125.04	135.06	144.38	161.42	169.30
TRAE	45	120.01	146.98	158.75	169.71	189.75	199.01	117.21	143.55	155.05	165.76	185.32	194.37	111.33	136.35	147.28	157.45	176.03	184.62
TRAE	50	142.80	174.90	188.91	201.95	225.79	236.81	139.51	170.87	184.56	197.30	220.59	231.35	132.54	162.32	175.33	187.44	209.56	219.79
TJR	11	29.95	36.68	39.62	42.35	47.35	49.66	29.24	35.81	38.68	41.35	46.23	48.49	27.79	34.03	36.76	39.30	43.94	46.08
TJR	13	35.86	43.92	47.44	50.71	56.70	59.47	35.01	42.88	46.31	49.51	55.36	58.06	33.28	40.75	44.02	47.06	52.61	55.18
TER	16	44.82	54.89	59.29	63.38	70.86	74.32	43.79	53.63	57.93	61.93	69.24	72.62	41.60	50.94	55.03	58.82	65.79	68.98
TER	19	52.96	64.86	70.06	74.89	83.73	87.82	51.75	63.39	68.47	73.19	81.83	85.83	49.14	60.18	65.00	69.49	77.69	81.48
TER	25	71.30	87.32	94.32	100.83	112.73	118.23	69.67	85.32	92.16	98.52	110.15	115.53	66.16	81.03	87.52	93.57	104.61	109.72
TER	31	91.69	112.29	121.29	129.66	144.97	152.04	89.56	109.69	118.48	126.66	141.61	148.52	85.07	104.18	112.53	120.30	134.50	141.07
TIR	45	112.04	137.22	148.22	158.45	177.15	185.80	109.46	134.06	144.80	154.80	173.07	181.51	103.97	127.34	137.54	147.04	164.39	172.41
THR	55	142.63	174.68	188.68	201.70	225.51	236.52	139.30	170.61	184.28	197.00	220.25	231.00	132.33	162.06	175.05	187.14	209.22	219.44
THR	68	173.18	212.10	229.09	244.91	273.82	287.18	169.14	207.15	223.75	239.20	267.44	280.49	160.68	196.79	212.56	227.24	254.06	266.46
TMR	68	203.73	249.51	269.51	288.11	322.12	337.84	199.02	243.75	263.28	281.46	314.68	330.04	189.04	231.52	250.07	267.34	298.89	313.48

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

TXV Extended Capacity Tables

R-404A/R-507 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
BA/BN	1/2	0.85	0.98	1.10	1.23	1.34	1.45	0.67	0.73	0.78	0.87	0.91	0.95	0.42	0.46	0.49	0.55	0.58	0.60
BA/BN	3/4	1.59	1.84	2.06	2.30	2.52	2.72	1.27	1.38	1.47	1.65	1.73	1.80	0.81	0.88	0.94	1.05	1.10	1.15
BA/BN	1	2.51	2.90	3.24	3.63	3.97	4.29	1.95	2.10	2.25	2.51	2.64	2.75	1.27	1.38	1.47	1.65	1.73	1.80
BA/BN	1-1/2	3.33	3.84	4.30	4.80	5.26	5.68	2.62	2.83	3.02	3.38	3.55	3.70	1.70	1.84	1.96	2.19	2.30	2.40
BA/BN	2	4.21	4.86	5.44	6.08	6.66	7.19	3.29	3.56	3.80	4.25	4.46	4.66	2.16	2.33	2.49	2.79	2.92	3.05
BA/BN	2-1/4	5.10	5.89	6.58	7.36	8.06	8.71	4.00	4.32	4.62	5.16	5.42	5.66	2.62	2.83	3.02	3.38	3.55	3.70
BA/BN	3	6.62	7.64	8.55	9.55	10.47	11.31	5.20	5.62	6.01	6.72	7.05	7.36	3.40	3.67	3.92	4.39	4.60	4.81
BA/BN	3-1/2	8.35	9.65	10.79	12.06	13.21	14.27	6.55	7.07	7.56	8.45	8.87	9.26	4.28	4.63	4.95	5.53	5.80	6.06
BA/BN	4-1/4	10.41	12.02	13.44	15.02	16.46	17.77	8.18	8.83	9.44	10.56	11.07	11.56	5.35	5.77	6.17	6.90	7.24	7.56
HF/HN	1/4	0.46	0.53	0.59	0.66	0.73	0.79	0.35	0.38	0.41	0.46	0.48	0.50	0.25	0.27	0.29	0.32	0.34	0.35
HF/HN	1/2	0.89	1.02	1.14	1.28	1.40	1.51	0.71	0.76	0.82	0.91	0.96	1.00	0.46	0.50	0.53	0.59	0.62	0.65
HF/HN	3/4	1.59	1.84	2.06	2.30	2.52	2.72	1.27	1.38	1.47	1.65	1.73	1.80	0.81	0.88	0.94	1.05	1.10	1.15
HF/HN	1	2.44	2.82	3.15	3.53	3.86	4.17	1.91	2.06	2.21	2.47	2.59	2.70	1.24	1.34	1.43	1.60	1.68	1.75
HF/HN	1-1/2	3.29	3.80	4.25	4.75	5.21	5.62	2.58	2.79	2.98	3.34	3.50	3.65	1.70	1.84	1.96	2.19	2.30	2.40
HF/HN	1-3/4	4.21	4.86	5.44	6.08	6.66	7.19	3.29	3.56	3.80	4.25	4.46	4.66	2.16	2.33	2.49	2.79	2.92	3.05
HF/HN	2-1/2	5.56	6.42	7.18	8.02	8.79	9.49	4.35	4.70	5.03	5.62	5.90	6.16	2.87	3.10	3.31	3.70	3.88	4.06
HF/HN	4	9.91	11.45	12.80	14.31	15.67	16.93	7.75	8.37	8.95	10.01	10.50	10.96	5.06	5.47	5.85	6.54	6.85	7.16
HF/HN	6	13.77	15.90	17.78	19.88	21.77	23.52	10.80	11.66	12.47	13.94	14.62	15.27	7.08	7.65	8.18	9.14	9.59	10.01
HF/HN	7-1/2	17.45	20.15	22.53	25.19	27.59	29.81	13.70	14.80	15.82	17.69	18.55	19.37	8.96	9.67	10.34	11.56	12.13	12.67
HF/HN	11	25.88	29.88	33.41	37.35	40.92	44.19	20.28	21.91	23.42	26.19	27.46	28.69	13.28	14.34	15.33	17.14	17.97	18.77
HF/HN	14	34.05	39.32	43.96	49.15	53.85	58.16	26.73	28.87	30.86	34.50	36.19	37.80	17.45	18.85	20.15	22.53	23.63	24.68
TFE	6	13.52	15.61	17.46	19.52	21.38	23.09	10.62	11.47	12.26	13.71	14.38	15.02	6.94	7.49	8.01	8.96	9.39	9.81
TFE	8	18.51	21.38	23.90	26.72	29.27	31.62	14.51	15.68	16.76	18.74	19.65	20.53	9.49	10.25	10.95	12.25	12.85	13.42
TFE	10	23.01	26.57	29.71	33.21	36.38	39.30	18.05	19.50	20.85	23.31	24.45	25.53	11.79	12.73	13.61	15.22	15.96	16.67
TFE	15	35.12	40.55	45.34	50.69	55.52	59.97	27.54	29.75	31.80	35.56	37.29	38.95	17.98	19.42	20.77	23.22	24.35	25.43
TRAE+	9	19.89	22.97	25.68	28.72	31.46	33.98	15.61	16.86	18.03	20.15	21.14	22.08	10.20	11.01	11.77	13.16	13.80	14.42
TRAE+	13	29.03	33.52	37.47	41.90	45.90	49.57	22.76	24.59	26.28	29.39	30.82	32.19	14.87	16.06	17.17	19.19	20.13	21.03
TRAE+	14	32.39	37.40	41.82	46.75	51.21	55.32	25.42	27.45	29.35	32.81	34.42	35.95	16.60	17.93	19.17	21.43	22.48	23.48
TRAE+	22	49.10	56.70	63.39	70.87	77.63	83.85	38.52	41.60	44.47	49.72	52.15	54.47	25.17	27.19	29.06	32.49	34.08	35.59
TRAE+	30	67.47	77.91	87.11	97.39	106.68	115.23	52.92	57.16	61.11	68.32	71.66	74.84	34.59	37.36	39.94	44.65	46.83	48.91
TRAE	40	91.08	105.17	117.59	131.47	144.02	155.56	71.47	77.20	82.53	92.27	96.77	101.08	46.69	50.43	53.92	60.28	63.22	66.03
TRAE	45	99.37	114.74	128.28	143.43	157.11	169.70	77.95	84.20	90.01	100.63	105.55	110.24	50.94	55.02	58.82	65.76	68.97	72.04
TRAE	50	118.27	136.57	152.69	170.71	187.00	201.99	92.75	100.18	107.10	119.74	125.58	131.17	60.64	65.50	70.02	78.29	82.11	85.76
TJR	11	24.82	28.65	32.04	35.82	39.24	42.38	19.47	21.03	22.48	25.14	26.36	27.53	12.71	13.73	14.67	16.41	17.21	17.97
TJR	13	29.70	34.30	38.34	42.87	46.96	50.72	23.29	25.16	26.90	30.07	31.54	32.94	15.22	16.44	17.58	19.65	20.61	21.53
TER	16	37.10	42.84	47.89	53.55	58.66	63.36	29.10	31.43	33.60	37.57	39.40	41.15	18.76	20.27	21.66	24.22	25.40	26.53
TER	19	43.86	50.65	56.62	63.31	69.35	74.91	34.41	37.17	39.73	44.42	46.59	48.66	22.48	24.28	25.96	29.02	30.44	31.79
TER	25	59.05	68.18	76.23	85.23	93.36	100.84	46.30	50.01	53.47	59.78	62.69	65.48	30.27	32.69	34.95	39.07	40.98	42.80
TER	31	75.93	87.68	98.03	109.60	120.66	129.68	59.54	64.31	68.75	76.87	80.62	84.21	38.94	42.06	44.96	50.27	52.73	55.07
TIR	45	94.20	108.77	121.61	135.97	148.94	160.88	72.78	78.61	84.04	93.96	98.55	102.93	47.58	51.39	54.94	61.42	64.42	67.28
THR	55	118.09	136.36	152.46	170.45	186.72	201.68	92.64	100.06	106.97	119.60	125.44	131.02	60.53	65.38	69.90	78.15	81.96	85.61
THR	68	143.41	165.59	185.14	206.99	226.74	244.91	112.47	121.48	129.86	145.19	152.28	159.05	73.53	79.42	84.90	94.92	99.55	103.98
TMR	68	168.72	194.82	217.81	243.52	266.76	288.14	132.33	142.93	152.80	170.83	179.17	187.14	86.48	93.41	99.86	111.65	117.10	122.30

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-448A/R-449A (kWatts) Balance Ported Valves - B Series and H Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C					0°C					-10°C							
		Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)							
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.41	1.63	1.83	2.04	2.24	2.41	1.40	1.62	1.81	2.02	2.21	2.39	1.37	1.58	1.76	1.97	2.16	2.33
BA/BN	1	2.69	3.10	3.47	3.88	4.25	4.59	2.66	3.07	3.43	3.84	4.20	4.54	2.59	3.00	3.35	3.75	4.10	4.43
BA/BN	1-1/2	4.18	4.83	5.40	6.04	6.62	7.15	4.14	4.78	5.35	5.98	6.55	7.07	4.04	4.67	5.22	5.83	6.39	6.90
BA/BN	2	5.60	6.46	7.23	8.08	8.85	9.56	5.54	6.40	7.15	8.00	8.76	9.46	5.41	6.24	6.98	7.81	8.55	9.24
BA/BN	2-1/2	7.07	8.16	9.13	10.20	11.18	12.07	7.00	8.08	9.03	10.10	11.06	11.95	6.83	7.88	8.82	9.86	10.80	11.66
BA/BN	3	8.57	9.89	11.06	12.37	13.55	14.63	8.48	9.79	10.95	12.24	13.40	14.48	8.28	9.56	10.68	11.95	13.09	14.13
BA/BN	4	11.08	12.80	14.31	16.00	17.52	18.93	10.97	12.66	14.16	15.83	17.34	18.73	10.71	12.36	13.82	15.45	16.93	18.29
BA/BN	5	14.05	16.23	18.14	20.28	22.22	24.00	13.91	16.06	17.95	20.07	21.99	23.75	13.57	15.67	17.53	19.59	21.46	23.18
BA/BN	6	17.45	20.14	22.52	25.18	27.58	29.79	17.26	19.93	22.29	24.92	27.30	29.48	16.85	19.46	21.76	24.32	26.65	28.78
HF	1/4	0.79	0.91	1.02	1.14	1.25	1.35	0.78	0.90	1.01	1.13	1.24	1.34	0.76	0.88	0.99	1.10	1.21	1.31
HF	1/2	1.50	1.73	1.93	2.16	2.37	2.56	1.48	1.71	1.91	2.14	2.34	2.53	1.45	1.67	1.87	2.09	2.29	2.47
HF	1	2.69	3.10	3.47	3.88	4.25	4.59	2.66	3.07	3.43	3.84	4.20	4.54	2.59	3.00	3.35	3.75	4.10	4.43
HF	1-1/2	4.10	4.73	5.29	5.92	6.48	7.00	4.06	4.68	5.24	5.86	6.41	6.93	3.96	4.57	5.11	5.72	6.26	6.76
HF	2	5.54	6.40	7.15	8.00	8.76	9.46	5.48	6.33	7.08	7.92	8.67	9.37	5.35	6.18	6.91	7.73	8.46	9.14
HF	2-1/2	7.10	8.19	9.16	10.24	11.22	12.12	7.02	8.11	9.07	10.14	11.10	11.99	6.86	7.92	8.85	9.90	10.84	11.71
HF	3-1/2	9.36	10.81	12.08	13.51	14.80	15.98	9.26	10.69	11.96	13.37	14.64	15.82	9.04	10.44	11.67	13.05	14.29	15.44
HF	6	16.65	19.23	21.50	24.04	26.33	28.44	16.48	19.03	21.28	23.79	26.06	28.15	16.09	18.58	20.77	23.22	25.44	27.48
HF	8-1/2	23.16	26.74	29.89	33.42	36.61	39.55	22.92	26.46	29.58	33.08	36.23	39.14	22.37	25.83	28.88	32.29	35.37	38.20
HF	10-1/2	29.40	33.95	37.96	42.44	46.49	50.22	29.10	33.60	37.57	42.00	46.01	49.70	28.41	32.80	36.67	41.00	44.91	48.51
HF	16	43.54	50.28	56.21	62.85	68.85	74.36	43.09	49.76	55.63	62.19	68.13	73.59	42.06	48.57	54.30	60.71	66.51	71.84
HF	10	57.11	65.95	73.73	82.44	90.30	97.54	56.52	65.26	72.97	81.58	89.37	96.53	55.17	63.71	71.23	79.64	87.24	94.23

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C					-30°C					-40°C							
		Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)					Pressure Drop Across Valve (kPa)							
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.33	1.53	1.72	1.92	2.10	2.27	1.21	1.36	1.52	1.66	1.79	1.92	0.82	0.92	1.02	1.12	1.21	1.29
BA/BN	1	2.52	2.91	3.26	3.64	3.99	4.31	2.30	2.58	2.88	3.16	3.41	3.64	1.56	1.74	1.95	2.13	2.30	2.46
BA/BN	1-1/2	3.93	4.54	5.08	5.68	6.22	6.72	3.59	4.01	4.49	4.92	5.31	5.68	2.42	2.71	3.03	3.32	3.59	3.83
BA/BN	2	5.26	6.07	6.79	7.59	8.32	8.98	4.80	5.37	6.00	6.58	7.10	7.59	3.24	3.63	4.05	4.44	4.80	5.13
BA/BN	2-1/2	6.64	7.67	8.58	9.59	10.50	11.34	6.06	6.78	7.58	8.30	8.97	9.59	4.10	4.58	5.12	5.61	6.06	6.47
BA/BN	3	8.05	9.30	10.39	11.62	12.73	13.75	7.35	8.22	9.19	10.07	10.87	11.62	4.96	5.55	6.20	6.80	7.34	7.85
BA/BN	4	10.41	12.03	13.45	15.03	16.47	17.79	9.51	10.63	11.89	13.02	14.06	15.04	6.42	7.18	8.03	8.79	9.50	10.15
BA/BN	5	13.20	15.25	17.05	19.06	20.88	22.55	12.06	13.48	15.07	16.51	17.83	19.06	8.14	9.10	10.18	11.15	12.04	12.87
BA/BN	6	16.39	18.93	21.16	23.66	25.92	28.00	14.97	16.73	18.71	20.50	22.14	23.67	10.11	11.30	12.63	13.84	14.95	15.98
HF	1/4	0.74	0.86	0.96	1.07	1.18	1.27	0.68	0.76	0.85	0.93	1.00	1.07	0.46	0.51	0.57	0.63	0.68	0.73
HF	1/2	1.41	1.63	1.82	2.03	2.23	2.40	1.29	1.44	1.61	1.76	1.90	2.03	0.87	0.97	1.09	1.19	1.28	1.37
HF	1	2.52	2.91	3.26	3.64	3.99	4.31	2.30	2.58	2.88	3.16	3.41	3.64	1.56	1.74	1.95	2.13	2.30	2.46
HF	1-1/2	3.85	4.45	4.97	5.56	6.09	6.58	3.52	3.93	4.40	4.82	5.20	5.56	2.38	2.66	2.97	3.25	3.51	3.76
HF	2	5.21	6.01	6.72	7.52	8.23	8.89	4.75	5.32	5.94	6.51	7.03	7.52	3.21	3.59	4.01	4.40	4.75	5.08
HF	2-1/2	6.67	7.70	8.61	9.63	10.54	11.39	6.09	6.81	7.61	8.34	9.01	9.63	4.11	4.60	5.14	5.63	6.08	6.50
HF	3-1/2	8.79	10.15	11.35	12.69	13.90	15.02	8.03	8.98	10.04	11.00	11.88	12.70	5.42	6.06	6.78	7.42	8.02	8.57
HF	6	15.65	18.07	20.20	22.59	24.74	26.73	14.29	15.98	17.86	19.57	21.13	22.59	9.65	10.79	12.06	13.21	14.27	15.26
HF	8-1/2	21.76	25.13	28.09	31.41	34.41	37.16	19.87	22.21	24.84	27.21	29.39	31.41	13.42	15.00	16.77	18.37	19.84	21.21
HF	10-1/2	27.63	31.91	35.67	39.88	43.69	47.19	25.23	28.21	31.54	34.55	37.31	39.89	17.04	19.05	21.29	23.33	25.20	26.94
HF	16	40.92	47.25	52.82	59.06	64.69	69.88	37.36	41.77	46.70	51.16	55.25	59.07	25.23	28.20	31.53	34.54	37.31	39.89
HF	10	53.67	61.97	69.29	77.46	84.86	91.66	49.00	54.79	61.25	67.10	72.48	77.48	33.09	36.99	41.36	45.31	48.94	52.32

Refrigerant Liquid Temperature Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
BA/BN	1/2	1.35	1.65	1.78	1.90	2.13	2.23	1.31	1.60	1.73	1.85	2.07	2.17	1.27	1.56	1.69	1.80	2.02	2.11
BA/BN	3/4	2.55	3.12	3.37	3.60	4.03	4.23	2.48	3.03	3.28	3.50	3.92	4.11	2.41	2.95	3.18	3.40	3.81	3.99
BA/BN	1	3.96	4.86	5.24	5.61	6.27	6.57	3.89	4.77	5.15	5.51	6.16	6.46	3.72	4.55	4.92	5.26	5.88	6.16
BA/BN	1-1/2	5.27	6.46	6.98	7.46	8.34	8.75	5.20	6.37	6.88	7.36	8.23	8.63	4.99	6.11	6.60	7.06	7.89	8.28
BA/BN	2	6.66	8.15	8.80	9.41	10.52	11.04	6.55	8.02	8.66	9.26	10.35	10.86	6.30	7.72	8.34	8.91	9.96	10.45
BA/BN	2-1/4	8.07	9.89	10.68	11.41	12.76	13.38	7.93	9.71	10.49	11.21	12.54	13.15	7.61	9.32	10.07	10.76	12.03	12.62
BA/BN	3	10.48	12.83	13.86	14.82	16.57	17.38	10.27	12.57	13.58	14.52	16.23	17.02	9.88	12.10	13.07	13.97	15.62	16.38
BA/BN	3-1/2	13.24	16.22	17.51	18.72	20.93	21.96	12.99	15.91	17.19	18.37	20.54	21.54	12.46	15.26	16.48	17.62	19.70	20.66
BA/BN	4-1/4	16.46	20.16	21.78	23.28	26.03	27.30	16.18	19.81	21.40	22.88	25.58	26.83	15.51	18.99	20.51	21.93	24.52	25.71
HF/HN	1/4	0.74	0.91	0.98	1.05	1.18	1.23	0.74	0.91	0.98	1.05	1.18	1.23	0.71	0.87	0.94	1.00	1.12	1.17
HF/HN	1/2	1.42	1.73	1.87	2.00	2.24	2.35	1.38	1.69	1.83	1.95	2.18	2.29	1.35	1.65	1.78	1.90	2.13	2.23
HF/HN	3/4	2.55	3.12	3.37	3.60	4.03	4.23	2.48	3.03	3.28	3.50	3.92	4.11	2.41	2.95	3.18	3.40	3.81	3.99
HF/HN	1	3.86	4.73	5.10	5.46	6.10	6.40	3.79	4.64	5.01	5.36	5.99	6.28	3.65	4.47	4.82	5.16	5.77	6.05
HF/HN	1-1/2	5.20	6.37	6.88	7.36	8.23	8.63	5.10	6.24	6.74	7.21	8.06	8.45	4.92	6.03	6.51	6.96	7.78	8.16
HF/HN	1-3/4	6.66	8.15	8.80	9.41	10.52	11.04	6.55	8.02	8.66	9.26	10.35	10.86	6.30	7.72	8.34	8.91	9.96	10.45
HF/HN	2-1/2	8.81	10.80	11.66	12.47	13.94	14.62	8.64	10.58	11.43	12.22	13.66	14.32	8.32	10.19	11.01	11.76	13.15	13.80
HF/HN	4	15.68	19.21	20.75	22.18	24.80	26.01	15.36	18.82	20.32	21.73	24.29	25.48	14.76	18.08	19.53	20.88	23.34	24.48
HF/HN	6	21.81	26.71	28.85	30.84	34.48	36.16	21.42	26.23	28.33	30.29	33.86	35.52	20.57	25.19	27.21	29.09	32.52	34.11
HF/HN	7-1/2	27.61	33.82	36.53	39.05	43.66	45.79	27.08	33.17	35.82	38.30	42.82	44.91	26.02	31.87	34.42	36.80	41.14	43.15
HF/HN	11	40.96	50.16	54.18	57.92	64.76	67.92	40.18	49.21	53.15	56.82	63.53	66.63	38.59	47.26	51.04	54.57	61.01	63.99
HF/HN	14	53.88	65.99	71.27	76.20	85.19	89.35	52.89	64.77	69.96	74.79	83.62	87.70	50.80	62.22	67.20	71.84	80.32	84.24
TFE	6	21.42	26.23	28.33	30.29	33.86	35.52	21.03	25.75	27.82	29.74	33.25	34.87	20.18	24.71	26.69	28.54	31.90	33.46
TFE	8	29.31	35.90	38.78	41.45	46.35	48.61	28.78	35.25	38.07	40.70	45.51	47.73	27.61	33.82	36.53	39.05	43.66	45.79
TFE	10	36.39	44.57	48.14	51.46	57.54	60.35	35.72	43.75	47.25	50.51	56.48	59.23	34.30	42.01	45.38	48.51	54.24	56.88
TFE	15	55.54	68.03	73.48	78.55	87.82	92.11	54.52	66.77	72.12	77.10	86.20	90.40	52.36	64.12	69.26	74.04	82.78	86.82
TRAE+	9	31.51	38.59	41.68	44.56	49.82	52.25	30.90	37.85	40.88	43.71	48.86	51.25	29.70	36.38	39.29	42.00	46.96	49.25
TRAE+	13	45.91	56.23	60.74	64.93	72.60	76.14	45.06	55.19	59.61	63.73	71.25	74.73	43.26	52.98	57.23	61.18	68.40	71.74
TRAE+	14	51.26	62.78	67.81	72.49	81.05	85.00	50.30	61.61	66.55	71.14	79.54	83.42	48.29	59.14	63.88	68.29	76.35	80.07
TRAE+	22	77.67	95.12	102.74	109.84	122.80	128.80	75.93	93.00	100.45	107.39	120.06	125.92	73.21	89.66	96.84	103.53	115.75	121.40
TRAE+	30	106.77	130.76	141.24	150.99	168.81	177.05	104.78	128.33	138.62	148.19	165.68	173.76	100.64	123.26	133.14	142.33	159.13	166.90
TRAE	40	144.11	176.50	190.64	203.81	227.86	238.99	141.49	173.29	187.18	200.10	223.72	234.64	135.83	166.36	179.69	192.09	214.77	225.25
TRAE	45	157.21	192.54	207.97	222.33	248.57	260.71	154.31	188.99	204.13	218.23	243.98	255.89	148.18	181.49	196.03	209.56	234.30	245.74
TRAE	50	187.09	229.14	247.50	264.58	295.81	310.25	183.66	224.93	242.95	259.73	290.38	304.56	176.36	216.00	233.31	249.41	278.85	292.46
TJR	11	39.22	48.04	51.89	55.47	62.02	65.04	38.52	47.17	50.95	54.47	60.90	63.87	36.99	45.31	48.94	52.32	58.49	61.35
TJR	13	46.13	56.49	61.02	65.23	72.93	76.49	46.13	56.49	61.02	65.23	72.93	76.49	44.29	54.24	58.58	62.63	70.02	73.44
TER	16	58.73	71.93	77.69	83.05	92.86	97.39	57.63	70.58	76.24	81.50	91.12	95.57	55.33	67.77	73.19	78.25	87.48	91.75
TER	19	69.38	84.98	91.79	98.12	109.71	115.06	68.11	83.42	90.10	96.32	107.69	112.95	65.42	80.12	86.54	92.52	103.44	108.49
TER	25	93.42	114.42	123.58	132.12	147.71	154.92	91.69	112.29	121.29	129.66	144.97	152.04	88.04	107.83	116.47	124.51	139.20	146.00
TER	31	120.11	147.11	158.89	169.86	189.91	199.18	117.88	144.38	155.94	166.71	186.39	195.49	113.21	138.65	149.76	160.10	179.00	187.74
TIR	45	146.80	179.80	194.20	207.61	232.12	243.45	144.11	176.50	190.64	203.81	227.86	238.99	138.34	169.44	183.01	195.65	218.74	229.42
THR	55	186.84	228.83	247.17	264.23	295.42	309.84	183.41	224.63	242.63	259.38	289.99	304.15	176.08	215.65	232.93	249.01	278.41	291.99
THR	68	226.84	277.83	300.09	320.80	358.67	376.18	222.70	272.75	294.61	314.95	352.12	369.31	213.82	261.87	282.85	302.38	338.07	354.57
TMR	68	266.88	326.86	353.05	377.43	421.98	442.57	262.00	320.88	346.59	370.52	414.25	434.47	251.55	308.09	332.77	355.75	397.74	417.15

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-407C Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200	
BA/BN	1/2	1.06	1.30	1.40	1.50	1.68	1.76	0.81	0.88	0.94	1.05	1.10	1.15	0.50	0.54	0.57	0.64	0.67	0.70
BA/BN	3/4	2.02	2.47	2.67	2.85	3.19	3.35	1.52	1.64	1.76	1.97	2.06	2.15	0.96	1.03	1.10	1.23	1.29	1.35
BA/BN	1	3.15	3.86	4.17	4.46	4.98	5.22	2.41	2.60	2.78	3.11	3.26	3.40	1.52	1.64	1.76	1.97	2.06	2.15
BA/BN	1-1/2	4.21	5.16	5.57	5.96	6.66	6.99	3.19	3.44	3.68	4.11	4.31	4.51	2.02	2.18	2.33	2.60	2.73	2.8
BA/BN	2	5.31	6.50	7.02	7.51	8.40	8.81	4.04	4.36	4.66	5.21	5.46	5.71	2.55	2.75	2.94	3.29	3.45	3.60
BA/BN	2-1/4	6.44	7.89	8.52	9.11	10.19	10.68	4.89	5.28	5.64	6.31	6.61	6.91	3.08	3.33	3.56	3.98	4.17	4.36
BA/BN	3	8.32	10.19	11.01	11.76	13.15	13.80	6.34	6.84	7.32	8.18	8.58	8.96	4.00	4.32	4.62	5.16	5.42	5.66
BA/BN	3-1/2	10.55	12.92	13.96	14.92	16.68	17.49	8.04	8.68	9.28	10.37	10.88	11.36	5.06	5.47	5.85	6.54	6.85	7.16
BA/BN	4-1/4	13.10	16.04	17.33	18.52	20.71	21.72	9.98	10.78	11.53	12.89	13.52	14.12	6.27	6.77	7.24	8.09	8.48	8.86
HF/HN	1/4	0.60	0.74	0.80	0.85	0.95	1.00	0.46	0.50	0.53	0.59	0.62	0.65	0.28	0.31	0.33	0.37	0.38	0.40
HF/HN	1/2	1.13	1.39	1.50	1.60	1.79	1.88	0.85	0.92	0.98	1.10	1.15	1.20	0.53	0.57	0.61	0.69	0.72	0.75
HF/HN	3/4	2.02	2.47	2.67	2.85	3.19	3.35	1.52	1.64	1.76	1.97	2.06	2.15	0.96	1.03	1.10	1.23	1.29	1.35
HF/HN	1	3.08	3.77	4.07	4.36	4.87	5.11	2.34	2.52	2.70	3.02	3.16	3.30	1.49	1.61	1.72	1.92	2.01	2.10
HF/HN	1-1/2	4.14	5.07	5.48	5.86	6.55	6.87	3.15	3.40	3.64	4.07	4.27	4.46	1.98	2.14	2.29	2.56	2.68	2.80
HF/HN	1-3/4	5.31	6.50	7.02	7.51	8.40	8.81	4.04	4.36	4.66	5.21	5.46	5.71	2.55	2.75	2.94	3.29	3.45	3.60
HF/HN	2-1/2	7.01	8.58	9.27	9.91	11.08	11.62	5.35	5.77	6.17	6.90	7.24	7.56	3.36	3.63	3.88	4.34	4.55	4.76
HF/HN	4	12.46	15.26	16.48	17.62	19.70	20.66	9.49	10.25	10.95	12.25	12.85	13.42	5.98	6.46	6.91	7.72	8.10	8.46
HF/HN	6	17.35	21.24	22.95	24.53	27.43	28.77	13.20	14.26	15.25	17.05	17.88	18.67	8.32	8.99	9.61	10.74	11.26	11.76
HF/HN	7-1/2	21.95	26.88	29.03	31.04	34.70	36.40	16.71	18.05	19.29	21.57	22.62	23.63	10.51	11.36	12.14	13.57	14.24	14.87
HF/HN	11	32.57	39.89	43.08	46.06	51.49	54.01	24.82	26.80	28.65	32.04	33.60	35.09	15.61	16.86	18.03	20.15	21.14	22.08
HF/HN	14	42.87	52.50	56.71	60.63	67.78	71.09	32.64	35.25	37.69	42.14	44.19	46.16	20.57	22.22	23.75	26.55	27.85	29.09
TFE	6	17.03	20.85	22.53	24.08	26.92	28.24	12.96	13.99	14.96	16.73	17.54	18.32	8.18	8.83	9.44	10.56	11.07	11.56
TFE	8	23.33	28.57	30.86	32.99	36.89	38.69	17.77	19.19	20.52	22.94	24.06	25.13	11.19	12.08	12.92	14.44	15.15	15.82
TFE	10	28.96	35.47	38.31	40.95	45.79	48.02	22.05	23.82	25.47	28.47	29.86	31.19	13.88	14.99	16.02	17.91	18.79	19.62
TFE	15	44.21	54.15	58.49	62.53	69.91	73.32	33.67	36.36	38.87	43.46	45.58	47.61	21.17	22.87	24.44	27.33	28.66	29.94
TRAE+	9	25.06	30.70	33.16	35.44	39.63	41.56	19.08	20.61	22.03	24.63	25.84	26.98	12.00	12.96	13.86	15.49	16.25	16.97
TRAE+	13	36.53	44.74	48.33	51.67	57.76	60.58	27.82	30.05	32.13	35.92	37.67	39.35	17.52	18.93	20.23	22.62	23.73	24.78
TRAE+	14	40.78	49.95	53.95	57.67	64.48	67.63	31.05	33.53	35.85	40.08	42.04	43.91	19.54	21.11	22.56	25.23	26.46	27.63
TRAE+	22	61.81	75.70	81.76	87.41	97.73	102.50	47.08	50.85	54.37	60.78	63.75	66.58	29.63	32.00	34.21	38.25	40.12	41.90
TRAE+	30	84.96	104.05	112.39	120.15	134.33	140.89	64.71	69.90	74.72	83.54	87.62	91.52	40.71	43.97	47.01	52.56	55.12	57.57
TRAE	40	114.70	140.47	151.73	162.20	181.35	190.20	87.33	94.33	100.84	112.74	118.25	123.51	54.98	59.38	63.48	70.97	74.44	77.75
TRAE	45	125.10	153.22	165.50	176.92	197.81	207.46	95.26	102.89	110.00	122.98	128.98	134.72	59.97	64.77	69.24	77.42	81.20	84.81
TRAE	50	148.89	182.36	196.97	210.57	235.42	246.91	113.39	122.47	130.93	146.38	153.53	160.35	71.37	77.08	82.41	92.13	96.63	100.93
TJR	11	31.22	38.24	41.30	44.16	49.37	51.78	23.79	25.69	27.47	30.71	32.21	33.64	14.97	16.17	17.29	19.33	20.28	21.18
TJR	13	37.38	45.78	49.45	52.87	59.11	61.99	28.46	30.74	32.86	36.74	38.54	40.25	17.91	19.35	20.68	23.12	24.25	25.33
TER	16	46.73	57.23	61.82	66.08	73.88	77.49	35.58	38.43	41.08	45.93	48.17	50.31	22.41	24.20	25.87	28.93	30.34	31.69
TER	19	55.22	67.64	73.05	78.10	87.32	91.58	42.06	45.42	48.56	54.29	56.94	59.48	26.48	28.60	30.58	34.18	35.85	37.45
TER	25	74.34	91.05	98.34	105.13	117.54	123.28	56.60	61.14	65.36	73.08	76.64	80.05	35.61	38.47	41.12	45.98	48.22	50.36
TER	31	95.58	117.06	126.44	135.17	151.13	158.50	72.78	78.61	84.04	93.96	98.55	102.93	45.81	49.48	52.89	59.14	62.02	64.78
TIR	45	116.82	143.07	154.54	165.21	184.71	193.72	88.96	96.09	102.72	114.85	120.45	125.81	56.00	60.49	64.67	72.30	75.83	79.20
THR	55	148.68	182.10	196.69	210.27	235.08	246.56	113.21	122.28	130.72	146.15	153.29	160.10	71.26	76.97	82.28	92.00	96.49	100.78
THR	68	180.54	221.12	238.83	255.32	285.46	299.39	137.49	148.51	158.76	177.50	186.17	194.45	86.52	93.45	99.90	111.69	117.15	122.35
TMR	68	212.40	260.14	280.98	300.38	335.83	352.23	161.74	174.70	186.76	208.81	219.00	228.74	101.81	109.97	117.56	131.44	137.85	143.98

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Balanced Ported Valves (kWatts)– B Series

Valve Type	Nominal Rating	Evaporator Temperature																				
		10 °C						4 °C						-7 °C								
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)								
	500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	
BA/BN	1	2.8	3.4	3.8	4.1	4.7	5.0	5.5	2.8	3.4	3.8	4.1	4.7	5.0	5.4	2.7	3.3	3.7	4.0	4.6	4.9	5.3
	1-1/2	4.5	5.5	6.2	6.6	7.6	8.0	8.5	4.5	5.4	6.1	6.6	7.5	8.0	8.8	4.4	5.3	6.0	6.4	7.4	7.9	8.6
	2	6.3	7.7	8.6	9.2	10.6	11.3	12.3	6.3	7.6	8.6	9.2	10.5	11.2	12.2	6.1	7.4	8.4	9.0	10.3	11.0	12.0
	3	8.0	9.7	11.0	11.8	13.5	14.4	15.7	8.0	9.7	10.9	11.7	13.4	14.3	15.6	7.8	9.5	10.7	11.4	13.1	14.0	15.2
	3-1/2	10.4	12.6	14.2	15.2	17.4	18.6	20.3	10.3	12.5	14.1	15.1	17.3	18.4	20.1	10.1	12.2	13.8	14.7	16.9	18.0	19.7
	4-1/2	14.5	17.6	19.8	21.2	24.3	25.9	28.3	14.4	17.4	19.6	21.0	24.0	25.7	28.0	14.1	17.0	19.2	20.5	23.5	25.2	27.4
	6	17.7	21.5	24.2	25.9	29.7	31.7	34.6	17.6	21.3	24.0	25.7	29.4	31.5	34.3	17.2	20.8	23.5	25.1	28.8	30.8	33.6
7	21.8	26.4	29.8	31.9	36.5	39.0	42.5	21.6	26.2	29.5	31.6	36.2	38.7	42.2	21.2	25.6	28.9	30.9	35.4	37.9	41.3	

Note: 1. These ratings assume vapor free liquid entering the thermal expansion valve.
 2. Standard capacity is rated at 38°C liquid inlet and 4.4°C evap temperature, with 11 bar pressure drop across TXV.

R-410A Balanced Ported Valves (kWatts) – NXT Series

Valve Type	Nominal Rating Tons	Evaporator Temperature																				
		10 °C						4 °C						-7 °C								
		Pressure Drop Across valve (kPa)						Pressure Drop Across valve (kPa)						Pressure Drop Across valve (kPa)								
	500	750	1000	1100	1450	1700	2000	500	750	1000	1100	1450	1700	2000	500	750	1000	1100	1450	1700	2000	
NXT-Series	1/2	1.4	1.6	1.9	2.0	2.3	2.4	2.6	1.3	1.6	1.8	2.0	2.3	2.4	2.6	1.3	1.6	1.8	1.9	2.2	2.4	2.6
	1	2.4	2.9	3.3	3.5	4.1	4.3	4.7	2.4	2.9	3.3	3.5	4.0	4.3	4.7	2.4	2.8	3.2	3.4	3.9	4.2	4.6
	1-1/2	3.6	4.4	5.0	5.3	6.1	6.5	7.1	3.6	4.4	4.9	5.3	6.0	6.4	7.0	3.5	4.3	4.8	5.2	5.9	6.3	6.9
	2	4.8	5.9	6.6	7.1	8.1	8.7	9.4	4.8	5.8	6.6	7.0	8.0	8.6	9.4	4.7	5.7	6.4	6.9	7.9	8.4	9.2
	3	7.3	8.8	9.9	10.6	12.2	13.0	14.2	7.2	8.7	9.8	10.5	12.1	12.9	14.1	7.1	8.5	9.6	10.3	11.8	12.6	13.8
	4	9.7	11.7	13.2	14.2	16.2	17.3	18.9	9.6	11.6	13.1	14.0	16.1	17.2	18.7	9.4	11.4	12.9	13.7	15.7	16.8	18.3
	5	12.1	14.7	16.6	17.7	20.3	21.7	23.6	12.0	14.6	16.4	17.6	20.1	21.5	23.4	11.8	14.2	16.1	17.2	19.7	21.0	22.9
	6	14.5	17.6	19.9	21.2	24.3	26.0	28.3	14.4	17.5	19.7	21.1	24.1	25.8	28.1	14.1	17.1	19.3	20.6	23.6	25.2	27.5
	7	17.0	20.5	23.2	24.8	28.4	30.3	33.1	16.8	20.4	23.0	24.6	28.1	30.1	32.8	16.5	19.9	22.5	24.0	27.5	29.4	32.1
	8	20.3	24.5	27.8	29.7	34.0	36.4	39.6	20.2	24.4	27.5	29.4	33.7	36.1	39.9	19.7	23.9	27.0	28.8	33.0	35.3	38.5
	10	25.0	30.3	34.1	36.5	41.8	44.7	48.7	24.8	30.0	33.9	36.2	41.5	44.3	48.3	24.2	29.4	33.1	35.4	40.6	43.4	47.3
	12	30.6	37.1	41.8	44.7	51.2	54.8	59.7	30.4	36.8	41.5	44.3	50.8	54.3	59.2	29.7	36.0	40.6	43.4	49.7	53.1	57.9
	15	35.8	43.4	49.0	52.4	60.0	64.1	69.9	35.5	43.0	48.6	51.9	59.5	63.6	69.3	34.8	42.1	47.5	50.8	58.2	62.2	67.8

Note: 1. These ratings assume vapor free liquid entering the thermal expansion valve.
 2. Standard capacity is rated at 38°C liquid inlet and 4.4°C evap temperature, with 11 bar pressure drop across TXV.

Refrigerant Liquid Temperature Correction Factors

	Refrigerant Liquid Temperature °C									
	10	16	21	27	32	38	43	49	54	60
R-410A Correction Factor	1.37	1.30	1.23	1.15	1.08	1.00	0.92	0.84	0.75	0.65

These factors include corrections for liquid refrigerant density and net refrigeration effect, and are based on an average evaporator temperature of 4.4°C with a maximum 14°C Change in Superheat. However, they may be used for other evaporator temperatures.

R-502 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
	400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100	
BA/BN	1/2	0.92	1.13	1.22	1.30	1.46	1.53	0.89	1.08	1.17	1.25	1.40	1.47	0.85	1.04	1.12	1.20	1.34	1.41
BA/BN	3/4	1.73	2.12	2.29	2.45	2.74	2.88	1.70	2.08	2.25	2.40	2.69	2.82	1.63	1.99	2.15	2.30	2.57	2.70
BA/BN	1	2.69	3.30	3.56	3.80	4.25	4.46	2.62	3.21	3.47	3.70	4.14	4.34	2.51	3.08	3.32	3.55	3.97	4.17
BA/BN	1-1/2	3.61	4.42	4.78	5.11	5.71	5.99	3.50	4.29	4.64	4.96	5.54	5.81	3.36	4.12	4.45	4.76	5.32	5.58
BA/BN	2	4.53	5.55	5.99	6.41	7.16	7.51	4.46	5.46	5.90	6.31	7.05	7.40	4.25	5.20	5.62	6.01	6.72	7.04
BA/BN	2-1/4	5.49	6.72	7.26	7.76	8.68	9.10	5.38	6.59	7.12	7.61	8.51	8.92	5.13	6.29	6.79	7.26	8.12	8.51
BA/BN	3	7.12	8.71	9.41	10.06	11.25	11.80	6.97	8.54	9.23	9.86	11.03	11.56	6.66	8.15	8.80	9.41	10.52	11.04
BA/BN	3-1/2	8.99	11.01	11.89	12.72	14.22	14.91	8.81	10.80	11.66	12.47	13.94	14.62	8.43	10.32	11.15	11.92	13.32	13.97
BA/BN	4-1/4	11.22	13.74	14.85	15.87	17.74	18.61	10.97	13.44	14.52	15.52	17.35	18.20	10.48	12.83	13.86	14.82	16.57	17.38
HF/HN	1/4	0.50	0.61	0.66	0.70	0.78	0.82	0.50	0.61	0.66	0.70	0.78	0.82	0.46	0.56	0.61	0.65	0.73	0.76
HF/HN	1/2	0.96	1.17	1.26	1.35	1.51	1.59	0.96	1.17	1.26	1.35	1.51	1.59	0.89	1.08	1.17	1.25	1.40	1.47
HF/HN	3/4	1.73	2.12	2.29	2.45	2.74	2.88	1.70	2.08	2.25	2.40	2.69	2.82	1.63	1.99	2.15	2.30	2.57	2.70
HF/HN	1	2.62	3.21	3.47	3.70	4.14	4.34	2.58	3.16	3.42	3.65	4.09	4.29	2.48	3.03	3.28	3.50	3.92	4.11
HF/HN	1-1/2	3.54	4.34	4.68	5.01	5.60	5.87	3.47	4.25	4.59	4.91	5.49	5.75	3.29	4.03	4.36	4.66	5.21	5.46
HF/HN	1-3/4	4.53	5.55	5.99	6.41	7.16	7.51	4.46	5.46	5.90	6.31	7.05	7.40	4.25	5.20	5.62	6.01	6.72	7.04
HF/HN	2-1/2	5.98	7.33	7.91	8.46	9.46	9.92	5.88	7.20	7.77	8.31	9.29	9.74	5.59	6.85	7.40	7.91	8.84	9.28
HF/HN	4	10.66	13.05	14.10	15.07	16.85	17.67	10.44	12.79	13.81	14.77	16.51	17.32	9.95	12.18	13.16	14.07	15.73	16.50
HF/HN	6	14.83	18.17	19.62	20.98	23.45	24.60	14.51	17.78	19.20	20.53	22.95	24.07	13.88	17.00	18.36	19.62	21.94	23.01
HF/HN	7-1/2	18.76	22.98	24.82	26.53	29.67	31.11	18.37	22.50	24.30	25.98	29.05	30.47	17.56	21.50	23.23	24.83	27.76	29.12
HF/HN	11	27.86	34.12	36.86	39.40	44.05	46.20	27.26	33.38	36.06	38.55	43.10	45.20	26.02	31.87	34.42	36.80	41.14	43.15
HF/HN	14	36.67	44.92	48.52	51.87	57.99	60.82	35.90	43.96	47.49	50.76	56.76	59.53	34.27	41.97	45.33	48.46	54.18	56.83
TFE	6	14.55	17.82	19.25	20.58	23.00	24.13	14.27	17.47	18.87	20.18	22.56	23.66	13.59	16.65	17.98	19.22	21.49	22.54
TFE	8	19.93	24.41	26.37	28.19	31.51	33.05	19.51	23.89	25.80	27.58	30.84	32.35	18.62	22.81	24.63	26.33	29.44	30.88
TFE	10	24.74	30.31	32.73	34.99	39.12	41.03	24.25	29.70	32.08	34.29	38.34	40.21	23.12	28.31	30.58	32.69	36.55	38.33
TFE	15	37.81	46.30	50.01	53.47	59.78	62.70	36.99	45.31	48.94	52.32	58.49	61.35	35.29	43.23	46.69	49.91	55.80	58.53
TRAE+	9	21.42	26.23	28.33	30.29	33.86	35.52	20.99	25.71	27.77	29.69	33.19	34.81	20.04	24.54	26.51	28.34	31.68	33.23
TRAE+	13	31.22	38.24	41.30	44.16	49.37	51.78	30.59	37.46	40.46	43.25	48.36	50.72	29.17	35.73	38.59	41.25	46.12	48.37
TRAE+	14	34.87	42.71	46.13	49.31	55.13	57.82	34.13	41.80	45.14	48.26	53.96	56.59	32.57	39.89	43.08	46.06	51.49	54.01
TRAE+	22	52.85	64.73	69.92	74.74	83.57	87.65	51.72	63.34	68.42	73.14	81.78	85.77	49.38	60.48	65.33	69.84	78.08	81.89
TRAE+	30	72.64	88.97	96.09	102.73	114.86	120.46	71.12	87.10	94.08	100.58	112.45	117.94	67.86	83.11	89.77	95.97	107.30	112.54
TRAE	40	98.06	120.10	129.72	138.67	155.04	162.61	96.00	117.58	127.00	135.77	151.80	159.21	91.62	112.21	121.20	129.56	144.86	151.93
TRAE	45	106.98	131.02	141.52	151.29	169.15	177.40	104.71	128.25	138.52	148.09	165.57	173.65	99.93	122.39	132.20	141.33	158.01	165.72
TRAE	50	127.30	155.91	168.40	180.03	201.28	211.10	124.64	152.66	164.89	176.27	197.08	206.70	124.64	152.66	164.89	176.27	197.08	206.70
TJR	11	26.69	32.69	35.31	37.75	42.20	44.26	26.13	32.00	34.56	36.95	41.31	43.32	11.54	14.13	15.27	16.32	18.25	19.14
TJR	13	31.97	39.15	42.29	45.21	50.54	53.01	31.29	38.33	41.40	44.26	49.48	51.89	13.81	16.91	18.26	19.52	21.83	22.89
TER	16	39.97	48.95	52.87	56.52	63.19	66.28	39.12	47.91	51.75	55.32	61.85	64.87	17.28	21.16	22.85	24.43	27.31	28.65
TER	19	47.22	57.84	62.47	66.78	74.67	78.31	46.23	56.62	61.16	65.38	73.10	76.67	20.39	24.97	26.97	28.84	32.24	33.81
TER	25	63.58	77.87	84.11	89.91	100.53	105.43	62.23	76.22	82.33	88.01	98.40	103.20	27.47	33.64	36.34	38.85	43.43	45.55
TER	31	81.74	100.11	108.13	115.60	129.24	135.55	80.00	97.98	105.84	113.14	126.50	132.67	35.29	43.23	46.69	49.91	55.80	58.53
TIR	45	99.90	122.35	132.15	141.28	157.95	165.66	97.77	119.75	129.34	138.27	154.60	162.14	43.15	52.85	57.09	61.03	68.23	71.56
THR	55	127.12	155.69	168.17	179.78	201.00	210.81	124.43	152.40	164.61	175.97	196.74	206.35	54.94	67.29	72.68	77.70	86.87	91.11
THR	68	154.38	189.08	204.22	218.33	244.10	256.01	151.12	185.09	199.92	213.72	238.95	250.61	66.69	81.68	88.23	94.32	105.45	110.60
TMR	60	181.60	222.42	240.24	256.82	287.14	301.15	177.78	217.73	235.18	251.42	281.09	294.81	78.48	96.12	103.82	110.99	124.09	130.15

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-502 Balanced Ported Valves (kWatts)– B, HF, TFE, TRAE and T Series (cont.)

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
BA/BN	1/2	0.78	0.95	1.03	1.10	1.23	1.29	0.60	0.65	0.69	0.78	0.81	0.85	0.39	0.42	0.45	0.50	0.53	0.55
BA/BN	3/4	1.49	1.82	1.97	2.10	2.35	2.47	1.17	1.26	1.35	1.51	1.58	1.65	0.74	0.80	0.86	0.96	1.01	1.05
BA/BN	1	2.30	2.82	3.04	3.25	3.64	3.82	1.84	1.99	2.13	2.38	2.49	2.60	1.17	1.26	1.35	1.51	1.58	1.65
BA/BN	1-1/2	3.08	3.77	4.07	4.36	4.87	5.11	2.44	2.64	2.82	3.15	3.31	3.45	1.56	1.68	1.80	2.01	2.11	2.20
BA/BN	2	3.89	4.77	5.15	5.51	6.16	6.46	3.08	3.33	3.56	3.98	4.17	4.36	1.95	2.10	2.25	2.51	2.64	2.75
BA/BN	2-1/4	4.74	5.81	6.28	6.71	7.50	7.87	3.72	4.01	4.29	4.80	5.03	5.26	2.37	2.56	2.74	3.06	3.21	3.35
BA/BN	3	6.12	7.50	8.10	8.66	9.68	10.16	4.81	5.20	5.56	6.22	6.52	6.81	3.08	3.33	3.56	3.98	4.17	4.36
BA/BN	3-1/2	7.75	9.49	10.26	10.96	12.26	12.86	6.12	6.61	7.07	7.91	8.29	8.66	3.89	4.21	4.50	5.03	5.27	5.51
BA/BN	4-1/4	9.63	11.79	12.74	13.62	15.22	15.97	7.61	8.22	8.79	9.83	10.31	10.76	4.85	5.24	5.60	6.26	6.57	6.86
HF/HN	1/4	0.42	0.52	0.56	0.60	0.67	0.70	0.35	0.38	0.41	0.46	0.48	0.50	0.21	0.23	0.25	0.27	0.29	0.30
HF/HN	1/2	0.81	1.00	1.08	1.15	1.29	1.35	0.64	0.69	0.74	0.82	0.86	0.90	0.42	0.46	0.49	0.55	0.58	0.60
HF/HN	3/4	1.49	1.82	1.97	2.10	2.35	2.47	1.17	1.26	1.35	1.51	1.58	1.65	0.74	0.80	0.86	0.96	1.01	1.05
HF/HN	1	2.27	2.77	3.00	3.20	3.58	3.76	1.77	1.91	2.04	2.29	2.40	2.50	1.13	1.22	1.31	1.46	1.53	1.60
HF/HN	1-1/2	3.04	3.73	4.03	4.31	4.81	5.05	2.41	2.60	2.78	3.11	3.26	3.40	1.52	1.64	1.76	1.97	2.06	2.15
HF/HN	1-3/4	3.89	4.77	5.15	5.51	6.16	6.46	3.08	3.33	3.56	3.98	4.17	4.36	1.95	2.10	2.25	2.51	2.64	2.75
HF/HN	2-1/2	5.17	6.33	6.84	7.31	8.17	8.57	4.07	4.40	4.70	5.26	5.51	5.76	2.58	2.79	2.98	3.34	3.50	3.65
HF/HN	4	9.17	11.23	12.13	12.97	14.50	15.20	5.84	6.31	6.74	7.54	7.91	8.26	4.60	4.97	5.31	5.94	6.23	6.51
HF/HN	6	12.74	15.61	16.86	18.02	20.15	21.13	10.05	10.86	11.61	12.98	13.61	14.22	6.41	6.92	7.40	8.27	8.68	9.06
HF/HN	7-1/2	16.14	19.77	21.35	22.83	25.52	26.77	12.74	13.77	14.72	16.45	17.26	18.02	8.11	8.76	9.36	10.47	10.98	11.46
HF/HN	11	23.93	29.31	31.66	33.84	37.84	39.68	18.90	20.42	21.83	24.40	25.60	26.73	12.04	13.00	13.90	15.54	16.30	17.02
HF/HN	14	31.51	38.59	41.68	44.56	49.82	52.25	24.89	26.88	28.74	32.13	33.70	35.19	15.86	17.13	18.31	20.47	21.47	22.43
TFE	6	12.53	15.35	16.58	17.72	19.81	20.78	9.88	10.67	11.40	12.75	13.37	13.97	6.30	6.81	7.28	8.13	8.53	8.91
TFE	8	17.13	20.98	22.67	24.23	27.09	28.41	13.52	14.61	15.61	17.46	18.31	19.12	8.60	9.29	9.93	11.11	11.65	12.17
TFE	10	21.28	26.06	28.14	30.09	33.64	35.28	16.82	18.16	19.42	21.71	22.77	23.78	10.69	11.55	12.34	13.80	14.48	15.12
TFE	15	32.50	39.80	42.99	45.96	51.38	53.89	25.67	27.72	29.64	33.13	34.75	36.30	16.32	17.63	18.84	21.07	22.10	23.08
TRAE+	9	18.41	22.55	24.35	26.03	29.11	30.53	14.55	15.72	16.80	18.78	19.70	20.58	9.27	10.02	10.71	11.97	12.56	13.12
TRAE+	13	26.83	32.86	35.50	37.95	42.43	44.50	21.20	22.90	24.48	27.38	28.71	29.99	13.49	14.57	15.57	17.41	18.26	19.07
TRAE+	14	29.98	36.72	39.66	42.40	47.41	49.72	23.68	25.58	27.35	30.57	32.07	33.49	15.08	16.29	17.41	19.47	20.42	21.33
TRAE+	22	45.42	55.63	60.08	64.23	71.81	75.32	35.86	38.73	41.41	46.30	48.55	50.71	22.83	24.66	26.37	29.48	30.92	32.29
TRAE+	30	62.45	76.48	82.61	88.31	98.74	103.55	49.31	53.26	56.94	63.66	66.77	69.74	31.40	33.92	36.26	40.54	42.52	44.41
TRAE	40	84.29	103.23	111.50	119.20	133.27	139.77	66.55	71.88	76.85	85.92	90.11	94.12	42.37	45.77	48.93	54.70	57.37	59.93
TRAE	45	91.93	112.60	121.62	130.01	145.36	152.45	72.61	78.42	83.84	93.73	98.31	102.68	46.23	49.94	53.38	59.69	62.60	65.38
TRAE	50	109.42	134.01	144.75	154.75	173.01	181.45	86.41	93.33	99.78	111.56	117.00	122.20	55.01	59.42	63.52	71.02	74.49	77.80
TJR	11	22.94	28.09	30.35	32.44	36.27	38.04	18.12	19.58	20.93	23.40	24.54	25.63	11.54	12.47	13.33	14.90	15.63	16.32
TJR	13	27.47	33.64	36.34	38.85	43.43	45.55	21.70	23.44	25.06	28.01	29.38	30.69	13.81	14.91	15.94	17.82	18.69	19.52
TER	16	34.34	42.06	45.42	48.56	54.29	56.94	27.12	29.29	31.31	35.01	36.72	38.35	17.28	18.66	19.95	22.30	23.39	24.43
TER	19	40.60	49.73	53.71	57.42	64.20	67.33	32.04	34.60	36.99	41.36	43.38	45.31	20.39	22.02	23.54	26.32	27.61	28.84
TER	25	54.62	66.90	72.26	77.25	86.37	90.58	43.15	46.61	49.83	55.71	58.43	61.03	27.47	29.67	31.72	35.46	37.20	38.85
TER	31	70.23	86.02	92.91	99.33	111.05	116.47	55.47	59.92	64.05	71.61	75.11	78.45	35.29	38.12	40.75	45.56	47.79	49.91
TIR	45	85.85	105.14	113.56	121.40	135.73	142.36	67.79	73.22	78.28	87.52	91.79	95.87	43.15	46.61	49.83	55.71	58.43	61.03
THR	55	109.28	133.84	144.56	154.54	172.79	181.22	86.27	93.18	99.62	111.37	116.81	122.00	54.94	59.34	63.44	70.93	74.39	77.70
THR	68	132.68	162.50	175.52	187.64	209.78	220.02	104.78	113.18	120.99	135.28	141.88	148.19	66.69	72.04	77.01	86.10	90.30	94.32
TMR	60	156.11	191.20	206.52	220.78	246.84	258.89	123.26	133.14	142.33	159.13	166.90	174.32	78.48	84.77	90.62	101.32	106.26	110.99

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

R-410A Balanced Ported Valves (kWatts) - TFE Series

Valve Type	Nominal Rating	Evaporator Temperature																					
		10 °C								4 °C								-7 °C					
		Pressure Drop Across Valve (kPa)								Pressure Drop Across Valve (kPa)								Pressure Drop Across Valve (kPa)					
		500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	
TFES	42	28.6	34.6	39.1	41.8	47.9	51.2	55.8	28.4	34.3	38.7	41.4	47.5	50.7	55.3	27.7	33.6	37.9	40.5	46.4	49.6	54.1	
	56	43.4	52.5	59.3	63.4	72.6	77.6	84.6	43.0	52.1	58.8	62.8	72.0	76.9	83.9	42.1	51.0	57.5	61.5	70.4	75.3	82.1	
	70	46.8	56.6	63.9	68.3	78.3	83.7	91.2	46.4	56.2	63.4	67.7	77.6	83.0	90.4	45.4	55.0	62.0	66.3	75.9	81.2	88.5	
Valve Type	Nominal Rating	Evaporator Temperature																					
		-18 °C								-29 °C								-40 °C					
		Pressure Drop Across Valve (kPa)								Pressure Drop Across Valve (kPa)								Pressure Drop Across Valve (kPa)					
		500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	500	800	1000	1100	1400	1700	2000	
TFES	42	27.0	32.7	36.9	39.5	45.2	48.3	52.7	26.2	31.7	35.8	38.2	43.8	46.8	51.0	25.3	30.6	34.5	36.9	42.3	45.2	49.2	
	56	41.0	49.6	56.0	59.9	68.6	73.3	79.9	39.7	48.1	54.2	58.0	66.4	71.0	77.4	38.3	46.4	52.3	56.0	64.1	68.5	74.7	
	70	44.2	53.5	60.4	64.5	73.9	79.0	86.1	42.8	51.8	58.5	62.5	71.6	76.6	83.5	41.3	50.0	56.4	60.3	69.1	73.9	80.5	

Note: 1. These ratings assume vapor free liquid entering the thermal expansion valve.
 2. Standard capacity is rated at 38 °C liquid inlet and 4.4 °C evap temperature; with 11 bar pressure drop across TXV per ARI 750-2001.

Refrigerant Liquid Temperature Valve Capacity Multiplier Correction Factors

	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12 Correction Factor	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a Correction Factor	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22 Correction Factor	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507 Correction Factor	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	
R-450A/R-513A Correction Factor	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A Correction Factor	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

The EX2 is an electrically driven expansion valve designed for use with R-12, R-22, R-134a, R-404A, R-407C, and R-502.

Features

- Pulse width modulation provides precise temperature control
- Dampened plunger reduces noise and effects of “water hammer”
- Shut off function eliminates the necessity of a separate solenoid valve

Options

- One valve body can be combined with 6 orifices to make 6 capacity ranges up to 2.7 tons R-22.



Specifications

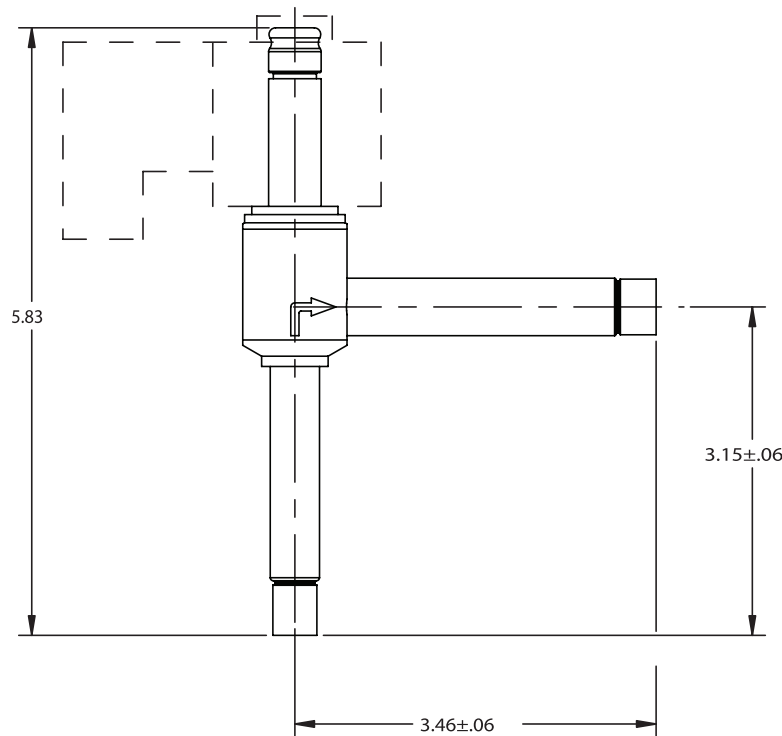
- Designed for 15 year life or 80 million cycles at 15 sec. duty cycle
- Maximum Working Pressure: 400 psig MOPD, 500 psig
- ASC2X Coils: 24V/60Hz, 120V/60Hz
- UL/CUL file number: MP604

NOTE: This valve requires a ASC2X type coil assembly. ASC2X type coil requires cable assembly PCN:059261.

Nomenclature example: EX2 1/4 x 3/8 EXO-001 ASC2X 120V

EX2	1/4	3/8	EXO-001	ASC2X 120V
Valve Series	Inlet Connection	Outlet Connection	Orifice	Coil

Dimensional Data



Ordering Information

Device	Description	PCN
Electronic Expansion Valve	EX2 3/8 x 1/2	064497
24V/60Hz Coil	ASC2X 24/60	064503
120V/60Hz Coil	ASC2X 120/60	064504

The liquid capacity table below quotes capacities at 100% duty cycle (i.e. the valve is open continuously). However, it is recommended to operate the valve at partial load (50-80%) to allow for system load fluctuations. The valve operates with a 6 second pulse width cycle. Partial capacity can be calculated by proportioning the actual pulse time relative to 6 seconds (i.e. 3 second pulse width cycle time = 50% valve capacity).

Liquid Capacity Table in Tons @ 100% Duty Cycle

PCN	Orifice #	R-134a Tons (kW)	R-22 Tons (kW)	R-404A / R-507 Tons (kW)	R-407C Tons (kW)	R-744 Tons (kW)
064570	EXO-00X	0.2 (0.7)	0.2 (0.9)	0.17 (0.6)	0.28 (1.0)	0.51 (1.8)
064569	EXO-000	0.3 (1.2)	0.4 (1.6)	0.3 (1.1)	0.48 (1.7)	0.94 (3.3)
064499	EXO-001	0.7 (2.5)	0.9 (3.2)	0.65 (2.3)	1.0 (3.5)	1.85 (6.5)
064500	EXO-002	0.9 (3.3)	1.2 (4.3)	0.85 (3.0)	1.34 (4.7)	2.47 (8.7)
064501	EXO-003	1.6 (5.6)	2.0 (7.2)	1.45 (5.1)	2.22 (7.8)	4.15 (14.6)
064502	EXO-004	2.4 (8.5)	3.1 (10.9)	2.19 (7.7)	3.36 (11.8)	6.31 (22.2)
064497	No Orifice Used	3.7 (13.3)	4.8 (17.2)	3.44 (12.1)	5.32 (18.7)	9.95 (35.0)

Nominal capacities shown in this table are based on 40°F evaporating temperature, 100°F condensing temperature and 100 psig pressure drop across the valve.

The Emerson EX3 is an electronically controlled expansion device that provides precise control of refrigerant flow and system superheat. The EX3 employs a high resolution, linear stepper motor in conjunction with a built in solenoid to provide positive closure in the event of power interruption. This automatic “shut-off” capability, combined with a take-a-part construction and water resistant design, make the EX3 a robust solution for many applications including supermarket cases and walk-ins.

Features

- Positive shut-off, no need for a battery
- IP67 Moisture Protection - Operates in humid, icy, and wet environments
- Superior control resolution for high efficiency (stepper motor driven)
- Very long life, High reliability
- Take-apart construction for easy field serviceability
 - Cleanable/removable strainer
 - Field exchangeable pin and orifice
- 1 valve assembly with 8 field serviceable pin/orifice combinations for flexible capacity

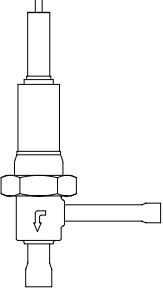
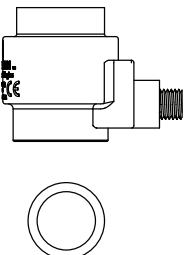
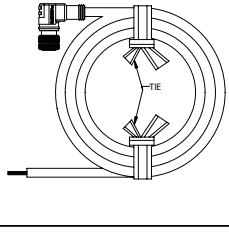
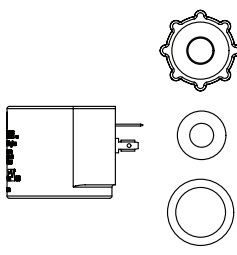
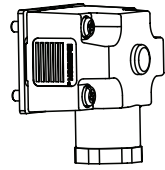
Key Specifications

- MWP: 500psig
- MOPD: 360psig (Uni-flow)
- IP67 (with proper plugs)
- Working Temperature: -58~167°F (liquid)
- Seat leakage: 16 SCCM
- Integral solenoid coil with three voltage options: 230VAC/ 120VAC/ 24VAC
- Certification: UL/CE



Ordering Information

The EX3 offers several different exchangeable components to maximize flexibility

Step 1	Step 2	Step 3	Step 4	Step 5
Sizing Valve Assembly	Order Stator	Select Stator Plug with Lead Wire	Select Solenoid Coil	Order Coil Connector
				
Valve assembly with different pin and orifice sizes (capacity)	Stepper motor, with O-ring	M12 stator plug with lead wires	Solenoid coil with O-rings and screw cap	Connector for reliable IP67 seal
Options: EX3-2000 ~ EX3-5000 EX3-6000 ~ EX3-9000	Options: EX3-S012	Options: EX3-M300: 3 meters EX3-M600: 6 meters	Options: EX3-C230: 220-230VAC EX3-C120: 110-120VAC EX3-C024: 24VAC	Options: EX3-PL67

Ordering Example

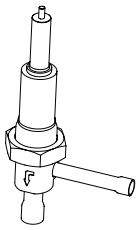
Step 1: Sizing the Valve

Nominal cooling capacity: Tons

	EX3-2000	EX3-3000	EX3-4000	EX3-5000	EX3-6000	EX3-7000	EX3-8000	EX3-9000
R-404A	0.25	0.53	0.86	1.39	2.25	2.85	3.17	4.06
R-134a	0.29	0.60	0.97	1.57	2.54	3.22	3.59	4.59
R-22	0.40	0.84	1.34	2.18	3.53	4.47	4.98	6.36
R-407F	0.38	0.79	1.27	2.06	3.34	4.23	4.71	6.02
R-507	0.25	0.52	0.83	1.35	2.18	2.77	3.08	3.94

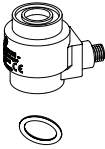
The nominal capacity is based upon the following standard conditions per ARI:

Evaporating Temperature	Condensing Temperature
40°F(4.4°C)	100°F(38°C)

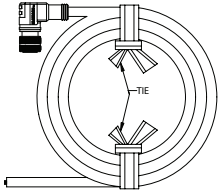
PCN	Model	Description	
098252	EX3-2000	Valve assembly with Pin #2, Orifice #1	
098253	EX3-3000	Valve assembly with Pin #3, Orifice #1	
098254	EX3-4000	Valve assembly with Pin #4, Orifice #1	
098255	EX3-5000	Valve assembly with Pin #5, Orifice #1	
098256	EX3-6000	Valve assembly with Pin #6, Orifice #2	
098257	EX3-7000	Valve assembly with Pin #7, Orifice #2	
098258	EX3-8000	Valve assembly with Pin #8, Orifice #2	
098259	EX3-9000	Valve assembly with Pin #9, Orifice #2	

Select the appropriate valve

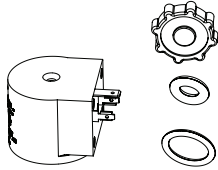
Step 2: Order Stepper Motor

PCN	Model	Description	
098263	EX3-S012	1pc Stepper motor stator 1pc O-ring (Ø23.4mm)	

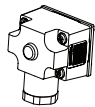
Step 3: Choose A Cable

PCN	Model	Description	
098250	EX3-M300	M12 plug to stator (3M Length)	
098251	EX3-M600	M12 plug to stator (6M Length)	

Step 4: Choose Solenoid Coil

PCN	Model	Description	
098260	EX3-C230	Solenoid Coil, 220-230VAC 50/60Hz, 1pc Screw-cap, 1pc O-ring (Ø10.5mm) 1pc O-ring (Ø23.4mm)	
098261	EX3-C120	Solenoid Coil, 110-120VAC 50/60Hz, 1pc Screw-cap, 1pc O-ring (Ø10.5mm) 1pc O-ring (Ø23.4mm)	
098262	EX3-C024	Solenoid Coil, 24VAC 50/60Hz, 1pc Screw-cap, 1pc O-ring (Ø10.5mm) 1pc O-ring (Ø23.4mm)	

Step 5: Choose plug to solenoid coil

PCN	Model	Description	
098276	EX3-PL67	Connector (Solenoid), IP67	

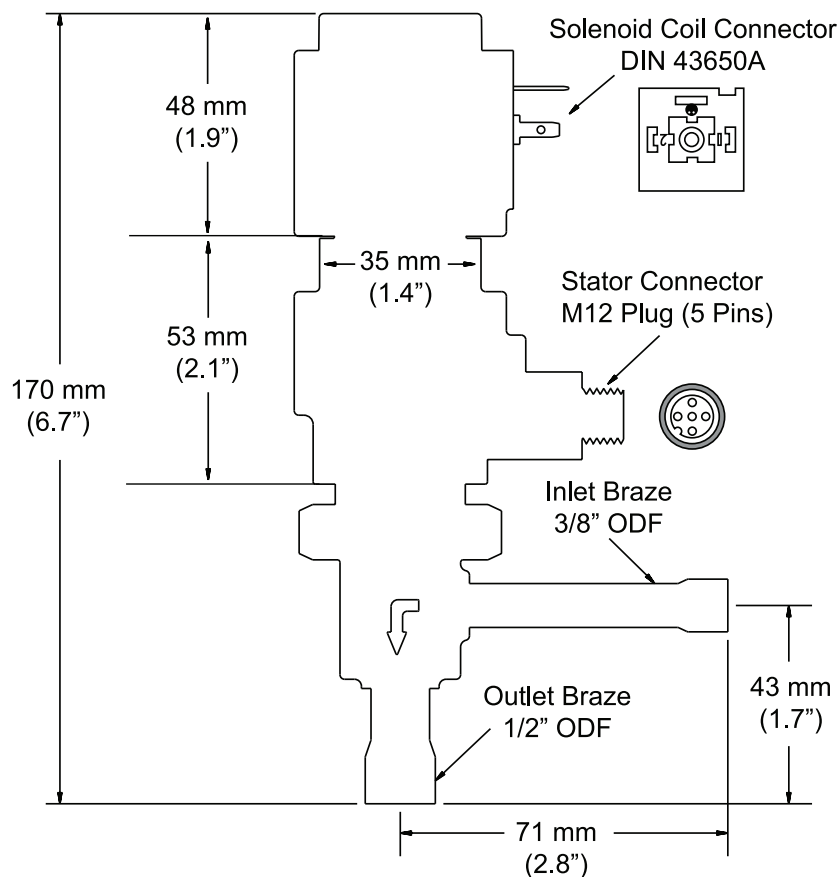
Note:

1. It is strongly recommended to use EX3-PL67 to for reliable IP67 class protection.
2. Please use OD 7.0mm wiring for solenoid coil.

Replacement Components

Item	Strainer Kit		Pin Assembly Kit		Orifice Kit		Seal Assembly Kit		O-ring (Body)	
PCN(Description)	098264		098265(Pin#2) 098266(Pin#3) 098267(Pin#4) 098268(Pin#5) 098269(Pin#6) 098270(Pin#7) 098271(Pin#8) 098272(Pin#9)		098273(Orifice#1) 098274(Orifice#2)		098277		098275	
Visual										
Components	O-ring: Ø26.7mm	1pc	O-ring: Ø26.7mm	1pc	O-ring: Ø26.7mm	1pc	O-ring: Ø10.5mm	1pc	O-ring: Ø26.7mm	5pcs
	Strainer	1pc	Pin	1pc	Orifice	1pc	Screw cap	1pc	-	-
	Strainer Cover	1pc	Snap-ring	2pcs	-	-	O-ring: Ø23.4mm	2pcs	-	-

Dimensional Data



EX4-EX8 Electrical Control Valve

EX Valves & Controls

The EX4-EX8 are stepper motor driven valves that are optimized for the control of liquid or gaseous mass flow in refrigeration systems. Multifunction capability as expansion valve, hot gas bypass, suction gas throttling, head pressure, liquid line actuator and other applications systems.

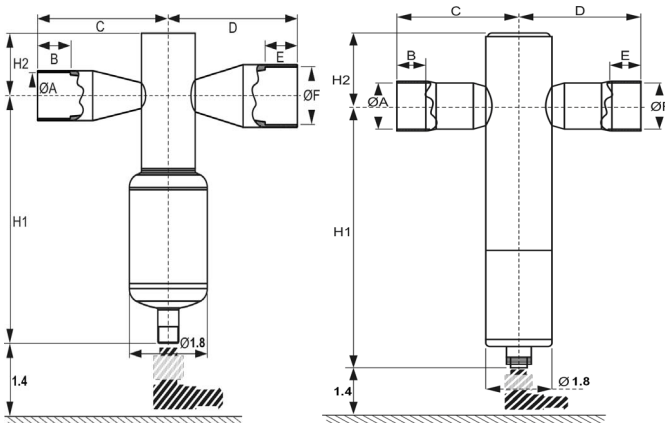
Features

- Fully hermetic design
- Fast full stroke time
- Applicable to all common refrigerants (HCFC, HFC), for subcritical CO₂ applications
- High resolution and excellent repeatability
- Bi-flow versions for heat pump applications
- Positive shut-off function to eliminate the use of an additional solenoid valve
- Linear flow capacity
- Wide capacity range (10 - 100%)
- Continuous modulation of mass flow, no stress (liquid hammering) in the refrigeration circuit
- Direct coupling of motor and valve for high reliability (no gear mechanism)
- Ceramic slide and port for accurate flow and minimal wear
- Balanced force design
- Corrosion resistant stainless steel body, and connections



Valve Type	Inlet x Outlet (ODF)	B	C	D	E	H1	H2
EX4-I21	3/8" x 5/8"	0.3	1.8	2.2	0.4	4.4	1.0
EX5-U21	5/8" x 7/8"	0.4	2.2	2.6	0.6	4.4	1.0
EX6-I21	7/8" x 1-1/8"	0.6	2.6	3.0	0.7	4.4	1.0
EX7-I21	1-1/8" x 1-3/8"	0.8	3.1	3.2	0.9	6.2	1.7
EX8-I21	1-5/8" x 1-5/8"	0.8	3.1	3.1	0.8	7.9	2.2

Dimensional Data (in)



Specifications

- CE marking: EX4/EX5: not required
EX6-EX8: required, Cat I, Module A
- MOPD: EX4-EX6: 580 psid
EX7: 507 psid
EX8: 435 psid
- MWP: EX4-EX7: 870 psig
EX8: 650 psig
- Ambient temperature: -40°F to +130°F
- Humidity: 5 to 95% R.H.
- External leakage: ≤ 0.1 oz/yr (R-22)
- Stepper motor type: Bi-polar, phase current by chopper control (constant current)
- Electrical connection: 4 pin terminal via plug
- Driver supply voltage: Recommended: 24 VDC
Range: 18-36 VDC
- Phase current (operating): EX4-EX6: 500 mA max
EX7: 750 mA
EX8: 800 mA
- Holding current: EX4-EX6: 100 mA
EX7: 250 mA
EX8: 500 mA
- Nominal input power per phase: EX4-EX6: 3.5W
EX7-EX8: 5W
- Phase inductance: EX4-EX6: 30 mH ±25%
EX7: 20 mH ±25%
EX8: 22 mH ±25%
- Step mode: 2 phase full step
- Step angle: 1.8° per step ±8%
- Total number of steps: EX4-EX6: 750 full steps
EX7: 1600 full steps
EX8: 2600 full steps
- Stepping rate: 500 Hz
- Winding resistance per phase: EX4-EX6: 13 ohm ±10%
EX7: 8 ohm ±10%
EX8: 6 ohm ±10%
- Full travel time: EX4-EX6: 1.5 seconds
EX7: 3.2 seconds
EX8: 5.2 seconds

EX4/EX5/EX6/EX7/EX8

Nominal capacities as expansion valves and liquid injection valves

Nominal Capacities in Tons (10% - 100%)

Valve Type	R-407C	R-22	R-134a	R-404A	R-410A	R-23	R-124	R-744
EX4	.6 – 5	.6 – 4.7	.3 – 3.6	.3 – 3.3	.6 – 5.5	.6 – 5.1	.3 – 2.6	.9 – 9.5
EX5	1.4 – 15.1	1.4 – 14.2	1.1 – 11.1	1.1 – 10	1.7 – 16.5	1.4 – 15.4	.9 – 8	2.8 – 29
EX6	4.3 – 35.8	4.3 – 34.1	2.8 – 26.4	2.8 – 23.9	4.3 – 39.8	3.7 – 37	2 – 19.1	6.8 – 69.4
EX7	10 – 98.7	10 – 93.8	7.1 – 72.5	7.1 – 65.4	11.4 – 109.5	–	–	19.9 – 190.5
EX8	28.4 – 263	25.6 – 250.2	19.9 – 193.4	17.1 – 174.3	28.4 – 292	–	–	51.2 – 508.7

Note 1: EX Bi-flow versions are not released for use with R-124 and R-23 refrigerants.

Note 2: EX Bi-flow versions have identical capacity in both flow direction.

Refrigerant	Evaporating Temperature	Condensing Temperature	Subcooling
R-22, R-134a, R-404A, R-410A	+40 °F	+100°F	2°F
R-407C	+40°F dew point	+100°F bubble	2°F
R-124	+68°F	+176°F	2°F
R-23	-76°F	-13°F	2°F
R-744	-40°F	14°F	2°F

The nominal capacity is based on the following conditions:

Ordering Information

Description	Type	Inlet Connection (in)	Outlet Connection (in)	Reference #	PCN
EX4 Electrical Control Valve	EX4-I21	3/8	5/8	800615	097719
EX5 Electrical Control Valve	EX5-U21	5/8	7/8	800618	097720
EX6 Electrical Control Valve	EX6-I21	7/8	1 1/8	800620	097721
EX7 Electrical Control Valve	EX7-I21	1 1/8	1 3/8	800624	097722
EX8 Electrical Control Valve	EX8-I21	1 5/8	1 5/8	804631	097723
EX4 Bi-Flow Electrical Control Valve	EX4-U31	5/8	5/8	800617	097756
EX5 Bi-Flow Electrical Control Valve	EX5-U31	7/8	7/8	800619	097729
EX6 Bi-Flow Electrical Control Valve	EX6-I31	1 1/8	1 1/8	800622	097757
EX7 Bi-Flow Electrical Control Valve	EX7-U31	1 3/8	1 3/8	800626	097758
Valve Connector Cable	EXV-M60	N/A	N/A	804665	097741

The EXD-U00 is a universal driver that enables the operation of Emerson stepper motor driven valves used in applications such as solenoid valves, electronic expansion valves, hot gas bypass or evaporator pressure regulator as capacity control, crankcase pressure regulator, heat reclaim regulator, and liquid level control.

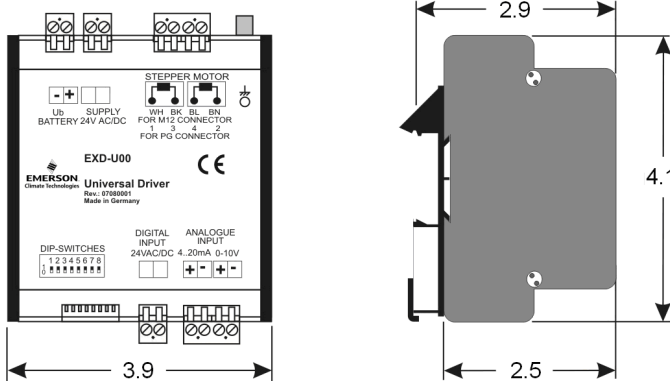
Features

- Valve opening is proportional to 4-20mA or 0-10V analog input signal
- Plug and play, no parameter settings required
- Digital input can be used to force valve closing
- Dip-switches for selection of EX control valve type, analog input and start mode

Ordering Information

Description	Type	Reference #	PCN
Universal Driver Module	EXD-U00	804557	097710
Electrical Terminal Kit	K09-U00	804559	097711

Dimensional Data (in)



Specifications

- Supply voltage: 24V AC $\pm 10\%$, 50-60HZ, 24V DC $\pm 10\%$
- Supply current: To be protected by a 0.8A external fuse
- Power consumption: 10VA in conjunction with EX valve
- Temperature: Storage: -5°F to $+150^{\circ}\text{F}$
Operating: 32°F to $+140^{\circ}\text{F}$
- Humidity: $< 90\%$ R.H. non condensing
- Approvals: EMC EN 61326-1, EN50081, EN50082
- Marking: CE
- Input analogue signal: 4-20 mA
Burden 364 Ω
0-10V
Impedance 27K Ω
- Digital input: 24V AC $\pm 10\%$, 50-60Hz, 24V DC $\pm 10\%$
- Connection to EX4-8: Via 4 wires cable, maximum 6m length
AWG 20/22
- Connector: Screw terminals for wire size 12/20 AWG
- Mounting: DIN rail mounted
- Housing: Aluminum

The EC3 is a stand-alone universal superheat controller for stable superheat control with stepper motor driven electronic control valves and is used for air conditioning, refrigeration and industrial applications such as chillers, industrial process cooling rooftops, heat pumps, package units, close controls, cold room, food process and air driers. With the EC3-X32, parameters can be downloaded through ECD-002 or through TCP/IP compatible interface.

Features

- Superheat control in conjunction with Emerson stepper motor driven electrical control valves EX4-EX8
- Limitation of evaporating pressure (MOP)
- Low and high superheat alarm
- Low pressure switch function/alarm
- Freeze protection function/alarm
- Pump down function
- Monitoring of sensors and sensor wiring and detection of sensor and wiring failures
- Intelligent alarm management to protect the compressor, i.e fail safe operation
- Integral rechargeable battery to close EX control valves in case of power loss.
- Support of TCP/IP Ethernet technology with WebServer functionality allows monitoring and configuration of controllers through a standard WebBrowser
- Electrical connection via plug-in type screw terminal
- Aluminum housing for DIN rail mounting

Ordering Information

Description	Type	Reference #	PCN
Superheat Controller	EC3-X32	807782	097708
Terminal Kit	K03-X32	807644	097709
Temperature Sensor	ECN-N60	804497	097714
Electrical Control Valve	EX4-EX8**	**	**
Pressure Sensors (R-22/R-124/R-134a/R-404A/R-407C/R507C)	PT5-07M	802350	097748
Pressure Sensor (R-410A)	PT5-18M	802851	097749
Pressure Sensor (R-744)	PT5-30M	802352	097753
Plug and Cable Assembly for Pressure Sensor	PT4-M60	804805	097717
Optional Display/Keypad	ECD-002	807657	097712
Cable Connection between EC3-X32 and ECD-002	ECC-N30 or any standard Cat 5 patch cord with RJ45 connectors	807861	097713
Replacement Battery	EC3	807790	097693

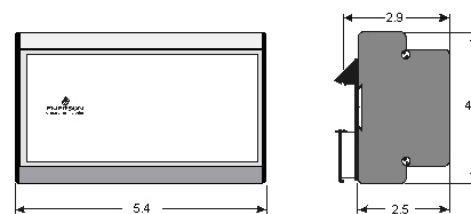
**For further details refer to the EX4-EX8 product page.



Specifications

- Supply voltage: 24VAC \pm 10%, 50/60 Hz
- Digital input: 24VAC \pm 10%, 50-60 Hz, 24VDC \pm 10%
- Power consumption: 25 VA max. including connected EX valve and display/keyboard
- Internal battery charging time: Approx. 2 hours if battery is fully empty
- Plug-in connector size: Removable screw version, wire size 12-20 AWG
- Ground connection: 1/4 in. spade earth connector
- Applied directive: EMC, LVD, RoHS (EN 61326, EN 50081, EN 61000-6-2, EN 61000-4-2, EN 61000-4-3, EN 610004-4, EN61000-4-5, EN 61000-4-6, EN 61000-4-11)
- Marking: CE
- Temperatures: Storage, -5°F, to +150°F
Operating, 32°F, to +140°F
- Humidity: 0 – 80% R.H. non condensing

Dimensional Data



The EC3 is a stand-alone universal superheat controller for stable superheat control with stepper motor driven electronic control valves and is used for air conditioning, refrigeration and industrial applications such as chillers, industrial process cooling rooftops, heat pumps, package units, close controls, cold room, food process and air driers. The EC3-X33 requires the use of the ECD-002 display key pad unit for setting up the controller.



Features

- Superheat control in conjunction with Emerson stepper motor driven electrical control valves EX4-EX8
- Limitation of evaporating pressure (MOP)
- Low and high superheat alarm
- Monitoring of sensors and sensor wiring and detection of sensor and wiring failures
- Intelligent alarm management to protect the compressor, i.e fail safe operation
- Integral rechargeable battery to close EX control valves in case of power loss.
- Electrical connection via plug-in type screw terminal
- Aluminum housing for DIN rail mounting

Specifications

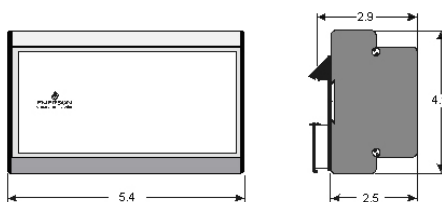
- Supply Voltage: 24VAC \pm 10%, 50/60 Hz
- Digital Input: 24VAC \pm 10%, 50-60 Hz, 24VDC \pm 10%
- Power Consumption: 25 VA max. including connected EX valve and display/keyboard
- Internal battery charging time: Approx. 2 hours if battery is fully empty
- Plug-in connector size: Removable screw version wire size 12-20 AWG
- Ground connection: 1.4 in. spade earth connector
- Applied Directive: EMC, LVD, RoHS
EN 61326, EN 50081, EN 61000-6-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN61000-4-5, EN 61000-4-6, EN 61000-4-11)
- Marking: CE
- Temperatures: Storage: -5°F to +150°F
Operating: 32°F to +140°F
- Humidity: 0 – 80% R.H. non condensing

Ordering Information

Description	Type	Reference #	PCN
Superheat Controller	EC3-X33	807783	097707
Terminal Kit	K03-X33	807645	097745
Temperature Sensor	ECN-N60	804497	097714
Electrical Control Valve	EX4-EX8**	**	**
Pressure Sensors (R-22/R-124/R-134a/R-404A/R-407C/R507C)	PT5-07M	802350	097748
Pressure Sensor (R-410A)	PT5-18M	802851	097749
Pressure Sensor (R-744)	PT5-30M	802352	097753
Plug and Cable Assembly for Pressure Sensor	PT4-M60	804805	097717
Optional Display/Keypad	ECD-002	807657	097712
Cable Connection between EC3-X33 and ECD-002	ECC-N30 or any standard Cat 5 patch cord with RJ45 connectors	807861	097713
Replacement Battery	EC3	807790	097693

**For further details refer to the EX4-EX8 product page.

Dimensional Data



For stable superheat control with EX4...EX6 electrical control valves and automatic synchronization of the PWM capacity control valve incorporated into the Copeland Scroll Digital™ compressor technology

Features

- Limitation of evaporating pressure (MOP)
- Feed-through of 4 ... 20mA signal of evaporating pressure transmitter to operate third party controllers with a common pressure transmitter
- Intelligent alarm management, superheat alarm
- Monitoring of sensors and sensor wiring, detection of sensor and wiring failures
- Integral rechargeable battery to close Electrical Control Valve in case of power loss
- Electrical connection via plug-in type screw terminals
- Aluminum housing for DIN rail mounting
- Synchronization of the PWM solenoid valve used for variable capacity control of the Copeland Scroll Digital



Additional features

EC3-X32 and EC3-D72 with TCP/IP

- WebServer functionality allows monitoring and configuration of controllers through a standard WebBrowser (e.g. Internet Explorer®)
- Internal data logging and alarm messaging by email
- Multiple language support (EmersonClimate.com)
- Freeze protection
- Low and high superheat alarm
- Low pressure switch function/Alarm

Ordering Information

Description	TCP/IP		
	Type	Reference #	PCN
Digital Superheat Controller (TCP/IP)	EC3-D72	807805	097733
Terminal Kit for EC3-D72/-D73	K03-331	804497	097734
Replacement Battery for EC3		807790	097693

The ECD-002 is a display/keypad unit necessary for setting up controllers.

Features

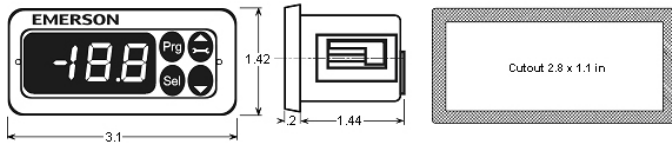
- Front panel mounted interface for parameter and status read-out and for controller setup via keypad
- Indicator LEDs for valve opening/closing, demand and alarm



Ordering Information

Description	Device	Reference #	PCN
Optional Display/Keypad	ECD-002	807657	097712
Cable Connection between EC3-X33 and ECD-002	ECC-N30 or any standard Cat 5 patch cord with RJ45 connectors	807861	097713

Dimensional Data



Specifications

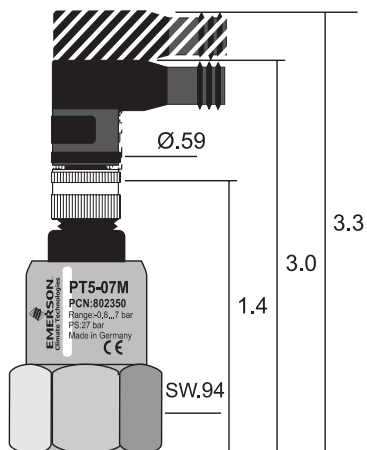
- Supply: From EC3 Series controller via connecting cable
- LED indicators: Valve opening, valve closing, alarm, demand
- Display LED: Segmented display, 2-1/2 digits with automatic decimal point between ± 19.9 , switchable between $^{\circ}\text{C}$ and $^{\circ}\text{F}$
- Connecting cable: ECC-N30 or standard CAT5 patch cord with RJ45 connectors
- Temperatures: Storage, -5°F to $+150^{\circ}\text{F}$
Operating, 32°F to $+140^{\circ}\text{F}$
- Humidity: 0 - 80% R.H. non condensing
- Mounting: Panel mount (2.8 x 1.1 inch cutout)

The Pressure Transmitters convert a pressure into a linear electric output signal. At the heart of the transmitter there is a piezo resistive chip enclosed in an oil capsule.

Features

- Pressure sensitive piezo-based cell with strong primary output signal for precise operation
- Compact dimensions
- Vibration, shock and pulsation resistant
- Reduced full scale error over complete temperature range
- Sealed gauge absolute pressure reference for increased accuracy independent of atmospheric pressure variation
- Output signal is 4 to 20 mA
- Calibrated for specific temperature and pressure ranges to fulfill application demands in air conditioning and refrigeration systems
- Easy-to-install M12 electrical connection with pre-assembled cable assembly
- Pressure connector 7/16-20 UNF with Schrader valve

Dimensional Data (in)



Specifications

- Supply voltage: Nominal 24 VDC
Range (polarity protected) 7 – 30 VDC
- Permissible noise & ripple: < 1 V_p
- Influence of supply voltage: < 0.02 % FS/V
- Operating current: 4 to 20 mA output, Max. ≤ 24 mA
- Load resistance: RL ≤ Ub-8.0V 0.02A
- Mounting position: Non-position sensitive
- Response time: <5 ms
- Temperatures: Ambient: -40°F to +176°F
Medium: -58°F to +212°F
Storage: -40°F to +185°F
- Sensor Life: ≥10,000,000 cycles full stroke at 77°F
- Burst Pressure: -07M = 2,176 psi
-18M and -30M = 3,626 psi
- Electrical connection: PT4-M60
- Approvals: CE marking according to PED, not allowed (SEP)
CE marking according to EMC, CE marked
- Medium compatibility: HFC, HCFC, CFC (not suitable for ammonia and flammable refrigerants!)
- Vibration at 10 – 2000 Hz: Max. 4 g
- Materials: Stainless steel housing, pressure connector and diaphragm in contact with sensed medium
- Pressure Range: PT5-07M: 12-102 psi
PT5-18M: 0-261 psi
PT5-30M: 0-435 psi

Ordering Information

Description	Type	Refrigerant	Pressure Range	Reference #	PCN
Pressure Transmitter	PT5-07M	R22, R134A, R507, R404A, R407C, R124	22"Hg - 100psi	802350	097748
Pressure Transmitter	PT5-18M	R410	0-261psi	802351	097749
Pressure Transmitter	PT5-30M	R744	0-435psi	802334	097753
Plug/Cable Assemblies	PT4-M60			804805	097717

The Emerson XEV kit includes a combination of commonly needed components for field installation of an energy efficient, electronic expansion valve solution. The kit includes the Emerson EX series valve, XEV controller, pressure transducer, temperature sensor, transformer, and all associated cables, all in one box.

