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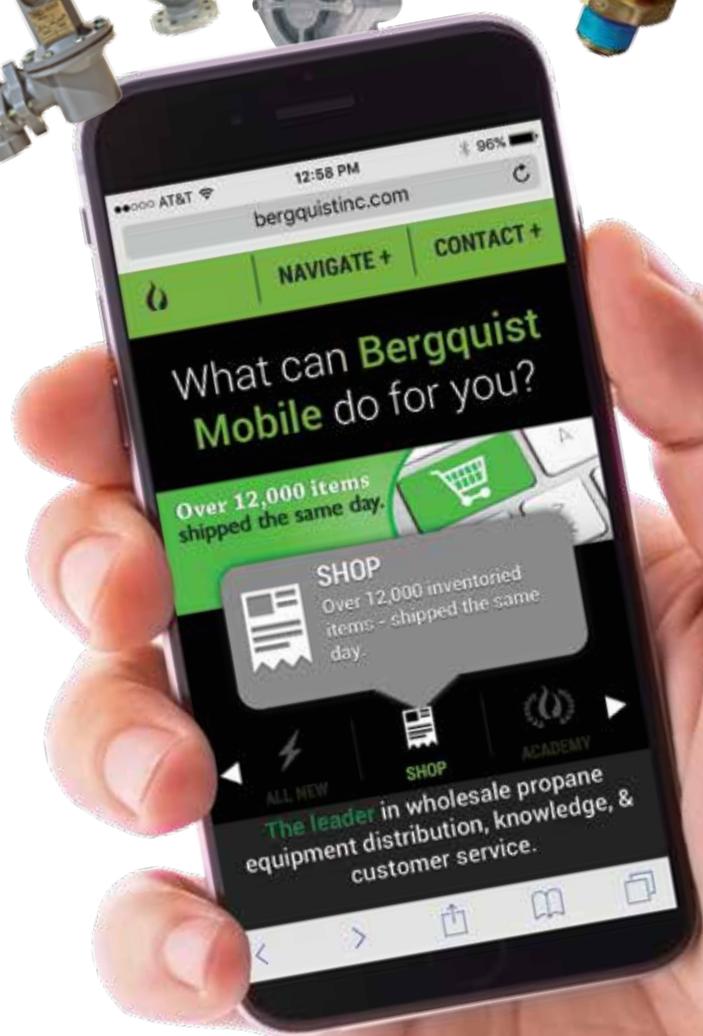
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# Excela-Flo First-Stage Domestic Regulators



RG

(Cont. on next page)

## MEGR-1122H Series:

Offers a compact first stage regulator design perfect for tight applications such as underground tank domes. They feature an adjustment range from 9-12 PSIG (factory set @ 10 PSIG), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifice to minimize freeze ups while providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.



MEGR-1122H



## Excela-Flo

All MEC first stage regulators are red indicating high outlet pressure. First stage regulator vents have 3/4" FNPT tapped ports and E-Z Grip screens located over the outlet. Both the MEGR-1122H and the MEGR-1622H series offer optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

**MEGR-1622H Series:** Offers all of the same features as the compact MEGR-1122H Series in a full size version. Our full size MEGR-1622H Series has a large fabric reinforced diaphragm for superior downstream regulation, heavy duty wrench flats, and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage.



MEGR-1622H

Type: First Stage  
 Max. Inlet Pressure: 250 PSIG  
 Exterior Finish: Red Powder Coat  
 Orifice Size: .15" (Compact) & 7/32" Full  
 Diaphragm: Fabric Reinforced NBR  
 Molded Lip O-Ring Bonnet/ Body Seal  
 Relief Type: Internal Relief - Spring Loaded  
 Bonnet / Body Material: Die Cast Aluminum  
 Seat Material: Fluorocarbon (FKM)  
 Listings: <sub>C</sub>UL<sub>US</sub> / UL 144  
 Mounting Holes: Standard 3-1/2" Center  
 Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)  
 Relief Travel Stop: Molded in Adjustment  
 Cap -Gray (Compact), Black (Full Size)

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These first stage F.POL tee inlet regulators are used to reduce LP gas tank pressures for a second stage regulator (normally 10 PSIG) in a multiple tank manifold installation without adapters or tees. All MEC first stage regulators are red indicating high outlet pressure. Compact First stage regulator vents have 3/8" FNPT tapped ports and E-Z Grip screens located over the outlet. The MEGR-1222H series offers optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622, MEGR-1642 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

## Excela-Flo

MEGR-1222HT



MEGR-1222H



### MEC Excela-Flo First-Stage Domestic Regulators

Part No.	Type	Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
<b>MEGR-1122H-AAJ</b>	Compact	1,000,000	1/4" FNPT	1/2" FNPT	8-12	10
<b>MEGR-1122H-AAJXB<sup>(2)</sup></b>	Compact	1,000,000	1/4" FNPT	1/2" FNPT	8-12	10
<b>MEGR-1222H-BGF</b>	Compact	1,000,000	F.POL	1/2" FNPT	9-12	10
<b>MEGR-1222H-BGFXB<sup>(2)</sup></b>	Compact	1,000,000	F.POL	1/2" FNPT	9-12	10
<b>MEGR-1622H-BGK</b>	Full Size	2,100,000	1/2" FNPT	1/2" FNPT	4-6	5
<b>MEGR-1622H-HGK</b>	Full Size	2,200,000	F.POL	1/2" FNPT	4-6	5
<b>MEGR-1652H-JGK</b>	Full Size	2,650,000	F.POL	3/4" FNPT	4-6	5
<b>MEGR-1222HT-BGF</b>	Compact	1,000,000	F.POL/Tee	1/2" FNPT	9-12	10
<b>MEGR-1622HT-HGJ</b>	Full Size	2,300,000	F.POL/Tee	1/2" FNPT	9-12	10
<b>MEGR-1622HT-JGJ</b>	Full Size	2,750,000	F.POL/Tee	3/4" FNPT	9-12	10
<b>MEGR-1622H-BGJ</b>	Full Size	2,200,000	1/2" FNPT	1/2" FNPT	8-12	10
<b>MEGR-1622H-DGJ</b>	Full Size	2,500,000	3/4" FNPT	3/4" FNPT	8-12	10
<b>MEGR-1622H-HGJ</b>	Full Size	2,300,000	F. POL	1/2" FNPT	8-12	10
<b>MEGR-1622H-JGJ</b>	Full Size	2,750,000	F. POL	3/4" FNPT	8-12	10

(1) Based on 30 PSIG Inlet pressure and 20% droop

(2) Indicates vent orientation over pressure taps

# Kosan+ First-Stage Domestic Regulators

(Cont. on next page)

RG



988HP-04

## Kosan<sup>+</sup>LINE

A first-stage regulator reduces the high inlet pressure from the tank or cylinder to 10psi, the rate of flow of a second stage regulator. The 984 HP compact regulator is designed for both Type A and Type C outside installations. The correct mounting position is with the vent-hole angled down. The standard 984 HP regulator has the vent-hole facing in line with the outlet fitting.

### *First-Stage Regulator Technical Specifications:*

- Body and cover: aluminum
- Diaphragm: reinforced
- Supplying pressure: 25-250 PSIG
- Cover screws: stainless steel
- Inlet fitting screws: stainless steel
- Gas type: propane
- Setting point: inlet pressure 100 PSI, 140,000 Btu, outlet pressure 10 PSI
- Provided flows: flow based on 25 PSI (1,725 bar) inlet pressure and 20% drop (in accordance with UL 144 standard).
- Regulator specifications: see following table.



988HP-07



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



984HP-04

L4.881 x W4.333 x H3.917 Weight: 31.375 oz

**Kosan**<sup>+</sup>LINE



988HP-05

L 6.027 x W 4.33 x H 4.94 Weight: 48.75 oz



## Cavagna Kosan+ First-Stage Domestic Regulators

Type Number	Capacity BTU/HR Propane	Inlet Connection	Outlet Connection	Outlet Adjustment Range	Outlet Pressure Setting	Suggested Mounting Bracket
<b>984HP-04</b>	1,000,000	1/4" FNPT	1/2" FNPT	No Adjustment	10 psi	PI00L
<b>988HP-07</b>	2,000,000	1/2" FNPT		3/4" FNPT	4-6 psi	
<b>988HP-08</b>		FPOL				
<b>988HP-09</b>	2,250,000	1/2" FNPT	1/2" FNPT	8-12 psi	10 psi	
<b>988HP-04</b>	2,100,000					
<b>988HP-01</b>	2,400,000	3/4" FNPT	3/4" FNPT			
<b>988HP-05</b>	2,100,000	FPOL	1/2" FNPT			
<b>988HP-06</b>	2,250,000		3/4" FNPT			

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



# Excelsa-Flo Second-Stage Domestic Regulators



RG

Compact Series



MEGR-1222

**MEGR-1222 Series:** Offers a compact second stage regulator design perfect for lower BTU applications. They feature an adjustable range from 8-14" WC (factory set @ 11" WC), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

All MEC second stage regulators are green indicating low outlet pressure. Second stage regulator vents have 3/4" FNPT tapped ports and our exclusive E-Z grip screens located over the inlet. All MEC second stage domestic regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the MEGR-1622 and the MEGR-1652 Series offer optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection (no more than 2 PSI downstream pressure) when used with MEGR-1122H and MEGR-1622H Series First Stage regulators. All MEC Excelsa-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

## Excelsa-Flo

Full Size



MEGR-1622



**MEGR-1622 & MEGR-1652 Series:** Offers all of the same features as the compact MEGR-1122 Series but in a full size, high capacity version. Our full size second stage regulators have a large fabric reinforced diaphragm for superior downstream regulation, heavy duty wrench flats, and a large 3/4" FNPT tapped drip lip vent to help prevent relief valve blockage. The MEGR-1622 Series have both the inlet and outlet in line where the MEGR-1652 series have a rear discharge back mount outlet for convenient wall mount applications.

### MEGR-1222, MEGR-1622 & MEGR-1652 Series Specifications:

- Type: Second Stage
- Max. Inlet Pressure: 10 PSIG
- Exterior Finish: Green Powder Coat
- Orifice Size: .14" (Compact) & 7/32" (Full)
- Diaphragm: Fabric Reinforced (NBR) Molded Lip
- O-Ring Bonnet/Body Seal
- Relief Type: Internal Relief - Spring Loaded
- Bonnet / Body Material: Die Cast Aluminum
- Seat Material: Fluorocarbon (FKM)
- Listings: cUL<sub>us</sub> / UL 144
- Mounting Holes: Standard 3-1/2" Center
- Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
- Relief Travel Stop: Molded In Adjustment Cap
- Black (Full Size), Gray (Compact)

Back Mount



MEGR-1652

## Excelsa-Flo Second-Stage Regulators

Part No.	Type	Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
<b>MEGR-1222-BAF</b>	Compact	500,000	1/2" FNPT	1/2" FNPT	9.5-13	11
<b>MEGR-1622-BCF</b>	Full Size	710,000	1/2" FNPT	1/2" FNPT	9-13	11
<b>MEGR-1252-BAF</b> <sup>(2)</sup>	Compact	500,000	1/2" FNPT	1/2" FNPT	9.5-13	11
<b>MEGR-1622-CFFXO</b> <sup>(3)</sup>	Full Size	1,300,000	1/2" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1622-DFFXO</b> <sup>(3)</sup>	Full Size	1,300,000	3/4" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1622-CFF</b>	Full Size	1,300,000	1/2" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1622-DFF</b>	Full Size	1,300,000	3/4" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1652-CFF</b> <sup>(2)</sup>	Back Mount	1,000,000	1/2" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1652-DFF</b> <sup>(2)</sup>	Back Mount	1,000,000	3/4" FNPT	3/4" FNPT	9-13	11

(1) Based on 10 PSIG inlet pressure and 20% droop

(2) Indicates back mount configuration

(3) indicates vent over outlet



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

The 988 Type regulator is designed for Type A outside installations. The correct mounting position is with the vent angled down. The standard 988 LP regulator has the vent-hole facing in line with the inlet fitting. Three other configurations of the inlet and outlet fittings for the 998 LP model include:

**Figure A**

998LP-03 / 998LP-04



**Figure B**

998LP-05



**Figure C**

998LP-09 / 998LP-10



Back Mount 998 LP-03 and 998 LP-04 (See Fig. A)  
Angle Body 998-LP-05 (See Fig. B)

In line inlet and outlet Flange 998LP-09 and 998LP-10 (See Fig. C)

Second-Stage Regulator Technical Specifications:

Body and cover: aluminum  
Diaphragm: reinforced  
Supplying pressure: 5-15 PSIG  
Cover screws: stainless steel  
Inlet fitting screws: stainless steel  
Gas type: propane  
Setting point: inlet pressure 10 PSI, 140,000 Btu, outlet pressure 11 inch WC  
Provided flows: flow based on 10 PSI (0.69 bar) inlet pressure and 20% drop (in accordance with UL 144 standard).  
Regulator specifications: see table below.

# Kosan+ Second-Stage Regulators

988LP-03

**Kosan+LINE**

RG



998LP-05



**Kosan+Guardian**

INTEGRATED DIELECTRIC UNION

998LP-34



Type Number	Capacity BTU/HR Propane	Inlet Connection	Outlet Connection	Outlet Adjustment Range	Outlet Pressure Setting	Suggested Mounting Bracket	Body Configuration	
988LP-03	800,000	1/2" FNPT	1/2" FNPT	9 - 13" WC	11" WC	P100L	Straight Through	
998LP-22	1,000,000		3/4" FNPT					
998LP-01	1,400,000							
998LP-02								
998LP-05	920,000	1/2" FNPT	3/4" FNPT	9 - 13" WC	11" WC	P100L	Angle Body	
998LP-03	1,000,000	3/4" FNPT					Back Mount	
998LP-04		3/4" FNPT						
998LP-10	2,300,000	3/4" FNPT	1" FNPT	9 - 13" WC	11" WC	N/A	Inline	
998LP-09		1" FNPT						
<b>Kosan+ Guardian</b>								
988LP-24	800,000	1/2" NPT	1/2" NPT	9" to 13" W.C.	11" W.C.	P100L	Compact Second Stage	
998LP-40	1,000,000		3/4" NPT				3/4" NPT	Second Stage
998LP-41 <sup>1</sup>	1,400,000						3/4" NPT LAT	Second Stage Angle 90°
998LP-31		920,000	1/2" NPT	3/4" NPT 90°	11" W.C.	P100L	Second Stage Backmount	
998LP-32	3/4" NPT							
998LP-35	920,000	1/2" NPT	3/4" NPT 90°	9" to 13" W.C.	11" W.C.	P100L	Second Stage Backmount	
998LP-33	1,000,000	3/4" NPT						
998LP-34		3/4" NPT						

<sup>1</sup> Vent hole in line with outlet fitting

# Excela-Flo 2-PSI Service Regulators

RG



## Excela-Flo

These 2 PSI service regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to a nominal 2 PSI. 2 PSI service regulators are used in conjunction with an LPG line regulator either at the indoor appliance or a remote manifold distribution header inlet. All MEC 2 PSI service regulators are green with white adjustment caps. Our 2 PSI service regulator vents have 3/4" FNPT tapped vents and our exclusive E-Z grip screens located over the inlet. All MEC 2 PSI service regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the MEGR-1622E and MEGR-1652E series offer optimal relief performance that well exceeds UL test requirements. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

### MEGR-1622E

**MEGR-1622E Series:** Offers a full size high capacity molded lip fabric reinforced diaphragm, stainless steel internal components, fluorocarbon (FKM) seat discs, precision machined aluminum orifices, and an adjustment range from 1-2.2 PSI (factory set @ 2 PSI) providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

**MEGR-1652E Series:** Offers all of the same features as the MEGR-1622E Series but with a rear discharge back mount outlet for convenient wall mount applications.