Features

- Applicable to multiple refrigerants, including R-404A, R-507, R-407A, R-22, R-134a, R-410A and subcritical CO₂
- Several kit offerings for a wide range of valve capacities
- Specific kit instructions included for faster installation
- XEV-EX48 controller is pre-programmed for use with the included components, allowing for easy setup
- An RS485 serial link allows the XEV-EX48 controller to connect (via Modbus®) to monitoring systems, including Emerson's E2 system controller
- Controller kit also available that includes all control components without the EXV solution



Ordering Information

PCN	Description	Includes
Individual Controller		<ul style="list-style-type: none"> • XEV EX48 controller* • XEV electrical connectors
900001	XEV EX48	
Complete Kits		<ul style="list-style-type: none"> • XEV EX48 controller* • XEV electrical connectors • EX valve (4,5,6,7,8) • EXV-M60 valve cable • PT5-18M pressure transducer • PT4-M60 transducer cable • ECN-N60 temperature sensor • 90-T40F3 24V transformer, 40VA 60HZ 120/208/240V
900004	XEV EX4 KIT	
900005	XEV EX5 KIT	
900006	XEV EX6 KIT	
900007	XEV EX7 KIT	
900008	XEV EX8 KIT	
Complete Kit Less Valve		Complete kit components listed above, without a valve
900003	XEV Kit Less Valve	
Refrigerants		
R-404A, R-507, R-407A, R-22, R-134a, R-410A, CO ₂ subcritical		

*The XEV-EX48 superheat controller comes pre-set to specifically work with all other Emerson components listed above.

R-12 Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-00X	0.23	0.14	0.27	0.30	0.33	0.36	0.39	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
EX2-000	0.4	0.24	0.46	0.52	0.58	0.63	0.68	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
EX2-001	0.81	0.49	0.94	1.05	1.17	1.28	1.38	0.48	0.55	0.62	0.69	0.75	0.82	0.46	0.53	0.59	0.66	0.73	0.79
EX2-002	1.1	0.67	1.27	1.42	1.59	1.74	1.88	0.65	0.75	0.84	0.94	1.03	1.11	0.63	0.73	0.81	0.91	1.00	1.08
EX2-003	2.0	1.21	2.31	2.58	2.89	3.16	3.42	1.19	1.37	1.54	1.72	1.88	2.03	1.14	1.32	1.47	1.65	1.80	1.95
EX2-004	2.7	1.63	3.12	3.49	3.90	4.27	4.61	1.60	1.85	2.07	2.31	2.53	2.73	1.54	1.78	1.99	2.22	2.43	2.63
EX2-M00	4.3	2.60	4.97	5.55	6.21	6.80	7.34	2.55	2.94	3.29	3.68	4.03	4.35	2.45	2.83	3.16	3.54	3.87	4.18

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-00X	0.23	0.13	0.27	0.30	0.33	0.36	0.39	0.14	0.16	0.18	0.20	0.22	0.24	0.11	0.13	0.14	0.16	0.17	0.19
EX2-000	0.4	0.22	0.46	0.52	0.58	0.63	0.68	0.24	0.28	0.31	0.35	0.38	0.41	0.20	0.23	0.26	0.29	0.32	0.34
EX2-001	0.81	0.44	0.84	1.05	1.17	1.28	1.38	0.48	0.55	0.62	0.69	0.75	0.82	0.40	0.46	0.52	0.58	0.63	0.68
EX2-002	1.1	0.60	1.27	1.42	1.59	1.74	1.88	0.66	0.76	0.85	0.95	1.04	1.13	0.54	0.62	0.70	0.78	0.85	0.92
EX2-003	2.0	1.09	2.31	2.58	2.89	3.16	3.42	1.20	1.39	1.55	1.73	1.90	2.05	0.98	1.13	1.27	1.41	1.55	1.67
EX2-004	2.7	1.47	3.12	3.49	3.90	4.27	4.61	1.40	1.62	1.81	2.02	2.21	2.39	1.33	1.54	1.72	1.92	2.10	2.27
EX2-M00	4.3	2.34	4.97	5.55	6.21	6.80	7.34	2.57	2.97	3.32	3.71	4.06	4.39	2.12	2.45	2.74	3.08	3.35	3.62

R-22 Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-00X	0.23	0.18	0.21	0.23	0.26	0.28	0.31	0.18	0.21	0.23	0.26	0.28	0.31	0.17	0.20	0.22	0.25	0.27	0.29
EX2-000	0.4	0.31	0.36	0.40	0.45	0.49	0.53	0.31	0.36	0.40	0.45	0.49	0.53	0.30	0.35	0.39	0.43	0.47	0.51
EX2-001	0.81	0.64	0.74	0.83	0.92	1.01	1.09	0.63	0.73	0.81	0.91	1.00	1.08	0.61	0.70	0.79	0.88	0.96	1.04
EX2-002	1.1	0.86	0.99	1.11	1.24	1.36	1.47	0.85	0.98	1.10	1.23	1.34	1.45	0.83	0.96	1.07	1.20	1.31	1.42
EX2-003	2.0	1.57	1.81	2.08	2.27	2.48	2.68	1.55	1.79	2.00	2.21	2.45	2.65	1.51	1.74	1.95	2.18	2.39	2.58
EX2-004	2.7	2.12	2.45	2.74	3.06	3.35	3.62	2.10	2.42	2.71	3.03	3.32	3.59	2.04	2.36	2.63	2.94	3.23	3.48
EX2-M00	4.3	3.38	3.90	4.36	4.88	5.34	5.77	3.34	3.86	4.31	4.82	5.28	5.70	3.25	3.75	4.20	4.69	5.14	5.55

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-00X	0.23	0.17	0.20	0.22	0.25	0.27	0.29	0.19	0.21	0.24	0.26	0.28	0.30	0.18	0.20	0.23	0.25	0.27	0.28
EX2-000	0.4	0.29	0.33	0.37	0.42	0.46	0.50	0.33	0.37	0.41	0.45	0.49	0.52	0.32	0.36	0.40	0.44	0.47	0.51
EX2-001	0.81	0.60	0.69	0.77	0.87	0.95	1.02	0.67	0.75	0.84	0.92	0.99	1.06	0.64	0.72	0.80	0.88	0.95	1.01
EX2-002	1.1	0.81	0.94	1.05	1.17	1.28	1.38	0.90	1.01	1.13	1.23	1.33	1.42	0.87	0.97	1.09	1.19	1.29	1.38
EX2-003	2.0	1.47	1.70	1.90	2.12	2.32	2.51	1.64	1.83	2.05	2.25	2.43	2.59	1.59	1.78	1.99	2.18	2.35	2.51
EX2-004	2.7	1.99	2.30	2.57	2.87	3.15	3.40	2.22	2.48	2.78	3.04	3.28	3.51	2.14	2.39	2.68	2.93	3.17	3.38
EX2-M00	4.3	3.16	3.65	4.08	4.56	5.00	5.40	3.54	3.96	4.43	4.85	5.24	5.60	3.42	3.82	4.28	4.68	5.06	5.41

R-134a Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-00X	0.23	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
EX2-000	0.4	0.30	0.35	0.39	0.43	0.47	0.51	0.23	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.48
EX2-001	0.81	0.61	0.70	0.79	0.88	0.96	1.04	0.59	0.68	0.79	0.85	0.93	1.01	0.57	0.66	0.74	0.82	0.90	0.97
EX2-002	1.1	0.82	0.95	1.06	1.18	1.30	1.40	0.81	0.94	1.05	1.17	1.28	1.38	0.77	0.89	0.99	1.11	1.22	1.32
EX2-003	2.0	1.56	1.79	2.00	2.24	2.45	2.65	1.52	1.75	1.96	2.19	2.40	2.60	1.47	1.70	1.90	2.12	2.32	2.51
EX2-004	2.7	2.02	2.33	2.61	2.92	3.19	3.45	1.98	2.29	2.56	2.86	3.13	3.38	1.90	2.19	2.45	2.74	3.00	3.24
EX2-M00	4.3	3.22	3.72	4.16	4.65	5.09	5.50	3.16	3.65	4.08	4.56	5.00	5.40	3.02	3.49	3.90	4.36	4.78	5.16

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-00X	0.23	0.15	0.17	0.19	0.22	0.24	0.26	0.17	0.19	0.21	0.23	0.25	0.27	0.16	0.18	0.20	0.22	0.24	0.25
EX2-000	0.4	0.27	0.31	0.35	0.39	0.43	0.46	0.29	0.32	0.38	0.40	0.43	0.46	0.28	0.31	0.35	0.38	0.41	0.44
EX2-001	0.81	0.54	0.62	0.70	0.78	0.85	0.92	0.59	0.66	0.74	0.81	0.87	0.93	0.56	0.63	0.70	0.77	0.83	0.89
EX2-002	1.1	0.74	0.85	0.96	1.07	1.17	1.26	0.81	0.91	1.01	1.11	1.20	1.28	0.76	0.85	0.95	1.04	1.12	1.20
EX2-003	2.0	1.41	1.63	1.82	2.04	2.23	2.41	1.56	1.74	1.95	2.14	2.31	2.47	1.49	1.67	1.86	2.04	2.20	2.36
EX2-004	2.7	1.81	2.09	2.34	2.61	2.86	3.09	1.98	2.21	2.48	2.71	2.93	3.13	1.88	2.10	2.35	2.57	2.78	2.97
EX2-M00	4.3	2.88	3.33	3.72	4.16	4.55	4.92	3.16	3.53	3.95	4.33	4.67	5.00	2.99	3.34	3.74	4.09	4.42	4.73

R-404A/R-507 Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-00X	0.23	0.13	0.15	0.17	0.19	0.21	0.22	0.13	0.15	0.17	0.19	0.21	0.22	0.12	0.14	0.15	0.17	0.19	0.20
EX2-000	0.4	0.23	0.27	0.30	0.33	0.36	0.39	0.22	0.25	0.28	0.32	0.35	0.38	0.21	0.24	0.27	0.30	0.33	0.36
EX2-001	0.81	0.47	0.54	0.61	0.68	0.74	0.80	0.46	0.53	0.59	0.66	0.73	0.79	0.43	0.50	0.56	0.62	0.68	0.73
EX2-002	1.1	0.63	0.73	0.81	0.91	1.00	1.08	0.52	0.72	0.80	0.89	0.98	1.06	0.59	0.68	0.76	0.85	0.93	1.01
EX2-003	2.0	1.15	1.33	1.48	1.66	1.82	1.96	1.12	1.29	1.45	1.62	1.77	1.91	1.07	1.24	1.38	1.54	1.69	1.83
EX2-004	2.7	1.55	1.79	2.00	2.24	2.45	2.65	1.52	1.76	1.96	2.19	2.40	2.60	1.44	1.66	1.86	2.08	2.28	2.46
EX2-M00	4.3	2.47	2.85	3.19	3.57	3.91	4.22	2.42	2.79	3.12	3.49	3.83	4.13	2.30	2.66	2.97	3.32	3.64	3.93

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-00X	0.23	0.12	0.14	0.15	0.17	0.19	0.20	0.13	0.35	0.16	0.18	0.19	0.21	0.12	0.13	0.15	0.16	0.18	0.19
EX2-000	0.4	0.20	0.23	0.26	0.29	0.32	0.34	0.22	0.25	0.28	0.30	0.33	0.35	0.20	0.22	0.25	0.27	0.30	0.32
EX2-001	0.81	0.41	0.47	0.53	0.59	0.65	0.70	0.44	0.49	0.55	0.60	0.65	0.70	0.41	0.46	0.51	0.56	0.61	0.65
EX2-002	1.1	0.55	0.64	0.71	0.79	0.87	0.94	0.60	0.67	0.75	0.82	0.89	0.95	0.56	0.63	0.70	0.77	0.83	0.89
EX2-003	2.0	1.01	1.17	1.30	1.46	1.60	1.72	1.09	1.22	1.36	1.49	1.61	1.72	1.02	1.14	1.28	1.40	1.51	1.61
EX2-004	2.7	1.38	1.57	1.76	1.96	2.15	2.32	1.48	1.65	1.85	2.03	2.19	2.34	1.38	1.54	1.73	1.89	2.04	2.18
EX2-M00	4.3	2.17	2.51	2.80	3.13	3.43	3.71	2.35	2.63	2.94	3.22	3.48	3.72	2.19	2.45	2.74	3.00	3.24	3.46

R-407C Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-00X	0.23	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
EX2-000	0.4	0.30	0.35	0.39	0.43	0.47	0.51	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
EX2-001	0.81	0.61	0.70	0.79	0.88	0.96	1.04	0.50	0.69	0.77	0.87	0.95	1.02	0.58	0.67	0.75	0.84	0.92	0.99
EX2-002	1.1	0.83	0.96	1.07	1.20	1.31	1.42	0.81	0.94	1.05	1.17	1.28	1.38	0.78	0.90	1.01	1.13	1.23	1.33
EX2-003	2.0	1.51	1.74	1.95	2.18	2.39	2.58	1.48	1.71	1.91	2.14	2.34	2.53	1.42	1.64	1.83	2.05	2.25	2.43
EX2-004	2.7	2.04	2.36	2.63	2.94	3.23	3.48	2.00	2.31	2.58	2.89	3.16	3.42	1.92	2.22	2.48	2.77	3.14	3.28
EX2-M00	4.3	3.24	3.74	4.18	4.68	5.12	5.53	3.18	3.67	4.11	4.59	5.03	5.43	3.06	3.53	3.95	4.42	4.84	5.23

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-00X	0.23	0.16	0.18	0.21	0.23	0.25	0.27	0.17	0.19	0.21	0.23	0.25	0.27	0.16	0.18	0.20	0.22	0.24	0.25
EX2-000	0.4	0.27	0.31	0.35	0.39	0.43	0.46	0.30	0.34	0.38	0.41	0.44	0.47	0.28	0.31	0.35	0.38	0.41	0.44
EX2-001	0.81	0.55	0.64	0.71	0.79	0.87	0.94	0.60	0.67	0.75	0.82	0.89	0.95	0.57	0.64	0.71	0.78	0.84	0.90
EX2-002	1.1	0.75	0.87	0.97	1.08	1.19	1.28	0.82	0.92	1.03	1.12	1.21	1.30	0.78	0.87	0.98	1.07	1.15	1.23
EX2-003	2.0	1.36	1.57	1.76	1.96	2.15	2.32	1.49	1.67	1.86	2.04	2.20	2.36	1.42	1.59	1.78	1.94	2.10	2.25
EX2-004	2.7	1.83	2.11	2.36	2.64	2.89	3.13	2.02	2.26	2.53	2.77	2.99	3.19	1.91	2.14	2.39	2.62	2.82	3.02
EX2-M00	4.3	2.92	3.37	3.77	4.21	4.82	4.99	3.21	3.59	4.01	4.40	4.75	5.08	3.05	3.41	3.81	4.18	4.51	4.82

R-502 Extended Capacities (Tons) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		50°F						40°F						20°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX2-000	0.4	0.21	0.24	0.27	0.30	0.33	0.36	0.20	0.23	0.26	0.29	0.32	0.34	0.19	0.22	0.25	0.27	0.30	0.32
EX2-001	0.81	0.42	0.48	0.54	0.61	0.66	0.72	0.41	0.47	0.53	0.59	0.65	0.70	0.39	0.46	0.50	0.56	0.62	0.67
EX2-002	1.1	0.56	0.65	0.72	0.81	0.89	0.96	0.55	0.64	0.71	0.79	0.87	0.94	0.53	0.61	0.68	0.75	0.84	0.91
EX2-003	2.0	1.03	1.19	1.33	1.49	1.63	1.76	1.00	1.15	1.29	1.44	1.58	1.71	0.96	1.11	1.24	1.39	1.52	1.64
EX2-004	2.7	1.39	1.61	1.79	2.01	2.20	2.37	1.36	1.57	1.76	1.96	2.15	2.32	1.29	1.49	1.67	1.86	2.04	2.20
EX2-M00	4.3	2.21	2.55	2.85	3.19	3.49	3.77	2.16	2.49	2.79	3.12	3.42	3.69	2.06	2.38	2.66	2.97	3.28	3.52

Valve Type	Nominal Rating	Evaporator Temperature																	
		0°F						-20°F						-40°F					
		Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX2-000	0.4	0.18	0.21	0.23	0.26	0.28	0.31	0.20	0.22	0.25	0.27	0.30	0.32	0.19	0.21	0.24	0.26	0.28	0.30
EX2-001	0.81	0.37	0.43	0.48	0.53	0.59	0.63	0.40	0.45	0.50	0.55	0.59	0.63	0.38	0.42	0.48	0.52	0.56	0.60
EX2-002	1.1	0.50	0.58	0.65	0.72	0.79	0.85	0.55	0.61	0.69	0.75	0.81	0.87	0.51	0.57	0.64	0.70	0.75	0.81
EX2-003	2.0	0.91	1.05	1.17	1.31	1.44	1.55	0.99	1.11	1.24	1.36	1.46	1.57	0.93	1.04	1.16	1.27	1.38	1.47
EX2-004	2.7	1.23	1.42	1.59	1.78	1.94	2.10	1.34	1.50	1.66	1.83	1.98	2.12	1.26	1.41	1.58	1.73	1.86	1.99
EX2-M00	4.3	1.96	2.26	2.53	2.83	3.10	3.35	2.13	2.38	2.56	2.92	3.15	3.37	2.00	2.24	2.50	2.74	2.96	3.16

R-12 Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.50	0.61	0.66	0.70	0.70	0.82	0.50	0.61	0.66	0.70	0.78	0.82	0.46	0.56	0.61	0.65	0.73	0.76
EX2-000	0.4	0.85	1.04	1.12	1.20	1.34	1.41	0.85	1.04	1.12	1.20	1.34	1.41	0.81	1.00	1.08	1.15	1.29	1.35
EX2-001	0.81	1.73	2.12	2.29	2.45	2.74	2.88	1.70	2.08	2.25	2.40	2.69	2.82	1.63	1.99	2.15	2.30	2.57	2.70
EX2-002	1.1	2.37	2.90	3.14	3.35	3.75	3.93	2.30	2.82	3.04	3.25	3.64	3.82	2.23	2.73	2.95	3.15	3.53	3.70
EX2-003	2.0	4.28	5.25	5.67	6.06	6.77	7.10	4.21	5.16	5.57	5.96	6.66	6.99	4.04	4.94	5.34	5.71	6.38	6.69
EX2-004	2.7	5.77	7.07	7.63	8.16	9.12	9.57	5.66	6.34	7.49	8.01	8.96	9.39	5.45	6.68	7.21	7.71	8.62	9.04
EX2-M00	4.3	9.20	11.27	12.18	13.12	14.55	15.26	9.03	11.06	11.94	12.77	14.27	14.97	8.67	10.62	11.47	12.27	13.71	14.38

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.46	0.56	0.61	0.65	0.73	0.76	0.50	0.81	0.66	0.70	0.78	0.82	0.39	0.48	0.52	0.55	0.62	0.65
EX2-000	0.4	0.78	0.95	1.03	1.10	1.23	1.29	0.85	1.04	1.12	1.20	1.34	1.41	0.71	0.87	0.94	1.00	1.12	1.17
EX2-001	0.81	1.58	1.91	2.06	2.20	2.46	2.58	1.70	2.08	2.25	2.40	2.69	2.82	1.42	1.73	1.87	2.00	2.24	2.35
EX2-002	1.1	2.12	2.60	2.81	3.00	3.36	3.52	2.34	2.86	3.09	3.30	3.69	3.87	1.91	2.34	2.53	2.70	3.02	3.17
EX2-003	2.0	3.86	4.73	5.10	5.46	6.10	6.40	4.25	5.20	5.62	6.01	6.72	7.04	3.47	4.25	4.59	4.91	5.49	5.75
EX2-004	2.7	5.20	6.37	6.88	7.36	8.23	8.63	4.96	6.07	6.56	7.01	7.84	8.22	4.71	5.77	6.23	6.66	7.44	7.81
EX2-M00	4.3	8.28	10.15	10.96	11.71	13.10	13.74	9.10	11.14	12.14	12.87	14.38	15.09	7.50	9.19	9.93	10.61	11.87	12.45

R-22 Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.64	0.78	0.84	0.90	1.01	1.06	0.64	0.78	0.84	0.90	1.01	1.06	0.60	0.74	0.80	0.85	0.95	1.00
EX2-000	0.4	1.10	1.34	1.45	1.55	1.74	1.82	1.10	1.34	1.45	1.55	1.74	1.82	1.06	1.30	1.40	1.50	1.68	1.76
EX2-001	0.81	2.27	2.77	3.00	3.20	3.58	3.76	2.23	2.73	2.95	3.15	3.53	3.70	2.16	2.64	2.86	3.05	3.41	3.58
EX2-002	1.1	3.04	3.73	4.03	4.31	4.81	5.05	3.01	3.69	3.98	4.26	4.76	4.99	2.94	3.60	3.89	4.16	4.65	4.87
EX2-003	2.0	5.56	6.81	7.35	7.86	8.79	9.22	5.49	6.72	7.26	7.76	8.68	9.10	5.35	6.55	7.07	7.56	8.45	8.86
EX2-004	2.7	7.50	9.19	9.93	10.81	11.87	12.45	7.43	9.10	9.83	10.51	11.75	12.33	7.22	8.84	9.55	10.21	11.42	11.38
EX2-M00	4.3	11.97	14.65	15.83	16.92	18.92	19.84	11.82	14.48	15.64	16.72	18.69	19.61	11.51	14.09	15.22	16.27	18.19	19.08

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.60	0.74	0.80	0.85	0.95	1.00	0.67	0.73	0.78	0.91	0.91	0.95	0.64	0.69	0.74	0.82	0.86	0.90
EX2-000	0.4	1.03	1.26	1.36	1.45	1.62	1.70	1.17	1.26	1.35	1.58	1.58	1.65	1.13	1.22	1.31	1.46	1.53	1.60
EX2-001	0.81	2.12	2.60	2.81	3.00	3.36	3.52	2.37	2.56	2.74	3.21	3.21	3.35	2.27	2.45	2.62	2.92	3.07	3.20
EX2-002	1.1	2.87	3.51	3.79	4.06	4.53	4.76	3.19	3.44	3.68	4.31	4.31	4.51	3.08	3.33	3.56	3.98	4.17	4.36
EX2-003	2.0	5.20	6.37	6.88	7.36	8.23	8.63	5.81	6.27	6.70	7.86	7.86	8.21	5.63	6.08	6.50	7.27	7.62	7.96
EX2-004	2.7	7.04	8.63	9.32	9.96	11.14	11.68	7.86	8.49	9.07	10.64	10.64	11.11	7.58	8.18	8.75	9.78	10.26	10.71
EX2-M00	4.3	11.19	13.70	14.80	15.82	17.69	18.55	12.58	13.54	14.47	16.97	16.97	17.72	12.11	13.08	13.98	15.63	16.39	17.12

R-134a Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.60	0.74	0.80	0.85	0.95	1.00	0.60	0.74	0.80	0.85	0.95	1.00	0.57	0.69	0.75	0.80	0.90	0.94
EX2-000	0.4	1.06	1.30	1.40	1.50	1.68	1.76	1.03	1.26	1.36	1.45	1.62	1.70	0.99	1.21	1.31	1.40	1.57	1.64
EX2-001	0.81	2.06	2.64	2.86	3.05	3.41	3.58	2.09	2.56	2.76	2.95	3.30	3.46	2.02	2.47	2.67	2.85	3.19	3.35
EX2-002	1.1	2.90	3.56	3.84	4.11	4.59	4.81	2.87	3.51	3.79	4.06	4.53	4.76	2.73	3.34	3.61	3.85	4.31	4.52
EX2-003	2.0	5.49	6.72	7.26	7.76	8.68	9.10	5.38	6.59	7.12	7.61	8.51	8.92	5.20	6.37	6.88	7.36	8.23	8.63
EX2-004	2.7	7.15	8.76	9.46	10.11	11.31	11.86	7.01	8.58	9.27	9.91	11.08	11.62	5.73	8.24	8.90	9.51	10.63	11.15
EX2-M00	4.3	11.40	13.96	15.08	16.12	18.02	18.90	11.19	13.70	14.80	15.82	17.69	18.55	10.69	13.09	14.14	15.12	16.90	17.73

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.53	0.65	0.70	0.75	0.84	0.88	0.60	0.65	0.69	0.78	0.81	0.85	0.57	0.61	0.65	0.73	0.77	0.80
EX2-000	0.4	0.96	1.17	1.26	1.35	1.51	1.59	1.03	1.11	1.19	1.33	1.39	1.45	0.99	1.07	1.14	1.28	1.34	1.40
EX2-001	0.81	1.91	2.34	2.53	2.70	3.02	3.17	2.09	2.26	2.41	2.70	2.83	2.95	1.98	2.14	2.29	2.56	2.68	2.80
EX2-002	1.1	2.62	3.21	3.47	3.70	4.14	4.34	2.87	3.10	3.31	3.70	3.88	4.06	2.69	2.91	3.11	3.47	3.64	3.80
EX2-003	2.0	4.39	6.11	6.60	7.06	7.89	8.28	5.52	5.96	6.38	7.13	7.48	7.81	5.27	5.70	6.09	6.81	7.14	7.46
EX2-004	2.7	6.41	7.85	8.48	9.06	10.13	10.63	7.01	7.57	8.09	9.05	9.49	9.91	6.66	7.19	7.68	8.59	9.01	9.41
EX2-M00	4.3	10.20	12.49	13.49	14.42	16.12	16.91	11.19	12.08	12.92	14.44	15.15	15.82	10.58	11.43	12.22	13.66	14.33	14.97

R-404A/507 Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.46	0.56	0.61	0.65	0.73	0.76	0.46	0.56	0.61	0.65	0.73	0.76	0.42	0.52	0.56	0.60	0.67	0.70
EX2-000	0.4	0.81	1.00	1.08	1.15	1.29	1.35	0.78	0.95	1.03	1.10	1.23	1.29	0.74	0.91	0.98	1.05	1.18	1.23
EX2-001	0.81	1.66	2.04	2.20	2.35	2.63	2.76	1.63	1.99	2.15	2.30	2.57	2.70	1.52	1.86	2.01	2.15	2.41	2.52
EX2-002	1.1	2.23	2.73	2.95	3.15	3.53	3.70	2.19	2.69	2.90	3.10	3.47	3.64	2.09	2.56	2.76	2.95	3.30	3.46
EX2-003	2.0	4.07	4.39	5.39	5.76	6.44	6.75	3.96	4.86	5.24	5.61	6.27	6.57	3.79	4.64	5.01	5.36	5.99	6.28
EX2-004	2.7	5.49	6.72	7.26	7.76	8.68	9.10	5.38	6.59	7.12	7.61	8.51	8.92	5.10	6.24	6.74	7.21	8.06	8.45
EX2-M00	4.3	8.74	10.71	11.57	12.37	13.83	14.50	8.57	10.49	11.33	12.12	13.55	14.21	8.14	9.97	10.77	11.51	12.87	13.50

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.42	0.52	0.56	0.60	0.67	0.70	0.46	0.50	0.53	0.59	0.62	0.65	0.42	0.46	0.49	0.55	0.58	0.60
EX2-000	0.4	0.71	0.87	0.94	1.00	1.12	1.17	0.78	0.64	0.90	1.01	1.05	1.10	0.71	0.71	0.82	0.91	0.96	1.00
EX2-001	0.81	1.45	1.78	1.92	2.05	2.29	2.41	1.56	1.68	1.80	2.01	2.11	2.20	1.45	1.45	1.68	1.87	1.97	2.05
EX2-002	1.1	1.95	2.38	2.58	2.75	3.08	3.23	2.12	2.29	2.45	2.74	2.88	3.00	1.98	1.98	2.29	2.56	2.68	2.80
EX2-003	2.0	3.58	4.38	4.73	5.06	5.65	5.93	3.86	4.17	4.46	4.98	5.22	5.46	3.61	3.61	4.17	4.66	4.89	6.11
EX2-004	2.7	4.81	5.90	6.37	6.81	7.61	7.98	5.24	5.66	6.05	6.76	7.09	7.41	4.89	4.89	5.64	6.31	6.61	6.91
EX2-M00	4.3	7.68	9.41	10.16	10.86	12.15	12.74	8.32	8.99	9.61	10.74	11.26	11.76	7.75	7.75	8.95	10.01	10.50	10.96

R-407C Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.60	0.74	0.80	0.85	0.95	1.0	0.60	0.74	0.80	0.85	0.95	1.00	0.57	0.69	0.75	0.80	0.90	0.94
EX2-000	0.4	1.06	1.30	1.40	1.50	1.65	1.75	1.06	1.30	1.40	1.68	1.68	1.76	0.99	1.21	1.31	1.40	1.57	1.64
EX2-001	0.81	2.16	2.64	2.86	3.05	3.41	3.58	2.12	2.60	2.81	3.36	3.36	3.52	2.05	2.51	2.72	2.90	3.25	3.40
EX2-002	1.1	2.94	3.60	3.89	4.16	4.65	4.87	2.87	3.51	3.79	4.53	4.53	4.76	2.76	3.38	3.65	3.90	4.37	4.58
EX2-003	2.0	5.35	6.55	7.07	7.56	8.45	8.86	5.24	6.42	6.93	8.28	8.28	8.69	5.03	6.16	6.65	7.11	7.95	8.34
EX2-004	2.7	7.22	8.84	9.55	10.21	11.42	11.98	7.08	8.67	9.37	11.19	11.19	11.74	6.80	8.32	8.99	9.61	10.75	11.27
EX2-M00	4.3	11.47	14.05	15.17	16.22	18.14	19.02	11.26	13.79	14.89	17.80	17.80	18.67	10.83	13.27	14.33	15.32	17.13	17.96

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.57	0.69	0.75	0.80	0.90	0.94	0.60	0.65	0.69	0.78	0.81	0.85	0.57	0.61	0.65	0.73	0.77	0.80
EX2-000	0.4	0.96	1.17	1.26	1.35	1.51	1.59	1.06	1.15	1.23	1.37	1.44	1.50	0.99	1.07	1.14	1.28	1.34	1.40
EX2-001	0.81	1.95	2.38	2.58	2.75	3.08	3.23	2.12	2.29	2.45	2.74	2.88	3.00	2.02	2.18	2.33	2.60	2.73	2.85
EX2-002	1.1	2.66	3.25	3.51	3.75	4.20	4.40	2.90	3.14	3.35	3.75	3.93	4.11	2.76	2.98	3.19	3.56	3.74	3.90
EX2-003	2.0	4.81	5.90	6.37	6.81	7.61	7.98	5.27	5.70	6.09	6.81	7.14	7.46	5.03	5.43	5.80	6.49	6.81	7.11
EX2-004	2.7	6.48	7.93	8.57	9.16	10.24	10.74	7.15	7.72	8.26	9.23	9.68	10.11	6.76	7.30	7.81	8.73	9.15	9.56
EX2-M00	4.3	10.34	12.66	13.67	14.62	16.34	17.14	11.36	12.27	13.12	14.67	15.39	16.07	10.80	11.66	12.47	13.94	14.62	15.27

R-502 Extended Capacities (kWatts) - EX2 Series

Capacities are for EX2 @ 100% duty cycle

Valve Type	Nominal Rating	Evaporator Temperature																	
		10°C						0°C						-10°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	400	600	700	800	1000	1100	400	600	700	800	1000	1100
EX2-00X	0.23	0.42	0.52	0.56	0.60	0.67	0.70	0.42	0.52	0.56	0.60	0.67	0.70	0.39	0.48	0.52	0.55	0.62	0.65
EX2-000	0.4	0.74	0.91	0.98	1.05	1.18	1.23	0.71	0.87	0.94	1.00	1.00	1.17	0.67	0.82	0.89	0.95	1.06	1.12
EX2-001	0.81	1.49	1.82	1.97	2.10	2.35	2.47	1.45	1.78	1.92	2.05	2.05	2.41	1.38	1.69	1.83	1.95	2.18	2.29
EX2-002	1.1	1.98	2.43	2.62	2.80	3.13	3.29	1.95	2.38	2.58	2.75	2.75	3.23	1.88	2.30	2.48	2.65	2.97	3.11
EX2-003	2.0	3.55	4.47	4.82	5.16	5.77	6.05	3.54	4.34	4.68	5.01	5.01	5.87	3.40	4.16	4.50	4.81	5.37	5.64
EX2-004	2.7	4.92	6.03	6.51	6.96	7.78	8.16	4.81	5.90	6.37	6.81	6.81	7.98	4.57	5.59	6.04	6.46	7.22	7.57
EX2-M00	4.3	7.82	9.58	10.35	11.06	12.37	12.97	7.65	9.36	10.12	10.81	10.81	12.68	7.29	8.93	9.65	10.31	11.53	12.09

Valve Type	Nominal Rating	Evaporator Temperature																	
		-20°C						-30°C						-40°C					
		Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)						Pressure Drop Across Valve (kPa)					
		400	600	700	800	1000	1100	600	700	800	1000	1100	1200	600	700	800	1000	1100	1200
EX2-00X	0.23	0.35	0.43	0.47	0.50	0.56	0.59	0.93	0.42	0.45	0.50	0.50	0.55	0.39	0.42	0.45	0.50	0.53	0.55
EX2-000	0.4	0.64	0.78	0.84	0.90	1.01	1.06	0.71	0.76	0.82	0.91	0.91	1.00	0.67	0.73	0.78	0.87	0.91	0.95
EX2-001	0.81	1.31	1.60	1.73	1.85	2.07	2.17	1.42	1.53	1.64	1.83	1.83	2.00	1.35	1.45	1.55	1.74	1.82	1.90
EX2-002	1.1	1.77	2.17	2.34	2.50	2.80	2.94	1.95	2.10	2.25	2.51	2.51	2.75	1.81	1.95	2.08	2.33	2.44	2.55
EX2-003	2.0	3.22	3.95	4.26	4.56	5.09	5.34	3.50	3.79	4.05	4.52	4.52	4.96	3.29	3.56	3.80	4.25	4.46	4.66
EX2-004	2.7	4.35	5.33	5.76	6.16	6.88	7.22	4.74	5.12	5.48	6.12	6.12	6.71	4.46	4.82	5.15	5.76	6.04	6.31
EX2-M00	4.3	6.94	8.50	9.18	9.81	10.97	11.51	7.54	8.14	8.71	9.73	9.73	10.66	7.08	7.65	8.18	9.14	9.59	10.01

R-22 Extended Capacities (Tons) - EX3 Series

Valve Type	Evaporator Temperature																	
	50°F						40°F						20°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX3-2000	0.32	0.36	0.41	0.46	0.50	0.54	0.31	0.36	0.40	0.45	0.49	0.53	0.30	0.35	0.39	0.44	0.48	0.52
EX3-3000	0.66	0.76	0.85	0.95	1.04	1.13	0.65	0.75	0.84	0.94	1.03	1.12	0.64	0.73	0.82	0.92	1.01	1.09
EX3-4000	1.06	1.23	1.37	1.54	1.68	1.82	1.05	1.21	1.36	1.52	1.66	1.80	1.02	1.18	1.32	1.48	1.62	1.75
EX3-5000	1.72	1.99	2.23	2.49	2.73	2.95	1.70	1.97	2.20	2.46	2.69	2.91	1.66	1.92	2.14	2.40	2.62	2.84
EX3-6000	2.79	3.22	3.60	4.02	4.41	4.76	2.76	3.18	3.56	3.98	4.36	4.71	2.68	3.10	3.47	3.87	4.24	4.58
EX3-7000	3.53	4.08	4.56	5.10	5.59	6.04	3.49	4.03	4.51	5.04	5.52	5.96	3.40	3.93	4.39	4.91	5.38	5.81
EX3-8000	3.94	4.55	5.08	5.68	6.23	6.72	3.89	4.49	5.02	5.62	6.15	6.64	3.79	4.38	4.89	5.47	5.99	6.47
EX3-9000	5.03	5.81	6.49	7.26	7.95	8.59	4.97	5.74	6.42	7.17	7.86	8.49	4.84	5.59	6.25	6.99	7.65	8.27

Valve Type	Evaporator Temperature																	
	0°F						-20°F						-40°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX3-2000	0.29	0.34	0.38	0.43	0.47	0.50	0.33	0.37	0.41	0.45	0.49	0.52	0.32	0.36	0.40	0.44	0.47	0.50
EX3-3000	0.62	0.71	0.80	0.89	0.98	1.05	0.69	0.77	0.86	0.95	1.02	1.09	0.67	0.75	0.83	0.91	0.99	1.05
EX3-4000	0.99	1.15	1.28	1.44	1.57	1.70	1.11	1.24	1.39	1.52	1.64	1.76	1.07	1.20	1.34	1.47	1.59	1.70
EX3-5000	1.61	1.86	2.08	2.33	2.55	2.75	1.80	2.01	2.25	2.47	2.67	2.85	1.74	1.95	2.17	2.38	2.57	2.75
EX3-6000	2.61	3.01	3.36	3.76	4.12	4.45	2.91	3.26	3.64	3.99	4.31	4.61	2.81	3.15	3.52	3.85	4.16	4.45
EX3-7000	3.30	3.81	4.27	4.77	5.22	5.64	3.69	4.13	4.62	5.06	5.46	5.84	3.57	3.99	4.46	4.88	5.27	5.64
EX3-8000	3.68	4.25	4.75	5.31	5.82	6.29	4.11	4.60	5.14	5.63	6.09	6.51	3.97	4.44	4.97	5.44	5.88	6.28
EX3-9000	4.70	5.43	6.07	6.78	7.43	8.03	5.26	5.88	6.57	7.20	7.77	8.31	5.07	5.67	6.34	6.95	7.50	8.02

Refrigerant Liquid Correction Factor																	
Liquid Line Temp, °F	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140		
Capacity Multiplier (R-22)	1.54	1.49	1.43	1.38	1.33	1.27	1.22	1.17	1.11	1.06	1.00	0.94	0.89	0.83	0.77		
Capacity Multiplier (R-134a)	1.64	1.58	1.51	1.45	1.39	1.32	1.26	1.19	1.13	1.07	1.00	0.93	0.87	0.80	0.73		
Capacity Multiplier (R-404A)	1.92	1.83	1.74	1.65	1.56	1.47	1.38	1.29	1.19	1.10	1.00	0.90	0.80	0.69	0.58		
Capacity Multiplier (R-407F)	1.68	1.62	1.55	1.48	1.42	1.35	1.28	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.70		
Capacity Multiplier (R-507)	1.87	1.78	1.70	1.61	1.53	1.44	1.36	1.27	1.18	1.09	1.00	0.91	0.81	0.71	0.60		

R-134a Extended Capacities (Tons) - EX3 Series

Valve Type	Evaporator Temperature																	
	50°F						40°F						20°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX3-2000	0.30	0.34	0.38	0.43	0.47	0.51	0.29	0.34	0.38	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.47
EX3-3000	0.62	0.72	0.80	0.90	0.98	1.06	0.61	0.70	0.78	0.88	0.96	1.04	0.58	0.67	0.75	0.84	0.92	0.99
EX3-4000	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.26	1.41	1.55	1.67	0.93	1.08	1.21	1.35	1.48	1.60
EX3-5000	1.62	1.87	2.09	2.34	2.56	2.77	1.59	1.83	2.05	2.29	2.51	2.71	1.52	1.75	1.96	2.19	2.40	2.59
EX3-6000	2.62	3.02	3.38	3.78	4.14	4.47	2.56	2.96	3.31	3.70	4.06	4.38	2.45	2.83	3.17	3.54	3.88	4.19
EX3-7000	3.32	3.83	4.29	4.79	5.25	5.67	3.25	3.75	4.20	4.69	5.14	5.55	3.11	3.59	4.01	4.49	4.92	5.31
EX3-8000	3.70	4.27	4.78	5.34	5.85	6.32	3.62	4.18	4.68	5.23	5.73	6.19	3.46	4.00	4.47	5.00	5.48	5.91
EX3-9000	4.73	5.46	6.10	6.82	7.47	8.07	4.63	5.34	5.97	6.68	7.32	7.90	4.42	5.11	5.71	6.39	7.00	7.56

Valve Type	Evaporator Temperature																	
	0°F						-20°F						-40°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX3-2000	0.26	0.31	0.34	0.38	0.42	0.45	0.29	0.32	0.36	0.40	0.43	0.46	0.27	0.31	0.34	0.38	0.41	0.43
EX3-3000	0.55	0.64	0.71	0.80	0.87	0.94	0.61	0.68	0.76	0.83	0.90	0.96	0.57	0.64	0.72	0.78	0.85	0.91
EX3-4000	0.89	1.03	1.15	1.28	1.41	1.52	0.98	1.09	1.22	1.34	1.44	1.54	0.92	1.03	1.15	1.26	1.36	1.46
EX3-5000	1.45	1.67	1.87	2.09	2.29	2.47	1.58	1.77	1.98	2.17	2.34	2.50	1.50	1.67	1.87	2.05	2.21	2.37
EX3-6000	2.34	2.70	3.01	3.37	3.69	3.99	2.56	2.86	3.20	3.50	3.78	4.05	2.42	2.70	3.02	3.31	3.58	3.82
EX3-7000	2.96	3.42	3.82	4.27	4.68	5.06	3.24	3.63	4.05	4.44	4.80	5.13	3.07	3.43	3.83	4.20	4.53	4.85
EX3-8000	3.30	3.81	4.26	4.76	5.21	5.63	3.61	4.04	4.52	4.95	5.34	5.71	3.42	3.82	4.27	4.68	5.05	5.40
EX3-9000	4.21	4.87	5.44	6.08	6.66	7.20	4.62	5.16	5.77	6.32	6.83	7.30	4.36	4.88	5.45	5.97	6.45	6.90

Refrigerant Liquid Correction Factor																	
Liquid Line Temp, °F	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140		
Capacity Multiplier (R-22)	1.54	1.49	1.43	1.38	1.33	1.27	1.22	1.17	1.11	1.06	1.00	0.94	0.89	0.83	0.77		
Capacity Multiplier (R-134a)	1.64	1.58	1.51	1.45	1.39	1.32	1.26	1.19	1.13	1.07	1.00	0.93	0.87	0.80	0.73		
Capacity Multiplier (R-404A)	1.92	1.83	1.74	1.65	1.56	1.47	1.38	1.29	1.19	1.10	1.00	0.90	0.80	0.69	0.58		
Capacity Multiplier (R-407F)	1.68	1.62	1.55	1.48	1.42	1.35	1.28	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.70		
Capacity Multiplier (R-507)	1.87	1.78	1.70	1.61	1.53	1.44	1.36	1.27	1.18	1.09	1.00	0.91	0.81	0.71	0.60		

R-404A Extended Capacities (Tons) - EX3 Series

Valve Type	Evaporator Temperature																	
	50°F						40°F						20°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX3-2000	0.20	0.23	0.26	0.29	0.32	0.35	0.20	0.23	0.26	0.29	0.31	0.34	0.19	0.22	0.24	0.27	0.30	0.32
EX3-3000	0.42	0.49	0.55	0.61	0.67	0.72	0.41	0.48	0.53	0.60	0.65	0.71	0.39	0.45	0.51	0.57	0.62	0.67
EX3-4000	0.68	0.79	0.88	0.98	1.08	1.16	0.67	0.77	0.86	0.96	1.05	1.14	0.63	0.73	0.82	0.91	1.00	1.08
EX3-5000	1.10	1.28	1.43	1.59	1.75	1.89	1.08	1.25	1.39	1.56	1.71	1.84	1.03	1.18	1.32	1.48	1.62	1.75
EX3-6000	1.79	2.06	2.30	2.58	2.82	3.05	1.74	2.01	2.25	2.52	2.76	2.98	1.66	1.91	2.14	2.39	2.62	2.83
EX3-7000	2.26	2.61	2.92	3.27	3.58	3.87	2.21	2.55	2.86	3.19	3.50	3.78	2.10	2.43	2.71	3.03	3.32	3.59
EX3-8000	2.52	2.91	3.25	3.64	3.99	4.31	2.46	2.85	3.18	3.56	3.90	4.21	2.34	2.70	3.02	3.38	3.70	4.00
EX3-9000	3.22	3.72	4.16	4.65	5.09	5.50	3.15	3.63	4.06	4.54	4.98	5.38	2.99	3.45	3.86	4.32	4.73	5.11

Valve Type	Evaporator Temperature																	
	0°F						-20°F						-40°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX3-2000	0.18	0.20	0.23	0.26	0.28	0.30	0.19	0.21	0.24	0.26	0.28	0.30	0.18	0.20	0.22	0.24	0.26	0.28
EX3-3000	0.37	0.43	0.48	0.54	0.59	0.63	0.40	0.45	0.50	0.55	0.59	0.63	0.37	0.42	0.47	0.51	0.55	0.59
EX3-4000	0.60	0.69	0.77	0.86	0.94	1.02	0.65	0.72	0.81	0.88	0.95	1.02	0.60	0.67	0.75	0.82	0.89	0.95
EX3-5000	0.97	1.12	1.25	1.40	1.53	1.65	1.05	1.17	1.31	1.43	1.55	1.65	0.97	1.09	1.22	1.33	1.44	1.54
EX3-6000	1.56	1.81	2.02	2.26	2.47	2.67	1.69	1.89	2.11	2.32	2.50	2.67	1.57	1.76	1.97	2.15	2.33	2.49
EX3-7000	1.98	2.29	2.56	2.86	3.13	3.39	2.14	2.40	2.68	2.94	3.17	3.39	1.99	2.23	2.49	2.73	2.95	3.15
EX3-8000	2.21	2.55	2.85	3.19	3.49	3.77	2.39	2.67	2.99	3.27	3.53	3.78	2.22	2.48	2.78	3.04	3.29	3.51
EX3-9000	2.82	3.26	3.64	4.07	4.46	4.82	3.05	3.41	3.81	4.18	4.51	4.82	2.84	3.17	3.55	3.89	4.20	4.49

Refrigerant Liquid Correction Factor																
Liquid Line Temp, °F	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
Capacity Multiplier (R-22)	1.54	1.49	1.43	1.38	1.33	1.27	1.22	1.17	1.11	1.06	1.00	0.94	0.89	0.83	0.77	
Capacity Multiplier (R-134a)	1.64	1.58	1.51	1.45	1.39	1.32	1.26	1.19	1.13	1.07	1.00	0.93	0.87	0.80	0.73	
Capacity Multiplier (R-404A)	1.92	1.83	1.74	1.65	1.56	1.47	1.38	1.29	1.19	1.10	1.00	0.90	0.80	0.69	0.58	
Capacity Multiplier (R-407F)	1.68	1.62	1.55	1.48	1.42	1.35	1.28	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.70	
Capacity Multiplier (R-507)	1.87	1.78	1.70	1.61	1.53	1.44	1.36	1.27	1.18	1.09	1.00	0.91	0.81	0.71	0.60	

R-407F Extended Capacities (Tons) - EX3 Series

Valve Type	Evaporator Temperature																	
	50°F						40°F						20°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX3-2000	0.30	0.35	0.39	0.43	0.47	0.51	0.30	0.34	0.38	0.43	0.47	0.50	0.29	0.33	0.37	0.41	0.45	0.49
EX3-3000	0.63	0.72	0.81	0.90	0.99	1.07	0.62	0.71	0.80	0.89	0.98	1.05	0.60	0.69	0.77	0.86	0.95	1.02
EX3-4000	1.01	1.16	1.30	1.45	1.59	1.72	0.99	1.15	1.28	1.43	1.57	1.70	0.96	1.11	1.24	1.39	1.52	1.64
EX3-5000	1.63	1.89	2.11	2.36	2.58	2.79	1.61	1.86	2.08	2.32	2.55	2.75	1.56	1.80	2.01	2.25	2.47	2.66
EX3-6000	2.64	3.05	3.41	3.81	4.18	4.51	2.60	3.01	3.36	3.76	4.12	4.45	2.52	2.91	3.26	3.64	3.99	4.31
EX3-7000	3.35	3.87	4.32	4.84	5.30	5.72	3.30	3.81	4.26	4.77	5.22	5.64	3.20	3.69	4.13	4.62	5.06	5.46
EX3-8000	3.73	4.31	4.82	5.39	5.90	6.37	3.68	4.25	4.75	5.31	5.82	6.28	3.56	4.11	4.60	5.14	5.63	6.08
EX3-9000	4.77	5.50	6.15	6.88	7.54	8.14	4.70	5.43	6.07	6.78	7.43	8.03	4.55	5.25	5.87	6.57	7.19	7.77

Valve Type	Evaporator Temperature																	
	0°F						-20°F						-40°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX3-2000	0.28	0.32	0.36	0.40	0.44	0.47	0.31	0.34	0.38	0.42	0.45	0.48	0.29	0.33	0.37	0.40	0.43	0.46
EX3-3000	0.58	0.67	0.74	0.83	0.91	0.98	0.64	0.71	0.80	0.87	0.94	1.01	0.61	0.68	0.76	0.84	0.90	0.97
EX3-4000	0.93	1.07	1.20	1.34	1.47	1.58	1.03	1.15	1.28	1.41	1.52	1.62	0.98	1.10	1.23	1.35	1.45	1.55
EX3-5000	1.50	1.74	1.94	2.17	2.38	2.57	1.67	1.86	2.08	2.28	2.46	2.63	1.59	1.78	1.99	2.18	2.36	2.52
EX3-6000	2.43	2.81	3.14	3.51	3.84	4.15	2.70	3.01	3.37	3.69	3.99	4.26	2.58	2.88	3.22	3.53	3.81	4.08
EX3-7000	3.08	3.56	3.98	4.45	4.87	5.26	3.42	3.82	4.27	4.68	5.05	5.40	3.27	3.65	4.08	4.47	4.83	5.17
EX3-8000	3.43	3.96	4.43	4.95	5.43	5.86	3.81	4.25	4.76	5.21	5.63	6.02	3.64	4.07	4.55	4.98	5.38	5.75
EX3-9000	4.39	5.06	5.66	6.33	6.93	7.49	4.86	5.44	6.08	6.66	7.19	7.69	4.65	5.20	5.81	6.37	6.88	7.35

Refrigerant Liquid Correction Factor																	
Liquid Line Temp, °F	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140		
Capacity Multiplier (R-22)	1.54	1.49	1.43	1.38	1.33	1.27	1.22	1.17	1.11	1.06	1.00	0.94	0.89	0.83	0.77		
Capacity Multiplier (R-134a)	1.64	1.58	1.51	1.45	1.39	1.32	1.26	1.19	1.13	1.07	1.00	0.93	0.87	0.80	0.73		
Capacity Multiplier (R-404A)	1.92	1.83	1.74	1.65	1.56	1.47	1.38	1.29	1.19	1.10	1.00	0.90	0.80	0.69	0.58		
Capacity Multiplier (R-407F)	1.68	1.62	1.55	1.48	1.42	1.35	1.28	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.70		
Capacity Multiplier (R-507)	1.87	1.78	1.70	1.61	1.53	1.44	1.36	1.27	1.18	1.09	1.00	0.91	0.81	0.71	0.60		

R-507 Extended Capacities (Tons) - EX3 Series

Valve Type	Evaporator Temperature																	
	50°F						40°F						20°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
EX3-2000	0.20	0.23	0.26	0.29	0.31	0.34	0.19	0.22	0.25	0.28	0.31	0.33	0.18	0.21	0.24	0.26	0.29	0.31
EX3-3000	0.41	0.48	0.53	0.60	0.65	0.71	0.40	0.47	0.52	0.58	0.64	0.69	0.38	0.44	0.50	0.55	0.61	0.66
EX3-4000	0.67	0.77	0.86	0.96	1.05	1.14	0.65	0.75	0.84	0.94	1.03	1.11	0.62	0.71	0.80	0.89	0.98	1.06
EX3-5000	1.08	1.25	1.39	1.56	1.71	1.84	1.06	1.22	1.36	1.52	1.67	1.80	1.00	1.16	1.29	1.45	1.58	1.71
EX3-6000	1.75	2.02	2.25	2.52	2.76	2.98	1.71	1.97	2.20	2.46	2.70	2.91	1.62	1.87	2.09	2.34	2.56	2.77
EX3-7000	2.22	2.56	2.86	3.20	3.50	3.78	2.16	2.50	2.79	3.12	3.42	3.70	2.05	2.37	2.65	2.96	3.25	3.51
EX3-8000	2.47	2.85	3.19	3.56	3.90	4.21	2.41	2.78	3.11	3.48	3.81	4.12	2.29	2.64	2.95	3.30	3.62	3.91
EX3-9000	3.15	3.64	4.07	4.55	4.98	5.38	3.08	3.56	3.98	4.45	4.87	5.26	2.92	3.38	3.77	4.22	4.62	4.99

Valve Type	Evaporator Temperature																	
	0°F						-20°F						-40°F					
	Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)						Pressure Drop Across Valve (PSI)					
	60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
EX3-2000	0.17	0.20	0.22	0.25	0.27	0.29	0.19	0.21	0.23	0.26	0.28	0.29	0.17	0.19	0.22	0.24	0.26	0.27
EX3-3000	0.36	0.42	0.47	0.52	0.57	0.62	0.39	0.44	0.49	0.53	0.58	0.62	0.36	0.40	0.45	0.50	0.54	0.57
EX3-4000	0.58	0.67	0.75	0.84	0.92	0.99	0.63	0.70	0.79	0.86	0.93	0.99	0.58	0.65	0.73	0.80	0.86	0.92
EX3-5000	0.94	1.09	1.22	1.36	1.49	1.61	1.02	1.14	1.27	1.39	1.51	1.61	0.95	1.06	1.18	1.29	1.40	1.49
EX3-6000	1.53	1.76	1.97	2.20	2.41	2.61	1.65	1.84	2.06	2.26	2.44	2.60	1.53	1.71	1.91	2.09	2.26	2.42
EX3-7000	1.93	2.23	2.50	2.79	3.06	3.30	2.09	2.34	2.61	2.86	3.09	3.30	1.94	2.17	2.42	2.66	2.87	3.07
EX3-8000	2.16	2.49	2.78	3.11	3.41	3.68	2.33	2.60	2.91	3.19	3.44	3.68	2.16	2.42	2.70	2.96	3.19	3.42
EX3-9000	2.75	3.18	3.55	3.97	4.35	4.70	2.97	3.32	3.72	4.07	4.40	4.70	2.76	3.09	3.45	3.78	4.08	4.36

Refrigerant Liquid Correction Factor																
Liquid Line Temp, °F	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
Capacity Multiplier (R-22)	1.54	1.49	1.43	1.38	1.33	1.27	1.22	1.17	1.11	1.06	1.00	0.94	0.89	0.83	0.77	
Capacity Multiplier (R-134a)	1.64	1.58	1.51	1.45	1.39	1.32	1.26	1.19	1.13	1.07	1.00	0.93	0.87	0.80	0.73	
Capacity Multiplier (R-404A)	1.92	1.83	1.74	1.65	1.56	1.47	1.38	1.29	1.19	1.10	1.00	0.90	0.80	0.69	0.58	
Capacity Multiplier (R-407F)	1.68	1.62	1.55	1.48	1.42	1.35	1.28	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.70	
Capacity Multiplier (R-507)	1.87	1.78	1.70	1.61	1.53	1.44	1.36	1.27	1.18	1.09	1.00	0.91	0.81	0.71	0.60	

R-22 Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	30	0.93	1.10	1.22	1.32	1.39	1.45	1.49	1.52	1.54	1.55	1.56	1.56	1.55
EX3-3000		1.93	2.29	2.55	2.75	2.91	3.03	3.11	3.18	3.22	3.24	3.25	3.25	3.24
EX3-4000		3.11	3.69	4.11	4.43	4.68	4.87	5.01	5.11	5.18	5.22	5.23	5.23	5.21
EX3-5000		5.05	5.98	6.66	7.19	7.59	7.89	8.12	8.28	8.40	8.46	8.49	8.48	8.45
EX3-6000		8.16	9.66	10.77	11.62	12.27	12.76	13.13	13.39	13.57	13.68	13.72	13.71	13.66
EX3-7000		10.34	12.25	13.66	14.73	15.55	16.18	16.65	16.98	17.21	17.34	17.40	17.39	17.33
EX3-8000		11.52	13.65	15.22	16.41	17.32	18.02	18.54	18.92	19.17	19.32	19.38	19.37	19.30
EX3-9000		14.72	17.43	19.44	20.96	22.13	23.02	23.68	24.16	24.49	24.68	24.76	24.74	24.65
EX3-2000	25	0.62	0.88	1.05	1.18	1.27	1.34	1.40	1.44	1.47	1.48	1.50	1.50	1.50
EX3-3000		1.30	1.84	2.20	2.46	2.66	2.81	2.92	3.00	3.06	3.10	3.13	3.14	3.13
EX3-4000		2.09	2.96	3.54	3.96	4.27	4.52	4.70	4.83	4.93	4.99	5.03	5.04	5.04
EX3-5000		3.40	4.80	5.73	6.42	6.93	7.32	7.62	7.84	7.99	8.10	8.16	8.18	8.17
EX3-6000		5.49	7.76	9.27	10.37	11.20	11.84	12.32	12.67	12.92	13.09	13.19	13.22	13.21
EX3-7000		6.96	9.84	11.76	13.15	14.21	15.01	15.62	16.07	16.38	16.60	16.72	16.77	16.75
EX3-8000		7.75	10.96	13.09	14.65	15.83	16.72	17.39	17.89	18.25	18.49	18.62	18.67	18.66
EX3-9000		9.90	14.00	16.73	18.71	20.21	21.36	22.22	22.86	23.31	23.61	23.79	23.85	23.83
EX3-2000	20	0.56	0.83	1.00	1.12	1.22	1.29	1.34	1.38	1.40	1.42	1.43	1.44	
EX3-3000		1.17	1.73	2.09	2.35	2.54	2.69	2.80	2.88	2.94	2.97	2.99	3.00	
EX3-4000		1.88	2.78	3.36	3.78	4.09	4.33	4.50	4.63	4.72	4.78	4.82	4.83	
EX3-5000		3.05	4.51	5.45	6.13	6.63	7.01	7.30	7.51	7.66	7.75	7.81	7.83	
EX3-6000		4.93	7.29	8.81	9.90	10.72	11.34	11.80	12.14	12.38	12.54	12.62	12.65	
EX3-7000		6.26	9.24	11.17	12.56	13.60	14.38	14.97	15.40	15.70	15.90	16.01	16.05	
EX3-8000		6.97	10.30	12.44	13.99	15.14	16.02	16.67	17.15	17.49	17.71	17.83	17.87	
EX3-9000		8.90	13.15	15.89	17.87	19.34	20.46	21.29	21.90	22.34	22.62	22.78	22.83	
EX3-2000	15	0.48	0.76	0.94	1.06	1.15	1.22	1.27	1.31	1.34	1.35	1.36		
EX3-3000		1.01	1.60	1.96	2.22	2.41	2.55	2.66	2.74	2.79	2.83	2.84		
EX3-4000		1.62	2.57	3.16	3.57	3.88	4.11	4.28	4.40	4.49	4.55	4.58		
EX3-5000		2.63	4.17	5.12	5.79	6.29	6.66	6.94	7.14	7.28	7.37	7.42		
EX3-6000		4.25	6.74	8.28	9.37	10.17	10.77	11.22	11.55	11.77	11.92	12.00		
EX3-7000		5.40	8.55	10.50	11.88	12.90	13.66	14.23	14.64	14.93	15.11	15.21		
EX3-8000		6.01	9.52	11.69	13.23	14.37	15.22	15.85	16.31	16.63	16.83	16.95		
EX3-9000		7.68	12.16	14.94	16.90	18.35	19.44	20.24	20.83	21.24	21.50	21.65		
EX3-2000	10	0.38	0.69	0.87	0.99	1.08	1.15	1.20	1.23	1.26	1.27			
EX3-3000		0.80	1.45	1.82	2.08	2.27	2.40	2.51	2.58	2.63	2.66			
EX3-4000		1.29	2.33	2.93	3.34	3.64	3.87	4.03	4.15	4.23	4.29			
EX3-5000		2.10	3.77	4.74	5.42	5.91	6.27	6.54	6.73	6.87	6.95			
EX3-6000		3.39	6.10	7.67	8.76	9.55	10.14	10.57	10.89	11.10	11.24			
EX3-7000		4.29	7.74	9.73	11.11	12.11	12.86	13.41	13.80	14.08	14.25			
EX3-8000		4.78	8.62	10.83	12.37	13.49	14.32	14.93	15.37	15.68	15.87			
EX3-9000		6.11	11.01	13.84	15.80	17.24	18.30	19.08	19.64	20.03	20.27			

R-22 Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	60	1.61	1.65	1.67	1.69	1.70	1.71	1.70	1.69	1.68	1.66	1.64	1.62	1.59
EX3-3000		3.36	3.44	3.50	3.54	3.56	3.57	3.56	3.54	3.52	3.48	3.44	3.39	3.33
EX3-4000		5.41	5.54	5.63	5.69	5.72	5.74	5.73	5.70	5.66	5.60	5.53	5.45	5.36
EX3-5000		8.78	8.98	9.13	9.23	9.28	9.30	9.29	9.24	9.17	9.08	8.97	8.84	8.70
EX3-6000		14.19	14.52	14.76	14.92	15.01	15.04	15.01	14.94	14.83	14.68	14.50	14.29	14.06
EX3-7000		17.99	18.41	18.71	18.92	19.03	19.07	19.04	18.95	18.80	18.62	18.39	18.12	17.83
EX3-8000		20.04	20.51	20.84	21.07	21.20	21.24	21.20	21.10	20.94	20.73	20.48	20.19	19.86
EX3-9000		25.60	26.19	26.62	26.91	27.08	27.13	27.08	26.96	26.75	26.49	26.16	25.79	25.37
EX3-2000	55	1.57	1.62	1.65	1.68	1.70	1.70	1.71	1.70	1.70	1.68	1.67	1.65	1.62
EX3-3000		3.28	3.38	3.45	3.51	3.54	3.56	3.57	3.56	3.55	3.52	3.48	3.44	3.39
EX3-4000		5.27	5.43	5.56	5.64	5.70	5.73	5.74	5.73	5.70	5.66	5.60	5.53	5.46
EX3-5000		8.55	8.81	9.01	9.15	9.25	9.30	9.31	9.30	9.25	9.18	9.09	8.97	8.85
EX3-6000		13.82	14.25	14.57	14.80	14.95	15.03	15.06	15.03	14.95	14.84	14.69	14.51	14.30
EX3-7000		17.52	18.06	18.47	18.76	18.96	19.06	19.09	19.06	18.96	18.82	18.63	18.40	18.14
EX3-8000		19.51	20.12	20.57	20.90	21.12	21.23	21.27	21.23	21.12	20.96	20.75	20.49	20.20
EX3-9000		24.93	25.70	26.28	26.70	26.97	27.12	27.16	27.11	26.98	26.77	26.50	26.18	25.80
EX3-2000	50	1.50	1.56	1.61	1.65	1.67	1.69	1.70	1.70	1.69	1.68	1.67	1.65	1.63
EX3-3000		3.14	3.27	3.37	3.44	3.49	3.53	3.55	3.55	3.54	3.52	3.49	3.46	3.42
EX3-4000		5.05	5.26	5.42	5.53	5.62	5.67	5.70	5.71	5.70	5.67	5.62	5.56	5.50
EX3-5000		8.19	8.52	8.78	8.98	9.11	9.20	9.25	9.26	9.24	9.19	9.12	9.02	8.91
EX3-6000		13.23	13.78	14.20	14.51	14.73	14.88	14.95	14.97	14.93	14.86	14.74	14.59	14.41
EX3-7000		16.78	17.47	18.00	18.40	18.68	18.86	18.96	18.98	18.94	18.84	18.69	18.50	18.27
EX3-8000		18.69	19.46	20.05	20.49	20.81	21.01	21.12	21.14	21.09	20.98	20.82	20.60	20.35
EX3-9000		23.88	24.86	25.61	26.18	26.58	26.84	26.97	27.01	26.94	26.80	26.59	26.32	26.00
EX3-2000	45	1.41	1.49	1.55	1.59	1.63	1.65	1.67	1.68	1.68	1.67	1.66	1.65	1.63
EX3-3000		2.95	3.11	3.24	3.33	3.40	3.45	3.49	3.50	3.51	3.50	3.48	3.45	3.41
EX3-4000		4.74	5.00	5.21	5.36	5.48	5.56	5.61	5.63	5.64	5.62	5.59	5.55	5.49
EX3-5000		7.69	8.11	8.44	8.69	8.88	9.01	9.10	9.14	9.14	9.12	9.07	9.00	8.90
EX3-6000		12.43	13.11	13.65	14.06	14.36	14.57	14.70	14.77	14.78	14.74	14.66	14.54	14.39
EX3-7000		15.76	16.63	17.31	17.82	18.21	18.48	18.65	18.73	18.75	18.70	18.59	18.44	18.25
EX3-8000		17.55	18.52	19.28	19.85	20.28	20.58	20.77	20.86	20.88	20.82	20.71	20.54	20.33
EX3-9000		22.42	23.66	24.62	25.36	25.90	26.29	26.53	26.65	26.67	26.60	26.45	26.24	25.97
EX3-2000	40	1.29	1.39	1.46	1.52	1.57	1.60	1.62	1.64	1.64	1.65	1.64	1.63	1.62
EX3-3000		2.69	2.90	3.06	3.18	3.28	3.35	3.39	3.42	3.44	3.44	3.43	3.41	3.38
EX3-4000		4.33	4.67	4.92	5.12	5.27	5.38	5.46	5.51	5.53	5.53	5.52	5.48	5.44
EX3-5000		7.03	7.57	7.98	8.31	8.55	8.73	8.86	8.93	8.97	8.97	8.95	8.89	8.82
EX3-6000		11.36	12.23	12.91	13.43	13.82	14.12	14.32	14.44	14.50	14.51	14.46	14.38	14.26
EX3-7000		14.41	15.51	16.37	17.03	17.53	17.90	18.15	18.31	18.39	18.40	18.34	18.23	18.08
EX3-8000		16.05	17.28	18.23	18.97	19.53	19.94	20.22	20.40	20.48	20.49	20.43	20.31	20.14
EX3-9000		20.50	22.07	23.29	24.23	24.94	25.47	25.83	26.06	26.16	26.17	26.09	25.94	25.72
EX3-2000	35	1.13	1.26	1.36	1.43	1.49	1.53	1.56	1.59	1.60	1.60	1.60	1.60	1.59
EX3-3000		2.37	2.63	2.84	2.99	3.11	3.20	3.27	3.32	3.34	3.36	3.36	3.34	3.32
EX3-4000		3.81	4.24	4.56	4.82	5.01	5.16	5.26	5.33	5.38	5.40	5.40	5.38	5.35
EX3-5000		6.18	6.87	7.40	7.81	8.12	8.36	8.53	8.65	8.72	8.75	8.75	8.72	8.67
EX3-6000		9.99	11.10	11.96	12.62	13.13	13.52	13.79	13.98	14.10	14.15	14.15	14.10	14.01
EX3-7000		12.66	14.08	15.17	16.01	16.65	17.14	17.49	17.73	17.88	17.94	17.94	17.88	17.77
EX3-8000		14.10	15.68	16.90	17.83	18.55	19.09	19.48	19.75	19.91	19.99	19.98	19.92	19.79
EX3-9000		18.01	20.03	21.58	22.78	23.69	24.38	24.88	25.23	25.44	25.53	25.53	25.44	25.28

R-134a Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	60	1.23	1.24	1.24	1.24	1.23	1.22	1.20	1.18	1.15	1.12	1.09	1.06	1.02
EX3-3000		2.56	2.59	2.60	2.60	2.58	2.55	2.51	2.46	2.40	2.34	2.28	2.21	2.14
EX3-4000		4.12	4.17	4.18	4.17	4.14	4.10	4.03	3.95	3.87	3.77	3.66	3.55	3.44
EX3-5000		6.69	6.76	6.78	6.77	6.72	6.64	6.54	6.41	6.27	6.11	5.94	5.76	5.57
EX3-6000		10.81	10.93	10.97	10.94	10.87	10.74	10.57	10.37	10.14	9.88	9.61	9.31	9.01
EX3-7000		13.71	13.86	13.91	13.88	13.78	13.62	13.40	13.15	12.86	12.53	12.18	11.81	11.43
EX3-8000		15.27	15.43	15.49	15.46	15.35	15.17	14.93	14.64	14.32	13.96	13.57	13.16	12.73
EX3-9000		19.50	19.71	19.79	19.74	19.60	19.37	19.07	18.71	18.29	17.83	17.33	16.81	16.26
EX3-2000	55	1.20	1.22	1.23	1.24	1.24	1.23	1.21	1.20	1.17	1.15	1.12	1.09	1.06
EX3-3000		2.50	2.55	2.58	2.59	2.59	2.57	2.54	2.50	2.45	2.40	2.34	2.28	2.21
EX3-4000		4.03	4.11	4.15	4.17	4.16	4.13	4.08	4.02	3.95	3.86	3.77	3.67	3.56
EX3-5000		6.53	6.66	6.73	6.76	6.75	6.70	6.62	6.52	6.40	6.26	6.11	5.95	5.78
EX3-6000		10.56	10.77	10.88	10.93	10.91	10.83	10.71	10.54	10.35	10.13	9.88	9.62	9.34
EX3-7000		13.39	13.65	13.80	13.86	13.83	13.73	13.58	13.37	13.12	12.84	12.53	12.19	11.84
EX3-8000		14.91	15.20	15.37	15.43	15.40	15.29	15.12	14.89	14.62	14.30	13.96	13.58	13.19
EX3-9000		19.04	19.42	19.64	19.71	19.67	19.54	19.32	19.02	18.67	18.27	17.83	17.35	16.85
EX3-2000	50	1.15	1.18	1.21	1.22	1.22	1.22	1.21	1.20	1.18	1.16	1.14	1.11	1.08
EX3-3000		2.40	2.47	2.52	2.55	2.56	2.56	2.54	2.51	2.47	2.43	2.38	2.32	2.26
EX3-4000		3.86	3.98	4.06	4.10	4.12	4.11	4.08	4.04	3.98	3.91	3.83	3.74	3.64
EX3-5000		6.25	6.45	6.58	6.65	6.68	6.67	6.62	6.55	6.45	6.34	6.21	6.06	5.90
EX3-6000		10.11	10.43	10.64	10.76	10.80	10.78	10.71	10.59	10.43	10.25	10.03	9.80	9.54
EX3-7000		12.82	13.23	13.49	13.64	13.70	13.67	13.58	13.43	13.23	12.99	12.72	12.42	12.10
EX3-8000		14.28	14.73	15.02	15.19	15.25	15.23	15.12	14.96	14.74	14.47	14.17	13.84	13.48
EX3-9000		18.24	18.82	19.19	19.41	19.49	19.45	19.32	19.10	18.82	18.49	18.10	17.67	17.22
EX3-2000	45	1.07	1.12	1.16	1.18	1.20	1.20	1.20	1.19	1.18	1.16	1.14	1.12	1.09
EX3-3000		2.24	2.35	2.42	2.47	2.50	2.51	2.51	2.49	2.46	2.43	2.39	2.34	2.28
EX3-4000		3.61	3.78	3.90	3.98	4.02	4.04	4.03	4.01	3.96	3.91	3.84	3.76	3.68
EX3-5000		5.85	6.13	6.32	6.45	6.53	6.55	6.54	6.50	6.43	6.34	6.22	6.10	5.96
EX3-6000		9.46	9.91	10.23	10.43	10.55	10.59	10.58	10.51	10.39	10.24	10.06	9.86	9.63
EX3-7000		11.99	12.56	12.97	13.23	13.38	13.43	13.41	13.32	13.18	12.99	12.76	12.50	12.22
EX3-8000		13.36	14.00	14.44	14.73	14.90	14.96	14.94	14.84	14.68	14.47	14.21	13.92	13.61
EX3-9000		17.06	17.88	18.45	18.82	19.03	19.11	19.08	18.95	18.75	18.48	18.16	17.79	17.38
EX3-2000	40	0.97	1.04	1.09	1.13	1.15	1.16	1.17	1.17	1.16	1.15	1.13	1.11	1.09
EX3-3000		2.03	2.18	2.28	2.36	2.41	2.44	2.45	2.44	2.43	2.40	2.37	2.33	2.28
EX3-4000		3.26	3.50	3.67	3.79	3.87	3.92	3.93	3.93	3.90	3.86	3.81	3.74	3.67
EX3-5000		5.29	5.68	5.96	6.15	6.28	6.35	6.38	6.37	6.33	6.26	6.17	6.07	5.95
EX3-6000		8.56	9.18	9.63	9.95	10.15	10.27	10.31	10.30	10.23	10.12	9.98	9.81	9.61
EX3-7000		10.85	11.65	12.22	12.61	12.87	13.02	13.08	13.06	12.97	12.83	12.65	12.44	12.19
EX3-8000		12.09	12.97	13.61	14.05	14.34	14.50	14.57	14.54	14.45	14.30	14.09	13.85	13.58
EX3-9000		15.44	16.57	17.38	17.95	18.32	18.53	18.61	18.58	18.46	18.26	18.00	17.69	17.34
EX3-2000	35	0.83	0.93	1.00	1.05	1.09	1.11	1.13	1.13	1.13	1.12	1.11	1.09	1.08
EX3-3000		1.74	1.95	2.10	2.20	2.28	2.32	2.35	2.36	2.36	2.34	2.32	2.29	2.25
EX3-4000		2.80	3.13	3.37	3.54	3.66	3.74	3.78	3.80	3.80	3.77	3.73	3.68	3.62
EX3-5000		4.54	5.08	5.47	5.75	5.94	6.06	6.14	6.16	6.15	6.12	6.05	5.97	5.87
EX3-6000		7.35	8.22	8.84	9.29	9.60	9.80	9.92	9.96	9.95	9.89	9.78	9.65	9.48
EX3-7000		9.31	10.42	11.21	11.78	12.18	12.43	12.58	12.63	12.62	12.54	12.40	12.23	12.03
EX3-8000		10.37	11.61	12.49	13.12	13.56	13.85	14.01	14.07	14.05	13.96	13.82	13.62	13.40
EX3-9000		13.25	14.83	15.96	16.76	17.32	17.69	17.90	17.98	17.95	17.84	17.65	17.40	17.11

R-134a Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	30	0.64	0.79	0.89	0.96	1.01	1.04	1.06	1.08	1.08	1.08	1.07	1.06	1.05
EX3-3000		1.34	1.64	1.85	2.00	2.11	2.18	2.23	2.25	2.26	2.26	2.25	2.22	2.19
EX3-4000		2.15	2.64	2.98	3.22	3.39	3.51	3.58	3.63	3.64	3.64	3.61	3.58	3.53
EX3-5000		3.49	4.29	4.83	5.22	5.49	5.68	5.81	5.88	5.91	5.90	5.86	5.80	5.72
EX3-6000		5.64	6.93	7.81	8.44	8.88	9.19	9.39	9.50	9.55	9.54	9.48	9.38	9.25
EX3-7000		7.16	8.79	9.90	10.70	11.26	11.65	11.91	12.05	12.11	12.09	12.02	11.89	11.73
EX3-8000		7.97	9.79	11.03	11.92	12.55	12.98	13.26	13.42	13.49	13.47	13.38	13.25	13.06
EX3-9000		10.18	12.50	14.09	15.22	16.02	16.58	16.94	17.15	17.23	17.20	17.10	16.92	16.69
EX3-2000	25	0.30	0.58	0.73	0.83	0.90	0.95	0.99	1.01	1.02	1.03	1.03	1.02	1.01
EX3-3000		0.64	1.21	1.53	1.74	1.89	1.99	2.07	2.11	2.14	2.15	2.15	2.13	2.11
EX3-4000		1.03	1.95	2.46	2.80	3.04	3.21	3.32	3.40	3.44	3.46	3.45	3.43	3.40
EX3-5000		1.66	3.16	3.98	4.54	4.92	5.20	5.39	5.51	5.58	5.61	5.60	5.57	5.51
EX3-6000		2.69	5.11	6.44	7.33	7.96	8.40	8.71	8.91	9.02	9.07	9.06	9.00	8.91
EX3-7000		3.41	6.48	8.17	9.30	10.10	10.66	11.05	11.30	11.44	11.50	11.48	11.41	11.30
EX3-8000		3.80	7.21	9.09	10.36	11.25	11.87	12.30	12.58	12.74	12.81	12.79	12.71	12.59
EX3-9000		4.85	9.21	11.62	13.23	14.36	15.16	15.72	16.07	16.28	16.36	16.34	16.24	16.08
EX3-2000	20		0.16	0.51	0.67	0.77	0.84	0.89	0.93	0.95	0.96	0.97	0.97	0.96
EX3-3000			0.34	1.06	1.39	1.61	1.76	1.86	1.94	1.98	2.01	2.02	2.02	2.01
EX3-4000			0.54	1.70	2.24	2.59	2.83	3.00	3.11	3.19	3.23	3.25	3.25	3.23
EX3-5000			0.88	2.76	3.63	4.20	4.59	4.86	5.05	5.17	5.24	5.27	5.27	5.24
EX3-6000			1.43	4.46	5.87	6.78	7.42	7.86	8.16	8.36	8.48	8.52	8.52	8.47
EX3-7000			1.81	5.66	7.44	8.60	9.40	9.97	10.35	10.60	10.75	10.81	10.80	10.74
EX3-8000			2.01	6.30	8.29	9.58	10.47	11.10	11.53	11.81	11.97	12.04	12.03	11.96
EX3-9000			2.57	8.05	10.58	12.24	13.38	14.18	14.73	15.09	15.29	15.38	15.36	15.27
EX3-2000	15				0.41	0.59	0.70	0.77	0.82	0.86	0.88	0.89	0.90	0.90
EX3-3000					0.87	1.23	1.46	1.61	1.72	1.79	1.84	1.86	1.88	1.88
EX3-4000					1.40	1.98	2.34	2.59	2.76	2.88	2.96	3.00	3.02	3.02
EX3-5000					2.26	3.21	3.80	4.20	4.48	4.67	4.79	4.86	4.89	4.89
EX3-6000					3.66	5.19	6.15	6.80	7.24	7.55	7.75	7.86	7.91	7.91
EX3-7000					4.64	6.59	7.79	8.62	9.18	9.57	9.82	9.97	10.03	10.03
EX3-8000					5.17	7.34	8.68	9.60	10.23	10.66	10.94	11.11	11.18	11.17
EX3-9000					6.60	9.37	11.09	12.26	13.07	13.62	13.98	14.19	14.28	14.27
EX3-2000	10					0.29	0.50	0.61	0.69	0.74	0.78	0.80	0.81	0.82
EX3-3000						0.61	1.04	1.28	1.44	1.55	1.63	1.67	1.70	1.71
EX3-4000						0.98	1.67	2.06	2.32	2.50	2.62	2.69	2.74	2.76
EX3-5000						1.59	2.72	3.35	3.76	4.05	4.24	4.37	4.44	4.47
EX3-6000						2.57	4.39	5.41	6.08	6.54	6.86	7.06	7.18	7.23
EX3-7000						3.26	5.57	6.86	7.72	8.30	8.69	8.95	9.10	9.17
EX3-8000						3.64	6.20	7.64	8.59	9.24	9.68	9.97	10.14	10.22
EX3-9000						4.64	7.92	9.76	10.98	11.81	12.37	12.74	12.95	13.05

R-404A Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	60	0.87	0.87	0.87	0.86	0.85	0.83	0.80	0.78	0.75	0.71	0.68	0.64	0.60
EX3-3000		1.82	1.82	1.82	1.80	1.77	1.73	1.68	1.62	1.56	1.49	1.42	1.34	1.26
EX3-4000		2.92	2.94	2.93	2.89	2.84	2.78	2.70	2.61	2.51	2.40	2.28	2.16	2.03
EX3-5000		4.74	4.76	4.74	4.69	4.61	4.51	4.38	4.23	4.07	3.89	3.70	3.50	3.29
EX3-6000		7.66	7.70	7.67	7.59	7.46	7.28	7.08	6.84	6.57	6.28	5.98	5.65	5.32
EX3-7000		9.71	9.76	9.72	9.62	9.46	9.24	8.97	8.67	8.33	7.97	7.58	7.17	6.74
EX3-8000		10.81	10.87	10.83	10.72	10.53	10.29	10.00	9.66	9.28	8.88	8.44	7.99	7.51
EX3-9000		13.81	13.88	13.84	13.69	13.45	13.14	12.77	12.34	11.86	11.34	10.78	10.20	9.60
EX3-2000	55	0.93	0.94	0.95	0.94	0.94	0.92	0.90	0.88	0.85	0.83	0.79	0.76	0.72
EX3-3000		1.94	1.97	1.98	1.97	1.96	1.93	1.89	1.84	1.79	1.73	1.66	1.59	1.51
EX3-4000		3.11	3.16	3.18	3.18	3.15	3.10	3.04	2.96	2.87	2.78	2.67	2.55	2.44
EX3-5000		5.05	5.13	5.16	5.15	5.10	5.03	4.93	4.80	4.66	4.50	4.33	4.14	3.95
EX3-6000		8.17	8.29	8.34	8.32	8.25	8.13	7.97	7.77	7.53	7.28	7.00	6.70	6.38
EX3-7000		10.35	10.51	10.58	10.56	10.46	10.31	10.10	9.85	9.55	9.23	8.87	8.49	8.09
EX3-8000		11.53	11.71	11.78	11.76	11.65	11.48	11.25	10.97	10.64	10.28	9.88	9.46	9.02
EX3-9000		14.73	14.96	15.05	15.02	14.89	14.67	14.37	14.01	13.59	13.13	12.62	12.08	11.52
EX3-2000	50	1.00	1.03	1.04	1.04	1.04	1.03	1.01	0.99	0.97	0.94	0.91	0.88	0.85
EX3-3000		2.10	2.14	2.17	2.18	2.17	2.15	2.12	2.08	2.03	1.97	1.91	1.84	1.77
EX3-4000		3.37	3.45	3.49	3.50	3.49	3.46	3.41	3.34	3.26	3.17	3.07	2.96	2.85
EX3-5000		5.47	5.59	5.66	5.68	5.66	5.61	5.53	5.42	5.29	5.14	4.98	4.81	4.62
EX3-6000		8.84	9.04	9.15	9.18	9.15	9.07	8.94	8.76	8.55	8.32	8.05	7.77	7.47
EX3-7000		11.21	11.46	11.60	11.64	11.61	11.50	11.33	11.11	10.85	10.54	10.21	9.85	9.47
EX3-8000		12.49	12.77	12.92	12.97	12.93	12.81	12.62	12.38	12.08	11.74	11.37	10.97	10.55
EX3-9000		15.95	16.31	16.51	16.57	16.51	16.36	16.12	15.81	15.43	15.00	14.53	14.02	13.47
EX3-2000	45	0.94	0.98	1.01	1.03	1.03	1.03	1.03	1.01	1.00	0.98	0.95	0.92	0.89
EX3-3000		1.97	2.05	2.11	2.15	2.16	2.16	2.15	2.12	2.08	2.04	1.99	1.93	1.87
EX3-4000		3.17	3.31	3.40	3.45	3.48	3.47	3.45	3.41	3.35	3.28	3.20	3.11	3.01
EX3-5000		5.14	5.36	5.51	5.60	5.64	5.63	5.60	5.53	5.44	5.32	5.19	5.04	4.88
EX3-6000		8.31	8.67	8.90	9.05	9.11	9.11	9.05	8.94	8.79	8.60	8.39	8.15	7.89
EX3-7000		10.54	10.99	11.29	11.47	11.55	11.55	11.47	11.34	11.15	10.91	10.64	10.33	10.00
EX3-8000		11.74	12.24	12.58	12.78	12.87	12.86	12.78	12.63	12.41	12.15	11.85	11.51	11.14
EX3-9000		15.00	15.63	16.06	16.32	16.44	16.43	16.33	16.13	15.86	15.52	15.14	14.70	14.23
EX3-2000	40	0.90	0.96	1.00	1.03	1.05	1.05	1.06	1.05	1.04	1.02	1.00	0.98	0.95
EX3-3000		1.89	2.01	2.10	2.15	2.19	2.21	2.21	2.19	2.17	2.13	2.09	2.04	1.99
EX3-4000		3.04	3.23	3.37	3.47	3.52	3.55	3.55	3.53	3.49	3.43	3.37	3.29	3.20
EX3-5000		4.93	5.24	5.47	5.62	5.71	5.75	5.76	5.72	5.66	5.57	5.46	5.33	5.19
EX3-6000		7.97	8.48	8.84	9.08	9.23	9.30	9.30	9.25	9.15	9.00	8.83	8.62	8.39
EX3-7000		10.11	10.75	11.21	11.52	11.71	11.80	11.80	11.73	11.60	11.42	11.19	10.93	10.64
EX3-8000		11.26	11.98	12.49	12.83	13.04	13.14	13.14	13.06	12.92	12.72	12.46	12.17	11.85
EX3-9000		14.38	15.30	15.95	16.39	16.66	16.78	16.79	16.69	16.50	16.24	15.92	15.55	15.13
EX3-2000	35	0.83	0.91	0.97	1.01	1.04	1.06	1.06	1.07	1.06	1.05	1.03	1.01	0.99
EX3-3000		1.74	1.90	2.03	2.11	2.17	2.21	2.23	2.23	2.22	2.19	2.16	2.12	2.07
EX3-4000		2.79	3.06	3.26	3.40	3.49	3.55	3.58	3.58	3.56	3.53	3.47	3.41	3.33
EX3-5000		4.53	4.97	5.29	5.51	5.67	5.76	5.81	5.81	5.78	5.72	5.63	5.53	5.41
EX3-6000		7.32	8.03	8.55	8.91	9.16	9.31	9.39	9.39	9.34	9.25	9.11	8.94	8.74
EX3-7000		9.28	10.18	10.84	11.30	11.62	11.81	11.90	11.91	11.85	11.72	11.55	11.33	11.08
EX3-8000		10.34	11.34	12.07	12.59	12.94	13.15	13.26	13.27	13.20	13.06	12.86	12.62	12.34
EX3-9000		13.21	14.49	15.42	16.08	16.53	16.80	16.93	16.95	16.86	16.68	16.43	16.12	15.77

R-404A Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	30	0.71	0.83	0.91	0.97	1.01	1.04	1.05	1.06	1.06	1.06	1.05	1.03	1.02
EX3-3000		1.49	1.73	1.90	2.02	2.11	2.17	2.21	2.22	2.23	2.21	2.19	2.16	2.12
EX3-4000		2.39	2.78	3.05	3.25	3.39	3.49	3.55	3.58	3.58	3.56	3.53	3.48	3.42
EX3-5000		3.88	4.50	4.95	5.27	5.50	5.66	5.75	5.80	5.81	5.78	5.72	5.64	5.54
EX3-6000		6.27	7.28	8.00	8.52	8.89	9.15	9.30	9.38	9.39	9.34	9.25	9.12	8.95
EX3-7000		7.95	9.23	10.15	10.81	11.28	11.60	11.79	11.89	11.90	11.84	11.73	11.56	11.35
EX3-8000		8.86	10.28	11.30	12.04	12.56	12.92	13.14	13.24	13.26	13.19	13.06	12.88	12.65
EX3-9000		11.31	13.14	14.44	15.38	16.05	16.50	16.78	16.92	16.93	16.85	16.68	16.45	16.15
EX3-2000	25	0.52	0.70	0.81	0.90	0.96	1.00	1.03	1.04	1.05	1.05	1.05	1.04	1.02
EX3-3000		1.09	1.45	1.70	1.87	2.00	2.09	2.15	2.18	2.20	2.20	2.19	2.17	2.14
EX3-4000		1.75	2.34	2.73	3.01	3.21	3.35	3.45	3.51	3.54	3.54	3.53	3.49	3.45
EX3-5000		2.83	3.79	4.43	4.88	5.21	5.44	5.60	5.69	5.74	5.75	5.72	5.67	5.59
EX3-6000		4.58	6.13	7.17	7.90	8.42	8.79	9.05	9.20	9.28	9.29	9.25	9.16	9.04
EX3-7000		5.81	7.78	9.09	10.01	10.68	11.15	11.47	11.67	11.77	11.78	11.73	11.62	11.46
EX3-8000		6.47	8.66	10.12	11.15	11.89	12.42	12.78	13.00	13.11	13.12	13.06	12.94	12.76
EX3-9000		8.26	11.07	12.93	14.25	15.19	15.87	16.32	16.60	16.74	16.76	16.69	16.53	16.31
EX3-2000	20		0.49	0.67	0.79	0.88	0.94	0.98	1.01	1.02	1.03	1.03	1.03	1.02
EX3-3000			1.02	1.41	1.65	1.83	1.96	2.04	2.10	2.14	2.16	2.16	2.15	2.13
EX3-4000			1.64	2.26	2.66	2.94	3.15	3.29	3.38	3.44	3.47	3.48	3.46	3.43
EX3-5000			2.67	3.67	4.32	4.77	5.10	5.33	5.49	5.58	5.63	5.64	5.62	5.57
EX3-6000			4.31	5.93	6.98	7.72	8.25	8.62	8.87	9.03	9.11	9.12	9.08	9.00
EX3-7000			5.47	7.52	8.85	9.79	10.46	10.93	11.25	11.45	11.55	11.56	11.51	11.41
EX3-8000			6.09	8.37	9.86	10.90	11.65	12.17	12.53	12.75	12.86	12.88	12.83	12.71
EX3-9000			7.78	10.70	12.59	13.92	14.88	15.55	16.00	16.29	16.43	16.45	16.38	16.23
EX3-2000	15			0.45	0.64	0.76	0.85	0.91	0.95	0.98	1.00	1.00	1.01	1.00
EX3-3000				0.94	1.34	1.59	1.77	1.90	1.98	2.04	2.08	2.10	2.10	2.10
EX3-4000				1.51	2.16	2.57	2.85	3.05	3.19	3.29	3.35	3.38	3.38	3.37
EX3-5000				2.45	3.50	4.16	4.62	4.95	5.18	5.33	5.43	5.48	5.49	5.47
EX3-6000				3.96	5.65	6.72	7.47	8.00	8.37	8.62	8.78	8.86	8.87	8.84
EX3-7000				5.02	7.17	8.53	9.47	10.14	10.62	10.93	11.13	11.23	11.25	11.21
EX3-8000				5.60	7.98	9.50	10.55	11.30	11.82	12.18	12.40	12.51	12.53	12.48
EX3-9000				7.15	10.20	12.13	13.48	14.43	15.10	15.56	15.84	15.98	16.01	15.94
EX3-2000	10				0.40	0.60	0.73	0.81	0.87	0.91	0.94	0.96	0.97	0.97
EX3-3000					0.83	1.26	1.52	1.70	1.82	1.91	1.97	2.01	2.02	2.03
EX3-4000					1.34	2.02	2.44	2.73	2.93	3.07	3.17	3.23	3.26	3.26
EX3-5000					2.17	3.28	3.96	4.42	4.75	4.98	5.14	5.23	5.28	5.29
EX3-6000					3.51	5.31	6.40	7.15	7.68	8.05	8.30	8.46	8.54	8.56
EX3-7000					4.46	6.73	8.12	9.07	9.74	10.21	10.53	10.73	10.83	10.85
EX3-8000					4.96	7.49	9.04	10.10	10.85	11.38	11.73	11.95	12.06	12.09
EX3-9000					6.34	9.57	11.55	12.90	13.86	14.53	14.98	15.26	15.41	15.44