Type: 2 PSI  
 Max. Inlet Pressure: 10 PSI  
 Exterior Finish: Green Powder Coat  
 Orifice Size: 7/32"  
 Seat Material: Fluorocarbon (FKM)  
 Diaphragm: Fabric Reinforced (NBR) / Molded Lip  
 O-Ring Bonnet/Body Seal  
 Relief Type: Internal Relief - Spring Loaded  
 Bonnet / Body Material: Die Cast Aluminum  
 Listings:  $cUL_{us}$  / UL 144  
 Mounting Holes: Standard 3-1/2" Center  
 Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)  
 Relief Travel Stop: Molded in Adjustment Cap - White

## MEC Excela-Flo 2-PSI Service Regulators

Part No.	Type	Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
<b>MEGR-1622E-BCH</b>	Full Size	1,100,000	1/2" FNPT	1/2" FNPT	1-2.2	2
<b>MEGR-1622E-DCH</b>	Full Size	1,400,000	3/4" FNPT	3/4" FNPT	1-2.2	2
<b>MEGR-1652E-DFH<sup>(2)</sup></b>	Back Mount	1,300,000	3/4" FNPT	3/4" FNPT	1-2.2	2

(1) Based on 10 PSIG inlet pressure and 20% droop.  
 (2) Indicates back mount configuration.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

988TP regulators are designed for Type C installations. The correct mounting position is with the vent angled down. The standard 988TP regulator has the vent-hole facing in line with the outlet fitting. There is a special configuration of inlet and outlet fittings for the 998 TP model:

Back Mount 998 TP-07 (See Fig.A)

2-PSI Regulator Technical Specifications:

- Body and cover: aluminum
- Diaphragm: reinforced
- Supplying pressure: 5-15 PSIG
- Cover screws: stainless steel
- Inlet fitting screws: stainless steel
- Gas type: propane
- Setting point: inlet pressure 10 PSI, 140,000 Btu, outlet pressure: 2 PSIG
- Provided flows: flow based on 10 PSI (0.69 bar) inlet pressure and 20% drop (in accordance with UL 144 standard).
- Regulator specifications: see following table.

Figure A



998TP-07



L 6.692 x W 4.33 x H 4.94 Weight: 41.625 oz

998TP-08



L 7.055 x W 5.657 x H 4.964 Weight: 57.5 oz

988TP-25



## Kosan+ 2-PSI Service Regulators

Part No	BTU Capacity	Inlet	Outlet	Outlet Adjustment Range PSIG	Outlet Pressure Setting, PSIG	Description
<b>988TP-22</b>	700,000	1/2" FNPT	1/2" FNPT	Non Adjustable	2	
<b>998TP-06</b>	1,680,000	3/4" FNPT	3/4" FNPT	1 - 2.2		
<b>998TP-07</b>	1,500,000		3/4" FNPT			
<b>998TP-08</b>	1,460,000	1/2" FNPT	1/2" FNPT			
<b>Kosan+ Guardian Integrated Dielectric Union</b>						
<b>988TP-25</b>	700,00	1/2" NPT	1/2" NPT	Non Adjustable	2	2 PSI Compact Body
<b>998TP-36</b>	1,680,000	3/4" NPT	3/4" NPT	1 TO 2.2		2 lb.
<b>998TP-37</b>	1,500,000		3/4" NPT 90°			2 lb. Backmount
<b>998TP-38</b>	1,460,000	1/2" NPT	1/2" NPT	2 lb.		

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Excela-Flo Integral Two-Stage Regulators

RG



MEGR-1232



MEGR-1232T-HBFXA

**Excela-Flo**



MEGR-1632



MEGR-1632T-HCF

These integral two-stage regulators combine the first and second stage regulator set-up into one convenient unit converting tank pressure to 11"WC. All MEC integral two-stage domestic regulators are gray indicating low outlet pressure. Integral two-stage regulators are recommended for installations with short piping distances, but provide the same advantages of two-stage regulation with a single unit. All MEC integral two-stage regulator vent have tapped ports (7/16 -24-First Stage) (3/4" FNPT - Second Stage) and our exclusive E-Z Grip screens located over the outlet. Both the MEGR-1232 and MEGR-1632 series offer optimal relief performance that well exceeds UL test requirements providing over pressure protection of no more than 2 PSI downstream pressure. MEC Excela-Flo integral two-stage domestic regulators feature a 25 year recommended replacement life, our exclusive Tri-Tap™ (tank, 10 PSI, 11" WC) pressure port system and tear away leak check adhesive sticker.

## MEC Excela-Flo Integral Two-Stage Regulators

Part No.	Type	Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
<b>MEGR-1232-BBF</b>	Compact	450,000	1/4" FNPT	1/2" FNPT	9.5-13	11
<b>MEGR-1232-BBFXA<sup>(2)</sup></b>	Compact	450,000	1/4" FNPT	1/2" FNPT	9.5-13	11
<b>MEGR-1232-HBF</b>	Compact	450,000	F. POL	1/2" FNPT	9.5-13	11
<b>MEGR-1232-HBFXA<sup>(2)</sup></b>	Compact	450,000	F. POL	1/2" FNPT	9.5-13	11
<b>MEGR-1232T-HBF</b>	Compact	450,000	F. POL/Tee Inlet	1/2" FNPT	9.5-13	11
<b>MEGR-1232T-HBFXA<sup>(2)</sup></b>	Compact	450,000	F. POL/Tee Inlet	1/2" FNPT	9.5-13	11
<b>MEGR-1632-BCF</b>	Full Size	700,000	1/4" FNPT	1/2" FNPT	9-13	11
<b>MEGR-1632-BCFXA<sup>(2)</sup></b>	Full Size	700,000	1/4" FNPT	1/2" FNPT	9-13	11
<b>MEGR-1632T-HCF</b>	Full Size	700,000	F. POL/Tee Inlet	1/2" FNPT	9.5-13	11
<b>MEGR-1632T-HCFXA<sup>(2)</sup></b>	Full Size	700,000	F. POL/Tee Inlet	1/2" FNPT	9.5-13	11
<b>MEGR-1632T-JFF</b>	Full Size	900,000	F. POL/Tee Inlet	3/4" FNPT	9.5-13	11
<b>MEGR-1632T-JFFXA<sup>(2)</sup></b>	Full Size	900,000	F. POL/Tee Inlet	3/4" FNPT	9.5-13	11
<b>MEGR-1632-CFF</b>	Full Size	950,000	1/4" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1632-CFFXA<sup>(2)</sup></b>	Full Size	950,000	1/4" FNPT	3/4" FNPT	9-13	11
<b>MEGR-1632-HCF</b>	Full Size	700,000	F. POL	1/2" FNPT	9-13	11
<b>MEGR-1632-HCFXA<sup>(2)</sup></b>	Full Size	700,000	F. POL	1/2" FNPT	9-13	11
<b>MEGR-1632-JFF</b>	Full Size	900,000	F. POL	3/4" FNPT	9-13	11
<b>MEGR-1632-JFFXA<sup>(2)</sup></b>	Full Size	900,000	F. POL	3/4" FNPT	9-13	11

(1) Based on 30 PSIG inlet pressure and 20% droop

(2) Indicates regulator vents opposite pressure tap ports

## Kosan<sup>+</sup>LINE

The integral 2-stage regulator uses two regulators in one body to regulate the inlet pressure of the gas from the tank or cylinder directly to the inlet pressure of the appliance. The 988TW regulator is designed for Type B outside installations. The correct mounting position is with the vent angled down. The standard 988TW regulator has the vent-hole facing in line with the outlet fitting.

Integral 2-Stage Regulator  
 Technical Specifications:  
 Body and cover: aluminum  
 Diaphragm: reinforced  
 Supplying pressure: 25-250 PSIG  
 Cover screws: stainless steel  
 Inlet fitting screws: stainless steel  
 Gas type: propane  
 Setting point: inlet pressure  
 10 PSI, 140,000 Btu, outlet  
 pressure: 2 PSIG  
 Provided flows: flow based on 10  
 PSI (0.69 bar) inlet pressure  
 and 20% drop (in accordance  
 with UL 144 standard).  
 Regulator specifications:  
 see following table.



998TW-11

L 7.055 x W 5.657 x H 4.964 Weight: 54.875 oz



### Kosan+ Integral Two-Stage Regulators

Type Number	Capacity BTU/HR Propane	Inlet Connection	Outlet Connection	Outlet Adjustment Range	Outlet Pressure Setting
<b>988TW-15</b>	750,000	1/4" FNPT	1/2" FNPT	9 - 13 WC	11
<b>988TW-16*</b>		FPOL			
<b>988TW-17</b>					
<b>988TW-18*</b>	1,400,000	FPOL		1 - 2.2	2 PSI
<b>998TW-12*</b>					
<b>998TW-14*</b>		1/4" FNPT			
<b>998TW-23</b>					

\*Vent opposite test taps

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Regulator Vent Assemblies, Regulator Mounting Brackets/Regulator Covers

RG



ME900-6

**Vent Assemblies**  
Vent assemblies allow you to change the vent direction, either on the regulator, or piped away to meet codes and regulations. Vent stabilizers are also available.



The MEC Flex-Vent provides a safe and easy solution to vent LP Gas regulators away from openings, sources of ignition or other potential fire hazards. Meets all requirements of the new flexible material allowance in the 2011 NFPA-58, section 5.8.3.1 (3).

**Features:**

- Durable hose constructed of flexible PVC material suitable for use with LP Gas vapor
- UV stable for maximum resistance to outdoor exposure
- 3/4" NPT swivel inlet for easy installation
- Standard 90° vent assembly with screen
- Mounting clamps and coated masonry screws supplied
- Crimped ends for maximum durability



MEC FLEX-VENT

Part No.	Description
Standard Lengths	
ME960-48	Flex-Vent Kit - 3/4" MPT X 48"
ME960-72	Flex-Vent Kit - 3/4" MPT X 72"
Other Available Lengths	
ME960-36	Flex-Vent Kit - 3/4" MPT X 36"
ME960-120	Flex-Vent Kit - 3/4" MPT X 120" one end not crimped
ME960-120C	Flex-Vent Kit - 3/4" MPT X 120" both ends crimped



P100L

## Regulator Mounting Brackets

Part No	Description
<b>P100L</b>	Regulator bracket aluminum, bow-tie style. Fits Excela-Flo, Kosan+, ReGo or Fisher.

## Regulator Covers

Part No.	Use With
<b>Rubber Meter Cover</b>	Fits Most second Stage Regulators. (white, heavy duty plastic.) 12"H x 7.5"W x 6"D



Rubber Meter Cover

18	OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
	800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

## Pigtails

Part Number	Length Inches	Connection	POL Hex	Nipple
<b>ME 1660-20</b>	20"	POL X POL	1 1/8"	Long
<b>ME 1660-30</b>	30"			
<b>ME 1660-36</b>	36"			
<b>ME 1660-48</b>	48"			
<b>ME 1661-20</b>	20"	POL X 1/4" Inv. Fl.	1 1/8"	
<b>ME 1661-30</b>	30"			
<b>ME 1661-36</b>	36"			
<b>ME 1662-20</b>	20"	POL X POL	7/8"	
<b>ME 1662-30</b>	30"			
<b>ME 1662-36</b>	36"			
<b>ME 1662-48</b>	48"			
<b>ME 1663-20</b>	20"	POL X 1/4" Inv. Fl.	7/8"	
<b>ME 1663-30</b>	30"			
<b>ME 1663-36</b>	36"			
<b>ME 1663-48</b>	48"			
<b>ME 1664-12</b>	12"	POL x POL	7/8"	Short
<b>ME 1669-06</b>	6"	POL X 1/4" MNPT		
<b>ME 1669-12</b>	12"			
<b>ME 1669-20</b>	20"			
<b>ME 1679D-12</b>	12"			
<b>ME 1679-48</b>	48"			Long
<b>ME 1680LD-12</b>	12"			



Copper pigtails (silver soldered) for cylinder service. 1/4" O.D. tubing



Copper hogtails (silver soldered) for bulk tank service. 3/8" O.D. tubing

## Flexible Pigtails

Part No	Connection	Length Inches
<b>MER401-15</b>	MPOL x 1/4" I.F. with excess flow POL	15"
<b>MER401-20</b>		20"
<b>MER401-24</b>		24"
<b>MER401-30</b>		30"
<b>MER401-36</b>		36"
<b>MER401-48</b>		48"
<b>MER401-60</b>		60"
<b>MER425-20</b>	QCCI x 1/4" I.F. Green Nut 200M BTU	20"
<b>MER425-24</b>		24"
<b>MER425-36</b>		36"
<b>MER425-48</b>		48"
<b>MER425-60</b>		60"
<b>MER426-20</b>	QCCI x 1/4" MNPT Green Nut 200M BTU	20"

I.F. = Inverted Flare  
QCCI = Type I, Plastic Nut

## Hogtails

Part Number	Length Inches	Connection	POL Hex	Nipple	
<b>ME 1680-06</b>	6"	POL x POL	7/8"	Short	
<b>ME 1680-12</b>	12"				
<b>ME 1680-20</b>	20"				
<b>ME 1680L-20</b>	20"			Long	
<b>ME 1684-12</b>	12"	POL X 1/2" MNPT		7/8"	Short
<b>ME 1689-06</b>	6"	POL x 1/4" MNPT			
<b>ME 1689-12</b>	12"				

# Cavagna Two-Stage Type 524AS

RG



TYPE 524AS



## Two Stage Type 524AS

for use on Recreational Vehicles  
160,000 Btu  
POL x 3/8" FPT  
Meets UL 144 requirements



## 524AS-90

160,000 Btu  
90° vent  
Hardnose POL with excess flow installed in inlet.  
The Type 524AS two-stage regulator is mounted directly to the tank valve.

# Cavagna Automatic Changeover Regulators

924 NRV



A combination of the first and second stage regulator which ensures a continuous flow of gas. The regulator automatically changes to the reserve tank when the first tank is empty. The indicator on the first-stage regulator changes from green to red to indicate the initial tank is empty.

## 924 NRV

160,000 Btu  
1/4" FIF Inlet  
3/8" FPT Outlet  
Includes mounting bracket  
Come w/90-degree angle bracket

924NRV  
Meets UL144 requirements

## 924 N

160,000 Btu  
1/4" FIF Inlet  
3/8" FPT Outlet  
Includes mounting bracket  
Comes w/flat bracket



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

The MEC MEGR-291 two-stage regulators are approved for use in nearly all portable applications and outdoor cooking appliances utilizing low pressure. They feature all zinc body construction, high and low 1/8" NPT pressure tap ports, an integral second stage drip lip vent and optional standard or 90 degree vent locations.