R-407F Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature		Evaporating Temperature (°C)												
	Dew Point (°C)	Bubble Point (°C)	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	63.5	60	1.65	1.67	1.69	1.69	1.69	1.68	1.66	1.64	1.61	1.58	1.55	1.51	1.47
EX3-3000			3.45	3.50	3.53	3.53	3.52	3.50	3.47	3.42	3.37	3.30	3.23	3.15	3.07
EX3-4000			5.55	5.63	5.67	5.68	5.67	5.63	5.58	5.50	5.41	5.31	5.20	5.07	4.94
EX3-5000			9.00	9.13	9.19	9.21	9.19	9.13	9.04	8.92	8.78	8.61	8.43	8.23	8.01
EX3-6000			14.56	14.76	14.87	14.91	14.87	14.78	14.63	14.43	14.20	13.93	13.63	13.31	12.96
EX3-7000			18.46	18.71	18.86	18.90	18.85	18.73	18.54	18.30	18.00	17.66	17.28	16.87	16.43
EX3-8000			20.56	20.84	21.00	21.05	21.00	20.86	20.65	20.38	20.05	19.67	19.25	18.79	18.30
EX3-9000			26.27	26.63	26.83	26.89	26.83	26.65	26.39	26.04	25.61	25.13	24.59	24.00	23.38
EX3-2000	58.5	55	1.67	1.70	1.72	1.74	1.74	1.74	1.72	1.71	1.68	1.66	1.63	1.59	1.56
EX3-3000			3.49	3.56	3.60	3.63	3.64	3.63	3.60	3.57	3.52	3.47	3.40	3.33	3.26
EX3-4000			5.61	5.72	5.80	5.84	5.85	5.83	5.79	5.74	5.66	5.57	5.47	5.36	5.24
EX3-5000			9.10	9.28	9.40	9.47	9.48	9.46	9.40	9.30	9.18	9.04	8.87	8.69	8.49
EX3-6000			14.72	15.01	15.21	15.31	15.34	15.30	15.20	15.05	14.86	14.62	14.35	14.06	13.74
EX3-7000			18.66	19.04	19.28	19.41	19.45	19.40	19.27	19.08	18.83	18.54	18.20	17.82	17.42
EX3-8000			20.78	21.20	21.47	21.62	21.66	21.60	21.47	21.25	20.98	20.65	20.27	19.85	19.40
EX3-9000			26.55	27.09	27.44	27.63	27.68	27.60	27.43	27.15	26.80	26.38	25.89	25.36	24.78
EX3-2000	54	50	1.65	1.70	1.73	1.75	1.77	1.77	1.76	1.75	1.73	1.71	1.69	1.66	1.62
EX3-3000			3.46	3.56	3.62	3.67	3.69	3.70	3.69	3.66	3.63	3.58	3.52	3.46	3.39
EX3-4000			5.56	5.72	5.83	5.90	5.94	5.94	5.93	5.89	5.83	5.76	5.67	5.56	5.45
EX3-5000			9.02	9.27	9.45	9.57	9.63	9.64	9.61	9.55	9.45	9.33	9.19	9.02	8.84
EX3-6000			14.59	15.00	15.29	15.48	15.58	15.60	15.55	15.45	15.29	15.10	14.86	14.60	14.31
EX3-7000			18.50	19.02	19.39	19.62	19.75	19.77	19.72	19.58	19.39	19.14	18.84	18.51	18.14
EX3-8000			20.61	21.18	21.59	21.85	21.99	22.02	21.96	21.81	21.59	21.32	20.99	20.61	20.20
EX3-9000			26.33	27.06	27.59	27.92	28.10	28.14	28.05	27.87	27.59	27.24	26.81	26.34	25.81
EX3-2000	49	45	1.61	1.67	1.72	1.75	1.77	1.78	1.78	1.77	1.76	1.74	1.72	1.70	1.67
EX3-3000			3.37	3.49	3.59	3.65	3.70	3.72	3.72	3.71	3.68	3.65	3.60	3.54	3.48
EX3-4000			5.41	5.62	5.77	5.88	5.94	5.98	5.98	5.96	5.92	5.86	5.79	5.70	5.60
EX3-5000			8.78	9.11	9.36	9.53	9.64	9.69	9.70	9.67	9.60	9.51	9.39	9.24	9.08
EX3-6000			14.20	14.74	15.14	15.41	15.59	15.68	15.70	15.64	15.54	15.38	15.18	14.95	14.69
EX3-7000			18.00	18.68	19.19	19.54	19.77	19.88	19.90	19.83	19.70	19.50	19.25	18.96	18.62
EX3-8000			20.04	20.81	21.37	21.76	22.01	22.14	22.16	22.09	21.94	21.72	21.44	21.11	20.74
EX3-9000			25.61	26.59	27.31	27.81	28.13	28.29	28.31	28.22	28.03	27.75	27.39	26.97	26.50
EX3-2000	44	40	1.53	1.61	1.67	1.72	1.75	1.77	1.77	1.78	1.77	1.76	1.74	1.72	1.69
EX3-3000			3.20	3.37	3.50	3.59	3.65	3.69	3.71	3.71	3.70	3.67	3.63	3.59	3.53
EX3-4000			5.15	5.42	5.62	5.77	5.87	5.93	5.97	5.97	5.95	5.90	5.84	5.77	5.68
EX3-5000			8.36	8.79	9.12	9.36	9.52	9.62	9.67	9.68	9.64	9.58	9.48	9.36	9.21
EX3-6000			13.52	14.22	14.75	15.14	15.40	15.57	15.65	15.66	15.60	15.49	15.33	15.13	14.91
EX3-7000			17.14	18.03	18.70	19.19	19.53	19.74	19.84	19.85	19.78	19.64	19.44	19.19	18.90
EX3-8000			19.09	20.08	20.82	21.37	21.75	21.98	22.10	22.11	22.03	21.87	21.65	21.37	21.04
EX3-9000			24.39	25.65	26.61	27.30	27.79	28.09	28.23	28.24	28.14	27.94	27.66	27.30	26.89
EX3-2000	39.5	35	1.42	1.52	1.60	1.66	1.70	1.73	1.75	1.76	1.76	1.75	1.74	1.72	1.70
EX3-3000			2.97	3.19	3.35	3.47	3.56	3.62	3.66	3.67	3.67	3.66	3.63	3.59	3.55
EX3-4000			4.78	5.12	5.39	5.58	5.72	5.82	5.88	5.91	5.91	5.88	5.84	5.78	5.70
EX3-5000			7.75	8.31	8.73	9.05	9.28	9.44	9.54	9.58	9.58	9.54	9.47	9.37	9.25
EX3-6000			12.54	13.44	14.13	14.64	15.01	15.27	15.42	15.50	15.49	15.43	15.32	15.16	14.97
EX3-7000			15.89	17.04	17.91	18.56	19.04	19.36	19.56	19.64	19.64	19.57	19.42	19.22	18.97
EX3-8000			17.70	18.98	19.95	20.67	21.20	21.56	21.78	21.88	21.88	21.79	21.63	21.40	21.13
EX3-9000			22.62	24.25	25.49	26.41	27.09	27.55	27.83	27.95	27.95	27.84	27.63	27.35	27.00

R-407F Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature		Evaporating Temperature (°C)												
	Dew Point (°C)	Bubble Point (°C)	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	34.5	30	1.27	1.40	1.50	1.58	1.64	1.68	1.70	1.72	1.73	1.73	1.72	1.70	1.69
EX3-3000			2.65	2.93	3.14	3.30	3.42	3.50	3.56	3.59	3.61	3.61	3.59	3.56	3.53
EX3-4000			4.27	4.72	5.05	5.31	5.50	5.63	5.73	5.78	5.80	5.80	5.78	5.73	5.67
EX3-5000			6.92	7.65	8.20	8.61	8.92	9.14	9.29	9.38	9.41	9.41	9.37	9.29	9.20
EX3-6000			11.19	12.37	13.26	13.93	14.43	14.78	15.02	15.17	15.23	15.22	15.15	15.04	14.88
EX3-7000			14.19	15.68	16.81	17.66	18.29	18.74	19.05	19.23	19.31	19.30	19.21	19.06	18.86
EX3-8000			15.80	17.47	18.72	19.67	20.37	20.87	21.21	21.41	21.50	21.49	21.39	21.23	21.01
EX3-9000			20.19	22.32	23.92	25.13	26.02	26.67	27.10	27.36	27.47	27.46	27.33	27.12	26.84
EX3-2000	30	25	1.06	1.24	1.37	1.47	1.55	1.60	1.64	1.66	1.68	1.68	1.68	1.68	1.66
EX3-3000			2.22	2.59	2.87	3.08	3.23	3.34	3.42	3.48	3.51	3.52	3.52	3.50	3.47
EX3-4000			3.57	4.17	4.62	4.95	5.19	5.38	5.51	5.59	5.64	5.66	5.66	5.63	5.59
EX3-5000			5.79	6.77	7.49	8.02	8.43	8.72	8.93	9.07	9.15	9.19	9.18	9.13	9.06
EX3-6000			9.36	10.95	12.11	12.98	13.63	14.11	14.45	14.68	14.81	14.86	14.84	14.77	14.65
EX3-7000			11.87	13.88	15.35	16.45	17.28	17.89	18.32	18.61	18.77	18.84	18.82	18.73	18.58
EX3-8000			13.22	15.46	17.10	18.32	19.24	19.92	20.40	20.72	20.91	20.98	20.96	20.86	20.69
EX3-9000			16.89	19.75	21.84	23.41	24.59	25.45	26.07	26.47	26.71	26.81	26.78	26.65	26.44
EX3-2000	25	20	0.76	1.02	1.20	1.33	1.43	1.50	1.55	1.59	1.61	1.63	1.63	1.63	1.62
EX3-3000			1.59	2.14	2.52	2.79	2.99	3.14	3.25	3.32	3.37	3.40	3.41	3.41	3.39
EX3-4000			2.55	3.45	4.05	4.48	4.80	5.05	5.22	5.34	5.42	5.47	5.49	5.48	5.45
EX3-5000			4.14	5.59	6.56	7.27	7.79	8.18	8.47	8.67	8.80	8.87	8.90	8.89	8.84
EX3-6000			6.70	9.04	10.61	11.76	12.61	13.24	13.70	14.02	14.23	14.35	14.39	14.37	14.30
EX3-7000			8.49	11.46	13.46	14.90	15.98	16.78	17.36	17.77	18.04	18.20	18.25	18.22	18.13
EX3-8000			9.46	12.76	14.99	16.60	17.80	18.69	19.34	19.80	20.10	20.26	20.32	20.29	20.19
EX3-9000			12.08	16.31	19.15	21.21	22.74	23.88	24.71	25.29	25.68	25.89	25.97	25.93	25.79
EX3-2000	20	15			0.98	1.16	1.28	1.38	1.45	1.50	1.53	1.55	1.57	1.57	1.57
EX3-3000					2.04	2.42	2.68	2.88	3.02	3.13	3.20	3.25	3.27	3.28	3.27
EX3-4000					3.29	3.88	4.31	4.63	4.86	5.03	5.15	5.22	5.26	5.28	5.27
EX3-5000					5.33	6.30	6.99	7.51	7.88	8.16	8.35	8.47	8.54	8.56	8.54
EX3-6000					8.63	10.19	11.31	12.14	12.75	13.19	13.50	13.70	13.81	13.84	13.81
EX3-7000					10.94	12.92	14.34	15.39	16.17	16.73	17.12	17.37	17.50	17.55	17.51
EX3-8000					12.18	14.39	15.97	17.14	18.01	18.63	19.06	19.34	19.49	19.54	19.50
EX3-9000					15.56	18.38	20.41	21.90	23.00	23.80	24.35	24.71	24.91	24.97	24.92
EX3-2000	15.5	10				0.92	1.10	1.22	1.31	1.38	1.43	1.46	1.48	1.49	1.50
EX3-3000						1.93	2.29	2.56	2.75	2.89	2.99	3.06	3.10	3.12	3.13
EX3-4000						3.10	3.69	4.11	4.42	4.64	4.80	4.92	4.99	5.02	5.03
EX3-5000						5.02	5.99	6.67	7.17	7.53	7.79	7.97	8.09	8.15	8.16
EX3-6000						8.12	9.68	10.79	11.59	12.18	12.61	12.90	13.08	13.18	13.20
EX3-7000						10.30	12.27	13.68	14.70	15.45	15.98	16.35	16.58	16.71	16.74
EX3-8000						11.47	13.67	15.23	16.37	17.20	17.80	18.21	18.47	18.61	18.64
EX3-9000						14.65	17.47	19.46	20.92	21.98	22.74	23.27	23.60	23.77	23.82

R-507 Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	60	0.83	0.84	0.83	0.82	0.81	0.79	0.77	0.74	0.71	0.68	0.64	0.60	0.57
EX3-3000		1.74	1.75	1.74	1.72	1.69	1.65	1.60	1.54	1.48	1.41	1.34	1.26	1.18
EX3-4000		2.81	2.82	2.81	2.77	2.72	2.66	2.58	2.48	2.38	2.27	2.16	2.03	1.90
EX3-5000		4.55	4.57	4.55	4.50	4.41	4.31	4.18	4.03	3.86	3.69	3.49	3.30	3.09
EX3-6000		7.36	7.39	7.36	7.27	7.14	6.96	6.75	6.51	6.24	5.96	5.65	5.33	4.99
EX3-7000		9.33	9.37	9.33	9.22	9.05	8.83	8.56	8.26	7.92	7.55	7.16	6.76	6.33
EX3-8000		10.39	10.43	10.39	10.27	10.08	9.83	9.54	9.20	8.82	8.41	7.98	7.52	7.05
EX3-9000		13.27	13.33	13.27	13.12	12.88	12.56	12.18	11.75	11.27	10.75	10.19	9.61	9.01
EX3-2000	55	0.90	0.91	0.92	0.91	0.91	0.89	0.87	0.85	0.82	0.79	0.76	0.73	0.69
EX3-3000		1.88	1.91	1.92	1.91	1.89	1.86	1.83	1.78	1.72	1.66	1.59	1.52	1.45
EX3-4000		3.02	3.07	3.09	3.08	3.05	3.00	2.94	2.86	2.77	2.67	2.56	2.45	2.33
EX3-5000		4.90	4.98	5.00	4.99	4.94	4.86	4.76	4.64	4.49	4.33	4.16	3.97	3.78
EX3-6000		7.93	8.04	8.09	8.07	7.99	7.86	7.70	7.50	7.26	7.00	6.72	6.43	6.11
EX3-7000		10.05	10.20	10.26	10.23	10.13	9.97	9.76	9.50	9.21	8.88	8.53	8.15	7.75
EX3-8000		11.19	11.36	11.42	11.39	11.28	11.11	10.87	10.59	10.26	9.89	9.50	9.07	8.63
EX3-9000		14.30	14.51	14.59	14.55	14.41	14.19	13.89	13.52	13.10	12.64	12.13	11.59	11.02
EX3-2000	50	0.93	0.95	0.97	0.97	0.97	0.96	0.95	0.93	0.91	0.89	0.86	0.83	0.79
EX3-3000		1.94	1.99	2.02	2.04	2.03	2.02	1.99	1.95	1.90	1.85	1.79	1.73	1.66
EX3-4000		3.12	3.21	3.25	3.27	3.27	3.24	3.20	3.14	3.06	2.98	2.88	2.78	2.67
EX3-5000		5.06	5.20	5.28	5.31	5.30	5.26	5.19	5.09	4.97	4.83	4.67	4.51	4.33
EX3-6000		8.18	8.40	8.53	8.59	8.57	8.50	8.38	8.23	8.03	7.81	7.56	7.28	6.99
EX3-7000		10.38	10.66	10.82	10.89	10.87	10.78	10.63	10.43	10.18	9.90	9.58	9.24	8.87
EX3-8000		11.56	11.87	12.05	12.13	12.11	12.01	11.84	11.62	11.34	11.02	10.67	10.29	9.88
EX3-9000		14.76	15.16	15.39	15.49	15.46	15.34	15.13	14.84	14.49	14.08	13.63	13.14	12.62
EX3-2000	45	0.93	0.96	0.99	1.01	1.01	1.01	1.00	0.99	0.97	0.95	0.93	0.90	0.87
EX3-3000		1.93	2.02	2.07	2.10	2.12	2.12	2.10	2.07	2.04	1.99	1.94	1.88	1.82
EX3-4000		3.11	3.24	3.33	3.38	3.41	3.40	3.38	3.34	3.28	3.21	3.12	3.03	2.93
EX3-5000		5.05	5.26	5.40	5.49	5.52	5.52	5.48	5.41	5.32	5.20	5.07	4.92	4.75
EX3-6000		8.16	8.50	8.73	8.87	8.93	8.92	8.86	8.75	8.59	8.41	8.19	7.95	7.69
EX3-7000		10.34	10.78	11.07	11.25	11.32	11.31	11.23	11.09	10.90	10.66	10.39	10.08	9.75
EX3-8000		11.52	12.01	12.33	12.53	12.61	12.60	12.51	12.35	12.14	11.87	11.57	11.23	10.86
EX3-9000		14.72	15.34	15.75	16.00	16.11	16.09	15.98	15.78	15.50	15.17	14.78	14.34	13.87
EX3-2000	40	0.89	0.95	0.99	1.01	1.03	1.04	1.04	1.03	1.02	1.00	0.98	0.96	0.93
EX3-3000		1.86	1.98	2.06	2.12	2.15	2.17	2.17	2.15	2.13	2.09	2.05	2.00	1.95
EX3-4000		2.99	3.18	3.32	3.41	3.46	3.49	3.49	3.47	3.42	3.37	3.30	3.22	3.13
EX3-5000		4.86	5.16	5.38	5.53	5.62	5.66	5.65	5.62	5.55	5.46	5.35	5.22	5.08
EX3-6000		7.85	8.35	8.70	8.94	9.08	9.14	9.14	9.08	8.98	8.83	8.65	8.45	8.21
EX3-7000		9.95	10.58	11.03	11.33	11.51	11.59	11.59	11.52	11.39	11.20	10.97	10.71	10.41
EX3-8000		11.09	11.79	12.28	12.62	12.82	12.91	12.91	12.83	12.68	12.48	12.22	11.93	11.60
EX3-9000		14.16	15.06	15.69	16.12	16.38	16.50	16.49	16.39	16.20	15.94	15.61	15.24	14.82
EX3-2000	35	0.82	0.90	0.96	1.00	1.02	1.04	1.05	1.05	1.04	1.03	1.02	1.00	0.97
EX3-3000		1.71	1.88	2.00	2.08	2.14	2.18	2.19	2.19	2.18	2.16	2.12	2.08	2.04
EX3-4000		2.76	3.02	3.22	3.35	3.45	3.50	3.53	3.53	3.51	3.47	3.42	3.35	3.28
EX3-5000		4.47	4.90	5.22	5.44	5.59	5.68	5.72	5.72	5.69	5.63	5.54	5.44	5.31
EX3-6000		7.23	7.93	8.43	8.79	9.03	9.18	9.25	9.25	9.20	9.10	8.96	8.79	8.59
EX3-7000		9.17	10.05	10.69	11.15	11.46	11.64	11.73	11.73	11.67	11.54	11.36	11.14	10.89
EX3-8000		10.21	11.20	11.91	12.42	12.76	12.97	13.06	13.07	12.99	12.85	12.66	12.41	12.13
EX3-9000		13.05	14.30	15.21	15.86	16.30	16.56	16.69	16.69	16.60	16.42	16.17	15.86	15.50

R-507 Extended Capacities (kWatts) - EX3 Series

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX3-2000	30	0.70	0.82	0.90	0.96	1.00	1.02	1.04	1.05	1.05	1.05	1.03	1.02	1.00
EX3-3000		1.47	1.71	1.88	2.00	2.09	2.14	2.18	2.20	2.20	2.19	2.16	2.13	2.09
EX3-4000		2.37	2.75	3.02	3.22	3.35	3.45	3.50	3.53	3.53	3.52	3.48	3.43	3.37
EX3-5000		3.85	4.46	4.90	5.21	5.44	5.59	5.68	5.73	5.73	5.70	5.64	5.56	5.46
EX3-6000		6.22	7.21	7.92	8.43	8.79	9.04	9.19	9.26	9.27	9.22	9.12	8.99	8.83
EX3-7000		7.88	9.14	10.04	10.69	11.15	11.46	11.65	11.74	11.75	11.69	11.57	11.40	11.19
EX3-8000		8.78	10.18	11.18	11.91	12.42	12.77	12.98	13.08	13.09	13.02	12.89	12.70	12.46
EX3-9000		11.22	13.01	14.29	15.21	15.86	16.31	16.58	16.71	16.72	16.63	16.46	16.22	15.92
EX3-2000	25	0.52	0.69	0.81	0.89	0.95	0.99	1.02	1.03	1.04	1.04	1.04	1.03	1.01
EX3-3000		1.08	1.45	1.69	1.86	1.98	2.07	2.12	2.16	2.18	2.18	2.17	2.15	2.12
EX3-4000		1.74	2.33	2.71	2.99	3.18	3.32	3.42	3.47	3.50	3.51	3.49	3.45	3.41
EX3-5000		2.83	3.77	4.40	4.84	5.16	5.39	5.54	5.63	5.68	5.69	5.66	5.60	5.52
EX3-6000		4.57	6.10	7.11	7.83	8.35	8.71	8.96	9.11	9.18	9.19	9.15	9.06	8.93
EX3-7000		5.80	7.73	9.02	9.93	10.58	11.05	11.36	11.55	11.64	11.66	11.60	11.48	11.32
EX3-8000		6.46	8.61	10.04	11.06	11.79	12.30	12.65	12.87	12.97	12.98	12.92	12.79	12.61
EX3-9000		8.25	11.00	12.83	14.12	15.06	15.71	16.16	16.43	16.57	16.58	16.50	16.34	16.11
EX3-2000	20		0.49	0.67	0.79	0.87	0.93	0.97	1.00	1.01	1.02	1.02	1.02	1.01
EX3-3000			1.03	1.40	1.65	1.82	1.94	2.03	2.09	2.12	2.14	2.14	2.13	2.11
EX3-4000			1.65	2.25	2.65	2.92	3.12	3.26	3.36	3.41	3.44	3.45	3.43	3.40
EX3-5000			2.67	3.65	4.29	4.74	5.06	5.29	5.44	5.54	5.58	5.59	5.56	5.51
EX3-6000			4.32	5.91	6.94	7.67	8.18	8.55	8.80	8.95	9.03	9.04	8.99	8.91
EX3-7000			5.48	7.49	8.80	9.72	10.38	10.84	11.16	11.35	11.44	11.46	11.41	11.30
EX3-8000			6.11	8.34	9.80	10.83	11.56	12.08	12.43	12.64	12.75	12.76	12.70	12.58
EX3-9000			7.80	10.66	12.52	13.83	14.77	15.43	15.87	16.15	16.28	16.30	16.23	16.07
EX3-2000	15			0.45	0.64	0.76	0.84	0.90	0.94	0.97	0.99	1.00	1.00	0.99
EX3-3000				0.95	1.34	1.59	1.76	1.89	1.97	2.03	2.07	2.08	2.09	2.08
EX3-4000				1.52	2.15	2.56	2.84	3.03	3.17	3.27	3.33	3.35	3.36	3.34
EX3-5000				2.47	3.49	4.14	4.60	4.92	5.15	5.30	5.39	5.44	5.45	5.42
EX3-6000				3.99	5.65	6.70	7.43	7.95	8.32	8.57	8.72	8.79	8.81	8.77
EX3-7000				5.06	7.16	8.50	9.42	10.09	10.55	10.86	11.05	11.15	11.17	11.12
EX3-8000				5.64	7.98	9.46	10.50	11.23	11.75	12.10	12.31	12.42	12.44	12.38
EX3-9000				7.20	10.19	12.09	13.41	14.35	15.01	15.45	15.73	15.86	15.89	15.82
EX3-2000	10				0.40	0.60	0.72	0.81	0.87	0.91	0.94	0.95	0.96	0.96
EX3-3000					0.85	1.26	1.52	1.69	1.81	1.90	1.96	2.00	2.01	2.02
EX3-4000					1.36	2.03	2.44	2.72	2.92	3.06	3.15	3.21	3.24	3.24
EX3-5000					2.21	3.29	3.95	4.41	4.73	4.96	5.11	5.20	5.25	5.26
EX3-6000					3.57	5.32	6.39	7.13	7.65	8.02	8.26	8.41	8.49	8.51
EX3-7000					4.52	6.74	8.10	9.04	9.70	10.17	10.48	10.67	10.77	10.79
EX3-8000					5.04	7.51	9.03	10.07	10.81	11.32	11.67	11.88	11.99	12.01
EX3-9000					6.44	9.59	11.53	12.87	13.81	14.47	14.91	15.18	15.32	15.34

R-410A Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)											
		60	50	40	30	20	10	0	-10	-20	-30	-40	-50
EX4	140	5	5	5	5	5	5	5	5	5	5	5	5
EX5		15	15	16	16	16	16	16	16	15	15	15	15
EX6		36	37	38	38	38	38	38	38	37	37	36	35
EX7		99	102	104	105	105	105	105	104	103	101	99	97
EX8		265	271	277	279	281	281	280	277	274	269	264	258
EX4	130	5	5	5	5	6	6	6	6	5	5	5	5
EX5		15	16	16	16	17	17	17	17	16	16	16	16
EX6		37	38	39	40	40	40	40	40	40	39	39	38
EX7		101	105	107	109	110	110	111	110	109	108	106	104
EX8		269	279	285	292	293	295	296	294	291	288	283	277
EX4	120	5	5	6	6	6	6	6	6	6	6	6	6
EX5		15	16	17	17	17	17	17	17	17	17	17	17
EX6		37	39	40	41	42	42	42	42	42	42	41	40
EX7		101	106	110	112	114	115	116	116	116	114	113	111
EX8		270	283	293	299	305	308	309	310	309	305	301	297
EX4	110	5	5	5	6	6	6	6	6	6	6	6	6
EX5		15	15	16	17	17	17	18	18	18	17	17	17
EX6		35	37	39	40	42	42	43	43	43	42	42	41
EX7		96	102	107	111	114	115	117	118	117	116	115	113
EX8		257	273	286	297	305	308	313	314	313	309	308	303
EX4	100	5	5	5	6	6	6	6	6	6	6	6	6
EX5		14	15	16	17	17	17	18	18	18	18	18	18
EX6		33	36	38	40	41	42	43	43	43	43	43	42
EX7		90	98	105	110	113	116	118	119	119	118	118	116
EX8		240	261	281	294	301	308	315	316	316	315	316	311
EX4	90	4	4	5	5	5	6	6	6	6	6	6	6
EX5		12	13	15	16	16	17	17	18	18	18	18	18
EX6		28	33	36	38	40	41	42	42	43	43	43	43
EX7		78	89	98	104	109	112	116	116	118	118	118	117
EX8		207	239	260	277	290	300	308	311	314	314	315	313
EX4	80	3	4	4	5	5	5	6	6	6	6	6	6
EX5		9	12	13	15	15	16	17	17	17	17	17	17
EX6		22	28	32	35	37	39	40	41	42	42	42	42
EX7		61	77	87	97	103	107	111	113	114	116	115	114
EX8		163	204	233	257	274	286	297	300	305	309	308	305
EX4	70	2	3	4	4	5	5	5	5	6	6	6	6
EX5		5	9	11	13	14	15	16	16	17	17	17	17
EX6		11	21	27	31	34	37	39	39	40	41	41	41
EX7		31	59	75	86	94	101	106	108	111	112	114	113
EX8		84	157	201	230	251	270	284	289	295	300	303	301
EX4	60	-	1	3	4	4	5	5	5	5	5	5	5
EX5		-	4	8	11	13	14	15	15	16	16	16	16
EX6		-	10	20	26	30	33	36	37	38	39	40	39
EX7		-	27	56	72	84	92	98	102	105	108	109	109
EX8		-	72	150	192	224	245	262	273	281	287	291	290
EX4	50	-	-	1	3	3	4	4	5	5	5	5	5
EX5		-	-	3	8	10	12	14	14	15	15	16	16
EX6		-	-	8	19	25	29	33	35	36	37	38	38
EX7		-	-	21	53	69	80	90	95	99	102	104	104
EX8		-	-	57	143	185	214	239	254	265	272	278	277

R-407C Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature Bubble Point (°F)	Evaporating Temperature (°F)							
		60	50	40	30	20	10	0	-10
EX4	140	5	5	5	5	5	5	5	5
EX5		14	15	15	15	15	15	14	14
EX6		34	35	35	35	35	35	34	33
EX7		95	97	97	97	96	95	94	92
EX8		253	257	258	259	256	255	250	244
EX4	130	5	5	5	5	5	5	5	5
EX5		15	15	15	15	15	15	15	14
EX6		35	35	36	36	36	35	35	34
EX7		95	96	98	98	98	97	96	94
EX8		253	257	261	261	261	260	256	252
EX4	120	5	5	5	5	5	5	5	5
EX5		14	15	15	15	15	15	15	15
EX6		34	35	36	36	36	36	36	36
EX7		93	96	99	99	99	100	99	98
EX8		249	256	264	265	265	266	264	261
EX4	110	4	5	5	5	5	5	5	5
EX5		14	14	15	15	15	15	15	15
EX6		33	34	35	35	36	36	36	35
EX7		90	93	96	97	99	99	99	98
EX8		239	248	255	260	263	264	263	260
EX4	100	4	4	5	5	5	5	5	5
EX5		13	14	14	15	15	15	15	15
EX6		30	32	34	35	35	36	36	36
EX7		84	89	94	96	98	9	99	98
EX8		224	239	250	256	260	263	254	262
EX4	90	4	4	4	5	5	5	5	5
EX5		11	13	13	14	14	15	15	15
EX6		27	30	32	33	34	35	35	35
EX7		75	83	87	92	94	96	97	96
EX8		201	220	233	244	250	256	259	257
EX4	80	3	4	4	4	4	5	5	5
EX5		10	11	12	13	13	14	14	14
EX6		23	26	29	31	32	33	34	34
EX7		63	73	80	85	88	91	93	93
EX8		169	193	212	227	235	243	247	248
EX4	70	2	3	4	4	4	4	4	4
EX5		7	9	11	12	13	13	14	14
EX6		17	22	26	28	30	31	32	33
EX7		47	61	71	77	83	87	89	90
EX8		125	164	190	206	220	231	236	239
EX4	60	0	2	3	3	4	4	4	4
EX5		2	7	9	10	11	12	13	13
EX6		4	16	21	24	27	29	30	31
EX7		10	43	58	67	74	79	82	85
EX8		26	115	154	179	197	211	219	225
EX4	50	-	-	2	3	3	4	4	4
EX5		-	-	6	8	10	11	12	12
EX6		-	-	15	20	23	26	27	29
EX7		-	-	40	55	64	70	75	79
EX8		--	-	107	146	170	187	201	210

R-22 Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)											
		60	50	40	30	20	10	0	-10	-20	-30	-40	-50
EX4	140	5	5	5	5	5	5	5	5	5	5	5	5
EX5		15	15	15	16	16	16	16	15	15	15	15	15
EX6		35	36	37	37	38	38	37	37	37	36	36	35
EX7		97	100	101	102	103	104	103	102	102	100	98	96
EX8		260	266	270	273	275	276	272	271	266	262	262	257
EX4	130	5	5	5	5	5	5	5	5	5	5	5	5
EX5		14	15	15	15	16	16	16	15	15	15	15	15
EX6		34	35	36	37	37	37	37	37	37	37	36	36
EX7		94	97	100	101	102	103	102	102	101	101	99	98
EX8		251	258	266	270	273	274	273	273	270	268	264	260
EX4	120	4	5	5	5	5	5	5	5	5	5	5	5
EX5		14	14	15	15	15	15	16	15	15	15	15	15
EX6		33	34	35	36	37	37	37	37	37	37	37	36
EX7		90	94	97	99	100	102	103	102	102	101	100	99
EX8		240	250	259	264	268	272	274	272	271	270	268	263
EX4	110	4	4	5	5	5	5	5	5	5	5	5	5
EX5		12	13	14	14	15	15	15	15	15	15	15	15
EX6		30	32	34	34	35	36	36	36	37	36	36	36
EX7		82	88	92	95	98	99	100	100	101	99	99	98
EX8		219	234	246	253	260	263	266	266	268	265	263	261
EX4	100	4	4	4	5	5	5	5	5	5	5	5	5
EX5		11	12	13	14	14	15	15	15	15	15	15	15
EX6		27	29	31	33	34	35	35	36	36	36	35	35
EX7		74	81	87	91	93	96	97	98	98	98	98	97
EX8		197	216	231	242	249	256	259	263	263	262	260	258
EX4	90	3	4	4	4	4	5	5	5	5	5	5	5
EX5		9	11	12	13	13	14	14	14	14	14	14	14
EX6		22	26	29	31	32	33	34	34	35	35	35	34
EX7		61	71	78	84	87	91	93	94	95	95	95	94
EX8		163	190	209	224	233	242	249	251	255	254	253	251
EX4	80	2	3	3	4	4	4	4	4	5	5	5	5
EX5		7	9	10	11	12	13	13	14	14	14	14	14
EX6		16	21	25	27	29	30	32	33	33	33	33	33
EX7		44	58	68	75	81	84	87	89	90	91	91	91
EX8		117	156	182	201	215	224	233	239	240	243	243	241
EX4	70	-	2	3	3	4	4	4	4	4	4	4	4
EX5		-	6	8	10	11	12	12	13	13	13	13	13
EX6		-	15	20	24	26	28	30	31	31	32	32	32
EX7		-	40	55	65	72	77	81	84	85	87	88	87
EX8		-	108	147	173	191	205	217	224	227	231	234	233
EX4	60	-	-	2	3	3	3	4	4	4	4	4	4
EX5		-	-	6	8	9	10	11	12	12	12	12	12
EX6		-	-	13	19	22	25	27	28	29	29	30	30
EX7		-	-	36	51	61	68	74	76	79	81	82	82
EX8		-	-	97	137	163	182	196	204	211	216	219	219
EX4	50	-	-	-	2	2	3	3	3	4	4	4	4
EX5		-	-	-	5	7	9	10	11	11	11	12	12
EX6		-	-	-	11	17	21	23	25	26	27	28	28
EX7		-	-	-	31	47	57	65	69	73	74	76	77
EX8		-	-	-	83	126	152	172	185	194	199	203	206

R-134a Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)								
		60	50	40	30	20	10	0	-10	-20
EX4	140	4	4	4	4	4	4	4	3	3
EX5		11	11	11	11	11	11	11	11	10
EX6		27	27	27	27	27	26	26	25	25
EX7		74	75	75	75	73	73	71	69	68
EX8		197	200	200	199	196	194	190	185	181
EX4	130	4	4	4	4	4	4	4	4	3
EX5		11	11	11	11	11	11	11	11	10
EX6		26	26	27	27	27	27	26	26	25
EX7		72	73	74	74	73	73	72	70	69
EX8		191	194	198	197	196	194	192	187	183
EX4	120	3	4	4	4	4	4	4	4	4
EX5		10	11	11	11	11	11	11	11	11
EX6		25	26	26	27	27	27	26	26	25
EX7		68	71	73	73	73	73	72	71	70
EX8		182	188	194	196	195	195	193	189	186
EX4	110	3	3	3	4	4	4	4	4	3
EX5		10	10	11	11	11	11	11	11	11
EX6		23	24	25	26	26	26	26	26	25
EX7		63	65	69	70	71	71	71	70	69
EX8		168	176	183	187	189	191	189	188	184
EX4	100	3	3	3	3	3	3	3	3	3
EX5		9	9	10	10	10	11	11	11	10
EX6		20	22	24	24	25	25	25	25	25
EX7		56	60	65	67	69	69	69	69	68
EX8		149	161	173	178	183	184	185	184	182
EX4	90	2	3	3	3	3	3	3	3	3
EX5		7	8	9	9	10	10	10	10	10
EX6		16	19	21	22	23	24	24	24	24
EX7		44	52	58	61	64	66	66	66	66
EX8		118	139	153	163	170	175	177	176	177
EX4	80	1	2	2	3	3	3	3	3	3
EX5		4	6	7	8	9	9	9	10	10
EX6		10	15	18	20	21	22	23	23	23
EX7		27	40	49	54	58	60	62	62	63
EX8		72	107	130	144	154	160	165	166	167
EX4	70	-	1	2	2	3	3	3	3	3
EX5		-	3	6	7	8	8	9	9	9
EX6		-	8	13	16	18	20	21	21	22
EX7		-	22	37	45	50	54	57	59	59
EX8		-	58	98	120	134	145	152	156	158
EX4	60	-	-	1	2	2	2	3	3	3
EX5		-	-	2	5	6	7	8	8	8
EX6		-	-	5	12	15	17	18	19	20
EX7		-	-	14	32	40	46	50	52	53
EX8		-	-	38	84	107	122	133	139	143
EX4	50	-	-	-	-	1	2	2	2	2
EX5		-	-	-	-	4	5	6	7	7
EX6		-	-	-	-	9	13	15	16	17
EX7		-	-	-	-	26	36	42	45	48
EX8		-	-	-	-	69	95	111	120	128

R-404A/R-507 Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)											
		60	50	40	30	20	10	0	-10	-20	-30	-40	-50
EX4	130	3	3	3	3	3	3	3	3	3	2	2	2
EX5		9	9	9	9	9	9	8	8	8	8	7	7
EX6		21	21	22	21	21	21	20	20	19	18	17	16
EX7		58	59	59	58	58	57	56	54	52	50	48	45
EX8		153	156	157	156	154	152	148	143	139	133	127	120
EX4	120	3	3	3	3	3	3	3	3	3	3	3	3
EX5		9	9	9	10	9	9	9	9	9	9	8	8
EX6		22	22	23	23	23	23	22	22	21	20	20	19
EX7		59	61	62	63	62	62	61	60	58	56	54	52
EX8		158	162	165	168	166	165	163	169	165	149	144	138
EX4	110	3	3	3	3	3	3	3	3	3	3	3	3
EX5		9	9	10	10	10	10	10	9	9	9	9	8
EX6		21	22	23	23	23	23	23	23	22	22	21	20
EX7		58	60	63	63	64	64	63	62	61	59	58	56
EX8		153	161	167	168	170	171	168	165	163	158	154	148
EX4	100	3	3	3	3	3	3	3	3	3	3	3	3
EX5		8	9	9	10	10	10	10	10	10	10	9	9
EX6		20	21	23	23	24	24	24	24	23	23	22	22
EX7		54	59	62	64	65	66	66	66	64	63	62	59
EX8		145	156	165	171	174	175	176	173	171	168	164	158
EX4	90	2	3	3	3	3	3	3	3	3	3	3	3
EX5		7	8	9	9	10	10	10	10	10	10	10	9
EX6		17	20	21	23	23	24	24	24	24	23	23	23
EX7		48	54	58	62	64	65	66	66	66	64	63	62
EX8		127	144	156	164	170	173	176	176	175	171	169	165
EX4	80	2	2	3	3	3	3	3	3	3	3	3	3
EX5		6	7	8	9	9	10	10	10	10	10	10	9
EX6		13	17	19	21	22	23	23	24	24	23	23	23
EX7		37	46	53	58	61	63	64	65	65	64	63	62
EX8		98	124	142	154	162	168	171	173	172	171	169	166
EX4	70	1	2	2	3	3	3	3	3	3	3	3	3
EX5		2	5	7	8	9	9	9	10	10	10	10	10
EX6		6	13	17	19	21	22	23	23	24	23	23	23
EX7		16	35	46	52	57	60	62	64	64	64	64	63
EX8		42	94	122	138	152	160	166	170	172	170	170	168
EX4	60	-	1	2	2	2	3	3	3	3	3	3	3
EX5		-	2	5	7	8	8	9	9	9	9	9	9
EX6		-	4	12	16	18	20	21	22	22	22	23	22
EX7		-	11	33	43	50	55	58	60	61	62	62	61
EX8		-	30	89	116	133	146	155	159	163	164	165	162
EX4	50	-	-	-	2	2	2	3	3	3	3	3	3
EX5		-	-	-	5	6	7	8	9	9	9	9	9
EX6		-	-	-	11	15	18	19	20	21	21	22	22
EX7		-	-	-	31	42	48	53	56	58	59	60	59
EX8		-	-	-	82	111	128	142	149	154	157	160	158
EX4	40	-	-	-	-	1	2	2	2	3	3	3	3
EX5		-	-	-	-	4	6	7	8	8	8	8	9
EX6		-	-	-	-	10	14	17	18	19	20	20	21
EX7		-	-	-	-	27	38	46	50	53	55	56	56
EX8		-	-	-	-	72	102	122	133	142	146	149	150

R-23 Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)									
		-50	-60	-70	-80	-90	-100	-110	-120	-130	-140
EX4	0	5	5	5	5	5	5	5	5	5	5
EX5		14	15	15	16	16	16	16	16	16	16
EX6		33	35	36	38	38	39	39	39	39	38
EX4	-10	4	4	5	5	5	5	5	5	5	5
EX5		12	13	14	15	15	15	16	15	16	15
EX6		29	32	34	35	36	37	37	37	37	37
EX4	-20	3	4	4	4	5	5	5	5	5	5
EX5		10	12	13	14	14	15	15	15	15	15
EX6		24	28	31	33	34	35	36	36	36	36
EX4	-30	2	3	4	4	4	4	5	5	5	5
EX5		7	9	11	12	13	13	14	14	14	14
EX6		17	23	26	29	31	32	33	33	33	34
EX4	-40	-	2	3	3	4	4	4	4	4	4
EX5		-	6	9	10	11	12	12	13	13	13
EX6		-	16	21	25	27	29	30	31	31	31
EX4	-50	-	-	2	3	3	3	4	4	4	4
EX5		-	-	5	8	9	10	11	11	12	12
EX6		-	-	13	19	23	25	26	27	28	28

R-124 Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)				
		80	70	60	50	40
EX4	210	2	2	2	2	2
EX5		6	6	6	5	5
EX6		15	14	13	13	12
EX4	200	2	2	2	2	2
EX5		7	6	6	6	6
EX6		16	15	15	14	14
EX4	190	2	2	2	2	2
EX5		7	7	7	7	6
EX6		17	17	17	16	15
EX4	180	3	2	2	2	2
EX5		8	8	7	7	7
EX6		18	18	18	17	17
EX4	170	3	3	2	2	2
EX5		8	8	8	7	7
EX6		18	18	18	18	17
EX4	160	3	3	3	3	3
EX5		8	8	8	8	8
EX6		18	19	19	18	18
EX4	150	2	2	3	3	3
EX5		7	8	8	8	8
EX6		18	18	18	18	18

R-744 Extended Capacities (Tons) - EX4-8 Series, as expansion and liquid injection valves

The following tables provide the capacity of valves at different conditions considering 20 psi pressure drop through liquid line:

Valve Type	Condensing Temperature (°F)	Evaporating Temperature (°F)						
		10	0	-10	-20	-30	-40	-50
EX4	30	6	7	8	9	10	10	10
EX5		18	22	25	27	29	30	31
EX6		43	53	60	65	70	73	75
EX7		117	145	165	179	191	200	206
EX8		312	388	439	479	510	534	549
EX4	20	-	6	7	8	9	9	10
EX5		-	18	22	25	27	29	30
EX6		-	43	53	60	65	69	72
EX7		-	119	145	164	178	189	197
EX8		-	319	387	437	476	506	526
EX4	10	-	-	6	7	8	9	9
EX5		-	-	18	22	25	27	29
EX6		-	-	43	53	60	65	68
EX7		-	-	119	145	163	178	187
EX8		-	-	318	386	436	474	500
EX4	0	-	-	-	6	7	8	9
EX5		-	-	-	17	21	24	26
EX6		-	-	-	41	51	58	63
EX7		-	-	-	114	140	159	172
EX8		-	-	-	303	373	423	458
EX4	-10	-	-	-	-	5	7	8
EX5		-	-	-	-	17	20	23
EX6		-	-	-	-	40	49	55
EX7		-	-	-	-	109	134	152
EX8		-	-	-	-	290	359	405
EX4	-20	-	-	-	-	3	5	6
EX5		-	-	-	-	19	16	20
EX6		-	-	-	-	22	38	47
EX7		-	-	-	-	61	104	129
EX8		-	-	-	-	163	278	344
EX4	-30	-	-	-	-	-	3	5
EX5		-	-	-	-	-	8	15
EX6		-	-	-	-	-	19	35
EX7		-	-	-	-	-	53	96
EX8		-	-	-	-	-	142	257

EX4-8 Nominal capacities (Tons) - as hot gas bypass regulator

Valve Type	R-22/R-407C	R-134a	R-404A/R-507
EX4	1.4	1.0	1.3
EX5	4.5	3.1	4.3
EX6	10.5	7.3	10.1
EX7	37.3	26.0	35.7
EX8	113.0	79.0	108.5

The nominal capacity is based on the following conditions:

Refrigerant	Evaporating Temperature	Condensing Temperature	Subcooling
R-22, R-134a, R-404A, R-507	+40°F	+100°F	2°F
R-407C	+40°F bubble point	+100°F dew point	2°F

Remarks: Note 1: Bi-flow versions are not released for hot gas bypass applications.
 Note 2: EX4, EX5, EX6, EX7 and EX8 must be installed with motor downward in hot gas line applications.
 This insures the valve life expectancy.

Extended Capacities (Tons) - EX4-8 Series

Valve Type	Liquid / Condensing Temperature°F	R-22 / R-407C	R-134a	R-404A / R-507
EX4	140 bubble point for all refrigerants (147 dew point for R-407C)	2	1	2
EX5		7	5	6
EX6		15	11	13
EX7		54	38	46
EX8		165	117	139
EX4	130 bubble point for all refrigerants (138 dew point for R-407C)	2	1	2
EX5		6	4	5
EX6		14	10	12
EX7		49	35	44
EX8		150	106	132
EX4	120 bubble point for all refrigerants (128 dew point for R-407C)	2	1	2
EX5		6	4	5
EX6		13	9	12
EX7		45	32	41
EX8		138	97	126
EX4	110 bubble point for all refrigerants (119 dew point for R-407C)	2	1	1
EX5		5	3	5
EX6		12	8	11
EX7		41	29	38
EX8		124	87	117

EX6-8 Nominal capacities (Tons) - as suction pressure regulator (evaporator or crankcase)

Valve Type	R-407C	R-22	R-134a	R-404A
EX6	1.1	1.1	0.9	1.0
EX7	3.8	4.0	3.0	3.5
EX8	11.5	12.2	9.2	10.5

The nominal capacity is based on the following conditions:

Refrigerant	Evaporating Temperature	Condensing Temperature	Subcooling	Pressure Drop
R-22, R-134a, R-404A	+40°F	+100°F	2°F	2 psid
R-407C	+40°F bubble point	+100°F dew point	2°F	2 psid

Remarks: Bi-flow versions are not released for use below -40°F.
EX6, EX7 and EX8 must be installed with motor downward in suction line applications.
This insures the valve life expectancy.

Multiply above nominal capacities by following factors to obtain capacities at different pressure drops:

ΔP, psid	1.5	2.0	3.0	4.5
Correction factor	0.82	1.00	1.15	1.41

Example: EX6 provides 1 ton at 2.0 psid pressure drop with R-404A: 4 psi pressure drop.

R-22 Extended Capacities (Tons) - EX6-8 Series, suction pressure regulator duty

Valve Type	Condensing Temperature °F	Evaporating Temperature °F									
		50	40	30	20	10	0	-10	-20	-30	-40
EX6	140	1	1	1	1	1	1	1	0	0	0
EX7		4	3	3	3	2	2	2	1	1	
EX8		11	10	9	8	7	6	5	4	3	
EX6	130	1	1	1	1	1	1	1	0	0	0
EX7		4	3	3	3	3	2	2	2	1	1
EX8		12	11	10	8	8	7	6	5	4	4
EX6	120	1	1	1	1	1	1	1	0	0	0
EX7		4	4	3	3	3	2	2	2	1	1
EX8		12	11	10	9	8	7	6	5	4	4
EX6	110	1	1	1	1	1	1	1	1	0	0
EX7		4	4	3	3	3	2	2	2	2	1
EX8		13	12	11	9	8	7	6	6	5	4
EX6	100	1	1	1	1	1	1	1	1	0	0
EX7		4	4	4	3	3	3	2	2	2	1
EX8		14	12	11	10	9	8	7	6	5	4

R-407C Extended Capacities (Tons) - EX6-8 Series, suction pressure regulator duty

Valve Type	Condensing Temperature Bubble Point °F	Evaporating Temperature °F				
		50	40	30	20	10
EX6	140	1	1	1	1	1
EX7		3	3	3	2	2
EX8		10	9	8	7	6
EX6	130	1	1	1	1	1
EX7		4	3	3	2	2
EX8		11	9	8	7	7
EX6	120	1	1	1	1	1
EX7		4	3	3	3	2
EX8		12	10	9	8	7
EX6	110	1	1	1	1	1
EX7		4	4	3	3	2
EX8		12	11	10	8	8
EX6	100	1	1	1	1	1
EX7		4	4	3	3	3
EX8		13	11	10	9	8

R-134a Extended Capacities (Tons) - EX6-8 Series, suction pressure regulator duty

Valve Type	Condensing Temperature °F	Evaporating Temperature °F				
		50	40	30	20	10
EX6	140	1	1	1	1	0
EX7		3	2	2	2	2
EX8		8	7	6	5	5
EX6	130	1	1	1	1	0
EX7		3	3	2	2	2
EX8		9	8	7	6	5
EX6	120	1	1	1	1	1
EX7		3	3	2	2	2
EX8		9	8	7	6	5
EX6	110	1	1	1	1	1
EX7		3	3	3	2	2
EX8		10	9	8	7	6
EX6	100	1	1	1	1	1
EX7		3	3	3	2	2
EX8		11	9	8	7	6

R-404A/R-507 Extended Capacities (Tons) - EX6-8 Series, suction pressure regulator duty

Valve Type	Condensing Temperature °F	Evaporating Temperature °F									
		50	40	30	20	10	0	-10	-20	-30	-40
EX6	140	1	1	1	0	0	0	0	0	0	0
EX7		3	2	2	2	2	1	1	1	1	1
EX8		8	7	6	5	5	4	3	3	2	2
EX6	130	1	1	1	1	1	0	0	0	0	0
EX7		3	3	2	2	2	2	1	1	1	1
EX8		9	8	7	6	5	5	4	3	3	2
EX6	120	1	1	1	1	1	0	0	0	0	0
EX7		3	3	3	2	2	2	1	1	1	1
EX8		10	9	8	7	6	5	4	4	3	3
EX6	110	1	1	1	1	1	1	0	0	0	0
EX7		4	3	3	2	2	2	2	1	1	1
EX8		11	10	9	8	7	6	5	4	4	3
EX6	100	1	1	1	1	1	1	1	0	0	0
EX7		4	3	3	3	2	2	2	2	1	1
EX8		12	11	9	8	7	6	5	5	4	3

EX5-8 Nominal capacities (Tons) - as condensing pressure regulator and liquid duty

Valve Type	R-407C	R-22	R-134a	R-404A
EX5	5	6	5	4
EX6	12	13	12	9
EX7	44	46	43	31
EX8	133	140	131	93

Refrigerant	Evaporating Temperature	Condensing Temperature	Subcooling	Pressure Drop
R-22, R-134a, R-404A	+40°F	+100°F	2°F	5 psid
R-407C	+40°F dew point	+100°F bubble	2°F	5 psid

Multiply above nominal capacities by following factors to obtain capacities at different pressure drops.

ΔP, psid	2.0	3.0	5.0
Correction factor	0.65	0.76	1.00

R-22 Extended Capacities (Tons) - EX5-8 Series, condensing pressure regulator and liquid duty

Valve Type	Condensing Temperature °F	Evaporating Temperature °F									
		50	40	30	20	10	0	-10	-20	-30	-40
EX5	140	4	4	4	4	4	4	4	4	4	4
EX6		10	10	10	10	10	9	9	9	9	9
EX7		36	36	35	35	34	33	33	32	31	31
EX8		111	109	107	105	104	102	100	98	96	94
EX5	130	5	5	5	4	4	4	4	4	4	4
EX6		11	11	11	10	10	10	10	10	10	9
EX7		39	38	38	37	37	36	35	35	34	33
EX8		118	116	115	113	111	109	107	105	103	101
EX5	120	5	5	5	5	5	5	5	5	4	4
EX6		12	12	11	11	11	11	11	10	10	10
EX7		42	41	41	40	39	39	38	37	37	36
EX8		126	125	123	121	119	117	115	113	111	109
EX5	110	5	5	5	5	5	5	5	5	5	5
EX6		12	12	12	12	12	12	11	11	11	11
EX7		44	43	43	42	42	41	40	40	39	38
EX8		133	132	130	128	126	124	122	120	118	116
EX5	100	6	6	6	5	5	5	5	5	5	5
EX6		13	13	13	13	12	12	12	12	12	11
EX7		47	46	46	45	44	44	43	42	41	41
EX8		142	140	138	136	134	132	130	128	126	124

**R-134a Extended Capacities (Tons) - EX5-8 Series,
condensing pressure regulator and liquid duty**

Valve Type	Condensing Temperature °F	Evaporating Temperature °F			
		50	40	30	20
EX5	140	4	4	4	4
EX6		9	9	9	8
EX7		33	32	31	30
EX8		100	98	95	92
EX5	130	4	4	4	4
EX6		10	10	9	9
EX7		36	35	34	33
EX8		108	105	102	99
EX5	120	5	5	4	4
EX6		11	11	10	10
EX7		39	38	37	36
EX8		117	115	112	108
EX5	110	5	5	5	5
EX6		12	11	11	11
EX7		41	40	39	38
EX8		125	122	119	116
EX5	100	5	5	5	5
EX6		12	12	12	12
EX7		44	43	42	41
EX8		134	131	128	125

**R-1404A/R-507 Extended Capacities (Tons) - EX5-8 Series,
condensing pressure regulator and liquid duty**

Valve Type	Condensing Temperature °F	Evaporating Temperature °F									
		50	40	30	20	10	0	-10	-20	-30	-40
EX5	140	2	2	2	2	2	2	2	2	2	2
EX6		5	5	5	5	5	4	4	4	4	4
EX7		19	19	18	17	17	16	15	14	13	13
EX8		59	57	55	52	50	48	45	43	41	38
EX5	130	3	3	3	2	2	2	2	2	2	2
EX6		6	6	6	6	5	5	5	5	5	4
EX7		22	22	21	20	19	19	18	17	16	15
EX8		68	66	63	61	59	56	54	52	49	47
EX5	120	3	3	3	3	3	3	3	2	2	2
EX6		7	7	7	7	6	6	6	6	5	5
EX7		26	25	24	23	23	22	21	20	19	19
EX8		78	76	73	71	69	66	64	61	59	56
EX5	110	3	3	3	3	3	3	3	3	3	3
EX6		8	8	8	7	7	7	7	6	6	6
EX7		28	28	27	26	25	24	23	23	22	21
EX8		86	84	81	79	77	74	71	69	66	64
EX5	100	4	4	4	4	3	3	3	3	3	3
EX6		9	9	8	8	8	8	7	7	7	7
EX7		31	31	30	29	28	27	26	26	25	24
EX8		95	93	91	88	86	83	80	78	75	73

R-407C Extended Capacities (Tons) - EX5-8 Series, condensing pressure regulator and liquid duty

Valve Type	Condensing Temperature Dew Point °F	Evaporating Temperature °F			
		50	40	30	20
EX5	140	4	4	4	4
EX6		9	9	9	8
EX7		32	32	31	30
EX8		98	96	94	91
EX5	130	4	4	4	4
EX6		10	10	9	9
EX7		35	34	34	33
EX8		106	105	102	100
EX5	120	5	5	4	4
EX6		11	11	10	10
EX7		38	38	37	36
EX8		117	115	112	110
EX5	110	5	5	5	5
EX6		12	11	11	11
EX7		41	40	40	39
EX8		125	123	120	118
EX5	100	5	5	5	5
EX6		12	12	12	12
EX7		44	44	43	42
EX8		135	133	130	128

EX6-8 Nominal capacities (Tons) - for hot gas flow such as heat reclaim application

Valve Type	R-22 / R-407C	R-404A / R-507
EX6	3.1	2.8
EX7	11.1	10.2
EX8	33.8	30.7

The nominal capacity is based on the following conditions:

Refrigerant	Evaporating temperature	Condensing temperature	Subcooling	Pressure Drop	Isentropic Efficiency
R-22, R-404A, R-507	+40°F	+100°F	2°F	2 psid	80%
R-407C	+40°F bubble point	+100°F dew point	2°F	2 psid	80%

Remarks: Bi-flow versions are not released for hot gas flow applications.
 EX6, EX7 and EX8 must be installed with motor downward in suction line applications.
 This insures the valve life expectancy.

**R-22/R-407C Extended Capacities (Tons) - EX6-8 Series,
hot gas flow such as heat reclaim application**

Valve Type	Condensing Temperature °F	Pressure Drop psi	Evaporating Temperature °F											
			60	50	40	30	20	10	0	-10	-20	-30	-40	-50
EX6	140	1.5	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1
EX7			5.6	5.5	5.3	5.2	5.0	4.9	4.7	4.6	4.4	4.3	4.1	4.0
EX8			17.0	16.6	16.2	15.7	15.3	14.8	14.4	13.9	13.4	13.0	12.5	12.0
EX6		7	3.4	3.3	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4
EX7			12.2	11.9	11.6	11.3	10.9	10.6	10.3	10.0	9.6	9.3	9.0	8.6
EX8			37.0	36.1	35.2	34.2	33.3	32.3	31.3	30.3	29.3	28.2	27.2	26.2
EX6		14	4.8	4.7	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.7	3.5	3.4
EX7			17.3	16.9	16.4	16.0	15.6	15.1	14.6	14.2	13.7	13.2	12.7	12.3
EX8			52.5	51.3	49.9	48.6	47.3	45.9	44.5	43.0	41.6	40.2	38.7	37.3
EX6	120	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1
EX7			5.5	5.3	5.2	5.1	4.9	4.8	4.7	4.5	4.4	4.3	4.1	4.0
EX8			16.6	16.2	15.8	15.4	15.0	14.6	14.2	13.8	13.4	12.9	12.5	12.1
EX6		7	3.3	3.3	3.2	3.1	3.0	2.9	2.9	2.8	2.7	2.6	2.5	2.4
EX7			11.8	11.6	11.3	11.0	10.7	10.4	10.1	9.9	9.6	9.3	8.9	8.6
EX8			35.9	35.1	34.3	33.5	32.6	31.7	30.8	29.9	29.0	28.1	27.2	26.2
EX6		14	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.7	3.6	3.5	3.4
EX7			16.8	16.4	16.0	15.6	15.2	14.8	14.4	14.0	13.5	13.1	12.7	12.3
EX8			50.9	49.7	48.6	47.4	46.2	44.9	43.7	42.4	41.1	39.8	38.5	37.2
EX6	100	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1
EX7			5.2	5.1	5.0	4.9	4.7	4.6	4.5	4.4	4.3	4.1	4.0	3.9
EX8			15.8	15.4	15.1	14.7	14.4	14.0	13.7	13.3	12.9	12.5	12.2	11.8
EX6		7	3.2	3.1	3.0	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.4	2.4
EX7			11.2	11.0	10.7	10.5	10.2	10.0	9.7	9.5	9.2	8.9	8.7	8.4
EX8			34.1	33.4	32.6	31.9	31.1	30.4	29.6	28.8	28.0	27.1	26.3	25.5
EX6		14	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3
EX7			15.8	15.5	15.2	14.8	14.5	14.1	13.7	13.4	13.0	12.6	12.2	11.8
EX8			48.0	47.0	46.0	45.0	43.9	42.8	41.7	40.6	39.5	38.3	37.2	36.0
EX6	80	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0
EX7			4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7
EX8			14.7	14.4	14.1	13.8	13.5	13.2	12.8	12.5	12.2	11.9	11.5	11.2
EX6		7	2.9	2.9	2.8	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.2
EX7			10.4	10.2	10.0	9.8	9.6	9.3	9.1	8.9	8.6	8.4	8.2	7.9
EX8			31.6	31.0	30.4	29.7	29.0	28.4	27.7	27.0	26.3	25.6	24.8	24.1
EX6		14	4.0	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.4	3.3	3.2	3.1
EX7			14.6	14.3	14.0	13.7	13.4	13.1	12.8	12.5	12.1	11.8	11.5	11.1
EX8			44.3	43.4	42.6	41.7	40.7	39.8	38.8	37.9	36.9	35.9	34.8	33.8

**R-404A/R-507 Extended Capacities (Tons) - EX6-8 Series,
hot gas flow such a heat reclaim applications**

Valve Type	Condensing Temperature °F	Pressure Drop psi	Evaporating Temperature °F											
			60	50	40	30	20	10	0	-10	-20	-30	-40	-50
EX6	140	1.5	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6
EX7			4.2	4.1	3.9	3.7	3.5	3.3	3.2	3.0	2.8	2.6	2.4	2.2
EX8			12.8	12.3	11.8	11.3	10.7	10.1	9.6	9.0	8.4	7.8	7.2	6.6
EX6		7	2.6	2.5	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.4	1.3
EX7			9.2	8.8	8.4	8.1	7.7	7.3	6.8	6.4	6.0	5.6	5.2	4.7
EX8			27.8	26.7	25.6	24.5	23.3	22.0	20.8	19.5	18.2	16.9	15.6	14.4
EX6		14	3.6	3.4	3.3	3.2	3.0	2.8	2.7	2.5	2.4	2.2	2.0	1.9
EX7			13.0	12.5	12.0	11.4	10.9	10.3	9.7	9.1	8.5	7.9	7.3	6.7
EX8			39.4	37.9	36.3	34.7	33.0	31.3	29.5	27.7	25.9	24.1	22.2	20.4
EX6	120	1.5	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8	0.8
EX7			4.6	4.5	4.3	4.2	4.0	3.8	3.7	3.5	3.3	3.2	3.0	2.8
EX8			14.0	13.6	13.1	12.7	12.2	11.7	11.2	10.7	10.1	9.6	9.1	8.5
EX6		7	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7
EX7			10.0	9.7	9.4	9.0	8.7	8.3	8.0	7.6	7.2	6.9	6.5	6.1
EX8			30.4	29.5	28.5	27.5	26.4	25.4	24.3	23.1	22.0	20.9	19.7	18.6
EX6		14	3.9	3.8	3.7	3.5	3.4	3.3	3.1	3.0	2.8	2.7	2.5	2.4
EX7			14.1	13.7	13.3	12.8	12.3	11.8	11.3	10.8	10.3	9.7	9.2	8.7
EX8			43.0	41.7	40.3	38.9	37.4	35.9	34.4	32.8	31.2	29.6	28.0	26.3
EX6	100	1.5	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	0.9	0.9
EX7			4.7	4.6	4.4	4.3	4.2	4.0	3.9	3.7	3.6	3.4	3.3	3.1
EX8			14.2	13.9	13.5	13.1	12.7	12.2	11.8	11.4	10.9	10.4	10.0	9.5
EX6		7	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.3	2.2	2.1	2.0	1.9
EX7			10.1	9.9	9.6	9.3	9.0	8.7	8.4	8.1	7.8	7.4	7.1	6.8
EX8			30.8	30.0	29.2	28.3	27.4	26.5	25.5	24.6	23.6	22.6	21.6	20.6
EX6		14	4.0	3.9	3.7	3.6	3.5	3.4	3.3	3.2	3.0	2.9	2.8	2.6
EX7			14.3	13.9	13.5	13.1	12.7	12.3	11.9	11.4	11.0	10.5	10.0	9.6
EX8			43.5	42.3	41.2	39.9	38.7	37.4	36.1	34.7	33.3	31.9	30.5	29.1
EX6	80	1.5	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	0.9	0.9
EX7			4.6	4.5	4.4	4.2	4.1	4.0	3.9	3.8	3.6	3.5	3.4	3.2
EX8			13.9	13.6	13.3	12.9	12.6	12.2	11.8	11.4	11.0	10.6	10.2	9.8
EX6		7	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.2	2.1	2.0	2.0
EX7			9.9	9.6	9.4	9.2	8.9	8.7	8.4	8.1	7.8	7.6	7.3	7.0
EX8			30.0	29.3	28.6	27.8	27.1	26.3	25.5	24.7	23.8	22.9	22.1	21.2
EX6		14	3.8	3.7	3.7	3.6	3.5	3.4	3.3	3.2	3.0	2.9	2.8	2.7
EX7			13.9	13.5	13.2	12.9	12.5	12.2	11.8	11.4	11.0	10.6	10.2	9.8
EX8			42.1	41.1	40.1	39.1	38.0	36.9	35.8	34.7	33.5	32.3	31.1	29.8

**R-404A/R-507 Extended Capacities (kWatts) EX4-8 Series,
as expansion and liquid injection valves**

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		+15	10+	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+60	9	9	9	9	9	9	9	8	8	8	7	7	6
EX5		28	28	28	28	28	27	26	25	24	23	22	21	20
EX6		68	68	68	67	66	65	63	61	58	56	33	50	47
EX7		186	187	186	184	181	177	172	166	160	153	145	137	129
EX8		495	498	496	491	482	471	458	443	425	407	387	366	344
EX4	+55	10	10	10	10	10	10	10	9	9	9	8	8	8
EX5		30	31	31	31	30	30	29	29	28	27	26	25	23
EX6		72	73	74	74	73	72	70	69	67	64	62	59	56
EX7		198	201	202	202	200	197	193	188	182	176	169	162	154
EX8		527	535	538	537	533	525	514	501	486	470	451	432	411
EX4	+50	10	10	11	11	11	11	10	10	10	10	9	9	9
EX5		31	32	32	32	32	32	32	31	30	30	29	28	27
EX6		74	76	77	78	78	77	76	75	73	71	69	66	64
EX7		203	208	211	213	219	211	208	204	200	194	188	181	174
EX8		541	555	564	567	567	562	555	545	532	518	501	484	465
EX4	+45	10	10	11	11	11	11	11	11	11	10	10	10	9
EX5		31	32	33	33	33	33	33	33	32	32	31	30	29
EX6		74	77	79	80	80	80	80	79	78	76	74	72	69
EX7		201	210	215	219	220	220	219	216	212	208	202	196	190
EX8		537	559	574	583	587	586	582	575	566	553	539	524	506
EX4	+40	10	10	11	11	11	11	11	11	11	11	11	10	10
EX5		29	31	33	33	34	34	34	34	34	33	32	32	31
EX6		71	75	78	80	81	82	82	81	81	79	78	76	74
EX7		193	205	214	219	223	225	225	223	221	217	213	208	202
EX8		515	547	570	585	594	598	598	595	588	578	567	553	538
EX4	+35	9	10	10	11	11	11	11	11	11	11	11	11	11
EX5		27	30	31	33	34	34	34	34	34	34	33	33	32
EX6		65	71	75	79	81	82	83	83	82	81	80	79	77
EX7		178	195	207	215	221	225	226	226	225	223	219	215	210
EX8		474	519	551	574	590	599	603	604	600	594	585	573	560
EX4	+30	8	9	10	10	11	11	11	11	11	11	11	11	11
EX5		23	27	30	31	33	34	34	34	34	34	34	33	33
EX6		56	65	71	75	78	81	82	83	83	82	81	80	79
EX7		153	177	194	206	215	221	224	226	226	225	223	219	215
EX8		409	472	517	550	573	588	598	603	603	600	593	584	573

**R-404A/R-507 Extended Capacities (kWatts) EX4-8 Series,
as expansion and liquid injection valves**

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		+15	10+	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+25	6	8	9	10	10	11	11	11	11	11	11	11	11
EX5		17	23	27	29	31	32	33	34	34	34	34	34	33
EX6		42	55	64	70	74	78	80	81	82	82	81	80	79
EX7		114	150	174	191	204	213	218	222	224	224	223	220	217
EX8		305	400	465	510	543	566	582	592	596	597	593	587	579
EX4	+20	1	5	7	8	9	10	10	11	11	11	11	11	11
EX5		3	16	22	26	28	30	32	33	33	33	33	33	33
EX6		8	40	53	62	68	73	76	78	80	80	80	80	79
EX7		21	108	146	170	187	200	208	214	218	219	220	218	216
EX8		56	289	388	453	499	532	555	571	580	585	585	582	576
EX4	+15			5	7	8	9	10	10	10	11	11	11	11
EX5				15	21	25	28	29	31	32	32	32	33	32
EX6				37	51	60	66	71	74	76	77	78	78	78
EX7				101	139	164	181	194	202	208	212	213	214	213
EX8				268	371	437	484	516	540	555	564	569	569	566
EX4	+10				5	7	8	9	9	10	10	10	10	10
EX5					14	20	24	26	28	30	31	31	31	31
EX6					33	48	57	64	68	71	73	75	75	75
EX7					91	131	156	174	186	195	201	204	206	206
EX8					242	350	417	464	496	519	535	544	548	549

R-22 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+20		6	9	10	12	13	13	14	14	15	15	15	15
EX5			18	26	32	36	39	41	42	44	45	45	45	46
EX6			43	63	76	85	93	98	102	105	107	108	109	109
EX7			117	173	209	235	254	269	280	288	294	298	300	300
EX8			312	461	557	627	678	718	747	768	784	793	799	801
EX4	+15			5	8	10	11	12	13	13	14	14	14	14
EX5				15	24	30	34	37	39	40	42	42	43	43
EX6				37	58	71	81	88	93	97	100	102	103	104
EX7				101	160	196	222	241	256	266	274	279	283	285
EX8				269	426	524	593	644	682	710	731	745	754	759
EX4	+10				4	7	9	10	11	12	13	13	13	13
EX5					12	22	28	31	34	36	38	39	40	40
EX6					29	53	66	76	82	87	91	94	96	97
EX7					80	145	182	208	227	241	251	258	263	267
EX8					214	386	485	554	604	642	669	689	702	711

R-134a Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Extended capacity (kW) Evaporating Temperature (°C)												
		+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+60	13	13	13	13	13	13	12	12	12	12	11	11	11
EX5		39	39	39	39	39	39	38	37	36	35	34	33	32
EX6		93	94	94	94	93	92	90	89	87	84	82	79	77
EX7		255	257	258	257	255	252	248	243	237	231	224	217	210
EX8		679	686	688	686	680	672	661	648	633	616	598	580	560
EX4	+55	12	13	13	13	13	13	13	12	12	12	12	11	11
EX5		38	39	39	39	39	39	38	38	37	36	35	34	33
EX6		91	92	93	94	93	93	92	90	88	86	84	82	80
EX7		249	253	256	257	256	254	251	247	242	237	231	225	218
EX8		663	676	683	685	683	678	670	659	647	632	616	599	582
EX4	+50	12	12	13	13	13	13	13	12	12	12	12	12	11
EX5		36	38	38	39	39	39	38	38	37	37	36	35	34
EX6		87	90	91	92	93	92	92	91	89	88	86	84	81
EX7		238	246	250	253	254	253	251	249	245	240	235	229	223
EX8		636	655	668	675	677	676	671	663	653	640	627	611	595
EX4	+45	11	12	12	12	12	13	12	12	12	12	12	12	11
EX5		34	36	37	38	38	38	38	38	37	37	36	35	35
EX6		81	85	88	90	91	91	91	90	89	88	86	84	82
EX7		223	234	241	246	248	249	249	247	244	240	236	231	226
EX8		595	623	642	655	662	664	663	658	651	641	629	616	602
EX4	+40	10	11	11	12	12	12	12	12	12	12	12	12	11
EX5		31	33	35	36	37	37	37	37	37	36	36	35	34
EX6		74	79	83	85	87	88	89	88	88	87	85	84	82
EX7		202	217	227	234	239	242	243	242	240	238	234	230	225
EX8		539	578	606	625	638	645	647	646	641	634	625	614	601
EX4	+35	9	10	10	11	11	12	12	12	12	12	12	11	11
EX5		27	30	32	34	35	35	36	36	36	36	35	35	34
EX6		63	71	76	80	83	84	85	86	85	85	84	83	81
EX7		173	194	209	219	226	231	234	235	234	232	230	227	223
EX8		463	517	556	584	604	616	623	625	624	620	613	604	594
EX4	+30	7	8	9	10	11	11	11	11	11	11	11	11	11
EX5		20	25	28	30	32	33	34	34	34	34	34	34	33
EX6		49	60	67	73	76	79	81	82	82	82	81	80	79
EX7		133	164	184	199	210	217	221	224	225	224	223	221	217
EX8		356	436	492	534	559	578	590	597	600	599	595	588	580
EX4	+25	3	6	8	9	9	10	10	11	11	11	11	11	11
EX5		10	18	23	26	29	30	31	32	33	33	33	32	32
EX6		23	121	152	137	188	198	206	210	213	214	213	212	210
EX7		63	121	152	173	188	198	206	210	213	214	213	212	210
EX8		169	322	406	462	501	529	548	560	567	570	569	565	559
EX4	+20		2	5	7	8	9	9	10	10	10	10	10	10
EX5			5	16	21	25	27	28	29	30	31	31	31	31
EX6			12	38	51	58	64	68	70	72	73	73	73	73
EX7			34	105	139	160	175	186	193	197	200	201	201	199
EX8			90	281	370	427	467	495	514	526	533	536	535	532
EX4	+15				4	6	7	8	9	9	9	9	9	9
EX5					13	19	22	25	26	27	28	28	29	29
EX6					32	45	53	59	62	65	67	68	68	68
EX7					87	123	145	161	171	178	183	186	187	187
EX8					231	328	388	428	456	475	488	495	498	498
EX4	+10					3	5	6	7	8	8	9	9	9
EX5						9	16	20	22	24	25	26	26	26
EX6						22	38	47	52	56	59	61	62	62
EX7						61	104	128	144	155	162	167	170	171
EX8						162	277	341	384	413	432	445	452	455

R-407C Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C		Evaporating Temperature (°C)												
	Dew Point	Bubble Point	+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+64	+60	16	17	17	17	17	17	16	16	16	15	15	15	14
EX5			50	51	51	51	51	50	50	49	48	47	46	45	43
EX6			119	120	121	121	121	119	118	116	114	112	109	106	103
EX7			328	332	333	333	332	329	325	320	314	308	301	293	285
EX8			874	884	889	889	885	877	867	854	838	821	802	781	759
EX4	+59	+55	17	17	17	17	17	17	17	16	16	16	15	15	
EX5			50	51	52	52	52	52	51	51	50	49	48	47	46
EX6			120	122	123	124	124	123	122	121	119	117	114	112	109
EX7			330	336	339	341	341	339	336	332	328	322	315	308	301
EX8			879	895	904	909	908	904	897	886	873	858	840	821	801
EX4	+54	+50	16	17	17	17	17	17	17	17	17	16	16	16	
EX5			50	51	52	52	53	53	52	52	51	51	50	49	48
EX6			118	121	123	125	125	125	125	123	122	120	118	116	113
EX7			326	334	340	343	345	345	343	340	336	331	325	319	312
EX8			869	891	906	915	919	919	914	907	896	883	868	851	832
EX4	+50	+45	16	16	17	17	17	17	17	17	17	17	16	16	
EX5			48	50	51	52	53	53	53	52	52	51	51	50	49
EX6			115	119	122	124	125	125	125	125	124	122	120	118	116
EX7			316	327	336	341	344	346	345	344	341	337	332	326	320
EX8			843	873	894	909	918	921	920	916	908	897	884	869	853
EX4	+45	+40	15	16	16	17	17	17	17	17	17	17	17	16	
EX5			46	48	50	51	52	52	52	52	52	51	50	49	
EX6			109	114	118	121	123	124	125	125	124	123	121	120	118
EX7			300	315	326	334	339	342	344	343	341	338	334	330	324
EX8			801	840	870	891	905	913	916	915	910	902	891	878	864
EX4	+40	+35	14	15	16	16	17	17	17	17	17	17	17	16	
EX5			42	45	48	49	50	51	52	52	52	51	51	50	50
EX6			101	108	113	117	120	122	123	123	123	122	121	120	118
EX7			278	297	312	323	330	335	338	339	338	337	334	330	325
EX8			742	793	832	860	880	894	901	904	902	897	889	879	866

R-407C Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature°C		Evaporating Temperature (°C)												
	Dew Point	Bubble Point	+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+35	+30	12	14	15	15	16	16	16	17	17	17	17	16	16
EX5			38	42	45	47	48	49	50	51	51	51	50	50	49
EX6			90	99	106	111	115	118	119	120	121	120	120	119	117
EX7			248	273	292	306	317	324	329	331	332	331	329	326	323
EX8			661	729	779	817	844	864	876	883	885	884	878	870	860
EX4	+30	+25	10	12	13	14	15	15	16	16	16	16	16	16	16
EX5			32	37	41	44	46	47	48	49	49	49	49	49	48
EX6			75	88	97	103	108	112	115	116	117	117	117	116	115
EX7			207	241	266	285	299	309	316	320	322	323	322	320	317
EX8			552	644	710	760	796	823	841	853	860	861	859	854	846
EX4	+26	+20	7	10	12	13	14	14	15	15	16	16	16	16	15
EX5			23	30	36	39	42	44	46	47	47	48	48	48	47
EX6			54	72	85	94	100	105	108	111	112	113	113	113	112
EX7			148	199	233	258	276	289	299	305	309	312	312	311	309
EX8			395	530	621	687	735	770	796	814	825	831	832	829	824
EX4	+21	+15		7	9	11	12	13	14	14	15	15	15	15	15
EX5				21	29	34	38	40	42	44	45	45	46	46	46
EX6				50	69	81	90	96	101	104	106	108	108	108	108
EX7				137	189	223	247	265	277	287	293	297	299	299	298
EX8				365	503	594	658	705	740	764	781	791	796	796	795
EX4	+16	+10			6	9	11	12	13	13	14	14	14	14	14
EX5					19	27	32	36	38	40	42	43	43	43	43
EX6					45	64	76	85	91	96	99	101	103	103	103
EX7					123	176	210	234	251	264	273	279	282	282	284
EX8					329	470	561	624	670	704	727	743	753	753	758

R-410A Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)												
		+15	+10	+5	0	-5	-10	-15	-20	18	-30	-35	-40	-45
EX4	+30	13	15	16	17	18	19	20	20	20	20	20	20	20
EX5		38	44	49	52	55	57	59	60	61	61	61	61	61
EX6		93	107	118	126	133	138	142	145	147	148	148	148	147
EX7		255	294	325	348	366	380	390	398	403	406	407	406	405
EX8		680	786	866	928	976	1013	1041	1061	1075	1083	1086	1084	1079
EX4	+25	10	13	15	16	17	18	19	19	20	20	20	20	20
EX5		29	38	44	48	52	54	56	58	59	60	60	60	60
EX6		71	91	106	117	125	131	136	140	143	144	145	146	145
EX7		195	251	291	321	344	361	375	385	392	397	399	400	399
EX8		520	669	775	855	916	964	1000	1027	1046	1058	1065	1067	1065
EX4	+20	4	9	12	14	16	17	18	18	19	19	19	20	20
EX5		13	28	37	43	47	51	53	55	57	58	58	59	59
EX6		31	68	89	103	114	122	129	133	137	139	141	142	142
EX7		84	188	244	284	314	337	354	367	377	383	388	390	390
EX8		225	501	652	758	837	898	944	979	1005	1023	1034	1040	1042
EX4	+15		3	9	12	14	15	16	17	18	18	19	19	19
EX5			10	27	36	42	46	49	52	54	55	56	57	57
EX6			23	65	86	100	111	119	125	130	133	135	137	137
EX7			64	178	236	276	305	327	344	357	366	372	376	378
EX8			172	475	629	735	813	873	917	951	976	992	1003	1008
EX4	+10			1	8	11	13	15	16	17	17	18	18	18
EX5				4	25	34	40	44	47	50	52	53	54	55
EX6				10	60	82	96	107	115	121	125	128	130	132
EX7				28	166	225	265	294	315	332	344	352	358	362
EX8				76	443	600	706	783	841	885	917	940	956	965

R-410A Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)												
		+15	+10	+5	0	-5	-10	-15	-20	18	-30	-35	-40	-45
EX4	+60	17	17	18	18	18	18	18	18	18	18	17	17	17
EX5		51	52	53	54	54	54	54	54	53	53	52	51	50
EX6		123	126	129	130	131	131	131	130	129	127	125	123	120
EX7		339	348	354	358	360	361	360	358	354	350	344	338	331
EX8		-	-	-	-	-	-	-	-	-	-	-	-	-
EX4	+55	18	18	19	19	19	19	19	19	19	19	19	18	18
EX5		53	55	56	57	57	58	58	58	57	57	56	55	54
EX6		127	132	135	137	138	139	139	139	138	137	135	133	131
EX7		350	362	370	377	381	383	383	382	380	377	372	366	360
EX8		935	965	988	1005	1016	1021	1023	1020	1014	1005	992	978	961
EX4	+50	18	18	19	19	20	20	20	20	20	20	20	19	19
EX5		53	55	57	58	59	60	60	60	60	59	59	58	57
EX6		128	133	137	140	142	144	145	145	144	143	142	140	138
EX7		351	366	377	386	392	396	398	398	397	394	391	386	380
EX8		936	975	1006	1029	1045	1056	1061	1062	1059	1052	1043	1030	1015
EX4	+45	17	18	19	19	20	20	20	20	20	20	20	20	20
EX5		52	54	57	58	60	60	61	61	61	61	61	60	59
EX6		124	131	136	141	144	146	147	148	148	147	146	145	143
EX7		342	361	375	387	395	401	405	407	407	405	403	399	394
EX8		913	962	1001	1031	1054	1070	1080	1085	1085	1082	1075	1064	1052
EX4	+40	16	17	18	19	20	20	20	21	21	21	21	20	20
EX5		49	52	55	57	59	60	61	62	62	62	62	61	61
EX6		118	126	133	138	142	145	147	149	149	149	149	148	146
EX7		324	348	366	381	392	400	406	409	411	411	409	406	402
EX8		864	927	977	1015	1045	1067	1082	1091	1095	1095	1091	1084	1073
EX4	+35	15	16	18	18	19	20	20	20	21	21	21	20	20
EX5		45	49	53	55	58	59	60	61	62	62	62	62	61
EX6		108	118	127	134	139	143	146	148	149	149	149	149	148
EX7		296	326	349	368	382	393	401	406	409	411	410	409	406
EX8		789	869	932	981	1019	1048	1069	1083	1092	1095	1095	1090	1082

R-22 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature (°C)	Evaporating Temperature (°C)												
		+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX4	+60	17	17	18	18	18	18	18	18	18	17	17	17	17
EX5		51	52	53	54	54	54	54	54	53	53	52	52	51
EX6		123	126	128	129	130	130	130	129	128	127	126	124	122
EX7		337	345	351	355	357	358	357	356	353	350	345	340	335
EX8		900	921	936	946	952	954	953	948	941	932	921	908	893
EX4	+55	16	17	17	18	18	18	18	18	18	18	17	17	17
EX5		50	51	52	53	54	54	54	54	54	53	53	52	52
EX6		119	123	126	128	129	130	130	130	129	128	127	126	124
EX7		328	339	346	352	355	357	358	357	356	353	350	345	340
EX8		876	903	923	938	948	953	955	953	949	941	932	921	908
EX4	+50	16	16	17	17	18	18	18	18	18	18	18	17	17
EX5		48	50	51	52	53	54	54	54	54	54	53	53	52
EX6		114	119	123	125	127	129	129	129	129	128	127	126	125
EX7		314	327	337	345	350	354	355	356	355	353	351	347	343
EX8		838	873	899	919	933	943	948	949	947	942	935	925	914
EX4	+45	15	16	16	17	17	17	17	18	18	18	17	17	17
EX5		45	47	49	51	52	52	53	53	53	53	53	52	52
EX6		107	113	118	121	124	126	127	128	128	127	127	126	124
EX7		295	311	324	334	341	346	349	351	351	350	348	346	342
EX8		787	830	864	890	909	923	932	936	937	934	929	922	912
EX4	+40	13	15	15	16	16	17	17	17	17	17	17	17	17
EX5		41	44	46	48	50	51	52	52	52	52	52	52	51
EX6		98	106	111	116	119	122	124	125	125	125	125	124	123
EX7		270	290	306	319	328	335	340	343	345	345	344	342	339
EX8		719	774	817	850	875	894	907	915	919	919	916	911	903
EX4	+35	12	13	14	15	16	16	16	17	17	17	17	17	17
EX5		36	40	43	45	47	49	50	50	51	51	51	51	50
EX6		86	96	103	109	113	117	119	121	122	122	122	122	121
EX7		237	264	284	300	312	321	327	332	335	336	336	335	333
EX8		632	703	757	799	831	856	873	885	893	896	896	893	888
EX4	+30	10	11	13	14	15	15	16	16	16	16	16	16	16
EX5		29	35	39	42	44	46	47	48	49	49	49	49	49
EX6		70	83	93	100	106	110	113	116	117	118	118	118	118
EX7		194	229	256	276	291	303	312	318	322	325	326	326	324
EX8		516	611	682	735	776	808	831	848	859	866	869	868	865
EX4	+25	7	9	11	12	13	14	15	15	15	16	16	16	16
EX5		20	28	33	37	40	43	44	46	46	47	47	48	48
EX6		47	67	80	90	97	102	106	109	112	113	114	114	114
EX7		130	184	220	246	266	281	292	301	307	311	313	314	314
EX8		347	491	587	656	709	749	779	802	818	829	835	837	836

R-124 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)						
		+30	+25	+20	+15	+10	+5	0
EX4	+100	7	7	7	6	6	6	5
EX5		22	21	20	19	18	17	16
EX6		53	51	49	47	44	42	39
EX4	+95	8	8	7	7	7	7	6
EX5		24	23	23	22	21	20	19
EX6		57	56	54	52	50	47	45
EX4	+90	8	8	8	8	7	7	7
EX5		25	25	24	24	23	22	21
EX6		61	59	58	56	54	52	50
EX4	+85	9	9	8	8	8	8	7
EX5		26	26	25	25	24	23	23
EX6		63	62	61	60	58	56	54
EX4	+80	9	9	9	8	8	8	8
EX5		27	27	26	26	25	25	24
EX6		64	63	63	62	61	59	57
EX4	+75	9	9	9	9	9	8	8
EX5		27	27	27	26	26	25	25
EX6		64	64	64	63	62	61	60
EX4	+70	9	9	9	9	9	9	8
EX5		26	26	27	27	26	26	25
EX6		62	63	64	63	63	62	61
EX4	+65	8	8	9	9	9	9	8
EX5		25	26	26	26	26	26	26
EX6		60	61	62	63	63	62	62
EX4	+60	8	8	8	8	8	8	8
EX5		23	24	25	26	26	26	26
EX6		56	58	60	61	62	62	61

R-23 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)											
		-45	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	-100
EX4	-10	17	18	19	19	19	19	19	19	19	19	19	18
EX5		53	55	56	57	58	58	58	58	58	57	57	56
EX6		127	132	135	138	139	140	140	140	139	138	137	135
EX4	-15	16	17	18	18	19	19	19	19	19	19	18	18
EX5		50	52	54	55	56	57	57	57	57	57	56	55
EX6		119	125	130	133	135	137	137	137	137	136	135	134
EX4	-20	15	16	17	17	18	18	18	18	18	18	18	18
EX5		45	48	51	53	54	55	55	55	55	55	55	54
EX6		109	117	122	127	130	132	133	134	133	133	132	131
EX4	-25	13	14	15	16	17	17	17	18	18	18	18	17
EX5		40	44	47	49	51	52	53	53	53	53	53	53
EX6		96	106	113	118	122	125	127	128	129	128	128	127
EX4	-30	11	13	14	15	16	16	16	17	17	17	17	17
EX5		33	38	42	45	47	49	50	51	51	51	51	51
EX6		78	92	101	108	114	117	120	122	122	123	123	122
EX4	-35	7	10	12	13	14	15	15	16	16	16	16	16
EX5		22	30	36	40	43	45	46	47	48	48	48	48
EX6		53	73	86	96	103	108	111	114	115	116	116	116
EX4	-40		6	9	11	12	13	14	14	15	15	15	15
EX5			19	28	33	37	40	42	43	44	45	45	45
EX6			46	67	80	90	96	101	104	106	108	108	108
EX4	-45			5	8	10	11	12	13	13	13	14	14
EX5				15	25	30	34	37	39	40	41	41	41
EX6				37	60	73	82	88	93	96	98	99	100

R-744 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)												
		+8	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
EX4	+10	5	12	18	22	26	29	31	33	34	35	36	37	38
EX5		15	36	55	68	79	87	94	99	104	108	110	113	114
EX6		36	86	132	164	189	208	225	238	249	257	264	269	273
EX7		99	237	362	450	518	572	617	653	683	707	726	740	750
EX8		-	-	-	-	-	-	-	-	-	-	-	-	-
EX4	+5			12	19	23	27	29	32	33	35	36	37	38
EX5				37	57	71	81	90	96	102	106	110	113	115
EX6				89	137	170	195	215	231	244	254	263	269	274
EX7				244	376	466	535	589	634	670	699	722	739	753
EX8				-	-	-	-	-	-	-	-	-	-	-
EX4	0				12	19	24	27	30	32	34	35	36	37
EX5					38	58	72	83	91	98	103	107	111	113
EX6					90	139	173	198	218	234	247	257	265	271
EX7					247	383	475	544	598	642	677	705	727	744
EX8					659	1023	1267	1452	1598	1715	1809	1883	1942	1987
EX4	-5					12	19	24	27	30	32	34	35	36
EX5						97	59	73	83	91	98	103	107	110
EX6						89	140	174	199	219	234	247	257	264
EX7						245	385	477	547	601	644	678	705	725
EX8						654	1028	1275	1460	1604	1718	1809	1881	1937
EX4	-10						12	19	24	27	30	32	34	35
EX5							36	58	72	83	91	97	102	106
EX6							87	139	173	198	217	233	245	254
EX7							239	382	475	544	597	639	671	697
EX8							639	1021	1269	1452	1594	1705	1793	1861
EX4	-15							11	19	23	27	29	31	33
EX5								35	57	71	82	89	96	100
EX6								84	137	171	195	214	229	240
EX7								229	376	468	536	588	628	660
EX8								613	1003	1250	1431	1570	1677	1761

R-744 Extended Capacities (kWatts) EX4-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)												
		+8	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
EX4	-20								11	18	23	26	29	31
EX5									33	56	70	80	87	93
EX6									79	133	166	191	209	223
EX7									216	365	457	523	574	613
EX8									576	974	1220	1398	1532	1636
EX4	-25								10	18	22	25	28	
EX5									30	53	67	77	85	
EX6									72	128	161	185	202	
EX7									198	350	442	507	556	
EX8									528	935	1179	1353	1483	
EX4	-30									9	17	21	24	
EX5										27	51	64	74	
EX6										64	121	154	177	
EX7										175	332	423	486	
EX8										466	887	1129	1298	
EX4	-35										7	16	20	
EX5											22	47	61	
EX6											53	113	146	
EX7											145	310	400	
EX8											386	828	1068	
EX4	-40											5	14	
EX5												16	43	
EX6												37	103	
EX7												103	284	
EX8												275	759	

R-407 Extended Capacities (EXV)

As Expansion Valve The Following Correction Factors (kt) Related To Evaporating And Condensing Temperatures Apply

Liquid temperature °C	Correction factors for EXV Evaporating temperature °C													
	+20	+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
+65	1.51	1.53	1.55	1.58	1.61	1.64	1.68	1.71	1.75	1.80	1.85	1.90	1.96	2.02
+60	1.35	1.37	1.39	1.41	1.43	1.46	1.49	1.52	1.55	1.59	1.63	1.67	1.71	1.76
+55	1.23	1.25	1.26	1.28	1.30	1.32	1.35	1.37	1.40	1.43	1.46	1.50	1.53	1.57
+50	1.14	1.15	1.16	1.18	1.20	1.22	1.24	1.26	1.28	1.31	1.33	1.36	1.39	1.43
+45	1.06	1.07	1.08	1.10	1.11	1.13	1.14	1.16	1.18	1.20	1.23	1.25	1.28	1.31
+40	0.99	1.00	1.01	1.02	1.04	1.05	1.07	1.08	1.10	1.12	1.14	1.16	1.18	1.21
+35	0.93	0.94	0.95	0.96	0.97	0.99	1.00	1.01	1.03	1.05	1.06	1.08	1.10	1.13
+30	0.88	0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.97	0.98	1.00	1.02	1.03	1.05
+25	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.93	0.94	0.96	0.97	0.99
+20	0.79	0.80	0.81	0.82	0.82	0.83	0.84	0.85	0.87	0.88	0.89	0.91	0.92	0.94
+15	0.76	0.76	0.77	0.78	0.78	0.79	0.80	0.81	0.82	0.83	0.85	0.86	0.87	0.89
+10	0.72	0.73	0.74	0.74	0.75	0.76	0.77	0.77	0.78	0.79	0.81	0.82	0.83	0.84
+5	0.69	0.70	0.70	0.71	0.72	0.72	0.73	0.74	0.75	0.76	0.77	0.78	0.79	0.80
0	0.66	0.67	0.68	0.68	0.69	0.69	0.70	0.71	0.72	0.73	0.73	0.74	0.75	0.77
-5	0.64	0.64	0.65	0.65	0.66	0.67	0.67	0.68	0.69	0.70	0.70	0.71	0.72	0.73
-10	0.62	0.62	0.62	0.63	0.63	0.64	0.65	0.65	0.66	0.67	0.68	0.68	0.69	0.70

For Applications As Expansion Valve The Following Correction Factors (kΔp) Related To The Pressure Drop At Valve Apply

Correction factors for EXVs														
ΔP (bar)	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5
kΔP	3.51	2.87	2.48	2.22	2.03	1.88	1.76	1.66	1.57	1.5	1.43	1.38	1.33	1.28
ΔP (bar)	8	9	10	11	12	13	14	15	16	17	18	19	20	21
kΔP	1.24	1.17	1.11	1.06	1.01	0.97	0.94	0.91	0.88	0.85	0.83	0.81	0.79	0.77

Application Hot Gas Bypass - Nominal Capacities (kW)

Valve Type	Kv, m3/h	R22 / R407C	R134a	R404A / R507
EX4	0.21	4.9	3.4	4.6
EX5	0.68	16	11	15
EX6	1.57	37	26	35
EX7	5.58	131	92	126
EX8	16.95	399	278	382

The nominal capacity (Qn) is based on the following conditions:

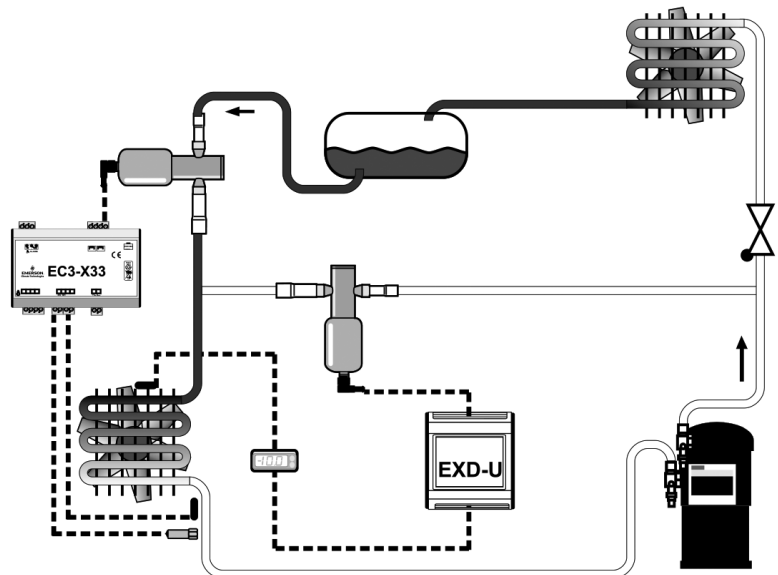
Refrigerant	Evaporating temperature	Condensing temperature	Subcooling
R407C	+4°C (dew point)	+38°C bubble point / +43°C dew point	1K
R22, R134a, R404A, R507	+4°C	+38°C	1K

For other operating conditions use Excel-based Selection Tool (download from www.emersonclimate.eu) or use the following quick selection tables.

Biflow versions are not released for hot gas bypass applications. EX4 .. EX8 must be installed with motor downward in hot gas line applications. This ensures the valve life expectancy. Install a check valve on main hot gas line just after branch to Control Valve.

EX Extended Capacity Tables

Valve type	Extended Capacity kW			Condensing Temperature °C
	R22 / R407C	R134a	R404A / R507	
EX4	7	4.9	5.8	60 bubble point for all refrig (64 dew point for R407C)
EX5	23	16	19	
EX6	54	38	45	
EX7	191	135	161	
EX8	581	411	488	
EX4	6.1	4.3	5.5	50 bubble point for all refrig. (54 dew point for R407C)
EX5	20	14	18	
EX6	46	32	41	
EX7	163	115	147	
EX8	495	348	447	
EX4	4.9	3.7	4.9	40 bubble point for all refrig. (45 dew point for R407C)
EX5	16	12	16	
EX6	38	27	36	
EX7	136	95	130	
EX8	414	289	394	
EX4	4.3	2.8	4	30 bubble point for all refrig. (35 dew point for R407C)
EX5	14	9	13	
EX6	32	22	31	
EX7	112	78	111	
EX8	340	236	336	



**Application Suction Pressure Regulation
(Evaporating or Crankcase Pressure) - Nominal Capacities (kW)**

Valve Type	Kv, m3/h	R407C	R22	R134a	R404A
EX6	1.57	3.9	4.1	3.1	3.5
EX7	5.58	14	15	11	13
EX8	16.95	42	45	34	38

The nominal capacity (Qn) is based on the following conditions:

Refrigerant	Evaporating temperature	Condensing temperature	Subcooling	Pressure Drop
R407C	+4°C (dew point)	+38°C bubble point / +43°C dew point	1K	0.15 bar
R22, R134a, R404A	+4°C	+38°C	1K	0.15 bar

For other operating conditions use Excel-based Selection Tool (download from www.emersonclimate.eu) or use the following quick selection tables.

For biflow versions attention should be paid to the temperature range TS -40°C to +80°C ! The EX6 .. EX8 must be installed with motor downward in suction line applications. This ensures the valve life expectancy.

Example:

The EX6 provides 3.5 kW at 0.15 bar pressure drop with R404A or 3.5*1.41=4.9 kW at 0.3 bar pressure drop.

Typical Order Package

- 1) Valve EX6, EX7 or EX8 Plug and cable assembly EXV-M60
- 2) Controller Kit EXD-U00 Part No. 808 038

Multiply above nominal capacities by following factors to obtain capacities at different pressure drops:

ΔP, bar	0.10	0.15	0.20	0.30
Correction factor	0.82	1.00	1.15	1.41

R-134a Extended Capacities (kWatts) EX6-8 Series

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)				
		+10	+5	0	-10	-20
EX6	+60	3	2	2	2	1
EX7		10	9	8	6	4
EX8		30	27	24	18	13
EX6	+50	3	3	2	2	1
EX7		11	10	9	7	5
EX8		34	30	27	21	15
EX6	+40	3	3	3	2	2
EX7		12	11	10	8	6
EX8		38	34	30	23	17
EX6	+30	4	3	3	2	2
EX7		14	12	11	8	6
EX8		41	37	33	26	19
EX6	+20	4	4	3	3	2
EX7		15	13	12	9	7
EX8		45	40	36	28	21

R-22 Extended Capacities (kWatts) EX6-8 Series

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)						
		+10	+5	0	-10	-20	-30	-40
EX6	+60	4	3	3	3	2	2	1
EX7		13	12	11	9	7	5	4
EX8		41	37	34	27	22	17	12
EX6	+50	4	4	3	3	2	2	1
EX7		15	13	12	10	8	6	5
EX8		45	41	37	30	24	19	14
EX6	+40	5	4	4	3	2	2	1
EX7		16	15	13	11	9	7	5
EX8		49	45	41	33	27	21	15
EX6	+30	5	4	4	3	3	2	2
EX7		17	16	14	12	9	7	5
EX8		53	48	44	36	29	22	16
EX6	+20	5	5	4	4	3	2	2
EX7		19	17	15	13	10	8	6
EX8		56	52	47	39	31	24	18

**R-404A/R-507 Extended Capacities (kWatts) EX6-8 Series,
Application Suction Pressure Regulation (Evaporating or Crankcase Pressure)**

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)					
		+10	+5	0	-20	-30	-40
EX6	+60	3	2	2	1	1	1
EX7		9	8	8	4	3	2
EX8		29	26	23	13	10	7
EX6	+50	3	3	3	2	1	1
EX7		12	11	9	6	4	3
EX8		36	32	29	18	13	9
EX6	+40	4	3	3	2	1	1
EX7		14	12	11	7	5	4
EX8		42	38	34	21	16	12
EX6	+30	4	4	4	2	2	1
EX7		16	14	13	8	6	5
EX8		48	43	39	25	19	14
EX6	+20	5	4	4	3	2	1
EX7		17	16	14	9	7	5
EX8		53	48	44	28	21	16

**R-407C Extended Capacities (kWatts) EX6-8 Series, Application Suction Pressure Regulation
(Evaporating or Crankcase Pressure)**

Valve Type	Condensing Temperature		Evaporating Temperature (°C)				
	Dew point °C	Bubble point °C	+10	+5	0	-10	-20
EX6	+64	+60	3	3	3	2	2
EX7			12	11	10	8	6
EX8			36	33	29	23	18
EX6	+54	+50	4	3	3	2	2
EX7			14	12	11	9	7
EX8			41	37	34	27	21
EX6	+45	+40	4	4	3	3	2
EX7			15	14	12	10	8
EX8			46	42	38	30	23
EX6	+35	+30	5	4	4	3	2
EX7			17	15	14	11	9
EX8			51	46	41	33	26
EX6	+26	+20	5	5	4	3	3
EX7			18	16	15	12	9
EX8			55	50	45	36	28

Application Condensing Pressure Regulation and Liquid Duty - Nominal Capacities (kW)

Valve Type	Kv, m3/h	R407C	R22	R134a	R404A
EX5	0.68	18	20	18	13
EX6	1.57	43	46	42	30
EX7	5.58	153	162	151	106
EX8	16.95	463	491	458	323

The nominal capacity (Qn) is based on the following conditions:

Refrigerant	Evaporating temperature	Condensing temperature	Subcooling	Pressure Drop
R407C	+4°C (dew point)	+38°C bubble point / +43°C dew point	1K	0.35 bar
R22, R134a, R404A	+4°C	+38°C	1K	0.35 bar

Multiply above nominal capacities by following factors to obtain capacities at different pressure drops:

ΔP, bar	0.15	0.20	0.35
Correction factor	0.65	0.76	1.00

Example:

The EX6 provides 30kW at 0.35bar pressure drop with R404A or $30 \times 0.76 = 22.8$ kW at 0.2 bar pressure drop.

R-134a Extended Capacities (kWatts) EX5-8 Series

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)			
		+10	0	-10	-20
EX5	+60	14	13	13	12
EX6		32	31	29	27
EX7		115	109	104	98
EX8		350	332	315	296
EX5	+50	16	15	15	14
EX6		37	36	34	32
EX7		133	127	121	115
EX8		405	387	369	350
EX5	+30	18	18	17	16
EX6		42	41	39	37
EX7		151	145	139	133
EX8		458	440	422	403
EX5	+40	20	20	19	18
EX6		47	46	44	42
EX7		168	162	156	150
EX8		512	493	474	455
EX5	+20	22	22	21	20
EX6		52	51	49	47
EX7		186	180	173	167
EX8		564	546	526	507

R-22 Extended Capacities (kWatts) EX5-8 Series, as expansion and liquid injection valves

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)					
		+10	0	-10	-20	-30	-40
EX5	+60	15	15	15	14	14	13
EX6		36	35	34	33	32	30
EX7		128	124	120	116	112	108
EX8		387	377	365	353	341	328
EX5	+50	17	17	16	17	16	15
EX6		41	40	36	39	36	35
EX7		144	141	129	137	129	124
EX8		439	428	391	416	391	377
EX5	+30	19	19	19	18	17	17
EX6		45	44	43	42	41	39
EX7		161	157	153	149	145	140
EX8		488	477	465	453	439	426
EX5	+40	21	21	20	20	19	19
EX6		50	49	48	46	45	44
EX7		177	173	169	165	160	156
EX8		536	525	513	500	486	472
EX5	+20	23	23	22	22	21	21
EX6		54	53	52	51	49	48
EX7		192	188	184	180	175	171
EX8		584	572	560	547	533	519

**R-404A/R-507 Extended Capacities (kWatts) EX5-8 Series,
Application Condensing Pressure Regulation and Liquid Duty**

Valve Type	Condensing Temperature °C	Evaporating Temperature (°C)					
		+10	0	-10	-20	-30	-40
EX5	+60	8	8	7	6	6	5
EX6		19	17	16	15	13	12
EX7		66	62	58	53	48	43
EX8		202	189	175	160	146	130
EX5	+50	11	10	9	9	8	8
EX6		24	23	22	20	19	17
EX7		87	82	78	73	67	62
EX8		264	250	236	220	205	189
EX5	+30	13	12	12	11	10	10
EX6		30	28	27	26	24	23
EX7		106	101	96	91	85	80
EX8		321	306	291	276	260	243
EX5	+40	15	14	14	13	12	12
EX6		35	33	32	30	29	27
EX7		123	119	114	108	103	97
EX8		375	360	345	329	312	295
EX5	+20	17	16	16	15	14	14
EX6		40	38	37	35	34	32
EX7		141	136	131	125	120	114
EX8		427	412	397	380	363	346

**R-407C Extended Capacities (kWatts) EX5-8 Series,
Application Condensing Pressure Regulation and Liquid Duty**

Valve Type	Condensing Temperature		Evaporating Temperature (°C)			
	Dew Point °C	Dew Point °C	+10	0	-10	-20
EX5	+64	+60	14	13	12	12
EX6			32	30	29	28
EX7			112	108	103	98
EX8			340	327	313	298
EX5	+54	+50	16	15	15	14
EX6			37	36	35	33
EX7			132	128	123	118
EX8			402	388	373	358
EX5	+45	+30	18	18	17	17
EX6			43	41	40	38
EX7			152	147	142	137
EX8			460	446	431	415
EX5	+35	+40	21	20	19	19
EX6			48	47	45	44
EX7			170	166	160	155
EX8			517	503	487	471
EX5	+26	+20	23	22	22	21
EX6			53	52	50	49
EX7			189	184	179	173
EX8			573	558	543	526

Application Hot Gas Flow such as Heat Reclaim Application - Nominal Capacities (kW)

Valve Type	Kv, m3/h	R22 / R407C	R134a	R404A / R507	R410A
EX6	1.57	11	9	10	13
EX7	5.58	39	33	36	47
EX8	16.95	119	101	108	144

The nominal capacity (Qn) is based on the following conditions:

Refrigerant	Evaporating temperature	Condensing temperature	Subcooling	Pressure Drop	Isentropic Efficiency
R407C	+4°C (dew point)	+38°C bubble point / +43°C dew point	1K	0.35 bar	80%
R22, R134a, R404A, R507	+4°C	+38°C	1K	0.35 bar	80%

For other conditions see following tables.

Valves must be installed with motor downward in hot gas line applications. This ensures the valve life expectancy. Bi-flow versions are not released for hot gas flow applications.

R-134a Extended Capacities (kWatts) EX6-8 Series

Valve Type	Condensing Temperature °C	Pressure Drop bar	Evaporating Temperature (°C)												
			+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX6	+60	0.1	5	5	4	4	4	4	4	4	4	3	3	3	3
EX7			16	16	16	15	15	14	14	13	13	12	12	11	10
EX8			50	49	47	46	44	43	41	40	38	37	35	33	32
EX6		0.5	10	10	10	9	9	9	8	8	8	7	7	7	6
EX7			36	35	34	33	32	31	30	29	28	26	25	24	23
EX8			110	107	104	101	97	94	91	87	84	80	77	74	70
EX6		1.0	14	14	13	13	12	12	12	11	11	10	10	9	9
EX7			50	49	47	46	44	43	41	40	38	37	35	34	32
EX8			152	148	144	139	135	130	126	121	116	112	107	102	97
EX6	+50	0.1	5	4	4	4	4	4	4	4	4	3	3	3	3
EX7			16	16	15	15	14	14	14	13	13	12	12	11	11
EX8			49	48	47	45	44	43	41	40	39	37	36	35	33
EX6		0.5	10	10	9	9	9	9	8	8	8	8	7	7	7
EX7			35	35	34	33	32	31	30	29	28	27	26	25	24
EX8			108	105	102	99	97	94	91	88	85	82	79	76	73
EX6		1.0	14	13	13	13	12	12	12	11	11	10	10	10	9
EX7			49	48	46	45	44	43	41	40	39	37	36	34	33
EX8			148	145	141	137	133	129	125	121	117	113	109	105	100
EX6	+40	0.1	4	4	4	4	4	4	4	4	4	3	3	3	3
EX7			16	15	15	14	14	14	13	13	13	12	12	11	11
EX8			47	46	45	44	43	42	40	39	38	37	36	34	33
EX6		0.5	10	9	9	9	9	8	8	8	8	7	7	7	7
EX7			34	33	32	32	31	30	29	28	27	26	26	25	24
EX8			103	100	98	96	93	91	88	86	83	80	78	75	73
EX6		1.0	13	13	12	12	12	12	11	11	11	10	10	10	9
EX7			46	45	44	43	42	41	40	39	38	36	35	34	33
EX8			141	138	134	131	128	124	121	117	114	110	107	103	100
EX6	+30	0.1	4	4	4	4	4	4	4	3	3	3	3	3	3
EX7			15	14	14	14	13	13	13	12	12	12	11	11	11
EX8			44	43	42	42	41	40	39	38	37	35	34	33	32
EX6		0.5	9	9	9	8	8	8	8	8	7	7	7	7	6
EX7			32	31	30	30	29	28	28	27	26	25	25	24	23
EX8			96	94	92	90	88	86	84	81	79	77	75	72	70
EX6		1.0	12	12	12	11	11	11	11	10	10	10	9	9	9
EX7			43	42	41	40	39	38	37	36	35	34	33	32	31
EX8			130	128	125	122	119	117	114	111	108	105	102	98	95

**R-22/R-407C Extended Capacities (kWatts) EX5-8 Series,
Application Hot Gas Flow such as Heat Reclaim Application**

Valve Type	Condensing Temperature °C	Pressure Drop bar	Evaporating Temperature (°C)												
			+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX6	+60	0.1	6	5	5	5	5	5	5	5	5	4	4	4	4
EX7			20	19	19	18	18	17	17	16	16	15	15	14	14
EX8			59	58	57	55	54	53	51	50	48	47	45	44	42
EX6		0.5	12	12	12	11	11	11	10	10	10	10	9	9	9
EX7			43	42	41	40	39	38	37	36	35	34	33	32	31
EX8			131	129	126	123	119	116	113	110	107	103	100	97	94
EX6		1.0	17	17	16	16	15	15	15	14	14	13	13	13	12
EX7			60	59	58	56	55	53	52	51	49	48	46	45	43
EX8			183	179	175	171	167	162	158	154	149	145	140	135	131
EX6	+50	0.1	5	5	5	5	5	5	5	5	4	4	4	4	4
EX7			19	19	18	18	17	17	17	16	16	15	15	14	14
EX8			58	57	56	54	53	52	51	49	48	47	45	44	42
EX6		0.5	12	12	11	11	11	11	10	10	10	10	9	9	9
EX7			42	41	40	40	39	38	37	36	35	34	33	32	31
EX8			128	126	123	120	117	115	112	109	106	103	100	97	94
EX6		1.0	17	16	16	15	15	15	14	14	14	13	13	13	12
EX7			59	57	56	55	54	52	51	50	49	47	46	44	43
EX8			178	175	171	167	163	159	155	151	147	143	139	135	131
EX6	+40	0.1	5	5	5	5	5	5	5	4	4	4	4	4	4
EX7			18	18	18	17	17	16	16	16	15	15	15	14	14
EX8			56	55	54	52	51	50	49	48	47	45	44	43	42
EX6		0.5	11	11	11	11	10	10	10	10	9	9	9	9	8
EX7			40	40	39	38	37	36	35	35	34	33	32	31	30
EX8			123	120	118	115	113	110	108	105	103	100	97	94	92
EX6		1.0	16	15	15	15	14	14	14	14	13	13	12	12	12
EX7			56	55	54	53	52	50	49	48	47	46	44	43	42
EX8			170	167	163	160	157	153	149	146	142	139	135	131	127
EX6	+30	0.1	5	5	5	5	4	4	4	4	4	4	4	4	4
EX7			17	17	17	16	16	16	15	15	15	14	14	14	13
EX8			53	52	51	50	49	48	46	45	44	43	42	41	40
EX6		0.5	11	10	10	10	10	10	9	9	9	9	9	8	8
EX7			38	37	37	36	35	34	34	33	32	31	30	30	29
EX8			115	113	111	109	107	104	102	100	97	95	93	90	88
EX6		1.0	15	14	14	14	14	13	13	13	12	12	12	12	11
EX7			52	51	50	49	48	47	46	45	44	43	42	41	40
EX8			159	156	153	150	147	144	141	138	134	131	128	124	121

* Condensing temperatures R407C:

The relation between bubble points and dew points is as follows:

Bubble point °C	Dew point °C
+60	+64
+50	+54
+40	+45
+30	+35

**R-404A Extended Capacities (kWatts) EX5-8 Series,
Application Hot Gas Flow such as Heat Reclaim Application**

Valve Type	Condensing Temperature °C	Pressure Drop bar	Evaporating Temperature (°C)												
			+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX6	+60	0.1	4	4	4	4	4	3	3	3	3	3	3	2	2
EX7			15	14	14	13	13	12	11	11	10	10	9	8	8
EX8			45	43	42	40	38	36	35	33	31	29	27	25	23
EX6		0.5	9	9	8	8	8	7	7	7	6	6	6	5	5
EX7			32	31	30	29	28	26	25	24	22	21	20	18	17
EX8			99	95	92	88	84	80	76	72	68	64	60	56	52
EX6		1.0	13	12	12	11	11	10	10	9	9	8	8	7	7
EX7			45	44	42	40	39	37	35	33	31	29	27	26	24
EX8			137	132	127	122	117	112	106	101	95	89	84	78	72
EX6	+50	0.1	5	4	4	4	4	4	4	4	3	3	3	3	3
EX7			16	16	15	15	14	14	13	13	12	11	11	10	10
EX8			49	47	46	44	43	41	40	38	36	35	33	31	30
EX6		0.5	10	10	9	9	9	8	8	8	7	7	7	6	6
EX7			35	34	33	32	31	30	29	28	26	25	24	23	22
EX8			107	104	101	98	95	91	88	84	80	77	73	69	65
EX6		1.0	14	13	13	13	12	12	11	11	10	10	9	9	8
EX7			49	48	46	45	43	42	40	38	37	35	33	32	30
EX8			149	145	141	136	131	127	122	117	112	107	102	96	91
EX6	+40	0.1	5	4	4	4	4	4	4	4	4	3	3	3	3
EX7			16	16	16	15	15	14	14	13	13	12	12	11	11
EX8			50	49	47	46	45	43	42	40	39	37	36	34	33
EX6		0.5	10	10	10	9	9	9	9	8	8	8	7	7	7
EX7			36	35	34	33	32	31	30	29	28	27	26	25	24
EX8			109	107	104	101	98	95	92	89	86	83	79	76	73
EX6		1.0	14	14	13	13	13	12	12	11	11	11	10	10	9
EX7			50	49	48	46	45	44	42	41	39	38	36	35	33
EX8			152	148	144	140	136	132	128	124	119	115	110	105	101
EX6	+30	0.1	5	4	4	4	4	4	4	4	4	4	3	3	3
EX7			16	16	15	15	15	14	14	13	13	13	12	12	11
EX8			49	48	47	46	45	43	42	41	40	38	37	36	34
EX6		0.5	10	10	10	9	9	9	9	8	8	8	8	7	7
EX7			35	35	34	33	32	31	31	30	29	28	27	26	25
EX8			108	105	103	101	98	95	93	90	87	84	81	78	76
EX6		1.0	14	13	13	13	13	12	12	12	11	11	10	10	10
EX7			49	48	47	46	45	43	42	41	40	38	37	36	34
EX8			149	146	142	139	135	132	128	124	120	117	113	109	104

**R-410A Extended Capacities (kWatts) EX 5-8 Series,
Application Hot Gas Flow such as Heat Reclaim Application**

Valve Type	Condensing Temperature °C	Pressure Drop bar	Evaporating Temperature (°C)												
			+15	+10	+5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
EX6	+60	0.1	6	6	6	6	5	5	5	5	5	5	4	4	4
EX7			21	21	20	20	19	19	18	18	17	16	16	15	15
EX8			64	63	62	60	58	57	55	53	52	50	48	46	44
EX6		0.5	13	13	13	12	12	12	11	11	11	10	10	10	9
EX7			47	46	45	44	43	41	40	39	38	36	35	34	32
EX8			143	140	137	133	130	126	122	118	115	111	107	103	99
EX6		1.0	19	18	18	17	17	16	16	15	15	14	14	13	13
EX7			66	64	63	61	60	58	56	55	53	51	49	47	46
EX8			200	196	191	186	182	177	171	166	161	155	150	144	138
EX6	+50	0.1	6	6	6	6	6	6	5	5	5	5	5	5	4
EX7			22	22	21	21	20	20	19	19	18	18	17	17	16
EX8			67	66	65	63	62	60	59	57	55	54	52	50	48
EX6		0.5	14	14	13	13	13	12	12	12	11	11	11	10	10
EX7			49	48	47	46	45	44	43	42	40	39	38	37	35
EX8			149	146	143	140	137	133	130	126	123	119	115	111	108
EX6		1.0	19	19	19	18	18	17	17	16	16	15	15	14	14
EX7			69	67	66	64	63	61	60	58	57	55	53	51	50
EX8			209	204	200	196	191	186	182	177	172	167	161	156	151
EX6	+40	0.1	6	6	6	6	6	6	5	5	5	5	5	5	5
EX7			22	22	21	21	20	20	19	19	18	18	17	17	16
EX8			67	66	65	63	62	60	59	58	56	54	53	51	50
EX6		0.5	14	13	13	13	13	12	12	12	11	11	11	11	10
EX7			49	48	47	46	45	44	43	42	41	40	39	37	36
EX8			148	146	143	140	137	134	131	127	124	121	117	114	110
EX6		1.0	19	19	18	18	18	17	17	16	16	16	15	15	14
EX7			68	67	66	64	63	61	60	59	57	55	54	52	51
EX8			207	203	199	195	191	187	182	178	173	168	164	159	154
EX6	+30	0.1	6	6	6	6	6	5	5	5	5	5	5	5	5
EX7			21	21	21	20	20	19	19	19	18	18	17	17	16
EX8			65	64	63	61	60	59	58	56	55	53	52	51	49
EX6		0.5	13	13	13	13	12	12	12	12	11	11	11	10	10
EX7			47	46	45	45	44	43	42	41	40	39	38	37	36
EX8			143	141	138	135	133	130	127	124	121	118	115	112	109
EX6		1.0	18	18	18	17	17	17	16	16	16	15	15	14	14
EX7			65	64	63	62	61	60	58	57	56	54	53	51	50
EX8			199	195	192	188	185	181	177	173	169	165	160	156	152

Quick Select Guide – Refrigeration Applications

Application	Feature	Valve	Nominal Liquid Capacity R-22 (in tons)*	Nominal Liquid Capacity R-410A (in tons)*
Liquid Line Discharge Gas Suction Line	Two Way, Normally Closed Solenoid Valve	50RB	.54	
		100RB2	1.3	
		200RB2	3.6	
		200RB3	4.8	
		200RB4	8.0	
		200RB5	8.2	
		200RB6	9.5	
		200RB7	17.0	
		200RB9	30.5	
		200RB12	34.9	
		200RD 2		3.4
		200RD 3		4.5
		200RD 4		7.5
		200RD 5		7.7
		200RD 6		8.9
		240RA8	15.6	
		240RA9 (5/8)	23.3	
		240RA9 (1-1/8)	30.5	
	240RA12	34.9		
	240RA16	58.0		
	240RA20	95.4		
	Two Way, Normally Open Solenoid Valve	500RB2	3.1	
		500RB3	4.8	
		500RB4	5.6	
		500RB5	8.2	
		500RB6	10.0	
		500RB7	15.6	
		540RA8	15.6	
540RA9 (5/8)		23.3		
540RA9 (1-1/8)		30.5		
540RA12		34.9		
540RA16	58.0			
540RA20	95.4			

* 3 psi pressure drop per ARI Standard 760.
All ratings are based on largest connection size.

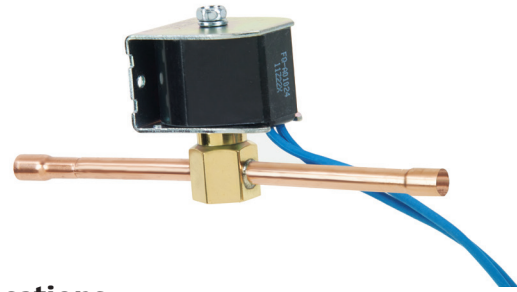
The 50RB is a direct-acting, 2-way, normally closed valve. 50RB valves are used for liquid or discharge gas refrigerant service.

Features

- Long-life molded coils
- Extended ends for easy installation (standard)
- Screw-on coil
- 100 mesh inlet screen standard

Options

- Connection sizes to fit your system
- Straight-thru design
- Replace with RMF coil



Specifications

- PTFE seat material
- 30" leads
- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- MOPD: 300 psig
- UL/CUL file number: MH25894

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

Nomenclature example: 50RB 4T22 SML 120/50-60

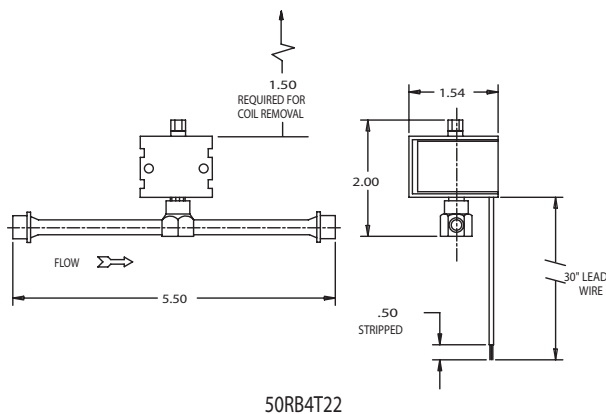
50R	B	4	T	2	2	SML	120/50-60
Basic Valve Type	Design Series	Port Size (in 1/64")	Connection Type T = ODF straight thru	Inlet Connection Size (in 1/8")	Outlet Connection Size (in 1/8")	Coil (RMF as replacement)	Coil Voltages

Ordering Information and Nominal* Liquid Capacity Table – Tons (kW)

PCN	DESCRIPTION	CONNECTION SIZE	COIL VOLTAGE/HZ	R-134a	R-450A/ R-513A	R-22	R-407C	R-404A/ R-507	R-448A/ R-449A
063588	50RB 4 T 2 2 SML	1/4" ODF	24/50-60	0.41 (1.4)	0.37(1.3)	0.54 (1.9)	0.51 (1.8)	0.34 (1.2)	0.54 (1.9)
063455	50RB 4 T 2 2 SML		120/50-60						
063514	50RB 4 T 2 2 SML		220/50-60						

Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.
*See Extended Capacity Tables for ratings at a wide range of conditions.

Dimensional Data (in)



The 100RB is a direct-acting, 2-way, normally closed valve. 100 RB valves are used for liquid or discharge gas refrigerant service.

Features

- One coil fits all valve sizes
- Extended ends for easy installation (standard)
- Long-life molded coils
- PTFE O-ring for superior external sealing



Options

- SAE or ODF connection sizes in 1/4" and 3/8", 1/4" NPTF

Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- MOPD: 300 psig
- UL/CUL file number: MP 604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

Nomenclature example: 100RB 2F2 VLC

100R	B	2	F	2	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type F = SAE S = ODF P = NPTF	Connection Size (in 1/8")	Coil*

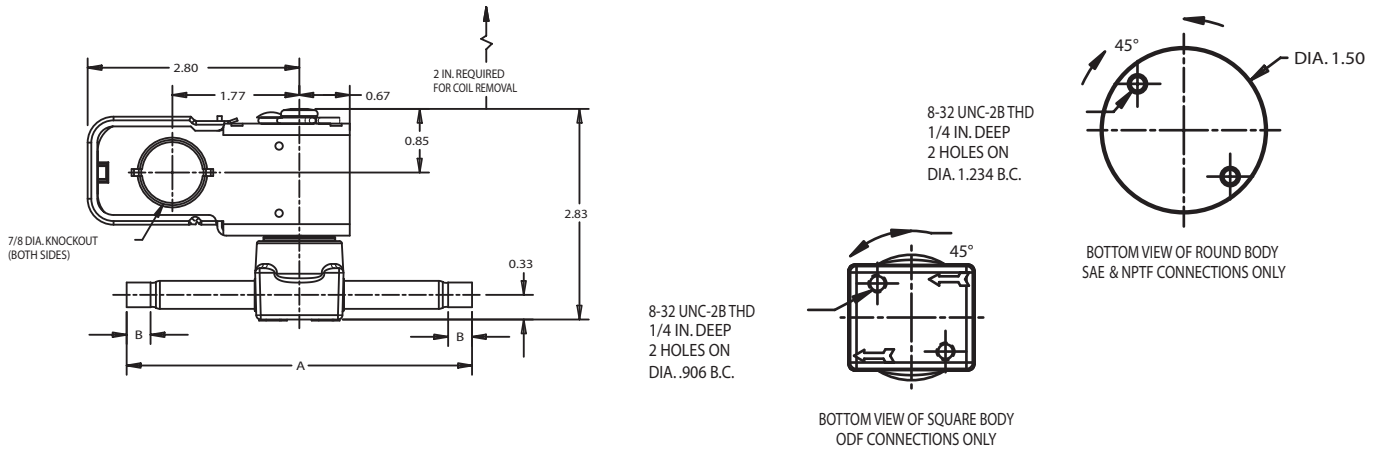
*NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See coil assemblies for availability.

Ordering Information and Nominal* Liquid Capacity Table – Tons (kW)

PCN	Product Description	Connection Size	R-134a	R-450A/R-513A	R-22	R-407C	R-404A/R-507	R-448A/R-449A
047503	100RB 2S2 VLC	1/4" ODF	0.96 (3.4)	0.9 (3.1)	1.27 (4.5)	1.21 (4.3)	0.85 (3.0)	1.3 (4.5)
047504	100RB 2S3 VLC	3/8" ODF						
047505	100RB 2S4 VLC	1/2" ODF						
047500	100RB 2F2 VLC	1/4" SAE						
047501	100RB 2F3 VLC	3/8" SAE						
047502	100RB 2P2 VLC	1/4" NPTF						

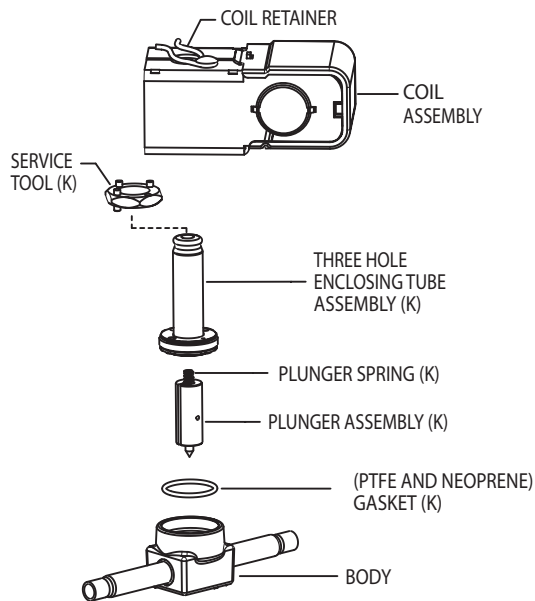
Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.
*See Extended Capacity Tables for ratings at a wide range of conditions.

Dimensional Data (in)



Valve	Connection Size	A	B
100RB 2S2 VLC	1/4 ODF	4.63	0.31
100RB 2S3 VLC	3/8 ODF	4.63	0.31
100RB 2S4 VLC	1/2 ODF	4.63	0.38
100RB 2F2 VLC	1/4 SAE	3.10	-
100RB 2F3 VLC	3/8 SAE	3.47	-
100RB 2P2 VLC	1/4 NPTF	1.56	-

Exploded View & Parts Kit Data



Valve Repair Kit

"K" indicates part is supplied in valve repair kit **KS30112** (PCN 049191)

Note: Universal (2/3 hole) spanner wrench X11981-1 (PCN 027451) included in complete repair kit.

Coil Assembly

See coil assemblies for availability.

Parts Kit

KG-10041 PCN: 054812

(Contains 12 pieces each of PTFE and neoprene O-rings.)

The 200RB is a pilot-operated, 2-way, normally closed valve. 200RB valves are used for liquid, discharge, or suction gas refrigerant service.

Features

- One coil fits all valve sizes
- Extended ends for easy installation (standard)
- Long-life molded coils
- PTFE O-ring for superior external sealing

Options

- Available in 7 orifice sizes
- Manual stem or mounting stud
- Bi-Flow operation-conversion either factory assembled or with kit (except 200RB 7 & 9)



Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- Minimum operating pressure drop: 2 psi
- MOPD: 300 psig
- UL/CUL file number: MP604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

NOTE: MOPD based on AC application. Consult application engineer for DC application.

Nomenclature example: 200RB 4T3M VLC

200R	B	4	T	3	M	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type F = SAE S = ODF T = Copper Extended Ends	Connection Size (in 1/8")	M = manual stem T = mounting stud (optional)	Coil*

*NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See coil assemblies for availability.

Ordering Information and Nominal* Liquid Capacity Table – Tons (kW)

PCN			Description	Connection Size	R-134a	R-450A/ R-512A	R-22	R-407C	R-404A/ R-507	R-448A/ R-449A
Standard Valve	Mounting Stud ¹	Manual Stem ²								
053104	--	N/A	200RB 2 F 2	1/4 SAE	2.7 (9.6)	2.5 (8.7)	3.6 (12.7)	3.4 (11.9)	2.3 (8.2)	3.6 (12.7)
062611	--	N/A	200RB 2 F 3	3/8 SAE						
053105	053236	N/A	200RB 2 T 2	1/4 ODF						
053106	054170	N/A	200RB 2 T 3	3/8 ODF	3.6 (12.7)	3.3 (11.6)	4.8 (16.9)	4.5 (15.9)	3.1 (10.9)	4.8 (17.0)
052726	056438	--	200RB 3 F 3	3/8 SAE						
052727	055855	--	200RB 3 F 4	1/2 SAE						
049608	--	--	200RB 3 T 2	1/4 ODF	6.0 (21.1)	5.5 (19.3)	8.0 (28.0)	7.5 (26.3)	5.1 (18.0)	8.0 (28.1)
049609	049585	065620	200RB 3 T 3	3/8 ODF						
049692	--	065621	200RB 3 T 4	1/2 ODF						
047506	047508	047507	200RB 4 F 3	3/8 SAE	6.2 (21.8)	5.7 (19.9)	8.2 (28.9)	7.7 (27.2)	5.3 (18.6)	8.3 (29.0)
047511	047513	047512	200RB 4 S 3	3/8 ODF X 1/2 ODM						
047516	047515	047514	200RB 4 S 4	1/2 ODF X 5/8 ODM						
047517	049162	049186	200RB 4 T 3	3/8 ODF	7.2 (25.2)	6.5 (23.0)	9.5 (33.3)	8.9 (31.4)	6.1 (21.5)	9.5 (33.5)
047518	049163	049187	200RB 4 T 4	1/2 ODF						
058950	058045	056518	200RB 4 T 5	5/8 ODF						
047519	047521	047520	200RB 5 F 4	1/2 SAE	12.7 (44.6)	11.7 (41.2)	17.0 (59.8)	16.2 (57.0)	11.1 (39.0)	17.1 (60.0)
059729	047523	047522	200RB 5 F 5	5/8 SAE						
047524	047526	047525	200RB 5 S 4	1/2 ODF X 5/8 ODM						
049201	047528	047527	200RB 5 S 5	5/8 ODF	22.5 (79.1)	20.3 (71.5)	29.5 (103.8)	28.0 (98.3)	18.3 (64.2)	29.6 (104.2)
061227	054323	--	200RB 5 T 3	3/8 ODF						
057206	049164	049188	200RB 5 T 4	1/2 ODF						
059730	049165	049189	200RB 5 T 5	5/8 ODF	7.2 (25.2)	6.5 (23.0)	9.5 (33.3)	8.9 (31.4)	6.1 (21.5)	9.5 (33.5)
059731	047531	047530	200RB 6 F 4	1/2 SAE						
059732	047534	047533	200RB 6 F 5	5/8 SAE						
047537	047539	047538	200RB 6 S 4	1/2 ODF X 5/8 ODM	12.7 (44.6)	11.7 (41.2)	17.0 (59.8)	16.2 (57.0)	11.1 (39.0)	17.1 (60.0)
047540	047542	047541	200RB 6 S 5	5/8 ODF						
047544	047546	047545	200RB 6 T 4	1/2 ODF						
056766	047548	047547	200RB 6 T 5	5/8 ODF	22.5 (79.1)	20.3 (71.5)	29.5 (103.8)	28.0 (98.3)	18.3 (64.2)	29.6 (104.2)
064037	--	--	200RB 7 S 5	5/8 ODF X 7/8 ODM						
064062	--	--	200RB 7 T 4	1/2 ODF						
064063	064562	064267	200RB 7 T 5	5/8 ODF	7.2 (25.2)	6.5 (23.0)	9.5 (33.3)	8.9 (31.4)	6.1 (21.5)	9.5 (33.5)
064282	064284	064283	200RB 7 T 7	7/8 ODF						
064762	064764	064763	200RB 9 T 5	5/8 ODF						
064645	064766	064765	200RB 9 T 7	7/8 ODF	22.5 (79.1)	20.3 (71.5)	29.5 (103.8)	28.0 (98.3)	18.3 (64.2)	29.6 (104.2)
064767	064769	064768	200RB 9 T 9	1 1/8 ODF						

¹ Add "T" to the end of description for Mounting Stud

² Add "M" to the end of the description for Manual Stem

Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.

All ratings are based on largest connection size.

*See Extended Capacity Tables for ratings at a wide range of conditions.

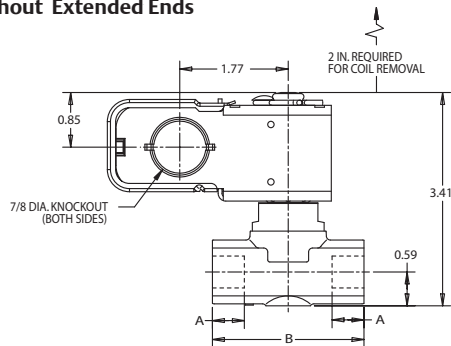
Ordering Information and Nominal Reverse Flow Liquid Capacity Table for Bi-Flow Solenoids *

PCN	Description	Connection Size	R-134A	R-450A/R-513A	R-407C	R-22	R-404A/R-507	R-448A/R-449A
009689	200RB GS-1925 3 T 3	3/8 ODF	4.4 (15.6)	4.1 (14.3)	5.2 (18.3)	5.5 (19.5)	3.6 (12.6)	5.6 (19.6)
009690	200RB GS-1926 4 T 3	3/8 ODF	7.4 (25.9)	6.7 (23.6)	8.6 (30.4)	9.2 (32.3)	5.9 (20.8)	9.2 (32.4)
009692	200RB GS-1928 5 T 4	1/2 ODF	7.6 (26.7)	6.9 (24.4)	8.9 (31.4)	9.5 (33.4)	6.1 (21.5)	9.5 (33.5)
009693	200RB GS-1929 5 T 5	5/8 ODF						
009694	200RB GS-1930 6 T 5	5/8 ODF	8.38 (30.8)	8.0 (28.2)	10.3 (36.2)	11.0 (38.5)	7.1 (24.8)	11.0 (38.7)

*For normal direction flow capacities see 200RB Extended Capacity Tables

200RB2-6 Dimensional Data (in)

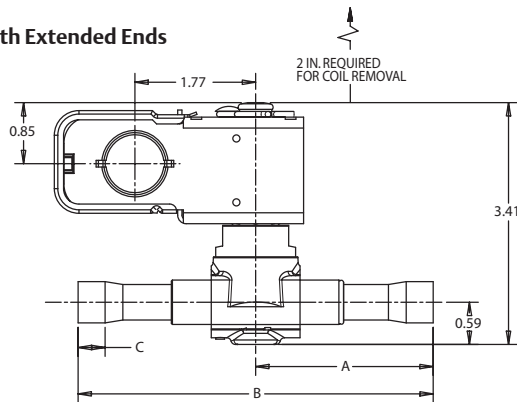
Without Extended Ends



Without Extended Ends

Valve	Port Size	Conn. Size & Style	A	B
200RB 4S3	1/4	3/8 ODF x 1/2 ODM	0.50	
200RB 4S4		1/2 ODF x 5/8 ODM	0.56	
200RB 4F3		3/8 SAE (male flare)	-	
200RB 5S4	5/16	1/2 ODF x 5/8 ODM	0.56	2.37
200RB 5S5		5/8 ODF		
200RB 5F4		1/2 SAE (male flare)		
200RB 5F5	5/8 SAE (male flare)	-	3.75	
200RB 6S4	3/8	1/2 ODF x 5/8 ODM	0.56	2.37
200RB 6S5		5/8 ODF		
200RB 6F4		1/2 SAE (male flare)		
200RB 6F5	5/8 SAE (male flare)	-	3.75	

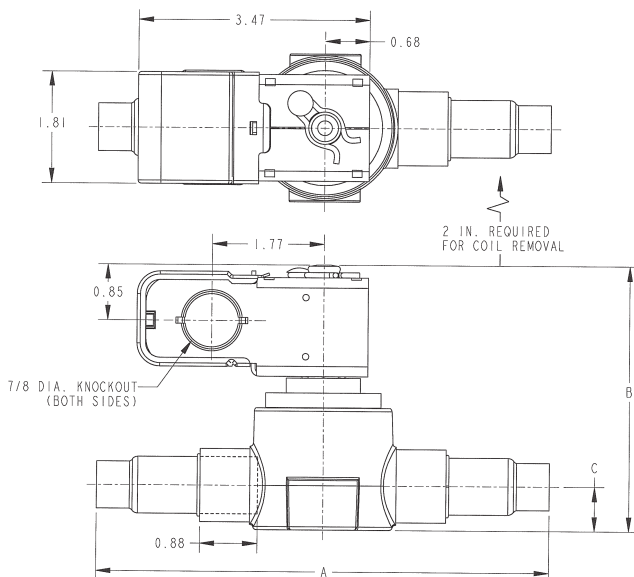
With Extended Ends



With Extended Ends

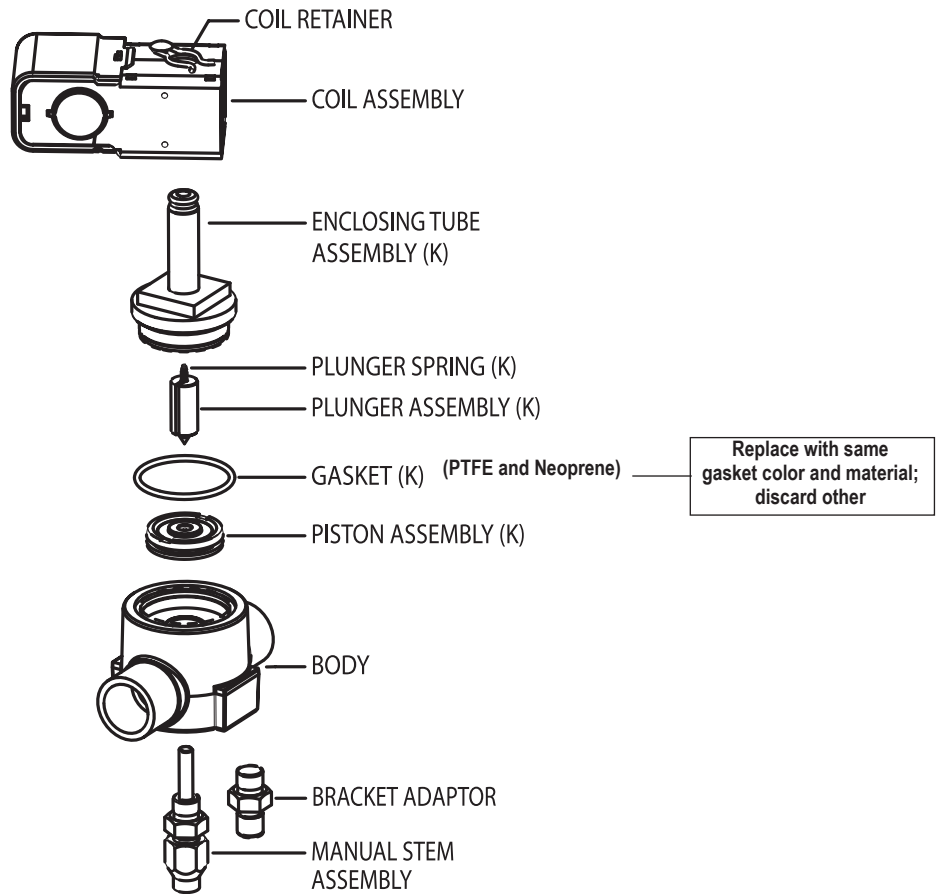
Valve	Port Size	Conn. Size & Style	A	B	C
200RB 2T2	1/8	1/4 ODF	2.42	4.62	0.25
200RB 2T3		3/8 ODF			0.31
200RB 3T2	3/16	1/4 ODF	2.42	4.62	0.25
200RB 3T3		3/8 ODF			0.31
200RB 3T4	1/4	1/2 ODF	2.50	5.00	0.38
200RB 4T4		5/8 ODF			0.50
200RB 4T5	5/16	5/8 ODF	3.25	6.50	0.50
200RB 5T3	5/16	3/8 ODF	2.31	4.62	0.31
200RB 5T4		1/2 ODF			
200RB 5T5	5/8 ODF	3.25	6.50	0.50	
200RB 6T3	3/8	3/8 ODF	2.31	4.62	0.31
200RB 6T4		1/2 ODF			
200RB 6T5	5/8 ODF	3.25	6.50	0.50	

200RB7 and 200RB9 Dimensional Data (in)



Valve	Port Size	Conn. Size & Style	A	B	C
200RB7S5	7/16	5/8 ODF x 7/8 ODM	2.98	3.69	0.53
200RB7T5		5/8 ODF x 5/8 ODF	6.88		
200RB7T7		7/8 ODF x 7/8 ODF	7.13		
200RB9T5	9/16	5/8 ODF x 5/8 ODF	6.88	4.05	0.68
200RB9T6		3/4 ODF x 3/4 ODF	7.38		
200RB9T7		7/8 ODF x 7/8 ODF	7.13		
200RB9T9		1 1/8 ODF x 1 1/8 ODF	8.50		

Exploded View & Parts Kit Data



Valve Repair Kit

"K" indicates part is supplied in valve repair kit **KS30386**. (PCN 066223)

Gasket Kit

Gasket Kit **KG10025** (PCN 049190)
(contains 12 pieces - each of PTFE and neoprene O-rings)

Coil Assembly

See coil assemblies for availability.

Valve Kits

Valve	Complete Kit	PCN	Manual Opening Kit	PCN	Bi-Flow Kit	PCN	Gasket Kit	PCN
200RB2	KS30386	066223	N/A	N/A	KS30387	066224	KG10025	049190
200RB3	KS30386	066223	KS30377	065695	KS30387	066224	KG10025	049190
200RB4	KS30386	066223	KS30117	053959	KS30387	066224	KG10025	049190
200RB5	KS30386	066223	KS30117	053959	KS30387	066224	KG10025	049190
200RB6	KS30386	066223	KS30117	053959	KS30387	066224	KG10025	049190
200RB7	KS30354	064263	KS30361	064831	N/A	N/A	KG00002	064262
200RB9	KS30362	064825	KS30364	064832	N/A	N/A	KG00003	064830

200RB Bi-Flow Conversion

Standard 200RB uni-directional valves can be converted to Bi-Flow operation by replacing the internal parts with the components in kit KS30387 (PCN 066224). Unlike the standard valve which permits flow in one direction only when energized, the Bi-Flow version allows the valve to flow in either direction, depending on differential pressures, when energized. If the valve is not energized when flowing in the reverse direction, valve "flutter" will occur. Also, with the valve de-energized, a higher downstream pressure than upstream (back-flow) will force the valve open.

NOTE: A 200RB7 and 200RB9 cannot be converted to a Bi-Flow valve.

The 200RD is a pilot-operated, 2-way, normally closed, solenoid valve that is suitable for all refrigerants, including R-410A and R-744. 200RD valves are used for liquid, discharge, or suction gas refrigerant service.

Features

- One coil fits all valve sizes
- Extended ends for easy installation (standard)
- Long-life molded coils
- PTFE O-ring for superior external sealing

Options

- Available in 7 orifice sizes
- Manual stem or mounting stud
- Bi-Flow operation-conversion either factory assembled or with kit except 200RD7 and 200RD9



Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 680 psig
- Minimum operating pressure drop: 2 psi
- MOPD: 550 psig
- UL/CUL file number: MP604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

NOTE: MOPD based on AC application. Consult application engineer for DC application.

Nomenclature example: 200RD 4T3M VLC

200R	D	4	T	3	M	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type T = Copper Extended Ends	Connection Size (In 1/8")	M = manual stem T = mounting stud (optional)	Coil*

*NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See available coil assemblies.

Ordering Information and Nominal * Liquid Capacity - Tons (kW)

PCN			Description	Connection Size	R-410A	R-744
Standard Valve	Mounting Stud ¹	Manual Stem ²				
066158	066179	–	200RD 2 T 2	1/4 ODF	3.4 (11.9)	8.16 (28.7)
066159	066180	–	200RD 2 T 3	3/8 ODF		
066160	–	–	200RD 3 T 2	1/4 ODF	4.5 (15.8)	10.86 (38.2)
066161	066182	066203	200RD 3 T 3	3/8 ODF		
066162	066183	066204	200RD 3 T 4	1/2 ODF		
066163	066184	066205	200RD 4 T 3	3/8 ODF	7.5 (26.4)	18.01 (63.3)
066164	066185	066206	200RD 4 T 4	1/2 ODF		
066165	066186	066181	200RD 4 T 5	5/8 ODF		
066166	066187	066208	200RD 5 T 3	3/8 ODF		
066167	066188	066209	200RD 5 T 4	1/2 ODF	7.7 (27.1)	18.62 (65.5)
066168	066189	066210	200RD 5 T 5	5/8 ODF		
066169	066190	066211	200RD 6 T 4	1/2 ODF	8.9 (31.3)	21.49 (75.6)
066170	066191	066212	200RD 6 T 5	5/8 ODF		
066172	066195	066214	200RD 7 T 5	5/8 ODF	15.7 (55.2)	37.62 (132.3)
066173	066194	066215	200RD 7 T 7	7/8 ODF		
066174	066202	066216	200RD 9 T 5	5/8 ODF	27.7 (97.6)	67.66 (238.0)
066175	066196	066217	200RD 9 T 7	7/8 ODF		
066176	066197	066218	200RD 9 T 9	1 1/8 ODF		

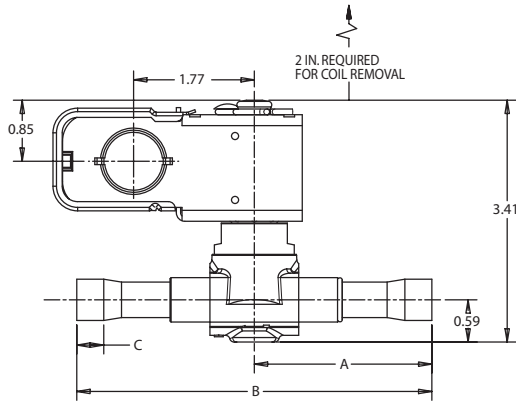
¹ Add "T" to the end of description for Mounting Stud
² Add "M" to the end of the description for Manual Stem

Capacities based on ARI standard.
 All ratings are based on largest connection size
 *See Extended Capacity Tables for ratings at a wide range of conditions.

Ordering Information and Nominal Liquid Capacity Table for Bi-Flow Solenoids - Tons (kW)

PCN			Description	Connection Size	R-12	R-134a	R-22	R-407C	R-404A/R-507	R-502	R-410A
Standard Valve	Mounting Stud	Manual Stem									
016996	--	--	200RD3T3 VLC BF	3/8 ODF	3.04 (10.69)	3.62 (12.73)	4.80 (16.88)	4.51 (15.86)	2.52 (8.86)	3.14 (11.04)	4.50 (15.83)
016997	--	--	200RD4T3 VLC BF	3/8 ODF	4.95 (17.41)	6.00 (21.10)	7.95 (27.96)	7.48 (26.31)	4.18 (14.70)	5.21 (18.32)	7.45 (26.20)
016998	--	--	200RD5T4 VLC BF	1/2 ODF	5.20 (18.29)	6.21 (21.84)	8.22 (28.91)	7.73 (27.19)	4.33 (15.23)	5.39 (18.96)	7.71 (27.11)
016999	--	--	200RD5T5 VLC BF	5/8 ODF							
017000	--	--	200RD6T5 VLC BF	5/8 ODF	6.01 (21.14)	7.16 (25.18)	9.48 (33.34)	8.92 (31.37)	4.99 (17.55)	6.22 (21.87)	8.89 (31.26)

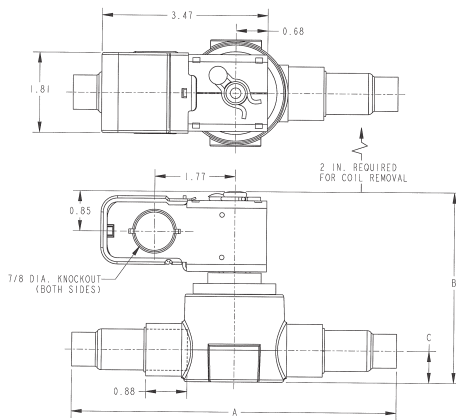
With Extended Ends



With Extended Ends

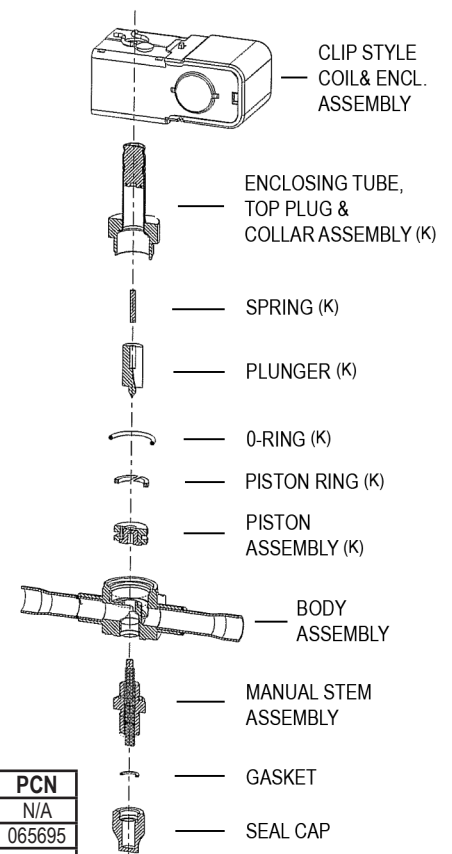
Valve	Port Size	Connection Size & Style	A	B	C
200RD 2T2	1/8	1/4 ODF	2.42	4.62	0.25
200RD 2T3		3/8 ODF			0.31
200RD 3T2	3/16	1/4 ODF			0.25
200RD 3T3		3/8 ODF			0.31
200RD 3T4	1/4	1/2 ODF	2.50	5.00	0.38
200RD 4T4		5/8 ODF	3.25	6.50	0.50
200RD 4T5	5/16	3/8 ODF	2.31	4.62	0.31
200RD 5T3		1/2 ODF	2.50	5.00	0.38
200RD 5T4	3/8	5/8 ODF	3.25	6.50	0.50
200RD 5T5		1/2 ODF	2.50	5.00	0.38
200RD 6T4	3/8	5/8 ODF	3.25	6.50	0.50
200RD 6T5		1/2 ODF	2.50	5.00	0.38

200RD7 and 200RD9 Dimensional Data (in)



Valve	Port Size	Connection Size & Style	A	B	C
200RD7S5	7/16	5/8 ODF x 7/8 ODM	2.98	3.69	0.53
200RD7T5		5/8 ODF x 5/8 ODF	6.88		
200RD7T7		7/8 ODF x 7/8 ODF	7.13		
200RD9T5	9/16	5/8 ODF x 5/8 ODF	6.88	4.05	0.68
200RD9T6		3/4 ODF x 3/4 ODF	7.38		
200RD9T7		7/8 ODF x 7/8 ODF	7.13		
200RD9T9		1 1/8 ODF x 1 1/8 ODF	8.50		

Exploded View & Parts Kit Data



(K) Indicate parts supplied in a complete valve repair kit.

Valve Kits

Valve	Complete Kit	PCN	Gasket Kit	OCN	Bi-Flow Kit	PCN	Manual Opening Kit	PCN
200RD2	KS30386	066223	KG10025	049190	KS30387	066224	N/A	N/A
200RD3	KS30386	066223	KG10025	049190	KS30387	066224	KS30377	065695
200RD4	KS30386	066223	KG10025	049190	KS30387	066224	KS30117	053959
200RD5								
200RD6								
200RD7	KS30390	066449	KG00002	64262	N/A	N/A	KS30361	064831
200RD9	KS30391	066450	KG00003	064830			KS30364	064832

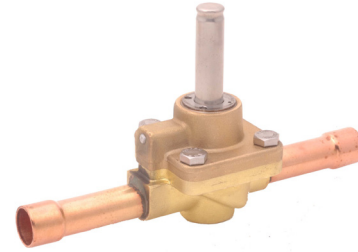
The 240RA is a 2-way, normally closed diaphragm valve. 240RA valves are used for liquid, suction, and hot gas service.

Features

- One coil fits all valve sizes
- Can be brazed into the line without disassembly
- PTFE diaphragm for high temperature applications
- Extended ends for easy installation (standard)
- Long-life molded coils
- Mounting stud models can be field converted to manual stem

Options

- Manual stem or mounting stud



Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- MOPD: 300 psig
- UL/CUL file number: MP604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

Nomenclature example: 240RA 8T5M VLC

240R	A**	8	T	5	M	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type T = copper extended ends	Connection Size (in 1/8")	M = manual stem T = mounting stud (optional)	Coil*

* NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See coil assemblies for availability.

**NOTE: Letter "H" is no longer used since all 240RA valves now contain the high temperature diaphragm for hot gas.

Ordering Information and Nominal* Liquid Capacity Table - Tons (kW)

PCN			Description	Connection Size	R-134A	R-450A/ R-513A	R-22	R-407C	R-404A/ R-507	R-448A/ R-449A
Standard Valve	Mounting Stud ¹	Manual Stem ²								
060374	040846	040845	240RA 8 T 5	5/8 ODF	12.1 (42.6)	10.8 (37.8)	15.6 (54.9)	14.8 (52.1)	10.3 (36.2)	15.7 (55.1)
060375	044860	045753	240RA 8 T 7	7/8 ODF						
060376	040848	040847	240RA 9 T 5	5/8 ODF	18.0 (63.3)	16.1 (56.5)	23.3 (81.9)	22.1 (77.2)	15.3 (53.8)	23.4 (82.3)
060377	043205	043204	240RA 9 T 7	7/8 ODF						
060378	044861	045752	240RA 9 T 9	1 1/8 ODF	23.6 (83.0)	21.0 (74.0)	30.5 (107.27)	29.0 (102.0)	20.1 (70.7)	30.6 (107.7)
060379	040850	040849	240RA 12 T 7	7/8 ODF						
060380	043959	045549	240RA 12 T 9	1 1/8 ODF	27.1 (95.3)	24.1 (84.6)	34.9 (122.7)	33.2 (116.8)	23.0 (80.9)	35.0 (123.2)
060381	042549	042548	240RA 16 T 9	1 1/8 ODF						
060382	044428	044788	240RA 16 T 11	1 3/8 ODF	45.0 (158.3)	40.0 (140.6)	58.0 (203.9)	55.2 (194.1)	38.3 (134.7)	58.2 (204.8)
060383	047761	046636	240RA 20 T 11	1 3/8 ODF						
060384	047747	046637	240RA 20 T 13	1 5/8 ODF	70.9 (249.4)	65.8 (231.3)	95.4 (335.5)	90.8 (319.3)	65.7 (231.1)	95.8 (336.8)
060385	054297	046638	240RA 20 T 17	2 1/8 ODF						

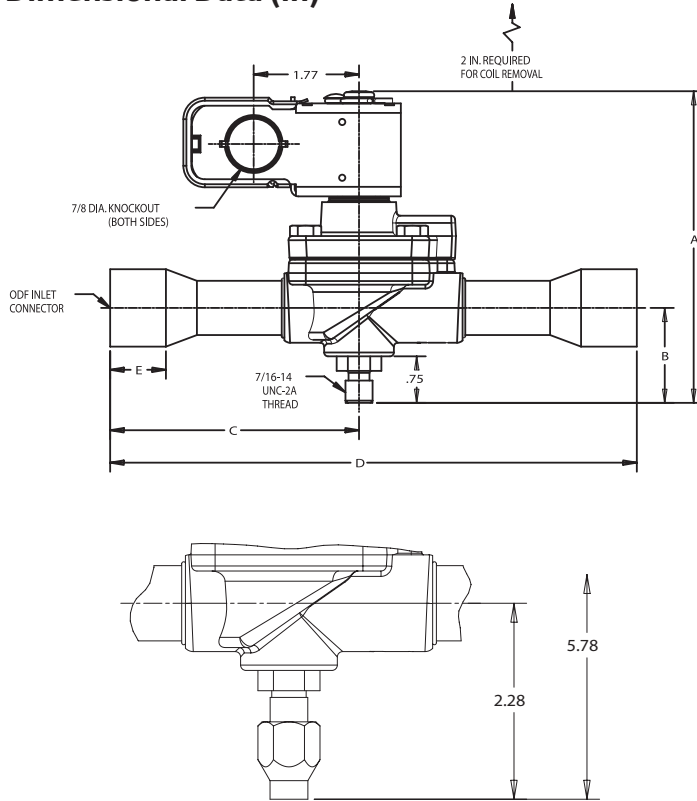
¹ Add "T" to the end of description for Mounting Stud

² Add "M" to the end of the description for Manual Stem

Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.

*See Extended Capacity Tables for ratings at a wide range of conditions.

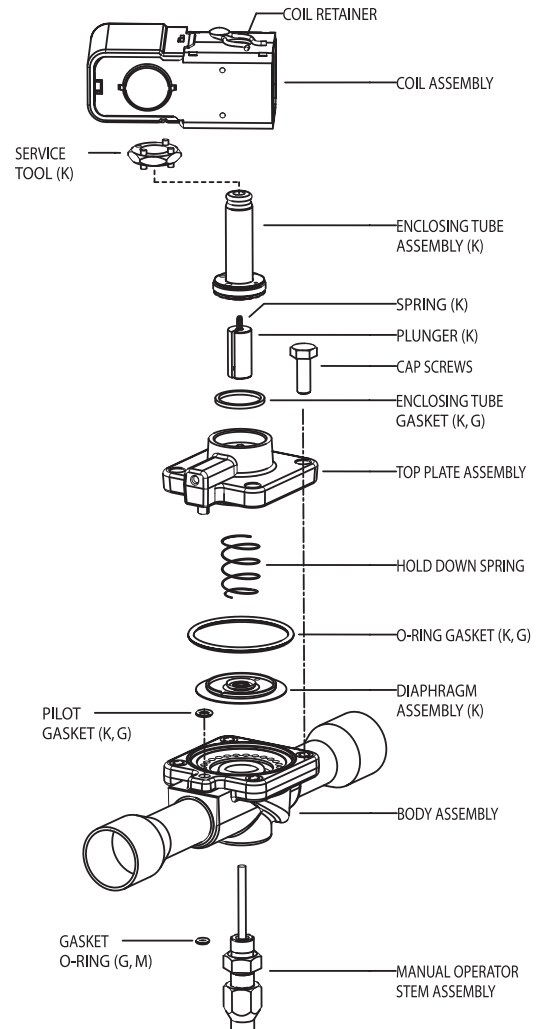
Dimensional Data (in)



WITH MANUAL STEM - "M" VERSION

Valve	Port Size	Conn. Size	A	B	C	D	E
240RA8T5T	1/2	5/8 ODF	4.80	1.34	3.28	6.88	0.50
240RA8T5M			5.28	1.83			
240RA8T7T	1/2	7/8 ODF	4.80	1.34	3.41	7.13	0.75
240RA8T7M			5.28	1.83			
240RA9T5T	9/16	5/8 ODF	5.08	1.50	3.20	6.88	0.50
240RA9T5M			5.56	2.08			
240RA9T7T	9/16	7/8 ODF	5.08	1.50	3.33	7.13	0.75
240RA9T7M			5.56	2.08			
240RA9T9T	9/16	1-1/8 ODF	5.08	1.50	4.02	8.50	0.91
240RA9T9M			5.56	2.08			
240RA12T7T	3/4	7/8 ODF	5.08	1.50	3.52	7.50	0.75
240RA12T7M			5.56	2.08			
240RA12T9T	3/4	1-1/8 ODF	5.08	1.50	4.02	8.50	0.91
240RA12T9M			5.56	2.08			
240RA16T9T	1	1-1/8 ODF	5.34	1.66	4.13	9.06	0.97
240RA16T9M			5.80	2.23			
240RA16T11T	1	1-3/8 ODF	5.34	1.66	5.13	11.06	0.97
240RA16T11M			5.80	2.23			
240RA20T11T	1-1/4	1-3/8 ODF	5.45	1.31	5.11	10.81	1.09
240RA20T11M			6.47	2.33			
240RA20T13T	1-1/4	1-5/8 ODF	5.45	1.31	5.89	12.38	1.09
240RA20T13M			6.47	2.33			
240RA20T17T	1-1/4	2-1/8 ODF	5.45	1.31	6.58	13.75	1.34
240RA20T17M			6.47	2.33			

Exploded View & Parts Kit Data



Valve Kits

Valve	Complete Kit	PCN	Manual Opener Kit	PCN
240RA8	KS30321	060626	KS30066	044657
240RA9	KS30322	060627	KS30067	044658
240RA12	KS30323	060628	KS30067	044658
240RA16	KS30324	060629	KS30068	044491
240RA20	KS30325	060630	KS30098	047723

Gasket Kit for all 240RA valves is KG10028 (PCN 054356)

Valve Repair Kit

"K" indicates part is supplied in complete valve repair kit.

Manual Stem Kit

"M" indicates part is supplied in manual stem kit.

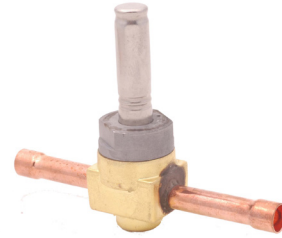
Gasket Kit

"G" indicates gasket is supplied in gasket kit.
Note: Spanner wrench (X11981-1 service tool) included in complete valve kit.

Coil Assembly

See coil assemblies for availability.

The 500RB is a pilot-operated, 2-way, normally open valve. 500RB valves are used for liquid, suction or discharge gas refrigerant service.



Features

- One coil fits all valve sizes
- Extended ends for easy installation
- Can be positioned in remote locations
- Long-life molded coils
- Low pressure differential required for full opening
- PTFE O-ring for superior external sealing

Options

- Connection types: SAE, ODF, NPTF and ODF inlet with ODM outlet

Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- MOPD: 275 psig
- UL/CUL file number: MP604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

NOTE: This valve requires a DM, MM or ASC2-Type coil assembly. ASC2-Type Coil requires cable assembly (PCN:059261).

Nomenclature example: 500RB 4T3 VLC

500R	B	4	T	3	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type F = SAE T = ODF (copper extended fittings) P = NPTF S = ODF inlet/ODM outlet	Connection Size (in 1/8")	Coil*

* NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See coil assemblies for availability.

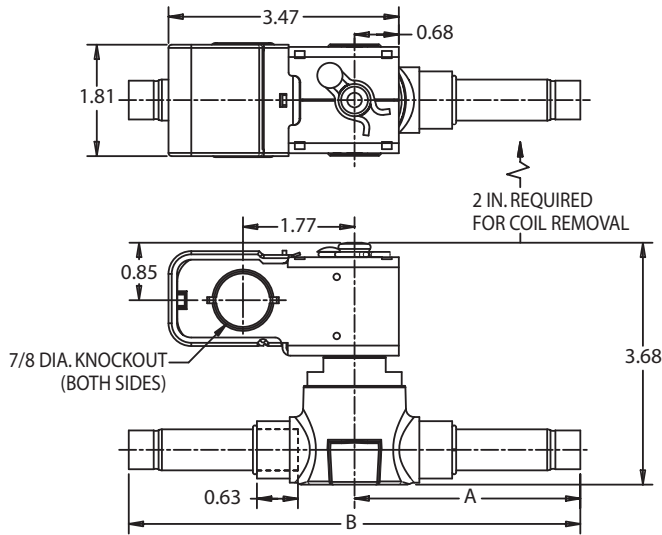
Ordering Information and Nominal* Liquid Capacity Table – Tons (kW)

PCN	Description	Connection Size	R-134a	R-450A/R-513A	R-22	R-407C	R-404A/R-507	R-448A/R-449A
063274	500RB 2 F 2	1/4 SAE	2.7 (9.6)	2.5 (8.7)	3.6 (12.7)	3.4 (11.9)	2.3 (8.2)	3.6 (12.7)
063278	500RB 2 T 2	1/4 ODF						
063280	500RB 2 T 3	3/8 ODF						
063286	500RB 3 F 4	1/2 SAE	3.6 (12.7)	3.3 (11.6)	4.8 (16.9)	4.5 (15.9)	3.1 (10.9)	4.8 (17.0)
063288	500RB 3 T 2	1/4 ODF						
063290	500RB 3 T 3	3/8 ODF						
063292	500RB 3 T 4	1/2 ODF						
063294	500RB 4 F 3	3/8 SAE	6.0 (21.1)	5.5 (19.3)	8.0 (28.0)	7.5 (26.3)	5.1 (18.0)	8.0 (28.1)
063298	500RB 4 P 3	3/8 NPTF						
063302	500RB 4 S 4	1/2 ODF x 5/8 ODM						
063304	500RB 4 T 2	1/4 ODF						
063306	500RB 4 T 3	3/8 ODF						
063308	500RB 4 T 4	1/2 ODF						
063310	500RB 4 T 5	5/8 ODF						
063312	500RB 5 F 4	1/2 SAE	6.2 (21.8)	5.7 (19.9)	8.2 (21.8)	7.7 (27.2)	5.3 (18.6)	8.3 (29.0)
063314	500RB 5 F 5	5/8 SAE						
063316	500RB 5 P 3	3/8 NPTF						
063318	500RB 5 S 4	1/2 ODF x 5/8 ODM						
063320	500RB 5 S 5	5/8 ODF						
063322	500RB 5 T 3	3/8 ODF						
063323	500RB 5 T 4	1/2 ODF						
063325	500RB 5 T 5	5/8 ODF	7.2 (25.2)	6.5 (23.0)	9.5 (33.3)	8.9 (31.4)	6.1 (21.5)	9.5 (33.5)
063329	500RB 6 F 5	5/8 SAE						
063331	500RB 6 P 3	3/8 NPTF						
063333	500RB 6 S 4	1/2 ODF x 5/8 ODM						
063335	500RB 6 S 5	5/8 ODF						
063337	500RB 6 T 3	3/8 ODF						
063339	500RB 6 T 4	1/2 ODF	12.7 (44.6)	11.7 (41.2)	17.0 (59.8)	16.2 (57.0)	11.1 (39.0)	17.1 (60.0)
064038	500RB 7 S 5	5/8 ODF x 7/8 ODM						
064064	500RB 7 T 4	1/2 ODF						

Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.

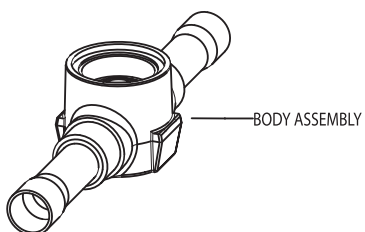
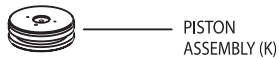
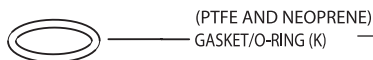
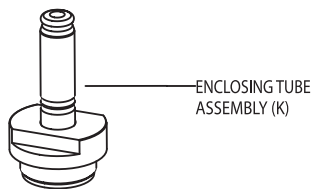
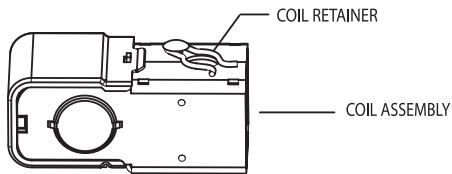
*See Extended Capacity Tables for ratings at a wide range of conditions.

Dimensional Data (in)



*NOTE: Drawing indicates extended copper tube version.

Exploded View & Parts Kit Data



Without Extended Ends

Valve	Port Size	Conn. Size & Style	A	B
500RB 4P3	1/4	3/8 NPTF	-	2.37
500RB 4S4		1/2 ODF X 5/8 ODM	0.56	2.37
500RB 4F3		3/8 SAE (male flare)	-	3.12
500RB 5P3	5/16	3/8 NPTF	-	2.37
500RB 5S4		1/2 ODF X 5/8 ODM	0.56	2.37
500RB 5S5		5/8 ODF	-	2.37
500RB 5F4		1/2 SAE (male flare)	-	3.50
500RB 5F5		5/8 SAE (male flare)	-	3.75
500RB 6P3	3/8	3/8 NPTF	-	2.37
500RB 6S4		1/2 ODF X 5/8 ODM	0.56	2.37
500RB 6S5		5/8 ODF	-	2.37
500RB 6F5		5/8 SAE (male flare)	-	3.75
500RB 7S5	7/16	5/8 ODF X 7/8 ODM	0.63	2.98

With Extended Ends

Valve	Port Size	Conn. Size & Style	A	B
500RB 2T2	1/8	1/4 ODF	2.42	4.67
500RB 2T3		3/8 ODF		
500RB 3T2	3/16	1/4 ODF		
500RB 3T3		3/8 ODF		
500RB 3T4		1/2 ODF		
500RB 4T4	1/4	1/2 ODF		
500RB 4T5		5/8 ODF	3.25	6.50
500RB 5T3	5/16	3/8 ODF	2.31	4.63
500RB 5T4		1/2 ODF	2.50	5.00
500RB 5T5		5/8 ODF	3.25	6.50
500RB 6T3		3/8	3/8 ODF	2.31
500RB 6T4	1/2 ODF		2.50	5.00

Valve Kits

Valve	Complete Kit	PCN
500RB 2-6	KS-30353	064268
500RB 7	KS-30355	064264

Replace with same gasket color and material; discard other

Gasket Kit

Gasket Kit **KG10025 - PCN 049190**
(contains 12 pieces - each of PTFE and Neoprene O-rings).

Coil Assembly

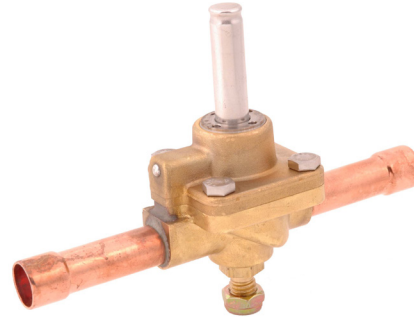
DM, MM or ASC-Type style only

Use MagMax style coil for operation on DC voltage.
No other DC coil may be used.

The 540RA is a 2-way, normally open diaphragm valve. 540RA valves are used for liquid, suction and hot gas service.

Features

- Can be brazed into the line without disassembly
- PTFE diaphragm
- Extended ends for easy installation
- Long-life molded coils
- Low pressure differential required for full opening



Specifications

- Maximum fluid temperature: 250°F
- Maximum working pressure: 500 psig
- MOPD: 250 psig
- UL/CUL file number: MP604

NOTE: Mounting enclosing tube more than 90° off vertical up position is not recommended.

NOTE: This valve requires a DM, MM or ASC2-Type coil assembly. ASC2-Type Coil requires snap cap and cable assembly (PCN:059261).

Nomenclature example: 540RA 8T5 VLC

540R	A	8	T	5	VLC
Valve Series	Design Series	Port Size (in 1/16")	Connection Type T = copper extended ends	Connection Size (in 1/8")	Coil*

* NOTE: Valves are shipped without the solenoid coils (VLC = Valve Less Coil). See coil assemblies for availability.

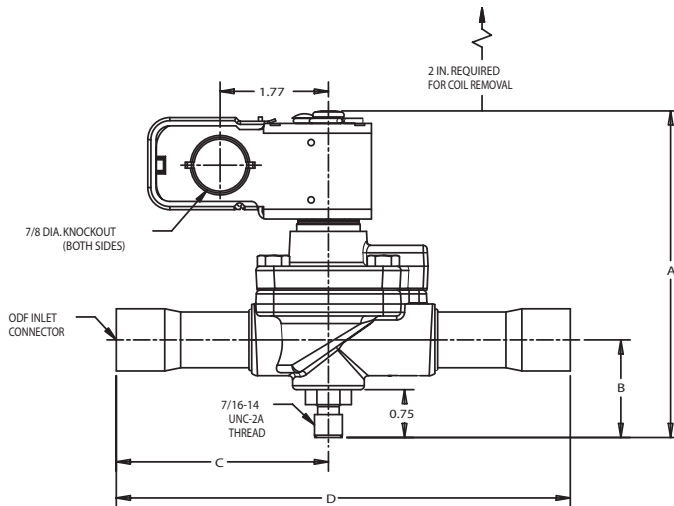
Ordering Information and Nominal* Liquid Capacity Table – Tons (kW)

PCN		Description	Connection Size	R-134a	R-450A/R-513A	R-22	R-407C	R-404A/R-507	R-448A/R-449A
Standard Valve	Mounting Stud ¹								
	058573	540RA 8 T 4	1/2 ODF	12.1 (42.6)	10.8 (37.8)	15.6 (54.9)	14.8 (52.1)	10.3 (36.2)	15.7 (55.1)
060392	046265	540RA 8 T 5	5/8 ODF						
	046266	540RA 9 T 5	5/8 ODF	18.0 (63.3)	16.1 (56.5)	23.3 (81.9)	22.1 (77.2)	15.3 (53.8)	23.4 (82.3)
060395	046268	540RA 9 T 7	7/8 ODF	23.6 (83.0)	21.0 (74.0)	30.5 (107.27)	29.0 (102.0)	20.1 (70.7)	30.6 (107.7)
060396	047497	540RA 9 T 9	1 1/8 ODF						
060397	046269	540RA 12 T 7	7/8 ODF	27.1 (95.3)	24.1 (84.6)	34.9 (122.7)	33.2 (116.8)	23.0 (80.9)	35.0 (123.2)
060398	047498	540RA 12 T 9	1 1/8 ODF						
060399	046270	540RA 16 T 9	1 1/8 ODF	45.0 (158.3)	40.0 (140.6)	58.0 (203.9)	55.2 (194.1)	38.3 (134.7)	58.2 (204.8)
	047953	540RA 16 T 11	1 3/8 ODF						
060402	047954	540RA 20 T 13	1 5/8 ODF	70.9 (249.4)	65.8 (231.3)	95.4 (335.5)	90.8 (319.3)	65.7 (231.1)	95.8 (336.8)

¹ Add "T" to the end of description for Mounting Stud

Capacities based on 100°F liquid and 40°F saturated evaporator per ARI standard 760-87.

*See Extended Capacity Tables for ratings at a wide range of conditions.



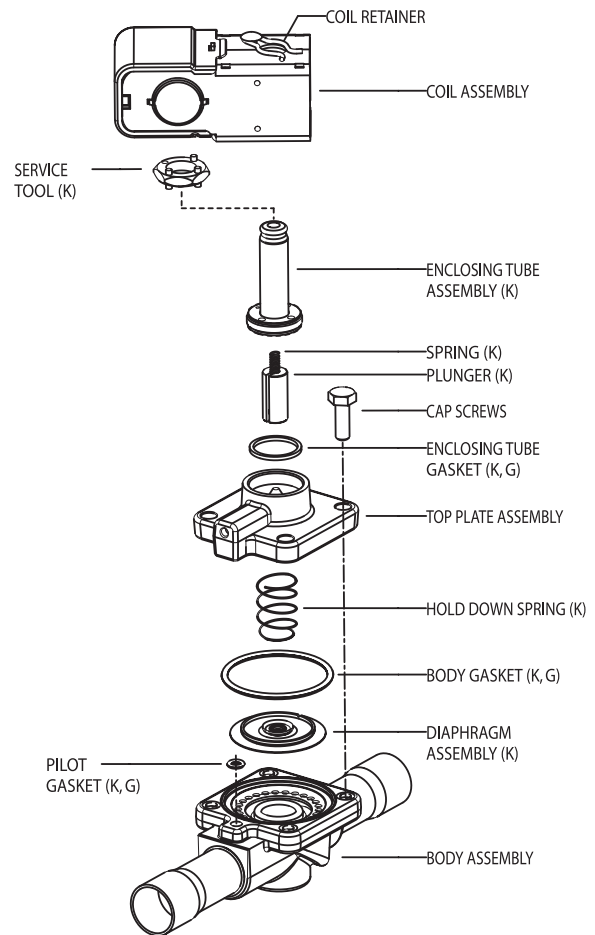
Valve	Port Size	Conn. Size	A	B	C	D
540RA8T5-T	1/2	5/8 ODF	4.80	1.34	3.28	6.88
540RA9T5-T	9/16	5/8 ODF	5.08	1.50	3.20	6.88
540RA9T7-T		7/8 ODF			3.33	7.13
540RA9T9-T		1 1/8 ODF			4.02	8.50
540RA12T7-T	3/4	7/8 ODF	5.08	1.50	3.52	7.50
540RA12T9-T		1 1/8 ODF			4.02	8.50
540RA16T9-T	1	1 1/8 ODF	5.34	1.66	4.25	9.06
540RA20T11-T	1-1/4	1 3/8 ODF	5.45	1.31	5.11	10.81
540RA20T13-T		1 5/8 ODF			5.89	12.38

540RA Valve Kits

Valve	Kit #	PCN
540RA8	KS30328	060633
540RA9	KS30329	060634
540RA12	KS30330	060635
540RA16	KS30331	060636
540RA20	KS30332	060637

Gasket Kit for all 540RA valves is KG10028 (PCN 054356)

Exploded View & Parts Kit Data



Valve Repair Kit

"K" indicates part is supplied in complete valve repair kit.

Gasket Kit

"G" indicates gasket is supplied in gasket kit.

Note: Spanner wrench X11981-1 (PCN 027451) is included in complete valve kit. (service tool used to remove and replace enclosing tube collar)

Coil Assembly

See coil assemblies for availability.

Features

- Compact designs
- Coil windings are insulated to provide shock and vibration protection
- ASC2 is designed to provide weather protection
- Interchangeable housings

Voltage Options

- 24V 50/60 Hz
- 120V 50/60 Hz (standard)
- 208-220/208-240V 50/60 Hz
- 480V 50/60 Hz
- 120-240V 50/60 Hz
- 12V D.C. (MM Series recommended)
- 24V D.C. (MM Series recommended)

ASC2 – DIN



Requires ASC2 female connector (PCN 059261).

MMG – Special DC



AMC - 1/2" Conduit



AMG - Junction Box



AMS - Open Frame



Nomenclature

Coil Code		
A	M	G
Series	Insulation	Enclosure
A = 12 Watt B = 15 Watt C = 18 Watt D = 7 Watt M = 4 Watt	B or G = Class B M = Class F H = Class H	C = Conduit Connection F = Open Frame Leads G = Junction Box L = Grommet 18" Leads S = Spade Connection

MAGMAX Coil (Type MM): For Use On DC Applications Only

Voltage	Amperes Holding	Watts Holding
12VDC	0.4	4
24VDC	0.4	4

Solenoid Coil Prefix Selection Table

Valve Type	J-Box	Conduit	Leads	Spades	Molded-DIN With Connector
50RB	-	-	SML*	-	-
100RB	AMG	AMC	AMF	AMS	ASC2
200RB / 200RD	AMG	AMC	AMF	AMS	ASC2
222CB (Steam)	AHG	AHC	-	-	-
500RB	DMG	-	DMF	DMS	-
540RA	-	-	-	DMS	ASC2
222CB (Water)	AMG	AMC	AMF	AMS	ASC2
Special DC Application	MMG	-	MMF	-	-

* SML is OEM - RMF is Wholesale replacement

Note - All coils NEMA1 except ASC2 NEMA2

AM/EM Coil:

- 204CD
- 214CB
- 211CA
- 222CB
- 210CA

Nominal Voltage and Frequency	Applied Voltage and Frequency	204CD		214C		211CA		222CB		210CA	
		Inrush	Holding	Inrush	Holding	Inrush	Holding	Inrush	Holding	Inrush	Holding
24/60	24/60	1.23	0.61	1.17	0.61	0.92	0.61	1.00	0.74	0.92	0.61
120/60	120/60	0.23	0.14	0.22	0.14	0.17	0.14	0.19	0.16	0.17	0.14
240/60	240/60	0.13	0.08	0.12	0.08	0.10	0.08	0.11	0.08	0.10	0.08
480/60	480/60	0.06	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04

See the MM (MAGMAX) Series Coil for DC Applications

AM Coil: 702RA

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	1.70	1.00	24	17/12	Class F Molded
24-50/60	24/60	1.41	0.64	15		
120-50/60	120/50	0.38	0.24	29		
120-50/60	120/60	0.32	0.16	19		
208-220/50 208-240/60	208/50	0.17	0.10	21		
208-220/50 208-240/60	208/60	0.15	0.06	13		
208-220/50 208-240/60	220/50	0.20	0.14	33		
208-220/50 208-240/60	240/60	0.22	0.09	22		
480-50/60	480/50	0.10	0.07	33		
480-50/60	480/60	0.09	0.04	22		

See the MM (MAGMAX) Series Coil for DC Applications

AM Coil: 100RB 240RA 710/713RA

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	1.20	.96	23	17/12	Class F Molded
24-50/60	24/60	1.0	.74	18		
120-50/60	120/50	.25	.21	25		
120-50/60	120/60	.19	.16	19		
208-220/50 208-240/60	208/50	.14	.08	17		
208-220/50 208-240/60	208/60	.12	.06	12		
208-220/50 208-240/60	220/50	.16	.10	24		
208-220/50 208-240/60	240/60	.13	.08	19		
480-50/60	480/50	.06	.05	24		
480-50/60	480/60	.05	.04	19		

See the MM (MAGMAX) Series Coil for DC Applications

AM Coil: 200RB/200RD

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	2.00	.96	23	17/12	Class F Molded
24-50/60	24/60	1.6	.74	18		
120-50/60	120/50	.45	.21	25		
120-50/60	120/60	.36	.16	19		
208-220/50 208-240/60	208/50	.19	.08	17		
208-220/50 208-240/60	208/60	.15	.06	12		
208-220/50 208-240/60	220/50	.24	.10	24		
208-220/50 208-240/60	240/60	.19	.08	19		
480-50/60	480/50	.11	.05	24		
480-50/60	480/60	.09	.04	19		

See the MM (MAGMAX) Series Coil for DC Applications

**ASC2 Coil:
200RB/200RD
540RA**

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	2.18	1.07	26	15/12	Class H Molded
24-50/60	24/60	1.90	.81	19		
120-50/60	120/50	.43	.21	25		
120-50/60	120/60	.38	.16	19		
240-50/60	240/50	.24	.12	30		
240-50/60	240/60	.21	.09	22		

**DM Coil:
500RB**

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	1.80	.71	17	17/12	Class F Molded
24-50/60	24/60	1.56	.52	12		
120-50/60	120/50	.36	.14	17		
120-50/60	120/60	.31	.10	12		
240-50/60	240/50	.19	.08	19		
240-50/60	240/60	.17	.06	14		

**ASC2 Coil:
100RB
240RA
710/713RA**

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	1.67	1.10	26	15/12	Class H Molded
24-50/60	24/60	1.41	.83	20		
120-50/60	120/50	.31	.22	26		
120-50/60	120/60	.26	.16	20		
240-50/60	240/50	.17	.13	31		
240-50/60	240/60	.15	.10	23		

**DM Coil:
100RB
240RA
710/713RA**

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	1.21	.72	17	17/12	Class F Molded
24-50/60	24/60	1.02	.52	13		
120-50/60	120/50	.24	.14	17		
120-50/60	120/60	.20	.10	12		
240-50/60	240/50	.13	.08	20		
240-50/60	240/60	.11	.06	14		

**RMS/RMF Coil:
50RB**

Nominal Voltage and Frequency	Applied Voltage and Frequency	Amperes		VA Holding	Watts Max.	Coil Insulation
		Inrush	Holding			
24-50/60	24/50	.87	.50	12	RMF/7 RMS/10	Class F Molded
24-50/60	24/60	.90	.40	10		
120-50/60	120/50	.19	.19	22		
120-50/60	120/60	.17	.09	10		
208-50/60	208/60	.08	.03	7		
220-50/60	220/50	.10	.05	11		
240-50/60	240/50	.11	.06	14		
240-50/60	240/60	.10	.04	11		

Ordering Information

AMG Junction Box



6" Leads

AMC - 1/2" Conduit



18" Leads

AMS - Open Frame



18" Leads or
1.4" Spades

Voltage / Frequency	Description	PCN	Description	PCN	Description	PCN
24V 50/60 Hz	AHG 24V 50/60 Hz	057669	AMC 24V 50/60 Hz	057631	AMF 24V 50/60 Hz	057539
	AMG 24V 50/60 Hz	057341	AHC 24V 50/60 Hz	057736	AMF 24V 50/60 Hz	057538
	--	--	--	--	DMS 24V 50/60 Hz	062013
	DMG 24V 50/60 Hz	055129	--	--	RMF 24V 50/60 Hz	065677
	--	--	--	--	AMS 24V 50/60 Hz	057603
120V 50/60 Hz	AHG 120V 50/60 Hz	057673	AMC 120V 50/60 Hz	057598	RMF 120V 50/60 Hz	065678
	AMG 120V 50/60 Hz	057331	AHC 120V 50/60 Hz	057743	AMS 120V 50/60 Hz	057349
	DMG 120V 50-60 Hz	054762	--	--	RMS 120V 50/60 Hz	065204
208-220/208-240 50/60 Hz	AHG 208-220/208-240 50/60 Hz	057671	--	--	AMF 208-220/208-240 50/60 Hz	057540
	AMG 208-220/208-240 50/60 Hz	057342	AMC 208-220/208-240 50/60 Hz	057594	RMF 208-220/208-240 50/60 Hz	065679
	DMG 208-220/208-240 50/60 Hz	054764	--	--	AMS 208-220/208-240 50/60 Hz	057531
	--	--	--	--	RMS 208-220/208-240 50/60 Hz	065681
480V 50/60 Hz	AMG 480V 50/60 Hz	057527	--	--	AMF 480V 50/60 Hz	057534
120-240V 50/60 Hz	AMG 120-240V 50/60 Hz	057343	AMC 120-240V 50/60 Hz	057730	AMF 120-240V 50/60 Hz	062410
277V 60 Hz	AMG 277V 60 Hz	057528	--	--	AMF 277V 50/60 Hz	057533
	--	--	--	--	AMS 277V 50/60 Hz	057714
12V DC	AMG 12V DC	057521	AMC 12V DC	057596	--	--
24V DC	AMG 24V DC	057523	AMC 24V DC	057633	--	--

ASC2 – DIN



MMG

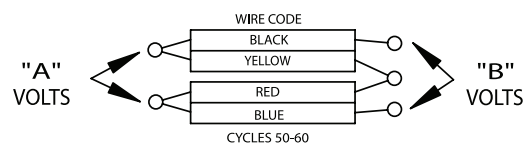


RMF



Voltage/Frequency	Description	PCN	Description	PCN
24V 50/60 Hz	ASC2 24/50-60	062792	--	--
24V 50/60 Hz	ASC2L 24/50-60	063542	--	--
120V 50/60 Hz	ASC2 120/50-60	062462	--	--
120V 50/60 Hz	ASC2 GS-2562-1	015384	--	--
208-220/208-240 50-60 Hz	ASC2 208-240/50-60	062463	--	--
208-220/208-240 50-60 Hz	ASC2 GS-2562-2	015383	--	--
12V DC	--	--	MMG 12V DC	063524
12V DC	--	--	MMF 12V DC	062972
24V DC	ASC2 24V DC	064375	MMG 24V DC	063526

Dual Voltage Wiring Diagram



AM and ASC 2 style DC coils should not be used for direct replacements on OEM equipment. The use of this coil on new applications may result in the valve not opening. New applications should use the MM coil because of the significant increase in opening power of the MM Coil over the standard AM and ASC 2 style DC coil.

Coil Enclosure Options

Options	Code
Junction Box	G
Conduit - 18" Leads	C
Open Frame - 18" Leads	F
Open Frame - Spades	S

A	B
120	240
240	480

The Solenoid Multi-Purpose Tool is a magnetic tool that holds key components together as the valve is disassembled. The manual stem adjustment makes it easy to open valves. This tool provides longer life utilizing its spanner wrench which not only makes it easier to service valves, but also protects the enclosing tube from damage.

Features

- Magnet opens a normally closed Emerson solenoid valve that is in the de-energized state
- Incorporates a spanner wrench and drive socket which enable easy disassembly of Emerson solenoid valves 100RB & 240RA/540RA by using a 3/8" socket wrench
- Tool has a manual stem orifice used to manually adjust opening stem
- May reassemble valve with proper torque specifications on collar

Torque Specifications

100RB Series	225 in. lbs.
240RA Series	150 in. lbs.
540RA Series	150 in. lbs.