The MEGR-291H High Capacity Compact Integral Two Stage Regulator is ideally suited for high demand RV, outdoor appliances, cabins, seasonal homes, gas fire places, water heaters, ranges or other moderate to low demand domestic home installations. (Green bonnet identifies high capacity model).

The MEGR-300 Compact Integral Two Stage 2 PSI Regulator is ideally suited for installations to reduce tank pressure to a nominal 2 PSI outlet pressure. 2 PSI systems typically incorporate a line service regulator within the home that further reduces the 2 PSI system pressure to approximately 11" WC prior to the appliance. (Red bonnet identifies 2 PSI model).

The MEGR-291, MEGR-291H and MEGR-300 Series regulators meet UL, RVIA and NFPA requirements.

### Regulator Specifications

- Type: Two Stage
- Max. Inlet Pressure: 250 PSI
- Inlet Connection: 1/4" FNPT
- Outlet Connection: 3/8" FNPT
- Exterior Finish: Raw Zinc / Powder Coated
- Diaphragm: Fabric Reinforced Molded with O-Ring Bonnet / Body Seal
- Diaphragm Type: Internal Relief - Spring Loaded
- Bonnet/ Body Material: Die Cast Zinc
- Listings: UL LISTED / UL 144
- Mounting Holes: 3-1/2" On Center
- Pressure Taps: 1/8" FNPT Plugged

MEGR-295  
MEGR-291 with  
Hard-Nose  
Excess FlowPOL



MEGR-300  
2 PSI Regulator  
with Drip Lip Vent



MEGR-291  
Compact Regulator  
with Drip Lip Vent



MEGR-291H  
High Capacity Regulator  
with Drip Lip Vent

Part No.	Description	BTU/H LPG @ 30 PSI Inlet*	Accessories
<b>MEGR-291</b>	Compact 2 Stage Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet	175,000	MEGR-900 (Z-Bracket)  MEGR-861 (1st Stage Cover)  MEGR-862 (2nd Stage Cover)
<b>MEGR-298</b>	Compact 2 Stage Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet - 90° Vent	175,000	
<b>MEGR-295</b>	Compact 2 Stage Regulator HN Excess Flow POL Inlet x 3/8" FNPT Outlet - 90° Vent	175,000	
<b>MEGR-291-20681</b>	Compact 2 Stage Regulator Green Type I QCC Inlet x 3/8" FNPT Outlet	175,000	
<b>MEGR-298-20681</b>	Compact 2 Stage Regulator Green Type I QCC Inlet x 3/8" FNPT Outlet - 90° Vent	175,000	
<b>MEGR-291H</b>	Compact 2 Stage High Capacity Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet	225,000	
<b>MEGR-298H</b>	Compact 2 Stage High Capacity Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet - 90° Vent	225,000	
<b>MEGR-295H</b>	Compact 2 Stage High Capacity Regulator HN Excess Flow POL Inlet x 3/8" FNPT Outlet - 90° Vent	225,000	
<b>MEGR-291H-20681</b>	Compact 2 Stage High Capacity Regulator Green Type I QCC Inlet x 3/8" FNPT Outlet	225,000	
<b>MEGR-298H-20681</b>	Compact 2 Stage High Capacity Regulator Green Type I QCC Inlet x 3/8" FNPT Outlet - 90° Vent	225,000	
<b>MEGR-300</b>	Compact 2 Stage 2 PSI Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet	225,000	
<b>MEGR-300-90</b>	Compact 2 Stage 2 PSI Regulator 1/4" FNPT Inlet x 3/8" FNPT Outlet - 90° Vent	225,000	

\* Setpoint: 100 PSIG Inlet @ 11" WC Outlet Flowing @ 30 SCFH / Air

MEGR-291 and MEGR-291H setpoint: 100 PSIG Inlet @ 11" WC Outlet Flowing @ 30 SCFH Air

MEGR-300 setpoint: 100 PSIG Inlet @ 2 PSI Outlet Flowing @ 30 SCFH Air

\* BTU/H Capacity @ 20% Droop

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# MEC Excela-Flo Automatic Changeover Regulators



RG

**MEGR-175CS61622-BCF Series:**  
Offers all of the same features as the compact MEGR-175S61222 series but with a full size high capacity second stage regulator option. The full size second stage diaphragm provides superior downstream regulation has heavy duty wrench flats and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage perfect for manifolding larger tanks together such as 420 LB cylinders.



## Excela-Flo

These Two Stage Automatic Changeover regulators combine the first and second stage regulator into one unit converting tank pressure to 11" WC. MEC Excela-Flo Automatic Changeover regulators prevent gas outages by switching supply cylinders over to the reserve cylinder automatically when the primary cylinder is near empty. When the primary cylinder is depleted causing the changeover to occur a red indicator will appear signifying the reserve cylinder is now in use and the primary cylinder can be refilled without loss of service.

## MEGR-175CS61222-BAF



**MEGR-175CS61222-BAF Series:**  
Offers a compact two stage regulator option for lower BTU applications such as mobile or seasonal homes. They feature a second stage adjustment from 8-14" WC (factory set @ 11" WC), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms, and large precision machined aluminum orifices providing superior downstream regulation and maximum resistance against weather or contaminated gas.

### MEGR-175CS61222 & MEGR-175CS61622 Series Specifications:

- Type: Automatic Changeover Two-Stage
- Max. Inlet Pressure: 250 PSIG
- Exterior Finish: Gold / Gray Powder Coat
- Orifice Size: .14" (Compact) & 7/32" (Full)
- Seat Material: (NBR) 1st Stage, Fluorocarbon (FKM) 2nd Stage
- Diaphragm: Fabric Reinforced (NBR) / Molded Lip O-Ring
- Bonnet/Body Seal
- Relief Type: Internal Relief - Spring Loaded
- Bonnet / Body Material: Die Cast Zinc/Plastic 1st Stage  
Die Cast Aluminum 2nd Stage
- Listings:  $cUL_{US}$  / UL 144 2<sup>nd</sup> Stage
- Mounting Holes: Standard 3-1/2" Center
- Pressure Taps: #54 Orifice 1/8" FNPT Plugged (1)
- Relief Travel Stop: Molded in  
Adjustment Cap Gray (Compact), Black (Full Size)

## MEGR-175CS61622-BCF

### MEC Excela-Flo Automatic Changeover Regulators

Part No.	Type	Primary Cylinder Capacity in BTU/H LPG <sup>(1)</sup>	Auxiliary Cylinder Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
<b>MEGR-175CS61222-BAF</b>	Compact	400,000	340,000	1/4" IF (2)	1/2" FNPT	9.5-13	11
<b>MEGR-175CS61622-BCF</b>	Full Size	650,000	570,000	1/4" IF (2)	1/2" FNPT	9-13	11

(1) Based on 30 PSIG inlet pressure and 20% droop

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

## EXCELA-FLO

The Model MEGR-253 Automatic Changeover Regulator automatically redirects LP gas vapor flow from an empty service cylinder to a reserve cylinder, without interruption of service. It features an easy to read green indicator which changes to red when the service cylinder needs to be refilled.

The MEGR-253 and MEGR-293H Series regulators meet UL, RVIA and NFPA requirements.



**MEGR-253H**  
High Capacity Automatic Changeover Regulator



**MEGR-900**  
Z-Mounting Bracket



**MEGR-RVB**  
L-Mounting Bracket



**MEGR-862**  
Automatic Changeover Regulator Cover for MEGR-253 & MEGR-291 Series

**Features:**

- Type: Two Stage
- Max Inlet Pressure: 250 PSI
- Inlet Connection: 1/4" Female Inverted Flare
- Outlet Connection: 3/8" FNPT
- Exterior Finish: Raw Zinc / Powder Coat
- Diaphragm: Fabric Reinforced Molded with O-Ring Bonnet / Body Seal
- Diaphragm Type: Internal Relief - Spring Loaded
- Bonnet/ Body Material: Die Cast Zinc
- Listings: UL LISTED / UL 144
- Mounting Holes: 3-1/2" On Center
- Pressure Taps: 1/8" FNPT Plugged

**MEGR-253**  
Automatic Changeover Regulator



### MEC Excela-Flo Automatic Changeover Regulators

Part No.	Description	Primary Cylinder BTU/ Hr.**	Reserve Cylinder BTU/ Hr.**	Covers	Mounting Bracket
<b>MEGR-253</b>	2 Stage Auto Changeover Regulator 1/4" Inv. Flare x 3/8" FPT	225,000	150,000	MEGR-862	MEGR-900 or MEGR-RVB
<b>MEGR-253H</b>	High Capacity 2 Stage Auto Changeover Regulator 1/4" Inv. Flare x 3/8" FPT	350,000	200,000		

\* Packaged option consists of a plastic clamshell with barcode

\*\* BTU/H Capacity @ 20% Droop

Note: MEGR-253 and MEGR-253H set point: 100 PSIG Inlet @ 11" WC outlet Flowing @ 30 SCFH Air

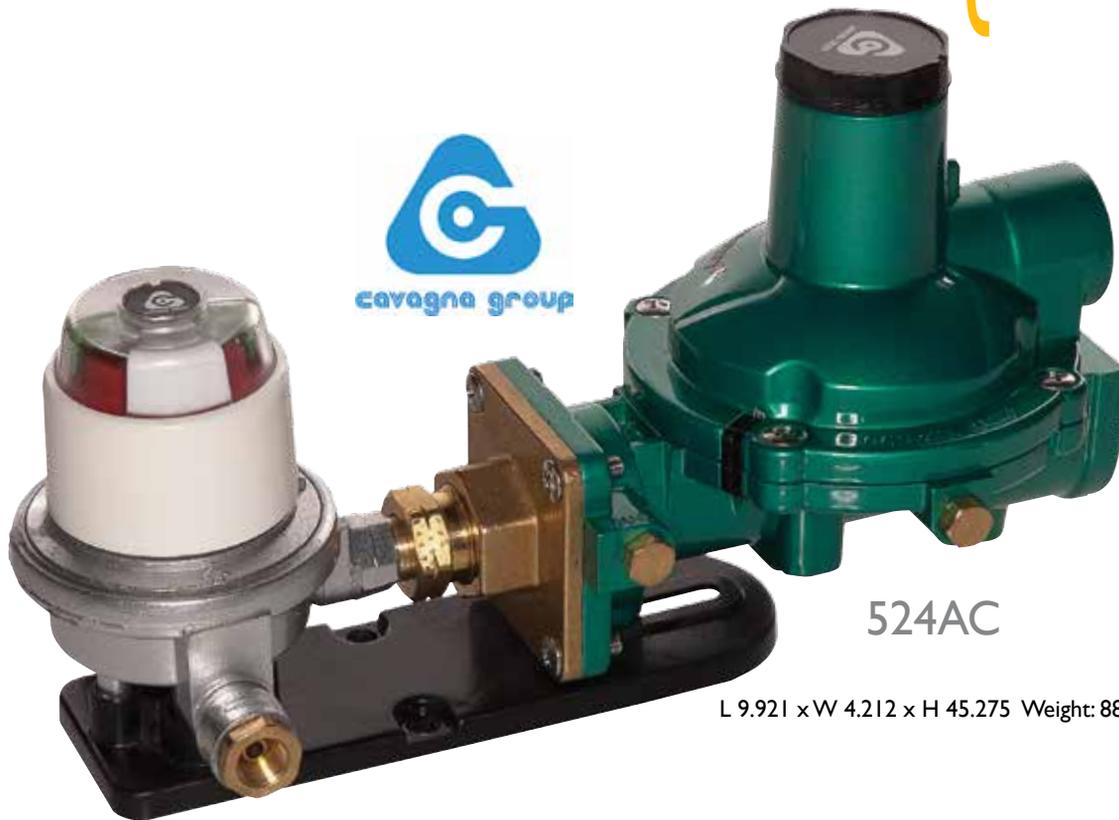
OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Kosan+ Automatic Changeover Regulators



RG

Continued on next page



524AC

L 9.921 x W 4.212 x H 45.275 Weight: 88.125 oz

## Kosan+ Automatic Changeover Regulators

Type Number	Capacity BTU/HR Propane	Inlet Connection	Outlet Connection	Pressure Set Point	Vent Style	Includes
<b>524AC</b>	600,000	1/4" Inv Fl	1/2" FNPT	11" wc	3/4" FNPT	No Accessories
<b>528B</b>	450,000	1/4" Inv Fl	1/2" FNPT	11" wc	3/4" FNPT	



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

The double stage automatic changeover regulator 524AC, combines an automatic changeover first stage regulator coupled with a second stage regulator, 988 LP. This changeover regulator is used with two DOT cylinders installed side by side and ensures continuous gas flow from the first exhausted cylinder (A) to the second reserve cylinder (B). Because the regulator body is made of zinc alloy, a plastic mounting bracket must be used.

**Start-up:**

To ensure the automatic changeover and a continuous flow of gas, turn both cylinders' gas valves on at the same time. The changeover from the first to the second cylinder (A to B) will not happen if the valve on the second cylinder is closed.

**Reading the changeover indicator:**

When both A and B cylinders are full and their valves are opened, the changeover indicator will show green. (See Fig. 1) The arrow on the changeover's knob shows which cylinder (A) is supplying gas. When that cylinder's pressure reaches less than 10 PSI, the automatic changeover to the second cylinder (B) "automatically" takes place and gas continues to flow. At that point, the indicator will then show red. (See Fig 2)

**Changing cylinders:**

Close the valve on cylinder A and turn the automatic changeover knob 180° to the right. (See Fig. 3a) If the reserve cylinder B is full and its valve is open, the automatic changeover indicator will show green. (See Fig. 3b) Remove the empty cylinder. Position a new full cylinder and open the valve. (See Fig. 3c)

**Automatic Changeover Regulator**

**Technical Specifications:**

- Body and cover: ZAMAK
- Diaphragm: reinforced
- Supplying pressure: 25-250 PSIG
- Cover screws: stainless steel
- Fittings: brass
- Gas type: propane
- Setting point: inlet pressure 100 PSI, 140,000 Btu, outlet pressure: 11 WC
- Provided flows: flow based on 25 PSI (1.725 bar) inlet pressure and 20% drop (in accordance with UL 144 standard).
- Regulator specifications: see table previous page.

Figure 1

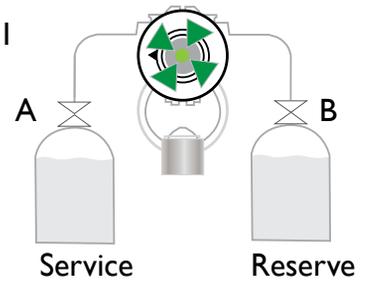


Figure 2

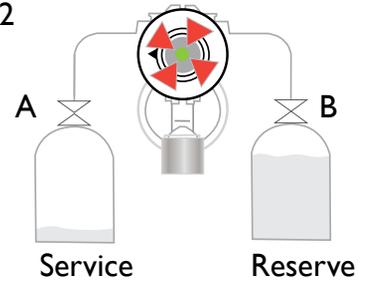


Figure 3a

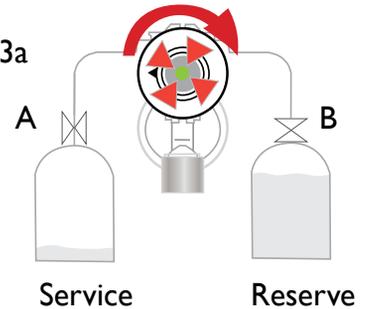


Figure 3b

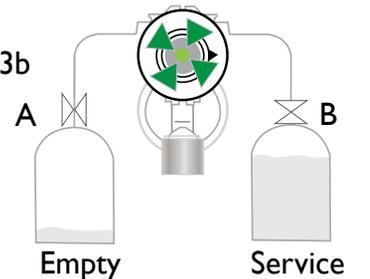
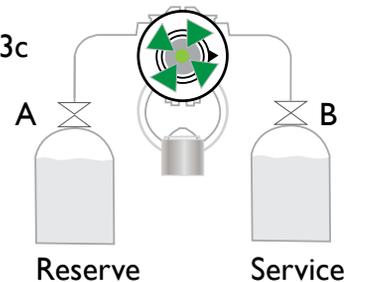


Figure 3c



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



TYPE 90/2 PSI



The Type 90 OARA pressure regulator is manufactured to supply the highest performance as both a line pressure regulator and as gas appliance regulator.

**Features:**

Precise regulating control of both full flow and of tiny pilot flows.

All models are approved by IAS, in accordance with the two different standards.

Manufactured in order to fulfill utility specifications for usage in residential, commercial and industrial applications.

Materials of all component parts are carefully selected and corrosion-resistant.

Diaphragm and washer are made of NITRILE RUBBER, which guarantees resistance to combustible gases.

Rubber is selected to work at the following ambient temperatures: -40/205°F (-40/96°C).

Housings are made of rugged die-cast aluminum.

Regulators are supplied with a vent limiter type "0" 3-18 thread 1/8" NPT.

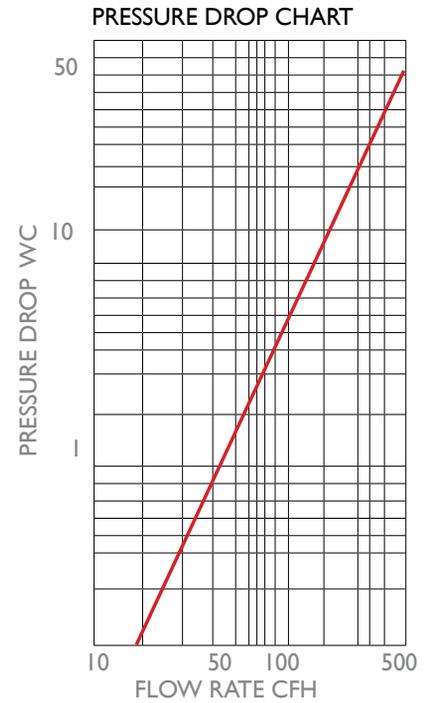
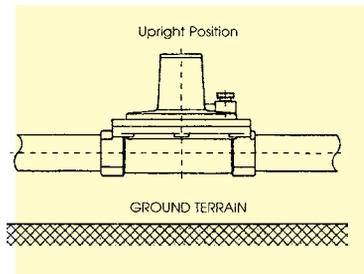
In case of diaphragm rupture, gas leakage is limited within ANSI standard levels.

Manufacturing of the regulators in terms of balancing capacity guarantees excellent control of the outlet pressure in case of absence of flow.

Rated inlet pressure	2 PSI (138 MBAR)
Outlet pressure setting	Type 901 7"-9" w.c. Type 902 9"-12" w.c. Type 903 7"-11" w.c. Type 904 7"-11" w.c. Type 905 5"-9" w.c.
Gases	Natural or LP Gas
Code	The four digit code indicate the year and the calendar week, in which the regulator was manufactured (i.e. 1112: in the twelfth week of 2011).
Ambient temperature range	-40/205°F (-40/96°C)
Pipe size NPT	1/2" X 1/2"
Venting	Vent limiter "0" 3-18 thread 1/8" NPT
Emergency exposure limits	65 PSI (4.5 BAR) inlet side only

PRESSURE DROP - 0.64 SP GR GAS EXPRESSED IN CFH (M3/H)				
Pressure drop	7.0" psi=17 mbar	1/2 psi=34.5 mbar	3/4 psi=52 mbar	1 psi=69 mbar
Flow rate CFH (m3/h)	359 (10.1)	504 (14.3)	627 (17.7)	719 (20.3)

CAPACITIES BASED ON 1" W.C. PRESSURE DROP FROM SET POINT 0.64 SP GR GAS EXPRESSED IN CFH (M3/H)						
MODEL	Outlet pressure	1/2 psi=34.5 mbar	3/4 psi=52 mbar	1 psi=69 mbar	2 psi=138 mbar	5 psi=345 mbar
90	6" w.c.	160 (4.5)	200 (5.6)	235 (6.6)	285 (8.0)	350 (9.8)
	7" w.c.	155 (4.3)	200 (5.6)	230 (6.4)	280 (7.8)	345 (9.7)
	8" w.c.	155 (4.3)	195 (5.5)	230 (6.4)	270 (7.6)	335 (9.4)
	9" w.c.	145 (4.1)	190 (5.3)	215 (6.0)	260 (7.3)	325 (9.1)
	10" w.c.	135 (3.8)	180 (5.0)	205 (5.7)	245 (6.7)	310 (8.7)
	11" w.c.	125 (3.5)	170 (4.8)	195(5.5)	235 (6.6)	300 (8.4)
	12" w.c.	125 (3.5)	165 (5.5)	195(5.5)	230 (6.4)	295 (8.3)



## Line Pressure Regulator Table of Conversion Type 90/2 PSI

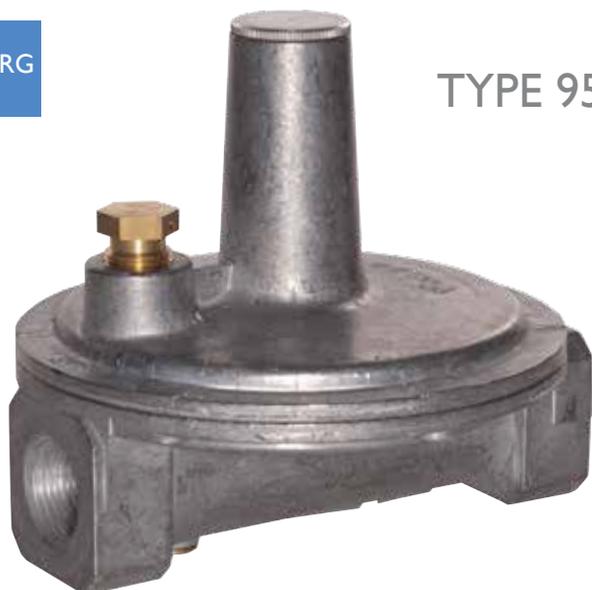
Model	Part No.	Pipe Size	Inlet Pressure	Setting	N. G.	L.P.G.
90	44-4-190-0002	1/2"	2 PSI	8"	7"-11" w.c.	-
	44-4-190-0006*	1/2"	2 PSI	7"	-	7"-11" w.c.
	44-4-190-0008*	1/2"	2 PSI	11"	-	9"-12" w.c.
	44-4-190-0004	1/2"	2 PSI	11"	-	7"-11" w.c.
	44-4-190-0013*	1/2"	5 PSI	7"	-	7"-11" w.c.
	44-4-190-0011*	1/2"	5 PSI	8"	7"-11" w.c.	-
	44-4-190-0012*	1/2"	5 PSI	11"	-	7"-11" w.c.

\*Special Order

# Line Pressure Regulators (cont.)

RG

## TYPE 95/2 PSI



L 5.964 x W 5.551 x H 5.196 Weight: 47.625 oz



The Type 95 OARA pressure regulator is manufactured to supply the highest performance as both a line pressure regulator and as a gas appliance regulator.

**Features:**

Precise regulating control of both full flow and of tiny pilot flows.

All models are approved by IAS, in accordance with the two different standards.

Manufactured in order to fulfill utility specifications for usage in residential, commercial and industrial applications. Materials of all component parts are carefully selected and corrosion-resistant.

Diaphragm and washer are made of NITRILE RUBBER, which guarantees resistance to combustible gases. Rubber is selected to work at the following ambient temperatures: -40/205°F (-40/96°C).

Housings are made of rugged die-cast aluminum.

Vent limiter is made of brass.

Regulators are supplied with a vent limiter type "0" 6-38 thread 1/8" NPT.

In case of diaphragm rupture, gas leakage is limited within ANSI standard levels.

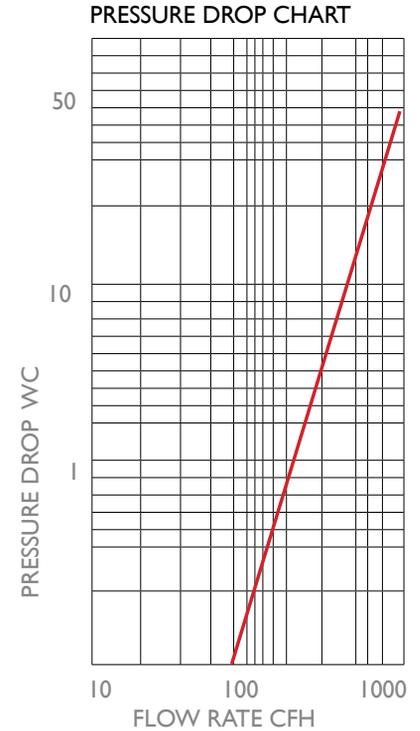
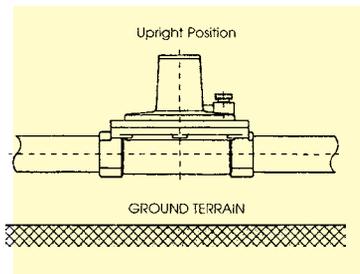
Manufacturing of the regulators in terms of balancing capacity guarantees excellent control of the outlet pressure in case of absence of flow.

Rated inlet pressure	2 PSI (138 MBAR)
Outlet pressure setting	Type 951 7"-11" w.c. Type 952 7"-11" w.c. Type 951 8"at 200 CFH Type 952 11"at 200 CFH
Gases	Natural or LP Gas
Code	The four digit code indicate the year and the calendar week, in which the regulator was manufactured (i.e. 1112: in the twelfth week of 2011).
Ambient temperature range	-40/205°F (-40/96°C)
Pipe size NPT	3/4" X 3/4"
Venting	Vent limiter "0" 6-38 3/8"NPT
Emergency exposure limits	65 PSI (4.5 BAR) inlet side only

PRESSURE DROP - 0.64 SP GR GAS EXPRESSED IN CFH (M3/H)				
Pressure drop	7.0" psi=17 mbar	1/2 psi=34.5 mbar	3/4 psi=52 mbar	1 psi=69 mbar
Flow rate CFH (m3/h)	359 (10.1)	504 (14.3)	627 (17.7)	719 (20.3)

CAPACITIES BASED ON 1" W.C. PRESSURE DROP FROM SET POINT 0.64 SP GR GAS EXPRESSED IN CFH (M3/H)						
MODEL	Outlet pressure	1/2 psi=34.5 mbar	3/4 psi=52 mbar	1 psi=69 mbar	2 psi=138 mbar	5 psi=345 mbar
95	7" w.c.	364 (10.3)	403 (11.4)	447 (12.7)	517 (14.6)	645 (18.3)
	8" w.c.	359 (10.2)	394 (11.2)	447 (12.7)	509 (14.4)	636 (18.0)
	9" w.c.	342 (9.7)	381 (10.8)	430 (12.2)	500 (14.2)	636 (18.0)
	10" w.c.	342 (9.3)	377 (10.7)	403 (11.4)	496 (14.0)	627 (17.8)
	11" w.c.	302 (8.5)	360 (10.2)	372 (10.5)	473 (13.4)	614 (17.8)

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



## Line Pressure Regulator Table of Conversion Type 95/2 PSI

Model	Part No.	Pipe Size	Inlet Pressure	Setting	N. G.	L.P.G.
95	44-4-290-0002	3/4"	2 PSI	8"	7"-11" w.c.	-
	44-4-290-0003	3/4"	2 PSI	11"	-	7"-11" w.c.
	44-4-290-0010*	3/4"	5 PSI	8"	-	7"-11" w.c.
	44-4-290-0011*	3/4"	5 PSI	11"	-	7"-11" w.c.

\*Special Order

# MEC High Pressure LP Gas Regulators



RG



MEGR-130-20  
Pre-set at 20 PSIG



inside view



cut-away view



MEGR-350  
Adjustable 0-10 PSIG



inside view



cut-away view

The MEGR-130 series fixed high pressure single stage regulators are designed to provide an economical solution for pounds to pounds service applications. The MEGR-130 can be used to regulate air as well as LP gas. Regulators must be installed in compliance with federal, state or local codes or laws in accordance with NFPA 58.

The MEGR-350 is a single stage, adjustable high pressure regulator. The body and bonnet of both the fixed and adjustable regulators are precisely machined and feature a crimped design and fabric reinforced rubber diaphragm creating a positive seal for leak-free performance.

The MEGR-360 with the Type I (QCC) is designed specifically for appliances such as turkey fryers, fish fryers, camp stoves and torch applications that require pounds to pounds pressure instead of inches water column. These regulators will meet or exceed most requirements on a specific outlet setting (0-10 PSI) depending on the application.

#### Specifications:

Type:	Adjustable or Fixed / PSI
Max. Inlet Pressure:	250 PSIG (17,2 bar)
Inlet Connection:	1/4" FNPT
Outlet Connections:	1/4" FNPT
Orifice Diameter:	0.0625"
Exterior Finish:	Red Anodized
Diaphragm:	Fabric Reinforced Buna N
Body/ Bonnet Material:	Die Cast Zinc
BTU/H Capacity:	1,200,000 BTU/H @ 40 PSI
Listings:	UL LISTED / UL 144

Part No.	Description
<b>MEGR-130-05</b>	Compact High Pressure Fixed Reg 5 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-130-10</b>	Compact High Pressure Fixed Reg 10 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-130-20</b>	Compact High Pressure Fixed Reg 20 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-130-30</b>	Compact High Pressure Fixed Reg 30 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-350*</b>	Compact High Press. Adjustable Reg 0-10 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-350-20*</b>	Compact High Press. Adjustable Reg 0-20 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-350-30*</b>	Compact High Press. Adjustable Reg 0-30 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-351*</b>	Compact High Pressure Adjustable Reg 0-10 PSI - Full Flow POL x 1/4" FNPT
<b>MEGR-360*</b>	Compact High Pressure Adjustable Reg 0-10 PSI - Black F. QCC x 1/4" FNPT

\*Always shut off gas at cylinder when not in use.

30	OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
	800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Cavagna High Pressure Outdoor Cooking Regulators

- Zinc die casting
- Outlet: 1/4" FNPT at 90° or 180°
- Inlet: 1/4" FNPT
- Outlet Pressure: 9, 10, 15 or 16 psi
- Setting Point: 11 WC +/-, 35,000 Btu/h
- Inlet Pressure: 25 - 250 psi

The single stage regulator has to be installed in compliance with state or federal laws and with NFPA58. It is designed to supply gas appliances functioning at pressure equal to or higher than 0.5 PSI. This regulator will be connected to gas appliances through high pressure flexible hoses. Depending on the versions the outlet fitting may be at 90° or 180° in comparison with inlet fitting.