Ordering Information

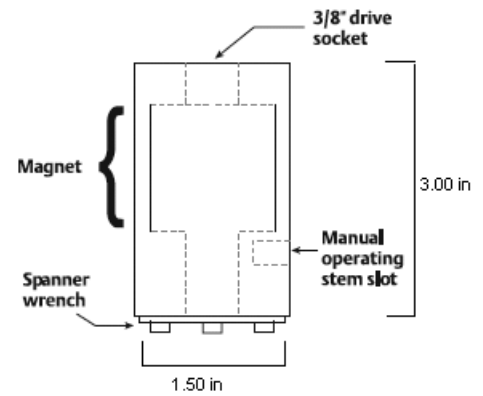
PCN	DESCRIPTION
066019	Solenoid Multi-Purpose Tool



Specifications

- Drive Socket size 3/8"

Dimension Data



Suction Gas Capacities

Solenoid Capacity Tables

Tons					
SUCTION GAS CAPACITIES @ 2 PSI PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - F				
	40	20	0	-20	-40
	R-12				
200RB/500RB/200RD 2	0.32	0.30	0.23	0.17	0.10
200RB/500RB/200RD 3	0.44	0.41	0.31	0.23	0.14
200RB/500RB/200RD 4	0.81	0.77	0.59	0.44	0.26
200RB/500RB/200RD 5	0.97	0.93	0.71	0.53	0.32
200RB/500RB/200RD 6	1.05	0.99	0.76	0.56	0.34
200RB/500RB/200RD 7	1.90	1.70	1.30	1.00	0.60
200RB/RD 9	2.05	2.45	1.90	1.40	0.85
240/540RA8	1.00	0.80	0.60	0.50	0.40
240/540RA9T5	1.30	1.10	0.90	0.70	0.50
240/540RA9	1.60	1.30	1.00	0.80	0.60
240/540RA12	2.00	1.60	1.20	1.00	0.70
240/540RA16	3.90	3.20	2.50	1.90	1.50
240/540RA20	5.50	4.50	3.50	2.70	2.10
R-22/R407C					
200RB/500RB/200RD 2	0.34	0.28	0.22	0.18	0.13
200RB/500RB/200RD 3	0.47	0.38	0.31	0.24	0.18
200RB/500RB/200RD 4	0.89	0.73	0.58	0.46	0.34
200RB/500RB/200RD 5	1.08	0.88	0.71	0.55	0.39
200RB/500RB/200RD 6	1.14	0.93	0.75	0.59	0.43
200RB/500RB/200RD 7	1.90	1.00	1.30	1.00	0.76
200RB/RD 9	2.85	2.35	1.91	1.50	1.15
240/540RA8	1.50	1.20	1.00	0.80	0.60
240/540RA9T5	2.00	1.60	1.30	1.00	0.80
240/540RA9	2.40	2.00	1.60	1.20	1.00
240/540RA12	2.90	2.40	1.90	1.50	1.20
240/540RA16	5.80	4.70	3.80	3.00	2.30
240/540RA20	8.20	6.70	5.40	4.20	3.30
R-502					
200RB/500RB/200RD 2	0.28	0.22	0.17	0.13	0.10
200RB/500RB/200RD 3	0.38	0.30	0.24	0.19	0.13
200RB/500RB/200RD 4	0.71	0.57	0.45	0.35	0.26
200RB/500RB/200RD 5	0.86	0.69	0.55	0.42	0.30
200RB/500RB/200RD 6	0.92	0.74	0.58	0.45	0.33
200RB/500RB/200RD 7	1.60	1.30	1.00	0.80	0.60
200RB/RD 9	2.34	1.80	1.50	1.15	0.87
240/540RA8	1.20	1.00	0.80	0.60	0.40
240/540RA9T5	1.60	1.30	1.00	0.80	0.60
240/540RA9	1.90	1.50	1.20	0.90	0.07
240/540RA12	2.30	1.90	14.50	1.10	0.80
240/540RA16	4.60	3.70	2.90	2.30	1.70
240/540RA20	6.50	5.20	4.10	3.20	2.40

Kilowatts					
SUCTION GAS CAPACITIES @ 14.0 kPa PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - C				
	4	-7	-18	-29	-40
	R-12				
200RB/500RB/200RD 2	1.13	1.06	0.81	0.60	0.35
200RB/500RB/200RD 3	1.55	1.44	1.09	0.81	0.49
200RB/500RB/200RD 4	2.85	2.71	2.07	1.55	0.91
200RB/500RB/200RD 5	3.41	3.27	2.50	1.86	1.13
200RB/500RB/200RD 6	3.69	3.48	2.67	1.97	1.20
200RB/500RB/200RD 7	6.80	6.00	4.60	3.50	2.10
200RB/RD 9	7.21	8.62	6.68	4.92	2.99
240/540RA8	3.52	2.81	2.11	1.76	1.41
240/540RA9T5	4.57	3.87	3.17	2.46	1.76
240/540RA9	5.63	4.57	3.52	2.81	2.11
240/540RA12	7.03	5.63	4.22	3.52	2.46
240/540RA16	13.72	11.25	8.79	6.68	5.28
240/540RA20	19.34	15.83	12.31	9.50	7.39
R-22/R407C					
200RB/500RB/200RD 2	1.20	0.98	0.77	0.63	0.46
200RB/500RB/200RD 3	1.65	1.34	1.09	0.84	0.63
200RB/500RB/200RD 4	3.13	2.57	2.04	1.62	1.20
200RB/500RB/200RD 5	3.80	3.09	2.50	1.93	1.37
200RB/500RB/200RD 6	4.01	3.27	2.64	2.07	1.51
200RB/500RB/200RD 7	6.80	5.60	4.60	3.50	2.70
200RB/RD 9	10.02	8.26	6.72	5.28	4.04
240/540RA8	5.28	4.22	3.52	2.81	2.11
240/540RA9T5	7.03	5.63	4.57	3.52	2.81
240/540RA9	8.44	7.03	5.63	4.22	3.52
240/540RA12	10.20	8.44	6.68	5.28	4.22
240/540RA16	20.40	16.53	13.36	10.55	8.09
240/540RA20	28.84	23.56	18.99	14.77	11.61
R-502					
200RB/500RB/200RD 2	0.98	0.77	0.60	0.46	0.35
200RB/500RB/200RD 3	1.34	1.06	0.84	0.67	0.46
200RB/500RB/200RD 4	2.50	2.00	1.58	1.23	0.91
200RB/500RB/200RD 5	3.02	2.43	1.93	1.48	1.06
200RB/500RB/200RD 6	3.24	2.60	2.04	1.58	1.16
200RB/500RB/200RD 7	5.60	4.60	3.50	2.80	2.10
200RB/RD 9	8.23	6.33	5.28	4.04	3.06
240/540RA8	4.22	3.52	2.81	2.11	1.41
240/540RA9T5	5.63	4.57	3.52	2.81	2.11
240/540RA9	6.68	5.28	4.22	3.17	0.25
240/540RA12	8.09	6.68	51.00	3.87	2.81
240/540RA16	16.18	13.01	10.20	8.09	5.98
240/540RA20	22.86	18.29	14.42	11.25	8.44

NOTE: Capacity is based on largest connection size.

Suction Gas Capacities

Solenoid Capacity Tables

Tons					
SUCTION GAS CAPACITIES @ 2 PSI PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - F				
	40	20	0	-20	-40
R-134a					
200RB/500RB/200RD 2	0.26	0.21	0.16	0.11	0.08
200RB/500RB/200RD 3	0.36	0.29	0.21	0.15	0.10
200RB/500RB/200RD 4	0.69	0.54	0.42	0.28	0.16
200RB/500RB/200RD 5	0.83	0.65	0.47	0.34	0.23
200RB/500RB/200RD 6	0.88	0.69	0.52	0.37	0.26
200RB/500RB/200RD 7	1.50	1.20	0.90	0.70	0.50
200RB/RD 9	2.20	1.70	1.35	0.95	0.65
240/540RA8	0.80	0.60	0.50	0.40	0.30
240/540RA9T5	1.40	1.10	0.80	0.60	0.40
240/540RA9	1.70	1.40	1.10	0.80	0.50
240/540RA12	1.90	1.50	1.20	0.90	0.60
240/540RA16	3.20	2.50	1.90	1.40	1.00
240/540RA20	4.40	3.50	2.70	2.00	1.60
R-450A/R-513A					
200RB/500RB/200RD 2	0.24	0.19	0.15	0.11	0.08
200RB/500RB/200RD 3	0.33	0.27	0.20	0.15	0.11
200RB/500RB/200RD 4	0.62	0.50	0.39	0.29	0.21
200RB/500RB/200RD 5	0.76	0.61	0.47	0.35	0.26
200RB/500RB/200RD 6	0.80	0.64	0.50	0.37	0.27
200RB/500RB/200RD 7	1.33	1.07	0.83	0.62	0.45
200RB/200RD 9	1.99	1.61	1.24	0.93	0.67
240/540RA8	1.05	0.85	0.65	0.49	0.35
240/540RA9T5	1.40	1.13	0.87	0.65	0.47
240/540RA9	1.68	1.35	1.04	0.78	0.57
240/540RA12	2.03	1.64	1.26	0.94	0.69
240/540RA16	4.06	3.27	2.52	1.89	1.37
240/540RA20	5.74	4.63	3.56	2.67	1.94
R-404A/R-507					
200RB/500RB/200RD 2	0.29	0.23	0.18	0.14	0.10
200RB/500RB/200RD 3	0.39	0.31	0.24	0.19	0.13
200RB/500RB/200RD 4	0.74	0.54	0.46	0.35	0.26
200RB/500RB/200RD 5	0.90	0.71	0.56	0.42	0.30
200RB/500RB/200RD 6	0.95	0.76	0.59	0.45	0.32
200RB/500RB/200RD 7	1.70	1.30	1.00	0.80	0.60
200RB/RD 9	2.40	1.90	1.50	1.10	0.85
240/540RA8	0.90	0.70	0.50	0.40	0.30
240/540RA9T5	1.50	1.20	0.90	0.70	0.50
240/540RA9	1.90	1.50	1.20	0.90	0.60
240/540RA12	2.20	1.80	1.40	1.00	0.80
240/540RA16	3.40	2.70	2.10	1.60	1.20
240/540RA20	4.80	3.80	2.90	2.20	1.60

NOTE: Capacity is based on largest connection size.

Kilowatts					
SUCTION GAS CAPACITIES @ 14.0 kPa PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - C				
	4	-7	-18	-29	-40
R-134a					
200RB/500RB/200RD 2	0.91	0.74	0.56	0.39	0.28
200RB/500RB/200RD 3	1.27	1.02	0.74	0.53	0.35
200RB/500RB/200RD 4	2.43	1.90	1.48	0.98	0.56
200RB/500RB/200RD 5	2.92	2.29	1.65	1.20	0.81
200RB/500RB/200RD 6	3.09	2.43	1.83	1.30	0.91
200RB/500RB/200RD 7	5.30	4.20	3.10	2.50	1.80
200RB/RD 9	7.74	5.98	4.75	3.34	2.29
240/540RA8	2.81	2.11	1.76	1.41	1.06
240/540RA9T5	4.92	3.87	2.81	2.11	1.41
240/540RA9	5.98	4.92	3.87	2.81	1.76
240/540RA12	6.68	5.28	4.22	3.17	2.11
240/540RA16	11.25	8.79	6.68	4.92	3.52
240/540RA20	15.47	12.31	9.50	7.03	5.63
R-450A/R-513A					
200RB/500RB/200RD 2	0.84	0.67	0.52	0.39	0.28
200RB/500RB/200RD 3	1.16	0.93	0.72	0.54	0.39
200RB/500RB/200RD 4	2.19	1.77	1.36	1.02	0.74
200RB/500RB/200RD 5	2.66	2.14	1.65	1.24	0.90
200RB/500RB/200RD 6	2.80	2.26	1.74	1.31	0.95
200RB/500RB/200RD 7	4.67	3.77	2.90	2.18	1.58
200RB/200RD 9	7.01	5.65	4.36	3.27	2.37
240/540RA8	3.69	2.98	2.29	1.72	1.25
240/540RA9T5	4.92	3.97	3.06	2.29	1.66
240/540RA9	5.90	4.76	3.67	2.75	2.00
240/540RA12	7.13	5.75	4.43	3.32	2.41
240/540RA16	14.27	11.51	8.87	6.65	4.83
240/540RA20	20.17	16.27	12.53	9.40	6.82
R-404A/R-507					
200RB/500RB/200RD 2	1.02	0.81	0.63	0.49	0.35
200RB/500RB/200RD 3	1.37	1.09	0.84	0.67	0.46
200RB/500RB/200RD 4	2.60	1.90	1.62	1.23	0.91
200RB/500RB/200RD 5	3.17	2.50	1.97	1.48	1.06
200RB/500RB/200RD 6	3.34	2.67	2.07	1.58	1.13
200RB/500RB/200RD 7	6.00	4.60	3.50	2.80	2.10
200RB/RD 9	8.44	6.68	5.28	3.87	2.99
240/540RA8	3.17	2.46	1.76	1.41	1.06
240/540RA9T5	5.28	4.22	3.17	2.46	1.76
240/540RA9	6.68	5.28	4.22	3.17	2.11
240/540RA12	7.74	6.33	4.92	3.52	2.81
240/540RA16	11.96	9.50	7.39	5.63	4.22
240/540RA20	16.88	13.36	10.20	7.74	5.63

Tons					
SUCTION GAS CAPACITIES @ 2 PSI PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - F				
	40	20	0	-20	-40
	R-448A/R-449A				
200RB/500RB/200RD 2	0.32	0.30	0.25	0.19	0.15
200RB/500RB/200RD 3	0.44	0.42	0.34	0.27	0.21
200RB/500RB/200RD 4	0.82	0.80	0.65	0.51	0.40
200RB/500RB/200RD 5	1.00	0.97	0.79	0.61	0.48
200RB/500RB/200RD 6	1.06	1.02	0.83	0.65	0.51
200RB/500RB/200RD 7	1.76	1.70	1.38	1.08	0.85
200RB/200RD 9	2.64	2.55	2.07	1.62	1.27
240/540RA8	1.39	1.34	1.09	0.85	0.67
240/540RA9T5	1.85	1.79	1.46	1.14	0.89
240/540RA9	2.22	2.15	1.75	1.36	1.07
240/540RA12	2.69	2.59	2.11	1.65	1.30
240/540RA16	5.37	5.19	4.22	3.30	2.59
240/540RA20	7.60	7.33	5.97	4.66	3.66
	R-410A				
200RD 2	0.28	0.22	0.20	0.21	0.16
200RD 3	0.57	0.46	0.37	0.29	0.23
200RD 4	1.07	0.88	0.70	0.55	0.43
200RD 5	1.30	1.06	0.85	0.67	0.51
200RD 6	1.37	1.12	0.90	0.72	0.55
200RD 7	2.40	2.00	1.60	1.20	1.00
200RD 9	3.45	2.87	2.30	1.80	1.39

Kilowatts					
SUCTION GAS CAPACITIES @ 14.0 kPa PRESSURE DROP					
VALVE SERIES	Evaporator Temperature - C				
	4	-7	-18	-29	-40
	R-448A/R-449A				
200RB/500RB/200RD 2	1.11	1.07	0.87	0.68	0.53
200RB/500RB/200RD 3	1.53	1.48	1.20	0.94	0.74
200RB/500RB/200RD 4	2.90	2.80	2.28	1.78	1.40
200RB/500RB/200RD 5	3.52	3.40	2.76	2.16	1.70
200RB/500RB/200RD 6	3.72	3.59	2.92	2.28	1.79
200RB/500RB/200RD 7	6.19	5.98	4.86	3.80	2.98
200RB/200RD 9	9.29	8.96	7.29	5.70	4.48
240/540RA8	4.89	4.72	3.84	3.00	2.36
240/540RA9T5	6.52	6.29	5.12	4.00	3.14
240/540RA9	7.82	7.55	6.14	4.80	3.77
240/540RA12	9.45	9.12	7.42	5.80	4.56
240/540RA16	18.90	18.24	14.84	11.59	9.11
240/540RA20	26.72	25.79	20.98	16.39	12.88
	R-410A				
200RD 2	0.98	0.77	0.70	0.74	0.56
200RD 3	2.00	1.62	1.30	1.02	0.81
200RD 4	3.76	3.09	2.46	1.93	1.51
200RD 5	4.57	3.73	2.99	2.36	1.79
200RD 6	4.82	3.94	3.17	2.53	1.93
200RD 7	8.40	7.00	5.60	4.20	3.50
200RD 9	12.13	10.09	8.09	6.33	4.89

Tons					
SUCTION GAS CAPACITIES @ 2 PSI PRESSURE DROP					
VALVE SERIES	EVAPORATOR TEMPERATURE (°F)				
	0	-10	-20	-30	-40
	R-744				
200RD2	0.52	0.49	0.46	0.43	0.39
200RD3	1.07	1.00	0.94	0.87	0.80
200RD4	2.00	1.88	1.76	1.63	1.50
200RD5	2.43	2.29	2.14	1.98	1.82
200RD6	2.56	2.41	2.25	2.09	1.92
200RD7	2.71	2.55	2.39	2.21	2.03
200RD9	6.45	6.08	5.68	5.26	4.83

NOTE: Shading indicates nominal ratings at 20°F Liquid, -20°F Evaporating Temperature, and 25°F Superheat

Kilowatts					
SUCTION GAS CAPACITIES @ 14.0 kPa PRESSURE DROP					
VALVE SERIES	EVAPORATOR TEMPERATURE (°F)				
	0	-10	-20	-30	-40
	R-744				
200RD2	1.84	1.73	1.62	1.50	1.38
200RD3	3.75	3.53	3.30	3.06	2.81
200RD4	7.03	6.63	6.19	5.74	5.27
200RD5	8.55	8.05	7.52	6.97	6.41
200RD6	9.01	8.49	7.93	7.35	6.75
200RD7	9.53	8.98	8.39	7.78	7.14
200RD9	22.68	21.37	19.97	18.50	17.00

NOTE: Shading indicates nominal ratings at 20°F Liquid, -20°F Evaporating Temperature, and 25°F Superheat

Tons				
LIQUID CAPACITIES				
Pressure Drop Across Valve - psi				
VALVE SERIES	2	3	4	5
R-12				
50RB	0.34	0.42	0.48	0.54
100RB	0.80	1.00	1.16	1.20
200RB/500RB/200RD 2	2.28	2.80	3.23	3.61
200RB/500RB/200RD 3	3.04	3.72	4.30	4.80
200RB/500RB/200RD 4	4.95	6.17	7.12	7.97
200RB/500RB/200RD 5	5.20	6.38	7.37	8.24
200RB/500RB/200RD 6	6.01	7.36	8.50	9.50
200RB/500RB/200RD 7	10.75	13.05	15.10	17.05
200RB/RD 9	18.65	23.15	26.05	30.15
240/540RA8	10.00	12.20	14.10	15.80
240/540RA9T (5/8)	14.90	18.20	21.10	23.60
240/540RA9T (7/8, 1 1/8)	19.60	24.00	27.70	31.00
240/540RA12	22.50	27.60	31.80	35.60
240/540RA16	10.00	12.20	14.10	15.80
240/540RA20	14.90	18.20	21.10	23.60
R-22				
50RB	0.44	0.54	0.62	0.69
100RB	1.04	1.27	1.47	1.64
200RB/500RB/200RD 2	2.94	3.60	4.16	4.65
200RB/500RB/200RD 3	3.92	4.80	5.54	6.19
200RB/500RB/200RD 4	6.49	7.95	9.18	10.26
200RB/500RB/200RD 5	6.71	8.22	9.49	10.61
200RB/500RB/200RD 6	7.74	9.48	10.95	12.24
200RB/500RB/200RD 7	13.50	17.00	18.75	27.85
200RB/RD 9	23.60	29.50	34.10	38.15
240/540RA8	12.70	15.60	18.00	20.10
240/540RA9T (5/8)	19.00	23.30	26.90	30.10
240/540RA9T (7/8, 1 1/8)	24.90	30.50	35.20	39.40
240/540RA12	28.50	34.90	40.30	45.10
240/540RA16	47.40	58.00	67.00	74.90
240/540RA20	77.90	95.40	110.20	123.20
R-502				
50RB	0.30	0.35	0.40	0.50
100RB	0.70	0.83	1.00	1.10
200RB/500RB/200RD 2	1.93	2.36	2.73	3.05
200RB/500RB/200RD 3	2.57	3.14	3.63	4.06
200RB/500RB/200RD 4	4.15	5.21	6.02	6.73
200RB/500RB/200RD 5	4.50	5.39	6.22	6.69
200RB/500RB/200RD 6	5.08	6.22	7.18	8.03
200RB/500RB/200RD 7	9.22	11.29	13.04	14.57
200RB/RD 9	15.80	19.45	22.15	25.35
240/540RA8	8.20	10.10	11.70	13.00
240/540RA9T (5/8)	12.30	15.10	17.40	19.50
240/540RA9T (7/8, 1 1/8)	16.20	19.80	22.90	25.60
240/540RA12	18.50	22.70	26.20	29.30
240/540RA16	30.80	37.70	43.50	48.70
240/540RA20	50.60	62.00	71.60	80.00

Kilowatts				
LIQUID CAPACITIES				
Pressure Drop Across Valve - kpa				
VALVE SERIES	13.8	20.7	27.6	34.5
R-12				
50RB	1.20	1.48	1.69	1.90
100RB	2.81	3.52	4.08	4.22
200RB/500RB/200RD 2	8.02	9.85	11.36	12.70
200RB/500RB/200RD 3	10.69	13.08	15.12	16.88
200RB/500RB/200RD 4	17.41	21.70	25.04	28.03
200RB/500RB/200RD 5	18.29	22.44	25.92	28.98
200RB/500RB/200RD 6	21.14	25.88	29.89	33.41
200RB/500RB/200RD 7	37.81	45.90	53.11	59.96
200RB/RD 9	65.59	81.42	91.62	106.03
240/540RA8	35.17	42.91	49.59	55.57
240/540RA9T (5/8)	52.40	64.01	74.21	83.00
240/540RA9T (7/8, 1 1/8)	68.93	84.41	97.42	109.02
240/540RA12	79.13	97.07	111.84	125.20
240/540RA16	35.17	42.91	49.59	55.57
240/540RA20	52.40	64.01	74.21	83.00
R-22				
50RB	1.55	1.90	2.18	2.43
100RB	3.66	4.47	5.17	5.77
200RB/500RB/200RD 2	10.34	12.66	14.63	16.35
200RB/500RB/200RD 3	13.79	16.88	19.48	21.77
200RB/500RB/200RD 4	22.82	27.96	32.29	36.08
200RB/500RB/200RD 5	23.60	28.91	33.38	37.31
200RB/500RB/200RD 6	27.22	33.34	38.51	43.05
200RB/500RB/200RD 7	47.48	59.79	65.94	97.95
200RB/RD 9	83.00	103.75	119.93	134.17
240/540RA8	44.66	54.86	63.30	70.69
240/540RA9T (5/8)	66.82	81.94	94.60	105.86
240/540RA9T (7/8, 1 1/8)	87.57	107.27	123.79	138.57
240/540RA12	100.23	122.74	141.73	158.61
240/540RA16	166.70	203.98	235.63	263.42
240/540RA20	273.97	335.51	387.56	433.28
R-502				
50RB	1.06	1.23	1.41	1.76
100RB	2.46	2.92	3.52	3.87
200RB/500RB/200RD 2	6.79	8.30	9.60	10.73
200RB/500RB/200RD 3	9.04	11.04	12.77	14.28
200RB/500RB/200RD 4	14.60	18.32	21.17	23.67
200RB/500RB/200RD 5	15.83	18.96	21.88	23.53
200RB/500RB/200RD 6	17.87	21.88	25.25	28.24
200RB/500RB/200RD 7	32.43	39.71	45.86	51.24
200RB/RD 9	55.57	68.40	77.90	89.15
240/540RA8	28.84	35.52	41.15	45.72
240/540RA9T (5/8)	43.26	53.11	61.19	68.58
240/540RA9T (7/8, 1 1/8)	56.97	69.63	80.54	90.03
240/540RA12	65.06	79.83	92.14	103.05
240/540RA16	108.32	132.59	152.99	171.27
240/540RA20	177.96	218.05	251.81	281.35

NOTE: Shading indicates ARI standard ratings
 All liquid capacities are based on 40°F Evaporator Temperature and 100°F Liquid Temperature.

NOTE: Capacity is based on largest connection size.

Liquid Capacities

Solenoid Capacity Tables

Tons				
LIQUID CAPACITIES				
Pressure Drop Across Valve - psi				
VALVE SERIES	2	3	4	5
R-134a				
50RB	0.41	0.50	0.60	0.60
100RB	0.96	1.20	1.40	1.50
200RB/500RB/200RD 2	2.72	3.33	3.85	4.30
200RB/500RB/200RD 3	3.62	4.44	5.12	5.73
200RB/500RB/200RD 4	6.00	7.35	8.49	9.49
200RB/500RB/200RD 5	6.21	7.60	8.78	9.82
200RB/500RB/200RD 6	7.16	8.77	10.13	11.32
200RB/500RB/200RD 7	12.68	15.93	18.39	20.56
200RB/RD 9	22.50	27.35	32.00	35.65
240/540RA8	12.10	14.80	17.10	19.10
240/540RA9T (5/8)	18.00	22.00	25.50	28.50
240/540RA9T (7/8, 1 1/8)	23.60	28.90	33.40	37.30
240/540RA12	27.10	33.20	38.30	42.80
240/540RA16	45.00	55.10	63.60	71.20
240/540RA20	70.90	86.80	100.30	112.10
R-450A/R-513A				
50RB	0.37	0.46	0.53	0.59
100RB	0.88	1.07	1.24	1.38
200RB/500RB/200RD 2	2.48	3.04	3.51	3.92
200RB/500RB/200RD 3	3.31	4.05	4.68	5.23
200RB/500RB/200RD 4	5.48	6.71	7.75	8.67
200RB/500RB/200RD 5	5.67	6.94	8.02	8.96
200RB/500RB/200RD 6	6.54	8.01	9.24	10.34
200RB/500RB/200RD 7	11.72	14.36	16.58	18.53
200RB/200RD 9	20.34	24.91	28.77	32.16
240/540RA8	10.76	13.17	15.21	17.01
240/540RA9T (5/8)	16.07	19.68	22.72	25.40
240/540RA9T (7/8, 1 1/8)	21.03	25.76	29.74	33.25
240/540RA12	24.06	29.47	34.03	38.05
240/540RA16	39.99	48.98	56.56	63.23
240/540RA20	65.78	80.56	93.02	104.00
R-404A/R-507				
50RB	0.30	0.34	0.40	0.40
100RB	0.70	0.85	1.00	1.10
200RB/500RB/200RD 2	1.90	2.32	2.68	3.00
200RB/500RB/200RD 3	2.52	3.09	3.57	4.00
200RB/500RB/200RD 4	4.18	5.12	5.92	6.61
200RB/500RB/200RD 5	4.33	5.30	6.12	6.84
200RB/500RB/200RD 6	4.99	6.11	7.06	7.89
200RB/500RB/200RD 7	9.06	11.10	12.81	14.33
200RB/RD 9	14.90	18.25	21.05	24.15
240/540RA8	8.40	10.30	11.90	13.30
240/540RA9T (5/8)	12.50	15.30	17.70	19.80
240/540RA9T (7/8, 1 1/8)	16.40	20.10	23.20	25.90
240/540RA12	18.80	23.00	26.60	29.70
240/540RA16	31.30	38.30	44.20	49.40
240/540RA20	53.60	65.70	75.90	84.80

Kilowatts				
LIQUID CAPACITIES				
Pressure Drop Across Valve - kpa				
VALVE SERIES	13.8	20.7	27.6	34.5
R-134a				
50RB	1.44	1.76	2.11	2.11
100RB	3.38	4.22	4.92	5.28
200RB/500RB/200RD 2	9.57	11.71	13.54	15.12
200RB/500RB/200RD 3	12.73	15.62	18.01	20.15
200RB/500RB/200RD 4	21.10	25.85	29.86	33.38
200RB/500RB/200RD 5	21.84	26.73	30.88	34.54
200RB/500RB/200RD 6	25.18	30.84	35.63	39.81
200RB/500RB/200RD 7	44.59	56.02	64.68	72.31
200RB/RD 9	79.13	96.19	112.54	125.38
240/540RA8	42.55	52.05	60.14	67.17
240/540RA9T (5/8)	63.30	77.37	89.68	100.23
240/540RA9T (7/8, 1 1/8)	83.00	101.64	117.46	131.18
240/540RA12	95.31	116.76	134.70	150.52
240/540RA16	158.26	193.78	223.67	250.40
240/540RA20	249.35	305.27	352.75	394.24
R-450A/R-513A				
50RB	1.31	1.60	1.85	2.07
100RB	3.08	3.77	4.36	4.87
200RB/500RB/200RD 2	8.73	10.69	12.35	13.80
200RB/500RB/200RD 3	11.64	14.26	16.46	18.40
200RB/500RB/200RD 4	19.28	23.61	27.26	30.48
200RB/500RB/200RD 5	19.93	24.41	28.19	31.52
200RB/500RB/200RD 6	22.99	28.15	32.51	36.35
200RB/500RB/200RD 7	41.22	50.49	58.30	65.18
200RB/200RD 9	71.53	87.61	101.16	113.10
240/540RA8	37.83	46.33	53.50	59.81
240/540RA9T (5/8)	56.50	69.20	79.90	89.33
240/540RA9T (7/8, 1 1/8)	73.96	90.58	104.59	116.94
240/540RA12	84.63	103.65	119.68	133.81
240/540RA16	140.64	172.25	198.90	222.37
240/540RA20	231.33	283.32	327.15	365.76
R-404A/R-507				
50RB	1.06	1.20	1.41	1.41
100RB	2.46	2.99	3.52	3.87
200RB/500RB/200RD 2	6.68	8.16	9.43	10.55
200RB/500RB/200RD 3	8.86	10.87	12.56	14.07
200RB/500RB/200RD 4	14.70	18.01	20.82	23.25
200RB/500RB/200RD 5	15.23	18.64	21.52	24.06
200RB/500RB/200RD 6	17.55	21.49	24.83	27.75
200RB/500RB/200RD 7	31.86	39.04	45.05	50.40
200RB/RD 9	52.40	64.18	74.03	84.93
240/540RA8	29.54	36.22	41.85	46.77
240/540RA9T (5/8)	43.96	53.81	62.25	69.63
240/540RA9T (7/8, 1 1/8)	57.68	70.69	81.59	91.09
240/540RA12	66.12	80.89	93.55	104.45
240/540RA16	110.08	134.70	155.45	173.73
240/540RA20	188.51	231.06	266.93	298.23

NOTE: Shading indicates ARI standard ratings
 All liquid capacities are based on 40°F Evaporator Temperature and 100°F Liquid Temperature.
 NOTE: Capacity is based on largest connection size.

Tons				
LIQUID CAPACITIES				
Pressure Drop Across Valve - psi				
VALVE SERIES	2	3	4	5
R-448A/R-449A				
50RB	0.44	0.54	0.63	0.70
100RB	1.04	1.28	1.47	1.65
200RB/500RB/200RD 2	2.95	3.61	4.17	4.67
200RB/500RB/200RD 3	3.93	4.82	5.56	6.22
200RB/500RB/200RD 4	6.52	7.98	9.22	10.30
200RB/500RB/200RD 5	6.74	8.25	9.53	10.65
200RB/500RB/200RD 6	7.77	9.52	10.99	12.29
200RB/500RB/200RD 7	13.94	17.07	19.71	22.03
200RB/200RD 9	24.18	29.62	34.20	38.24
240/540RA8	12.79	15.66	18.09	20.22
240/540RA9T (5/8)	19.10	23.39	27.01	30.20
240/540RA9T (7/8, 1 1/8)	25.00	30.62	35.36	39.53
240/540RA12	28.61	35.04	40.46	45.24
240/540RA16	47.55	58.23	67.24	75.18
240/540RA20	78.20	95.78	110.60	123.65
R-407C				
50RB	0.40	0.51	0.60	0.70
100RB	1.00	1.21	1.40	1.60
200RB/500RB/200RD 2	2.77	3.39	3.91	4.38
200RB/500RB/200RD 3	3.68	4.51	5.21	5.82
200RB/500RB/200RD 4	6.11	7.48	8.64	9.66
200RB/500RB/200RD 5	6.31	7.73	8.93	9.98
200RB/500RB/200RD 6	7.28	8.92	10.30	11.52
200RB/500RB/200RD 7	13.10	16.15	18.65	20.65
200RB/RD 9	22.85	27.95	32.05	36.15
240/540RA8	12.10	14.80	17.10	19.10
240/540RA9T (5/8)	18.00	22.10	25.50	28.50
240/540RA9T (7/8, 1 1/8)	23.70	29.00	33.50	37.40
240/540RA12	27.10	33.20	38.30	42.90
240/540RA16	45.10	55.20	63.70	71.30
240/540RA20	74.10	90.80	104.80	117.20
R-410A				
200RD 2	2.76	3.38	3.90	4.36
200RD 3	3.67	4.50	5.19	5.80
200RD 4	6.09	7.45	8.61	9.62
200RD 5	6.29	7.71	8.90	9.95
200RD 6	7.26	8.89	10.27	11.48
200RD 7	12.20	15.70	18.10	20.10
200RD 9	22.35	27.75	32.05	36.15

Kilowatts				
LIQUID CAPACITIES				
Pressure Drop Across Valve - kpa				
VALVE SERIES	13.8	20.7	27.6	34.5
R-448A/R-449A				
50RB	1.56	1.91	2.20	2.46
100RB	3.66	4.48	5.18	5.79
200RB/500RB/200RD 2	10.38	12.71	14.68	16.41
200RB/500RB/200RD 3	13.84	16.95	19.57	21.88
200RB/500RB/200RD 4	22.92	28.07	32.41	36.24
200RB/500RB/200RD 5	23.70	29.02	33.51	37.47
200RB/500RB/200RD 6	27.33	33.47	38.65	43.21
200RB/500RB/200RD 7	49.01	60.02	69.31	77.49
200RB/200RD 9	85.05	104.16	120.27	134.47
240/540RA8	44.97	55.08	63.60	71.11
240/540RA9T (5/8)	67.17	82.27	95.00	106.21
240/540RA9T (7/8, 1 1/8)	87.93	107.69	124.35	139.03
240/540RA12	100.61	123.23	142.29	159.08
240/540RA16	167.21	204.79	236.47	264.38
240/540RA20	275.03	336.84	388.95	434.86
R-407C				
50RB	1.41	1.79	2.11	2.46
100RB	3.52	4.26	4.92	5.63
200RB/500RB/200RD 2	9.74	11.92	13.75	15.40
200RB/500RB/200RD 3	12.94	15.86	18.32	20.47
200RB/500RB/200RD 4	21.49	26.31	30.39	33.97
200RB/500RB/200RD 5	22.19	27.19	31.41	35.10
200RB/500RB/200RD 6	25.60	31.37	36.22	40.51
200RB/500RB/200RD 7	46.53	56.97	65.80	73.54
200RB/RD 9	80.36	98.30	112.72	127.14
240/540RA8	42.55	52.05	60.14	67.17
240/540RA9T (5/8)	63.30	77.72	89.68	100.23
240/540RA9T (7/8, 1 1/8)	83.35	101.99	117.82	131.53
240/540RA12	95.31	116.76	134.70	150.88
240/540RA16	158.61	194.13	224.03	250.75
240/540RA20	260.60	319.33	368.57	412.18
R-410A				
200RD 2	9.71	11.89	13.72	15.33
200RD 3	12.91	15.83	18.25	20.40
200RD 4	21.42	26.20	30.28	33.83
200RD 5	22.12	27.12	31.30	34.99
200RD 6	25.53	31.27	36.12	40.37
200RD 7	42.91	55.22	63.66	70.69
200RD 9	78.60	97.59	112.72	127.14

Tons						
LIQUID CAPACITIES						
Pressure Drop Across Valve - psi						
VALVE SERIES	2	3	4	5	6	7
R-744						
200RD2	4.36	5.34	6.17	6.90	7.56	8.16
200RD3	5.80	7.11	8.21	9.18	10.1	10.86
200RD4	9.62	11.8	13.6	15.2	16.7	18.01
200RD5	9.95	12.2	14.1	15.7	17.2	18.62
200RD6	11.5	14.1	16.2	18.2	19.9	21.49
200RD7	20.1	24.6	28.4	31.8	34.8	37.62
200RD9	36.2	44.3	51.1	57.2	62.6	67.66

Kilowatts						
LIQUID CAPACITIES						
Pressure Drop Across Valve - kpa						
VALVE SERIES	13.8	20.7	27.6	34.5	41.4	48.3
R-744						
200RD2	15.34	18.79	21.70	24.26	26.57	28.70
200RD3	20.41	25.00	28.86	32.27	35.35	38.18
200RD4	33.85	41.46	47.87	53.52	58.63	63.33
200RD5	35.01	42.88	49.51	55.36	60.64	65.50
200RD6	40.40	49.47	57.13	63.87	69.97	75.57
200RD7	70.73	86.62	100.02	111.83	122.50	132.32
200RD9	127.20	155.79	179.89	201.12	220.32	237.97

NOTE: Shading indicates nominal ratings at 1°F saturation pressure drop across solenoid valve. All liquid capacities are based on 20°F Liquid and -20°F Evaporating Temperature.

NOTE: Shading indicates nominal ratings at 1°F saturation pressure drop across solenoid valve. All liquid capacities are based on 20°F Liquid and -20°F Evaporating Temperature

Discharge Gas Capacities

Solenoid Capacity Tables

Tons						
DISCHARGE GAS CAPACITIES						
Pressure Drop Across Valve - psi						
VALVE SERIES	2	5	10	25	50	100
R-12						
100RB	0.10	0.20	0.30	0.50	0.50	0.50
200RB/500RB/200RD 2	0.35	0.50	0.75	1.05	1.20	1.35
200RB/500RB/200RD 3	0.45	0.75	1.00	1.45	1.75	1.85
200RB/500RB/200RD 4	0.85	1.35	1.95	2.70	3.55	4.25
200RB/500RB/200RD 5	1.05	1.65	2.45	3.30	4.45	5.45
200RB/500RB/200RD 6	1.15	1.75	2.50	3.70	4.80	5.85
200RB/500RB/200RD 7	1.50	2.40	3.30	5.20	6.60	7.20
200RB/RD 9	2.80	4.45	6.22	9.35	11.45	12.50
240/540RA8	1.50	2.40	3.30	5.20	6.60	7.20
240/540RA9T5	2.50	4.00	5.60	8.30	10.40	11.20
240/540RA9	3.20	5.00	7.10	10.10	12.10	11.10
240/540RA12	3.50	5.50	7.80	11.70	14.00	12.40
240/540RA16	5.80	9.10	12.90	18.90	23.60	24.30
240/540RA20	8.10	12.80	18.10	28.20	34.40	33.10
R-22						
100RB	0.20	0.30	0.40	0.60	0.80	1.00
200RB/500RB/200RD 2	0.45	0.75	1.05	1.65	2.10	2.40
200RB/500RB/200RD 3	0.65	1.05	1.45	2.25	2.95	3.35
200RB/500RB/200RD 4	1.25	1.95	2.80	4.05	5.50	7.05
200RB/500RB/200RD 5	1.50	2.37	3.50	4.90	6.75	9.00
200RB/500RB/200RD 6	1.60	2.55	3.60	5.50	7.40	9.45
200RB/500RB/200RD 7	2.10	3.40	4.80	7.80	10.40	12.80
200RB/RD 9	4.05	6.25	9.05	14.45	19.00	22.05
240/540RA8	2.10	3.40	4.80	7.80	10.40	12.80
240/540RA9T5	3.60	5.70	8.10	12.50	16.60	20.40
240/540RA9	4.60	7.20	10.20	15.40	20.00	23.10
240/540RA12	5.10	8.00	11.30	18.10	23.40	26.60
240/540RA16	8.30	13.20	18.70	28.60	37.80	45.63
240/540RA20	11.70	18.40	26.10	43.00	56.10	66.00
R-502						
100RB	0.20	0.20	0.30	0.50	0.70	0.80
200RB/500RB/200RD 2	0.40	0.60	0.85	1.35	1.75	2.00
200RB/500RB/200RD 3	0.55	0.85	1.20	1.80	2.35	2.80
200RB/500RB/200RD 4	1.00	1.60	2.25	3.25	4.40	5.75
200RB/500RB/200RD 5	1.20	1.95	2.75	3.95	5.45	7.30
200RB/500RB/200RD 6	1.30	2.05	2.90	4.40	6.00	7.70
200RB/500RB/200RD 7	1.70	2.70	3.80	6.20	8.30	10.40
200RB/RD 9	3.30	5.20	7.35	11.60	15.45	18.30
240/540RA8	1.70	2.70	3.80	6.20	8.30	10.40
240/540RA9T5	2.90	4.50	6.40	10.00	13.30	16.50
240/540RA9	3.60	5.70	8.10	12.30	16.10	18.80
240/540RA12	4.00	6.40	9.00	14.40	18.70	21.70
240/540RA16	6.60	10.50	14.80	22.80	30.20	37.00
240/540RA20	9.30	14.60	20.70	34.30	45.00	53.70

NOTE: Shading indicates ARI standard ratings
 NOTE: Capacity is based on largest connection size.

Kilowatts						
DISCHARGE GAS CAPACITIES						
Pressure Drop Across Valve - kpa						
VALVE SERIES	13.8	34.5	69	172.5	345	690
R-12						
100RB	0.35	0.70	1.06	1.76	1.76	1.76
200RB/500RB/200RD 2	1.23	1.76	2.64	3.69	4.22	4.75
200RB/500RB/200RD 3	1.58	2.64	3.52	5.10	6.15	6.51
200RB/500RB/200RD 4	2.99	4.75	6.86	9.50	12.48	14.95
200RB/500RB/200RD 5	3.69	5.80	8.62	11.61	15.65	19.17
200RB/500RB/200RD 6	4.04	6.15	8.79	13.01	16.88	20.57
200RB/500RB/200RD 7	5.28	8.44	11.61	18.29	23.21	25.32
200RB/RD 9	9.85	15.65	21.88	32.88	40.27	43.96
240/540RA8	5.28	8.44	11.61	18.29	23.21	25.32
240/540RA9T5	8.79	14.07	19.69	29.19	36.58	39.39
240/540RA9	11.25	17.58	24.97	35.52	42.55	39.04
240/540RA12	12.31	19.34	27.43	41.15	49.24	43.61
240/540RA16	20.40	32.00	45.37	66.47	83.00	85.46
240/540RA20	28.49	45.02	63.66	99.18	120.98	116.41
R-22						
100RB	0.70	1.06	1.41	2.11	2.81	3.52
200RB/500RB/200RD 2	1.58	2.64	3.69	5.80	7.39	8.44
200RB/500RB/200RD 3	2.29	3.69	5.10	7.91	10.37	11.78
200RB/500RB/200RD 4	4.40	6.86	9.85	14.24	19.34	24.79
200RB/500RB/200RD 5	5.28	8.34	12.31	17.23	23.74	31.65
200RB/500RB/200RD 6	5.63	8.97	12.66	19.34	26.03	33.23
200RB/500RB/200RD 7	7.39	11.96	16.88	27.43	36.58	45.02
200RB/RD 9	14.24	21.98	31.83	50.82	66.82	77.55
240/540RA8	7.39	11.96	16.88	27.43	36.58	45.02
240/540RA9T5	12.66	20.05	28.49	43.96	58.38	71.74
240/540RA9	16.18	25.32	35.87	54.16	70.34	81.24
240/540RA12	17.94	28.14	39.74	63.66	82.30	93.55
240/540RA16	29.19	46.42	65.77	100.58	132.94	160.48
240/540RA20	41.15	64.71	91.79	151.23	197.30	232.12
R-502						
100RB	0.70	0.70	1.06	1.76	2.46	2.81
200RB/500RB/200RD 2	1.41	2.11	2.99	4.75	6.15	7.03
200RB/500RB/200RD 3	1.93	2.99	4.22	6.33	8.26	9.85
200RB/500RB/200RD 4	3.52	5.63	7.91	11.43	15.47	20.22
200RB/500RB/200RD 5	4.22	6.86	9.67	13.89	19.17	25.67
200RB/500RB/200RD 6	4.57	7.21	10.20	15.47	21.10	27.08
200RB/500RB/200RD 7	5.98	9.50	13.36	21.80	29.19	36.58
200RB/RD 9	11.61	18.29	25.85	40.80	54.34	64.36
240/540RA8	5.98	9.50	13.36	21.80	29.19	36.58
240/540RA9T5	10.20	15.83	22.51	35.17	46.77	58.03
240/540RA9	12.66	20.05	28.49	43.26	56.62	66.12
240/540RA12	14.07	22.51	31.65	50.64	65.77	76.32
240/540RA16	23.21	36.93	52.05	80.19	106.21	130.13
240/540RA20	32.71	51.35	72.80	120.63	158.26	188.86

Discharge Gas Capacities

Solenoid Capacity Tables

Tons						
DISCHARGE GAS CAPACITIES						
Pressure Drop Across Valve - psi						
VALVE SERIES	2	5	10	25	50	100
R-134a						
100RB	0.20	0.20	0.30	0.50	0.60	0.60
200RB/500RB/200RD 2	0.40	0.65	0.90	1.30	1.55	1.40
200RB/500RB/200RD 3	0.55	0.85	1.20	1.75	2.15	2.05
200RB/500RB/200RD 4	1.00	1.65	2.30	3.25	4.30	5.20
200RB/500RB/200RD 5	1.25	2.00	2.85	4.00	5.40	6.85
200RB/500RB/200RD 6	1.35	2.15	3.00	4.45	5.80	6.95
200RB/500RB/200RD 7	1.80	2.80	4.00	6.20	8.00	8.90
200RB/RD 9	3.40	5.30	7.60	11.45	14.15	15.25
240/540RA8	1.80	2.80	4.00	6.20	8.00	8.90
240/540RA9T5	3.00	4.70	6.70	10.00	12.70	13.90
240/540RA9	3.80	6.00	8.50	12.20	14.80	14.20
240/540RA12	4.20	6.60	9.40	14.20	17.10	15.90
240/540RA16	6.90	10.90	15.40	22.80	28.60	30.40
240/540RA20	9.70	15.30	21.60	34.00	41.90	41.90
R-450A/R-513A						
100RB	0.13	0.20	0.28	0.41	0.51	0.53
200RB/500RB/200RD 2	0.29	0.46	0.63	0.93	1.16	1.18
200RB/500RB/200RD 3	0.42	0.66	0.92	1.35	1.67	1.71
200RB/500RB/200RD 4	0.82	1.27	1.76	2.59	3.22	3.28
200RB/500RB/200RD 5	0.98	1.53	2.11	3.11	3.86	3.94
200RB/500RB/200RD 6	1.04	1.63	2.25	3.32	4.12	4.20
200RB/500RB/200RD 7	1.37	2.14	2.96	4.36	5.41	5.52
200RB/200RD 9	2.64	4.12	5.70	8.40	10.43	10.64
240/540RA8	1.37	2.14	2.96	4.36	5.41	5.52
240/540RA9T5	2.35	3.67	5.07	7.47	9.27	9.46
240/540RA9	3.00	4.68	6.48	9.54	11.84	12.09
240/540RA12	3.33	5.19	7.18	10.58	13.13	13.40
240/540RA16	5.42	8.45	11.69	17.21	21.37	21.81
240/540RA20	7.63	11.91	16.47	24.27	30.12	30.75
R-404A/R-507						
100RB	0.20	0.30	0.40	0.60	0.70	0.90
200RB/500RB/200RD 2	0.45	0.70	1.00	1.50	1.95	2.25
200RB/500RB/200RD 3	0.60	0.95	1.30	2.00	2.65	3.15
200RB/500RB/200RD 4	1.10	1.75	2.50	3.65	4.95	6.45
200RB/500RB/200RD 5	1.35	2.05	3.00	4.35	5.80	8.15
200RB/500RB/200RD 6	1.45	2.20	3.15	4.45	6.00	8.67
200RB/500RB/200RD 7	1.80	2.90	4.10	5.70	8.90	11.30
200RB/RD 9	3.55	5.75	8.15	13.20	17.30	20.95
240/540RA8	1.80	2.90	4.10	6.70	8.90	11.30
240/540RA9T5	3.10	4.90	6.90	10.70	14.30	17.90
240/540RA9	3.90	6.20	8.70	13.30	17.40	20.20
240/540RA12	4.30	6.80	9.60	15.50	20.30	23.90
240/540RA16	7.10	11.30	16.00	23.60	30.80	36.20
240/540RA20	9.90	15.70	22.20	36.90	48.70	58.90

NOTE: Shading indicates ARI standard ratings
 NOTE: Capacity is based on largest connection size.

Kilowatts						
DISCHARGE GAS CAPACITIES						
Pressure Drop Across Valve - kpa						
VALVE SERIES	13.8	34.5	69	172.5	345	690
R-134a						
100RB	0.70	0.70	1.06	1.76	2.11	2.11
200RB/500RB/200RD 2	1.41	2.29	3.17	4.57	5.45	4.92
200RB/500RB/200RD 3	1.93	2.99	4.22	6.15	7.56	7.21
200RB/500RB/200RD 4	3.52	5.80	8.09	11.43	15.12	18.29
200RB/500RB/200RD 5	4.40	7.03	10.02	14.07	18.99	24.09
200RB/500RB/200RD 6	4.75	7.56	10.55	15.65	20.40	24.44
200RB/500RB/200RD 7	6.33	9.85	14.07	21.80	28.14	31.30
200RB/RD 9	11.96	18.64	26.73	40.27	49.76	53.63
240/540RA8	6.33	9.85	14.07	21.80	28.14	31.30
240/540RA9T5	10.55	16.53	23.56	35.17	44.66	48.88
240/540RA9	13.36	21.10	29.89	42.91	52.05	49.94
240/540RA12	14.77	23.21	33.06	49.94	60.14	55.92
240/540RA16	24.27	38.33	54.16	80.19	100.58	106.91
240/540RA20	34.11	53.81	75.97	119.57	147.36	147.36
R-450A/R-513A						
100RB	0.46	0.72	0.99	1.46	1.81	1.85
200RB/500RB/200RD 2	1.03	1.61	2.23	3.28	4.07	4.16
200RB/500RB/200RD 3	1.49	2.33	3.22	4.74	5.89	6.01
200RB/500RB/200RD 4	2.87	4.48	6.19	9.12	11.32	11.55
200RB/500RB/200RD 5	3.44	5.37	7.43	10.94	13.58	13.86
200RB/500RB/200RD 6	3.67	5.73	7.92	11.67	14.49	14.79
200RB/500RB/200RD 7	4.82	7.52	10.40	15.32	19.02	19.41
200RB/200RD 9	9.29	14.50	20.05	29.54	36.67	37.43
240/540RA8	4.82	7.52	10.40	15.32	19.02	19.41
240/540RA9T5	8.26	12.89	17.82	26.26	32.60	33.27
240/540RA9	10.56	16.47	22.78	33.55	41.65	42.51
240/540RA12	11.70	18.26	25.25	37.20	46.18	47.13
240/540RA16	19.05	29.72	41.09	60.54	75.16	76.71
240/540RA20	26.85	41.89	57.93	85.34	105.94	108.13
R-404A/R-507						
100RB	0.70	1.06	1.41	2.11	2.46	3.17
200RB/500RB/200RD 2	1.58	2.46	3.52	5.28	6.86	7.91
200RB/500RB/200RD 3	2.11	3.34	4.57	7.03	9.32	11.08
200RB/500RB/200RD 4	3.87	6.15	8.79	12.84	17.41	22.68
200RB/500RB/200RD 5	4.75	7.21	10.55	15.30	20.40	28.66
200RB/500RB/200RD 6	5.10	7.74	11.08	15.65	21.10	30.49
200RB/500RB/200RD 7	6.33	10.20	14.42	20.05	31.30	39.74
200RB/RD 9	12.48	20.22	28.66	46.42	60.84	73.68
240/540RA8	6.33	10.20	14.42	23.56	31.30	39.74
240/540RA9T5	10.90	17.23	24.27	37.63	50.29	62.95
240/540RA9	13.72	21.80	30.60	46.77	61.19	71.04
240/540RA12	15.12	23.91	33.76	54.51	71.39	84.05
240/540RA16	24.97	39.74	56.27	83.00	108.32	127.31
240/540RA20	34.82	55.22	78.08	129.77	171.27	207.15

Tons						
DISCHARGE GAS CAPACITIES Pressure Drop Across Valve - psi						
VALVE SERIES	2	5	10	25	50	100
R-448A/R-449A						
100RB	0.23	0.36	0.51	0.78	1.04	1.31
200RB/500RB/200RD 2	0.52	0.81	1.14	1.75	2.34	2.96
200RB/500RB/200RD 3	0.75	1.17	1.64	2.52	3.39	4.27
200RB/500RB/200RD 4	1.44	2.26	3.16	4.85	6.51	8.21
200RB/500RB/200RD 5	1.72	2.71	3.80	5.82	7.81	9.86
200RB/500RB/200RD 6	1.84	2.89	4.05	6.21	8.33	10.51
200RB/500RB/200RD 7	2.41	3.79	5.31	8.15	10.94	13.80
200RB/200RD 9	4.66	7.32	10.25	15.72	21.10	26.61
240/540RA8	2.41	3.79	5.31	8.15	10.94	13.80
240/540RA9T5	4.14	6.51	9.11	13.97	18.75	23.66
240/540RA9	5.29	8.31	11.64	17.86	23.96	30.23
240/540RA12	5.86	9.22	12.91	19.80	26.56	33.51
240/540RA16	9.54	15.00	21.00	32.22	43.23	54.54
240/540RA20	13.45	21.14	29.61	45.42	60.94	76.89
R-407C						
100RB	0.20	0.30	0.40	0.60	0.80	1.00
200RB/500RB/200RD 2	0.45	0.70	0.95	1.45	1.90	2.25
200RB/500RB/200RD 3	0.60	0.90	1.25	1.95	2.55	3.05
200RB/500RB/200RD 4	1.05	1.70	2.40	3.50	4.75	6.20
200RB/500RB/200RD 5	1.30	2.10	3.00	4.20	5.80	7.85
200RB/500RB/200RD 6	1.40	2.20	3.10	4.75	7.55	8.35
200RB/500RB/200RD 7	2.10	3.30	4.70	7.70	10.30	13.00
200RB/RD 9	3.50	5.50	7.80	12.55	16.70	20.15
240/540RA8	2.10	3.30	4.70	7.70	10.30	13.00
240/540RA9T5	3.60	5.60	8.00	12.40	16.50	20.60
240/540RA9	4.50	7.10	10.10	15.30	20.00	22.50
240/540RA12	6.00	9.50	13.40	21.20	29.60	37.10
240/540RA16	8.20	13.00	18.40	28.40	37.70	46.20
240/540RA20	11.50	18.20	25.70	42.70	56.10	67.20
R-410A						
200RD 2	0.55	0.90	1.30	2.05	2.75	3.40
200RD 3	0.80	1.25	1.75	2.80	3.75	4.70
200RD 4	1.50	2.40	3.35	5.35	6.80	9.10
200RD 5	1.85	2.95	4.25	6.75	8.30	11.30
200RD 6	2.00	3.10	4.35	6.85	9.25	12.25
200RD 7	2.30	3.55	5.00	7.80	9.80	13.00
200RD 9	4.90	7.80	11.05	17.60	24.15	30.60

Kilowatts						
DISCHARGE GAS CAPACITIES Pressure Drop Across Valve - kpa						
VALVE SERIES	13.8	34.5	69	172.5	345	690
R-448A/R-449A						
100RB	0.81	1.27	1.78	2.73	3.66	4.62
200RB/500RB/200RD 2	1.82	2.86	4.00	6.14	8.24	10.40
200RB/500RB/200RD 3	2.63	4.13	5.78	8.87	11.91	15.02
200RB/500RB/200RD 4	5.05	7.94	11.12	17.06	22.90	28.89
200RB/500RB/200RD 5	6.06	9.53	13.35	20.48	27.48	34.67
200RB/500RB/200RD 6	6.47	10.17	14.24	21.84	29.31	36.98
200RB/500RB/200RD 7	8.49	13.35	18.69	28.67	38.47	48.53
200RB/200RD 9	16.37	25.74	36.04	55.29	74.19	93.60
240/540RA8	8.49	13.35	18.69	28.67	38.47	48.53
240/540RA9T5	14.55	22.88	32.04	49.15	65.94	83.20
240/540RA9	18.60	29.23	40.94	62.80	84.26	106.31
240/540RA12	20.62	32.41	45.39	69.62	93.42	117.86
240/540RA16	33.56	52.75	73.86	113.31	152.04	191.82
240/540RA20	47.30	74.35	104.12	159.72	214.32	270.39
R-407C						
100RB	0.70	1.06	1.41	2.11	2.81	3.52
200RB/500RB/200RD 2	1.58	2.46	3.34	5.10	6.68	7.91
200RB/500RB/200RD 3	2.11	3.17	4.40	6.86	8.97	10.73
200RB/500RB/200RD 4	3.69	5.98	8.44	12.31	16.71	21.80
200RB/500RB/200RD 5	4.57	7.39	10.55	14.77	20.40	27.61
200RB/500RB/200RD 6	4.92	7.74	10.90	16.71	26.55	29.37
200RB/500RB/200RD 7	7.39	11.61	16.53	27.08	36.22	45.72
200RB/RD 9	12.31	19.34	27.43	44.14	58.73	70.87
240/540RA8	7.39	11.61	16.53	27.08	36.22	45.72
240/540RA9T5	12.66	19.69	28.14	43.61	58.03	72.45
240/540RA9	15.83	24.97	35.52	53.81	70.34	79.13
240/540RA12	21.10	33.41	47.13	74.56	104.10	130.48
240/540RA16	28.84	45.72	64.71	99.88	132.59	162.48
240/540RA20	40.44	64.01	90.38	150.17	197.30	236.34
R-410A						
200RD 2	1.93	3.17	4.57	7.21	9.67	11.96
200RD 3	2.81	4.40	6.15	9.85	13.19	16.53
200RD 4	5.28	8.44	11.78	18.82	23.91	32.00
200RD 5	6.51	10.37	14.95	23.74	29.19	39.74
200RD 6	7.03	10.90	15.30	24.09	32.53	43.08
200RD 7	8.09	12.48	17.58	27.43	34.47	45.72
200RD 9	17.23	27.43	38.86	61.90	84.93	107.62

Tons					
DISCHARGE GAS CAPACITIES Pressure Drop Across Valve - psi					
VALVE SERIES	2	5	10	25	50
R-744					
200RD2	0.80	1.26	1.77	2.74	3.73
200RD3	1.16	1.83	2.57	3.98	5.43
200RD4	2.18	3.43	4.82	7.46	10.18
200RD5	2.69	4.23	5.95	9.21	12.6
200RD6	2.91	4.58	6.43	9.95	13.6
200RD7	3.34	5.26	7.39	11.4	15.6
200RD9	7.12	11.2	15.7	24.4	33.3

Kilowatts					
DISCHARGE GAS CAPACITIES Pressure Drop Across Valve - kpa					
VALVE SERIES	13.8	34.5	69	172.5	345
R-744					
200RD2	2.81	4.43	6.22	9.63	13.13
200RD3	4.09	6.44	9.04	14.00	19.10
200RD4	7.67	12.07	16.95	26.25	35.82
200RD5	9.45	14.89	20.91	32.38	44.18
200RD6	10.22	16.09	22.60	35.00	47.76
200RD7	11.75	18.51	25.99	40.25	54.92
200RD9	25.04	39.43	55.38	85.75	117.01

NOTE: Shading indicates nominal ratings based on 30°F Condensing with 50°F Superheat at compressor discharge, 20°F Liquid, -20°F Evaporator and 25°F Superheat at compressor suction.

NOTE: Shading indicates nominal ratings based on 30°F Condensing with 50°F Superheat at compressor discharge, 20°F liquid, -20°F Evaporator and 25°F Superheat at compressor suction.

Our Industrial Solenoid Valves are approved for use with the fluids utilized in secondary loops such as Ethylene and Propylene Glycol and Tyfoxit. The recommended seat material is Buna-N.

In addition to air, water and steam, the following is a listing of secondary loop fluids that are compatible with our valves:

These valves referenced above are as follows:

202CB	211CA
203CA	214CA
204CD	222CB
210CA	314UB

Fluid Name	Manufacturer
Ethylene & Propylene Glycol	Various
Tyfoxit	Spauschus Associates (Distributor)
Siltherm XLT	DOW
HFE	3M
Dowfrost	Dow
Pekasol	Unknown
Dynalene	Dynalene

When ordering valves for the above stated application, be sure to mention the Elastomer Code "B" which designates Buna-N.

Nomenclature example: 222CB 1/2 B 1/2 B

2	22	C	B	1/2	B	1/2	B
Valve Type 2 = 2 Way 3 = 3 Way	Product Group Two digits to Define Group	Form of Flow C = Normally Closed O = Normally Open U = Universal	Design Series Letter will be advanced to identify product changes	Pipe N.P.T. 1/8" thru 2" GS indicates non-standard	Body Material B = Brass S = Stainless Steel T = Stainless Steel with Silver Shading Band	Body Orifice 3/65" thru 2"	Elastomer Code B = Buna-N

The 202CB is a direct-acting, normally closed valve for control of air, water, and steam applications.

Features

- Superior life with stainless steel enclosing tube
- Repair kits available



Options

- Brass or stainless steel bodies
- Optional Voltages: 12 or 24 VDC & 120-240, 480 & 240-480/50-60 Hz

Specifications

- 1/8" NPT Solenoid Valve
- Watts: 12 A.C., 15 D.C.
- VA Inrush: 28
- VA Holding: 19
- Maximum working pressure: 500 psi (1000 psi - 3/64" orifice only)
- Weight: 1 lb
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- UL/CUL file number: MP604

Ordering Information*

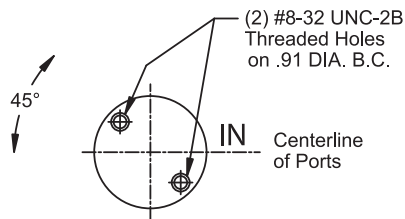
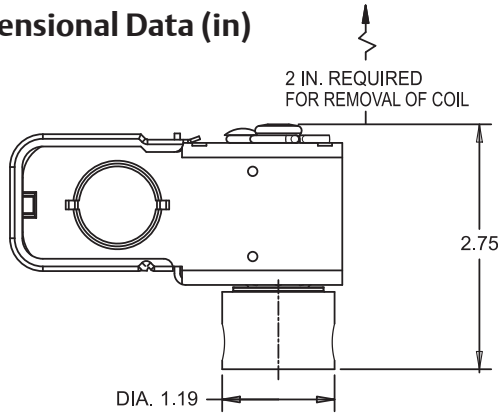
Pipe Size	Orifice Size	M.O.P.D ²		Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC	DC			Size	Insulation	Enclosure			
Brass General Purpose											
1/8	3/64	500	500	0.05	180°F	A 12 Watts AC 15 Watts DC	M Class F Molded	G Junction Box	202CB1/8B3/64B		BUNA-N
	1/16	500	500	0.12					202CB1/8B1/16B		
	3/32	300	125	0.22					202CB1/8B3/32B		
	1/8	150	75	0.34					202CB1/8B1/8B	030113	
	5/32	100	40	0.48					202CB1/8B5/32B	030114	
Stainless Steel General Purpose											
1/8	3/64	500	500	0.05	180°F	A 12 Watts AC 15 Watts DC	M Class F Molded	G Junction Box	202CB1/8S3/64B		BUNA-N
	1/16	500	500	0.12					202CB1/8S1/16B	064756	
	3/32	300	125	0.22					202CB1/8S3/32B		
	1/8	150	75	0.34					202CB1/8S1/8B		
	5/32	100	40	0.48					202CB1/8S5/32B		
Brass Steam											
1/8	1/16	150	-	0.12	400°F	A 12 Watts	H Class H Molded	G Junction Box	202CB1/8B1/16T		PTFE w/Ethylene Propylene Gaskets
	3/32	150	-	0.22					202CB1/8B3/32T		
	1/8	150	-	0.34					202CB1/8B1/8T	030123	
	5/32	100	-	0.48					202CB1/8B5/32T		
1/8	1/8	150	-	0.34	400°F	A 12 Watts	H Class H Molded	G Junction Box	202CB1/8B1/8P	030118	Ethylene Prop.
1/8	5/32	100	-	0.48	400°F	A 12 Watts	H Class H Molded	G Junction Box	202CB1/8B5/32V	056954	Viton w/ Ethylene Propylene Gaskets

¹With an ambient temperature of 77°F.

²Maximum Operating Pressure Differential.

*VLC - See coil assemblies for availability.

Dimensional Data (in)



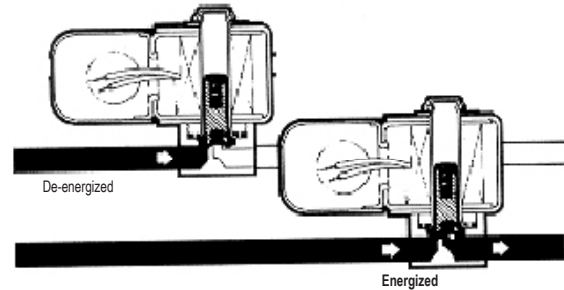
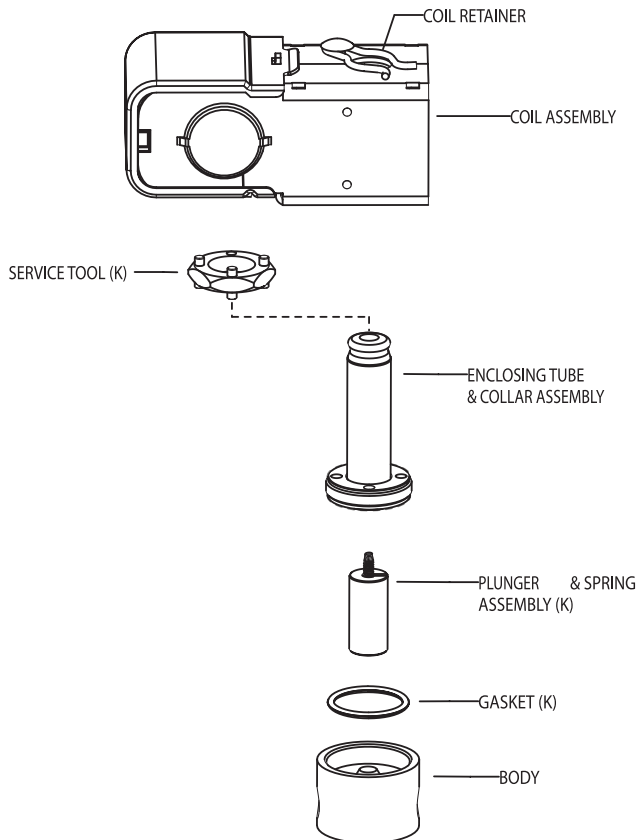
Valve Options

Options	To Order
Manual Override (not for steam) Minimum order qty. 100	Add suffix "M" to catalog number.
Adjustable Metering (not for steam) 500 psi SWP for All orifice sizes.	Add suffix "A" to catalog number.
Silver Shading Band (on stainless steel valves)	Change body material code. Example: Change standard 202CB1/8S to non-standard 202CB1/8T (silver shading band)

Valve Repair Kits

Seat Material	Kit #	PCN
Buna-N	K-1063	066046
Viton	K-1065	066043
Rulon	K-1068	032396
Ethylene Propylene	K-1064	021104

Exploded View



Valve Repair Kit

"K" indicates part is supplied in valve repair kit.

Coil Assembly

See coil assemblies for availability..

The 203CA is a direct-acting, 2-way normally closed valve for air, water and steam applications.

Features

- Superior life with stainless steel enclosing tubes
- Forged brass body with large wrench flats
- Repair kits available



Options

- Optional Voltages: 120-240, 480 & 240-480/50-60 Hz

Specifications

- 3/8" NPT Solenoid Valve
- Watts: 12 A.C.
- VA Inrush: 37 for 5/32 & 1/8 orifices
47 for 1/4 + orifices
- VA Holding: 19
- Maximum working pressure: 500 psi
- Weight: 1 lb. 4 oz.
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- UL/CUL file number: MP604

Ordering Information*

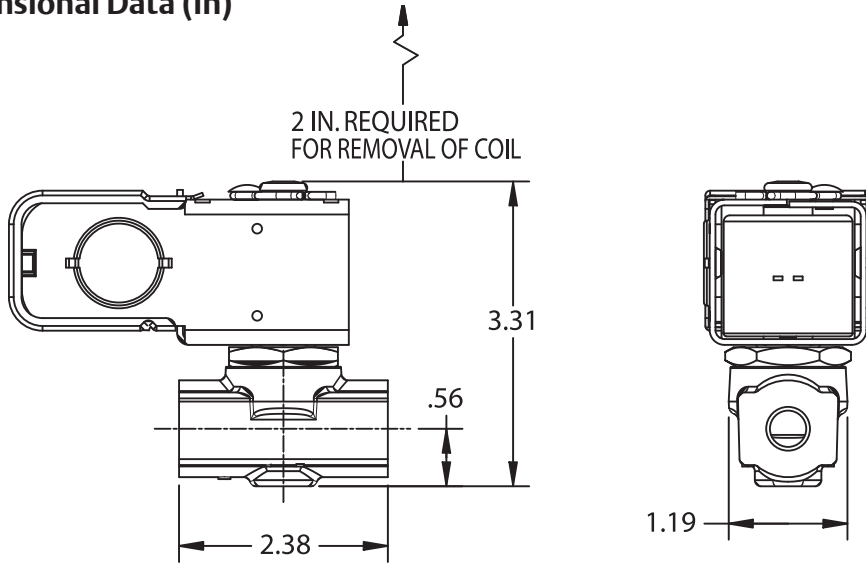
Pipe Size	Orifice Size	M.O.P.D ²	Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC			Size	Insulation	Enclosure			
Brass General Purpose										
3/8	1/8	125	0.3	180°F	A 12 Watts AC	M Class F Molded	G Junction Box	203CA3/8B1/8B		BUNA-N
	5/32	75	0.5					203CA3/8B5/32B		
	1/4	25	1.0					203CA3/8B1/4B	030603	
	5/16	15	1.5					203CA3/8B5/16B		
	3/8	10	1.7					203CA3/8B3/8B	030605	
Stainless Steel General Purpose										
3/8	1/4	15	1.0	250°F	A 12 Watts AC	M Class F Molded	G Junction Box	203CA3/8B1/4P		Ethylene Propylene Gaskets
	5/16	15	1.5					203CA3/8B5/16P		
	3/8	10	1.7					203CA3/8B3/8P	030614	

¹With an ambient temperature of 77°F.

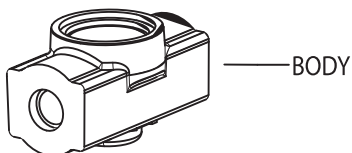
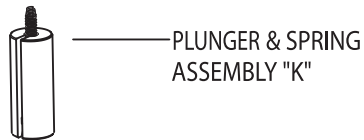
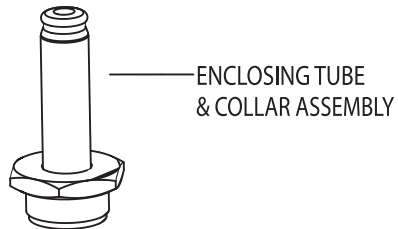
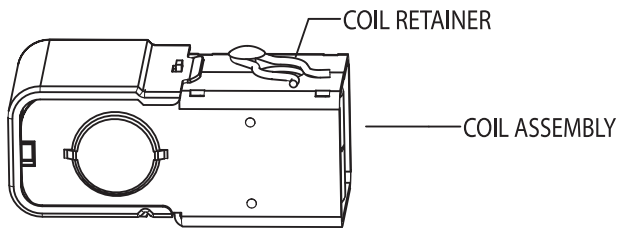
²Maximum Operating Pressure Differential.

*VLC - See coil assemblies for availability.

Dimensional Data (in)



Exploded View



Valve Repair Kits

Orifice Size	Seat Material	Kit #	PCN
1/4, 5/16, 3/8	Buna-N	K-1104	021108
	Ethylene Propylene	K-1106	040598

Valve Repair Kit

"K" indicates part is supplied in valve repair kit.

Coil Assembly

See coil assemblies for availability.

The 204CD is a direct-acting unidirectional, normally closed valve for air, water and steam applications.

Features

- Superior life with stainless steel enclosing tubes
- Repair kits available

Options

- Brass or stainless steel bodies
- Optional Voltages: 12 or 24 VDC & 120-240, 480 & 240-480/50-60 Hz



Specifications

- 1/4" NPT Solenoid Valve
- Watts: 12 A.C., 15 D.C.
- VA Inrush: 31
- VA Holding: 19
- Maximum working pressure: 500 psi
- Weight: 1 lb. 3 oz.
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- UL/CUL file number: MP604

Ordering Information*

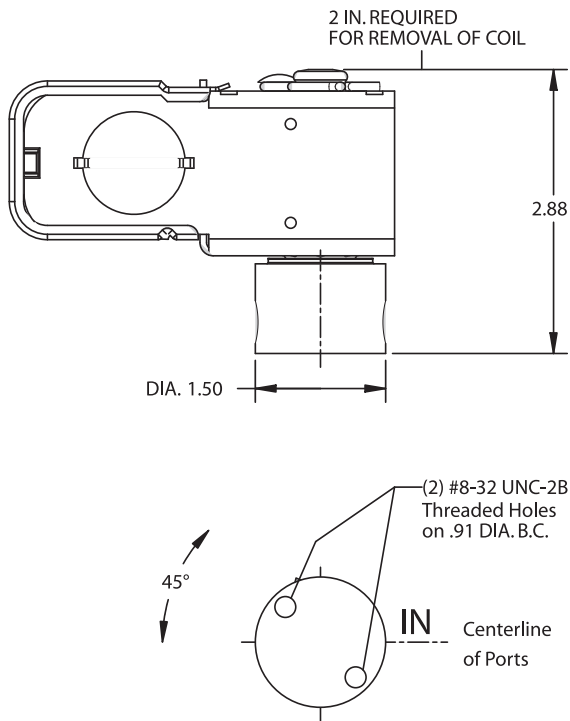
Pipe Size	Orifice Size	M.O.P.D ²		Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC	DC			Size	Insulation	Enclosure			
Brass General Purpose											
1/4	3/64	500	500	0.05	180°F	A 12 Watts AC 15 Watts DC	M Class F Molded	G Junction Box	204CD1/4B3/64B	030731	BUNA-N
	1/16	500	500	0.12					204CD1/4B1/16B		
	3/32	300	125	0.22					204CD1/4B3/32B	030733	
	1/8	150	75	0.34					204CD1/4B1/8B	056110	
	5/32	100	40	0.48					204CD1/4B5/32B	030735	
	3/16	60	30	0.56					204CD1/4B3/16B	030736	
	1/4	20	10	0.70					204CD1/4B1/4B	030737	
Stainless Steel General Purpose											
1/4	3/64	500	500	0.05	180°F	A 12 Watts AC 15 Watts DC	M Class F Molded	G Junction Box	204CD1/4S3/64B		BUNA-N
	1/16	500	500	0.12					204CD1/4S1/16B		
	3/32	300	125	0.22					204CD1/4S3/32B	030870	
	1/8	150	75	0.34					204CD1/4S1/8B	030871	
	5/32	100	40	0.48					204CD1/4S5/32B		
	3/16	60	30	0.56					204CD1/4S3/16B		
	1/4	20	10	0.70					204CD1/4S1/4B	030874	
Brass Steam											
1/4	3/64	150	-	0.05	400°F	A 12 Watts AC A	H Class H Molded M	G Junction Box G	204CD1/4B3/64T		PTFE w/Ethylene Propylene Gaskets
	1/16	150	-	0.12					204CD1/4B1/16T		
	3/32	150	-	0.22					204CD1/4B3/32T	030748	
	1/8	150	-	0.34					204CD1/4B1/8T	030749	
	5/32	100	-	0.48					204CD1/4B5/32T	030750	
	3/16	60	-	0.56					204CD1/4B3/16T		
	1/4	20	-	0.70	250°F	204CD1/4B1/4P		E.P. Seat			
Stainless Steel Steam											
1/4	3/64	150	-	0.05	400°F	A 12 Watts AC A	H Class H Molded M	G Junction Box G	204CD1/4S3/64T	030883	PTFE w/Ethylene Propylene Gaskets
	1/16	150	-	0.12					204CD1/4S1/16T		
	3/32	150	-	0.22					204CD1/4S3/32T		
	1/8	150	-	0.34					204CD1/4S1/8T	030886	
	5/32	100	-	0.48					204CD1/4S5/32T		
	3/16	60	-	0.56					204CD1/4S3/16T	030888	
	1/4	20	-	0.70	250°F	204CD1/4S1/4P		E.P. Seat			
Stainless Steel Steam											
1/4	5/32	100	-	0.48	400°F	A 12 Watts	H Class H Molded	G Junction Box	204CD1/4S5/3P	053492	E.P. Seat
Brass Steam											
1/4	5/32	100	-	0.48	400°F	A 12 Watts	H Class H Molded	G Junction Box	204CD 1/4 B 5/32 P	064682	E.P. Seat

¹With an ambient temperature of 77°F.

²Maximum Operating Pressure Differential.

*VLC - See coil assemblies for availability.

Dimensional Data (in)



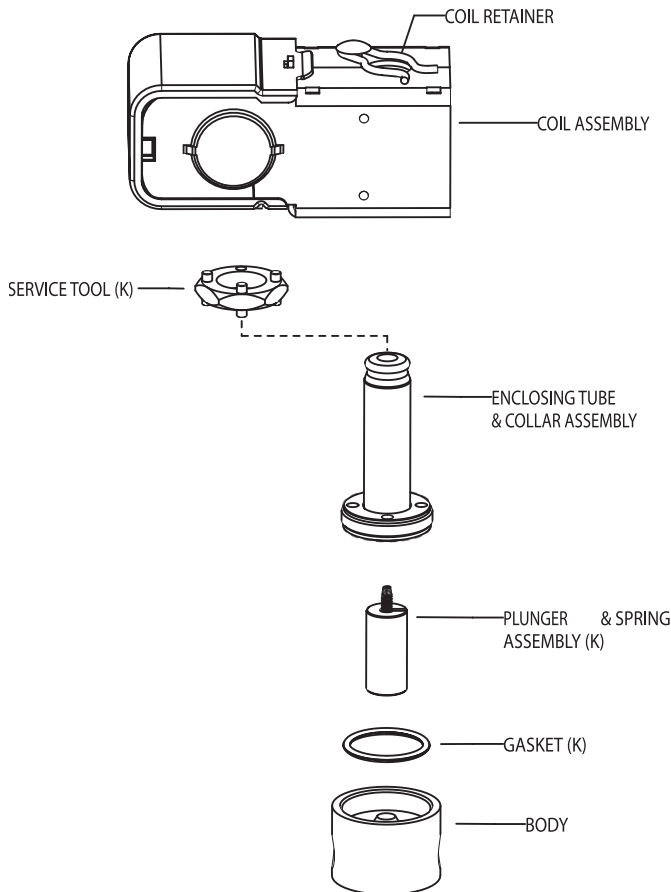
Valve Options

Options	To Order
Manual Override (not for steam) Minimum order qty. 100	Add suffix "M" to catalog number.
Adjustable Metering (not for steam) 500 psi SWP for All orifice sizes.	Add suffix "A" to catalog number.
Silver Shading Band (on stainless steel valves)	Change body material code. Example: Change standard 204CD1/4S to non-standard 204CD1/4T (silver shading band)

Valve Kit Repairs

Seat Material	Kit #	PCN
Buna-N	K-1072	021105
Viton	K-1074	021106
Rulon	K-1077	021107
Ethylene Propylene	K-1076	032154
Buna-N (1/4 orifice only)	K-1162	039145

Exploded View



Valve Repair Kit

"K" indicates part is supplied in valve repair kit.

Coil Assembly

For available coil assemblies, see page 126.

The 210CA/211CA is a 2-way normally closed valve used in air, water and steam applications. The 210CA valve is pilot-operated and the 211CA valve is direct-acting.

Features

- Unique captive diaphragm and seal
- Superior life with stainless steel enclosing tube
- Repair kits available

Options

- Optional Voltages: 12 or 24 VDC & 120-240, 480 & 240-480/50-60 Hz



Specifications

- Watts: 12 A.C.
- VA Inrush: 31
- VA Holding: 19
- Maximum working pressure: 300 psi (250 psi on 1" 210C only)
- Weight: 1 lb. 3 oz.
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- Diaphragm Operated Solenoid Valve:
 - 210CA - from 5 to 150 psi. 3/8" to 1" NPT
 - 211CA - from 0 to 100 psi. 3/8" to 3/4" NPT
- UL/CUL file number: MP604

210CA Ordering Information *

Pipe Size	Orifice Size	M.O.P.D		Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC				Size	Insulation	Enclosure			
Brass General Purpose											
3/8	5/8	150		2.8	180°F	A 12 Watts AC	M Class F Molded	G Junction Box	210CA3/8B5/8B	030619	BUNA-N
1/2	5/8	150		3.6					210CA1/2B5/8B	030620	
3/4	3/4	125		5.5					210CA3/4B3/4B	030621	
1	1	125		13					210CA3/4B3/4P	038629	
Brass-Hot Water (210°F) or Steam (TO 250°)											
3/8	5/8	100 ²	15 ³	2.8	250°F	A 12 Watts AC	M Class F Molded	G Junction Box	210CA3/8B5/8P		Ethylene Propylene
1/2	5/8	100 ²	15 ³	3.6					210CA1/2B5/8P	030623	
3/4	3/4	100 ²	15 ³	5.5					210CA3/4B3/4P	030624	

211CA Ordering Information *

Pipe Size	Orifice Size	M.O.P.D		Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC				Size	Insulation	Enclosure			
Brass General Purpose											
3/8	5/8	100		2.8	180°F	A 12 Watts AC	M Class F Molded	G Junction Box	211CA3/8B5/8B	030625	BUNA-N
1/2	5/8	100		3.6					211CA1/2B5/8B	030626	
3/4	3/4	100		5.5					211CA3/4B3/4B	030627	
Brass-Hot Water (210°F) or Steam (TO 250°)											
3/8	5/8	100 ²	15 ³	2.8	250°F	A 12 Watts AC	M Class F Molded	G Junction Box	211CA3/8B5/8P	032303	Ethylene Propylene
1/2	5/8	100 ²	15 ³	3.6					211CA1/2B5/8P	032304	
3/4	3/4	100 ²	15 ³	5.5					211CA3/4B3/4P	032305	

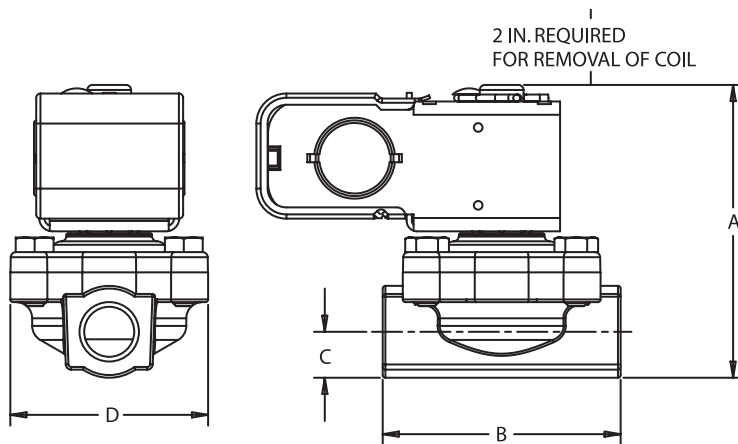
¹With an ambient temperature of 77°F.

²MOPD-Hot Water

³MOPD-Steam

*VLC -See coil assemblies for availability.

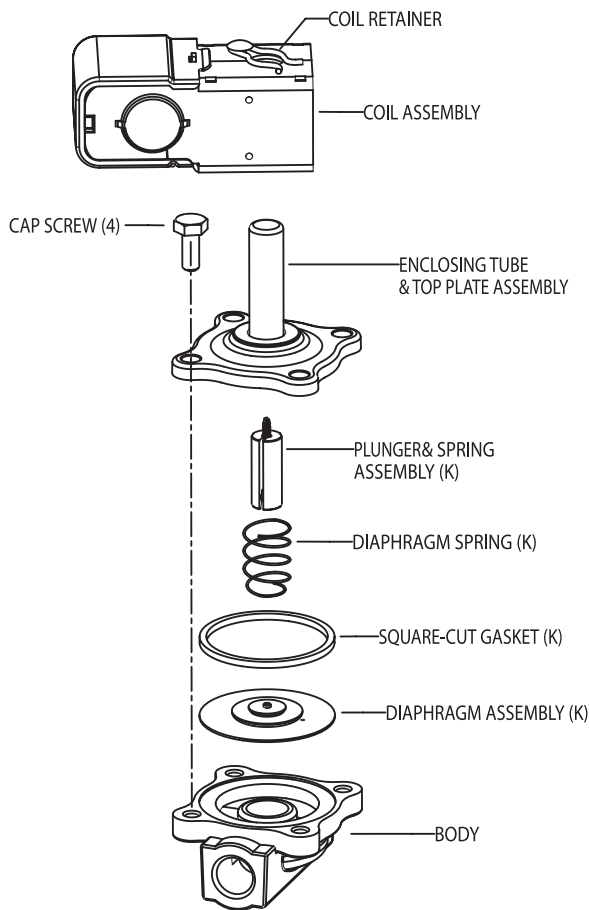
Dimensional Data (in)



Pipe Size	A	B	C	D
3/8	3.56	2.75	0.53	2.29
1/2				
3/4	3.83	2.81	0.66	4.31
1*	4.55	4.16	0.84	

* 1" Pipe available on 210C valve only.

Exploded View



210CA Valve Repair Kits

Seat Material	Connection Size					
	3/8 & 1/2	PCN	3/4	PCN	1	PCN
Buna-N	K-1155	028964	K-1231	045072	K-1177	038934
Ethylene Propylene	K-1156	029856	K-1232	045083		

211CA Valve Repair Kits

Seat Material	Kit #	PCN
Buna-N	K-1157	034357
Ethylene Propylene	K-1158	039879

Valve Repair Kit

"K" indicates part is supplied in valve repair kit.

Coil Assembly

See coil assemblies for availability.

The 214CB is a 2-way normally closed valve for air, water, and steam applications.

Features

- Superior life with stainless steel enclosing tube
- Forged brass body with large wrench flats
- PTFE O-ring for superior external leakage
- Repair kits available



Options

- Optional Voltages: 480, 120-240 & 240-480/50-60 Hz

Specifications

- 1/4" & 3/8" NPT Solenoids
- Watts: 12 @ 60Hz
- VA Inrush: 44
- VA Holding: 22
- Maximum working pressure: 350 psi
- Weight: 1 lb. 4 oz.
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- Pilot Operated: 2 to 200 P.S.I.
- UL/CUL file number: MP604

Ordering Information*

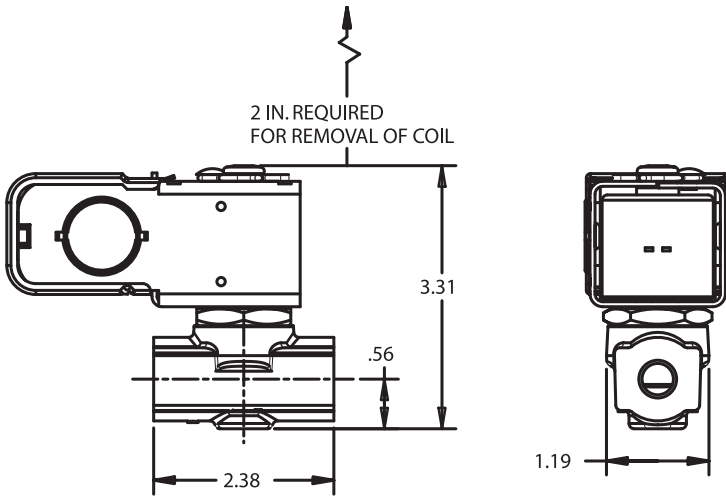
Pipe Size	Orifice Size	M.O.P.D ²	Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC			Size	Insulation	Enclosure			
Brass General Purpose										
1/4	1/4	200	1.2	180°F	A 12 Watts @ 60 Hz	M Class F Molded	G Junction Box	214CB1/4B1/4B	030540	BUNA-N
	5/16	200	1.6					214CB1/4B5/16B	030541	
	3/8	200	2.2					214CB1/4B3/8B		
3/8	1/4	200	1.2					214CB3/8B1/4B		
	5/16	200	1.6					214CB3/8B5/16B		
	3/8	200	2.2					214CB3/8B3/8B	030545	
3/8	3/8	200	2.2	400°F		Same As Above	214CB 3/8B3/8P	030557	EP Seat	

¹With an ambient temperature of 77°F.

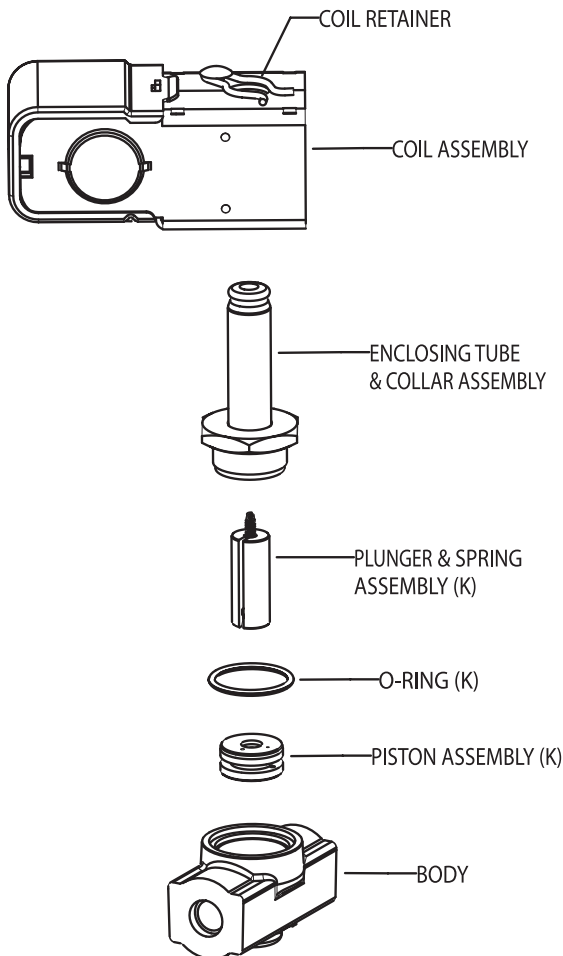
²Maximum Operating Pressure Differential.

*VLC - See coil assemblies for availability.

Dimensional Data (in)



Exploded View



Valve Options

Options	To Order
Manual Override	Add suffix "M" to catalog number.

Valve Repair Kits

Seat Material	Kit #	PCN
Buna-N	K-1112	035074
Ethylene Propylene	K-1113	041334

Valve Repair Kit

Valve Repair "K" indicates part is supplied in valve repair kit.

Coil Assemblies

See coil assemblies for availability.

The 222CB is a 2-way normally closed valve for air, water, and steam applications.

Features

- Forged brass body with large wrench flats
- Repair kits available



Options

- Optional Voltages: 480, 120-240 & 240-480/50-60 Hz

Specifications

- 3/8" & 1 1/2" NPT Solenoids
- Rulon Seat Material
- Watts: 12 @ 60Hz
- VA Inrush: 38
- VA Holding: 19
- Maximum working pressure: 300 psi
- Minimum Operating Pressure Differential : 5 psi
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- UL/CUL file number: MP604

• Weights:	Pipe Size	
	3/8, 1/2	1 lb. 8 oz.
	3/4	3 lbs.
	1	4 lbs. 4 oz.
	1-1/4	6 lbs. 2 oz.
	1-1/2	8 lbs. 6 oz.

Ordering Information *

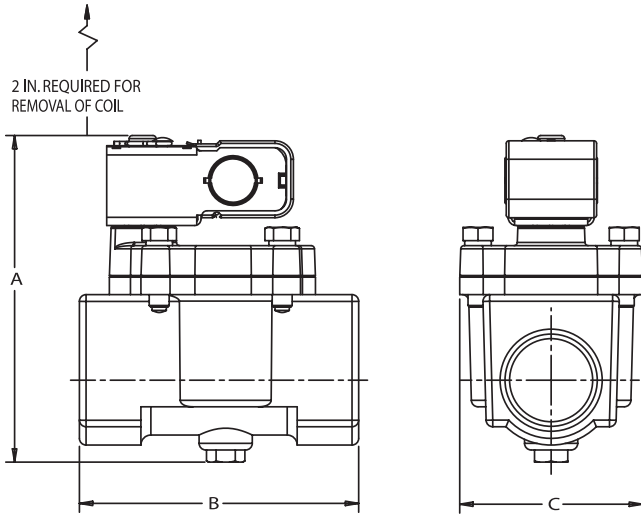
Pipe Size	Orifice Size	M.O.P.D ²	Cv	Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
		AC			Size	Insulation	Enclosure			
Brass General Purpose										
3/8	1/2	250	3.5	180°F	A 12 Watts @ 60 Hz	M Class F Molded	G Junction Box	222CB3/8B1/2B		BUNA-N
1/2	1/2		3.5					222CB1/2B1/2B	039917	
3/4	3/4		7.0					222CB3/4B3/4B	028192	
1	1		13.0					222CB1B1B	039931	
1-1/4	1-1/4		16.0					222CB1-1/4B1-1/4B	039918	
1-1/2	1-1/2		25.0					222CB1-1/2B1-1/2B	038879	
Brass Steam										
1/2	1/2	150	3.5	400°F	A 12 Watts @ 60 Hz	H Class F Molded	G Junction Box	222CB1/2B1/2T	037958	Rulon with Ethylene Propylene Gaskets
3/4	3/4		7.0					222CB3/4B3/4T	039930	
1	1		13.0					222CB1B1T	039834	
1-1/4	1-1/4		16.0					222CB1-1/4B1-1/4T	040532	
1-1/2	1-1/2		25.0					222CB1-1/2B1-1/2T	040582	
Brass Steam										
3/4	3/4	150	7.0	400°F	Same As Above			222CB- 3/4 B-3/4 P	041314	Ethylene Prop.

¹With an ambient temperature of 77°F.

²Maximum Operating Pressure Differential.

*VLC - See coil assemblies for availability.

222CB Dimensional Data (in)



Orifice Size	A*	B	C
1/2	4.59	2.47	1.63
3/4	4.91	3.25	2.06
1	5.38	4.06	2.63
1 1/4	5.66	4.56	3.00
1 1/2	6.16	5.25	3.44

* Add 0.97 for Manual Override

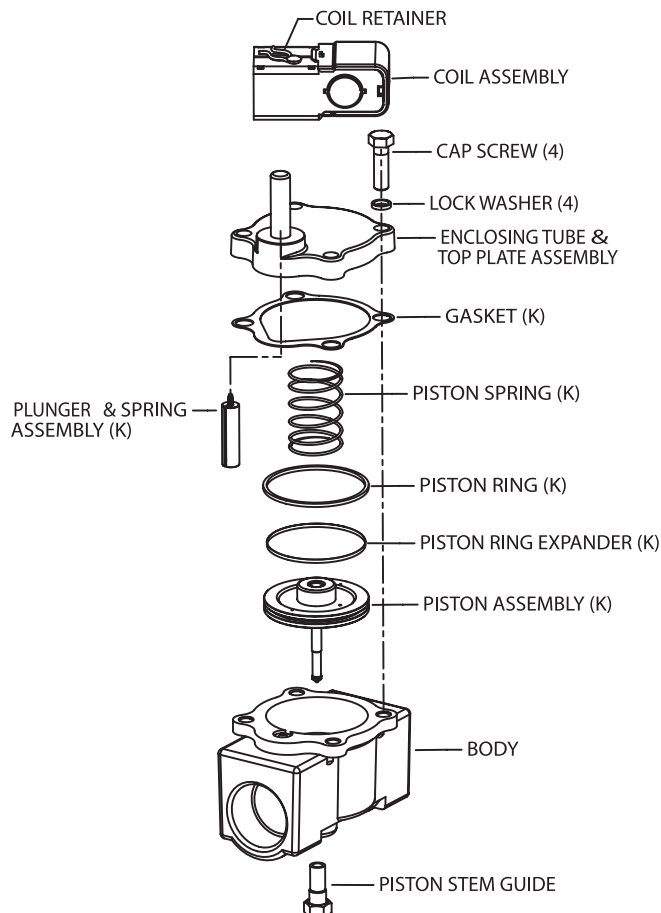
Valve Options

Options	To Order
Manual Override (not for steam) Field Installed	Add suffix "M" to catalog number.