RG

TYPE 766 HP FIXED

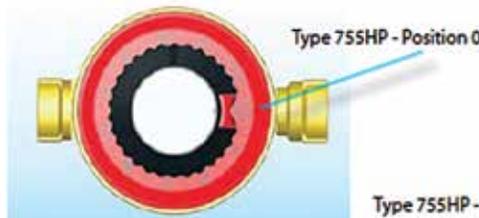
- Zinc die casting
- Outlet: 1/4" FNPT
- Inlet: 1/4" FNPT
- Outlet Pressure: 0 - 10 psi
- Inlet Pressure: 25 - 250 psi

The 755HP regulator is especially designed for gas appliances such as turkey fryers, fish fryers, camping stoves and torches, i.e. appliances that need variable pressure in terms of psi.

The regulator flow rate is regulated by rotating the hand-wheel on the regulator from 0 to 10. Position '0' means TURNED OFF (no gas flowing). For safety reasons '0' is locked. Gas begins to flow by pressing the red button on the hand-wheel and turning the hand-wheel clockwise at the same time.



TYPE 755 HP ADJUSTABLE



## Single Stage Regulators



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Excela-Flo High Pressure Regulators



RG



MEGR-164 Series



Excela-Flo

The MEGR-164 Series adjustable high-pressure regulators offer a wide selection of available pressure ranges. High pressure regulators are typically used to reduce tank pressure to an intermediate pressure for use by another regulator. They may be used as high pressure regulators on distribution systems when used in conjunction with first-stage downstream regulators.

When equipped with an integral relief valve (MEGR-164SR Series), the regulator may be used as a final-stage regulator on high pressure systems. It may also be used as a first-stage regulator when set at 10 PSIG (0,69 bar) or less. The 1/4"-inch FNPT tapped side outlet can be used to install a pressure gauge or a hydrostatic relief valve. This series contains brass materials that are not compatible with anhydrous ammonia service.

### Regulator Specifications

- Type: Adjustable/ PSI
- Max. Inlet Pressure: 250 PSI
- Inlet Connection: 1/2" FNPT or 3/4" FNPT
- Outlet Connection: 1/2" FNPT or 3/4" FNPT
- Exterior Finish: Gray Urethane
- Regulator Spring: Steel
- Stem Guide/Disk Holder: Stainless Steel
- Diaphragm: Fabric Reinforced Nitrile (NBR)
- Bonnet/Body Material: Cast Aluminum
- Vent: Non-Aluminum
- Listings: UL LISTED / UL 144

Part No.	Description	Outlet Pressure Setting, PSIG	Outlet Adjustment Range, PSIG	BTU/H LPG @ 100 PSI Inlet
<b>MEGR-164/33</b>	1/2" FNPT x 1/2" FNPT Adjustable High Pressure Regulator	10	0-30	2,700,000
<b>MEGR-164/35</b>		20	0-30	3,600,000
<b>MEGR-164/36</b>		40	0-60	4,200,000
<b>MEGR-164/222</b>		50	0-125	5,300,000
<b>MEGR-164SR/21</b>	1/2" FNPT x 1/2" FNPT Adjustable High Pressure Regulator w/ Internal Relief Valve	10	0-15	2,700,000
<b>MEGR-164SR/22</b>		15	0-30	3,000,000
<b>MEGR-164SR/23</b>		20	0-30	3,600,000
<b>MEGR-164-6/33</b>	3/4" FNPT x 3/4" FNPT Adjustable High Pressure Regulator	10	0-30	2,700,000
<b>MEGR-164-6/35</b>		20	0-30	3,600,000
<b>MEGR-164-6/36</b>		40	0-60	4,200,000
<b>MEGR-164-6/222</b>		50	35-100	5,300,000

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## TYPE 94HP



The 94 series direct operated regulators are designed for high-pressure service and can be used on either vapor or liquid applications. The outlet pressure ranges from 3 to 100 psig.

High-pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They are also used for final stage service on a particular application, as on high-pressure burners or other medium sized commercial/industrial applications.

**The type 942 HP** regulator is an adjustable high-pressure regulator with a wide range of outlet pressures. It is not equipped with a limited relief valve.

**The type 948HP** regulator is an adjustable high-pressure regulator with a wide range of outlet pressures. It is equipped with a limited relief valve.

Both types are equipped with a 1/4" FNPT side outlet which is normally plugged and provides an opening for an outlet pressure gauge.

L 4.33 x W 4.72 x H 8.26 Weight: 31.375 oz

**Kosan**<sup>+</sup>LINE



### Technical Specifications:

Body and cover: aluminum

Diaphragm: reinforced

Supplying pressure: 25-250 PSI

Cover screws: stainless steel

Gas type: propane

Provided flows: flow based on inlet pressure 20 psig ( 1.38 bar) greater than outlet with 20% drop (in accordance with UL 144 standard)

Regulator specifications: see following table

Type	Description	Capacity BTU/hr	Outlet Pressure Setting	Outlet Adjustment Range	Inlet and Outlet Connections
<b>942HP-03</b>	Basic Regulator	2,625,000	10 PSIG	3-15 PSIG	1/2" NPT
<b>942HP-04</b>		3,600,000	20 PSIG	5-35 PSIG	
<b>942HP-05</b>		4,150,000	40 PSIG	30-60 PSIG	
<b>942HP-06</b>		5,250,000	50 PSIG	35-100 PSIG	3/4" NPT
<b>948HP-01</b>	With Relief Valve	2,625,000	10 PSIG	3-15 PSIG	1/2" NPT
<b>948HP-02</b>		3,000,000	15 PSIG	5-20 PSIG	
<b>948HP-03</b>		3,600,000	20 PSIG	5-35 PSIG	

# 8IHP Series Direct Operated Regulators

RG



TYPE 8IHP



## Kosan<sup>+</sup>LINE

The 8IHP series direct operated regulators are designed for high-pressure service and for large loads as in factories, office buildings restaurants, etc. The outlet pressure ranges from 5 to 20 psig. High-pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They are also used for final stage service on a particular application (pounds to pounds).

**The type 8IHP** regulator is an adjustable high-pressure regulator with a wide range of outlet pressures. They can be equipped with a limited relief valve.

**The type 8IHP** regulators are equipped with a 1/4" FNPT side outlet which is normally plugged and provides an opening for an outlet pressure gauge.

The type 8IHP regulators can be equipped with a Viton trim.

L 6.027 x W 4.33 x H 4.94 Weight: 40.75 oz

### Technical Specifications:

- Body and cover: aluminum
- Diaphragm: reinforced
- Supplying pressure: 25-250 PSI
- Cover screws: stainless steel
- Inlet fitting screws: stainless steel
- Gas type: propane
- Provided flows: flow based on inlet pressure 20 psig ( 1.38 bar) greater than outlet with 20% drop (in accordance with UL 144 standard)
- Regulator specifications: see following table

Type	Capacity BTU/hr	Orifice Size	Inlet-Outlet Connection	Outlet Pressure Range	Outlet Pressure Setting
<b>8I2HP-03</b>	6,080,000	1/2"	3/4" NPT	5-20 PSIG	10 PSIG
<b>8I2HP-04</b>	10,755,000				
<b>8I2HP-01</b>	10,773,000		1" NPT		
<b>8I2HP-02<sup>2</sup></b>			3/4" NPT		
<b>8I1HP-02<sup>3</sup></b>	10,755,000		1" NPT		
<b>8I1HP-01<sup>3</sup></b>	10,773,000		2" NPT		
<b>8I8HP-11<sup>1</sup></b>	6,080,000	3/8"	3/4" NPT		
<b>8I2HP-05</b>	10,755,000	1/2"	2" NPT		

<sup>1</sup> = has internal relief  
<sup>2</sup> = fluorocarbon trim (GLTViton)  
<sup>3</sup> = w/monitoring

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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MEGR-6120 Series



Adjustable Configurations	
Part No.	Description
<b>MEGR-6120-30</b>	High Pressure Adjustable Reg 1-30 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6120-60</b>	High Pressure Adjustable Reg 1-60 PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6120-100</b>	High Pressure Adjustable Reg 1-100 PSI - 1/4" FNPT Inlet/Outlet



MEGR-6121 Series

Non-Adjustable Configurations	
Part No.	Description
<b>MEGR-6121-05</b>	High Pressure Fixed Reg 5PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-10</b>	High Pressure Fixed Reg 10PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-20</b>	High Pressure Fixed Reg 20PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-30</b>	High Pressure Fixed Reg 30PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-40</b>	High Pressure Fixed Reg 40PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-50</b>	High Pressure Fixed Reg 50PSI - 1/4" FNPT Inlet/Outlet
<b>MEGR-6121-60</b>	High Pressure Fixed Reg 60PSI - 1/4" FNPT Inlet/Outlet

## Excela-Flo

The MEGR-6120 Series are UL listed high-pressure regulators that meet a variety of applications for liquid or vapor service. The compact body design makes these regulators particularly useful in installations with space limitations. The basic MEGR-6120 Series regulators come equipped with a handwheel adjustment. The non-adjustable ME6121 Series provides a tamper-resistant spring case and one of seven fixed set points: 5, 10, 20, 30, 40, 50, or 60 PSI.

The MEGR-6120 & MEGR-6121 Series are UL listed as high pressure, non-relief regulators. Both MEGR-6120 & MEGR-6121 Series regulators contain brass materials that are not compatible with anhydrous ammonia service.

### Regulator Specifications

- Type: Adjustable or Fixed / PSI
- Max. Inlet Pressure: 250 PSI (17, 2 bar)
- Inlet Connection: 1/4" FNPT
- Outlet Connection: 1/4" FNPT
- Gauge Port: 1/4" FNPT
- Exterior Finish: Red Wet Coat
- Diaphragm: Fabric Reinforced Buna N
- Body / Bonnet Material: Die Cast Aluminum
- Liquid Capacity: 3-5 GPH
- Listings: UL LISTED / UL 144

CAPACITIES: BTU/H LPG (VAPOR)		
Outlet Set Point	Inlet Pressure	BTU / HR
15 PSI	50 PSI	850,000
15 PSI	100 PSI	1,700,000
15 PSI	150 PSI	2,500,000
20 PSI	50 PSI	900,000
20 PSI	100 PSI	1,800,000
40 PSI	100 PSI	1,500,000
40 PSI	150 PSI	2,000,000
50 PSI	100 PSI	1,300,000
50 PSI	150 PSI	1,800,000
50 PSI	200 PSI	2,300,000

\*Approximate BTU/H vapor capacities taking 10-20% droop into consideration

Note: Side Outlet Connection Style (Plugged): 1/4" MNPT, pressure gauge (MEJ500 Series) can be installed

# 49 Series Direct Operated Regulators

RG

**Kosan**<sup>+</sup>LINE



492



493



494



495

The 49 series direct operated regulators are designed for high-pressure service and can be used on either vapor or liquid applications. The outlet pressure ranges from 3 to 135 psig.

High-pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator.

Note: Type 49 regulators do not have an internal relief valve. **The type 492HP** regulator is an adjustable high-pressure regulator with a hand wheel adjustment.

**The type 493HP** regulator is a wrench adjustable high-pressure regulator. It is very compact.

**The type 494HP** regulator is a preset high-pressure regulator with no field adjustment.

**The type 495HP** regulator is an adjustable high-pressure regulator with a dial cap adjustment. They are also used for final stage service. All types are equipped with 1/4" FNPT side outlet which is normally plugged and provides an opening for an outlet pressure gauge.

**Technical Specifications:**

Body and cover: aluminum

Diaphragm: reinforced

Supplying pressure: 25-250 PSI

Cover screws: stainless steel

Gas type: propane

Provided flows: flow based on inlet pressure 20 psig ( 1.38 bar) greater than outlet with 20% drop (in accordance with UL 144 standard)



Type	Inlet/Outlet Connections	Description	Capacity BTU/hr	Outlet Pressure Setting	Outlet Adjustment Range	
<b>492HP-01</b>	1/4" FNPT	Basic Regulator (Handwheel Adjustment)	675,000	15 PSIG	3-20 PSIG	
<b>492HP-02</b>			750,000	20 PSIG	3-35 PSIG	
<b>492HP-03</b>			1,200,000	40 PSIG	30-60 PSIG	
<b>492HP-04</b>			1,000,000	50 PSIG	50-135 PSIG	
<b>492HP-05</b>			750,000	20 PSIG	5-35 PSIG	
<b>493HP-02</b>		Basic Regulator (Wrench Adjustment)	675,000	15 PSIG	3-20 PSIG	
<b>493HP-01</b>			750,000	20 PSIG	3-35 PSIG	
<b>493HP-03</b>			1,200,000	40 PSIG	30-60 PSIG	
<b>493HP-04</b>			1,000,000	50 PSIG	50-135 PSIG	
<b>493HP-05'</b>			750,000	20 PSIG	5-35 PSIG	
<b>494HP-02</b>		Non-Adjustable	Non-Adjustable	400,000	10 PSIG	Not-Adjustable
<b>494HP-01</b>				600,000	15 PSIG	
<b>494HP-03</b>				750,000	20 PSIG	
<b>495HP-01</b>		Dial Cap Adjustment	Dial Cap Adjustment	675,000	15 PSIG	5-20 PSIG
<b>495HP-02</b>				750,000	20 PSIG	5-30 PSIG
<b>495HP-03</b>	1,200,000			40 PSIG	20-50 PSIG	

' = Inlet M POL



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## Excela-Flo

The MEGR-1133 Series Second Stage / Industrial regulators are large capacity, self operated, low or high pressure units for use in applications with loads up to 110,000,000 BTU/H capacity. These regulators are best suited for industrial applications where high flow capacity and a downstream monitor control line are required.



### MEGR-1133 Specifications

- Type: Adjustable / PSI / WC
- Orifice Diameter: 2"
- Orifice Material: Aluminum
- Max. Inlet Pressure: 60 PSI
- Regulator Spring: Steel
- Stem Guide/Disk Holder: Aluminum
- Valve Stem: Aluminum
- Exterior Finish: Gray Powder Coat
- Diaphragm: Fabric Reinforced Nitrile (NBR)
- Body Material: Iron
- Bonnet Cap & Bonnet: Aluminum

MEGR-1133



Part No.	Description	Inlet/ Outlet	Orifice	Range of Adjustment	Outlet Set Point	BTU/H LPG @ 10 PSI Inlet	BTU/H LPG @ 20 PSI Inlet
<b>MEGR-1133H-2</b>	Second Stage Regulator	2" FNPT	2"	2-5 PSI	2 PSI	27,405,000	52,700,000
<b>MEGR-1133H-3</b>	Second Stage Regulator	2" FNPT	2"	5-10 PSI	5 PSI	22,300,000	41,600,000
<b>MEGR-1133L-4</b>	Second Stage Regulator	2" FNPT	2"	8.5"-18" WC	14" WC	45,600,000	77,100,000
<b>MEGR-1133L-6</b>	Second Stage Regulator	2" FNPT	2"	.75-2 PSI	2 PSI	46,700,000	77,100,000

Note: Other configurations available upon request

## Cavagna/Sensus High Capacity Regulators



243-12-2

Sensus 243 12-2, is a reliable high capacity regulator used in 2-PSI systems on commercial and industrial applications requiring up to 10,000,000 Btu's



### 2-PSI Service Regulators

Part No	BTU Capacity	Inlet/ Outlet	Pressure Range	Pressure Set Point	Manufacturer
<b>988TP-22</b>	500,000	1/2" FNPT	2 psig	2 psig	Cavagna
<b>243-12-2</b>	10,000,000	2" FNPT	1-2.2 psig	2 psig	Sensus

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# First-Stage/High Pressure Industrial Regulators



RG

The MEGR-1627 Series commercial/industrial regulator is a large capacity, high pressure unit for use in conjunction with MEGR-CS1200 or MEGR-S1202 Series regulators. It can also be used on final-stage (PSI to PSI) service. The diaphragm case and/or regulator body on the MEGR-1627 Series can be rotated in any of four positions to allow installation in locations with limited space. Available with a monitor or integral relief valve. The MEGR-1627 Series is perfectly suited for jurisdictional systems, grain dryers, direct fired vaporizers or other high capacity service applications.

The MEGR-1630 Series First Stage / Industrial regulators are large capacity, high pressure units for use in conjunction with MEGR-S1202 Series regulators. They can also be used on final stage (pounds-to-pounds) service. These regulators are best suited for industrial applications where high flow capacity is required.

## Regulator Specifications

- Type: Adjustable / PSI
- Orifice Diameter: 3/8", 5/16" or 1/2"
- Orifice Material: Aluminum
- Max. Inlet Pressure: 250 PSI
- Regulator Spring: Steel
- Stem Guide / Disk Holder: Stainless Steel
- Valve Stem: Steel
- Exterior Finish: Grey Powder Coat
- Diaphragm: Fabric Reinforced Nitrile (NBR)
- Bonnet Cap & Housing/Body Material: Cast Aluminum/ Iron
- Temp. Range: -20° F / 180° F
- Listings: UL LISTED / UL 144



MEGR1627



Part No.	Description	Inlet/Outlet	Orifice	PSIG Outlet Set Point	PSIG Outlet Range	Monitor	BBTU/H LPG @ 100 PSI Inlet	BTU/H LPG @ 20 PSI Inlet
<b>MEGR1627/497</b>	First Stage High Pressure Regulator	1" FNPT	1/2"	20	15-40	No	36,600,000	6,050,000
<b>MEGR1627/576</b>		2" FNPT	1/2"	10	5-20	No	45,000,000	6,003,000
<b>MEGR1627/5810</b>		3/4" FNPT	3/8"	10	5-20	No	11,700,000	4,700,000
<b>MEGR1627/6210</b>		3/4" FNPT	1/2"	10	5-20	No	12,400,000	6,700,000
<b>MEGR1627/7710</b>		1" FNPT	1/2"	10	5-20	No	25,100,000	6,900,000
<b>MEGR1627M/267</b>		2" FNPT	1/2"	10	5-20	Yes	36,100,000	6,003,000
<b>MEGR1627M/471</b>		1" FNPT	1/2"	10	5-20	Yes	25,100,000	6,900,000
<b>MEGR1627R/113</b>		3/4" FNPT	3/8"	10	5-20	Relief	9,800,000	4,200,000
<b>MEGR1627V/7710*</b>		1" FNPT	1/2"	10	5-20	No	25,100,000	6,900,000

\*Viton® construction

Part No.	Description	Inlet/Outlet	Orifice	PSIG Outlet Set Point	Outlet PSIG Range	*SCFH/HR LPG	BTU/H LPG @ 100 PSI Inlet	BTU/H LPG @ 20 PSI Inlet
<b>MEGR-1630-104/78</b>	First Stage Regulator	2" FNPT	1/2"	10	8-20	18,900	47,000,000	7,700,000

Note: Other configurations and materials available upon request.



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## MEGR-IHSRL

These light commercial second stage regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11"WC.

**MEGR-IHSRL Series:** Offers a full size high capacity light commercial type regulator with an adjustment range from 6-14" WC (factory set @ 11" WC), a heavy duty cast iron body with a universal body to bonnet union for fast relocation of inlet to outlet vent location.

- Type: Second Stage
- Max. Inlet Pressure: 40 PSIG
- Exterior Finish: Gray Powder Coat
- Diaphragm: Fabric Reinforced - NBR
- Relief Type: Internal Relief - Spring Loaded
- Bonnet/Body Material: Die Cast Aluminum/Cast Iron
- Orifice Size: 3/8"

MEC Excela-Flo Light Commercial Second Stage Regulators					
Part No.	Capacity in BTU/H LPG <sup>(1)</sup>	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
<b>MEGR-IHSRL-BFC</b>	2,000,000	3/4" FNPT	3/4" FNPT	6-14	11
<b>MEGR-IHSRL-CFC</b>	2,500,000	1" FNPT	1" FNPT	6-14	11

(1) Based on 10 PSIG inlet pressure and 20% droop

# Second-Stage/Low Pressure Industrial Regulators



RG

The MEGR-SI 202/MEGR-CSI 200 Series commercial/ industrial regulators are large capacity, low pressure second stage units for installation at schools, bakeries, and similar applications. They contain a limited capacity internal relief valve and can be used in conjunction with either MEGR-1627 Series or MEGR-1630 Series high-pressure regulators.

For high capacity installations, the MEGR-1289H Series relief valve is required to be installed in the downstream system.



MEGRSI 202/  
MEGRCSI 200

### Regulator Specifications

- Type: Adjustable / Inches WC or PSI
- Orifice Diameter: 3/8", 5/16", 1/2" or 1"
- Max. Inlet Pressure: 25 PSIG
- Body Material: Cast Iron
- Regulator Spring: Music Wire
- Spring Case/ Stem Guide/ Disk Holder: Aluminum
- Exterior Finish: Gray Powder Coat
- Disk/ Diaphragm and O-Ring: Fabric Reinforced Nitrile (NBR)
- Closing Cap Gasket: Neoprene



Part No.	Description	Inlet/Outlet Connection Style	Orifice	Oulet Pressure Range	Oulet Pressure Setting	Maximum Operating Inlet Pressure	BTU/H LPG @ 25 PSI Inlet	BTU/H LPG @ 10 PSI Inlet
<b>MEGRCSI200IR6EC1</b>	Second Stage Low Pressure Regulator	3/4" FNPT	1/2"	6 - 14" WC	11" WC	25 PSIG	2,100,000	1,600,000
<b>MEGRCSI200IR6EC3</b>		1" FNPT	1/2"				2,500,000	1,900,000
<b>MEGRCSI200IR6EC6</b>		1-1/4" FNPT	1/2"		3,100,000		2,800,000	
<b>MEGRCSI200IR7EC1</b>		3/4" FNPT	5/16"		~1,250,000		~985,000	
<b>MEGRCSI200IR7EC3</b>		1" FNPT	5/16"	~1,620,000	~1,525,000			
<b>MEGRSI202G-BNC</b>		1-1/2" FNPT	1"	9 - 18" WC	11" WC		14,700,000	10,800,000
<b>MEGRSI202G-CNC</b>		2" FNPT	1"				30,000,000	23,000,000
<b>MEGRSI202H-CNK</b>		2" FNPT	1"				1.5-3.25 PSI	2 PSI

\*Other configurations and materials available upon request.

~ Flow Rates listed in BTU Natural Gas

\*WC = Water Column



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TYPE 47

## Kosan<sup>+</sup>LINE

Adjustable inlet/outlet position

Complete range of inlet/outlet connections

Aluminum regulator body

Cast Iron flange with rotating body

Extreme temperature resistant diaphragm

Integral relief with 1" FPT connection

Protective powder coating

Stainless steel screws and bolts



Part No.	BTU/hr	Connection	Outlet Pressure Setting
<b>478LP-04</b>	2,500,000	3/4" FPT	11" WC
<b>478LP-05</b>	3,800,000	1" FPT	
<b>478LP-06</b>	3,900,000	1-1/4" FPT	
* BTU Flow Capacities with 10 psi inlet x 11" WC outlet			

# MEC Excelerator 4" Flanged Internal Valves

## Continued next page



ME990-4F

VL



Intended for use on transport trucks and large storage tanks with 4" flanged connections in directional or bi-directional flow applications. Provides both manual shut-down as well as excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator open/ closing devices.



**Excelerator**  
Internal Valves™

### 4" Flanged Internal Valve Features

- All stainless construction
- Precision machined stem & stem guide
- Fully retained disc
- Largest variety of excess flow closing values
- Available with standard or #5 mesh filter screen
- Corrosion resistant sleeved flange bolt holes
- Xylan coated corrosion resistant mounting studs
- Removable data plate
- Threaded packing gland with seal ejector spring
- Standard construction utilizes Nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts



### MEC Excelerator™ 4" Internal Valves

Part No. *	Description
<b>ME990-4F-"X"</b>	Excelerator™ 4" Single Flange Internal Valve - Only
<b>ME990A-4F-"X"</b>	Excelerator™ 4" Single Flange Internal Valve - with Pneumatic Actuator
<b>ME990AR-4F-"X"</b>	Excelerator™ 4" Single Flange Internal Valve - with Rotary Actuator
<b>ME990M-4F-"X"</b>	Excelerator™ 4" Single Flange Internal Valve - with Manual Latch

\* Note: Indicate desired excess flow closing value when ordering - see chart for values

i.e. ME990-4F-650 (650 GPM)

For #5 Mesh screen add /5 e.i. ME990-4F-650/5

To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME990AK-4F-500

To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME990AN-4F-500

To order Viton® add "V" for Viton® after the prefix part number i.e. ME990AV-4F-500



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# MEC Excelerator 4" Flanged Internal Valves Service and Repair Parts (cont.)

Excelerator Internal Valves 4" Flanged	<b>ME990-4F-VRK</b>	Excelerator 4" Internal Valve Rebuild Kit
	<b>ME990-4F-SRK</b>	Excelerator 4" Internal Valve Seal Repair Kit
	<b>ME990-4F-PRK</b>	Excelerator 4" Internal Valve Stem Packing Repair Kit
	<b>ME990-4F-PGA</b>	Excelerator 4" Internal Valve-Stem Packing Gland Assembly
	<b>ME990-4F-I44</b>	Excelerator 4" Internal Valve Filter Screen Perforated - Stainless Steel
	<b>ME990-4F-I45</b>	Excelerator 4" Internal Valve Filter Cap Perforated - Stainless Steel
	<b>ME990-4F-I46</b>	Excelerator 4" Internal Valve Filter Screen Retain Bolt - 1/4-28
	<b>ME990-4F-I53</b>	Excelerator 4" Internal Valve Inlet Flange Gasket
	<b>ME990-4F-I72</b>	Excelerator 4" Internal Valve Outlet Flange Gasket
	<b>ME990-4F-I62</b>	Excelerator 4" Internal Valve Filter Screen/Cap #5 MESH
	<b>ME990-4F-I51</b>	4" Internal Valve Mounting Stud 6-3/4"OAL B7 Xylan Coated
	<b>ME990-4F-I06-"X" *</b>	Excelerator 4" Single Flange Internal Valve-Excess Flow Spring

VL

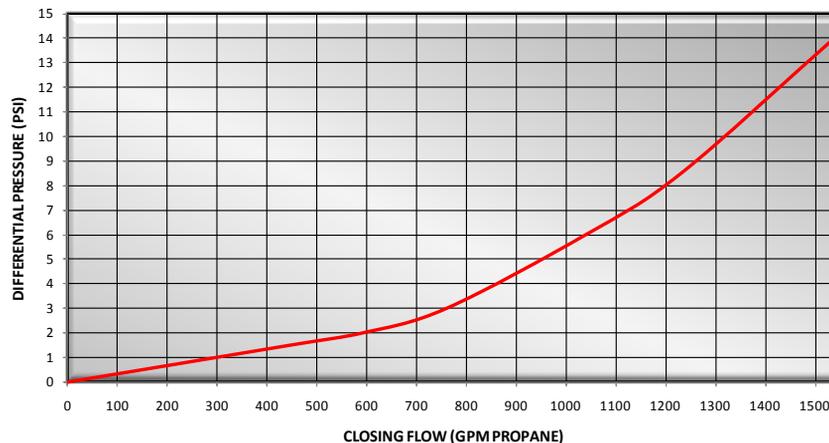
MEC Excelerator 4" Internal Valve Accessories	
Part No.	Description
<b>ME208SF</b>	PowerStroke Actuator
<b>ME228</b>	PowerTorq Direct Drive Actuator

\*Note: Indicate desired excess flow closing value when ordering-see chart for values  
Example: ME990-4F-650 (650 GPM)

"X"	4" Valve Liquid Closing Flow Values
375	375 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow
650	650 GPM LPG Closing Flow
850	850 GPM LPG Closing Flow
1250	1,250 GPM LPG Closing Flow
1500	1,500 GPM LPG Closing Flow
* For NH3 Multiply GPM by .90	



4" Internal Valve Liquid LPG Closing Flow-Downward Discharge



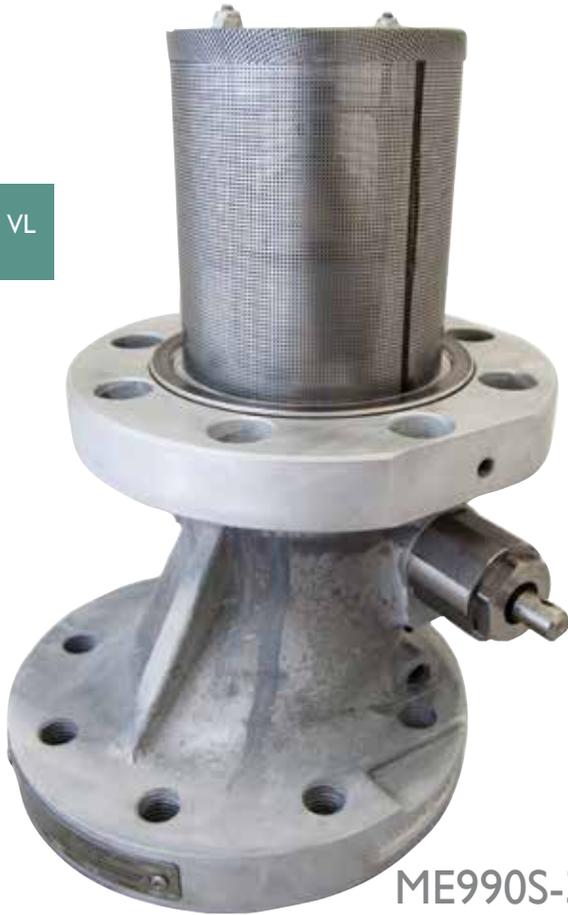
OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Next Generation 3" Double Flanged Off-Set Internal Valves

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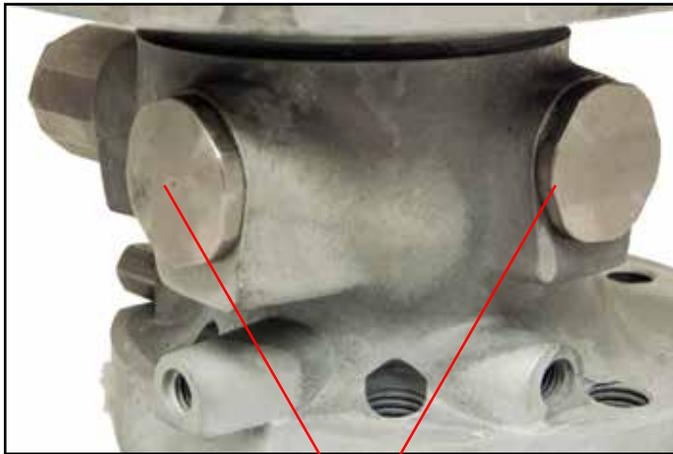


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ME990S-3DFO

Intended for use on bobtail delivery trucks with 3" flanged connections in directional or bi-directional flow applications. The 3" offset outlet flange prevents pump installation interference with truck frame rails, cross members, PTO covers, drive shafts, and other common obstacles when remounting bobtail vessels onto new chassis. In order to reduce the amount of offset from the 2" maximum to 1-1/4", simply rotate the inlet flange connection by 1 bolt hole either direction. To eliminate the offset entirely, simply rotate 1 more bolt hole. The Excelerator™ offset is equipped with three separate packing gland locations to prevent interference while mounting the valve actuator no matter how you choose to mount the valve. Provides both manual shut-down and excess flow closing in the event the of the valve being separated from the tank. Can be equipped with pneumatic or rotary actuator open/closing devices. All valve models are equipped with a break-away feature in the cast body which permits the pump or piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss.