222CB Valve Repair Kits

Seat Material	Orifice Size - NPT									
	3/8 & 1/2	PCN	3/4	PCN	1	PCN	1-1/4	PCN	1-1/2	PCN
Buna-N	K-1116	030765	K-1120	037558	K-1124	028955	K-1128	031349	K-1132	028956
Rulon	K-1118	029235	K-1122	021109	K-1126	034178	K-1130	034047		
Ethylene Propylene			K-1121	040680						

Exploded View



Valve Repair Kit

"K" indicates part is supplied in valve repair kit.

Coil Assembly

See coil assemblies for availability.

The 314UB is a direct-acting, 3-way universal valve for air and water applications.

Features

- Rugged industrial construction
- Both seat discs are spring loaded
- Superior life with stainless steel enclosing tube

Options

- Brass or stainless steel bodies
- Optional Voltages: 480, 120-240 & 240-480/50-60 Hz

NOTE: 314U valves require an AMGN, EM or ASC-Type coil.

Specifications

- 1/4" NPT Solenoids
- Watts: 12 @ 60Hz
- VA Inrush: 36
- VA Holding: 24
- Maximum working pressure: 500 psi
- Weight: 1 lb.
- Standard Voltages: 24, 120, 208-240/50-60 Hz
- UL/CUL file number: MP604



Ordering Information*

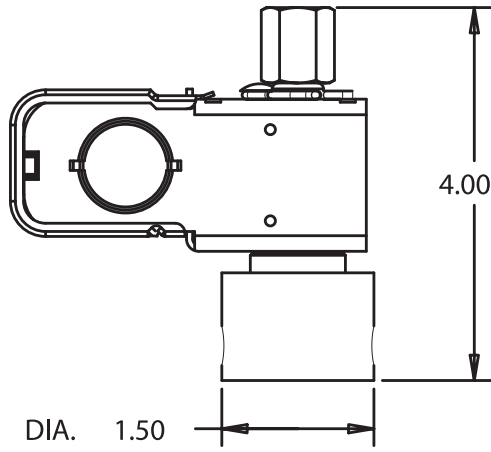
Pipe Size	Orifice Size	M.O.P.D ² AC	Cv		Max. AC Fluid Temp. ¹	Recommended Coils			Description	PCN	Elastomer
			Port 2	Port 3		Size	Insulation	Enclosure			
Brass General Purpose											
1/4	3/64	125	0.05	0.06	180°F	<u>A</u> 12 Watts @ 60 Hz	<u>M</u> Class F Molded	<u>GN</u> Junction Box	314UB1/4B3/64B3/64B	030722	BUNA-N
	3/32	40	0.22	0.17		314UB1/4B3/32B3/32B	030719				
Stainless Steel General Purpose											
1/4	3/64	125	0.05	0.06	180°F	<u>A</u> 12 Watts @ 60 Hz	<u>M</u> Class F Molded	<u>GN</u> Junction Box	314UB1/4S3/64B3/64B	030725	BUNA-N

¹With an ambient temperature of 77°F.

²Maximum Operating Pressure Differential.

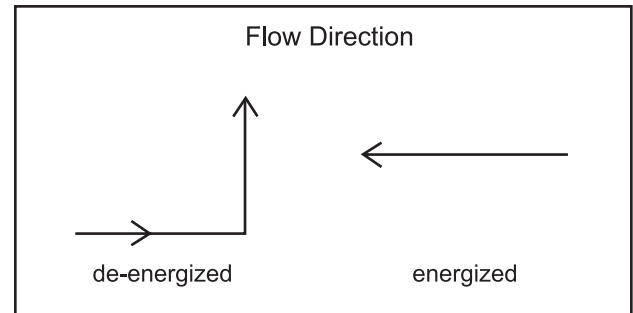
*VLC - See coil assemblies for availability.

Dimensional Data (in)

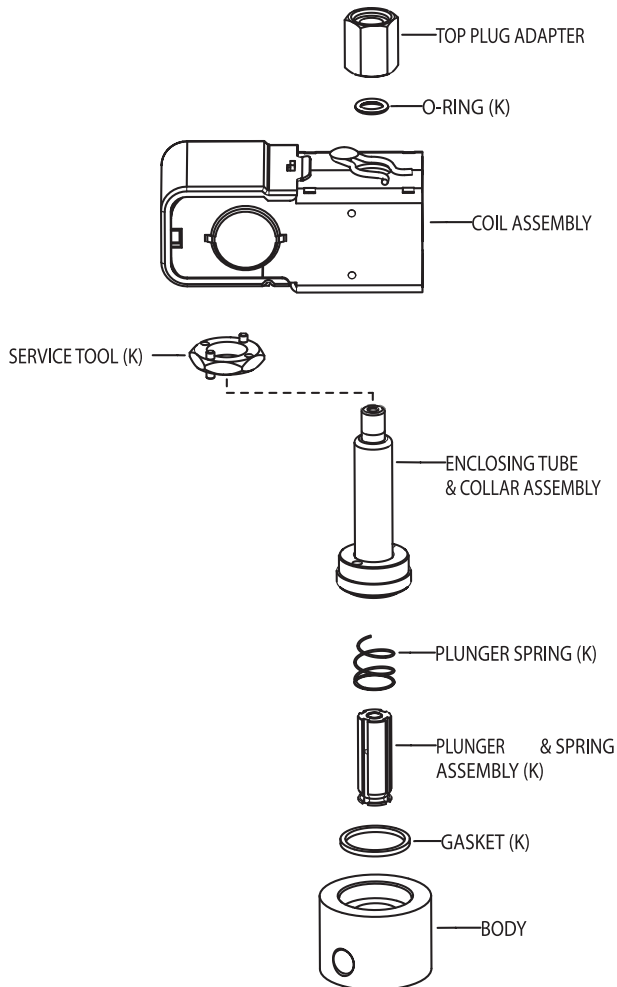


Valve Options

Options	To Order
Silver Shading Band (on stainless steel valves)	Change body material code. Example: Change standard 314UB1/8S to non-standard 314UB1/bT (silver shading band)



Exploded View



Valve Repair Kit

Seat Material	Kit #	PCN
Buna-N	K-1093	037054

Valve Repair Kit

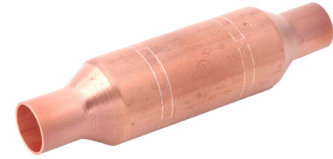
"K" indicates part is supplied in valve repair kit.

Coil Assembly

See coil assemblies for availability.

Old Model	Old PCN	New Model	New PCN
121WB5CP02	030038	204CD 1/4B 5/32 B VLC	030735
121WB03P02	040412	204CD 1/4B 3/16 B VLC	030736
121WB04P02	040337	204CD 1/4B 1/4 B VLC	030737
121SB5CP02	040300	204CD 1/4B 5/32 T VLC	030750
201WB04P02	091876	214CB 1/4B 1/4 B VLC	030540
201WB05P02	040758	214CB 3/8B 5/16 B VLC	064854
201WB06P02	065610	214CB 3/8B 3/8 B VLC	030545
231WB08P04	030051	222CB 1/2 B 1/2 B VLC	039917
231WB12P06	039987	222CB 3/4 B 3/4 B VLC	028192
231WB16P08	034211	222CB 1 B 1 B VLC	039931
231WB20P10	040283	222CB 1-1/4 B 1-1/4 B VLC	039918
231WB24P12	040021	222CB 1-1/2 B 1-1/2 B VLC	038879
231SB08P04	034171	222CB 1/2 B 1/2 T VLC	037958
231SB12P06	040069	222CB 3/4 B 3/4 T VLC	039930
231SB16P08	030048	222CB 1 B 1 T VLC	039834
231SB20P10	040365	222CB 1-1/4 B 1-1/4 T VLC	040532
231SB24P12	040366	222CB 1-1/2 B 1-1/2 T VLC	040582
241WA10P03	035073	210CA 3/8 B 5/8 B VLC	030619
241WA10P04	035023	210CA 1/2 B 5/8 B VLC	030620
241WA12P06	035022	210CA 3/4 B 3/4 B VLC	030621
241WA16P08	038857	210CA 1 B 1 B VLC	038629

The ACK check valve is a normally closed magnetic check valve that prevents reverse refrigerant flow in liquid lines and compressor discharge lines.



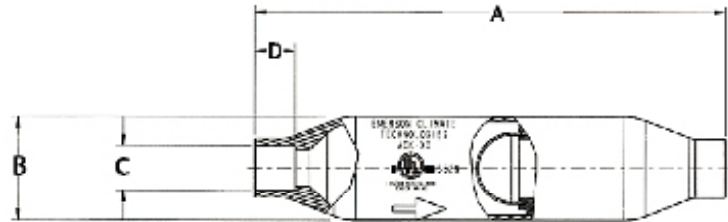
Features

- Copper Connection Sizes 1/4" through 2-5/8"
- Hermetic Spun Copper Design
- Magnetic Checking Action
- Built-In 30 Mesh Stainless Steel Strainer
- Can Be Installed In Any Position

Specifications

- UL/CUL File number: SA 5312

Dimensional Data



Nomenclature example: ACK-4

ACK	4
Check Valve Series	Copper ODF Connection Size (in 1/16")

Ordering Information and Dimensional Data (in)

Cross Reference

PCN	Description	Connection Size	A	B	C	D	Opening Pressure (oz/sq in)	Opening Pressure (psig)	MWP (psig)	A-1 Components	Superior
064985	ACK-42	1/4 ODF	4.00	0.88	0.254 ± 0.002	0.19	1.2	0.08	800	MS-4	900M-4S
064986	ACK-6	3/8 ODF			0.379 ± 0.002	0.4				MS-6	900M-6S
094987	ACK-8	1/2 ODF	5.00	1.13	0.504 ± 0.002	0.364	3.5	0.22	680	MS-8	900M-8S
094988	ACK-10	5/8 ODF			0.629 ± 0.002	0.5				MS-10	900M-10S
094989	ACK-12	3/4 ODF	7.00	1.63	0.754 ± 0.002	0.63	3.8	0.24	680	MS-12	900M-12S
094990	ACK-14	7/8 ODF			0.879 ± 0.003	0.342				MS-14	900M-14S
064991	ACK-18	1-1/8 ODF	8.38	2.13	1.130 ± 0.003	0.394	6.8	0.43	680	MS-18	N/A
094992	ACK-22	1-3/8 ODF	9.38	2.63	1.380 ± 0.003	1.04	10.2	0.64	680	MS-22	N/A
094993	ACK-26	1-5/8 ODF	10.50	3.13	1.630 ± 0.003	1.07	11.4	0.71	680	MS-26	N/A
094994	ACK-34	2-1/8 ODF	12.00	3.63	2.130 ± 0.003	1.34	18.1	1.13	680	MS-34	N/A
094995	ACK-42	2-5/8 ODF	13.00	4.13	2.630 ± 0.003	1.50	23.00	1.44	680	MS-42	N/A

Nominal Tons R-22 Suction 40°F @ 1 psi	Nominal Tons R-22 Liquid 40°F @ 1 psi	Nominal Tons R-404A Discharge 40°F @ 2 psi	Nominal Tons R-404A Suction 40°F @ 1 psi	Nominal Tons R-404A Liquid 40°F @ 1 psi	Nominal Tons R-410A Discharge 40°F @ 2 psi	Nominal Tons R-410A Suction 40°F @ 1 psi	Nominal Tons R-410A Liquid 40°F @ 1 psi	Cv
0.40	2.60	.59	0.34	1.77	0.80	0.48	2.59	0.9
0.60	3.10	1.20	0.50	2.11	1.63	0.72	3.09	1.0
1.20	9.40	2.23	1.01	6.39	3.01	1.44	9.37	3.1
1.40	13	2.67	1.18	8.84	3.61	1.68	12.96	3.6
3.30	27	5.82	2.77	18.36	7.87	3.96	26.92	8.0
3.70	29	6.71	3.11	19.72	9.08	4.44	28.91	9.2
6	51	10.55	5.04	34.68	14.27	7.20	50.85	15.4
9.50	79	17.73	7.98	53.72	23.98	11.40	78.76	23.8
17	102	26.04	14.28	69.36	35.21	20.40	101.69	24.2
30	213	41.13	25.20	144.84	55.62	36.00	212.36	38.7
50	375	50.70	42.00	255.00	68.56	60.00	373.88	71.7

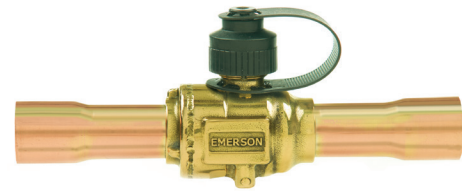
BV Series Refrigeration Ball Valves

Shut Off Valves

The BVE/BVS series welded refrigeration ball valves isolate suction, discharge, and liquid line pipework during maintenance shutdown periods.

Features

- Forged brass body
- Compact, lightweight, hermetic welded design
- Compatible with HCFC and HFC refrigerants/lubricants including R-410A and CO₂
- Full flow design*
- Bi-directional flow characteristics
- Valve stem cap retained by strap attached to main body
- Integrated access port available on all sizes
- Low operating friction design



Specifications

- Body: Forged Brass
- Extended tubes: 100% Copper Connections
- Maximum working pressure: 650 psig
- Fluid temperature range: -40°F to 250°F (302°F short term)
- UL/CUL file number: SA 5312

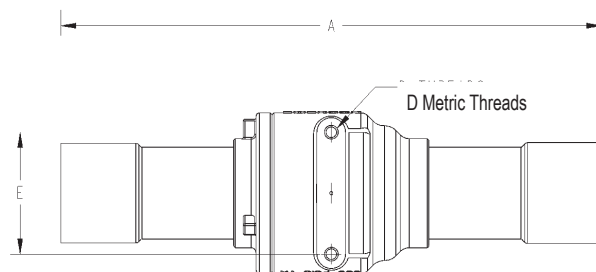
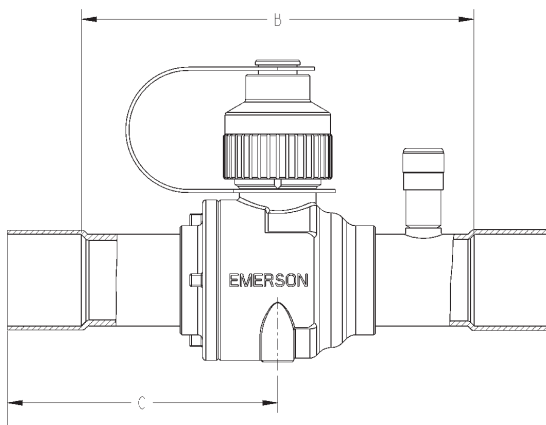
Nomenclature example: BVE 1 1/8

BV	E	1/8
Ball Valve	Access Valve E = without S = with	Connection Size (in 1/8")

Replacement Parts: Locking Seal Caps

BVE/BVS Valve Size (in.)	PCN	Quantity (per pack)
1/4 - 7/8	806770	10 pcs.
1 1/8 - 1 3/8	806771	10 pcs.
1 5/8 - 2 5/8	806772	10 pcs.

Dimensional Data



Selection & Ordering Information

Models Without Access Valve		Models With Access Valve		Connection Size (in.)	Dimensions					Port Size	Weight (lbs.)
Model	PCN	Model	PCN		A	B	C	D	E		
BVE 014	806730	BVS 014	806750	1/4 ODF	4.72	4.02	2.36	M3	0.59	Full Port	0.79
BVE 038	806732	BVS 038	806752	3/8 ODF	4.72	4.02	2.36		0.59	Full Port	0.79
BVE 012	806734	BVS 012	806754	1/2 ODF	5.00	4.21	2.50	M4	0.87	Full Port	0.79
BVE 058	806736	BVS 058	806756	5/8 ODF	5.00	3.98	2.50		0.87	Full Port	0.84
BVE 034	806737	BVS 034	806757	3/4 ODF	6.18	4.92	3.09		1.22	Full Port	1.45
BVE 078	806738	BVS 078	806758	7/8 ODF	6.18	4.65	3.09		1.22	Full Port	1.45
BVE 118	806739	BVS 118	806759	1 1/8 ODF	6.65	4.84	3.33	M6	1.50	Full Port	2.29
BVE 138	806741	BVS 138	806761	1 3/8 ODF	9.09	7.17	4.55		1.89	Full Port	3.61
BVE 158	806742	BVS 158	806762	1 5/8 ODF	10.91	8.66	5.45		2.17	Full Port	5.35
BVE 218*	806744	BVS 218*	806764	2 1/8 ODF	11.69	8.98	5.85		2.91	2" Port	10.48
BVE 258*	806745	BVS 258*	806765	2 5/8 ODF	11.69	8.74	5.85		2.91	2" Port	12.20
BVE 318*	806746	BVS 318*	806766	3 1/8 ODF	11.69	8.39	5.85		2.91	2" Port	12.60

* 2" port

Quick Select Guide

Hermetic Filter Driers			
Type	Filter Drier	Recommended Use	Function
Liquid	EK	CFC, HCFC, HFC	Premium Universal Replacement
Liquid	ADK	CFC, HCFC, HFC	High Acid and Water Removal
Liquid	BOK-HH	CFC, HCFC, HFC	Burnout Cleanup with Charcoal
Liquid	BFK	CFC, HCFC, HFC	Bi-Flow Heat Pump
Suction	SFD	CFC, HCFC, HFC	Suction Line Filter Drier
Suction	CSFD	CFC, HCFC, HFC	Compact Suction Line Filter Drier
Suction	ASD	CFC, HCFC, HFC	Premium Suction Line Filter Drier
Suction	ASK-HH	CFC, HCFC, HFC	Burnout Cleanup with Charcoal
Suction	ASF	CFC, HCFC, HFC	Filter Only
Take-Apart Filter Driers			
Type	Filter Drier	Liquid	Suction
Take-Apart	STAS	X	X
Take-Apart	ADKS	X	X
Take-Apart	BTAS		X
Replaceable Cores/Filters for Take-Apart Shells			
Type	Core/Filter	Recommended use	Function
Core	UK-48/100	CFC, HCFC, HFC	Premium Universal Replacement
Core	D-42/48	CFC, HCFC	High Acid Removal
Core	H-42/48/100	CFC, HCFC	High Acid and Water Removal
Core	W-42/48/100HH	CFC, HCFC, HFC	Burnout Cleanup with Charcoal
Filter	F-48/100	CFC, HCFC, HFC	Filter Only
Core	RH-48	Reclaim Use Only	High Acid and Water Removal
Core	RW-48	Reclaim Use Only	Burnout Cleanup

Take-Apart Liquid Line Filter Driers in Tons*

Description	Refrigeration, Low Temp. & Commercial Installations			Air Conditioning	
				Field Replacement & Field Installations	
	R-12/R-134a/ R-448A/R-449A	R-22/ R-448A/ R-449A	R-404A/R-502/ R-507A	R-12/R-134a	R-22/R-407C/R-410A ⁺
STAS 485T	8	10	8	8	10
STAS 487T	10	13	10	10	12 1/2
STAS 489T	10	15	10	10	15
STAS 4811T	13	20	13	13	20
STAS 967T	20	25	15	20	25
STAS 969T	25	30	20	25	30
STAS 9611T	30	35	25	30	35
STAS 9613T	35	40	30	35	40
STAS-9625S-V	40	45	35	40	45
STAS 1449T	30	40	30	30	40
STAS 14411T	40	50	35	40	50
STAS 14413T	45	55	40	45	55
STAS 14417T	60	50	45	50	60
STAS 19211T	50	70	45	50	70
STAS 19213T	60	80	55	60	80
STAS 19217T	65	85	60	65	85
ADKS 30013T	50	65	45	50	65
ADKS 30017T	60	80	50	60	80
ADKS 40017T	65	85	55	65	85
ADKS 40021T	75	100	65	75	100

* For kW, multiply tons by 3.5
 + Consult product catalog pages for R-410A suitability.

Hermetic Liquid Line Filter Driers (EK, ADK, BFK, BOK)

(Recommended Capacities at 2 psi drop (See catalog page showing ARI data for capacity at 1 psi drop.)

Description	Refrigeration Low Temp. & Commercial Installations			Air Conditioning Field Replacement & Field Installations		
	R-12/R-134a	R-22	R-404A/R-502/R-507	R-12/R-134a	R-22/R-407C/R-410A	
032	1/2	1/2	1/2	1	1-1/2	
032S						
033						
033S						
052	3/4	3/4				
052S						
053	1-1/2	2	1-1/2	3	4	
053S						
082	1	1	3/4	1-1/2	2	
082S		2	1	3	4	
0825S		3				
083	2	3	2	4	5	
083S		4		5	7-1/2	
084						
084S						
162	1-1/2	2	1	1-1/2	2	
162S	2	3	2	3	4	
1625S						
163	3	5	3	4	5	
163S				5	10	
164				7-1/2	12	
164S						
165						
165S	4	5	4	6		
303		7-1/2	7-1/2	10		
303S						
304						
304S	7-1/2	10	5	15		
305		15	18	24		
305S			20	26		
307S						
309S	4	5	4	5	5	
413			5	7-1/2	12	
414						
414S						
415	7-1/2	7-1/2	7-1/2	12	18	
415S				18	25	
417S				10	20	27
419S				12	25	30
757S	20	25	15	22	30	
759S	22	30	20	25	34	

The EK Liquid Line filter drier is a premium compacted bead filter drier with a 20 micron outlet pad for maximum filtration. The EK is a premium universal replacement liquid line filter drier for CFC, HCFC and HFC refrigerants including R-12, R-134a, R-22, R-404A, R-407C, R-410A, R-500, R-502, and R-507.



Features

- Filtration first for more effective use of surface area of desiccant
- High moisture and acid removal capacity
- Solid copper connections
- Corrosion resistant epoxy powder paint finish
- Approved for POE oils with Copeland™ compressors
- Shock resistant steel shell construction

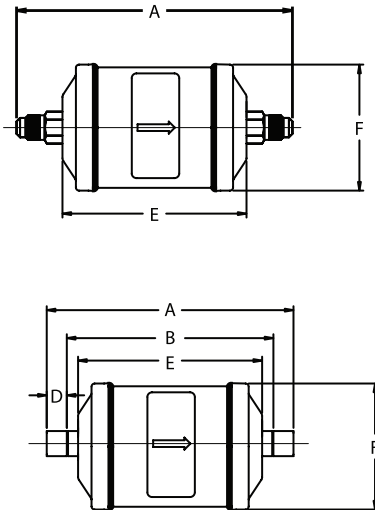
Specifications

- Desiccant blend - optimized for high water capacity and acid capacity
- Filtration: 20 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Nomenclature example: EK-083S

EK	08	3	S
Drier Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections (omit for SAE)

Dimensional Data



Ordering Information

PCN	Description	Dimensions (in)				Weight (lbs)
		A	B	D	F	
060009	EK 032	4.38				0.48
060012	EK 032S	3.83	2.71	0.56		
060011	EK 032FM	3.92			2.57	
060010	EK 032MF	3.92				
060013	EK 033	4.69				1.04
060014	EK 033S	4.03	2.79	0.62		
047601	EK 052	4.83			3.02	1.23
057013	EK 052MF	4.37				
047602	EK 052S	4.15	3.46	0.35	3.02	
047603	EK 053	5.14				1.49
047604	EK 053S	4.48	3.24	0.62		
047605	EK 082	5.64				
047606	EK 082S	4.96	4.27	0.35		
049551	EK 0825S	5.01	4.37	0.32		
056906	EK 083MF	5.70			3.83	
047607	EK 083	5.95			3.83	
047608	EK 083S	5.29	4.05	0.62	3.83	
047609	EK 084	6.17				
047610	EK 084S	5.33	4.07	0.63	2.64	
047611	EK162	6.58				1.49
047612	EK 162S	5.90	5.21	0.35		
056045	EK 1625S	5.95	5.31	0.32		
047613	EK 163	6.89				
047614	EK 163S	6.24	5.43	0.40		
047615	EK 164	7.11			4.77	
047616	EK 164S	6.33	5.33	0.50		
047617	EK 165	7.57				
047618	EK 165S	6.55	5.30	0.63		
047619	EK 167S	7.13	5.63	0.75		
048210	EK 303	9.66				3.01
048211	EK 303S	9.01	8.21	0.40		
048212	EK 304	9.88				
048213	EK 304S	9.10	8.10	0.50		
048214	EK 305	10.34			7.54	
048215	EK 305S	9.32	8.07	0.63		
048216	EK 306S	9.73	8.48	0.63		
048217	EK 307S	9.90	8.40	0.75		
048218	EK 309S	10.26	8.45	0.90		
048219	EK 413	9.79				
048220	EK 414	10.01				3.35
048221	EK 414S	9.23	8.23	0.50		
048222	EK 415	10.47		-	7.67	
048223	EK 415S	9.45	8.20	0.63		
048224	EK 417S	10.03	8.53	0.75		
048225	EK 419S	10.39	8.58	0.91		
048228	EK 757S	15.25	14.02	0.61		
048229	EK 759S	15.88	14.07	0.91	13.16	
					3.64	

The EK Contractor's Choice filter drier is designed for foodservice and residential air conditioning applications.

Features

- Extended solid copper connections
- Dual access valves for faster and easier system diagnosis
- Incorporates all the internal features of the premium EK

Specifications

- Desiccant blend - optimized for high water capacity and acid capacity
- Filtration: 20 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124



Ordering Information

PCN	Description
063908	EK 032S VV
065966	EK 052S VV
065963	EK 053S VV
065964	EK 083S VV
065965	EK 163S VV

EK Cap Tube Filter Drier

The EK Cap Tube filter drier is designed for foodservice refrigeration systems.

Features

- Schrader valve on the inlet side acts as a maintenance and charging port
- Outlet is designed to accept capillary tubing without the need for crimping
- Extended solid copper 1/4 ODF connection inlet by cap tube
- Incorporates all the internal features of the premium EK

Specifications

- Desiccant blend - optimized for high water capacity and acid capacity
- Filtration: 20 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124



Ordering Information

PCN	Description
063208	EK 032 SV CAP (3 cubic inch)
065846	EK 052 SV CAP (5 cubic inch)

Capacity Tables

Description	Connections Inlet/Outlet	Flow Capacity Tons @ 1 psi ΔP ^{1,4} (For kW, multiply tons by 3.5)						Water Capacity ² Drops of Water ³															
		R-12	R-134a /R-450A /R-513A	R-22 /R-410A /R-448A /R-449A	R-407C	R-404A/ R-507	R-744	R-12		R-134a		R-22		R-407C		R-410A		R-404A/507		R-502		R-744	
								75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
EK 03 2 FM	1/4 Fem/1/4 Male SAE	1.6	2.0	2.2	2.1	1.4	2.8																
EK 03 2 MF	1/4 Male/1/4 Fem SAE	1.6	2.0	2.2	2.1	1.4	2.8																
EK 03 2	1/4 SAE	1.6	2.0	2.2	2.1	1.4	2.8																
EK 03 2 S	1/4 ODF	2.2	2.7	2.9	2.9	2.0	3.7	47	41	40	37	40	33	33	25	21	19	38	37	42	37	30	34
EK 032 SV	1/4 ODF	2.2	2.7	2.9	2.9	2.0	3.7																
EK 03 3	3/8 SAE	2.5	3.0	3.3	3.2	2.2	4.3																
EK 03 3 S	3/8 ODF	2.5	3.0	3.3	3.2	2.2	4.3																
EK 05 2 FM	1/4 Fem/1/4 Male SAE	1.7	2.1	2.3	2.2	1.5	3.0																
EK 05 2 MF	1/4 Male/1/4 Fem SAE	1.7	2.1	2.3	2.2	1.5	3.0																
EK 05 2	1/4 SAE	1.7	2.1	2.3	2.2	1.5	3.0																
EK 05 2 S	1/4 ODF	2.5	3.1	3.4	3.3	2.2	4.6	133	119	116	106	114	97	95	75	64	58	109	106	120	107	81	89
EK 05 3 MF	3/8 Male/3/8 Fem SAE	2.9	3.5	3.8	3.7	2.5	4.9																
EK 05 3	3/8 SAE	2.9	3.5	3.8	3.7	2.5	4.9																
EK 05 3 S	3/8 ODF	3.6	4.4	4.8	4.7	3.2	6.2																
EK 08 2 FM	1/4 Fem/1/4 Male SAE	1.9	2.3	2.5	2.4	1.7	3.2																
EK 08 2 MF	1/4 Male/1/4 Fem SAE	1.9	2.3	2.5	2.4	1.7	3.2																
EK 08 2	1/4 SAE	1.9	2.3	2.5	2.4	1.7	3.2																
EK 08 2 S	1/4 ODF	2.7	3.3	3.6	3.5	2.4	4.4																
EK 08 25 S	5/16 ODF	2.9	3.5	3.8	3.7	2.5	4.9																
EK 08 3 MF	3/8 Male/3/8 Fem SAE	3.3	4.0	4.3	4.3	2.9	5.5	274	240	237	218	235	200	195	155	159	118	224	217	245	217	163	180
EK 08 3	3/8 SAE	3.3	4.0	4.3	4.3	2.9	5.5																
EK 08 3 S	3/8 ODF	3.7	4.5	4.9	4.8	3.3	6.3																
EK 08 4	1/2 SAE	5.5	6.7	7.3	7.1	4.9	9.4																
EK 08 4 S	1/2 ODF	5.8	7.1	7.7	7.5	5.1	9.9																
EK 16 2 MF	1/4 Male/1/4 Fem SAE	1.9	2.3	2.5	2.4	1.7	3.2																
EK 16 2	1/4 SAE	1.9	2.3	2.5	2.4	1.7	3.2																
EK 16 2 S	1/4 ODF	2.5	3.1	3.4	3.3	2.2	4.4																
EK 16 25 S	5/16 ODF	2.5	3.1	3.4	3.3	2.2	4.4																
EK 16 3	3/8 SAE	3.2	3.9	4.2	4.1	2.8	5.4																
EK 16 3 S	3/8 ODF	3.6	4.4	4.8	4.7	3.2	6.2	347	301	371	341	368	313	305	240	206	186	350	340	306	272	260	286
EK 164	1/2 SAE	5	6.1	1.3	6.5	4.2	10.1																
EK 16 4 S	1/2 ODF	7.0	8.5	7.5	9.0	6.2	11.9																
EK 16 5	5/8 SAE	8.0	9.7	10.5	10.3	7.0	13.5																
EK 16 5 S	5/8 ODF	8.3	10.1	10.9	10.7	7.3	14.1																
EK 16 7 S	7/8 ODF	12.7	15.5	16.8	16.5	11.2	21.7																
EK 30 3	3/8 SAE	3.5	4.3	4.7	4.6	3.1	6.1																
EK 30 3 S	3/8 ODF	5.2	6.3	6.8	6.7	4.6	8.8																
EK 30 4	1/2 SAE	6.6	8.1	8.8	8.6	5.9	11.4																
EK 30 4 S	1/2 ODF	8.2	10.0	10.8	10.6	7.2	13.9																
EK 30 5	5/8 SAE	8.7	10.6	11.5	11.3	7.7	14.8	601	526	664	611	657	561	548	434	515	355	627	608	536	477	458	504
EK 30 6 S	3/4 ODF	12.1	14.8	16.0	15.7	10.7	20.6																
EK 30 7 S	7/8 ODF	13.8	16.8	18.2	17.9	12.2	23.5																
EK 30 9 S	1 1/8 ODF	16.1	19.6	21.2	20.8	14.2	27.3																
EK 41 3	3/8 SAE	3.5	4.3	4.7	4.6	3.1	6.1																
EK 41 4	1/2 SAE	8.5	10.4	11.3	11.1	7.5	14.6																
EK 41 4 S	1/2 ODF	8.9	10.8	11.7	11.5	7.8	15.1																
EK 41 5	5/8 SAE	9.8	12.0	13.0	12.8	8.7	16.8	1104	971	938	854	919	785	765	607	715	465	876	850	991	884	638	702
EK 41 7 S	7/8 ODF	16.6	20.3	22.0	21.6	14.7	28.4																
EK 41 9 S	1 1/8 ODF	22.7	27.7	30.0	29.4	20.1	38.7																
EK 75 7 S	7/8 ODF	18.2	22.2	24.1	23.6	16.1	31.1																
EK 75 9 S	1 1/8 ODF	26.8	32.7	35.4	34.8	23.7	45.7	2368	2159	2159	2019	2159	1880	1810	1460	1460	1111	2019	2019	2229	2019	1578	1737

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
 5°F saturated vapor temperature
 3.1 lbs./min./ton for R-134a
 2.9 lbs./min./ton for R-22 and R-407C
 4.0 lbs./min./ton for R-404A/507 and R-12
 2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
 Equilibrium Point Dryness (EPD) of:
 50 parts per million for R-134a, R404-A/507,
 R-410A, R-407C, and R-744
 60 parts per million for R-22
 15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc
⁴ For 2 PSI ΔP, Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity-Ounces

Unit Size	R-12		R-134a /R-450A/R-513A		R-22 /R-448A/R-449A		R-407C		R-410A		R-404A/R-507		R-502		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
03	2.9	2.6	2.6	2.3	2.6	2.3	2.5	2.1	2.3	1.9	2.3	1.9	2.7	2.3	2.1	2.3
05	6.5	5.9	6.0	5.4	5.9	5.3	5.6	4.9	5.3	4.4	5.2	4.4	6.0	5.3	4.8	5.3
08	8.3	7.6	7.6	6.9	7.5	6.8	7.2	6.3	6.7	5.7	6.6	5.6	7.7	6.8	6.1	6.7
16	10.2	9.4	9.4	8.6	9.3	8.4	8.9	7.8	8.3	7.0	8.2	6.9	9.5	8.4	7.5	8.3
30	28.7	26.3	26.4	23.9	26.1	23.5	24.9	21.9	23.3	19.6	22.9	19.4	26.7	23.4	21.1	23.4
41	40.0	36.4	36.9	33.1	36.4	32.5	34.7	30.3	32.5	27.2	31.9	26.8	37.2	32.4	29.2	32.4
75	72.4	66.3	66.7	60.3	65.8	59.2	62.8	55.2	58.7	49.5	57.7	48.9	67.2	59.0	53.1	58.9

The EKZ Liquid Line filter drier is a premium OEM R-410A filter drier with 20 micron filtration for maximum protection.

Features

- Filtration first for more effective use of desiccant
- High moisture removal capacity to prevent POE oil damage
- Solid copper connections
- Corrosion resistant epoxy powder paint finish
- Copeland™ brand products approved for POE Oils
- Shock resistant steel shell construction



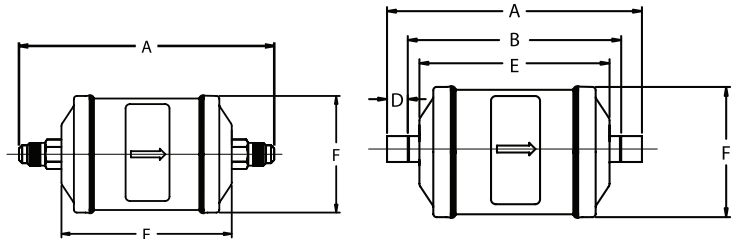
Specifications

- Desiccant blend - 100% molecular sieve
- Filtration: 20 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Dimensional Data

Nomenclature example: EKZ-083S

EKZ	08	3	S
Drier Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections



Ordering Information

Description	Dimension (in)					Weight (lbs)
	A	B	D	E	F	
EKZ-032S	3.94	3.25	0.35	2.57	1.75	0.62
EKZ-033S	4.03	2.79	0.62			
EKZ-052S	4.15	3.46	0.35	3.00	2.64	0.99
EKZ-0525S	4.20	3.56	0.32			
EKZ-053S	4.48	3.24	0.62			
EKZ-054S	4.58	3.58	0.50			
EKZ-083S	5.29	4.05	0.62	3.80	2.64	1.15
EKZ-084S	5.33	4.07	0.63			
EKZ-085S	5.60	4.08	0.76			
EKZ-163S	6.24	5.43	0.40	4.76	2.64	1.48
EKZ-164S	6.33	5.33	0.50			
EKZ-165S	6.55	5.30	0.63			
EKZ-167S	7.13	5.63	0.75			
EKZ-305S	9.32	8.07	0.63	7.46	3.14	2.80
EKZ-306S	9.73	8.48	0.63			
EKZ-307S	9.90	8.40	0.75			
EKZ-417S	10.03	8.53	0.75	7.68	3.64	3.21
EKZ-419S	10.39	8.58	0.91			

Capacity Tables

Description	Connections Inlet/Outlet	Flow Capacity Tons @ 1 psi ΔP ^{1,4} (For kW, multiply tons by 3.5)							Water Capacity ² Drops of Water ³												
		R-12	R-134a /R-450A /R-513A	R-22 /R-410A /R-448A /R-449S	R-407C	R404A/ R-507	R-502	R-744	R-134a		R-22		R-407C		R-410A		R-404A/507		R-744		
									75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	-10°F
EKZ 03 2 S	1/4 ODF	2.2	2.7	2.9	2.9	2.0	1.9	3.7	49	45	49	43	45	40	45	40	49	45	35	39	
EKZ 03 3 S	3/8 ODF	2.5	3.0	3.3	3.2	2.2	2.1	4.3													
EKZ 05 2 S	1/4 ODF	2.7	3.3	3.6	3.5	2.4	2.3	4.6	130	120	130	115	115	110	115	110	130	120	93	103	
EKZ 05 25 S	5/16 ODF	2.8	3.4	3.8	3.7	2.5	2.4	4.9													
EKZ 05 3 S	3/8 ODF	3.6	4.4	4.8	4.7	3.2	3.1	6.2													
EKZ 05 4 S	1/2 ODF	5.6	6.9	7.5	7.4	5.0	4.8	9.7	240	225	240	210	215	210	215	210	240	225	173	191	
EKZ 08 3 S	3/8 ODF	3.7	4.5	4.9	4.8	3.3	3.2	6.3													
EKZ 08 4 S	1/2 ODF	5.8	7.1	7.7	7.5	5.1	5.0	9.9													
EKZ 08 5 S	5/8 ODF	7.4	9.1	9.8	9.7	6.6	6.3	12.6	440	415	445	390	400	390	400	390	440	415	317	350	
EKZ 16 3 S	3/8 ODF	3.6	4.4	4.8	4.7	3.2	3.1	6.2													
EKZ 16 4 S	1/2 ODF	7.0	8.5	9.2	9.0	6.2	6.0	11.9													
EKZ 16 5 S	5/8 ODF	8.3	10.1	10.9	10.7	7.3	7.1	14.1													
EKZ 16 7 S	7/8 ODF	12.7	15.5	16.8	16.5	11.2	10.9	21.7	730	690	730	645	660	640	660	640	730	690	522	576	
EKZ 30 5 S	5/8 ODF	8.7	10.6	11.5	11.3	7.7	7.5	14.8													
EKZ 30 6 S	3/4 ODF	12.1	14.8	16.0	15.7	10.7	10.4	20.6													
EKZ 30 7 S	7/8 ODF	13.8	16.8	18.2	17.9	12.2	11.8	23.5	1030	960	1030	900	930	900	930	900	1030	960	731	806	
EKZ 41 7 S	7/8 ODF	16.6	20.3	22.0	21.6	14.7	14.3	28.4													
EKZ 41 9 S	1 1/8 ODF	22.7	27.7	30.0	29.4	20.1	19.5	38.7													

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
 5°F saturated vapor temperature
 3.1 lbs./min./ton for R-134a
 2.9 lbs./min./ton for R-22 and R-407C
 4.0 lbs./min./ton for R-404A/507 and R-12
 4.4 lbs./min./ton for R-502
 2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
 Equilibrium Point Dryness (EPD) of:
 50 parts per million for R-134a, R404-A/507,
 R-410A, R-407C, and R-744
 60 parts per million for R-22
 15 parts per million for R-12
 30 parts per million for R-502

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity-Ounces

Unit Size	R-12		R-134a/ R-450A/ R-513A		R-22/ R-448A/ R-449A		R-407C		R-410A		R-404A/R-507		R-502		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
03	2.9	2.6	2.6	2.3	2.6	2.3	2.5	2.1	2.3	1.9	2.3	1.9	2.7	2.3	2.1	2.3
05	6.5	5.9	6.0	5.4	5.9	5.3	5.6	4.9	5.3	4.4	5.2	4.4	6.0	5.3	4.8	5.3
08	8.3	7.6	7.6	6.9	7.5	6.8	7.2	6.3	6.7	5.7	6.6	5.6	7.7	6.8	6.1	6.7
16	10.2	9.4	9.4	8.6	9.3	8.4	8.9	7.8	8.3	7.0	8.2	6.9	9.5	8.4	7.5	8.3
30	28.7	26.3	26.4	23.9	26.1	23.5	24.9	21.9	23.3	19.6	22.9	19.4	26.7	23.4	21.1	23.4
41	40.0	36.4	36.9	33.1	36.4	32.5	34.7	30.3	32.5	27.2	31.9	26.8	37.2	32.4	29.2	32.4
75															53.1	58.9

The ADK is a solid core liquid line filter drier good for use with CFC, HCFC, and HFC refrigerants.

Features

- Solid copper connections
- High moisture and acid removal capacity
- Corrosion resistant epoxy powder paint finish
- Copeland™ products approved for POE oils



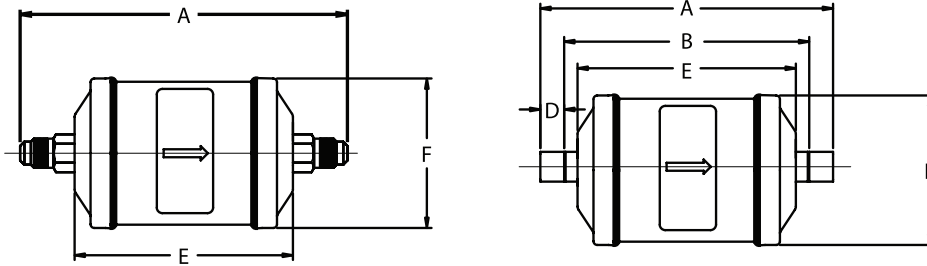
Specifications

- Desiccant Blend: optimized for high water capacity and acid capacity
- Filtration: 40 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Nomenclature example: ADK 083S

ADK	08	3	S
Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections (omit for SAE)

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimension (in)					Weight (lbs)
			A	B	D	E	F	
059874	ADK-032	1/4 SAE	4.38			2.57	1.75	0.51
052451	ADK-032S	1/4 ODF	3.83	2.71	0.56			
023157	ADK-033	3/8 SAE	4.69					
053172	ADK-033S	3/8 ODF	4.03	2.79	0.62	3.03	2.64	1.05
060125	ADK-052	1/4 SAE	4.84					
060126	ADK-052S	1/4 ODF	4.17	3.48	0.35			
060127	ADK-053	3/8 SAE	5.15			3.85	2.64	1.25
060128	ADK-053S	3/8 ODF	4.49	3.25	0.62			
060129	ADK-082	1/4 SAE	5.66					
060130	ADK-082S	1/4 ODF	4.99	4.29	0.35	4.78	2.64	1.53
060131	ADK-083	3/8 SAE	5.97					
060132	ADK-083S	3/8 ODF	5.30	4.07	0.62			
060133	ADK-084	1/2 SAE	6.19			5.09	2.64	1.53
060134	ADK-084S	1/2 ODF	5.35	4.09	0.63			
059838	ADK-162S	1/4 ODF	5.35	4.66	0.35			
059820	ADK-162	1/4 SAE	6.59			5.09	2.64	1.53
059839	ADK-163	3/8 SAE	6.90					
060795	ADK-163S	3/8 ODF	6.23	5	0.62			
059840	ADK-164	1/2 SAE	7.12			5.09	2.64	1.53
059841	ADK-164S	1/2 ODF	6.28	5.07	0.60			
059842	ADK-165	5/8 SAE	7.58					
059843	ADK-165S	5/8 ODF	6.55	5.09	0.73			

Ordering Information (cont.)

PCN	Description	Connection Size	Dimension (in)					Weight (lbs)
			A	B	D	E	F	
060172	ADK-303	3/8 SAE	9.66			7.54	3.14	3.11
058507	ADK-303S	5/8 ODF	9.01	8.2	0.40			
060173	ADK-304	1/2 SAE	9.88					
060176	ADK-304S	1/2 ODF	9.10	8.1	0.50			
060174	ADK-305	5/8 SAE	10.34					
060177	ADK-305S	5/8 ODF	9.32	8.07	0.63			
060178	ADK-307S	7/8 ODF	9.90	8.4	0.75			
060179	ADK-309S	1-1/8 ODF	10.26	8.44	0.90			
060182	ADK-413	3/8 SAE	9.82			7.70	3.64	3.78
060183	ADK-414	1/2 SAE	10.04					
060185	ADK-414S	1/2 ODF	9.26	8.26	0.50			
060184	ADK-415	5/8 SAE	10.50					
060186	ADK-415S	5/8 ODF	9.48	8.23	0.63			
060187	ADK-417S	7/8 ODF	10.06	8.56	0.75			
060188	ADK-419S	1-1/8 ODF	10.42	8.60	0.91			
060190	ADK-757S	7/8 ODF	15.55	14.05	0.75			
060191	ADK-759S	1-1/8 ODF	15.91	14.10	0.90	13.19	3.64	6.53

Capacity Tables

Description	Connection	Flow Capacity Tons @ 1 psi ΔP ^{1, 4} (For kW, multiply tons by 3.5)							Water Capacity ² Drops of Water ³															
		R-12	R-134a/ R-450A/ R-513A	R-22/ R-448A/ R-449A	R-410A	R-407C	R-404A/ R-507	R-744	R-12		R-134a		R-22		R-407C		R-410A		R-404A/507		R-502		R-744	
									125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F
ADK 032	1/4 SAE	1.6	1.9	2.1	2.1	2.0	1.4	2.7	70	74	68	69	63	57	46	47	36	76	72	71	63	58	64	
ADK 032S	1/4 ODF	1.9	2.3	2.5	2.5	2.4	1.7	3.2																
ADK 033	3/8 SAE	2.2	2.7	2.9	2.9	2.9	2.0	3.7																
ADK 033S	3/8 ODF	2.5	3.0	3.3	3.3	3.2	2.2	4.3																
ADK 052	1/4 SAE	1.6	2.0	2.2	2.2	2.1	1.4	2.8	185	195	180	180	130	150	120	125	95	200	190	185	165	144	169	
ADK 052S	1/4 ODF	2.4	2.9	3.1	3.1	3.1	2.1	4.0																
ADK 053	3/8 SAE	3.0	3.7	4.0	4.0	3.9	2.7	5.2																
ADK 53S	3/8 ODF	3.7	4.5	4.9	4.9	4.8	3.3	6.3																
ADK 082	1/4 SAE	1.6	2.0	2.2	2.2	2.1	1.4	2.8	250	265	245	250	225	205	165	170	130	275	260	255	230	198	233	
ADK 082S	1/4 ODF	2.5	3.1	3.4	3.4	3.3	2.2	4.4																
ADK 083	3/8 SAE	3.5	4.3	4.7	4.7	4.6	3.1	6.1																
ADK 083S	3/8 ODF	3.4	4.2	4.6	4.6	4.5	3.0	5.9																
ADK 084	1/2 SAE	5.5	6.7	7.3	7.3	7.1	4.9	9.4	365	390	360	265	330	300	240	250	190	400	380	375	335	328	386	
ADK 084S	1/2 ODF	5.7	7.0	7.6	7.6	7.4	5.1	9.8																
ADK 162	1/4 SAE	1.6	2.0	2.2	2.2	2.1	1.4	2.8																
ADK 163	1/4 SAE	3.6	4.4	4.8	4.8	4.7	3.2	6.2																
ADK 163S	3/8 ODF	4.0	4.9	5.3	5.3	5.2	3.6	6.8	820	865	800	810	740	675	540	555	420	895	845	835	745	676	796	
ADK 164	1/2 SAE	6.8	8.3	9.0	9.0	8.8	6.0	11.6																
ADK 164S	1/2 ODF	7.1	8.6	9.3	9.3	9.1	6.2	12.0																
ADK 165	5/8 SAE	9.7	11.8	12.8	12.8	12.5	8.6	16.5																
ADK 165S	5/8 ODF	10.7	13.1	14.2	14.2	13.9	9.5	18.3	1120	1210	1100	1140	1010	945	740	780	580	1260	1156	1170	1020	900	1060	
ADK 167S	7/8 ODF	13.1	16.0	17.3	17.3	17.0	11.8	22.3																
ADK 303	3/8 SAE	3.9	4.7	5.1	5.1	5.0	3.4	6.6																
ADK 304	1/2 SAE	7.1	8.6	9.3	9.3	9.1	6.2	12.0																
ADK 304S	1/2 ODF	7.2	8.8	9.5	9.5	9.4	6.4	12.3	1985	2100	1940	1956	1800	1635	1310	1350	1030	2170	2050	2025	1800	1750	2060	
ADK 305	5/8 SAE	11.3	13.8	15.0	15.0	14.7	10.0	19.4																
ADK 305S	4/8 ODF	11.9	14.5	15.7	15.7	15.4	10.5	20.3																
ADK 306S	3/4 ODF	13.0	15.8	17.1	17.1	16.8	11.5	22.1																
ADK 307S	7/8 ODF	14.3	17.4	18.9	18.9	18.5	12.6	24.4	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F		
ADK 309S	1 1/8 ODF	20.4	24.9	27.0	27.0	26.5	18.0	34.8																
ADK 413	3/8 SAE	3.9	4.7	5.1	5.1	5.0	3.4	6.6																
ADK 414	1/2 SAE	8.0	9.8	10.6	10.6	10.4	7.1	13.7																
ADK 414S	1/2 ODF	8.8	10.7	11.6	11.6	11.4	7.8	15.0	1985	2100	1940	1956	1800	1635	1310	1350	1030	2170	2050	2025	1800	1750	2060	
ADK 415	5/8 SAE	12.8	15.6	16.9	16.9	16.6	11.3	21.8																
ADK 415S	5/8 ODF	13.5	16.5	17.9	17.9	17.5	12.0	23.1																
ADK 417S	7/8 ODF	16.6	20.3	22.0	22.0	21.7	14.7	28.4																
ADK 419S	1 1/8 ODF	20.7	25.2	27.3	27.3	26.8	18.3	35.2	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F		
ADK 757S	7/8 ODF	28.0	34.2	37.1	37.1	36.3	24.8	47.9																
ADK 759S	1 1/8 ODF	30.6	37.3	40.4	40.4	39.6	27.0	52.1																

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
 5°F saturated vapor temperature
 3.1 lbs./min./ton for R-134a
 2.9 lbs./min./ton for R-22 and R-407C
 4.0 lbs./min./ton for R-404A/507 and R-12
 2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
 Equilibrium Point Dryness (EPD) of:
 50 parts per million for R-134a, R404-A/507,
 R-410A, R-407C and R-744
 60 parts per million for R-22
 15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity-Ounces

Unit Size	R-12		R-134a/R-450A/R-513A		R-22/R-448A/R-449A		R-407C		R-410A		R-404A/507		R-502		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
03	2.4	2.2	2.2	2.0	2.2	2.0	2.1	1.9	2.0	1.7	1.9	1.7	2.7	2.3	1.8	2.0
05	5.9	6.0	5.5	5.5	5.4	5.4	5.2	5.0	4.8	4.5	4.7	4.5	6.0	5.3	4.9	5.4
08	8.0	7.4	7.4	6.7	7.3	6.6	7.0	6.2	6.5	5.5	6.4	5.5	7.7	6.8	5.9	6.5
16	14.5	12.5	13.4	11.4	13.2	11.2	12.6	10.4	11.7	9.4	11.6	9.3	9.5	8.4	10.1	11.2
30	21.8	19.9	20.1	18.1	19.8	17.8	18.9	16.6	17.4	14.9	17.4	14.7	26.7	23.4	16.0	17.7
41	29.3	26.8	26.9	24.4	26.6	23.9	25.4	22.3	23.7	20.0	23.3	19.7	37.2	32.4	21.4	23.8
75	52.8	48.3	48.6	43.9	48.0	43.1	45.8	40.2	42.8	36.0	42.1	35.6	67.2	59.0	38.7	42.9

The BFK is a solid core, bi-directional, liquid line filter drier for heat pump applications for use with CFC, HCFC, and HFC refrigerants.

Features

- Available 5 to 30 cu. in. size
- Internal check valves allow flow and filtration in either direction, eliminates need for external check valves
- High moisture and acid removal capacity
- Corrosion resistant epoxy powder paint finish
- Approved for POE oils with Copeland™ compressors



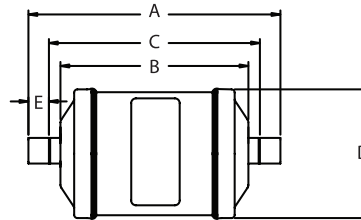
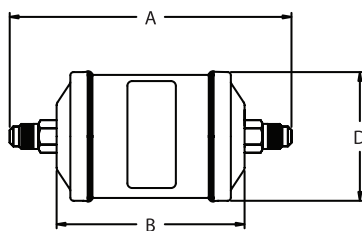
Specifications

- Desiccant Blend: optimized for high water capacity and acid capacity
- Filtration: 40 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Nomenclature example: BFK 165S

BFK	16	5	S
Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections (omit for SAE)

Dimensional Data



Ordering Information

PCN	Description	Connection	Dimensions (in)					Weight (lbs)		
			A	B	C	D	E			
062300	BFK-052	1/4 SAE	4.84	3.03	3.47	2.64	0.99	0.35		
062425	BFK-052S	1/4 ODF	4.16							
062254	BFK-053	3/8 SAE	5.15							
062255	BFK-053S	3/8 ODF	4.49	3.84	4.38			2.64	0.99	0.62
058597	BFK-0825S	5/16 ODF	5.02							
043321	BFK-083	3/8 SAE	5.96							
043323	BFK-083S	3/8 ODF	5.31	3.84	4.50	2.64	0.99			0.40
043325	BFK-084	1/2 SAE	6.184							
043327	BFK-084S	1/2 ODF	5.40							
043728	BFK085	5/8 SAE	6.64	4.70	4.40			3.14	2.08	0.50
043730	BFK-085S	5/8 ODF	5.62							
043330	BFK-163	3/8 SAE	6.824							
043333	BFK-163S	3/8 ODF	6.17	4.70	5.37	3.14	2.08			0.40
043335	BFK-164	1/2 SAE	7.04							
043337	BFK-164S	1/2 ODF	6.26							
043732	BFK-165	5/8 SAE	7.50	4.70	5.26			3.14	2.08	0.50
043734	BFK-165S	5/8 ODF	6.48							
058589	BFK-167S	7/8 ODF	7.06							
063076	BFK303	3/8 SAE	9.674	7.55	7.77	3.14	0.35			0.62
063077	BFK-303S	3/8 ODF	9.01							
063078	BFK-304	1/2 SAE	9.89							
063079	BFK-304S	1/2 ODF	9.05	7.55	7.79			3.14	0.35	0.63
063080	BFK-305	5/8 SAE	10.35							
063081	BFK-305S	5/8 ODF	9.32							
063082	BFK-306	3/4 SAE	10.67	7.55	7.81	3.14	0.35			0.76
063083	BFK-306S	3/4 ODF	9.74							
063084	BFK-307S	7/8 ODF	9.91							
063451	BFK-309S	1 1/8 ODF	10.27	7.55	7.98			3.14	0.35	1.06

BFK Liquid Line Bi-Directional Filter Drier

Description	Connection	Flow Capacity Tons @ 1 psi ΔP ^{1,4} (For kW, multiply tons by 3.5)				Water Capacity ² Drops Of Water ³							
		R-22		R-410A		R-407C		R-410A		R-744			
		75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	-10°F	25°F		
BFK-05 2	1/4 SAE	1.6	1.6	1.6	2.1	73	66	58	42	39	35	81	89
BFK-05 2S	1/4 ODF	2.2	2.2	2.2	2.8								
BFK-05 3	3/8 SAE	3.5	3.5	3.4	4.5								
BFK-05 3S	3/8 ODF	4.0	4.0	3.9	5.2								
BFK-08 3	3/8 SAE	4.5	4.5	4.4	5.8	159	144	106	79	85	75	136	150
BFK-08 3S	3/8 ODF	5.1	5.1	5.0	6.6								
BFK-08 4	1/2 SAE	6.4	6.4	6.3	8.3								
BFK-08 4S	1/2 ODF	6.7	6.7	6.6	8.6								
BFK-08 5	5/8 SAE	7.2	7.2	7.0	9.3								
BFK-08 5S	5/8 ODF	8.1	8.1	7.9	10.4								
BFK-16 3	3/8 SAE	4.6	4.6	4.5	5.9	323	294	237	179	178	160	221	260
BFK-16 3S	3/8 ODF	5.2	5.2	5.1	6.7								
BFK-16 4	1/2 SAE	7.7	7.7	7.6	9.9								
BFK-16 4S	1/2 ODF	8.1	8.1	7.9	10.4								
BFK-16 5	5/8 SAE	8.3	8.3	8.1	10.7								
BFK-16 5S	5/8 ODF	8.7	8.7	8.5	11.2								
BFK-30 3S	3/8 ODF	5.8	5.8	5.7	7.5	585	532	452	345	415	293	453	533
BFK-30 4	1/2 SAE	7.6	7.6	7.5	9.8								
BFK-30 4S	1/2 ODF	9.7	9.7	9.5	12.5								
BFK-30 5	5/8 SAE	10.3	10.3	10.1	13.3								
BFK-30 5S	5/8 ODF	14.2	14.2	13.9	18.3								
BFK-30 6S	3/4 ODF	16.0	16.0	15.7	20.6								
BFK-30 7S	7/8 ODF	16.7	16.7	16.4	21.5								
BFK-30 9S	1 1/8 ODF	18.0	18.0	17.5	23.2								

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
5°F saturated vapor temperature
3.1 lbs./min./ton for R-134a
2.9 lbs./min./ton for R-22 and R-407C
4.0 lbs./min./ton for R-404A/507 and R-12
2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
Equilibrium Point Dryness (EPD) of:
50 parts per million for R-134a, R404-A/507,
R-410A, R-407C, and R-744
60 parts per million for R-22
15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity-Ounces

Unit Size	R-22		R-407C		R-410A		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
05	4.6	4.2	4.4	3.9	4.1	3.5	3.7	4.1
08	7.7	6.9	7.3	6.4	6.9	5.8	6.2	6.9
16	14.2	12.7	13.5	11.8	12.6	10.6	11.4	12.7
30	21.0	18.7	20.0	17.4	19.6	16.5	16.8	18.7

The BFKZ is a solid core, bi-directional, liquid line filter drier for OEM heat pump applications optimized for use with R-410A.

Features

- Available 5 to 30 cu. in. size
- Internal check valves allow flow and filtration in either direction, eliminates need for external check valves
- High moisture and acid removal capacity
- Corrosion resistant epoxy powder paint finish
- Copeland™ brand products approved for POE oils



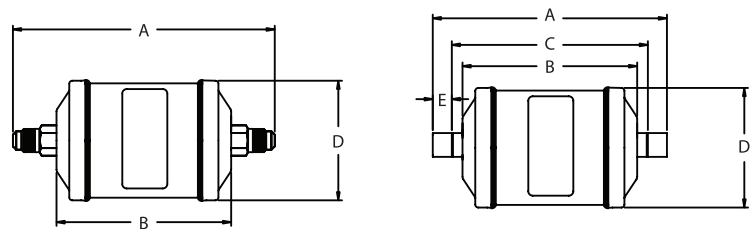
Specifications

- Desiccant Blend: 100% Molecular Sieve Desiccant optimized for high water capacity
- Filtration: 40 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Nomenclature example: BFKZ 165S

BFKZ	16	5	S
Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections (omit for SAE)

Dimensional Data



Ordering Information

Description	Connection	Dimension (in)					Weight (lbs)
		A	B	C	D	E	
BFKZ-052	1/4 SAE	4.84	3.00	0.00	2.64	1.03	
BFKZ-052S	1/4 ODF	4.16		3.47			
BFKZ-053	3/8 SAE	5.15		0.00			
BFKZ-053S	3/8 ODF	4.49		3.25			
BFKZ-054	1/2 SAE	5.34					
BFKZ-054S	1/2 ODF	4.50		3.29			
BFKZ-0825S	5/16 ODF	5.02	3.82	4.38	2.64	1.03	
BFKZ-083	3/8 SAE	5.96		0.00			
BFKZ-083S	3/8 ODF	5.31		4.50			
BFKZ-084	1/2 SAE	6.18		0.00			
BFKZ-084S	1/2 ODF	5.40		4.40			
BFKZ-085	5/8 SAE	Is not set up in GDL		Is not set up in GDL			
BFKZ-085S	5/8 ODF	5.62	4.37	0.63			
BFKZ-163	3/8 SAE	6.82	4.64	0.00	3.14	2.07	
BFKZ-163S	3/8 ODF	6.17		5.37			
BFKZ-164	1/2 SAE	7.04		0.00			
BFKZ-164S	1/2 ODF	6.26		5.26			
BFKZ-165	5/8 SAE	7.50		0.00			
BFKZ-165S	5/8 ODF	6.48		5.23			
BFKZ-166S	3/4 ODF	Is not set up in GDL	Is not set up in GDL	Is not set up in GDL			
BFKZ-167S	7/8 ODF	7.06	5.56	0.75			
BFKZ-305	5/8 SAE	10.35	7.50	0.00	3.14	3.18	
BFKZ-305S	5/8 ODF	9.32		7.81			
BFKZ-306S	3/4 ODF	9.74		7.83			
BFKZ-307S	7/8 ODF	9.91		7.79			
BFKZ-309S	1 1/8 ODF	10.27		7.98			
							1.14

BFKZ Capacity Tables

Description	Connection	Flow Capacity Tons @ 1 psi ΔP ^{1,4} (For kW, multiply tons by 3.5)				Water Capacity ² Drops Of Water ³							
						R-22		R-407C		R-410A		R-744	
		R-22	R-410A	R-407C	R-744	75°F	125°F	75°F	125°F	75°F	125°F	-10°F	25°F
BFKZ-05 2	1/4 SAE	1.6	1.6	1.6	2.1	95	90	95	90	95	90	90	105
BFKZ-05 2S	1/4 ODF	2.2	2.2	2.2	2.8								
BFKZ-05 3	3/8 SAE	3.5	3.5	3.4	4.5								
BFKZ-05 3S	3/8 ODF	4.0	4.0	3.9	5.2								
BFKZ-05 4	1/2 SAE	6.0	6.0	5.9	7.7								
BFKZ-05 4S	1/2 ODF	6.3	6.3	6.2	8.1								
BFKZ-082 5S	5/16 ODF	3.0	3.0	3.0	3.9	150	140	150	140	150	140	149	175
BFKZ-08 3	3/8 SAE	4.5	4.5	4.4	5.8								
BFKZ-08 3S	3/8 ODF	5.1	5.1	5.0	6.6								
BFKZ-08 4	1/2 SAE	6.4	6.4	6.3	8.3								
BFKZ-08 4S	1/2 ODF	6.7	6.7	6.6	8.6								
BFKZ-08 5	5/8 SAE	7.2	7.2	7.0	9.3								
BFKZ-08 5S	5/8 ODF	8.1	8.1	7.9	10.4	295	280	295	280	295	280	289	338
BFKZ-16 3	3/8 SAE	4.6	4.6	4.5	5.9								
BFKZ-16 3S	3/8 ODF	5.2	5.2	5.1	6.7								
BFKZ-16 4	1/2 SAE	7.7	7.7	7.6	9.9								
BFKZ-16 4S	1/2 ODF	8.1	8.1	7.9	10.4								
BFKZ-16 5	5/8 SAE	8.3	8.3	8.1	10.7								
BFKZ-16 5S	5/8 ODF	8.7	8.7	8.5	11.2	550	540	610	570	610	570	418	490
BFKZ-16 6S	3/4 ODF	15.0	15.0	14.7	19.4								
BFKZ-16 7S	7/8 ODF	16.0	16.0	15.7	20.6								
BFKZ-30 5	5/8 SAE	10.3	10.3	10.1	13.3								
BFKZ-30 5S	5/8 ODF	14.2	14.2	13.9	18.3								
BFKZ-30 6S	3/4 ODF	16.0	16.0	15.7	20.6								
BFKZ-30 7S	7/8 ODF	16.7	16.7	16.4	21.5	550	540	610	570	610	570	418	490
BKFZ-30 9S	1-1/8 ODF	18.0	18.0	17.5	23.2								

¹ All ratings in accordance with ARI Standard 710-04.
 86°F liquid refrigerant temperature
 5°F saturated vapor temperature
 3.1 lbs./min./ton for R-134a
 2.9 lbs./min./ton for R-22 and R-407C
 4.0 lbs./min./ton for R-404A/507 and R-12
 4.4 lbs./min./ton for R-502
 2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
 Equilibrium Point Dryness (EPD) of:
 50 parts per million for R-134a, R404-
 A/507, R-410A, R-407C, and R-744
 60 parts per million for R-22
 15 parts per million for R-12
 30 parts per million for R-502

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP , Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity-Ounces

Unit Size	R-22		R-407C		R-410A		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
05	4.6	4.2	4.4	3.9	4.1	3.5	3.7	4.1
08	7.7	6.9	7.3	6.4	6.9	5.8	6.2	6.9
16	14.2	12.7	13.5	11.8	12.6	10.6	11.4	12.7
30	21.0	18.7	20.0	17.4	19.6	16.5	16.3	18.7

The BOK-HH is a liquid line filter drier for burnout clean-up and wax removal. The BOK-HH incorporates an activated carbon blended solid core for the effective clean-up of systems following a severe burnout.

Features

- Designed for maximum effectiveness in the clean-up of systems following a severe burnout
- Corrosion resistant epoxy powder paint finish
- Activated carbon blend for soluble contaminant and wax removal
- Solid copper connections
- R-410A compatible

Nomenclature example: BOK 305S-HH

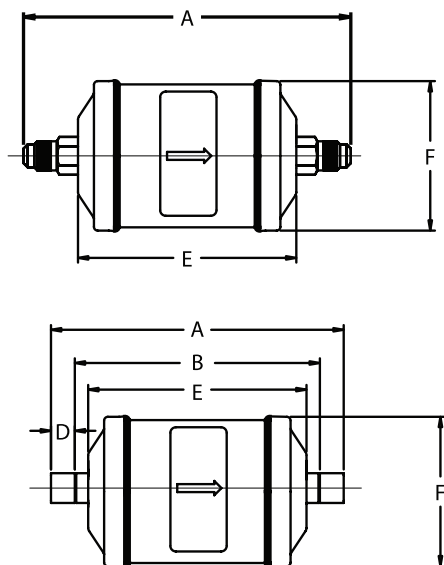
BOK	30	5	S	HH
Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	S = ODF connections (omit for SAE)	Activated carbon Blend



Specifications

- Filtration: 40 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimensions (in)					Weight (lbs)
			A	B	D	E	F ¹	
060223	BOK-082-HH	1/4 SAE	5.660	--	--	3.850	2.500	1.00
064591	BOK-082SH	1/4 ODF	4.990	4.290	0.346	3.850	2.500	
060224	BOK-083-HH	3/8 SAE	5.970	--	--	3.850	2.500	
057955	BOK-083SH	3/8 ODF	5.300	4.070	0.621	3.850	2.500	
060240	BOK-162-HH	1/4 SAE	6.412	--	--	4.598	3.000	
064592	BOK-162S-HH	1/4 ODF	6.230	5.474	0.381	4.598	3.000	
060241	BOK-163-HH	3/8 SAE	6.724	--	--	4.598	3.000	2.00
060242	BOK-163S-HH	3/8 ODF	6.060	5.260	0.401	4.598	3.000	
060228	BOK-164-HH	1/2 SAE	6.944	--	--	4.598	3.000	
060229	BOK-164S-HH	1/2 ODF	6.159	5.159	0.500	4.598	3.000	
060230	BOK-165-HH	5/8 SAE	7.398	--	--	4.598	3.000	3.75
060231	BOK-165S-HH	5/8 ODF	6.379	5.129	0.625	4.598	3.000	
060232	BOK-303-HH	3/8 SAE	9.664	--	--	7.540	3.000	
060233	BOK-304-HH	1/2 SAE	9.884	--	--	7.540	3.000	
060234	BOK-304S-HH	1/2 ODF	9.101	8.101	0.500	7.540	3.000	
060235	BOK-305-HH	5/8 SAE	10.340	--	--	7.540	3.000	
060236	BOK-305S-HH	5/8 ODF	9.321	8.071	0.625	7.540	3.000	4.75
060237	BOK-414-HH	1/2 SAE	9.944	--	--	7.600	3.500	
060238	BOK-415-HH	5/8 SAE	10.400	--	--	7.600	3.500	
060239	BOK-417S-HH	7/8 ODF	9.963	8.462	0.750	7.600	3.500	
064593	BOK-415S-HH	5/8 ODF	9.381	8.131	0.625	7.600	3.500	

¹ Does not include weld bead

BOK-HH Liquid Line Burnout Filter Drier

Description	Connections	Flow Capacity ^{1,4} Tons @ 1 psi ΔP (For kW, multiply tons by 3.5)							Water Capacity ² Drops Of Water ³															
		R-12	R-134a /R-450A /R-513A	R-22 /R-448A /R-449A	R-410A	R-407C	R-404A /R-507	R-744	R-12		R-134a		R-22		R-407C		R-410A		R-404A/ R-507		R-502		R-744	
									75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
BOK 08 2-HH	1/4 SAE	1.2	1.5	1.6	1.6	1.6	1.1	2.1	180	118														
BOK 082SH	1/4 ODF	-	3.1	3.4	3.4	3.3	2.2	4.4	-	-														
BOK 08 3-HH	3/8 SAE	3.2	3.9	4.2	4.2	4.1	2.8	5.4	180	118	88	71	78	59	74	45	66	38	93	71	109	79	51	63
BOK 083SH	3/8 ODF	-	4.2	4.6	4.6	4.5	3.0	5.9	-	-														
BOK 16 2-HH	1/4 SAE	1.2	1.5	1.6	1.6	1.6	1.1	2.1																
BOK 16 3-HH	3/8 SAE	3.6	4.3	4.7	4.7	4.6	3.1	6.1																
BOK 16 3S-HH	3/8 ODF	4.8	5.8	6.3	6.3	6.2	4.2	8.1																
BOK 16 4-HH	1/2 SAE	7.0	8.6	9.3	9.3	9.1	6.2	12.0	209	143	171	141	153	117	91	56	77	41	182	141	135	100	93	113
BOK 16 4S-HH	1/2 ODF	8.4	10.2	11.1	11.1	10.9	7.4	14.3																
BOK 16 5-HH	5/8 SAE	10.5	12.8	13.9	13.9	13.6	9.3	17.9																
BOK 16 5S-HH	5/8 ODF	10.5	12.8	13.9	13.9	13.6	9.3	17.9																
BOK 30 3-HH	3/8 SAE	3.6	4.3	4.7	4.7	4.6	3.1	6.1																
BOK 30 4-HH	1/2 SAE	8.1	9.9	10.7	10.7	10.5	7.2	13.8																
BOK 30 4S-HH	1/2 ODF	8.9	10.8	11.7	11.7	11.5	7.8	15.1	552	367	300	245	267	204	234	146	160	94	318	247	342	249	167	203
BOK 30 5-HH	5/8 SAE	11.1	13.5	14.6	14.6	14.3	9.8	18.8																
BOK 30 5S-HH	5/8 ODF	12.0	14.6	15.8	15.8	15.5	10.6	20.4																
BOK 41 4-HH	1/2 SAE	8.4	10.2	11.1	11.1	10.9	7.4	14.3																
BOK 41 5-HH	5/8 SAE	13.4	16.3	17.7	17.7	17.4	11.8	22.8																
BOK 41 5S-HH	5/8 ODF	13.4	16.3	17.7	17.7	21.1	14.4	22.8	623	410	427	344	379	282	256	155	220	125	454	342	380	274	249	305
BOK 41 7S-HH	7/8 ODF	16.3	19.8	21.5	21.5	21.1	14.4	27.7																

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
5°F saturated vapor temperature
3.1 lbs./min./ton for R-134a
2.9 lbs./min./ton for R-22 and R-407C
4.0 lbs./min./ton for R-404A/507 and R-12
2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
Equilibrium Point Dryness (EPD) of:
50 parts per million for R-134a, R404-A/507,
R-410A, R-407C, and R-744
60 parts per million for R-22
15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

⁵ Since there is currently no ARI standard for R-744,
values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Liquid Refrigerant Holding Capacity - Ounces

Unit Size	R-12		R-134a		R-22		R-407C		R-410A		R-404A/507		R-502		R-744	
	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	20°F	-20°F
08	7.3	6.6	6.7	6.0	6.6	5.9	6.3	5.5	5.9	4.9	5.8	4.9	6.7	5.9	5.3	5.9
16	13.9	12.7	12.8	11.5	12.6	11.3	12.0	10.5	11.2	9.4	11.1	9.3	12.9	11.3	10.1	11.3
30	21.8	19.9	20.1	18.1	19.8	17.8	18.9	16.6	11.7	14.9	17.4	14.7	20.2	17.7	16.0	17.7
41	29.3	26.8	26.9	24.4	26.6	23.9	25.4	22.3	23.7	20.0	23.3	19.7	27.2	23.8	21.4	23.8

The ALF is a liquid line refrigerant filter for recovery, recycle and reclaim usage. The ALF is also used for protecting solenoid and expansion valve parts from debris.

Features

- Filtering media that maximizes removal of finer particles
- Corrosion resistant epoxy powder paint finish



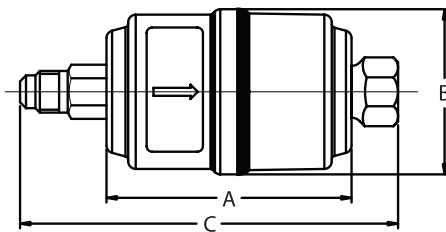
Specifications

- Filtration: 40 microns
- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Nomenclature example: ALF 033S

ALF	03	3	S
Series	Unit Size	Connection Size Inlet (in 1/8")	Connection Style S = ODF Omit for SAE

Dimensional Data



Ordering Information

PCN	Description	Dimensions (in)			
		Connection Size Inlet/Outlet	A	B ¹	C
056618	ALF-032S	1/4 ODF	2.56	1.63	3.88
057193	ALF-032MF	1/4 SAE Male In			4.00
		1/4 SAE Female Out			
057140	ALF-033S	3/8 ODF	4.13		
056645	ALF-034S	1/2 ODF			

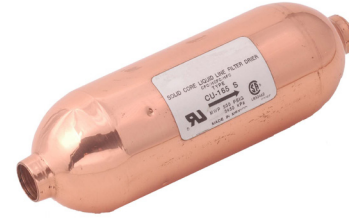
¹ Does not include weld bead

Recovery, Recycle and Reclaim Refrigerant Flow Capacity (lbs./min. liquid)		
R-134a/R-450A/R-513A	R-22/R-410A/ R-448A/R-449A	R-404A/R-507
7.6	8.0	8.0

The CU series is a high capacity spun copper solid core filter drier ideal for superior corrosion resistance in ocean going vessels and coastal applications.

Features

- All copper construction for extreme corrosion resistance
- 100% molecular sieve solid core drier
- For use with CFC, HCFC and HFC refrigerants



Nomenclature example: CU 163S

CU	16	3	S
Series	Unit Size	Connection Size (in 1/8")	ODF

Specifications

- Maximum working pressure: 500 psig
- Filtration: 40 microns
- UL/CUL file number: SA 7175

Ordering Information and Capacity Tables

PCN	Description	Connection	Flow Capacity Tons @ 1 psi ΔP ¹⁴ (For kW, multiply tons by 3.5)					Water Capacity ² Drops of Water ³											
								R-12		R-134a		R-22		R-407C		R-404A/ R-507		R-502	
			R-12	R-134a R-450A /R-513A	R-22 R-448A /R-449A	R-407C	R-404A/ R-507	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F		
064389	CU 03 3 S	3/8 ODF	2.1	2.6	2.8	2.7	1.9	287	257	277	257	257	237	207	158	287	277	267	237
064393	CU 08 3 S	3/8 ODF	2.9	3.5	3.8	3.7	2.5												
064394	CU 08 4 S	1/2 ODF	3.5	4.2	4.6	4.5	3.1												
064395	CU 16 3 S	3/8 ODF	3.3	4.0	4.3	4.2	2.9												

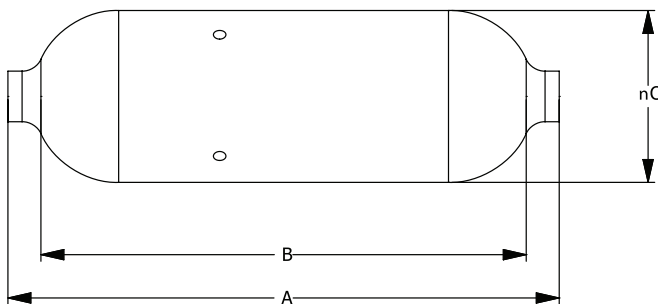
¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
5°F saturated vapor temperature
3.1 lbs./min./ton for R-134a
2.9 lbs./min./ton for R-22 and R-407C
4.0 lbs./min./ton for R-404A/507 and R-12
2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
Equilibrium Point Dryness (EPD) of:
50 parts per million for R-134a, R404-A/507,
R-410A and R-407C
60 parts per million for R-22
15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

Dimensional Data (in)



Description	Overall Length (A)	Lay-In Dimension (B)	Diameter
CU 03	3.94	3.25	1.63
CU 05	5.19	4.50	1.63
CU 08	6.06	5.38	2.00
CU 16	6.63	6.00	2.00

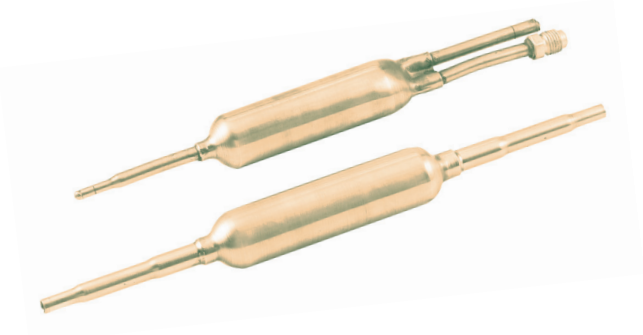
Recommended for use in original equipment or replacement residential, air-conditioning or refrigeration equipment.

Features

- All copper construction for extreme corrosion resistance
- 100% molecular sieve solid core drier
- For use with CFC, HCFC and HFC refrigerants

Specifications

- Maximum working pressure: 500 psig
- Filtration: 100 microns
- UL/CUL file number: SA 7175



Ordering Information and Capacity Tables

PCN	Description	Parker Equivalent	Connections		Flow Capacity Tons @ 1 psi ΔP ¹⁴ (For kW, multiply tons by 3.5)			Water Capacity ² Drops of Water ³					
								R-134a		R-22		R-404A/R-507	
			Inlet	Outlet	R-12 R-134a R-450A R-513A	R-22 R-410A R-448A R-449A	R-404A/ R-507	75°F	125°F	75°F	125°F	75°F	125°F
064023	CU-80	MMS-80	1/4 ODF	1/4 ODF	.33	.5	.33	25	23	25	22	23	23
064026	CU-619	620-SP	1/4 ODF	Cap	.5	.5	1.5	25	23	25	22	23	23
064027	CU-620	620	5/16 ODF	Cap	1.0	2.0	1.0	50	46	50	44	46	46
064119	CU-621	621	5/16 ODF	Cap	.5	.5	1.5	50	46	50	44	46	46
064024	CU-200	MMS-200	5/16 ODF, 3/8 ODF	5/16 ODF, 3/8 ODF	.75	1.0	.75	50	46	50	44	46	46
064025	CU-319	319	5/16 ODF	Cap	1.0	2.0	1.0	75	66	75	66	69	69

Standard Product Offering

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
5°F saturated vapor temperature
3.1 lbs./min./ton for R-134a
2.9 lbs./min./ton for R-22 and R-407C
4.0 lbs./min./ton for R-404A/507 and R-12
2.7 lbs./min./ton for R-410A

² Water Capacities are based on:
Equilibrium Point Dryness (EPD) of:
50 parts per million for R-134a, R404-A/507,
R-410A and R-407C
60 parts per million for R-22
15 parts per million for R-12

³ 20 drops of water = 1 gram = 1 cc

⁴ For 2 PSI ΔP, Multiply values by 1.4

Dimensional Data (in)

Description	Length	Diameter
CU-80	7 3/8	3/4
CU-619	8 7/8	3/4
CU-620	9 1/2	1
CU-621	9	1
CU-200	10 1/2	1
CU-319	9 3/4	1 3/16

STAS Steel Liquid and Suction Line Filter Drier

STAS CO Steel Liquid and Suction Line Filter Drier for CO₂

System Protectors

The STAS is a replaceable core filter drier for CFC, HCFC, and HFC refrigerants for use in large commercial air conditioning and refrigeration systems. The STAS-CO is specifically designed for CO₂ (R-744) systems.

Features

- Slotted cover/unique internal hardware for hassle-free installation
- Full flow fittings for low pressure drop
- Corrosion resistant epoxy powder paint finish
- Sturdy steel shells for long life
- Solid copper connections
- 100 mesh outlet screen



Nomenclature example: STAS 489T

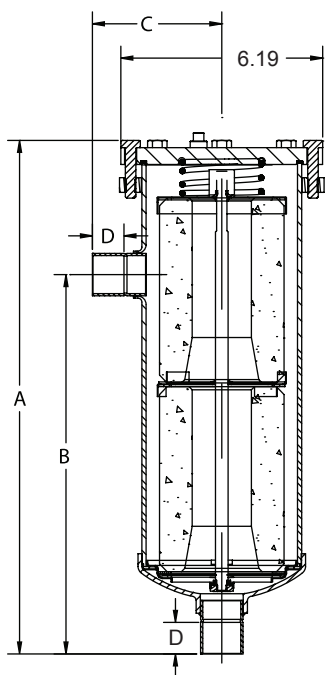
STAS	48	9	T
Steel Take-Apart Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	System Service T = Liquid Line Service SV = Suction Line Service

Specifications

- Filtration (with core): 40 microns
- Maximum working pressure: SV version = 500 psig
T version = 680 psig
- UL/CUL file number: SA7175

STAS Models are shipped without filter or filter drier cores. See filter or filter drier cores for availability. Uses 48 cubic inch cores.

Dimensional Data



STAS Ordering Information

PCN	Description	Connection Size	Number Of 48 in ³ Cores	Desiccant Volume (Cu. In.)	Dimensions (in)					
					A	B	C	D		
053001	STAS-485T	5/8 ODF	1	48	9.94	6.00	3.78	0.63		
053003	STAS-487T	7/8 ODF			9.69	6.25	3.75	0.78		
053005	STAS-489T	1 1/8 ODF			9.75	6.31	3.84	0.94		
053007	STAS-4811T	1 3/8 ODF			9.84	6.44	3.97	0.94		
053043	STAS-4813S-V ¹	1 5/8 ODF			9.88	6.02	4.03	1.13		
053044	STAS-4817S-V ¹	2 1/8 ODF			10.06	6.56	4.56	1.34		
053045	STAS-4821S-V ¹	2 5/8 ODF			10.44	7.03	4.75	1.04		
053375	STAS-4813T	1 5/8 ODF			9.88	6.50	4.03	1.13		
053938	STAS-4811SV	1 3/8 ODF			9.84	6.44	3.97	0.94		
053010	STAS-967T	7/8 ODF			2	96	15.19	11.72	3.75	0.78
053012	STAS-969T	1 1/8 ODF	15.22	11.78			3.84	0.94		
053014	STAS-9611T	1 3/8 ODF	15.31	11.91			3.97	1.03		
053017	STAS-9613T	1 5/8 ODF	15.38	11.97			4.03	1.13		
053018	STAS-9617T	2 1/8 ODF	15.56	12.03			4.56	1.34		
053047	STAS-9617S-V ¹	2 1/8 ODF	15.56	12.03			4.56	1.34		
053048	STAS-9621S-V ¹	2 5/8 ODF	15.94	12.50			4.75	1.50		
059739	STAS-9625 SV ¹	3 1/8 ODF	16.54	12.63			5.44	1.66		
053020	STAS-1449T	1 1/8 ODF	3	144			21.25	17.38	3.84	0.94
053022	STAS-14411T	1 3/8 ODF					21.34	17.53	3.97	1.03
053024	STAS-14413T	1 5/8 ODF			21.38	17.59	4.03	1.13		
053025	STAS-14417T	2 1/8 ODF			21.56	17.63	4.56	1.34		
053028	STAS-19211T	1 3/8 ODF			26.91	23.00	3.97	1.03		
053030	STAS-19213T	1 5/8 ODF	4	192	26.94	23.17	4.03	1.13		
053031	STAS-19217T	2 1/8 ODF			27.13	23.13	4.56	1.34		
056213	STAS-19275T	7/8 X 5/8			26.50	6.00	3.69	0.78/0.63		

¹"SV" style include stainless steel bolts and access valve.

NOTE: "T" style can be used for suction by removing pipe plug and installing X-11562-2.

STAS-CO Ordering Information

PCN	Description	Connection Size	Number of 48 in ³ Cores	Desiccant Volume (Cu. In.)	Dimensions (In)			
					A	B	C	D
066725	STAS-CO485T	5/8 ODF	1	48	9.37	6.06	3.78	0.50
066726	STAS-CO487T	7/8 ODF	1	48	9.50	6.25	3.74	0.75
066727	STAS-CO489T	1 1/8 ODF	1	48	9.60	6.30	3.85	0.91
066728	STAS-CO969T	1 1/8 ODF	2	96	15.20	11.90	3.85	0.91
066729	STAS-CO9611T	1 3/8 ODF	2	96	15.35	12.04	3.97	0.97

Note: STAS-CO has UL approval for use with CO₂ (R-744) at a maximum working pressure of 680 psig.

Description	Connections	Liquid Flow Capacity Tons @ 1 psi ΔP ^{1,2,3}						
		R-134a R-450A R-513A	R-22 R-410A R-448A R-449A	R-407C	R-404A /507	R-502	R-410A	R-744 ⁴
STAS-485T	5/8 ODF	21	22	21	15	14	22	28
STAS-487T	7/8 ODF	38	41	39	27	25	41	53
STAS-489T	1 1/8 ODF	53	58	56	38	36	58	75
STAS-4811T	1 3/8 ODF	75	81	78	53	41	81	
STAS-4813T	1 5/8 ODF	81	89	85	58	58	89	
STAS-967T	7/8 ODF	42	45	43	30	27	45	
STAS-969T	1 1/8 ODF	65	71	68	47	42	71	92
STAS-9611T	1 3/8 ODF	80	87	83	57	54	87	112
STAS-9613T	1 5/8 ODF	92	100	95	65	58	100	
STAS-1449T	1 1/8 ODF	66	72	69	47	41	72	
STAS-14411T	1 3/8 ODF	92	100	96	65	60	100	
STAS-14413T	1 5/8 ODF	93	101	97	66	66	101	
STAS-14417T	2 1/8 ODF	110	120	115	78	76	120	
STAS-19211T	1 3/8 ODF	94	102	98	67	64	102	
STAS-19213T	1 5/8 ODF	103	113	108	74	69	113	
STAS-19217T	2 1/8 ODF	113	123	117	80	78	123	

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature

- 5°F saturated vapor temperature
- 3.1 lbs./min./ton for R-134a
- 2.9 lbs./min./ton for R-22 and R-407C
- 4.0 lbs./min./ton for R-404A/507 and R-12

² For 2 PSI ΔP, Multiply values by 1.4

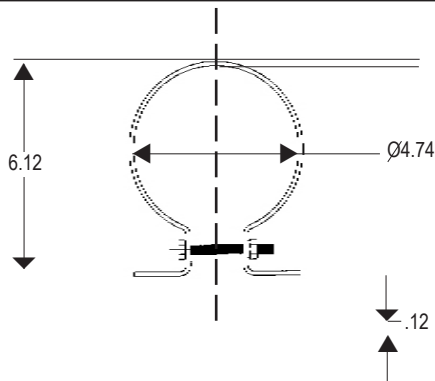
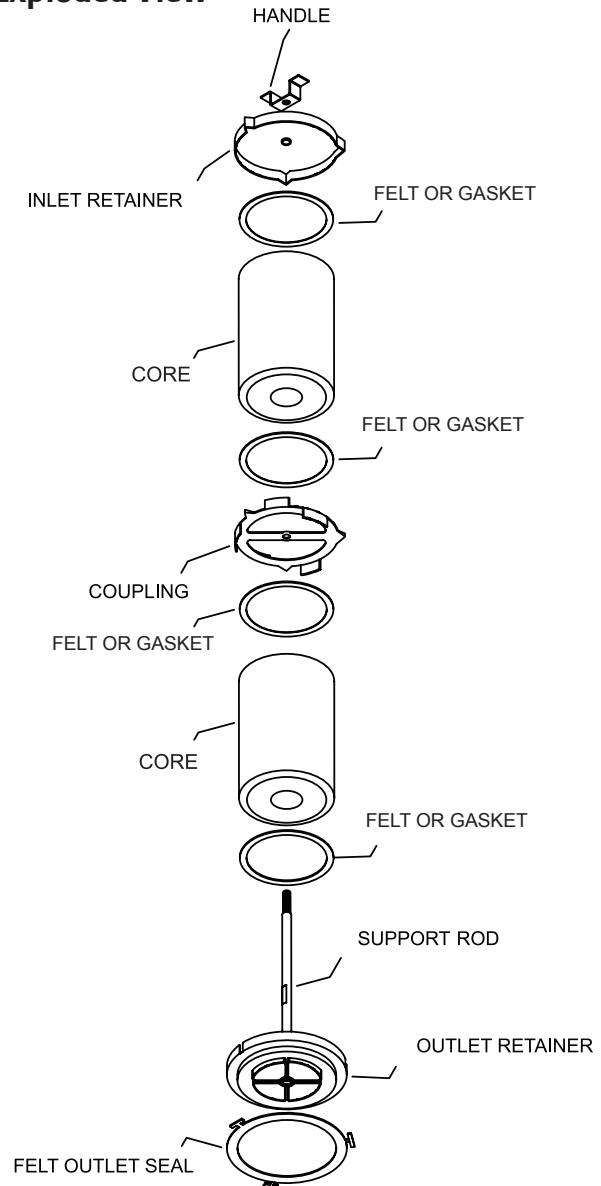
³ For kW, multiply by 3.5

⁴ R-744: Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vapor temperature.

Replacement Parts For STAS

Flange Cover Assembly	Description	PCN
All STAS Driers - Include Flange Cover, Compression Spring, Pipe Plug, and Grade 5 Bolts	X12176-3	054046
Shell Strainer Assembly		
STAS-48	X27458-1	060274
STAS-96	X27458-2	060275
STAS-144	X27458-3	060276
STAS-192	X27458-4	060277
Miscellaneous Parts		
Cover Bolts (Stainless Steel - suction line service)	X25787-7	053121
Access Valve (V Option)	X11562-2	037409
Gasket Set (Includes cover gasket)	X11983-1	027453
Handle	26446-1	053812
Inlet Retainer	26477-1	053813
Spring	26439-1	060258
Mounting Bracket	X28747-1	061715

Exploded View



Mounting Bracket for STAS 48*

*More than one mounting bracket may be required for shell sizes 96 and above.

The ADKS is a replaceable core filter drier for use with CFC, HCFC, and HFC refrigerants in very large commercial air conditioning and refrigerant systems.

Features

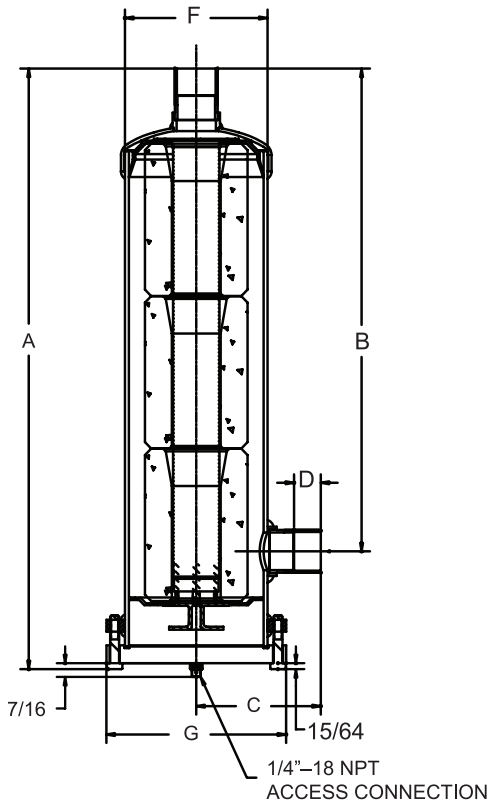
- Full flow fittings for low pressure drop
- Corrosion resistant epoxy powder paint finish
- Sturdy steel shells for long life durability



Nomenclature example: ADKS 30013T

ADKS	300	13	T
System Protector Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	T = Tap Access Connection

Dimensional Data



Specifications

- Filtration (with core): 40 microns
- Maximum working pressure: 500 psig*
- UL/CUL file number: SA 3124
- Bolt Torque: 35 ft-lbs

*Note: Not suitable for R-410A applications above 500 psig.

Ordering Information

PCN	Description	Connection Size	Number Of 100 in ³ Cores	Dimensions (in)						Weight (lbs)
				A	B	C	D	F*	G	
026570	ADKS-30013T	1 5/8 ODF	3	25.27	20.32	5.24	1.13	6.00	7.56	39.00
037978	ADKS-30017T	2 1/8 ODF		25.41	20.45	5.43	1.66			
032105	ADKS-40017T	2 1/8 ODF	4	31.91	26.95	5.43	1.66			
037570	ADKS-40021T	2 5/8 ODF		32.81	27.86	6.19	1.47			46.00

* Does not include weld bead

¹ "H" Dimension is the clearance required to change the internal hardware assembly

T = 1/4" FPT access connection

ADKS Models are shipped without filter cores or filter drier cores. See filter or filter drier cores for availability. Uses 100 cubic inch cores.