Alternate Gland Ports (Plugged)

- Body outlet flange offset 2" from inlet flange
- Rotate valve body in either direction 1 bolt hole to reduce offset to 1-1/4"
- Standard with 3 gland ports for stem relocation (2 plugged)
- Each gland port can accept pneumatic or rotary type actuators
- Durable steel body with cadmium surface plating
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem & stem guide
- Fully retained nitrile seat disc
- Largest variety of excess flow closing values
- Corrosion resistant sleeved flange bolt holes
- Xylan coated corrosion resistant mounting studs
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- Available with 316 Stainless Steel bodies
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts



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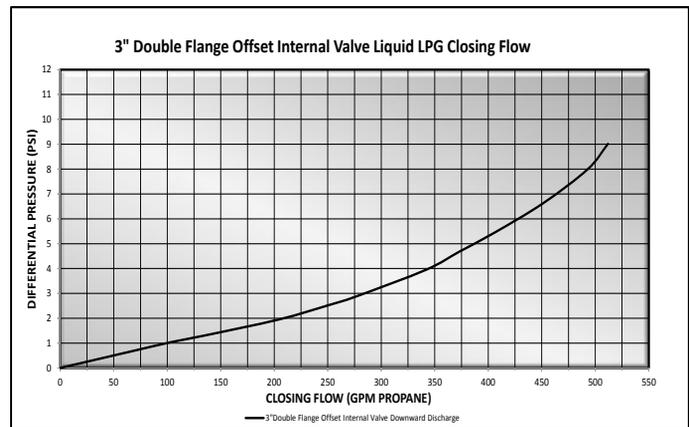
# Next Generation 3" Double Flanged Off-Set Internal Valves (cont.)

MEC Excelerator™ 3" Double Flanged Offset Internal Valves	
ME990S-3DFO-"X"	<b>Excelerator™</b> 3" Double Flange Offset Bobtail Internal Valve - Only
ME990SA-3DFO-"X"	<b>Excelerator™</b> 3" Double Flange Offset Bobtail Internal Valve - with Pneumatic Actuator
ME990SAR-3DFO-"X"	<b>Excelerator™</b> 3" Double Flange Offset Bobtail Internal Valve - with Rotary Actuator
*Note: Indicate desired excess flow closing value when ordering - see chart for values i.e. ME990S-3DFO-250 (250 GPM) To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME990SK-3DFO-300 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME990SN-3DFO-300 To order Viton® add "V" for Viton® after the prefix part number i.e. ME990SV-3DFO-300	

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"X"	3" Valve Liquid Closing Flow Values
175	175 GPM LPG Closing Flow
250	250 GPM LPG Closing Flow
300	300 GPM LPG Closing Flow
375	375 GPM LPG Closing Flow
400	400 GPM LPG Closing Flow
475	475 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow
For NH <sub>3</sub> Multiply GPM by .90	



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# MEC Excelerator 3" Flanged Internal Valves



## ME990S-3DF SERIES



Intended for use on bobtail delivery trucks, transport trucks and large storage tanks with 3" flanged connections in directional or bi-directional flow applications. Provides both manual shut-down and excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator open/closing devices. All valve models are equipped with a break-away feature in the cast body which permits the pump or piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss.

### 3" Flanged Internal Valve Features

- Durable steel body with cadmium surface plating
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem & stem guide
- Fully retained Nitrile seat disc
- Largest variety of excess flow closing values
- Corrosion resistant sleeved flange bolt holes
- Xylan coated corrosion resistant mounting studs
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes Nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- Available with 316 Stainless Steel bodies
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts

## ME990-3F-24 SERIES



MEC Excelerator™ 3" Flanged Internal Valves	
Part No. *	Description
<b>ME990S-3DF-"X"</b>	Excelerator™ 3" Double Flange Bobtail Internal Valve - Only
<b>ME990SA-3DF-"X"</b>	Excelerator™ 3" Double Flange Bobtail Internal Valve - with Pneumatic Actuator
<b>ME990SAR-3DF-"X"</b>	Excelerator™ 3" Double Flange Bobtail Internal Valve - with Rotary Actuator
<b>ME990S-3DFM-"X"</b>	Excelerator™ 3"-300 lb. Modified Double Flange Internal Valve - Only
<b>ME990SA-3DFM-"X"</b>	Excelerator™ 3"-300 lb. Modified Double Flange Internal Valve - with Pneumatic Actuator
<b>ME990SAR-3DFM-"X"</b>	Excelerator™ 3"-300 lb. Modified Double Flange Internal Valve - with Rotary Actuator
<b>ME990S-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3" FNPT Internal Valve - Only
<b>ME990SA-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3" FNPT Internal Valve - with Pneumatic Actuator
<b>ME990SAR-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3" FNPT Internal Valve - with Rotary Actuator

\* Note: Indicate desired excess flow closing value when ordering - see chart for values i.e. ME990S-3SF-250 (250 GPM)  
 To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME990SK-SDF-300  
 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME990SN-SDF-300  
 To order Viton® add "V" for Viton® after the prefix part number i.e. ME990SV-SDF-300

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<b>MEC Excelerator 3" Internal Valve Model 3F Accessories</b>	
Part No.	Description
<b>ME206</b>	PowerStroke Actuator
<b>ME228</b>	PowerTorq Direct Drive Actuator
<b>MEC Excelerator 3" Internal Valve Model 3DF/3DFM Accessories</b>	
<b>ME207</b>	PowerStroke Actuator
<b>ME227</b>	PowerTorq Direct Drive Actuator
<b>Service Kits and Repair Parts</b>	
<b>ME990-24-VRK</b>	Excelerator 3", 3"DF,3"DFM Internal Valve - Complete Rebuild Kit
<b>ME990-24-SRK</b>	Excelerator 3", 3"DF,3"DFM Internal Valve - Seal Repair Kit
<b>ME990-PRK</b>	Excelerator 2" and 3" Internal Valve - Stem Packing Repair Kit
<b>ME990-PGA</b>	Excelerator 2" and 3" Internal Valve - Packing Gland Assembly
<b>ME990-106-"X"</b>	Excelerator 3" Internal Valve Excess Flow Spring
<b>MEPI47-01</b>	Cable Connector Ring for 1-1/4" - 3" Internal Valves
<b>ME990-140</b>	Excelerator 2" and 3" Manual Operating Lever-Standard
<b>ME990-3F-24-140</b>	Excelerator Modified Single and Double Flange Manual Operating Lever - Short
<b>ME990-160</b>	Universal Internal Valve Fusible Link-212° F.
<b>ME990-3DF-121</b>	Excelerator 3" Double Flange Self-Guiding Poppet Retaining Nut
<b>ME990-3DF-122</b>	Excelerator 3" Double Flange Retaining Nut Roll Pin
<b>ME990-3DF-138</b>	Excelerator 3" Double Flange Screen Mounting Post
<b>ME990-3DF-144</b>	Excelerator 3" Double Flange Filter Screen Perforated Steel
<b>ME990-3DF-145</b>	Excelerator 3" Double Flange Filter Cap Perforated Steel
<b>ME990-3DF-146</b>	Excelerator 3" Double Flange Screen Mounting Post - Locknut
<b>ME990-3DF-148</b>	Excelerator 3" Double Flange Stem Guide Bracket
<b>ME990-244</b>	Excelerator 3" Double Flange Stem Guide Bracket Screw #10-32
<b>ME904SK-01</b>	3" Modified Single and Double Flange Internal Valve Tank Side Mount Stud 3" OAL - B7
<b>ME990-151</b>	3" Bobtail Double Flange Internal Valve Tank Side Mount Stud 3-1/2" OAL - B7
<b>ME904SK-02</b>	3" Internal Valve Mount Stud Standard Hex Nut 3/4 - 10 B8
<b>ME990-3DF-153</b>	Excelerator 3" Double Flange Internal Valve Inlet Flange Gasket
<b>ME904S-3F-027</b>	Excelerator 3" Double Flange Outlet/3" Modified Inlet Flange Gasket

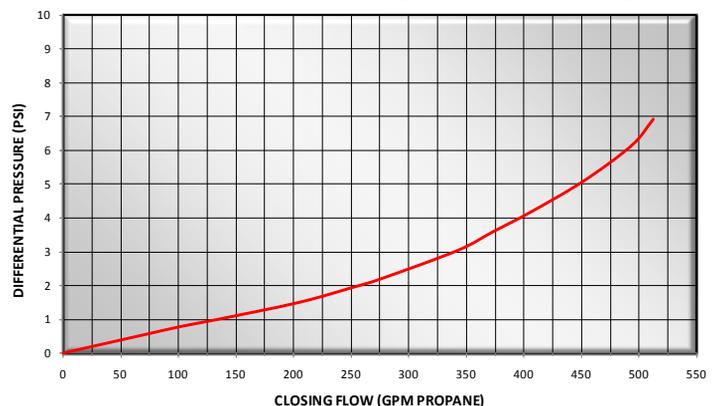
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\*Note: Indicate desired excess flow closing value when ordering - see chart for values.

Example: ME990-107-250 (250GPM)

"X"	3" Valve Liquid Closing Flow Values
175	175 GPM LPG Closing Flow
250	250 GPM LPG Closing Flow
300	300 GPM LPG Closing Flow
375	375 GPM LPG Closing Flow
400	400 GPM LPG Closing Flow
475	475 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow
* For NH <sub>3</sub> Multiply GPM by .90	

3" Internal Valve Liquid LPG Closing Flow-Downward Discharge



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# MEC Excelerator 1-1/4" Threaded Internal Valves

## Service and Repair Parts next page



ME990M-10



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Intended for use on bobtail trucks and storage tanks with 1-1/4" threaded connections in directional or bi-directional flow applications. Provides both manual shut-down as well as excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator, open/ closing devices. All valve models are equipped with a break-away feature in the cast body which permits the piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss. For liquid or vapor service applications.

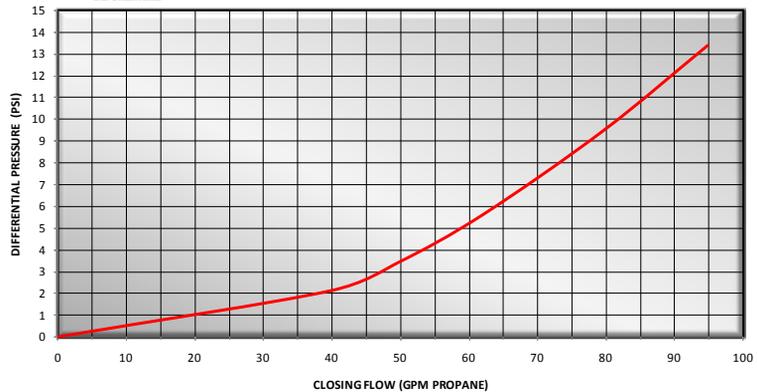
### 1-1/4" Threaded Internal Valve Features

- Durable cast steel body with powder coat finish
- All stainless internal component construction
- Precision machined hard coated stem
- Fully retained Nitrile seat disc
- Large variety of excess flow closing values
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes Nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- UL LISTED for LPG & NH<sub>3</sub> service
- Available with 316 Stainless Steel Body
- Rulon™ bearing on stub shaft

"X"	1-1/4" Valve Liquid Closing Flow Values
35	35 GPM LPG Closing Flow
55	55 GPM LPG Closing Flow
85	85 GPM LPG Closing Flow
* For NH <sub>3</sub> multiply GPM by .90	



1 1/4" Internal Valve Liquid LPG Closing Flow-Downward Discharge



MEC Excelerator™ 1-1/4" Threaded Internal Valves	
Part No. *	Description
<b>ME990-10-"X"</b>	Excelerator™ 1-1/4" MNPT x 1-1/4" FNPT Internal Valve - Only
<b>ME990A-10-"X"</b>	Excelerator™ 1-1/4" MNPT x 1-1/4" FNPT Internal Valve - with Pneumatic Actuator
<b>ME990AR-10-"X"</b>	Excelerator™ 1-1/4" MNPT x 1-1/4" FNPT Internal Valve - with Rotary Actuator
<b>ME990M-10-"X"</b>	Excelerator™ 1-1/4" MNPT x 1-1/4" FNPT Internal Valve - with Manual Latch
* Note: Indicate desired excess flow closing value when ordering - see chart for values i.e. ME990-10-85 (85 GPM) To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME990K-10-35 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME990N-10-35 To order Viton® add "V" for Viton® after the prefix part number i.e. ME990V-10-35	

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## Service and Repair Parts

<b>Accessories</b>	
<b>Part No.</b>	Description
<b>ME990-10-902</b>	Excelerator Manual Latch Assembly for 1-1/4" Threaded Internal Valves
<b>MEP650</b>	Open/Close Cable Control Release with 50' Cable
<b>MEP651</b>	Open/Close Cable Control Release- Only
<b>ME205</b>	FastStroke Actuator
<b>ME225</b>	PowerTorq Direct Drive Actuator
<b>Service Kits and Repair Parts</b>	
<b>ME990-10-VRK</b>	Excelerator 1-1/4" Internal Valve Complete Valve Repair Kit
<b>ME990-10-SRK</b>	Excelerator 1-1/4" Internal Valve Seal Repair Kit
<b>ME990-10-106-"X"*</b>	Excelerator 1-1/4" Internal Valve Excess Flow Spring
<b>ME990-10-PGA</b>	Excelerator 1-1/4" Internal Valve Packing Gland Assembly
<b>ME990-10-PRK</b>	Excelerator 1-1/4" Internal Valve Stem Packing Repair Kit
<b>ME990-10-129</b>	Excelerator 1-1/4" Manual Operating Lever-Standard
<b>ME990-160</b>	Universal Internal Valve Fusible Link-212° F.
<b>MEP147-01</b>	Cable Connector Ring for 1-1/4" - 3" Internal Valves