Capacity Tables (in Tons)

Liquid Line for Replaceable Block Type ADKS Filter Driers

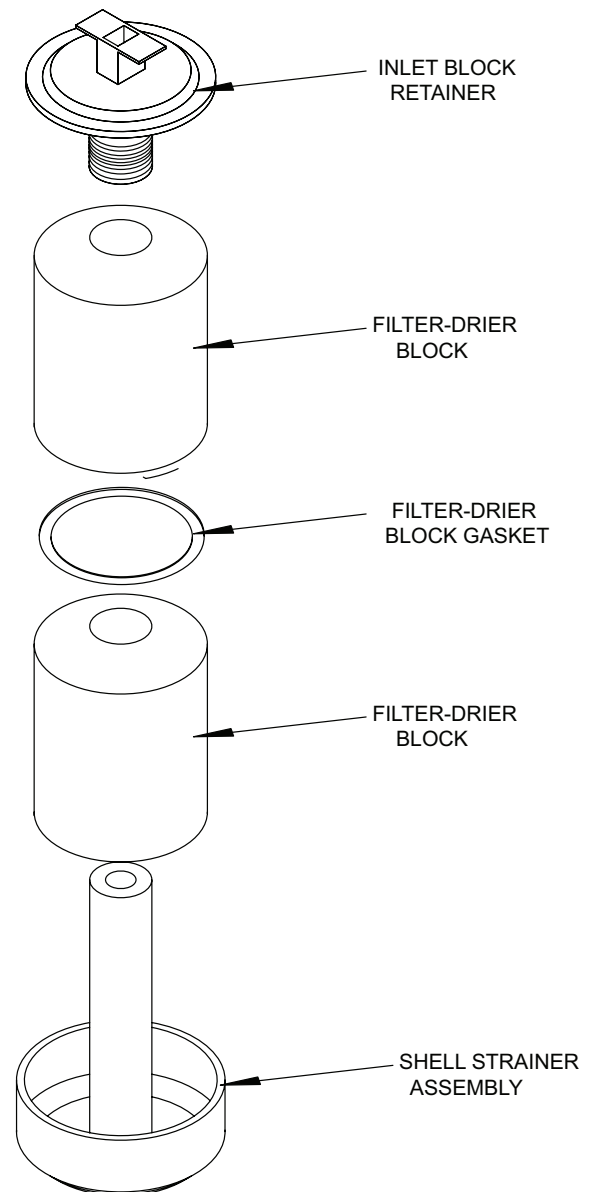
Description	Connection	Flow Capacity In Tons @ 1 psi ΔP ^{1, 2}					
		R-12	R-134a/R-450A/ R-513A	R-22/R-410A /R-448A/ R-449A	R-407C	R-404/507	R-502
ADKS 30013T	1 5/8 ODF	83	102	110	108	73	49
ADKS 30017T	2 1/8 ODF	121	148	160	157	107	59
ADKS 40017T	2 1/8 ODF	128	157	170	167	114	63
ADKS 40021T	2 5/8 ODF	136	166	180	177	120	71

¹ All ratings in accordance with ARI Standard 710-04. 86°F liquid refrigerant temperature
 5°F saturated vapor temperature
 3.1 lbs./min./ton for R-134a
 2.9 lbs./min./ton for R-22 and R-407C
 4.0 lbs./min./ton for R-404A/507 and R-12
² For 2 PSI ΔP . Multiply values by 1.4

Replacement Parts

Flange Cover	Description	PCN
ADKS-300, ADKS-400	X12176-2	027467
Shell	Strainer	Assembly
ADKS-300	X10574-5	039967
ADKS-400	X10574-6	038315
Miscellaneous Parts		
Gasket Set (Includes cover gasket)	X-11983-2	027454

Exploded View



Universal replacement cores and filter cores for use in our ADKS and STAS shells and similar competitive Take-Apart type filter drier shells. May not be used for BTAS.

Features

- Water capacities to suit specific system conditions
- Exceptional acid capacities for normal system protection, or to effectively clean-up following a compressor burnout
- Activated carbon blend for soluble contaminant and wax removal (W-HH Series)



Nomenclature example: H 48

H	48
Series	Cubic Inch

Specifications

- Interchangeable with competitive products
- 48 cubic inch cores used in STAS
- 100 cubic inch cores used in ADKS

NOTE: Filter Drier cores are suitable for use with R-11 AND R-123 but filters are **NOT**.

Ordering Information and Capacity Tables

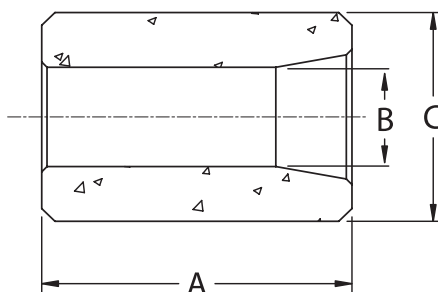
PCN	Description ³	Recommended Refrigerant Type	Function	Capacity (lb)													
				R-134a		R-22		R-407C		R-404A/R-507		R-410A		R-502		R-744	
				75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	14°F	75°F
061617	UK-48	CFC, HCFC, HFC	Premium Universal Replacement	1272	1168	1181	1072	1033	786	1319	1241	976	707	1332	1150	1184	1388
059541	D-48	CFC, HCFC	High Acid Removal	415	340	363	254	225	95	457	343	210	86	388	225	186	218
059542	H-48	CFC, HCFC	High Acid and Water Removal	676	538	597	436	445	285	721	535	380	226	643	475	274	321
061235	W-48-HH	CFC, HCFC, HFC	Burnout Cleanup	387	294	335	226	290	165	417	289	249	130	444	306	328	386
089338	H-100	CFC, HCFC	High Acid and Water Removal	1112	834	962	673	726	418	1199	839	672	364	1109	758		
062549	HX-48	CFC, HCFC, HFC	Highest Water Removal	1710	1600	1600	1491	1459	1161	1765	1710	1280	930	1932	1744		
062424	UK-100	CFC, HCFC, HFC	Premium Universal Replacement	2769	2550	2574	2345	2182	1682	2868	2710	-	-	2787	2437		
043582	W-100-HH	CFC, HCFC, HFC	Burnout Cleanup	1077	812	938	621	629	363	1162	792	573	307	960	663		
089559	F-48	CFC, HCFC, HFC	Filter (Suction Only)	N/A													
047664	F-48R	CFC, HCFC, HFC	Filter (Suction Only) Reverse Flow	N/A													
095762	F-100	CFC, HCFC, HFC	Filter (Suction Only)	N/A													
061237	RH-48	CFC, HCFC	Refrigerant Reclaim - Max. Moisture Removal	1096	920	1037	790	750	530	1090	940	650	420	643	475		
061238	RW-48	CFC, HCFC	Refrigerant Reclaim - Max. Acid Removal	583	493	532	380	380	230	600	482	350	197	444	306		

¹ Water Capacities are based on:
Equilibrium Point Dryness (EPD) of:
50 parts per million for R-134a, R404-A/R-410A and R-407C
60 parts per million for R-22
15 parts per million for R-12

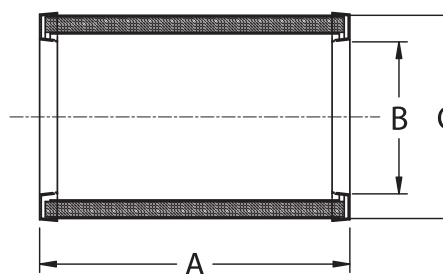
² 20 drops of water = 1 gram = 1 cc

³ D-42, H-42 and W-42 include one neoprene composite lid gasket and one core gasket. All other cores include a universal neoprene composite gasket kit which includes 2 sizes of replacement lid gaskets, and gaskets for the top and bottom of the core or filter.

Dimensional Data



Filter Drier Block Size	Dimensions			Weight (lbs)
	A	B	C	
42	6.00	1.58	3.12	1.00
48	5.50	1.77	3.72	1.50
100	6.50	2.06	4.81	4.00



Catalog Number	Dimensions			Weight (lbs)
	A	B	C	
F-48/F-48R	5.50	2.81	3.88	0.75
F-100	6.50	3.75	4.81	1.50

The BTAS is a replaceable core filter drier for suction line services ideal for commercial refrigeration applications.

Features

- Full flow fittings for low pressure drop
- Corrosion resistant brass body with stainless steel bolts
- Special cartridge design exclusive to brass shell



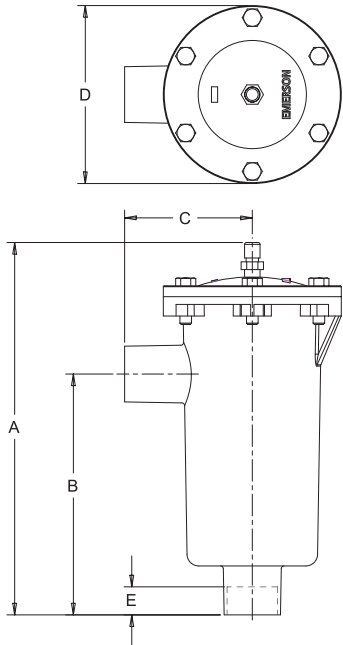
Nomenclature example: BTAS 311SV

BTAS	3	11	SV
Brass Take-Apart Series	Unit Size	Connection Size (in 1/8")	Suction Line Service

Specifications

- Filtration: 40 microns
- Maximum working pressure: 400 psig
- UL/CUL file number: SA 3124

Dimensional Data



Ordering Information

PCN	Description	Conne- ction Size	Nominal Shell Size (in)	Dimensions (in)					Weight (lbs)
				A	B	C	D	E	
049462	BTAS-27 S-V	7/8 ODF	2	9.75	6.57	2.19	3.75	0.75	6.75
049465	BTAS-39 S-V	1 1/8 ODF	3	10.31	6.81	3.31	4.63	0.91	10.25
049466	BTAS-311 S-V	1 3/8 ODF		11.06	6.94	3.44		0.97	10.50
049467	BTAS-313 S-V	1 5/8 ODF		11.25	7.13	3.63		1.09	11.00
049468	BTAS-317 S-V	2 1/8 ODF		11.50	7.38	3.88		1.34	11.20
064169	BTAS-411 S-V	1 3/8 ODF	4	11.41	7.81	4.13	5.75	0.78	16.20
049470	BTAS-413 S-V	1 5/8 ODF		12.03	7.81	4.13		1.09	16.75
049471	BTAS-417 S-V	2 1/8 ODF		12.28	8.06	4.13		1.34	17.20
049472	BTAS-421 S-V	2 5/8 ODF		12.41	8.19	4.94		1.47	18.00
049473	BTAS-517 S-V	2 1/8 ODF	5	13.44	8.41	4.19	7.09	1.34	28.75
049474	BTAS-521 S-V	2 5/8 ODF		13.56	8.47	4.94		1.47	29.00
049475	BTAS-525 S-V	3 1/8 ODF		13.25	8.16	4.63		1.66	29.25

BTAS models are shipped without filter cartridge or Filter Drier cartridge.

Type A-F Replaceable Filter Cartridges

PCN	Filter Core	For Shell No.	Core O.D.	Core Length	Filter Area (Sq. In.)	Weight (lbs)
049479	A2F	BTAS-2	1 29/32	6 3/8	66	0.33
049480	A3F	BTAS-3	2 3/4	6 7/8	115	0.50
049481	A4F	BTAS-4	3 3/4	7 1/2	189	0.88
049482	A5F	BTAS-5	4 5/16	8 1/2	270	1.00

Type A-F-D Replaceable Filter Drier Cartridges

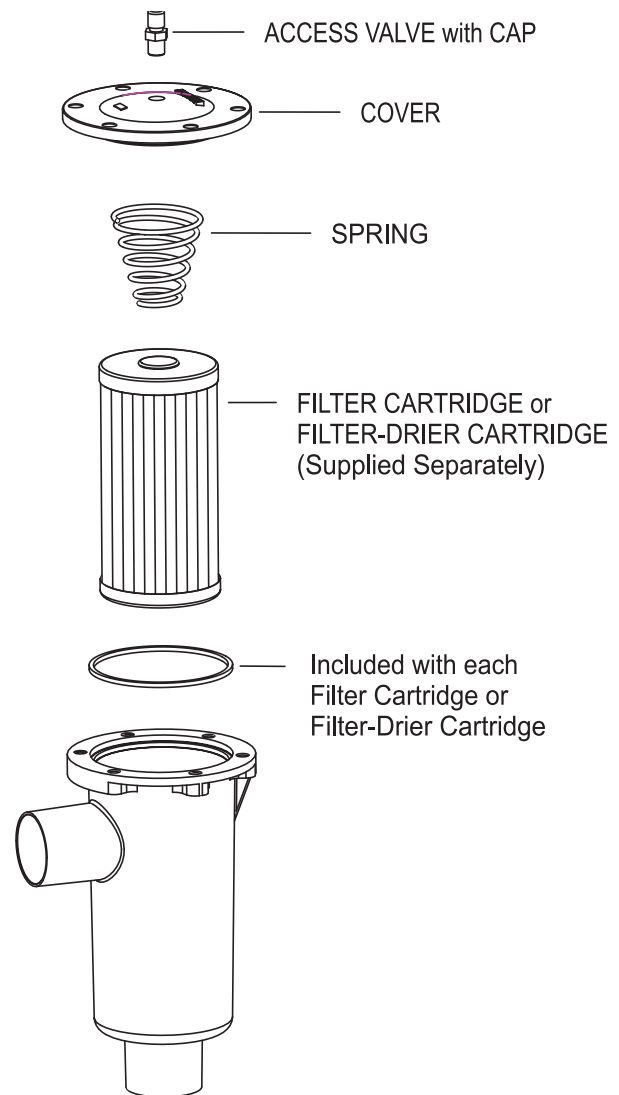
PCN	Filter Drier Cartridge	For Shell No.	Cartridge O.D.	Cartridge Length	Desiccant Volume (Cu. In.)	Weight (lbs)
049483	A2F-D	BTAS-2	1 29/32	6 3/8	4.2	0.50
049484	A3F-D	BTAS-3	2 3/4	6 7/8	13.3	0.88
049485	A4F-D	BTAS-4	3 3/4	7 1/2	26.0	1.20
049486	A5F-D	BTAS-5	4 5/16	8 1/2	36.5	1.20

Replacement Parts*

Misc. Parts	Description	PCN
Access Valve	X11562-2	037409
BTAS 2 Repair Kit*	KD-30519-2	065970
BTAS 3 Repair Kit*	KD-30519-3	065971
BTAS 4 Repair Kit*	KD-30519-4	065972
BTAS 5 Repair Kit*	KD-30519-5	065973
BTAS 2 Seal Ring Kit	KD-40015-1	066430
BTAS 3 Seal Ring Kit	KD-40015-2	066431
BTAS 4 Seal Ring Kit	KD-40015-3	066432
BTAS 5 Seal Ring Kit	KD-40015-4	066433

* Repair kits contain cover bolts, cover, spring and seal ring.

Exploded View



BTAS models are shipped without filter cartridge or Filter Drier cartridge.

The ASD is a premium suction line filter drier for use with CFC, HCFC and HFC refrigerants. The ASD is optimized for high moisture, acid, and solid contaminant removal.

Features

- Outstanding filtration for ultimate compressor protection
- Dual access valves for easy pressure readings
- Solid copper connections
- Corrosion resistant epoxy powder paint finish



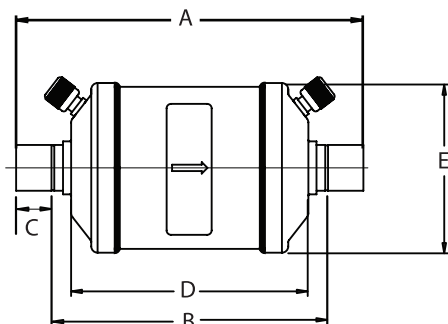
Specifications

- Filtration: 40 microns
- Maximum working pressure: 500 psig
- UL/CUL file number: SA 3124

Nomenclature example: ASD 35S5VV

ASD	35	S	5	VV
Series	Unit Size (in cu. in.)	Connections S = ODF F = SAE	Connection Size (in 1/8")	Dual Access Valves

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimensions (in)					Weight (lbs)
			A	B	C	D	E	
056352	ASD 28F3	3/8 SAE	5.59	--	0.44	4.13	3.69	2.00
049168	ASD 28S3-W	3/8 ODF	5.59	4.72	0.44	4.13		
049169	ASD 28S4-W	1/2 ODF	5.69	4.69	0.50	4.13		
049170	ASD 35F5-W	5/8 SAE	7.56	--	--	4.75		2.50
049171	ASD 35S5-W	5/8 ODF	6.22	5.28	0.63	4.75		3.00
049172	ASD 45S6-W	3/4 ODF	7.75	6.50	0.63	5.56		3.50
049173	ASD 45S7-W	7/8 ODF	7.94	6.44	0.75	5.56		3.50
049174	ASD 50S9-W	1 1/8 ODF	8.84	7.03	0.91	6.13		3.50
049175	ASD 75S11-W	1 3/8 ODF	12.25	10.31	0.97	8.25		5.00
049176	ASD 75S13-W	1 5/8 ODF	12.16	9.91	1.13	8.25		5.00

The SFD is a standard suction line filter drier for use after a burnout or when major work has been performed. It is for use with CFC, HCFC and HFC refrigerants.

Features

- Solid copper connections
- Dual access valves for easy pressure readings
- Corrosion resistant epoxy powder paint finish
- R-410A compatible



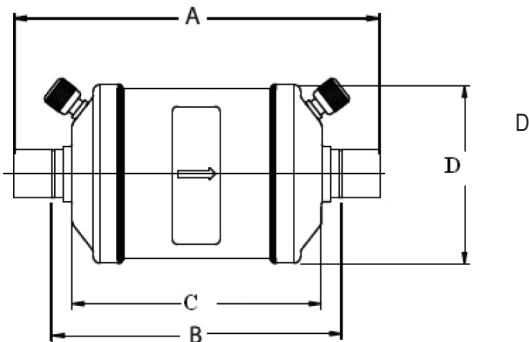
Nomenclature example: SFD 13S5-VV

SFD	13	S	5	VV
Series	Unit Size (in cu. in.)	Connections S = ODF F = SAE	Connection Size (in 1/8")	Dual Access Valves

Specifications

- Filtration: 40 microns
- Maximum working pressure: 500 psig
- UL/CUL file number: SA 3124

Dimensional Data



Order Information

PCN	Description	Connection Size	Dimensions (in)				Weight (lbs)	
			A	B	C	D		
064045	SFD 08S4-VV	1/2 ODF	4.94	3.94	3.38	3.14	2.00	
064046	SFD 08S5-VV	5/8 ODF	5.16	3.91				
064047	SFD 08S6-VV	3/4 ODF	5.56	4.31				
060244	SFD 13F3-VV	3/8 SAE	5.50	N/A	3.64	3.64		
060245	SFD 13S3-VV	3/8 ODF	4.84	3.97				
060246	SFD 13S4-VV	1/2 ODF	4.94	3.94				
060247	SFD 13S4-VV	1/2 ODF	5.75	N/A				
060248	SFD 13F5-VV	5/8 SAE	6.13	N/A				
060249	SFD 13S5-VV	5/8 ODF	5.16	3.91				
060250	SFD 13S6-VV	3/4 ODF	5.25	4.00				
060262	SFD 13S7-VV	7/8 ODF	5.75	4.25				
056505	SFD 27S6-VV	3/4 ODF	7.00	5.75			5.13	3.00
060251	SFD 27S7-VV	7/8 ODF	7.50	6.00				
060252	SFD 27S9-VV	1 1/8 ODF	7.63	5.81	8.25	8.25		
060253	SFD 54S11-VV	1 3/8 ODF	12.25	10.31				
060254	SFD 54S13-VV	1 5/8 ODF	12.16	9.91				

The CSFD has a compact solid desiccant core perfect for short lay-in applications. The CSFD is used for moisture, acid and solid contaminant removal. It is for use with CFC, HCFC and HFC refrigerants.

Features

- Dual access valves for easy pressure readings
- High acid removal capacity
- Solid copper fittings for easiest brazing
- Corrosion resistant epoxy powder paint finish



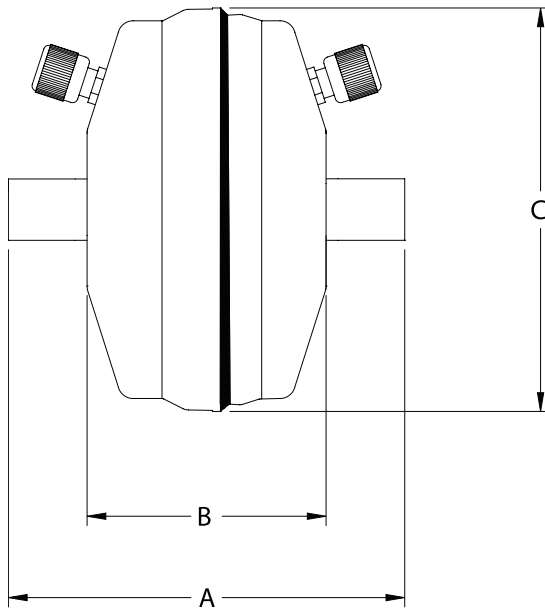
Nomenclature example: CSFD 14S4-VV

CSFD	14	S	4	VV
Series	Unit Size	Connections S = ODF	Connection Size (in 1/8")	Dual Access Valves

Specifications

- Filtration: 40 microns
- Maximum working pressure: 500 psig
- UL/CUL file number: SA 3124

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimensions (in)		
			A	B	C
062231	CSFD-14S4-W	1/2 ODF	4.25	2.75	4.63
062232	CSFD-14S5-W	5/8 ODF	4.50		
062233	CSFD-14S6-W	3/4 ODF	4.38		
062234	CSFD-14S7-W	7/8 ODF	4.56		
062235	CSFD-14S9-W*	1 1/8 ODF	4.88		

* 400 psig Maximum Working Pressure

The ASK utilizes a solid core with an activated carbon blend to maximize acid, moisture and wax removal. It is for use with CFC, HCFC and HFC refrigerants.

Features

- Dual access valves for easy pressure readings
- Corrosion resistant epoxy powder paint finish
- Activated carbon blend for soluble contaminant and wax
- Solid copper connections



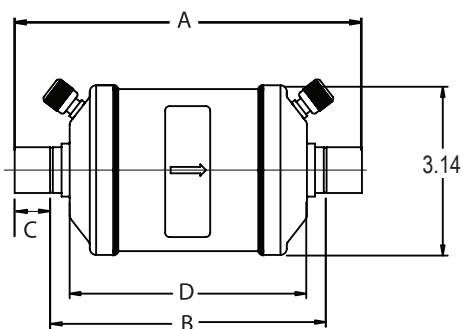
Specifications

- Filtration: 40 microns
- Maximum working pressure: 500 psig
- UL/CUL file number: SA 3124

Nomenclature example: ASK 165S-VV-HH

ASK	16	5	S	VV	HH
Series	Unit Size (in cu. in.)	Connection Size (in 1/8")	Connection S = ODF	Dual Access Valves	Charcoal Blend

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimensions (in)				Weight (lbs)
			A	B	C	D	
056508	ASK 165S-W-HH	5/8 ODF	6.38	5.13	0.63	4.63	2.00
056509	ASK 166S-W-HH	3/4 ODF	6.75	5.50	0.38		
056510	ASK 167S-W-HH	7/8 ODF	6.94	5.26	0.75	7.50	3.75
056511	ASK 306S-W-HH	3/4 ODF	9.69	8.56	0.63		
056512	ASK 307S-W-HH	7/8 ODF	9.88	8.38	0.75		
056513	ASK 309S-W-HH	1 1/8 ODF	10.19	8.38	0.94		

¹ Dimension does not include weld bead

The ASF is a specifically designed filter to protect the compressor from dirt and all solid contaminants.

Features

- Dual access valves for easy pressure readings
- Solid copper connections
- Corrosion resistant epoxy powder paint finish



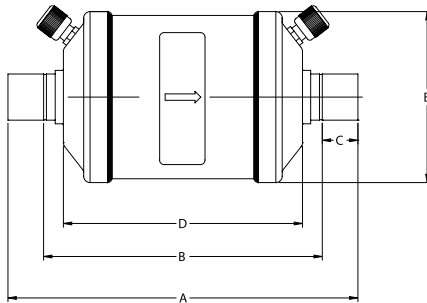
Nomenclature example: ASF 35S5-VV

ASF	35	S	5	VV
Series	Unit Size (in cu. in.)	Connections S = ODF F = SAE	Connection Size (in 1/8")	Dual Access Valves

Specifications

- Filtration: 40 microns
- Maximum working pressure: 500 psig
- UL/CUL file number: SA 3124

Dimensional Data



Ordering Information

PCN	Description	Connection Size	Dimensions					Weight (lbs)
			A	B	C	D	E*	
062961	ASF 11S4	1/2 ODF	4.38	3.38	0.50	2.88	2.63	1.50
062962	ASF 11S5	5/8 ODF	4.63	3.38	0.63	2.88	2.63	1.50
062963	ASF 28S7	7/8 ODF	6.50	5.00	0.75	4.13	3.06	2.00
062964	ASF 28S7-VV	1 1/8 ODF	7.41	5.61	0.91	4.13	3.06	2.00
049177	ASF 28S3-VV	3/8 ODF	5.59	4.72	0.44	4.13	3.69	2.00
049178	ASF 28S4-VV	1/2 ODF	5.69	4.69	0.50	4.13	3.69	2.00
049179	ASF 35F5-VV	5/8 SAE	7.56	-	-	4.75	3.69	2.50
049180	ASF 35S5-VV	5/8 ODF	6.53	5.28	0.63	4.75	3.69	2.50
059999	ASF 45F3-VV	3/8 SAE	7.69	-	-	5.56	3.69	3.00
049181	ASF 45S6-VV	3/4 ODF	7.75	6.50	0.63	5.56	3.69	3.00
049182	ASF 45S7-VV	7/8 ODF	7.94	6.44	0.75	5.56	3.69	3.00
049183	ASF 50S9-VV	1 1/8 ODF	8.84	7.03	0.91	6.13	5.00	3.50
063113	ASF 64S17-V	2 1/8 ODF	11.75	9.06	1.31	7.63	5.00	3.50
063115	ASF 64S21-V	2 5/8 ODF	13.00	10.00	1.50	7.88	5.00	3.50
049184	ASF 75S11-VV	1 3/8 ODF	12.25	10.31	0.97	8.25	5.00	5.00
049185	ASF 75S13-VV	1 5/8 ODF	12.16	9.91	1.13	8.25	5.00	5.00

* Dimension does not include weld bead

The APD series is designed to reduce noise and vibration on the compressor discharge lines.

Features

- Compact size
- Full flow fittings
- Solid copper connections
- Corrosion resistant epoxy powder paint finish
- Rugged steel shells for vibration resistance
- Shock resistant steel shell construction



Specifications

- Maximum working pressure: 680 psig
- Operating Range: -40°F to +250°F
- UL/CUL file number: SA 5760

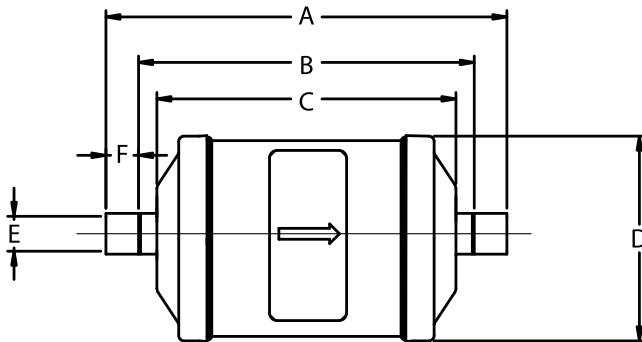
Nomenclature example: APD 053 SB

APD	05	3	S	B
Pulsation Dampener	Cubic Inches	Fitting Size in 1/8"	ODF Fittings	With Baffles (omit for standard)

Flow Capacity

Fitting Size	Tons
3/8	5-10
1/2	10-20
5/8	15-25
7/8	25-35
1 1/8	35+

Dimensional Data



Ordering Information

PCN	Description	Dimensions (in)					
		A	B	C	D	E	F
061862	APD 1R	6.00	5.00	4.47	3.02		
049651	APD 054 S-B	4.56	3.56	3.00		0.50	0.50
059144	APD 163 S	6.25	5.38	4.75	2.63	0.38	0.38
060119	APD 165 S-B	6.56	5.31			0.63	0.63
061042	APD 167S-B	7.13	5.04	4.77	3.13	0.88	1.04
056989	APD 309 S	10.25	8.44	7.50	3.13	1.13	0.88

The HMI is designed to provide an accurate method of determining the moisture content of a system's refrigerant. The HMI has a unique high accuracy moisture indicator for CFC, HCFC, and HFC refrigerants.



Features

- Highest sensitivity moisture indicator available
- Hermetic, leak-free construction
- Single indicator for all common refrigerants
- Accurate color calibration at low ppm levels and higher temperatures
- Wide angle viewing/high visibility window for ease of monitoring
- All brass corrosion resistant body for fewer leaks
- Solid copper connections

Specifications

- Maximum working pressure: 680 psig
- UL/CUL file number: SA 9566

Nomenclature example: HMI 1TT4

HMI	1	TT	4
Hermetic Moisture Indicator	Series	Connection Style TT = Sweat x Sweat	Connection Size (in 1/8")

Ordering Information

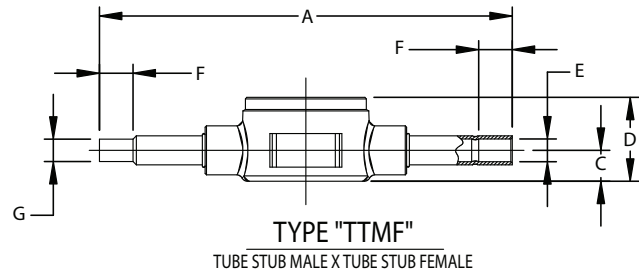
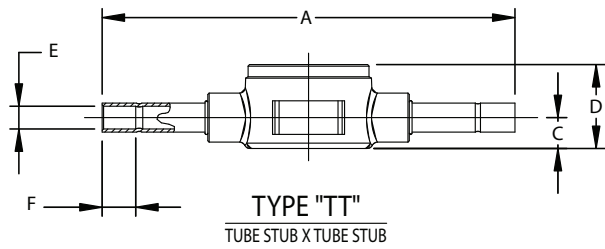
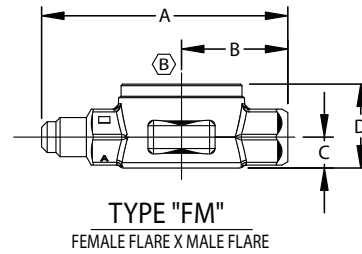
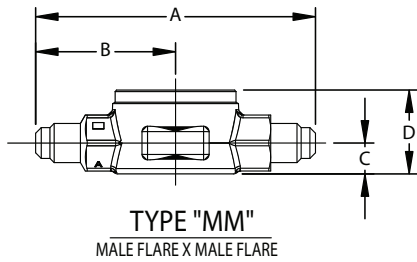
PCN	Description	Series	Connection Size
065391	HMI-1MM2	Male Flare x Male Flare	1/4
065392	HMI-1MM3		3/8
065393	HMI-1MM4		1/2
065394	HMI-1MM5		5/8
065395	HMI-1MM6		3/4
065405	HMI-1TT2		1/4
065406	HMI-1TT3	Sweat x Sweat (ODF)	3/8
065407	HMI-1TT4		1/2
065408	HMI-1TT5		5/8
065409	HMI-1TT6		3/4
065410	HMI-1TT7		7/8
065411	HMI-1TT9		1 1/8
065396	HMI-1FM2		Female Flare x Male Flare
065397	HMI-1FM3	3/8	
065398	HMI-1FM4	1/2	
065622	HMI-1TT2MF	Sweat x Sweat (ODM x ODF)	1/4
065814	HMI-1TT3MF		3/8
065979	HMI-1TT4MF		1/2
065980	HMI-1TT5MF		5/8

Moisture Content Color Code (ppm H₂O)

Indication Liquid Temperature	Dry (Dark Blue)			Caution (Purple)			Wet (Salmon)		
	75°F	100°F	125°F	75°F	100°F	125°F	75°F	100°F	125°F
R-12	1.4	2.5	4	5	9	15	25	43	70
R-134A	20	35	60	35	55	85	130	160	190
R-22	25	35	50	40	65	90	145	205	290
R-407C	26	40	64	42	68	109	150	230	370
R-410A	30	55	75	50	85	120	165	290	420
R-404A/507	15	25	45	33	50	80	120	150	180

Indication Liquid Temperature	Dry (Dark Blue)				Caution (Purple)				Wet (Salmon)			
	-40°F	-4°F	32°F	68°F	-40°F	-4°F	32°F	68°F	-40°F	-4°F	32°F	68°F
R-744	3	6	11	20	5	10	19	34	16	32	63	116

Dimensional Data



Dimensional Data (in)

Type Number	Connection Size	A	B	C	D	E	F Min	G
HMI - 1MM2	1/4 SAE	3.13	1.56	0.34	0.94			
HMI - 1MM3	3/8 SAE	3.38	1.69	0.34	0.94			
HMI - 1MM4	1/2 SAE	3.62	1.81	0.47	1.19			
HMI - 1MM5	5/8 SAE	3.88	1.94	0.47	1.19			
HMI - 1MM6	3/4 SAE	5.00	2.50	0.59	1.53			
HMI - 1FM2	1/4 SAE FM	2.75	1.19	0.34	0.94			
HMI - 1FM3	3/8 SAE FM	3.00	1.31	0.47	1.19			
HMI - 1FM4	1/2 SAE FM	3.22	1.41	0.47	1.19			
HMI - 1TT2	1/4 ODF	5.56		0.34	0.94	0.25	0.38	
HMI - 1TT3	3/8 ODF	5.61		0.34	0.94	0.38	0.40	
HMI - 1TT4	1/2 ODF	5.87		0.47	1.19	0.50	0.50	
HMI - 1TT5	5/8 ODF	5.87		0.61	1.19	0.63	0.63	
HMI - 1TT6	3/4 ODF	6.56		0.61	1.50	0.75	0.63	
HMI - 1TT7	7/8 ODF	6.31		0.61	1.50	0.88	0.75	
HMI - 1TT9	1 1/8 ODF	6.59		0.67	1.37	1.13	0.90	
HMI - 1TT2MF	1/4 ODM x 1/4 ODF	5.56		0.34	0.94	0.25	0.38	0.25
HMI - 1TT3MF	3/8 ODM x 3/8 ODF	5.61		0.34	0.94	0.38	0.38	0.38
HMI - 1TT4MF	1/2 ODM x 1/2 ODF	5.87		0.47	1.19	0.50	0.50	0.50
HMI - 1TT5MF	5/8 ODM x 5/8 ODF	5.87		0.61	1.19	0.63	0.50	0.62

The AMI is designed to provide an accurate method of determining the moisture content of a system's refrigerant. The AMI has a unique high accuracy moisture indicator for CFC, HCFC and HFC refrigerants. For the AMI-2 Series, see the bottom of the following page.



Features

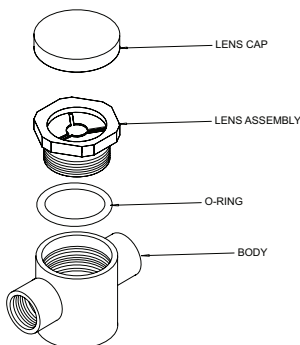
- Highest sensitivity moisture indicator available
- Take-Apart design for easy repair
- Single indicator for all common refrigerants
- Accurate color calibration at low ppm levels and higher temperatures
- Wide angle viewing/high visibility window for ease of monitoring
- Solid copper connections

Nomenclature example: AMI 1SS4

AMI	1	SS	4
Moisture Indicator Series	Design Series 1 = standard connection 2 = bushing style	Connection Style TT = Sweat x Sweat	Connection Size (in 1/8")

Replacement Parts For AMI

PCN	Part	Number
021371	Lenscap	12740-1
020877	"O" Ring	PS1525-2
027511	Lens Assembly Kit (Consists of lens assembly, lens cap and "O" ring)	X12978-1



Specifications

- Maximum working pressure: 680 psig
- UL/CUL file number: SA 9566

Ordering Information

PCN	Description	Series	Connection Size
048804	AMI-1MM3	Male Flare x Male Flare	3/8
048805	AMI-1MM4		1/2
048806	AMI-1MM5		5/8
048811	AMI-1SS2	Sweat x Sweat (OD Female)	1/4
048812	AMI-1SS3		3/8
048813	AMI-1SS4		1/2
048814	AMI-1SS5		5/8
048815	AMI-1SS7		7/8
048816	AMI-1SS9		1 1/8
047298	AMI-1TT2 EXTENDED ENDS		1/4
042771	AMI-1TT3 EXTENDED ENDS		3/8
022302	AMI-1TT4 EXTENDED ENDS		1/2
031136	AMI-1TT5 EXTENDED ENDS		5/8
031357	AMI-1TT7 EXTENDED ENDS		7/8
031578	AMI-1TT9 EXTENDED ENDS	1 1/8	
060255	AMI-1TT11 EXTENDED ENDS	1 3/8	
048800	AMI-1FM2	Female Flare x Male Flare	1/4
048801	AMI-1FM3		3/8
048802	AMI-1FM4		1/2

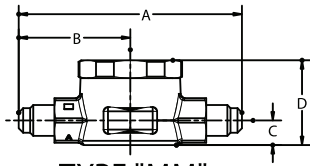
Moisture Content Color Code (ppm H₂O)

Indication Liquid Temperature	Dry (Dark Blue)			Caution (Purple)			Wet (Salmon)		
	75°F	100°F	125°F	75°F	100°F	125°F	75°F	100°F	125°F
R-12	1.4	2.5	4	5	9	15	25	43	70
R-134A	20	35	60	35	55	85	130	160	190
R-22	25	35	50	40	65	90	145	205	290
R-407C	26	40	64	42	68	109	150	230	370
R-410A	30	55	75	50	85	120	165	290	420
R-404A/507	15	25	45	33	50	80	120	150	180

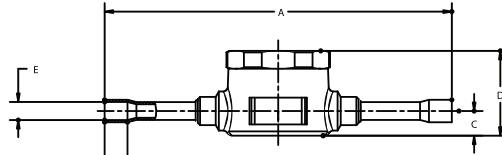
Indication Liquid Temperature	Dry (Dark Blue)				Caution (Purple)				Wet (Salmon)			
	-40°F	-4°F	32°F	68°F	-40°F	-4°F	32°F	68°F	-40°F	-4°F	32°F	68°F
R-744	3	6	11	20	5	10	19	34	16	32	63	116

AMI-1

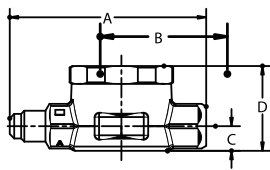
Dimensional Data



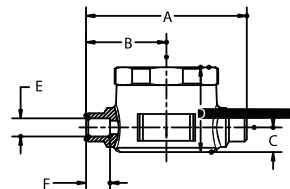
TYPE "MM"
MALE FLARE X MALE FLARE



TYPE "TT"
TUBE STUB X TUBE STUB



TYPE "FM"
FEMALE FLARE X MALE FLARE



TYPE "SS"
SWEAT X SWEAT

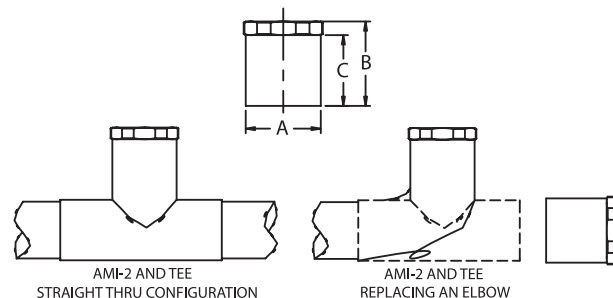
Dimensional Data (in)

Description	Connection Size	A	B	C	D	E	F Min.
AMI-1MM2	1/4 SAE	3.13	1.56	0.34	1.19		
AMI-1MM3	3/8 SAE	3.38	1.69				
AMI-1MM4	1/2 SAE	3.63	1.81	0.47	1.44		
AMI-1MM5	5/8 SAE	3.88	1.94				
AMI-1FM2	1/4 SAE	2.75	1.19	0.34	1.19		
AMI-1FM3	3/8 SAE	3.00	1.31				
AMI-1FM4	1/2 SAE	3.22	1.41	0.47	1.44		
AMI-1SS2	1/4 ODF	2.25	1.13				
AMI-1SS3	3/8 ODF			0.38	.32		
AMI-1SS4	1/2 ODF	2.63	1.31	0.47	1.44	0.50	.38
AMI-1SS5	5/8 ODF					0.63	.50
AMI-1SS7	7/8 ODF	3.13	1.56	0.61	1.75	0.88	.76
AMI-1SS9	1 1/8 ODF	3.38	1.69	0.67	1.92	1.13	.90
AMI-1TT2	1/4 ODF	4.89		0.34	1.19	.25	.32
AMI-1TT3	3/8 ODF					0.38	.32
AMI-1TT4	1/2 ODF	4.92		0.47	1.44	0.50	.38
AMI-1TT5	5/8 ODF	4.91				0.63	.50
AMI-1TT7	7/8 ODF	6.36		0.61	1.75	0.88	.76
AMI-1TT9	1 1/8 ODF	6.59		0.67	1.92	1.125	.90
AMI 1TT11	1 3/8 ODF	6.94		1.00	2.39	1.38	1.3

AMI-2

AMI-2 Series Dimensions (in)

PCN	Description	Connection Size	A Dia.	B	C
064167	AMI-2S7	7/8 ODM	0.88	1.34	1.00
064168	AMI-2S9	1 1/8 ODM	1.13	1.25	1.00
022303	AMI-2S11	1 3/8 ODM	1.38	1.56	1.94
028388	AMI-2S13	1 5/8 ODM	1.63	1.69	1.44
031219	AMI-2S17	2 1/8 ODM	2.13	1.94	1.69



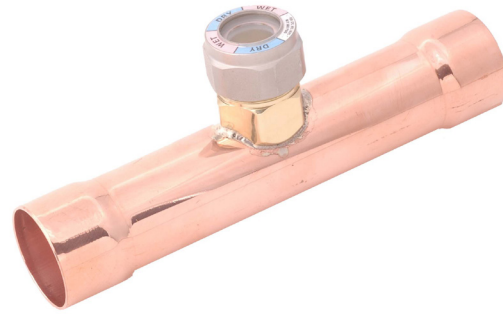
The A-IHL saddle design moisture indicator is used for large diameter tubing in CFC, HCFC and HFC refrigerants.

Features

- Saddle design
- Solid copper connections
- Replaceable moisture indicator
- Eliminates the need for bypass installation - positive reaction to system moisture levels

Specifications

- Maximum working pressure: 680 psig
- UL/CUL file number: SA 9566



Nomenclature example: A-IHL 9S

A-IHL	9	S
Series	Connection Size (in 1/8")	S = ODF

Ordering Information

PCN	Model	Connection Size	Overall Length (in)
060853	A-IHL-9S	1 1/8 ODF	6.31
061030	A-IHL-11S	1 3/8 ODF	7.12
061031	A-IHL-13S	1 5/8 ODF	7.87
061032	A-IHL-17S	2 1/8 ODF	8.68

The A-AS protects the compressor from liquid slugging and is used with CFC, HCFC, and HFC refrigerants. It is available for systems through 28 tons nominal capacity.

Features

- Designed to operate in a range of +40°F to -40°F evaporator temperature
- Fusible plug on larger diameter units
- Solid copper connections
- Corrosion resistant epoxy powder paint finish
- Inlet deflector directs refrigerant flow to prevent internal splashing and aid in the collection of refrigerant oil



Nomenclature example: A-AS 3 125

A	AS	3	12	5
Series	Accumulator Suction	Diameter (in)	Height (in)	Fitting Size in 1/8"

Specifications

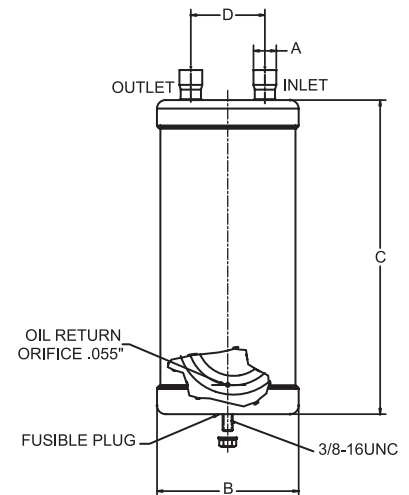
- Maximum working pressure: 300 psig
- Fusible plug temperature: 430°F
- UL/CUL file number: SA 10225

Ordering Information and Dimensional Data (in)

PCN	Description	A Fitting Size (nominal)	B Diameter	C Height	D Fitting Separation	Weight (lbs)	Tons R-22 (+40°F)	Holding Capacity (lbs) 50% of System Charge	
								40°F Liquid R-22/R-134a	40°F Liquid R-404A/R-507
060819	A-AS 3 84*	1/2	3.00	8.00	1.63	2.00	2.00	1.50	1.50
060963	A-AS 3 105*	5/8	3.00	10.00	1.63	2.40	3.00	2.00	2.00
060812	A-AS 3 125*	5/8	3.00	12.00	1.63	2.90	3.00	3.00	2.50
060813	A-AS 3 126*	3/4	3.00	12.00	1.63	2.90	4.00	3.00	2.50
060964	A-AS 3 145*	5/8	3.00	15.00	1.63	3.30	3.00	3.50	3.00
060965	A-AS 3 146*	3/4	3.00	14.00	1.63	3.30	4.00	3.50	2.75
060967	A-AS 4 64	1/2	4.00	6.00	2.50	2.80	2.00	2.50	2.00
060821	A-AS 4 65	5/8	4.00	6.00	2.50	2.80	3.00	2.50	2.00
060966	A-AS 4105	5/8	4.00	10.00	2.50	4.60	3.00	4.00	3.50
060820	A-AS 4 106	3/4	4.00	10.00	2.50	4.60	4.00	4.00	3.50
060824	A-AS 5 96	3/4	5.00	9.00	2.75	5.10	4.00	6.00	5.50
060818	A-AS 5 97	7/8	5.00	9.00	2.75	5.10	7.30	6.00	5.50
060822	A-AS 5 126	3/4	5.00	12.00	2.75	6.60	4.00	8.00	7.50
060823	A-AS 5 127	7/8	5.00	12.00	2.75	6.60	7.30	8.00	7.50
060814	A-AS 5 137	7/8	5.00	13.00	2.75	7.10	7.30	8.50	8.00
060815	A-AS 5 139	1-1/8	5.00	13.00	2.75	7.10	11.80	8.50	8.00
060817	A-AS 5 179	1-1/8	5.00	17.00	2.75	8.40	11.80	12.00	10.00
060816	A-AS 5 1711	1-3/8	5.00	17.00	2.75	8.40	18.80	12.00	10.00
060825	A-AS 6 117	7/8	6.00	11.00	2.94	10.00	7.30	10.00	9.00
060826	A-AS 6 137	7/8	6.00	13.00	2.94	11.70	7.30	12.84	11.49
060968	A-AS 6 139	1-1/8	6.00	13.00	2.94	11.70	11.80	12.84	11.49
060827	A-AS 6 1411	1-3/8	6.00	14.00	2.94	12.10	18.80	14.05	12.57
060969	A-AS 6 1713	1-5/8	6.00	17.00	2.94	15.40	28.50	17.32	15.49
060828	A-AS 6 2013	1-5/8	6.00	20.00	2.94	18.10	28.50	20.62	18.44
060970	A-AS 6 2513	1-5/8	6.00	25.00	2.94	22.60	28.50	25.81	23.08

*Not supplied with a fusible plug

Dimensional Data



The ACC is a charge compensator that is designed to work in heat pump applications. It increases system efficiency by storing extra refrigerant in the heating mode. It then returns refrigerant back into circulation in the cooling mode.

R-410A



Features

- Solid copper connection
- Corrosion resistant epoxy powder paint finish

Nomenclature example: ACC-3637S

ACC	36	3	7	S
Series	Internal Volume (cu. in.)	Diameter (in.)	Connection Size (in. 1/8")	ODF

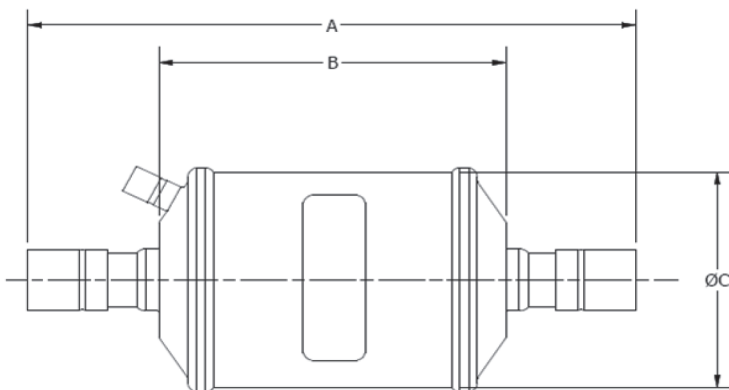
Specifications

- Maximum working pressure: 680 psig
- UL/CUL file number: SA5760

Ordering Information

PCN	Description	Internal Volume (cu. in.)	Liquid Line Connection	Connection	Dimensions (in.)			Holding Capacity (oz.)	
					A	B	C	R-410A	
								75°F	125°F
066631	ACC-2336S	23	3/8 ODF	3/4 ODF	7.19	3.33	3.50	15	13
066632	ACC-3636S	36	3/8 ODF	3/4 ODF	8.94	5.08	3.50	24	20
066633	ACC-3637S		3/8 ODF	7/8 ODF	8.94	5.08	3.50	24	20
066634	ACC-4736S	47	3/8 ODF	3/4 ODF	10.18	6.32	3.50	31	26
066635	ACC-4737S		3/8 ODF	7/8 ODF	10.18	6.32	3.50	30	25
066493	ACC-6236S	62	3/8 ODF	3/4 ODF	12.06	8.20	3.50	40	34
066636	ACC-6237S		3/8 ODF	7/8 ODF	12.06	8.20	3.50	40	33
066637	ACC-7837S	78	3/8 ODF	7/8 ODF	14.11	10.25	3.50	51	43
066638	ACC-7836S		3/8 ODF	3/4 ODF	14.11	10.25	3.50	50	42
066639	ACC-9536S	95	3/8 ODF	3/4 ODF	15.86	12.00	3.50	60	51
066640	ACC-9537S		3/8 ODF	7/8 ODF	15.86	12.00	3.50	59	50

Dimensional Data



System Protector Capacity Tables

Hermetic Suction Line Filter Drier Flow Capacities

Description	Connections	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²											
		R-12				R-134a /R-450A/R-513A				R-744			
		Evaporator Temperature (°F)											
		40	20	0	-20	40	20	0	-20	20	0	-20	-40
		Pressure Drop (PSI)											
2	1.5	1	0.5	2	1.5	1	0.5	6	5	4	3		
ASD 28S3-VV	3/8 ODF	1.1	0.6	0.5	0.5	1.1	0.6	0.5	0.4	7.2	6.3	6.8	8.5
ASD 28S4-VV	1/2 ODF	1.8	1.2	0.8	0.7	1.9	1.2	0.8	0.6	11.8	10.2	10.6	14.2
ASD 35F5-VV	5/8 SAE	2.1	1.4	1.1	0.9	2.2	1.4	1.0	0.8	13.7	12.2	12.9	17.0
ASD 35S5-VV	5/8 ODF	2.8	1.9	1.4	1.1	2.9	1.9	1.3	1.0	18.1	15.6	16.7	22.7
ASD 45S6-VV	3/4 ODF	3.8	2.5	1.8	1.2	3.9	2.5	1.7	1.1	21.8	22.4	24.2	28.4
ASD 45S7-VV	7/8 ODF	5.0	3.6	2.3	1.5	5.1	3.5	2.2	1.3	28.7	29.2	31.1	36.9
ASD 50S9-VV	1-1/8 ODF	7.1	5.0	3.2	1.8	7.3	4.9	3.0	1.6	41.1	41.3	43.2	49.6
ASD 75S11-VV	1-3/8 ODF	8.6	5.9	3.7	2.0	8.8	5.8	3.5	1.8	50.5	49.6	50.8	56.7
ASD 75S13-VV	1-5/8 ODF	9.0	6.2	3.9	2.1	9.3	6.1	3.7	1.9	53.9	52.0	53.0	59.6
ASF 28S3-VV	3/8 ODF	1.2	0.8	0.5	0.5	1.2	0.8	0.5	0.4	7.5	6.3	6.8	9.9
ASF 28S4-VV	1/2 ODF	1.9	1.3	0.9	0.8	2.0	1.3	0.9	0.7	12.8	11.2	12.1	17.0
ASF 35F5-VV	5/8 SAE	2.2	1.5	1.1	0.9	2.3	1.5	1.0	0.8	14.6	12.6	13.6	18.4
ASF 35S5-VV	5/8 ODF	3.2	2.2	1.6	1.4	3.3	2.2	1.5	1.2	20.6	18.0	19.7	26.9
ASF 45S6-VV	3/4 ODF	4.7	3.2	2.3	1.8	4.8	3.1	2.2	1.6	30.5	26.7	28.0	38.3
ASF 45S7-VV	7/8 ODF	6.5	4.8	3.3	1.9	6.7	4.7	3.1	1.7	37.4	38.9	42.4	51.0
ASF 50S9-VV	1-1/8 ODF	9.2	6.8	4.5	2.6	9.5	6.7	4.3	2.3	59.2	58.3	62.1	69.5
ASF 64S17-VV	2-1/8 ODF	25.3	18.3	12.6	7.2	26.0	18	12	6.4	127.8	131.2	144.0	170.2
ASF 75S11-VV	1-3/8 ODF	11.7	8.8	5.9	3.4	12.0	8.7	5.6	3.0	49.9	72.9	83.4	95.0
ASF 75S13-VV	1-5/8 ODF	13.6	9.7	6.6	3.8	14.0	9.5	6.3	3.4	74.8	72.9	75.8	92.2
ASK 165S-VV-HH	5/8 ODF	1.9	1.4	0.8	0.6	2.0	1.4	0.8	0.5	10.6	10.2	10.6	12.8
ASK 166S-VV-HH	3/4 ODF	2.4	1.7	1.1	0.7	2.5	1.7	1.0	0.6	13.1	12.6	12.9	14.2
ASK 167S-VV-HH	7/8 ODF	2.6	1.8	1.2	0.7	2.7	1.8	1.1	0.6	14.3	13.6	14.4	15.6
ASK 306S-VV-HH	3/4 ODF	3.3	2.3	1.5	0.9	3.4	2.3	1.4	0.8	17.1	17.0	17.4	19.9
ASK 307S-VV-HH	7/8 ODF	3.5	2.5	1.6	0.9	3.6	2.5	1.5	0.8	19.0	18.5	18.9	21.3
ASK 309S-VV-HH	1-1/8 ODF	3.8	2.6	1.7	0.9	3.9	2.6	1.6	0.8	20.3	19.4	19.7	22.7
CSFD 14S4-VV	1/2 ODF	1.3	0.9	0.5	0.3	1.3	0.9	0.5	0.3	6.2	6.3	6.8	8.5
CSFD 14S5-VV	5/8 ODF	2.2	1.5	0.9	0.6	2.3	1.5	0.9	0.5	11.2	11.7	12.1	14.2
CSFD 14S6-VV	3/4 ODF	3.0	2.1	1.3	0.8	3.1	2.1	1.3	0.7	15.3	15.6	16.7	19.9
CSFD 14S7-VV	7/8 ODF	3.2	2.2	1.5	0.8	3.3	2.2	1.4	0.7	16.2	16.5	17.4	21.3
CSFD 14S9-VV	1-1/8 ODF	4.4	3.1	1.9	1.1	4.5	3.0	1.8	1.0	21.8	22.4	23.5	28.4
SFD 13F3-VV	3/8 SAE	0.7	0.4	0.2	0.1	0.7	0.4	0.2	0.1	4.4	3.9	3.0	2.8
SFD 13S3-VV	3/8 ODF	1.3	0.8	0.5	0.2	1.3	0.8	0.5	0.2	6.9	6.3	6.1	7.1
SFD 13F4-VV	1/2 SAE	1.5	1.0	0.6	0.3	1.5	1.0	0.6	0.3	7.5	7.8	8.3	9.9
SFD 13S4-VV	1/2 ODF	2.2	1.5	1.1	0.6	2.3	1.5	1.0	0.5	10.9	11.2	12.1	14.2
SFD 13F5-VV	5/8 SAE	2.4	1.7	1.2	0.7	2.5	1.7	1.1	0.6	11.5	11.7	12.1	14.2
SFD 13S5-VV	5/8 ODF	3.0	2.1	1.4	0.8	3.1	2.1	1.3	0.7	15.3	15.6	16.7	19.9
SFD 13S6-VV	3/4 ODF	4.0	2.7	1.8	1.0	4.1	2.7	1.7	0.9	19.9	20.4	21.2	25.5
SFD 13S7-VV	7/8 ODF	4.3	3.1	2.0	1.1	4.4	3.0	1.9	1.0	22.4	22.4	22.7	26.9
SFD 27S6-VV	3/4 ODF	4.0	2.7	1.8	1.0	4.1	2.7	1.7	0.9	19.9	20.4	21.2	25.5
SFD 27S7-VV	7/8 ODF	4.6	3.2	2.0	1.1	4.7	3.1	1.9	1.0	23.4	23.3	24.2	28.4
SFD 27S9-VV	1-1/8 ODF	5.1	3.5	2.1	1.1	5.2	3.4	2.0	1.0	26.5	26.2	26.5	29.8
SFD 54S11-VV	1-3/8 ODF	4.4	2.9	1.8	1.0	4.5	2.9	1.7	0.9	22.8	22.4	22.7	25.5
SFD 54S13-VV	1-5/8 ODF	4.5	3.1	1.9	1.0	4.6	3.0	1.8	0.9	23.1	22.8	24.2	28.4

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

System Protector Capacity Tables

Hermetic Suction Line Filter Drier Flow Capacities

Description	Connections	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²														
		R-22/R-448A/R-449A					R-407C					R-410A				
		Evaporator Temperature (°F)														
		40	20	0	-20	-40	40	20	0	-20	-40	40	20	0	-20	-40
		Pressure Drop (PSI)														
3	2	1.5	1	0.5	3	2	1.5	1	0.5	3	2	1.5	1	0.5		
ASD 28S3-VV	3/8 ODF	2.3	1.3	0.9	0.6	0.5	2.1	1.2	0.8	0.5	0.4	2.8	1.6	1.1	0.7	0.6
ASD 28S4-VV	1/2 ODF	3.8	2.1	1.4	1.0	0.8	3.5	1.9	1.2	0.9	0.7	4.6	2.6	1.7	1.2	1.0
ASD 35F5-VV	5/8 SAE	4.4	2.5	1.7	1.2	0.9	4.1	2.3	1.5	1.0	0.7	5.3	3.0	2.1	1.5	1.1
ASD 35S5-VV	5/8 ODF	5.8	3.2	2.2	1.6	1.0	5.4	2.9	1.9	1.4	0.8	7.0	3.9	2.7	2.0	1.3
ASD 45S6-VV	3/4 ODF	7.0	4.6	3.2	2.0	1.1	6.5	4.2	2.8	1.7	0.9	8.5	5.6	3.9	2.5	1.4
ASD 45S7-VV	7/8 ODF	9.2	6.0	4.1	2.6	1.4	8.5	5.5	3.6	2.3	1.2	11.2	7.3	5.0	3.2	1.8
ASD 50S9-VV	1-1/8 ODF	13.2	8.5	5.7	3.5	1.8	12.2	7.7	5.0	3.1	1.5	16.0	10.3	7.0	4.3	2.3
ASD 75S11-VV	1-3/8 ODF	16.2	10.2	6.7	4.0	2.0	15.0	9.3	5.9	3.5	1.7	19.6	12.4	8.2	5.0	2.5
ASD 75S13-VV	1-5/8 ODF	17.3	10.7	7.0	4.2	2.1	16.0	9.7	6.2	3.7	1.7	21.0	13.0	8.6	5.2	2.6
ASF 28S3-VV	3/8 ODF	2.4	1.3	0.9	0.7	0.5	2.2	1.2	0.8	0.6	0.4	2.9	1.6	1.1	0.9	0.6
ASF 28S4-VV	1/2 ODF	4.1	2.3	1.6	1.2	0.9	3.8	2.1	1.4	1.0	0.7	5.0	2.8	2.0	1.5	1.1
ASF 35F5-VV	5/8 SAE	4.7	2.6	1.8	1.3	1.0	4.4	2.4	1.6	1.1	0.8	5.7	3.2	2.2	1.6	1.3
ASF 35S5-VV	5/8 ODF	6.6	3.7	2.6	1.9	1.6	6.1	3.4	2.3	1.7	1.3	8.0	4.5	3.2	2.4	2.0
ASF 45S6-VV	3/4 ODF	9.8	5.5	3.7	2.7	2.2	9.1	5.0	3.3	2.4	1.8	11.9	6.7	4.5	3.4	2.8
ASF 45S7-VV	7/8 ODF	12.0	8.0	5.6	3.6	3.0	11.1	7.3	5.0	3.1	2.5	14.6	9.7	6.9	4.5	3.8
ASF 50S9-VV	1-1/8 ODF	19.0	12.0	8.2	4.9	2.6	17.6	10.9	7.3	4.3	2.2	23.0	14.6	10.1	6.1	3.3
ASF 64S17-VV	2-1/8 ODF	41.0	27.0	19.0	12.0	6.9	38.0	24.5	16.8	10.5	5.7	49.7	32.8	23.3	14.9	8.6
ASF 75S11-VV	1-3/8 ODF	16.0	15.0	11.0	6.7	3.3	14.8	13.6	9.7	5.8	2.7	19.4	18.2	13.5	8.3	4.1
ASF 75S13-VV	1-5/8 ODF	24.0	15.0	10.0	6.5	3.2	22.2	13.6	8.9	5.7	2.7	29.1	18.2	12.3	8.1	4.0
ASK 165S-VV-HH	5/8 ODF	3.4	2.1	1.4	0.9	0.4	3.2	1.9	1.2	0.8	0.3	4.1	2.6	1.7	1.1	0.5
ASK 166S-VV-HH	3/4 ODF	4.2	2.6	1.7	1.0	0.5	3.9	2.4	1.5	0.9	0.4	5.1	3.2	2.1	1.2	0.6
ASK 167S-VV-HH	7/8 ODF	4.6	2.8	1.9	1.1	0.6	4.3	2.5	1.7	1.0	0.5	5.6	3.4	2.3	1.4	0.8
ASK 306S-VV-HH	3/4 ODF	5.5	3.5	2.3	1.4	0.8	5.1	3.2	2.0	1.2	0.7	6.7	4.3	2.8	1.7	1.0
ASK 307S-VV-HH	7/8 ODF	6.1	3.8	2.5	1.5	0.8	5.7	3.5	2.2	1.3	0.7	7.4	4.6	3.1	1.9	1.0
ASK 309S-VV-HH	1-1/8 ODF	6.5	4.0	2.6	1.6	0.8	6.0	3.6	2.3	1.4	0.7	7.9	4.9	3.2	2.0	1.0
CSFD 14S4-VV	1/2 ODF	2.0	1.3	0.9	0.6	0.3	1.9	1.2	0.8	0.5	0.2	2.4	1.6	1.1	0.7	0.4
CSFD 14S5-VV	5/8 ODF	3.6	2.4	1.6	1.0	0.5	3.3	2.2	1.4	0.9	0.4	4.4	2.9	2.0	1.2	0.6
CSFD 14S6-VV	3/4 ODF	4.9	3.2	2.2	1.4	0.7	4.5	2.9	1.9	1.2	0.6	5.9	3.9	2.7	1.7	0.9
CSFD 14S7-VV	7/8 ODF	5.2	3.4	2.3	1.5	0.8	4.8	3.1	2.0	1.3	0.7	6.3	4.1	2.8	1.9	1.0
CSFD 14S9-VV	1-1/8 ODF	7.0	4.6	3.1	2.0	1.0	6.5	4.2	2.7	1.7	0.8	8.5	5.6	3.8	2.5	1.3
SFD 13F3-VV	3/8 SAE	1.4	0.8	0.4	0.2	0.1	1.3	0.7	0.4	0.2	0.1	1.7	1.0	0.5	0.2	0.1
SFD 13S3-VV	3/8 ODF	2.2	1.3	0.8	0.5	0.2	2.0	1.2	0.7	0.4	0.2	2.7	1.6	1.0	0.6	0.3
SFD 13F4-VV	1/2 SAE	2.4	1.6	1.1	0.7	0.4	2.2	1.5	1.0	0.6	0.3	2.9	1.9	1.3	0.9	0.5
SFD 13S4-VV	1/2 ODF	3.5	2.3	1.6	1.0	0.6	3.2	2.1	1.4	0.9	0.5	4.2	2.8	2.0	1.2	0.8
SFD 13F5-VV	5/8 SAE	3.7	2.4	1.6	1.0	0.6	3.4	2.2	1.4	0.9	0.5	4.5	2.9	2.0	1.2	0.8
SFD 13S5-VV	5/8 ODF	4.9	3.2	2.2	1.4	0.8	4.5	2.9	1.9	1.2	0.7	5.9	3.9	2.7	1.7	1.0
SFD 13S6-VV	3/4 ODF	6.4	4.2	2.8	1.8	1.0	5.9	3.8	2.5	1.6	0.8	7.8	5.1	3.4	2.2	1.3
SFD 13S7-VV	7/8 ODF	7.2	4.6	3.0	1.9	1.0	6.7	4.2	2.7	1.7	0.8	8.7	5.6	3.7	2.4	1.3
SFD 27S6-VV	3/4 ODF	6.4	4.2	2.8	1.8	1.0	5.9	3.8	2.5	1.6	0.8	7.8	5.1	3.4	2.2	1.3
SFD 27S7-VV	7/8 ODF	7.5	4.8	3.2	2.0	1.1	7.0	4.4	2.8	1.7	0.9	9.1	5.8	3.9	2.5	1.4
SFD 27S9-VV	1-1/8 ODF	8.5	5.4	3.5	2.1	1.1	7.9	4.9	3.1	1.8	0.9	10.3	6.6	4.3	2.6	1.4
SFD 54S11-VV	1-3/8 ODF	7.3	4.6	3.0	1.8	1.0	6.8	4.2	2.7	1.6	0.8	8.9	5.6	3.7	2.2	1.3
SFD 54S13-VV	1-5/8 ODF	7.4	4.7	3.2	2.0	1.0	6.9	4.3	2.8	1.7	0.8	9.0	5.7	3.9	2.5	1.3

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

Hermetic Suction Line Filter Drier Flow Capacities

Description	Connections	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²									
		R-502					R-404A/R-507				
		Evaporator Temperature (°F)									
		40	20	0	-20	40	20	0	-20	-40	
		Pressure Drop (PSI)									
3	2	1.5	1	3	2	1.5	1	0.5			
ASD 28S3-VV	3/8 ODF	2.2	1.1	0.7	0.5	2.1	1.1	0.7	0.5	0.3	
ASD 28S4-VV	1/2 ODF	3.7	1.8	1.1	0.7	3.6	1.8	1.1	0.7	0.5	
ASD 35F5-VV	5/8 SAE	4.2	2.1	1.3	0.9	4.1	2.1	1.3	0.9	0.6	
ASD 35S5-VV	5/8 ODF	5.6	2.8	1.7	1.1	5.4	2.8	1.7	1.1	0.8	
ASD 45S6-VV	3/4 ODF	6.6	3.7	2.5	1.5	6.4	3.7	2.5	1.6	1.0	
ASD 45S7-VV	7/8 ODF	7.7	4.8	3.3	1.9	7.5	4.8	3.3	2.0	1.1	
ASD 50S9-VV	1-1/8 ODF	11.0	6.9	4.6	2.7	11.0	6.9	4.6	2.8	1.4	
ASD 75S11-VV	1-3/8 ODF	14.0	8.4	5.4	3.1	14.0	8.4	5.4	3.2	1.6	
ASD 75S13-VV	1-5/8 ODF	15.0	8.9	5.7	3.3	15.0	8.9	5.7	3.4	1.7	
ASF 28S3-VV	3/8 ODF	2.3	1.1	0.7	0.5	2.2	1.1	0.7	0.5	0.3	
ASF 28S4-VV	1/2 ODF	3.9	2.0	1.2	0.8	3.8	2.0	1.2	0.8	0.6	
ASF 35F5-VV	5/8 SAE	4.5	2.3	1.4	0.9	4.4	2.3	1.4	0.9	0.7	
ASF 35S5-VV	5/8 ODF	6.3	3.2	2.0	1.4	6.1	3.2	2.0	1.4	1.0	
ASF 45S6-VV	3/4 ODF	9.4	4.7	2.9	1.8	9.1	4.7	2.9	1.9	1.4	
ASF 45S7-VV	7/8 ODF	10.0	6.3	4.5	2.7	9.8	6.3	4.5	2.8	1.5	
ASF 50S9-VV	1-1/8 ODF	16.0	10.0	6.6	3.9	16.0	10.0	6.7	4.0	2.0	
ASF 64S17-VV	2-1/8 ODF	36.0	23.0	15.0	9.5	35.0	23.0	15.0	9.8	5.2	
ASF 75S11-VV	1-3/8 ODF	21.0	13.0	8.2	4.9	20.0	13.0	8.3	5.1	2.6	
ASF 75S13-VV	1-5/8 ODF	22.0	13.0	8.3	5.0	21.0	13.0	8.4	5.2	2.7	
ASK 165S-VV-HH	5/8 ODF	3.3	1.9	1.2	0.8	3.2	1.9	1.2	0.8	0.3	
ASK 166S-VV-HH	3/4 ODF	4.0	2.4	1.6	0.9	3.9	2.4	1.6	0.9	0.5	
ASK 167S-VV-HH	7/8 ODF	4.4	2.6	1.7	1.0	4.3	2.6	1.7	1.0	0.6	
ASK 306S-VV-HH	3/4 ODF	5.2	3.2	2.2	1.2	5.0	3.2	2.2	1.2	0.7	
ASK 307S-VV-HH	7/8 ODF	5.8	3.5	2.3	1.4	5.6	3.5	2.3	1.4	0.7	
ASK 309S-VV-HH	1-1/8 ODF	6.2	3.7	2.4	1.4	6.0	3.7	2.4	1.5	0.7	
CSFD 14S4-VV	1/2 ODF	1.3	0.8	0.5	0.3	1.3	0.8	0.5	0.3	0.2	
CSFD 14S5-VV	5/8 ODF	2.7	1.7	1.1	0.7	2.6	1.7	1.1	0.7	0.3	
CSFD 14S6-VV	3/4 ODF	3.7	2.3	1.5	0.9	3.6	2.3	1.5	0.9	0.5	
CSFD 14S7-VV	7/8 ODF	4.0	2.4	1.6	1.0	3.9	2.4	1.6	1.0	0.5	
CSFD 14S9-VV	1-1/8 ODF	5.1	3.1	2.0	1.3	4.9	3.1	2.0	1.3	0.7	
SFD 13F3-VV	3/8 SAE	1.3	0.7	0.4	0.2	1.3	0.7	0.4	0.2	0.1	
SFD 13S3-VV	3/8 ODF	2.0	1.1	0.7	0.4	1.9	1.1	0.7	0.4	0.2	
SFD 13F4-VV	1/2 SAE	2.2	1.3	0.9	0.5	2.1	1.3	0.9	0.5	0.3	
SFD 13S4-VV	1/2 ODF	3.1	1.9	1.3	0.8	3.0	1.9	1.3	0.8	0.4	
SFD 13F5-VV	5/8 SAE	3.3	2.0	1.4	0.9	3.2	2.0	1.4	0.9	0.5	
SFD 13S5-VV	5/8 ODF	4.3	2.7	1.8	1.1	4.2	2.7	1.8	1.1	0.6	
SFD 13S6-VV	3/4 ODF	5.8	3.5	2.3	1.4	5.6	3.5	2.3	1.4	0.7	
SFD 13S7-VV	7/8 ODF	6.5	3.9	2.6	1.4	6.3	3.9	2.6	1.5	0.8	
SFD 27S6-VV	3/4 ODF	5.8	3.5	2.3	1.4	5.6	3.5	2.3	1.4	0.7	
SFD 27S7-VV	7/8 ODF	6.7	4.1	2.7	1.5	6.5	4.1	2.7	1.6	0.8	
SFD 27S9-VV	1-1/8 ODF	7.7	4.6	3.0	1.6	7.5	4.6	3.0	1.7	0.9	
SFD 54S11-VV	1-3/8 ODF	6.6	3.9	2.5	1.4	6.4	3.9	2.5	1.5	0.7	
SFD 54S13-VV	1-5/8 ODF	6.7	4.0	2.6	1.5	6.5	4.0	2.6	1.6	0.8	

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

System Protector Capacity Tables

Take-Apart Suction Line Filter Drier Flow Capacities

Description	Connections	Filter Drier Cartridge	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²							
			R-12				R-134a /R-450A/R-513A			
			Evaporator Temperature (°F)							
			40	20	0	-20	40	20	0	-20
			Pressure Drop (PSI)							
2	1.5	1	0.5	2	1.5	1	0.5			
ADKS 30013T	1-5/8 ODF	(3) F-100 Filter	24.0	17.0	12.0	7.0	25.0	17.0	11.0	6.2
ADKS 30017T	2-1/8 ODF	(3) F-100 Filter	42.0	31.0	20.0	12.0	43.0	30.0	19.0	11.0
ADKS 40017T	2-1/8 ODF	(4) F-100 Filter	44.0	32.0	21.0	12.0	45.0	31.0	20.0	11.0
ADKS 40021T	2-5/8 ODF	(4) F-100 Filter	66.0	48.0	32.0	19.0	68.0	47.0	30.0	17.0
ADKS 30013T	1-5/8 ODF	(3) 100 cu in Core	19.0	14.0	9.1	5.5	20.0	14.0	8.7	4.9
ADKS 30017T	2-1/8 ODF	(3) 100 cu in Core	30.0	22.0	15.0	8.7	31.0	22.0	14.0	7.7
ADKS 40017T	2-1/8 ODF	(4) 100 cu in Core	33.0	23.0	16.0	9.5	34.0	23.0	15.0	8.4
ADKS 40021T	2-5/8 ODF	(4) 100 cu in Core	48.0	35.0	23.0	14.0	49.0	34.0	22.0	12.0
BTAS-27 S-V	7/8 ODF	A2F Filter	4.7	3.4	2.2	1.2	4.8	3.3	2.1	1.1
BTAS-39 S-V	1-1/8 ODF	A3F Filter	7.1	5.1	3.4	1.9	7.3	5.0	3.2	1.7
BTAS-311 S-V	1-3/8 ODF	A3F Filter	7.9	5.6	3.7	2.1	8.1	5.5	3.5	1.9
BTAS-313 S-V	1-5/8 ODF	A3F Filter	13.0	8.9	5.9	3.4	13.0	8.8	5.6	3.0
BTAS-317 S-V	2-1/8 ODF	A3F Filter	15.0	11.0	7.2	4.2	16.0	11.0	6.9	3.7
BTAS-411 S-V	1-3/8 ODF	A4F Filter	17.0	12.0	8.0	4.5	17.0	12.0	7.4	4.0
BTAS-413 S-V	1-5/8 ODF	A4F Filter	20.0	15.0	10.0	5.5	21.0	14.0	9.1	4.9
BTAS-417 S-V	2-1/8 ODF	A4F Filter	28.0	20.0	13.0	7.5	29.0	20.0	12.0	6.7
BTAS-421 S-V	2-5/8 ODF	A4F Filter	34.0	24.0	16.0	9.1	35.0	24.0	15.0	8.1
BTAS-517 S-V	2-1/8 ODF	A5F Filter	33.0	24.0	16.0	9.1	34.0	24.0	15.0	8.1
BTAS-521 S-V	2-5/8 ODF	A5F Filter	44.0	32.0	21.0	12.0	45.0	31.0	20.0	11.0
BTAS-525 S-V	3-1/8 ODF	A5F Filter	54.0	39.0	25.0	15.0	56.0	38.0	24.0	13.0
BTAS-25 S-V	5/8 ODF	A2F-D Filter Drier	2.4	1.7	1.2	0.7	2.5	1.7	1.1	0.6
BTAS-27 S-V	7/8 ODF	A2F-D Filter Drier	4.0	2.8	1.9	1.1	4.1	2.8	1.8	1.0
BTAS-39 S-V	1-1/8 ODF	A3F-D Filter Drier	5.2	3.7	2.4	1.4	5.3	3.6	2.3	1.2
BTAS-311 S-V	1-3/8 ODF	A3F-D Filter Drier	7.2	5.2	3.4	1.9	7.4	5.1	3.2	1.7
BTAS-313 S-V	1-5/8 ODF	A3F-D Filter Drier	10.0	7.4	4.8	2.8	11.0	7.3	4.6	2.5
BTAS-317 S-V	2-1/8 ODF	A3F-D Filter Drier	12.0	8.5	5.7	3.3	12.0	8.4	5.4	2.9
BTAS-411 S-V	1-3/8 ODF	A4F-D Filter Drier	15.0	11.0	7.0	4.1	15.0	11.0	6.7	3.6
BTAS-413 S-V	1-5/8 ODF	A4F-D Filter Drier	15.0	11.0	7.2	4.2	16.0	11.0	6.9	3.7
BTAS-417 S-V	2-1/8 ODF	A4F-D Filter Drier	22.0	16.0	11.0	6.1	23.0	16.0	10.0	5.4
BTAS-421 S-V	2-5/8 ODF	A4F-D Filter Drier	23.0	17.0	11.0	6.3	24.0	16.0	10.0	5.6
BTAS-517 S-V	2-1/8 ODF	A5F-D Filter Drier	27.0	19.0	13.0	7.2	28.0	19.0	12.0	6.4
BTAS-521 S-V	2-5/8 ODF	A5F-D Filter Drier	32.0	23.0	15.0	8.8	33.0	23.0	14.0	7.8
BTAS-525 S-V	3-1/8 ODF	A5F-D Filter Drier	38.0	27.0	18.0	10.0	39.0	27.0	17.0	9.2
STAS-489 S-V	1-1/8 ODF	(1) F-48 Filter	13.0	8.0	5.0	2.0	13.0	8.0	5.0	2.0
STAS-4811 S-V	1-3/8 ODF	(1) F-48 Filter	15.0	10.0	6.0	3.0	15.0	10.0	6.0	3.0
STAS-4813 S-V	1-5/8 ODF	(1) F-48 Filter	19.0	12.0	7.0	5.0	20.0	12.0	7.0	4.0
STAS-4817 S-V	2-1/8 ODF	(1) F-48 Filter	24.0	15.0	11.0	6.0	25.0	15.0	10.0	5.0
STAS-4821 S-V	2-5/8 ODF	(1) F-48 Filter	29.0	20.0	14.0	7.0	30.0	20.0	13.0	6.0
STAS-9617 S-V	2-1/8 ODF	(2) F-48 Filter	27.0	18.0	11.0	6.0	28.0	18.0	10.0	5.0
STAS-9621 S-V	2-5/8 ODF	(2) F-48 Filter	37.0	25.0	16.0	8.0	38.0	25.0	15.0	7.0
STAS-9625 S-V	3-1/8 ODF	(2) F-48 Filter	65.0	52.0	38.0	21.0	79.0	61.0	43.0	20.0
STAS-489 S-V	1-1/8 ODF	(1) 48 cu in Core	8.0	6.0	4.0	1.0	8.0	6.0	4.0	1.0
STAS-4811 S-V	1-3/8 ODF	(1) 48 cu in Core	10.0	7.0	4.0	2.0	10.0	7.0	4.0	2.0
STAS-4813 S-V	1-5/8 ODF	(1) 48 cu in Core	13.0	8.0	5.0	3.0	13.0	8.0	5.0	3.0
STAS-4817 S-V	2-1/8 ODF	(1) 48 cu in Core	17.0	10.0	7.0	5.0	17.0	10.0	7.0	4.0
STAS-4821 S-V	2-5/8 ODF	(1) 48 cu in Core	19.0	13.0	8.0	5.0	20.0	13.0	8.0	4.0
STAS-9617 S-V	2-1/8 ODF	(2) 48 cu in Core	18.0	12.0	6.0	5.0	18.0	12.0	6.0	4.0
STAS-9621 S-V	2-5/8 ODF	(2) 48 cu in Core	24.0	17.0	11.0	6.0	25.0	17.0	10.0	5.0
STAS-9625 S-V	3-1/8 ODF	(2) 48 cu in Core	24.0	19.0	14.0	7.4	29.0	23.0	16.0	7.0

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

System Protector Capacity Tables

Take-Apart Suction Line Filter Drier Flow Capacities

Description	Connections	Filter Drier Cartridge	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²														
			R-22 /R-448A/R-449A					R-407C					R-410A				
			Evaporator Temperature (°F)														
			40	20	0	-20	-40	40	20	0	-20	-40	40	20	0	-20	-40
			Pressure Drop (PSI)														
3	2	1.5	1	0.5	3	2	1.5	1	0.5	3	2	1.5	1	0.5			
ADKS 30013T	1-5/8 ODF	(3) F-100 Filter	45.0	30.0	20.0	13.0	7.0	41.7	27.3	17.7	11.3	5.8	-	-	-	-	-
ADKS 30017T	2-1/8 ODF	(3) F-100 Filter	77.0	50.0	35.0	22.0	12.0	71.4	45.5	31.0	19.2	10.0	-	-	-	-	-
ADKS 40017T	2-1/8 ODF	(4) F-100 Filter	80.0	53.0	37.0	23.0	13.0	74.2	48.2	32.8	20.0	10.8	-	-	-	-	-
ADKS 40021T	2-5/8 ODF	(4) F-100 Filter	122.0	80.0	55.0	34.0	19.0	113.1	72.7	48.7	29.6	15.8	-	-	-	-	-
ADKS 30013T	1-5/8 ODF	(3) 100 cu in Core	35.0	23.0	16.0	10.0	5.5	32.4	20.9	14.2	8.7	4.6	-	-	-	-	-
ADKS 30017T	2-1/8 ODF	(3) 100 cu in Core	56.0	37.0	25.0	16.0	8.8	51.9	33.6	22.1	13.9	7.3	-	-	-	-	-
ADKS 40017T	2-1/8 ODF	(4) 100 cu in Core	61.0	40.0	27.0	17.0	9.5	56.5	36.4	23.9	14.8	7.9	-	-	-	-	-
ADKS 40021T	2-5/8 ODF	(4) 100 cu in Core	88.0	58.0	40.0	25.0	14.0	81.6	52.7	35.4	21.8	11.6	-	-	-	-	-
BTAS-27 S-V	7/8 ODF	A2F Filter	8.8	5.7	3.9	2.5	1.3	8.2	5.2	3.5	2.2	1.1	-	-	-	-	-
BTAS-39 S-V	1-1/8 ODF	A3F Filter	14.0	8.8	5.9	3.7	2.0	13.0	8.0	5.2	3.2	1.7	-	-	-	-	-
BTAS-311 S-V	1-3/8 ODF	A3F Filter	15.0	10.0	6.6	4.1	2.2	13.9	9.1	5.8	3.6	1.8	-	-	-	-	-
BTAS-313 S-V	1-5/8 ODF	A3F Filter	24.0	16.0	11.0	6.6	3.5	22.2	14.5	9.7	5.8	2.9	-	-	-	-	-
BTAS-317 S-V	2-1/8 ODF	A3F Filter	29.0	19.0	13.0	8.1	4.3	26.9	17.3	11.5	7.1	3.6	-	-	-	-	-
BTAS-411 S-V	1-3/8 ODF	A4F Filter	31.0	20.0	14.0	8.7	4.6	28.7	18.2	12.4	7.6	3.8	-	-	-	-	-
BTAS-413 S-V	1-5/8 ODF	A4F Filter	38.0	25.0	17.0	11.0	5.7	35.2	22.7	15.1	9.6	4.7	-	-	-	-	-
BTAS-417 S-V	2-1/8 ODF	A4F Filter	53.0	34.0	23.0	15.0	7.8	49.1	30.9	20.4	13.1	6.5	-	-	-	-	-
BTAS-421 S-V	2-5/8 ODF	A4F Filter	64.0	42.0	29.0	18.0	10.0	59.3	38.2	25.7	15.7	8.3	-	-	-	-	-
BTAS-517 S-V	2-1/8 ODF	A5F Filter	63.0	41.0	28.0	18.0	9.4	58.4	37.3	24.8	15.7	7.8	-	-	-	-	-
BTAS-521 S-V	2-5/8 ODF	A5F Filter	84.0	54.0	37.0	23.0	12.0	77.9	49.1	32.8	20.0	10.0	-	-	-	-	-
BTAS-525 S-V	3-1/8 ODF	A5F Filter	103.0	67.0	46.0	29.0	15.0	95.5	60.9	40.7	25.3	12.5	-	-	-	-	-
BTAS-25 S-V	5/8 ODF	A2F-D Filter Drier	4.6	3.0	2.0	1.3	0.7	4.3	2.7	1.8	1.1	0.6	-	-	-	-	-
BTAS-27 S-V	7/8 ODF	A2F-D Filter Drier	7.5	4.9	3.3	2.1	1.1	7.0	4.5	2.9	1.8	0.9	-	-	-	-	-
BTAS-39 S-V	1-1/8 ODF	A3F-D Filter Drier	10.0	6.3	4.3	2.7	1.4	9.3	5.7	3.8	2.4	1.2	-	-	-	-	-
BTAS-311 S-V	1-3/8 ODF	A3F-D Filter Drier	14.0	8.9	6.0	3.8	2.0	13.0	8.1	5.3	3.3	1.7	-	-	-	-	-
BTAS-313 S-V	1-5/8 ODF	A3F-D Filter Drier	20.0	13.0	8.6	5.4	2.9	18.5	11.8	7.6	4.7	2.4	-	-	-	-	-
BTAS-317 S-V	2-1/8 ODF	A3F-D Filter Drier	23.0	15.0	10.0	6.3	3.4	21.3	13.6	8.9	5.5	2.8	-	-	-	-	-
BTAS-411 S-V	1-3/8 ODF	A4F-D Filter Drier	28.0	18.0	13.0	7.8	4.2	26.0	16.4	11.5	6.8	3.5	-	-	-	-	-
BTAS-413 S-V	1-5/8 ODF	A4F-D Filter Drier	29.0	19.0	13.0	8.1	4.3	26.9	17.3	11.5	7.1	3.6	-	-	-	-	-
BTAS-417 S-V	2-1/8 ODF	A4F-D Filter Drier	43.0	28.0	19.0	12.0	6.3	39.9	25.5	16.8	10.5	5.2	-	-	-	-	-
BTAS-421 S-V	2-5/8 ODF	A4F-D Filter Drier	44.0	29.0	19.0	12.0	6.5	40.8	26.4	16.8	10.5	5.4	-	-	-	-	-
BTAS-517 S-V	2-1/8 ODF	A5F-D Filter Drier	51.0	33.0	22.0	14.0	7.5	47.3	30.0	19.5	12.2	6.2	-	-	-	-	-
BTAS-521 S-V	2-5/8 ODF	A5F-D Filter Drier	61.0	40.0	27.0	17.0	9.0	56.5	36.4	23.9	14.8	7.5	-	-	-	-	-
BTAS-525 S-V	3-1/8 ODF	A5F-D Filter Drier	72.0	47.0	32.0	20.0	11.0	66.7	42.7	28.3	17.4	9.2	-	-	-	-	-
STAS-489 S-V	1-1/8 ODF	(1) F-48 Filter	22.0	14.0	10.0	6.0	2.0	20.0	13.0	9.0	5.0	2.0	27.0	17.0	12.0	7.4	2.5
STAS-4811 S-V	1-3/8 ODF	(1) F-48 Filter	28.0	17.0	12.0	7.0	3.0	26.0	15.0	11.0	6.0	2.0	34.0	21.0	15.0	8.6	3.7
STAS-4813 S-V	1-5/8 ODF	(1) F-48 Filter	35.0	20.0	15.0	8.0	4.0	32.0	18.0	13.0	7.0	3.0	43.0	24.0	18.0	9.8	4.9
STAS-4817 S-V	2-1/8 ODF	(1) F-48 Filter	47.0	30.0	20.0	10.0	5.0	44.0	27.0	18.0	9.0	4.0	57.0	36.0	24.0	12.0	6.2
STAS-4821 S-V	2-5/8 ODF	(1) F-48 Filter	60.0	40.0	25.0	15.0	7.0	56.0	36.0	22.0	13.0	6.0	73.0	48.0	30.0	18.0	8.6
STAS-9617 S-V	2-1/8 ODF	(2) F-48 Filter	50.0	30.0	20.0	12.0	6.0	46.0	27.0	18.0	10.0	5.0	61.0	36.0	24.0	15.0	7.4
STAS-9621 S-V	2-5/8 ODF	(2) F-48 Filter	70.0	43.0	28.0	17.0	8.0	65.0	39.0	25.0	15.0	7.0	85.0	52.0	34.0	21.0	9.9
STAS-9625 S-V	3-1/8 ODF	(2) F-48 Filter	101.0	62.0	40.0	22.0	11.0	94.0	55.0	35.0	20.0	10.0	113.0	70.0	45.0	27.0	13.0
STAS-489 S-V	1-1/8 ODF	(1) 48 cu in Core	15.0	9.0	7.0	4.0	1.0	14.0	8.0	6.0	3.0	1.0	18.0	11.0	8.5	4.9	1.2
STAS-4811 S-V	1-3/8 ODF	(1) 48 cu in Core	18.0	11.0	8.0	5.0	2.0	17.0	10.0	7.0	4.0	2.0	22.0	13.0	9.7	6.1	2.5
STAS-4813 S-V	1-5/8 ODF	(1) 48 cu in Core	23.0	13.0	10.0	6.0	3.0	21.0	12.0	9.0	5.0	2.0	28.0	16.0	12.0	7.4	3.7
STAS-4817 S-V	2-1/8 ODF	(1) 48 cu in Core	31.0	20.0	13.0	7.0	3.0	29.0	18.0	12.0	6.0	2.0	38.0	24.0	16.0	8.6	3.7
STAS-4821 S-V	2-5/8 ODF	(1) 48 cu in Core	40.0	27.0	17.0	10.0	5.0	37.0	25.0	15.0	9.0	4.0	49.0	33.0	21.0	12.0	6.2
STAS-9617 S-V	2-1/8 ODF	(2) 48 cu in Core	33.0	20.0	13.0	8.0	4.0	31.0	18.0	12.0	7.0	3.0	40.0	24.0	16.0	9.8	4.9
STAS-9621 S-V	2-5/8 ODF	(2) 48 cu in Core	47.0	28.0	18.0	11.0	6.0	44.0	25.0	16.0	10.0	5.0	57.0	34.0	22.0	14.0	7.4
STAS-9625 S-V	3-1/8 ODF	(2) 48 cu in Core	38.0	30.0	24.0	17.0	7.6	35.0	27.0	24.0	15.0	6.0	43.0	35.0	28.0	20.0	11.0

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

System Protector Capacity Tables

Take-Apart Suction Line Filter Drier Flow Capacities

Description	Connections	Filter Drier Cartridge	Flow Capacity In Tons Refrigerant ¹ (For kW, Multiply Tons By 3.5) ²									
			R-502					R-404A/R-507				
			Evaporator Temperature (°F)									
			40	20	0	-20	-40	40	20	0	-20	-40
			Pressure Drop (PSI)									
3	2	1.5	1	0.5	3	2	1.5	1	0.5			
ADKS 30013T	1-5/8 ODF	(3) F-100 Filter	38.0	24.0	16.0	9.9	5.2	37.0	24.0	16.0	10.0	5.5
ADKS 30017T	2-1/8 ODF	(3) F-100 Filter	64.0	40.0	27.0	17.0	8.9	62.0	40.0	27.0	18.0	9.4
ADKS 40017T	2-1/8 ODF	(4) F-100 Filter	68.0	43.0	28.0	17.0	9.2	66.0	43.0	29.0	18.0	9.8
ADKS 40021T	2-5/8 ODF	(4) F-100 Filter	102.0	64.0	43.0	27.0	14.0	99.0	64.0	43.0	28.0	15.0
ADKS 30013T	1-5/8 ODF	(3) 100 cu in Core	30.0	19.0	12.0	7.7	4.1	29.0	19.0	13.0	8.0	4.3
ADKS 30017T	2-1/8 ODF	(3) 100 cu in Core	47.0	30.0	20.0	12.0	6.4	46.0	30.0	20.0	13.0	6.8
ADKS 40017T	2-1/8 ODF	(4) 100 cu in Core	51.0	32.0	22.0	13.0	7.0	49.0	32.0	22.0	14.0	7.4
ADKS 40021T	2-5/8 ODF	(4) 100 cu in Core	74.0	47.0	31.0	19.0	10.0	72.0	47.0	32.0	20.0	11.0
BTAS-27 S-V	7/8 ODF	A2F Filter	7.4	4.6	3.1	1.8	0.9	7.2	4.6	3.1	1.9	1.0
BTAS-39 S-V	1-1/8 ODF	A3F Filter	11.0	7.0	4.7	2.8	1.4	11.0	7.0	4.7	2.9	1.5
BTAS-311 S-V	1-3/8 ODF	A3F Filter	12.0	7.8	5.2	3.1	1.6	12.0	7.8	5.2	3.2	1.7
BTAS-313 S-V	1-5/8 ODF	A3F Filter	20.0	12.0	8.2	5.0	2.5	19.0	12.0	8.3	5.2	2.7
BTAS-317 S-V	2-1/8 ODF	A3F Filter	25.0	15.0	10.0	6.1	3.1	24.0	15.0	10.0	6.3	3.3
BTAS-411 S-V	1-3/8 ODF	A4F Filter	27.0	16.0	11.0	6.6	3.4	26.0	16.0	11.0	6.8	3.6
BTAS-413 S-V	1-5/8 ODF	A4F Filter	32.0	20.0	13.0	8.1	4.1	31.0	20.0	14.0	8.4	4.4
BTAS-417 S-V	2-1/8 ODF	A4F Filter	44.0	28.0	18.0	11.0	5.7	43.0	28.0	19.0	12.0	6.0
BTAS-421 S-V	2-5/8 ODF	A4F Filter	54.0	34.0	23.0	14.0	6.9	52.0	34.0	23.0	14.0	7.3
BTAS-517 S-V	2-1/8 ODF	A5F Filter	54.0	33.0	22.0	13.0	6.8	52.0	33.0	22.0	14.0	7.2
BTAS-521 S-V	2-5/8 ODF	A5F Filter	70.0	44.0	29.0	18.0	9.0	68.0	44.0	29.0	18.0	9.6
BTAS-525 S-V	3-1/8 ODF	A5F Filter	87.0	54.0	36.0	22.0	11.0	84.0	54.0	36.0	23.0	12.0
BTAS-25 S-V	5/8 ODF	A2F-D Filter Drier	3.9	2.4	1.6	1.0	0.5	3.8	2.4	1.6	1.0	0.5
BTAS-27 S-V	7/8 ODF	A2F-D Filter Drier	6.3	3.9	2.6	1.5	0.8	6.1	3.9	2.6	1.6	0.9
BTAS-39 S-V	1-1/8 ODF	A3F-D Filter Drier	8.1	5.1	3.4	2.0	1.0	7.9	5.1	3.4	2.1	1.1
BTAS-311 S-V	1-3/8 ODF	A3F-D Filter Drier	11.0	7.1	4.8	2.9	1.5	11.0	7.1	4.8	3.0	1.6
BTAS-313 S-V	1-5/8 ODF	A3F-D Filter Drier	16.0	10.0	6.7	4.1	2.1	16.0	10.0	6.8	4.2	2.2
BTAS-317 S-V	2-1/8 ODF	A3F-D Filter Drier	19.0	12.0	7.9	4.8	2.4	19.0	12.0	8.0	5.0	2.6
BTAS-411 S-V	1-3/8 ODF	A4F-D Filter Drier	24.0	15.0	10.0	5.9	3.0	23.0	15.0	10.0	6.1	3.2
BTAS-413 S-V	1-5/8 ODF	A4F-D Filter Drier	25.0	15.0	10.0	6.1	3.1	24.0	15.0	10.0	6.3	3.3
BTAS-417 S-V	2-1/8 ODF	A4F-D Filter Drier	36.0	22.0	15.0	9.0	4.6	35.0	22.0	15.0	9.3	4.9
BTAS-421 S-V	2-5/8 ODF	A4F-D Filter Drier	37.0	23.0	15.0	9.2	4.7	36.0	23.0	15.0	10.0	5.0
BTAS-517 S-V	2-1/8 ODF	A5F-D Filter Drier	42.0	27.0	18.0	11.0	4.7	41.0	27.0	18.0	11.0	5.0
BTAS-521 S-V	2-5/8 ODF	A5F-D Filter Drier	52.0	32.0	22.0	13.0	6.6	50.0	32.0	22.0	13.0	7.0
BTAS-525 S-V	3-1/8 ODF	A5F-D Filter Drier	61.0	38.0	25.0	15.0	7.8	59.0	38.0	25.0	16.0	8.3
STAS-489 S-V	1-1/8 ODF	(1) F-48 Filter	21.0	12.0	8.0	5.0	3.0	20.0	12.0	8.0	5.0	3.0
STAS-4811 S-V	1-3/8 ODF	(1) F-48 Filter	15.0	15.0	10.0	6.0	4.0	15.0	15.0	10.0	6.0	4.0
STAS-4813 S-V	1-5/8 ODF	(1) F-48 Filter	31.0	18.0	11.0	7.0	5.0	30.0	18.0	11.0	7.0	5.0
STAS-4817 S-V	2-1/8 ODF	(1) F-48 Filter	41.0	25.0	15.0	9.0	7.0	40.0	25.0	15.0	9.0	7.0
STAS-4821 S-V	2-5/8 ODF	(1) F-48 Filter	57.0	30.0	20.0	12.0	8.0	55.0	30.0	20.0	12.0	8.0
STAS-9617 S-V	2-1/8 ODF	(2) F-48 Filter	41.0	25.0	15.0	10.0	7.0	40.0	25.0	15.0	10.0	7.0
STAS-9621 S-V	2-5/8 ODF	(2) F-48 Filter	62.0	35.0	25.0	14.0	9.0	60.0	35.0	25.0	15.0	10.0
STAS-9625 S-V	3-1/8 ODF	(2) F-48 Filter	73.0	59.0	47.0	34.0	19.0	80.0	63.0	50.0	35.0	18.0
STAS-489 S-V	1-1/8 ODF	(1) 48 cu in Core	13.0	8.0	6.0	4.0	2.0	13.0	8.0	6.0	4.0	2.0
STAS-4811 S-V	1-3/8 ODF	(1) 48 cu in Core	18.0	10.0	6.0	4.0	3.0	17.0	10.0	6.0	4.0	3.0
STAS-4813 S-V	1-5/8 ODF	(1) 48 cu in Core	21.0	12.0	7.0	5.0	4.0	20.0	12.0	7.0	5.0	4.0
STAS-4817 S-V	2-1/8 ODF	(1) 48 cu in Core	28.0	17.0	10.0	6.0	5.0	27.0	17.0	10.0	6.0	5.0
STAS-4821 S-V	2-5/8 ODF	(1) 48 cu in Core	38.0	20.0	13.0	8.0	6.0	37.0	20.0	13.0	8.0	6.0
STAS-9617 S-V	2-1/8 ODF	(2) 48 cu in Core	28.0	17.0	11.0	7.0	5.0	27.0	17.0	11.0	7.0	5.0
STAS-9621 S-V	2-5/8 ODF	(2) 48 cu in Core	41.0	23.0	17.0	10.0	7.0	40.0	23.0	17.0	10.0	7.0
STAS-9625 S-V	3-1/8 ODF	(2) 48 cu in Core	27.0	22.0	18.0	13.0	6.7	30.0	24.0	18.0	13.0	6.5

¹ All ratings in accordance with ARI Standard 730-04.

² Example: 1.0 tons x 3.5 = 3.5 kW

A-AS Suction Accumulator Capacity Tables in Tons of Refrigeration

Description	R-134a /R-450A/R-513A					R-404A/R-507				
	-40°F	-20°F	0°F	+20°F	+40°F	-40°F	-20°F	0°F	+20°F	+40°F
A-AS 3 84	0.20	0.30	0.60	0.80	1.20	0.20	0.40	0.80	1.00	1.30
A-AS 3 105	0.30	0.50	0.80	1.20	1.70	0.40	0.60	1.20	1.60	2.00
A-AS 3 125	0.30	0.50	0.80	1.20	1.70	0.40	0.60	1.20	1.60	2.00
A-AS 3 126	0.40	0.60	1.00	1.60	2.30	0.40	0.70	1.50	2.00	2.60
A-AS 3 145	0.30	0.50	0.80	1.20	1.70	0.40	0.60	1.20	1.60	2.00
A-AS 3 146	0.40	0.60	1.00	1.60	2.30	0.40	0.70	1.50	2.00	2.60
A-AS 4 64	0.20	0.30	0.60	0.80	1.20	0.20	0.40	0.80	1.00	1.30
A-AS 4 65	0.30	0.50	0.80	1.20	1.70	0.40	0.60	1.20	1.60	2.00
A-AS 4 105	0.30	0.50	0.80	1.20	1.70	0.40	0.60	1.20	1.60	2.00
A-AS 4 106	0.40	0.60	1.00	1.60	2.30	0.40	0.70	1.50	2.00	2.60
A-AS 5 96	0.40	0.60	1.00	1.60	2.30	0.40	0.70	1.50	2.00	2.60
A-AS 5 97	0.70	1.10	1.80	2.80	4.00	0.80	1.30	2.70	3.60	4.60
A-AS 5 126	0.40	0.60	1.00	1.60	2.30	0.40	0.70	1.50	2.00	2.60
A-AS 5 127	0.70	1.10	1.80	2.80	4.00	0.80	1.30	2.70	3.60	4.60
A-AS 5 137	0.70	1.10	1.80	2.80	4.00	0.80	1.30	2.70	3.60	4.60
A-AS 5 139	1.30	2.00	3.10	5.00	7.20	1.40	2.10	4.40	5.90	7.60
A-AS 5 179	1.90	3.00	3.10	5.00	7.20	1.40	2.10	4.40	5.90	7.60
A-AS 5 1711	1.90	3.00	4.60	7.30	10.70	2.20	3.40	7.20	9.60	12.20
A-AS 6 117	0.70	1.10	1.80	2.80	4.00	0.80	1.30	2.70	3.60	4.60
A-AS 6 137	0.70	1.10	1.80	2.80	4.00	0.80	1.30	2.70	3.60	4.60
A-AS 6 139	1.30	2.00	3.10	5.00	7.20	1.40	2.10	4.40	5.90	7.60
A-AS 6 1411	1.90	3.00	4.60	7.30	10.70	2.20	3.40	7.20	9.60	12.20
A-AS 6 1713	3.00	4.80	7.30	11.70	17.00	3.30	5.10	10.70	14.20	18.20
A-AS 6 2013	3.00	4.80	7.30	11.70	17.00	3.30	5.10	10.70	14.20	18.20
A-AS 6 2513	3.00	4.80	7.30	11.70	17.00	3.30	5.10	10.70	14.20	18.20

Description	R-22 /R-448A/R-449A					R-502				
	-40°F	-20°F	0°F	+20°F	+40°F	-40°F	-20°F	0°F	+20°F	+40°F
A-AS 3 84	0.40	0.60	0.90	1.40	2.00	0.30	0.50	0.80	1.30	1.80
A-AS 3 105	0.50	0.80	1.40	2.10	3.00	0.50	0.80	1.20	1.90	2.70
A-AS 3 125	0.50	0.80	1.40	2.10	3.00	0.50	0.80	1.20	1.90	2.70
A-AS 3 126	0.72	1.10	1.80	2.80	4.00	0.60	1.00	1.60	2.50	3.50
A-AS 3 145	0.50	0.80	1.40	2.10	3.00	0.60	0.80	1.20	1.90	2.70
A-AS 3 146	0.72	1.10	1.80	2.80	4.00	0.60	1.00	1.60	2.50	3.50
A-AS 4 64	0.40	0.60	0.90	1.40	2.00	0.30	0.50	0.80	1.30	1.80
A-AS 4 65	0.50	0.80	1.40	2.10	3.00	0.50	0.80	1.20	1.90	2.70
A-AS 4 105	0.50	0.80	1.40	2.10	3.00	0.50	0.80	1.20	1.90	2.70
A-AS 4 106	0.72	1.10	1.80	2.80	4.00	0.60	1.00	1.60	2.50	3.50
A-AS 5 96	0.72	1.10	1.80	2.80	4.00	0.60	1.00	1.60	2.50	3.50
A-AS 5 97	1.30	2.00	3.30	5.10	7.30	1.10	1.70	2.80	4.30	6.20
A-AS 5 126	0.72	1.10	1.80	2.80	4.00	0.60	1.00	1.60	2.50	3.50
A-AS 5 127	1.30	2.00	3.30	5.10	7.30	1.10	1.70	2.80	4.30	6.20
A-AS 5 137	1.30	2.00	3.30	5.10	7.30	1.10	1.70	2.80	4.30	6.20
A-AS 5 139	2.10	3.30	5.30	8.30	11.80	1.90	2.90	4.60	7.10	10.20
A-AS 5 179	2.10	3.30	5.30	8.30	11.80	1.90	2.90	4.60	7.10	10.20
A-AS 5 1711	3.40	5.30	8.50	13.20	18.80	3.00	4.60	7.40	11.60	16.50
A-AS 6 117	1.30	2.00	3.30	5.10	7.30	1.10	1.70	2.80	4.30	6.20
A-AS 6 137	1.30	2.00	3.30	5.10	7.30	1.10	1.70	2.80	4.30	6.20
A-AS 6 139	2.10	3.30	5.30	8.30	11.80	1.90	2.90	4.60	7.10	10.20
A-AS 6 1411	3.40	5.30	8.50	13.20	18.80	3.00	4.60	7.40	11.60	16.50
A-AS 6 1713	5.10	8.00	12.80	20.00	28.50	4.40	6.90	11.00	17.20	24.50
A-AS 6 2013	5.10	8.00	12.80	20.00	28.50	4.40	6.90	11.00	17.20	24.50
A-AS 6 2513			12.80	20.80	28.50	4.40	6.90	11.00	17.20	24.50

The maximum capacity in tons recommended is based on a pressure drop through the accumulator equivalent to 1.0°F.

- Note:**
- 1) The minimum system capacity in tons must be no less than 15% of the stated capacity in order to ensure a positive return of oil.
 - 2) All of the data is based on tons of refrigeration and is not related to horsepower.
 - 3) Minimum evaporator temperature of -40°F. Minimum temperature of the suction gas through the accumulator is 12°F.

How to Calculate DCFM Charge

Example:
 System: 9.5 tons, R-404A
 Evaporator Temperature: 25°F
 Condensing Temperature: 115°F

Example:

$$0.618 \frac{\text{DCFM}}{\text{ton}} \times 9.5 \text{ ton} = 5.871 \text{ CFM}$$

Oil Separator selected: AF-58877

DCFM = Cubic feet per minute

In the table for R-404A, search for the value corresponding to the temperatures of evaporation and condensation. This is the DCFM/ton factor. At 25°F evaporator temperature and 115°F condensing temperature, the DCFM/ton is .618. Multiply this by the system tonnage. Use the resulting value to select the proper oil separator. DCFM values can be found on the oil separator catalog pages. Select an oil separator with a capacity greater than or equal to the value obtained.

Note: The connection of the separator must never be less than the diameter of the discharge line.

		R-22								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.633	0.659	0.687	0.717	0.750	0.786	0.824	0.865	0.910
	-35	0.626	0.652	0.680	0.710	0.743	0.778	0.816	0.857	0.902
	-30	0.619	0.645	0.673	0.704	0.736	0.771	0.809	0.850	0.894
	-25	0.613	0.639	0.667	0.697	0.729	0.764	0.802	0.843	0.887
	-20	0.607	0.633	0.660	0.690	0.723	0.758	0.795	0.836	0.880
	-15	0.601	0.626	0.654	0.684	0.716	0.751	0.788	0.829	0.873
	-10	0.595	0.621	0.648	0.678	0.710	0.745	0.782	0.822	0.866
	-5	0.589	0.615	0.642	0.672	0.704	0.739	0.776	0.816	0.859
	0	0.584	0.609	0.637	0.666	0.698	0.733	0.770	0.809	0.853
	5	0.578	0.604	0.631	0.661	0.693	0.727	0.764	0.803	0.846
	10	0.573	0.599	0.626	0.656	0.687	0.721	0.758	0.797	0.840
	15	0.568	0.594	0.621	0.650	0.682	0.716	0.752	0.792	0.834
	20	0.564	0.589	0.616	0.645	0.677	0.710	0.747	0.786	0.828
	25	0.559	0.584	0.611	0.640	0.672	0.705	0.742	0.781	0.823
	30	0.555	0.580	0.607	0.636	0.667	0.700	0.736	0.775	0.817
	35	0.550	0.575	0.602	0.631	0.662	0.696	0.732	0.770	0.812
40	0.546	0.571	0.598	0.627	0.658	0.691	0.727	0.765	0.807	
45	0.542	0.567	0.594	0.623	0.653	0.687	0.722	0.761	0.802	

		R-404A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.751	0.759	0.771	0.787	0.807	0.830	0.856	0.885	0.918
	-35	0.731	0.740	0.753	0.770	0.790	0.814	0.840	0.870	0.903
	-30	0.712	0.722	0.736	0.754	0.775	0.798	0.825	0.855	0.888
	-25	0.694	0.705	0.720	0.738	0.760	0.784	0.811	0.841	0.874
	-20	0.677	0.689	0.705	0.724	0.745	0.770	0.797	0.827	0.860
	-15	0.661	0.674	0.691	0.710	0.731	0.756	0.783	0.814	0.847
	-10	0.646	0.660	0.677	0.696	0.718	0.743	0.771	0.801	0.834
	-5	0.632	0.646	0.664	0.683	0.706	0.731	0.758	0.789	0.822
	0	0.618	0.633	0.651	0.671	0.694	0.719	0.747	0.777	0.810
	5	0.605	0.621	0.639	0.659	0.682	0.708	0.735	0.766	0.799
	10	0.593	0.609	0.628	0.648	0.671	0.697	0.725	0.755	0.788
	15	0.581	0.598	0.617	0.638	0.661	0.686	0.714	0.745	0.778
	20	0.570	0.587	0.606	0.628	0.651	0.676	0.704	0.735	0.768
	25	0.560	0.577	0.596	0.618	0.641	0.667	0.695	0.725	0.758
	30	0.550	0.568	0.587	0.609	0.632	0.658	0.686	0.716	0.749
	35	0.540	0.558	0.578	0.600	0.623	0.649	0.677	0.707	0.740
40	0.532	0.550	0.570	0.591	0.615	0.641	0.669	0.699	0.732	
45	0.523	0.542	0.562	0.583	0.607	0.633	0.661	0.691	0.723	

		R-407C								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.669	0.695	0.722	0.753	0.786	0.822	0.862	0.905	0.952
	-35	0.659	0.684	0.712	0.743	0.776	0.812	0.851	0.894	0.941
	-30	0.649	0.674	0.702	0.733	0.766	0.802	0.841	0.884	0.930
	-25	0.640	0.665	0.693	0.723	0.756	0.792	0.831	0.874	0.920
	-20	0.630	0.656	0.684	0.714	0.747	0.782	0.821	0.864	0.910
	-15	0.621	0.647	0.675	0.705	0.738	0.773	0.812	0.854	0.900
	-10	0.613	0.638	0.666	0.696	0.729	0.764	0.803	0.845	0.891
	-5	0.605	0.630	0.658	0.688	0.720	0.756	0.794	0.836	0.882
	0	0.597	0.622	0.650	0.680	0.712	0.748	0.786	0.828	0.873
	5	0.589	0.614	0.642	0.672	0.704	0.740	0.778	0.819	0.864
	10	0.582	0.607	0.635	0.664	0.697	0.732	0.770	0.811	0.856
	15	0.575	0.600	0.627	0.657	0.689	0.724	0.762	0.803	0.848
	20	0.568	0.593	0.620	0.650	0.682	0.717	0.755	0.796	0.840
	25	0.561	0.586	0.614	0.643	0.675	0.710	0.748	0.788	0.833
	30	0.555	0.580	0.607	0.637	0.669	0.703	0.741	0.781	0.825
	35	0.549	0.574	0.601	0.631	0.662	0.697	0.734	0.774	0.818
40	0.543	0.568	0.595	0.625	0.656	0.691	0.728	0.768	0.812	
45	0.537	0.563	0.590	0.619	0.650	0.685	0.722	0.762	0.805	

		R-448A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.662	0.684	0.709	0.736	0.766	0.799	0.835	0.875	0.917
	-35	0.651	0.673	0.698	0.725	0.756	0.788	0.824	0.863	0.906
	-30	0.640	0.663	0.688	0.715	0.745	0.778	0.814	0.853	0.895
	-25	0.630	0.652	0.677	0.705	0.735	0.768	0.803	0.842	0.885
	-20	0.620	0.642	0.668	0.695	0.725	0.758	0.793	0.832	0.874
	-15	0.610	0.633	0.658	0.686	0.716	0.748	0.784	0.822	0.864
	-10	0.601	0.624	0.649	0.677	0.706	0.739	0.774	0.813	0.855
	-5	0.592	0.615	0.640	0.668	0.698	0.730	0.765	0.804	0.845
	0	0.583	0.607	0.632	0.659	0.689	0.722	0.757	0.795	0.836
	5	0.575	0.599	0.624	0.651	0.681	0.713	0.748	0.786	0.828
	10	0.568	0.591	0.616	0.643	0.673	0.705	0.740	0.778	0.819
	15	0.560	0.583	0.609	0.636	0.666	0.698	0.732	0.770	0.811
	20	0.553	0.576	0.601	0.629	0.658	0.690	0.725	0.762	0.803
	25	0.546	0.569	0.594	0.622	0.651	0.683	0.718	0.755	0.796
	30	0.539	0.563	0.588	0.615	0.644	0.676	0.711	0.748	0.788
	35	0.533	0.556	0.581	0.609	0.638	0.670	0.704	0.741	0.781
40	0.527	0.550	0.575	0.602	0.632	0.663	0.697	0.734	0.774	
45	0.521	0.544	0.569	0.596	0.626	0.657	0.691	0.728	0.768	

		R-507A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.747	0.753	0.763	0.777	0.795	0.816	0.841	0.869	0.900
	-35	0.726	0.733	0.745	0.760	0.778	0.800	0.825	0.853	0.884
	-30	0.707	0.715	0.727	0.743	0.762	0.784	0.810	0.838	0.869
	-25	0.688	0.698	0.711	0.727	0.747	0.770	0.795	0.824	0.855
	-20	0.671	0.681	0.695	0.712	0.733	0.755	0.781	0.810	0.841
	-15	0.654	0.666	0.680	0.698	0.719	0.742	0.768	0.797	0.828
	-10	0.638	0.651	0.666	0.685	0.705	0.729	0.755	0.784	0.816
	-5	0.624	0.637	0.653	0.672	0.693	0.716	0.743	0.772	0.803
	0	0.610	0.624	0.640	0.659	0.681	0.705	0.731	0.760	0.792
	5	0.596	0.611	0.628	0.647	0.669	0.693	0.720	0.749	0.780
	10	0.584	0.599	0.617	0.636	0.658	0.682	0.709	0.738	0.770
	15	0.572	0.588	0.606	0.625	0.647	0.672	0.698	0.727	0.759
	20	0.561	0.577	0.595	0.615	0.637	0.662	0.688	0.718	0.749
	25	0.550	0.567	0.585	0.605	0.628	0.652	0.679	0.708	0.740
	30	0.540	0.557	0.576	0.596	0.619	0.643	0.670	0.699	0.731
	35	0.531	0.548	0.567	0.587	0.610	0.634	0.661	0.690	0.722
	40	0.528	0.545	0.564	0.585	0.607	0.632	0.659	0.688	0.719
45	0.513	0.531	0.550	0.571	0.594	0.618	0.645	0.674	0.705	

		R-410A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.397	0.415	0.433	0.453	0.475	0.498	0.523	0.549	0.578
	-35	0.392	0.410	0.429	0.449	0.470	0.493	0.518	0.544	0.573
	-30	0.388	0.405	0.424	0.444	0.465	0.488	0.513	0.539	0.568
	-25	0.383	0.401	0.419	0.439	0.461	0.484	0.508	0.535	0.563
	-20	0.379	0.397	0.415	0.435	0.456	0.479	0.504	0.530	0.559
	-15	0.375	0.392	0.411	0.431	0.452	0.475	0.500	0.526	0.554
	-10	0.371	0.388	0.407	0.427	0.448	0.471	0.495	0.522	0.550
	-5	0.367	0.385	0.403	0.423	0.444	0.467	0.491	0.518	0.546
	0	0.364	0.381	0.400	0.420	0.441	0.463	0.488	0.514	0.542
	5	0.360	0.378	0.396	0.416	0.437	0.460	0.484	0.510	0.538
	10	0.357	0.374	0.393	0.413	0.434	0.456	0.480	0.506	0.534
	15	0.354	0.371	0.390	0.410	0.431	0.453	0.477	0.503	0.531
	20	0.351	0.368	0.387	0.406	0.427	0.450	0.474	0.500	0.527
	25	0.348	0.365	0.384	0.404	0.425	0.447	0.471	0.496	0.524
	30	0.345	0.363	0.381	0.401	0.422	0.444	0.468	0.494	0.521
	35	0.343	0.360	0.379	0.398	0.419	0.441	0.465	0.491	0.518
	40	0.340	0.358	0.376	0.396	0.417	0.439	0.463	0.488	0.516
45	0.338	0.356	0.374	0.394	0.414	0.437	0.460	0.486	0.513	

		R-449A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.622	0.648	0.676	0.707	0.739	0.774	0.812	0.853	0.898
	-35	0.614	0.640	0.668	0.698	0.730	0.765	0.803	0.844	0.888
	-30	0.606	0.632	0.659	0.689	0.722	0.757	0.794	0.835	0.879
	-25	0.598	0.624	0.651	0.681	0.713	0.748	0.785	0.826	0.869
	-20	0.590	0.616	0.644	0.673	0.705	0.740	0.777	0.817	0.860
	-15	0.583	0.608	0.636	0.666	0.697	0.732	0.769	0.808	0.851
	-10	0.576	0.601	0.629	0.658	0.690	0.724	0.760	0.800	0.843
	-5	0.569	0.594	0.621	0.651	0.682	0.716	0.753	0.792	0.835
	0	0.562	0.587	0.615	0.644	0.675	0.709	0.745	0.784	0.827
	5	0.556	0.581	0.608	0.637	0.668	0.702	0.738	0.777	0.819
	10	0.549	0.575	0.601	0.630	0.661	0.695	0.731	0.769	0.811
	15	0.543	0.568	0.595	0.624	0.655	0.688	0.724	0.762	0.804
	20	0.538	0.563	0.589	0.618	0.648	0.682	0.717	0.755	0.797
	25	0.532	0.557	0.583	0.612	0.642	0.675	0.711	0.749	0.790
	30	0.527	0.551	0.578	0.606	0.636	0.669	0.704	0.742	0.783
	35	0.521	0.546	0.572	0.600	0.631	0.663	0.698	0.736	0.777
	40	0.516	0.541	0.567	0.595	0.625	0.658	0.692	0.730	0.771
45	0.512	0.536	0.562	0.590	0.620	0.652	0.687	0.724	0.765	

		R-134A								
		Oil Separator DCFM/Ton Factor								
		Condensing Temperature (°F)								
		130	125	120	115	110	105	100	95	90
Evaporating Temperature (°F)	-40	0.998	1.032	1.070	1.113	1.159	1.210	1.266	1.328	1.395
	-35	0.980	1.015	1.053	1.095	1.141	1.192	1.248	1.310	1.377
	-30	0.963	0.998	1.036	1.078	1.124	1.175	1.231	1.292	1.359
	-25	0.946	0.981	1.019	1.062	1.108	1.158	1.214	1.275	1.341
	-20	0.930	0.965	1.004	1.046	1.092	1.142	1.197	1.258	1.324
	-15	0.915	0.950	0.988	1.030	1.076	1.126	1.181	1.241	1.307
	-10	0.900	0.935	0.973	1.015	1.061	1.111	1.166	1.226	1.291
	-5	0.886	0.921	0.959	1.001	1.047	1.096	1.151	1.210	1.275
	0	0.872	0.907	0.945	0.987	1.032	1.082	1.136	1.195	1.260
	5	0.859	0.894	0.932	0.973	1.019	1.068	1.122	1.181	1.245
	10	0.846	0.881	0.919	0.960	1.006	1.055	1.108	1.167	1.231
	15	0.834	0.869	0.906	0.948	0.993	1.042	1.095	1.153	1.217
	20	0.822	0.857	0.894	0.936	0.980	1.029	1.082	1.140	1.203
	25	0.810	0.845	0.883	0.924	0.968	1.017	1.070	1.127	1.190
	30	0.799	0.834	0.871	0.912	0.957	1.005	1.057	1.115	1.177
	35	0.789	0.823	0.861	0.901	0.945	0.993	1.046	1.103	1.165
	40	0.778	0.813	0.850	0.890	0.934	0.982	1.034	1.091	1.153
45	0.768	0.803	0.840	0.880	0.924	0.971	1.023	1.080	1.141	

High Efficiency Centrifugal Oil Separator

Oil Controls

The High Efficiency Centrifugal Oil Separator is used in ultra-low temperature systems with long refrigerant lines or inherent oil return problems. It is also used on multiple compressor racks for supermarkets and air conditioning systems for use with CFCs, HCFCs, HFCs, and their lubricants. Suitable for use with R-410A.



Features

- Internal oil collection screen
- Hermetic welded or accessible bolted flange construction
- Corrosion resistant epoxy powder paint
- High efficiency (99%) centrifugal separation
- R-410A pressure rated

Specifications

- Maximum working pressure: 450 psi - flanged models*
600 psi - welded models*
- UL/CUL file number: SA8547

Nomenclature example: A-FC 8241717H

A	F	C	8	24	17	17	H
Series	F = Flanged W = Welded	Centrifugal	Diameter (in)	Length (in)	Inlet Connection in 1/8"	Outlet Connection in 1/8"	5" Legs Standard H = 10" Legs

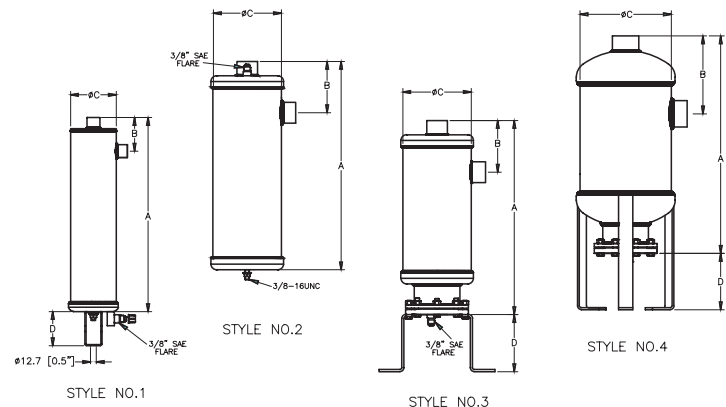
Replacement Parts

PCN	Part	Contains
065847	Float Assembly Kit*	Flange w/intergral float ass'y and flange gasket
065849	Gasket Kit	Flange gasket

*Repairs AC & R series S1900 Standard and 5200 Helical Oil Separators

Ordering Information

PCN	Description	Solder Connection Size	Dimensions			
			A	B	C	D
065895*	A-WC 41777	7/8	17.01	2.95	4.00	2.95
065896*	A-WC 41999	1 1/8	19.02	3.07		
066094*	A-WC 6181111	1 3/8	18.26	4.05	6.0	
066095*	A-WC 6181313	1 5/8		4.63		
066096*	A-WC 6181717	2 1/8	18.38	4.76	6.0	5.00
065930	A-FC 6221111	1 3/8	17.00	3.94		
065931	A-FC 6221111H			4.53	5.00	
065362	A-FC 6221313	1 5/8	17.00	4.53	6.0	10.00
065932	A-FC 6221313H					10.00
065933	A-FC 6221717	2 1/8	17.13	4.65	6.0	5.00
065934	A-FC 6221717H					10.00
065276	A-FC 8241717	2 1/8	19.06	6.83	8.0	5.00
065935	A-FC 8241717H					10.00
065936	A-FC 10272121	2 5/8	22.10	6.11	10.00	5.00
065937	A-FC 10272121H					10.00
065938	A-FC 12302525H	3 1/8	25.10	7.05	12.00	10.00



Capacity Table

Description	Solder Connection Size (ODF)	Style Number	Shell O.D.	Maximum Capacity of Refrigeration at Evaporator Temperature																Discharge Maximum CFM	Oil Pre-Charge Amount (oz.)	Replaceable Float PCN
				R-134a /R-450A/R-513A				R-22/407C/ R-448A/R-449A				R404A/507				R-410A						
				-40F		+40F		-40F		+40F		-40F		+40F		-40F		+40F				
				Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW			
A-WC 41777	7/8"	1	4"	5.1	18.1	6.3	22.1	7.4	26.2	8.9	31.2	7.1	25.0	9.4	32.9	12.2	42.8	13.8	48.3	6.74	17	N/A
A-WC 41999	1 1/8"			8.8	31.0	10.8	38.0	12.8	44.9	15.2	53.6	12.2	42.8	16.1	56.4	20.9	73.4	23.7	83.3	11.55		
A-WC 6181111	1 3/8"	2	6"	12.2	42.8	14.9	52.4	17.6	61.9	21.0	73.9	16.8	15.1	22.1	77.9	28.8	101.2	32.7	114.9	15.94	21	065847
A-WC 6181313	1 5/8"			18.7	65.6	22.8	80.3	27.0	94.8	32.2	113.2	25.8	90.6	33.9	119.3	44.1	155.1	50.1	176.0	24.42		
A-WC 6181717	2 1/8"	3	6"	23.9	84.0	29.2	102.8	34.5	121.4	41.2	145.0	33.0	116.0	43.5	152.8	56.5	198.6	64.1	225.4	31.26	Not Available	065847
A-FC 6221111	1 3/8"			12.2	42.8	14.9	52.4	17.6	61.9	21.0	73.9	16.8	59.1	22.1	77.9	15.94						
A-FC 6221111H	1 5/8"	3	6"	18.7	65.6	22.8	80.3	27.0	94.8	32.2	113.2	25.8	90.6	33.9	119.3	24.42						
A-FC 6221313				23.9	84.0	29.2	102.8	34.5	121.4	41.2	145.0	33.3	116.0	43.5	152.8	24.42						
A-FC 6221313H	2 1/8"	3	6"	23.9	84.0	29.2	102.8	34.5	121.4	41.2	145.0	33.3	116.0	43.5	152.8	31.26						
A-FC 6221717				29.1	102.3	35.6	125.1	42.0	147.8	50.2	176.5	40.1	141.2	52.9	186.1	31.26						
A-FC 6221717H	2 5/8"	4	8"	29.1	102.3	35.6	125.1	42.0	147.8	50.2	176.5	40.1	141.2	52.9	186.1	38.06						
A-FC 8241717				50.5	177.5	61.7	217.1	72.9	256.5	87.1	306.3	69.7	245.0	91.8	322.8	38.06						
A-FC 8241717H	3 1/8"	4	10"	50.5	177.5	61.7	217.1	72.9	256.5	87.1	306.3	69.7	245.0	91.8	322.8	66.05						
A-FC10272121				66.05																		
A-FC 10272121H	67.9	238.9	83.1	292.1	98.1	345.2	117.2	412.2	93.7	329.7	123.5	434.4	66.05									
A-FC 12302525H	88.87	N/A																				

A-W & A-F Oil Separators

The A-W and A-F are used for multiple compressor racks in supermarkets and air conditioning systems for use with HCFCs, HFCs and their lubricants.

Features

- Hermetic welded or accessible bolted flange construction
- Solid copper connections
- Corrosion resistant epoxy powder paint



Nomenclature example: AW 5582 4

A	W	5582	4
Series	W = Welded F = Flanged	Model Number	Connection Size (in 1/8")

Specifications

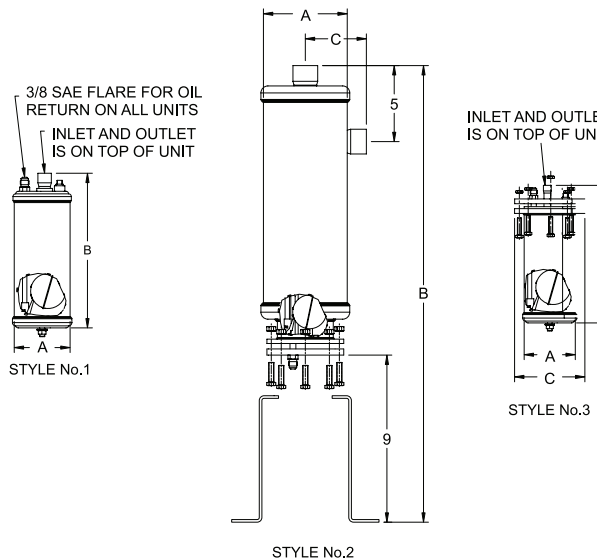
- Maximum working pressure: 450 psi
- UL/CUL file number: SA10468

Ordering Information* and Capacity Table

Description				R-12				R-22/R-407C /R-450A/ R-513A				R-502				R-134a /R-448A/ R-449A				R-404A/R-507			
FLANGED	PCN	SEALED	PCN	-40 F/C		40F (4C)		-40F/C		40F (4C)		-40F/C		40F (4C)		-40F/C		40F (4C)		-40F/C		40F (4C)	
				Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
A-F 58824	060877	A-W 55824	060933	1	3.5	1.5	5.3	1.5	5.3	2	7.1	1.5	5.3	2	7.08	1	3.5	1.8	6.2	1.5	5.3	2	7.0
A-F 58855	060878	A-W 55855	060934	3	10.6	4	14.2	4.5	15.9	5.5	19.5	4.8	16.8	5.8	20.4	3.3	11.5	4.5	15.9	4	14.2	5.5	19.0
A-F 58877	060879	A-W 55877	060931	4.5	15.9	5.5	19.5	7	24.8	8	28.3	7.5	26.6	8.5	30.1	4.8	16.8	6.5	23	6.5	23	8.5	30.0
A-F 58889	060759	A-W 55889	060974	6	21.2	7.5	26.6	9	31.9	11	37.2	9.5	33.6	11.5	40.7	6.5	23	8.5	30.1	8.5	30.1	11	38.0
A-F 589011	060760	A-W 559011	060930	7.5	26.6	10	35.4	11.5	40.7	14	47.8	12	42.5	14.5	51.3	8	28.3	11.5	40.7	10.5	37.2	14	49.0
A-F 589213	060761	A-W 559213	060975	9	31.9	11.5	40.7	14	49.6	18	62	16	56.6	17.5	62	9.5	33.6	13.3	46.9	14	49.6	17	60.0
-	-	A-W 569011	060978	9	31.7	12	42.3	13	45.8	14	49.8	15	52.8	20	70.4	9.5	33.4	13.7	48.2	11	38.7	19	66.9
A-F 579213	060875	A-W 569213	060979	11	38.9	14	49.6	16	56.6	18	63.7	20	70.8	24	85	11.8	41.6	16	56.6	17.5	62	23	81
A-F 579417	060876	A-W 569417	060980	17	60.2	22	77.9	25	88.5	30	106	30	106	35	124	18	63.7	25.6	89.4	26	92.	34	121

*See replacement parts page. Repair kits for style 2 only.

Dimensional Data



Seal Units: A-W

Description	Style No.	Connection Size	Dimensions (in)		Replaceable Float PCN	Discharge Maximum CFM	Oil Pre-charge Amount (oz)
			A	B			
A-W 55824	1	1/2 ODF	4.0	10.75	N/A	1.49	17
A-W 55855		5/8 ODF		13.2		3.42	
A-W 55877		7/8 ODF		15.0		6.05	
A-W 55889		1-1/8 ODF		16.25		8.28	
A-W 559011		1-3/8 ODF		19.5		9.99	
A-W 559213		1-5/8 ODF		19.88		10.66	
A-W 569011	2	1-3/8 ODF	6.0	15.75	N/A	12.27	20
A-W 569213		1-5/8 ODF		19.0		14.51	
A-W 569417		2-1/8 ODF		19.5		21.29	

Flanged Units: A-F

Description	Style No.	Connection Size	Dimensions (in)			Replaceable Float PCN	Discharge Maximum CFM	Oil Pre-charge Amount (oz)
			A	B	C			
A-F 58824	3	1/2 ODF	4.0	10.5	5.5	N/A	1.49	17
A-F 58855		5/8 ODF		15.0			3.42	
A-F 58877		7/8 ODF		18.0			6.05	
A-F 58889		1 1/8 ODF		21.25			8.28	
A-F 589011		1 3/8 ODF		21.37			9.99	
A-F 589213		1 5/8 ODF		21.75			10.66	
A-F 579213	2	1 5/8 ODF	6.0	20.12	4.37	065847	23.93	21
A-F 579417		2 1/8 ODF		20.31			4.63	

The A-WZ is used for multiple compressor racks in supermarkets and air conditioning systems for use with HCFCs, HFCs and their lubricants. Suitable for use with R-410A. The 6" model can also be used for CO₂ (R-744)



Features

- Hermetic welded construction
- Nickel plated steel connections
- Corrosion resistant epoxy powder paint

Specifications

- Maximum working pressure: 4 in shell = 600 psig
6 in shell = 680 psig
- UL/CUL file number: SA8547
- CE marked per PED 97/23EC

Nomenclature example: A-WZ 55824

A	WZ	5582	4
Series	W = Welded	Model Number	Connection Size (in 1/8")

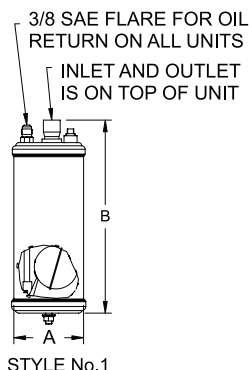
Ordering Information and Capacity Table

PCN	Description	Solder Connection Size (ODF) (in.)	Shell OD (in.)	Length (in.)	Maximum Capacity of Refrigeration at Evaporator Temperature																Discharge Maximum CFM	Oil Pre-charge Amount (oz.)	
					R-134a /R-450A/R-513A				R-22/R-407C R-448A/ R-449A				R-404A/R-507				R-410A						R-744
					-40F/C		40F (4C)		-40F/C		40F (4C)		-40F/C		40F (4C)		-40F/C		40F (4C)				
					Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW			
066135	A-WZ 55824	1/2	4	10.88	1	3.5	1.8	6.2	1.5	5.3	2	7.1	1.5	5.3	2	7.0	2.7	9	3.1	11		1.49	17
066136	A-WZ 55855	5/8		13.31	3.3	11.5	4.5	15.9	4.5	15.9	5.5	19.5	4	14.2	5.5	19.0	7.4	26	8.4	29		3.42	
066137	A-WZ 55877	7/8		15.13	4.8	16.8	6.5	23	7	24.8	8	28.3	6.5	23	8.5	30.0	11	38	12	43		6.05	
066138	A-WZ 55889	1 1/8		16.38	6.5	23	8.5	30.1	9	31.9	11	37.2	8.5	30.1	11	38.0	15	52	17	59		8.28	
066139	A-WZ 559011	1 3/8		19.63	8	28.3	11.5	40.7	11.5	40.7	14	47.8	10.5	37.2	14	49.0	19	66	21	75		9.99	
066140	A-WZ 56909	1 1/8	6"	15.50	9.5	33.6	13.3	46.9	13	45.8	14	49.8	11	38.7	19	66.9	18	62	20	70		10.05	25
066141	A-WZ 569011	1 3/8		15.75	9.5	33.4	13.7	48.2	14	49.6	18	62	14	49.6	17	60.0	19	66	21	75		12.27	
066142	A-WZ 56929	1 1/8		18.50	11.8	41.6	16	56.6	16	56.6	18	63.7	17.5	62	23	81	18	64	21	72		14.51	
066143	A-WZ 569213	1 5/8		18.50	18	63.7	25.6	89.4	25	88.5	30	106	26	92.	34	121	24	85	28	96		21.29	

6" inch models are available for use with CO₂ (R-744)

Note: Capacities for CO₂ (R-744) are based on 20° F condensing temperature. Capacities for all other refrigerants are at 100° F condensing temperature.

Dimensional Data



The AOR oil reservoir is a holding vessel for stand-by oil necessary for the operation of commercial refrigeration systems. It is a direct replacement of popular competitive models.

Features

- Two sight glasses with floating ball indicators - 2 gallon model
- Three sight glasses with floating ball indicators - 4 gallon model
- 3/8" flare rotolock valves on top and bottom
- Corrosion resistant epoxy powder paint finish
- Standard mounting stud 3/8 x 16 TPI



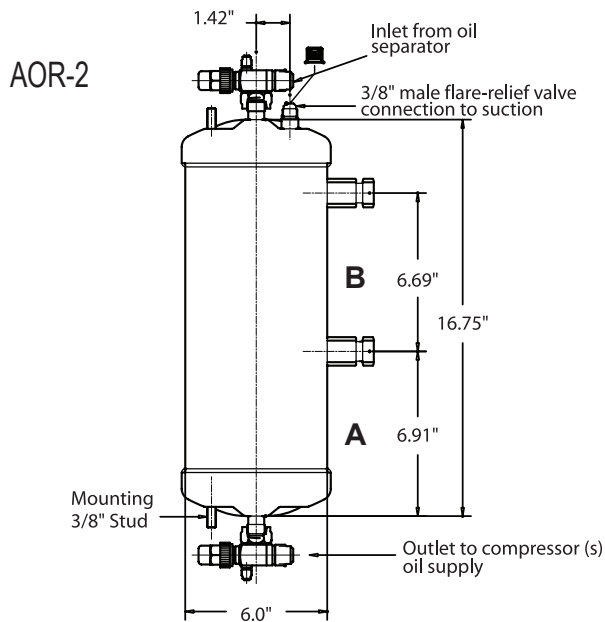
Nomenclature example: AOR-3

AOR	3
Series	Gallons

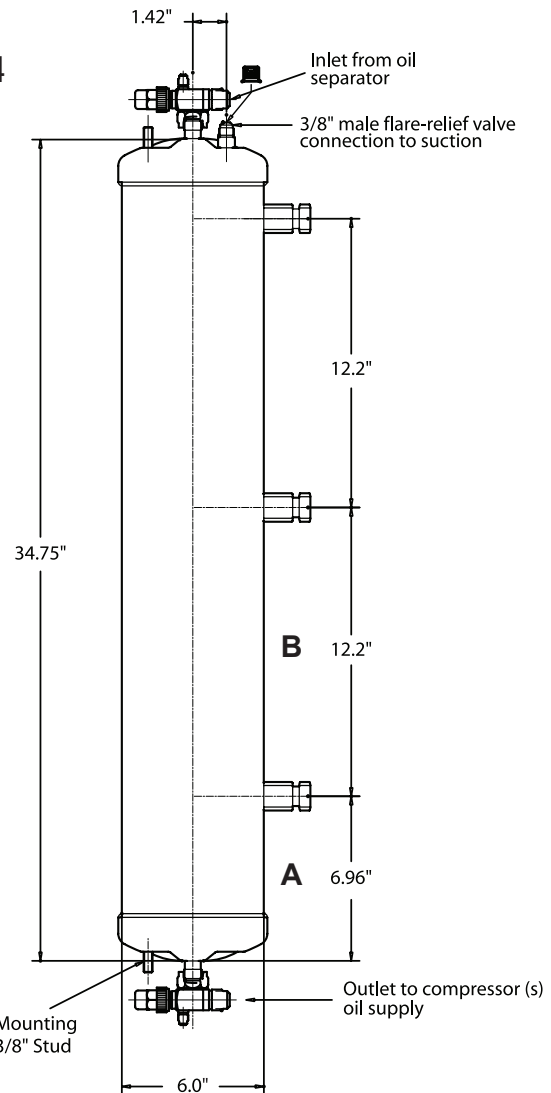
Specifications

- Maximum working pressure: 450 psi
- UL/CUL file number: SA8547

Dimensional Data



AOR-4



Ordering Information

PCN	Description	Total Volume Gallons	A Level Volume (gals)	B Level Volume (gals)	Length (in)	Number of sight glasses
064950	AOR-2	2	3/4	1-2/3	20"	2
065981	AOR-3	3	2/3	2-2/3	31"	3
064951	AOR-4	4	1-1/2	3-3/4	38"	

Replacement Parts for AOR Oil Reservoirs

PCN	Part	Contains
066002	Mounting Kit	Mounting brackets, self-tapping bolts and mounting stud nuts

Highly Recommended for Scroll Compressors

The AOF is designed to protect the compressor from dirt and all solid contaminants including metallic magnetic particles. It is ideal for use with compressors that require a 4 micron or higher filtration rating.



Features

- Corrosion resistant epoxy powder paint finish
- 3/8" SAE connections for easy installation in oil lines
- 100% efficient to 4 micron particles; 99% efficient to 3 micron particles
- Compatible with all oils
- High debris capacity with low pressure drop

Specifications

- Maximum working pressure: 680 psig
- UL/CUL file number: SA 3124

Ordering Information

PCN	Description	Lay-in	Diameter
064952	AOF 303	9.63	3.06

AOF High Efficiency Take-Apart Oil Filter

The AOF is designed to protect the compressor from dirt and all solid contaminants including metallic magnetic particles. It is ideal for burnout/clean-up situations.



Features

- Compatible with all oils
- Solid copper connections
- Quick change filter cartridge
- Corrosion resistant epoxy powder paint finish
- 100% efficient to 4 micron particles; 99% efficient to 3 micron particles
- 3/8 ODF connections
- Quick removal cover design simplifies filter replacement
- High debris capacity with low pressure drop

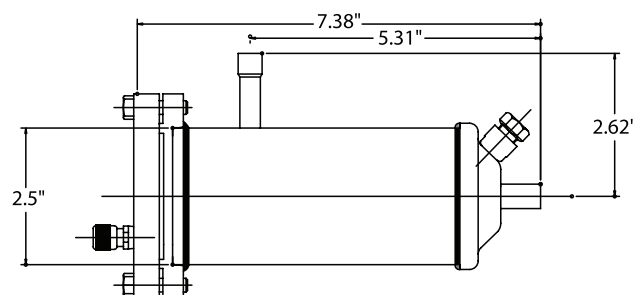
Specifications

- Maximum working pressure: 450 psig
- UL/CUL file number: SA 7175

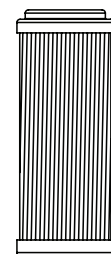
Ordering Information

PCN	Description
062784	AOF 023S*
064799	FO23 Cartridge

*Cartridge not included



AOF 023S
Take-Apart OIL
FILTER



F 023
REPLACEABLE
FILTER CARTRIDGE

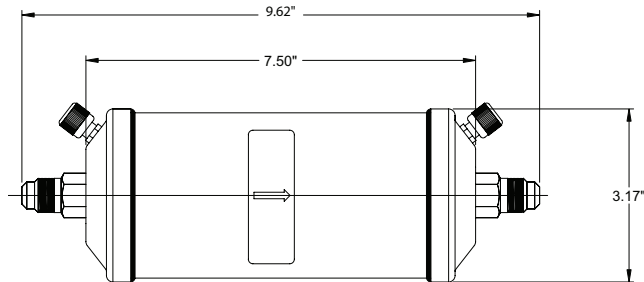
The AOFD is designed specifically for refrigerant systems that use POE oil. POE oil is hygroscopic in nature, which means that it attracts and absorbs water. Moisture in a closed system can produce acid and will harm the compressor. The AOFD protects compressors by removing moisture and trapping contaminants.



Features

- Designed to clean and dry POE Oil
- 3/8" male flare connections for easy replacement
- 3 micron filtration for optimum oil cleaning
- Large filter surface area to provide maximum filtration
- Contains desiccant for moisture removal
- Designed to operate at a very low pressure drop
- Dual access valves for pressure drop monitoring

Dimensional Data



Specifications

- UL/CUL file number: SA7175
- Maximum working pressure: 680 psig

AOFD Water Capacity Table

Refrigerant Type	Drops @ 125°F
R-22	497
R-134A	518
R-404A	518
R-407C/R-410A	435
R-744	563

Ordering Information

PCN	Description
062829	AOFD 553 Oil Filter Drier

The OMB is a compressor crankcase oil level protective control ideal for use with Copeland Scroll™ models ZF, ZB, ZR and ZS. It is also recommended for Copeland™ brand products, Carlyle, Bitzer and other semi-hermetic compressors.

Features

- Precision oil level measurement for maximum protection
- Easy monitoring with alarm and status lights
- Foam resistant design prevents nuisance trips unlike optical sensor designs
- Contaminant proof operation ensures accurate control
- Only approved oil level control for Copeland Scroll Compressors
- 5-time lockout feature protects compressor from repeated low oil level condition
- Self-contained unit with oil level sensor and integral solenoid to manage oil level supply
- Reverse Hall-effect sensor for precise measurement of oil level and protection from sensor magnetic debris contamination
- SPDT output contact for compressor shut-down and alarming
- Easy installation by sightglass replacement
- Adapters suitable for various types of scroll compressors (not required for reciprocating compressors)
- UL Recognized (File Number# MP604)
- Fluorescent floating ball
- Integral sight glass
- Debris retention magnet for reliable operation

Nomenclature example: OMB-JB1 ASC2 24 50/60

OMB	JB1	ASC2 24 50/60
Oil Management Control	JB1 - Junction Box MO1 - Series Relief Connector	Solenoid Coil Model Number, Voltage, Frequency (included)

Ordering Information

PCN	DESCRIPTION
	Oil Management Control
065365	OMB-JB1 ASC 2 24/50-60 - STD
065366	OMB-MO1 ASC 2 24/50-60 - STD
	Service Parts
048638	Inlet Flare Screen
020877	Sight Glass O-Ring
064812	Mounting O-Rings (3 pieces)
049191	KS-30112 Solenoid Repair Kit

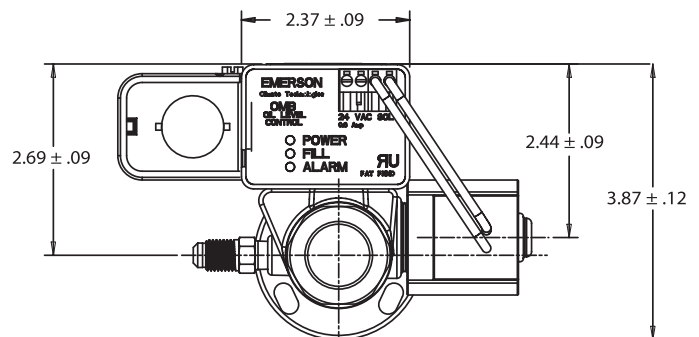


Specifications

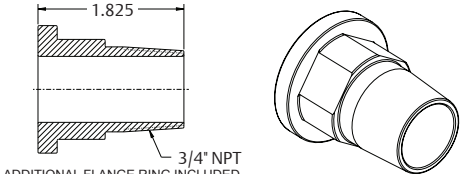
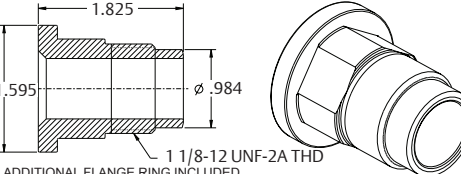
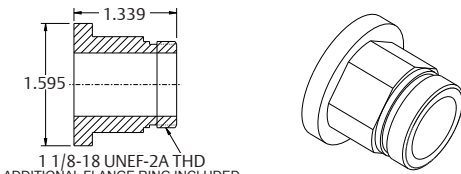
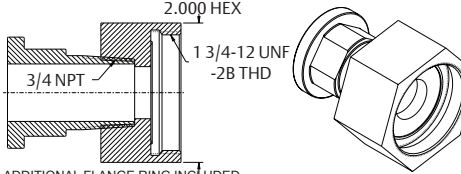
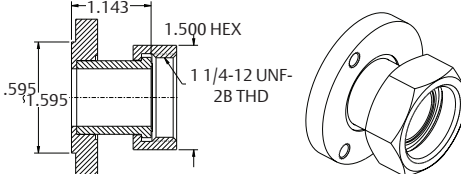
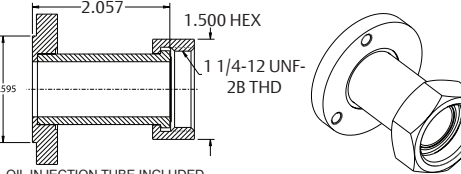
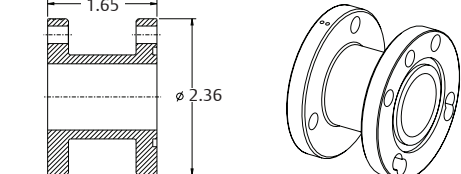
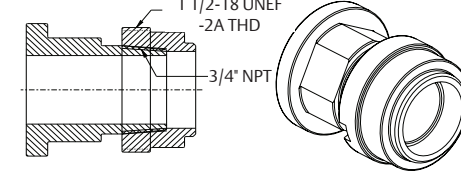
- Maximum working pressure: 870 psi
- Solenoid MOPD: 350 psi
- Supply voltage: 24 V AC, 50/60 Hz
- Solenoid coil: ASC 2L 24 V AC, 50/60 Hz
- Current consumption: 0.6A
- Time delay for low level signalling: 5-10 seconds
- Time delay for after setpoint recovery: 5-10 seconds
- Alarm delay time: 120 seconds
- Alarm switch: SPDT
- Alarm contact rating: 10A @ 125; 5A @ 220 V AC 50/60 Hz
- Refrigerant compatibility: HFC, HCFC, CFC
- Oil temperature: 180°F Max.
- Storage and transport temperature: 140°F Max.
- Operating ambient temperature: 120°F Max.
- Oil supply fitting: 1/4" Male SAE
- UL/CUL file number: SA8547
- Transformer VA requirements*: 25"

*NOTE: Field supplied transformer should always be of the same primary voltage as the electrical supply system.

Dimensional Data



Unit must be mounted horizontally for correct operation.

Description	PCN	Recommended Torque Adapter to Compressor	Drawing
Screw Adapter 3/4" x 14 NPTF	065668 OMB-ACA	30 - 40 ft - lbs	 <p>1.825 3/4" NPT ADDITIONAL FLANGE RING INCLUDED</p>
Screw Adapter 1 1/8" x 12 UNF-2A THD	065667 OMB - ACB	30 - 40 ft - lbs	 <p>1.825 ø1.595 ø .984 1 1/8-12 UNF-2A THD ADDITIONAL FLANGE RING INCLUDED</p>
Screw Adapter 1 1/8" x 18 UNEF-2A THD	066692 OMB-CO2	37-44 ft-lbs	 <p>1.339 1.595 1 1/8-18 UNEF-2A THD ADDITIONAL FLANGE RING INCLUDED</p>
Screw Adapter, Female Nut 1 3/4" x 12 UNF - 2B THD	066078 OMB - ACE	30 - 40 ft - lbs	 <p>2.000 HEX 1 3/4-12 UNF -2B THD 3/4 NPT ADDITIONAL FLANGE RING INCLUDED</p>
Rotalock Adapter 1 1/4" x 12 UNF-2B THD	066650 OMB-ACF	80 ft - lbs	 <p>1.143 1.500 HEX 1 1/4-12 UNF-2B THD 1.595 1.595</p>
Rotalock Adapter 1 1/4" x 12 UNF-2B THD	066652 OMB - ACG replacement for 066077 OMB-ACD	80 ft - lbs	 <p>2.057 1.500 HEX 1 1/4-12 UNF-2B THD ø1.595 OIL INJECTION TUBE INCLUDED</p>
Adapter for Copeland Semi-Hermetic	063521 OMB - AUA	120 in - lbs	 <p>1.65 ø 2.36</p>
Screw Adapter 1 1/2" x 18 UNEF - 2A THD	065982 OMB - ASA	30 - 40 ft - lbs	 <p>1 1/2-18 UNEF -2A THD 3/4" NPT</p>

*Install OMB to adapter flange (1/4" x 20 UNC x 1" Hex bolt) at 120 in- lbs

W-OLC Mechanical Oil Level Regulator

The W-OLC controls the oil level in the compressor crankcase with a float operated valve and keeps the oil level at the compressor manufacturer's recommended level. It is a direct replacement of popular competitive models.

Features

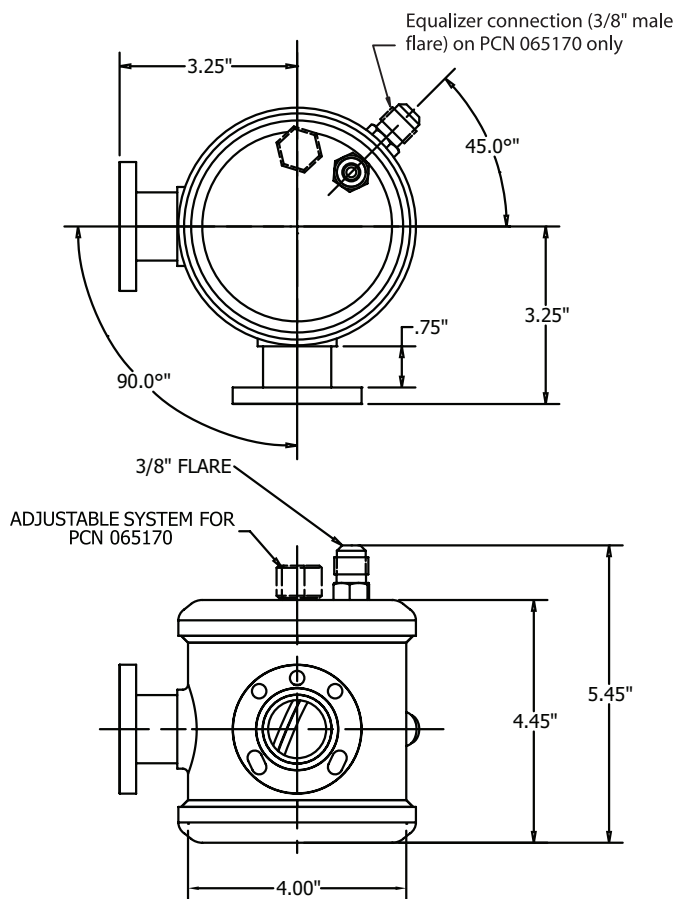
- Corrosion resistant epoxy powder paint finish
- Universal mounting pattern for standard semi-hermetic compressors

Nomenclature example: W-OLC-2

W-OLC	2
Series	Sight Glass*

* 2 = 1/2, 4 = 1/4, 2-4 = adjustable

Dimensional Data



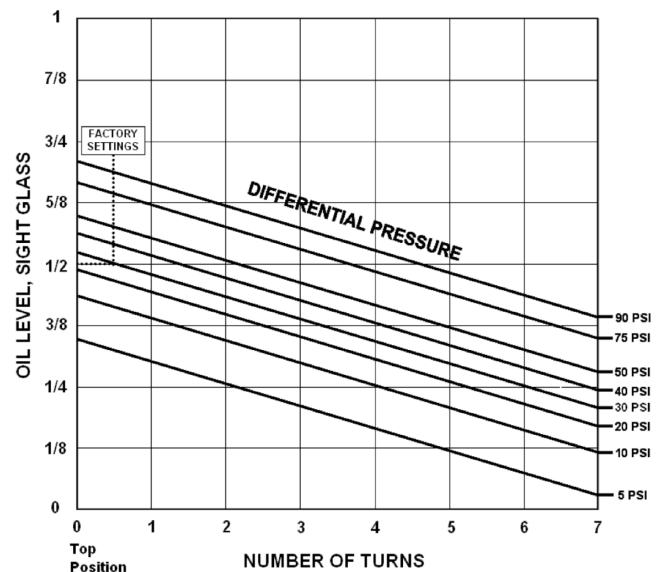
Specifications

- Maximum working pressure: 450 psi
- UL/CUL file number: SA8547
- Max. OPD: 90 psi

Ordering Information

PCN	Description	Sight Glass Level
064953	W-OLC-2	1/2 sight glass
064954	W-OLC-4	1/4 sight glass
065170	W-OLC-2-4	1/4 to 1/2 level (adjustable)

OLC-2-4 OIL LEVEL



Note: Data obtained using POE lubricant at 86°F with a 1 inch diameter sight glass.

The Oil Level factory setting is in the middle of the Sight Glass at 30 PSI for the Oil Level Control. Located on the top of the control is the seal cap. Remove this to adjust the oil level. To adjust the stem, turn it clockwise and counterclockwise, respectively, to lower and raise the stem. One can determine the adjustment needed from the OLC-2-4 Oil Level Chart. One eighth of an inch increments are used to illustrate the oil level at a selection of differential pressure conditions.

Unlike our Competitors Controls no damage will occur when attempting to adjust beyond 7 turns. Our Design has a hard Stop to prevent damage.

In the case of an unexpected system defrost or load increase, large amounts of oil will return through the suction line. Consequently, the oil control will not be able to keep the oil level from rising beyond the control point.

See adapters page.

The Universal Acid Alert Test Kit provides a reliable indication as to the acid level of the refrigeration oil.

Features

- Quick and easy test kit
- Universal acid test kit for use with all refrigeration lubricants
- By changing the percentage of oil sample taken, the acid number of the oil can be accurately determined
- Phase separation of the chemicals eliminates interference from discolored oil



Ordering Information

PCN	Description
064427	AA Kit Universal

Quick Select Guide

Application	Feature	Type
Commercial Refrigeration Air Conditioning Controls	Temperature Control, Adjustable Set Point and Differential	TS1
	Single Pressure Control, Adjustable Set Point and Differential	PS1
	Dual Pressure Control, Adjustable Set Point and Differential	PS2
	Differential PressureControl	FD113
Mini-Pressure Controls	Mini-Pressure Control	PSC
	Electronic Fan Speed Control	FSX
Industrial Pressure Controls	Industrial Pressure Control, U.L. Approved	FF444

The TS1 series adjustable thermostats are designed for application in refrigeration and heat pump systems. In these systems, thermostats serve control and monitoring functions, such as space temperature control, high/low temperature alarming or defrost termination. By operating a set of electrical contacts, a temperature value is kept inside a certain limit.

Features

- Adjustable temperature and differentials
- Range and differential individually lockable by wire seal
- Captive terminal and cover screws
- Manual toggle for system checkout and override
- Bellows heater for thermostats with vapour charge
- Standard accessories include mounting brackets and knob with lockplate on all individually packed controls
- Non-ambient sensitive
- Heavy-duty SPDT switch allows handling of most loads directly without the use of relays



Specifications

- Ambient temperature ranges -50°C to +70°C (-58°F to +158°F)
- SPDT switch rated for 120 VAC/240VAC at 24FLA and 144 LRA
- Agency approvals include: UL/CUL file number E85974, VDE 0631/0660, TÜV, CE 73/23/EWG, CE 93/68/EWG

Options

- Vapor charges
- Factory set to customer specification
- Different types of mounting brackets
- Sensor bulb wells and capillary tube holders
- Special approvals
- Range and differential pointer in units °C and °F

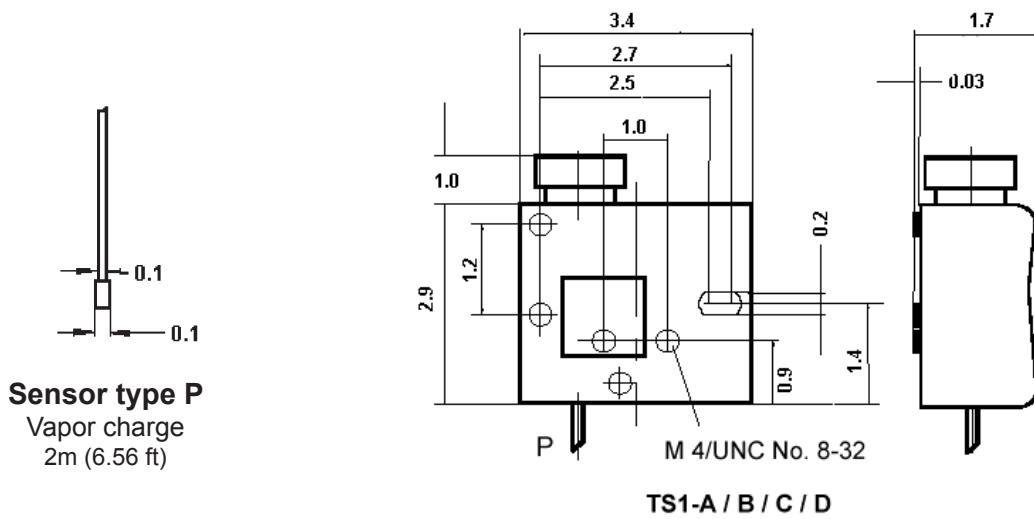
Nomenclature example: TS1 B1E

TS1	B	1	E
Product Name	Housing Variant/function	Temperature Range	Sensor Type
TS1 = Adjustable thermostat TSA = Customer specials	C = Frost monitor, auto reset D = Frost monitor, manual reset	0 = +40 to +68°F (+4.5 to +20°C) NOTES Temp ranges 0-4: manual reset for falling temperature	P = Vapor Charge, 6m. capillary

Ordering Information

Type	PCN	Adjustment Range		Factory Setting °F (°C)	Temperature Sensor	
		Upper Setpoint °F (°C)	Different Setpoint °F (°K)		Charge	Type
Freeze-Stat, Top Operated Without Off-Switch (Capillary Type Sensor)						
TS1-COP	097882	40 TO 68 (+4.5...+20)	5 (3) fix	40/36 (4.5/+2)	VAPOR	20 FT. (6 m.) capillary
TS1-DOP	097885	40 TO 68 (+4.5...+20)	man. reset ca. 5 (3) fix	36 (+2)	VAPOR	20 FT. (6 m.) capillary

Dimensional Diagrams (in)



PS1 Series Single Control

Temperature Pressure Controls

PS1 Single Pressure Controls are designed for use on high and low pressure applications in refrigeration, air conditioning and heat pump systems, providing single-device control of the compressor or other electrical device.

Features

- Adjustable pressures and differentials
- Narrow adjustable differential depending on model
- Range and differential pointer in units bar and psig
- Range and differential individually lockable by tab
- High rated SPDT contacts for all versions
- Captive terminal and cover screws
- Manual toggle for system checkout and override

Options

- Different pressure connections
- Automatic and manual reset versions
- Factory set to customer specification



Specifications

- SPDT switch rated for 12FLA and 72LRA at 240VAC and 16FLA and 96LRA at 120VAC
- Agency approvals include:
UL/CUL file number E85974
CE per (LVD) low voltage directive

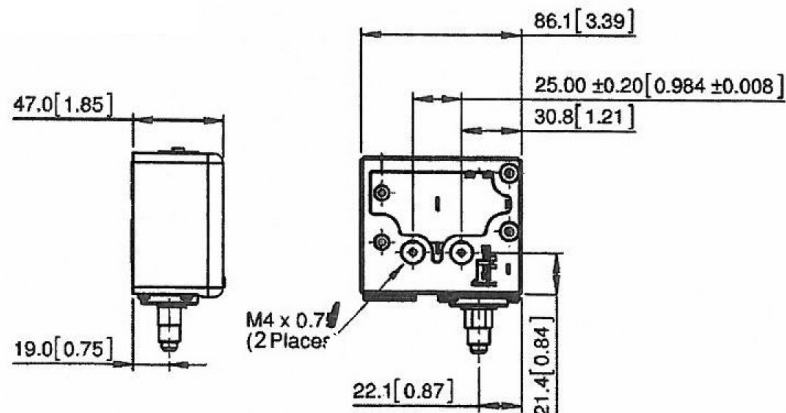
Nomenclature example: PS1-X5K

PS1	Function		Pressure Range	Connection Type
Adjustable Single Pressure Control	X = Auto reset Y = Manual reset - external	External range and differential adjustments	3 = 9" Hg to 102 psig (0.3 to 7 bar) 4 = 29 to 290 psig (2 to 20 bar) 5 = 87 to 464 psig (6 to 32 bar)	A = 1/4" SAE male flare K = 1 m (3 ft.) cap tube w/ 1/4" flare nut

Ordering Information

Single Pressure Control	PCN	Adjustment Range		Factory Setting (psig)	Connection Type
		Upper Setpoint (psig)	Differential Setpoint (psig)		
Low Pressure Controls					
PS1-X3A	099022	9" Hg to 102 psig	15 to 73 psig	49/65 psig	1/4" SAE male flare
PS1-X3K	099024				1 m (3 ft.) cap tube w/ 1/4" flare nut
High Pressure Controls					
PS1-X5A	099026	87 to 464 psig	44 to 218 psig	141/280 psig	1/4" SAE male flare
PS1-X5K	099027		230/290 psig	1 m (3 ft.) cap tube w/ 1/4" flare nut	
PS1-Y5K	099030		Fixed		290 psig

Dimensional Diagram mm (in)



PS2 Dual Pressure Controls are designed for use on high and low pressure applications in refrigeration, air conditioning, and heat pump systems. This control react to changes in either low or high side pressures, providing single-device control of the compressor or other electrical device.

Features

- Adjustable pressures and differentials
- Narrow adjustable differential depending on model
- Range and differential pointer in units bar and psig
- Range and differential individually lockable by tab
- High rated SPDT contacts for all versions
- Captive terminal and cover screws
- Manual toggle for system checkout and override
- Factory installed wire bridge for reduced installation effort
- High side convertible from manual to auto reset.

Options

- Different pressure connections
- Automatic and manual reset versions
- Factory set to customer specification



Specifications

- SPDT switch rated for 12FLA and 72LRA at 240VAC and 16FLA and 96LRA at 120VAC
- Agency approvals include: UL/CUL file number E85974, CE per (LVD) low voltage directive

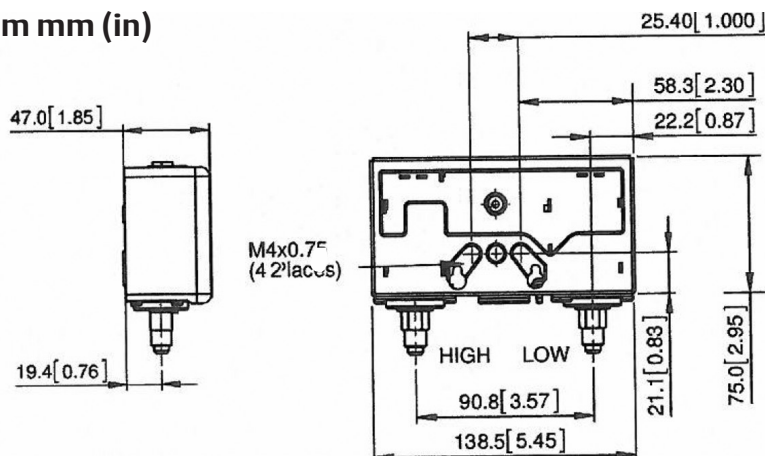
Nomenclature example: PS2-Y7A

PS2	Function		Pressure Range	Connection Type
Adjustable Dual Pressure Control	X = Auto reset	Internal range and differential adjustments	7 = Left side: 9" Hg to 102 psig (-0.3 to 7 bar) Right side: 87 to 464 psig (6 to 32 bar)	A = 1/4" SAE flare fitting K = 1 m (3 ft.) cap tube w/1/4" flare nut L = 1 m (3 ft.) cap tube w/ 1/4" ODM solder connection
	Y = Low side: Auto reset Y = High side: Convertible reset	External range and external differential		

Ordering Information

Dual Pressure Control	PCN	Low Pressure Side			High Pressure Side			Connection Type
		Pressure Range	Differential	Factory Setting	Pressure Range	Differential	Factory Setting	
PS2-Y7A	099008	9" Hg to 102 psig	15 to 73 psig	49/65 psig	87 to 464 psig	Fixed	290 psig	1/4" SAE flare fitting
PS2-Y7K	099009							1 m (3 ft.) cap tube w/ 1/4" flare nut

Dimensional Diagram mm (in)



The FD113 Oil Pressure Safety Control senses the effective oil pressure on pressure lubricate compressors. If inadequate oil pressure exists, a time delay is energized. If the oil pressure does not recover to safe levels within the time delay setting, the compressor is shut down. The time delay allows the compressor adequate time to establish oil pressure on start up and avoids nuisance shutdowns on pressure drop of short duration during the run cycle.

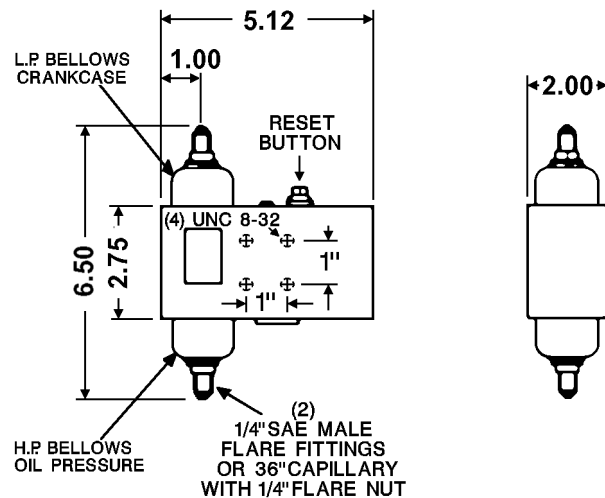
Maximum application flexibility is assured by providing an adjustable differential pressure switch which can be adjusted to the compressor's minimum required oil pressure needs and an adjustable electronic time delay which allows the selection of the length of time the compressor runs below the minimum pressure before shutdown. The minimum pressure setting and time delay values specified by the compressor manufacturer should be used when installing the FD113 control.



Features

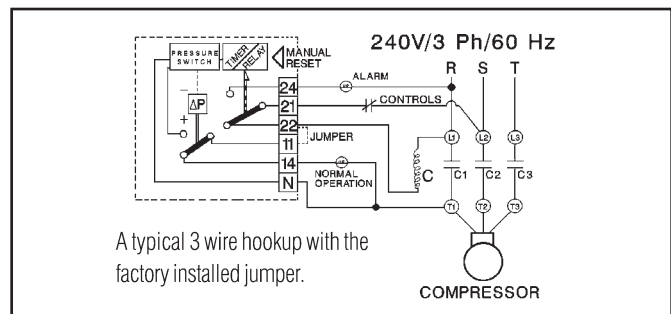
- Pressure range adjustable from 4 to 65 psid; Timer start pressure - timer stop pressure is 3 psid above timer start pressure
- A SPDT switch is used in the pressure portion of the control which allows the addition of a "safe-light" when desired
- Electronic Timer is Time-Adjustable from 20 to 150 seconds
Supply voltage - 24 to 240 Volt AC/DC; Timing unaffected by voltage or ambient temperature variations
- A SPDT Manual Reset Switch is used in the Timer Module; Upon time-out, the compressor is stopped and an alarm circuit is energized; To restart the compressor and deenergize the alarm circuit, the reset button is pushed
- A factory installed Jumper allows the FD113 to be powered from a single source power; Should separate circuits be desired for the timer and "Lockout" switch, the Jumper can be removed

Dimensional Data (in)



Specifications

- Agency approvals include: UL/CUL file number E85974, VDE 0631/0660, TÜV, CE 73/23/EWG, CE 93/68/EWG



Ordering Information

PCN	Part Number	Adjustable Pressure Range	Adjustable Time Delay	Supply Voltage	Pressure Connection
097456	FD113-ZUK	4-65 psid	20 to 150 seconds Factory-set at 120 seconds	24 to 240V AC/DC	(2) 36" capillary with 1/4" flare nut

The PSC Mini Pressure Control provides the ultimate in reliability and flexibility in a commercial grade mini pressure control. A standard plug connectable design simplifies installation and service. The SPDT switch allows the addition of alarm circuits on high or low pressure applications. Models with high temperature bellows and built-in pressure pulsation snubbers make the PSC ideally suited for compressor head mounting high pressure limit control applications—automatic or manual reset versions are available.

Pressure Ranges/Differential also make the PSC controls ideally suited for condenser fan cycling applications. Low Pressure versions with standard or narrow differential switches make these controls ideally suited low pressure limit or back-up safety controls on electronically controlled systems. Numerous options, such as panel mount or capillary connections are available on high volume applications. Standard on all models are worldwide agency approvals.

Typical Applications

- High Pressure Limit/Alarm
- Condenser Fan Cycling
- Low Pressure Limit/Alarm
- Low Pressure Cycling (Back-Up)
- Defrost Termination/Fan Delay
- Rupture Guard Alarm

Features

- Commercial Grade High/Low/Condenser Fan Cycling Pressure Controls for use on Refrigeration/AC Applications
- Mini-Size 2" x 1-1/2" x 2-3/4"
- Standard SPDT Switch Action
- Automatic or Manual Reset
- Models available with high temperature bellows and built-in pressure pulsation snubber for direct head mount high pressure sensing/limit applications
- Plug Connectable with hub for 1/2" flexible conduit
- Factory preset to customer's desired pressure specifications
- Precise, repeatable settings
- Narrow differential "Micro" switch available on low pressure models



Specifications

- Worldwide Approvals: UL/CUL/VDE/TÜV
- UL/CUL file number: E85974

Electrical Ratings–SPDT Switch

- Standard Switch – High/Low Pressure
 - Load Contact: 6 FLA – 36 LRA – 120/240 VAC
 - Pilot Duty: 240VA @ 120, 480VA @ 240 VAC
 - Back Contact 0.5 Amp 120/240 VAC Pilot Duty
- Micro Switch – Low Pressure
 - 2.5 FLA – 15 LRA – 120/240 VAC
 - Pilot Duty: 120VA @ 120, 240VA @ 240 VAC
 - Back Contact 0.5 Amp 120/240 VAC Pilot Duty

Ambient Temperature

- Storage: –30° to +160°F Operating: –20° to +140°F
- Low Pressure
 - Single diaphragm
 - Maximum media temperature 150°F
- High Pressure
 - Bellows design
 - Maximum media temperature 300°F
 - Internal Pressure Pulsation Snubber available for direct head mount

Protection

- Protect from rain, direct sunlight and exterior damage

Weight

- Approximately 0.25 pound, depending upon configuration

Compatibility

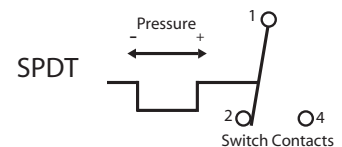
- HFC, HCFC, CFC

Agency Approvals

- UL/CUL/DIN/TÜV, depending upon configuration

Switch Action

- SPDT Standard
 - 1–2 Open on Rise
Close on Fall
 - 1–4 Close on Rise
Open on Fall



Nomenclature example: PSC-W6S

PSC	W	6	S
Product Name	Function	Pressure Range/Contacts	Pressure Connections
	<p>A = Pressure control, automatic, high or low pressure applications (Single diaphragm option, 158° F rating, Range 1-5 only, without snubber) (Bellows option, 300° F rating, with snubber, Range 6 only)</p> <p>B = Pressure cut-out, external manual reset, DIN/TUV approved (Double diaphragm option, 158° F, without snubber, Range 1-5) (Bellows option, 300° F rating, with snubber, Range 6 only)</p> <p>R = Pressure control, external manual reset, high or low pressure applications (Single diaphragm option, 158° F rating, Range 1-5 only, without snubber) (Bellows option, 300° F rating, with snubber, Range 6 only)</p> <p>W = Pressure limiter, automatic, DIN/TUV approved (Double diaphragm option, 158° F, without snubber, Range 1-5) (Bellows option, 300° F rating, with snubber, Range 6 only)</p>	<p>Standard Contacts</p> <p>1 = Low pressure 15" Hg to 90 psig 5 = High pressure 100 to 465 psig 6 = High pressure 145 to 623 psig</p> <p>Microswitch Contacts</p> <p>J = Low pressure 15" Hg to 90 psig</p>	<p>K = 1m (3 ft) cap tube with 1/4" flare nut (range 1-5)</p> <p>L = 1m (3 ft) cap tube with 1/4" ODM solder connection (range 1-5)</p> <p>S = 1/4" female flare fitting, Schrader Depressor (range 1-6)</p>

Specification Selection Table

PCN	Type and Description	High Event Range (PSIG)	Differential Range (PSID)	Setting	Reset Function	Pressure Connection	Electrical Connection	Electrical Ratings	Maximum Over Pressure	Mounting
Low Pressure Controls										
097815	PSC-AJS ¹	15" to 90	4 Low / 7 High	1.5/6	Auto	1/4" Female flare with Schrader Depressor	DIN Plug with 1/2" NPTF Hub for Flex Conduit Connection 36" Cable	2.5 FLA/15 LRA	360 PSIG	Free Standing Direct Mount
097849	PSC-A1S		9 Low / 15 High	5/15				6 FLA/36 LRA		
High Pressure Controls										
097793	PSC-W6S	145 to 623	72 Low / 87 High	320/395	Auto	Same as above, plus stainless steel bellows with snubber	DIN Plug with 1/2" NPTF Hub for Flex Conduit Connection 36" Cable	6 FLA/36 LRA	695 PSIG	Free Standing Direct Mount
097998	PSC-B6S			395	Manual					

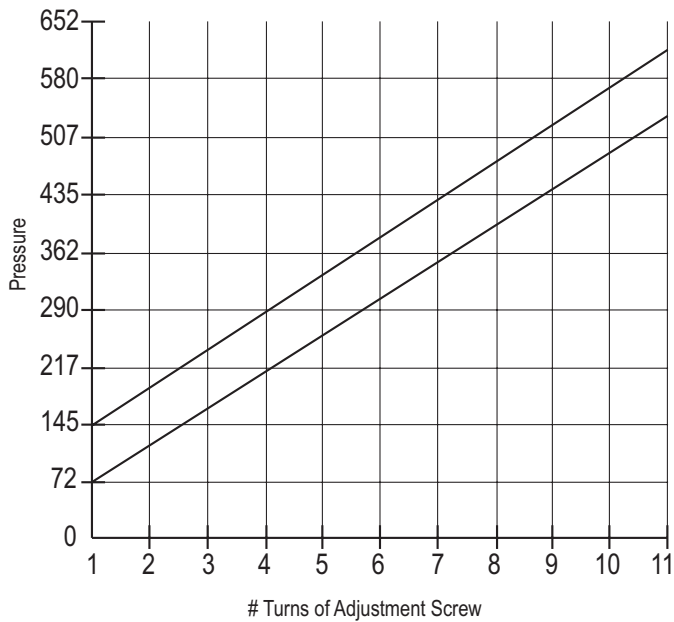
¹ Micro-Switch Construction.

² All switches SPDT ratings stated are 1 side only 120/240 VAC. Opposite switch side – 1/2 amp pilot duty 120/240.

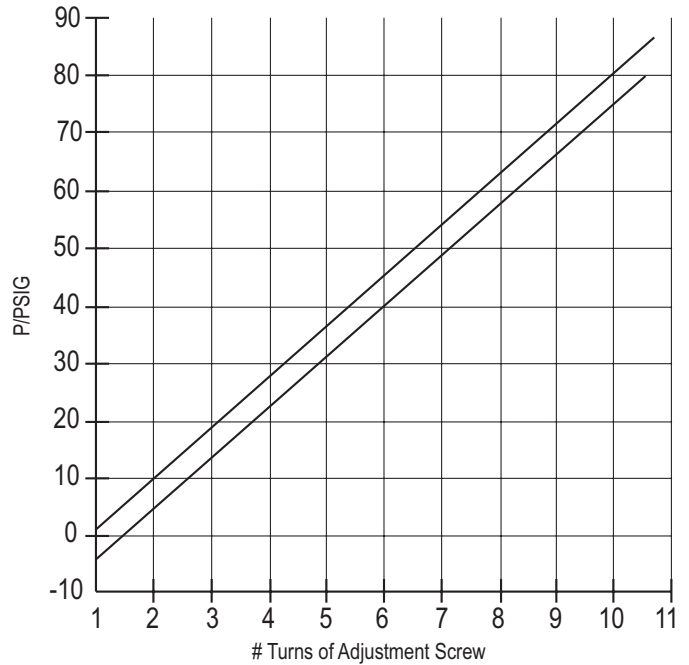
The PSC is factory preset.

For special applications, these controls can be factory preset to other values as illustrated on the appropriate graphs.

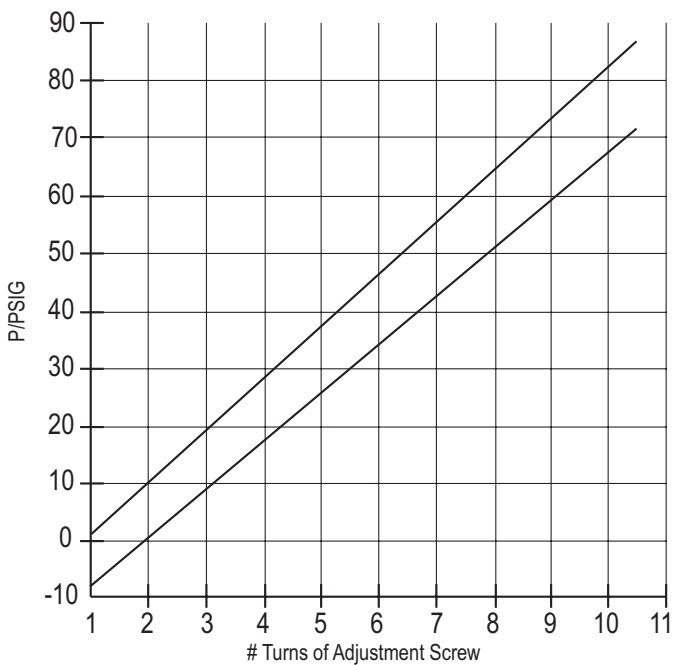
Standard Switch Setting Capability Pressure Range = 6



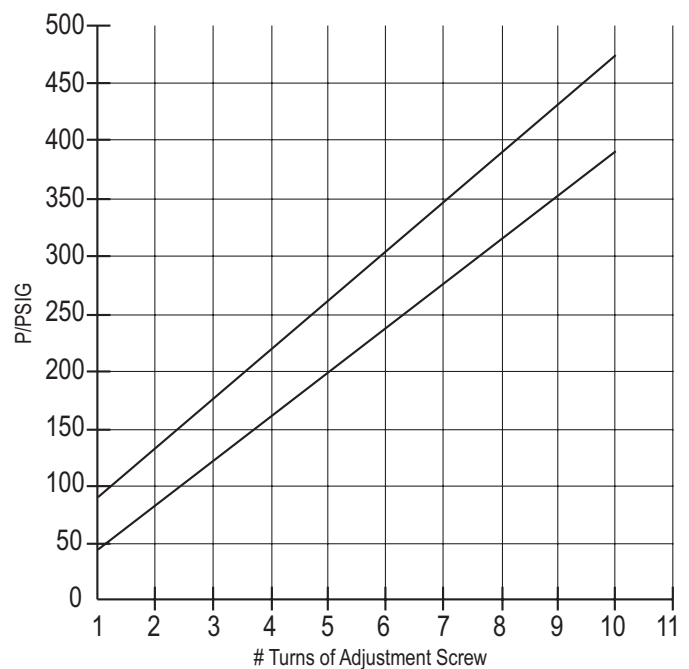
Micro-Switch Setting Capability Pressure Range = J



Standard-Switch Setting Capability Pressure Range = 1



Standard-Switch Setting Capability Pressure Range = 5



The FSY Fan Speed Control controls the head pressure in air-cooled condensers by reducing the fan speed to maintain head pressure as the outside temperatures/condenser pressure drops. As the motor speed drops under lower ambient/load condition fan noise is also reduced.

The FSY is designed for use with permanent split capacitor and shaded pole fan motors, approved for use by motor/equipment manufacturers for variable voltage, phase angle (triac) speed control.



Features

- Connector includes 2 m. cable installed (FSF and FSO)
- Connector turnable (in 90° steps)
- Compact Design
- State-of-the-Art Electronics
- Direct mount—Easily retrofit to suitable motor
- Low Pressure “Turn Off” Operation
- Adjustable Pressure Setting
- Multiple FSX controls can be used in parallel on multi-circuit condensers
- 2 Cable types:
 FSF-N15 with internal circuit design to comply with EC-Directive 89/336/EC (Electromagnetic compatibility requirements for Europe)
 FSO-N15, standard with internal voltage spike and over current protection

Options

- Custom Calibration
- Other Operating Voltages/Pressure Ranges

Specifications

- Nominal current: 0.1 to 4 Amp max up to 104°F (40°C)
0.1 to 2.5 Amp max up to 140°F (60°C)
- Starting current: max. 8 Amp
- Temperature Range
 Storage and transportation: -30°C to 70°C
 Ambient temperature: -20°C to 55°C
 Medium temperature: -20°C to 70°C
- Pressure Operated Fan Speed Control
- Supply Voltage: 230V AC + 15-20%.
- Protection: Provide an ultimate enclosure to protect from direct rain, sunlight and external damage.
- Weight: 3-1/2 ounces
- Approvals: UL/CUL file number E183816
CE Low Voltage Directive 72/23/EC
Connector per DIN 43650

Nomenclature example: FSY-43S

FS	Y	4	1			S
Fan Speed Control	Series	Max. Current Rating 4 = 4 Amps maximum at 104°F ambient temperature	Pressure Range			Pressure Connection
			Pressure Range	Modulating Band	Factory Setting	S = 1/4" SAE female (7/16" -20 UNF) with Schrader Depressor
			3 = 12.4 to 28.4 (180 to 411 psig)	66 psig	233 psig	

Ordering Information

Description	PCN	Adjustable Range	Modulating Band	Factory Setting	Pressure Connection
		(PSI)			
FSY-43S	097782	180 to 411	66	233	7/16" -20 UNF Female

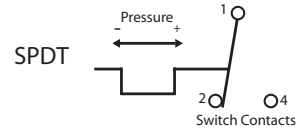
Parts/Accessories

PCN	TYPE
097995	FSF-N15 Cable (EMC)
097775	FSO-N15 Cable (standard)

The FF444 Industrial Pressure Controls are general purpose switches suitable for oil, water and air at pressures up to 465 psig.

Typical Applications

- Industrial Pressure Control
- Pneumatic and Hydraulic Systems
- Oil Lubrication Systems
- Pump/Compressor Control



Features

- SPDT snap-action contacts
- Independent adjustable upper and lower switching pressures
- Diaphragm-type control for low pressure applications (Buna N diaphragm):
 - resistant to mineral oils
 - medium temperatures up to 160°F
- Transparent polyamide hood – U.V. resistant
- Surface mounted Type 4 enclosure
- Optional manual reset locking on pressure rise

Specifications

- Control circuit rating: 5 A (B300)
- Rated voltage: 300 VAC maximum
- Ambient operating temperature: -10°F to +120°F
- Medium temp. at pressure element: + 160°F Max.
- Resistance to vibration: (4 Hz to 1000 Hz) 4g
- Weight: 1.1 lbs.
- UL/CUL file number: E85974

Options

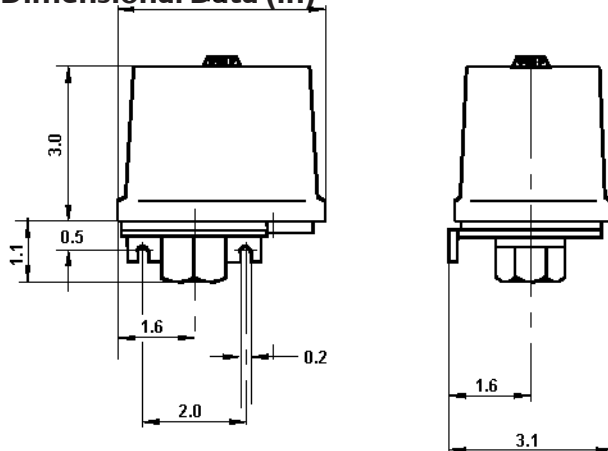
- Optional manual reset locking on pressure rise

Description	120VAC	240VAC
Maximum motor rating single phase	1/2 hp	1 - 1/2 hp
Motor rated, FLA	10 A	10 A
Motor rated, LRA	60 A	60 A

Nomenclature example: FF444-V2-DRF

FF444	V2				D	R	F	
Industrial Pressure Control		Lower Switch Point Range	Upper Switch Point Range	Smallest Differential @ Lower-Higher end of Range	Standard Settings	Valve Design D = Diaphragm	Reset Type A = Auto R = Manual, Locking on Pressure Rise	Pressure Connection A = 7/16"-20 UNF male F = 1/4"-18 NPTF
	V4	6-217 psig 0.4-15 bar	15-232 psig 1-16 bar	9-14 psig 0.6-1 bar	58/174 psig 4/12 bar			
	V5	12-435 psig 0.8-30 bar	29-464 psig 2-32 bar	17-29 psig 1.2-2 bar	145/290 psig 10/20 bar			

Dimensional Data (in)



Ordering Information

PCN	Description
097311	FF444-V4-DAF
097379	FF444-V4-DRF