\*Note: Indicate desired excess flow closing value when ordering-see chart for values  
 Example: ME990-10-137-85 (85 GPM)



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# 2" and 3" Threaded Tee Body Internal Valves

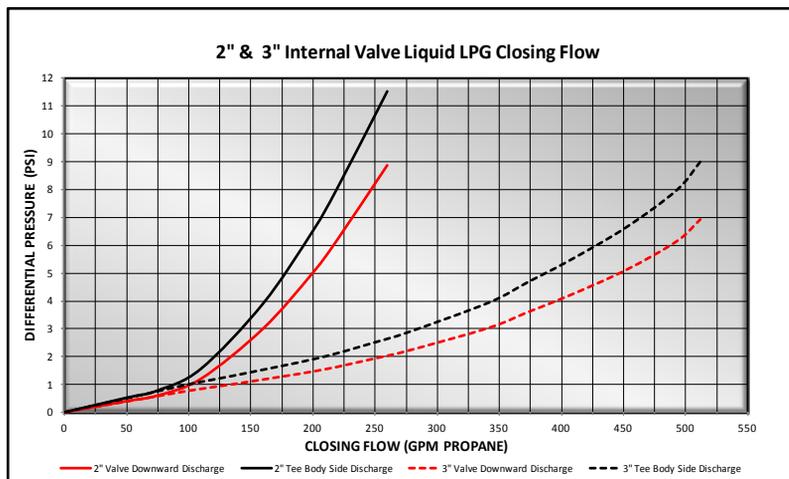
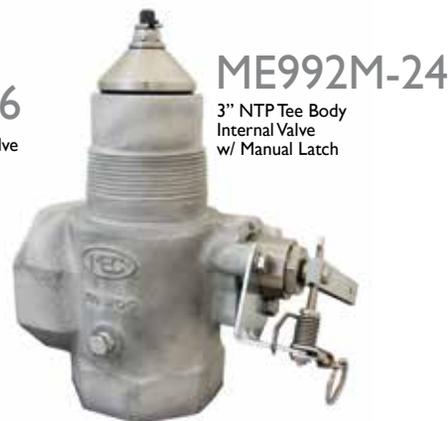


Intended for use on transport trucks and large storage tanks with 2" or 3" threaded connections in directional or bi-directional flow applications. Provides both manual shut-down and excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator open/ closing devices. All valve models are equipped with a break-away feature in the cast body which permits the piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss. The tee body features an additional FNPT side discharge port. For liquid or vapor service applications.

## 2" & 3" Threaded Tee Body Internal Valve Features

- Durable ductile body with cadmium surface plating
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem
- Fully retained nitrile seat disc
- Largest variety of excess flow closing values
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts

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"X"	2" Valve Liquid Closing Flow Values
110	110 GPM LPG Closing Flow
160	160 GPM LPG Closing Flow
260	260 GPM LPG Closing Flow

"X"	3" Valve Liquid Closing Flow Values
175	175 GPM LPG Closing Flow
250	250 GPM LPG Closing Flow
300	300 GPM LPG Closing Flow
375	375 GPM LPG Closing Flow
475	475 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow

For NH<sub>3</sub> multiply GPM by .90  
Side discharge increases differential to close by approx. 2 PSIG

## MEC Excelerator™ 2" & 3" Threaded Tee Body Internal Valves

Part No.*	Description
ME992-16-"X"	Excelerator™ 2" MNPT x 2" FNPT Tee Body Internal Valve - Only
ME992A-16-"X"	Excelerator™ 2" MNPT x 2" FNPT Tee Body Internal Valve - with Pneumatic Actuator
ME992AR-16-"X"	Excelerator™ 2" MNPT x 2" FNPT Tee Body Internal Valve - with Rotary Actuator
ME992M-16-"X"	Excelerator™ 2" MNPT x 2" FNPT Tee Body Internal Valve - with Manual Latch
ME992-24-"X"	Excelerator™ 3" MNPT x 3" FNPT Tee Body Internal Valve - Only
ME992A-24-"X"	Excelerator™ 3" MNPT x 3" FNPT Tee Body Internal Valve - with Pneumatic Actuator
ME992AR-24-"X"	Excelerator™ 3" MNPT x 3" FNPT Tee Body Internal Valve - with Rotary Actuator
ME992M-24-"X"	Excelerator™ 3" MNPT x 3" FNPT Tee Body Internal Valve - with Manual Latch



\*Note: Indicate desired excess flow closing value when ordering - see chart for values - i.e. ME992-24-250 (250 GPM)  
To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME992K-16-160  
To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME992N-16-160  
To order Viton® add "V" for Viton® after the prefix part number i.e. ME992V-16-160

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# MEC Excelerator 2" and 3" Threaded Internal Valves

Continued on next page

Intended for use on transport trucks and large storage tanks with 2" or 3" threaded connections in directional or bi-directional flow applications. Provides both manual shut-down and excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator open/closing devices. All valve models are equipped with a break-away feature in the cast body which permits the piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss. For liquid or vapor service applications



ME990  
SERIES



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## 2" & 3" Threaded Internal Valve Features

- Durable ductile body with cadmium surface plating
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem
- Fully retained Nitrile seat disc
- Largest variety of excess flow closing values
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes Nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts

ME990M-16



ME990M-24



MEC Excelerator™ 2" & 3" Threaded Internal Valves	
Part No. *	Description
<b>ME990-16-"X"</b>	Excelerator™ 2" MNPT x 2" FNPT Internal Valve - Only
<b>ME990A-16-"X"</b>	Excelerator™ 2" MNPT x 2" FNPT Internal Valve - with Pneumatic Actuator
<b>ME990AR-16-"X"</b>	Excelerator™ 2" MNPT x 2" FNPT Internal Valve - with Rotary Actuator
<b>ME990M-16-"X"</b>	Excelerator™ 2" MNPT x 2" FNPT Internal Valve - with Manual Latch
<b>ME990-24-"X"</b>	Excelerator™ 3" MNPT x 3" FNPT Internal Valve - Only
<b>ME990A-24-"X"</b>	Excelerator™ 3" MNPT x 3" FNPT Internal Valve - with Pneumatic Actuator
<b>ME990AR-24-"X"</b>	Excelerator™ 3" MNPT x 3" FNPT Internal Valve - with Rotary Actuator
<b>ME990M-24-"X"</b>	Excelerator™ 3" MNPT x 3" FNPT Internal Valve - with Manual Latch

\* Note: Indicate desired excess flow closing value when ordering - see chart for values  
i.e. ME990-24-250 (250 GPM)  
To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME990K-16-160  
To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME990N-16-160  
To order Viton® add "V" for Viton® after the prefix part number i.e. ME990V-16-160

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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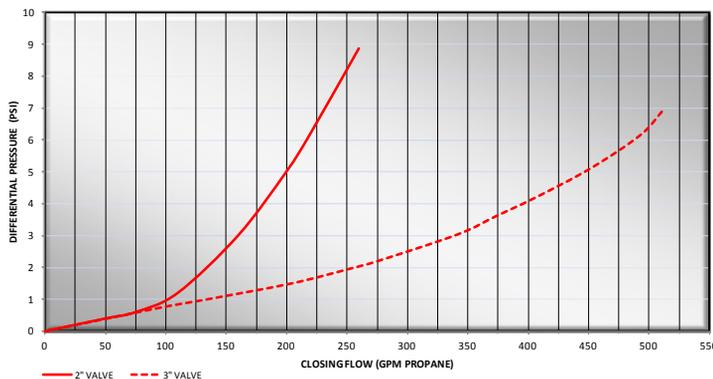
# MEC Excelerator 2" and 3" Accessories and Repair Kits

Accessories	
Part No.	Description
<b>MEP990-24</b>	Excelerator Manual Latch Assembly for 2" and 3" Threaded Internal Valves
<b>MEP650</b>	Open/Close Cable Control Release with 50' Cable
<b>MEP65 I</b>	Open/Close Cable Control Release- Only
<b>ME206</b>	PowerStroke Actuator
<b>ME226</b>	PowerTorq Direct Drive Actuator
Service Kits and Repair Parts	
<b>ME990-16-VRK</b>	Excelerator 2" Internal Valve Complete Valve Repair Kit
<b>ME990-16-SRK</b>	Excelerator 2" Internal Valve Seal Repair Kit
<b>ME990-16-106-"X"</b>	Excelerator 2" Internal Valve Excess Flow Spring
<b>ME990-24-VRK</b>	Excelerator 3" Internal Valve Complete Valve Repair Kit
<b>ME990-24-SRK</b>	Excelerator 3" Internal Valve Seal Repair Kit
<b>ME990-106-"X"</b>	Excelerator 3" Internal Valve Excess Flow Spring
<b>ME990-PGA</b>	Excelerator 2" and 3" Internal Valve Packing Gland Assembly
<b>ME990-PRK</b>	Excelerator 2" and 3" Internal Valve Stem Packing Repair Kit
<b>ME990-140</b>	Excelerator 2" and 3" Manual Operating Lever-Standard
<b>ME990-160</b>	Universal Internal Valve Fusible Link-212° F.
<b>MEPI47-01</b>	Cable Connector Ring for 1-1/4" - 3" Internal Valves

\*Note: Indicate desired excess flow closing value when ordering - see chart for values.  
 Example: ME990-16-106-260 (260GPM)



2" & 3" Internal Valve Liquid LPG Closing Flow-Downward Discharge



"X"	2" Valve Liquid Closing Flow Values
110	110 GPM LPG Closing Flow
160	160 GPM LPG Closing Flow
260	260 GPM LPG Closing Flow

"X"	3" Valve Liquid Closing Flow Values
175	175 GPM LPG Closing Flow
250	250 GPM LPG Closing Flow
300	300 GPM LPG Closing Flow
375	375 GPM LPG Closing Flow
400	400 GPM LPG Closing Flow
475	475 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow
* For NH <sub>3</sub> multiply GPM by .90	



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**ME707**—The quick release valve is used in conjunction with Marshall Excelsior’s air actuators to decrease the response time when closing actuators. They are particularly effective when long distances (75 feet or more) exist between the actuator and the actuator control valve.

**ME708**—The 0-150 psig air pressure regulator prolongs the life of the air actuator and air system by allowing the air pressure to be set and regulated at the minimum required operating pressure for each individual system.

**ME709**—The gas/air filter is used to filter foreign materials and/or particles from LP-Gas systems such as motor fuel/carburetion systems. Also designed to be used to filter air supply lines for internal and emergency shutoff valve actuator systems.



**ME707**



**ME708**

Universal Mounting Bracket Included



**ME709**

Part No.	Inlet	Outlet
ME707	3/8" FNPT	3/8" FNPT (2 Ports)
ME708	1/4" FNPT	1/4" FNPT
ME709	1/4" FNPT	1/4" MNPT

VL

## Internal Valve Actuators

### PowerTorq Rotary Actuators

These direct drive actuators are designed to maximize the life of the internal valve by eliminating side pressure on the valve’s packing stem. These actuators are intended to be used at remote locations or operated directly off the air brake system in bobtail or transport applications.

The low temperature factory installed seals allow these actuators to be used with air, nitrogen, carbon dioxide or LP-Gas vapor. In case of a fire the factory provided thermal plug melts at 212° Fahrenheit releasing pressure allowing the internal valve to close. The factory set rotation of these actuators require no modification, can be oriented in any direction and all hardware needed for installation is provided.

### PowerTorq Rotary Actuator Features

- Stainless steel all weather mounting hardware
- Field repairable under full tank pressure
- Anodized aluminum actuator body with easy to see open/close indicator
- No pinch points for operator safety
- Includes mounting bracket for ME707 Quick Release Valve
- Note: ME707 is not required for operation



**ME225**

Actuator Operating Pressure Limits:  
 Minimum = 25 PSIG  
 Maximum = 125 PSIG  
 Recommended = 40-60 PSIG

## PowerTorq Actuators

Part No.	Actuator Type	Fits MEC Excelerator Valves	Fits Cavagna Endurance 6902900 Valves	Internal Valve
ME225	Direct Drive	ME990-10	101 Thru 103	1-1/4" Threaded
ME226	Direct Drive	ME990-16, ME990-24, ME990S-3F-24	104 Thru 116 130 thru 132	2" & 3" Threaded
ME227	Direct Drive	ME990S-3DF & ME990S-3DFM	122 Thru 126	3" Double Flange
ME228	Direct Drive	ME990-4F	141 Thru 145	4" Single Flange

Cavagna is the trademark of Cavagna Group



**ME227**



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# Internal Valve Actuators

ME205

FaStroke Actuators



ME205R



ME710



Actuator Operating Pressure Limits:

- Minimum = 20 PSIG
- Maximum = 125 PSIG
- Recommended = 20-25 PSIG

PowerStroke Actuators

VL

ME206



ME208SF



ME207



ME707



ME551



ME207

Part No.	Actuator Type	Fits MEC Excelerator Valves	Fits Cavagna 6902900 Valves	Fits	Internal Valve
ME205	Airstroke™ by Firestone	ME990-10	101 Thru 103	RegO A3209R	1-1/4" Threaded
ME205R	Airstroke™ by Firestone	—			1-1/4" Threaded
ME206	#9 Chamber	ME990-16, ME990-24, ME990S-3F-24, ME990S-2F-16	104 Thru 116 130 Thru 132		2" & 3" Threaded
ME207	#9 Chamber	ME990S-3DF & ME990S-3DFM	122 Thru 126		3" Double Flange
ME207SF	#9 Chamber	—	117 Thru 121		3" Single Flange
ME208SF	#24 Chamber	ME990-4F	141 Thru 145		4" Single Flange
ME710	Airstroke™ by Firestone	—	RegO® Flowmatic® Three-Way Valve		

\*Internal Valves not included

FaStroke & PowerStroke Actuator Features

- Stainless steel all weather bracket
- Field repairable without complete disconnect from internal valve
- Repairable with common automotive brake chamber
- High gloss automotive grade black epoxy coating



ME552

Part No.	Description	Fits
<b>ME205</b>	FASTroke Air Actuator	1 1/4" Internal Valve
<b>ME205R</b>	FASTroke Air Actuator for REGO®	
<b>ME206</b>	Type #9 Power Stroke Air Actuator	2" & 3" Internal Valve
<b>ME207</b>	Type #9 Power Stroke Actuator	Double Flanged Internal Valve
<b>ME207SF</b>	Type #9 Power Stroke Air Actuator	Single Flange Internal Valve
<b>ME208SF</b>	Type #24 Power Stroke Air Actuator	Single Flange Internal Valve
<b>ME710</b>	FloStroke Actuator	REGO® Flomatic Valve
<b>ME551</b>	Safety Stroke Air Actuator	MEC ME980 Series Emergency Shutoff Valve
<b>ME552</b>	Rotary Actuator Kit	MEC ME980 Series Emergency Shutoff Valves
<b>Actuator Accessories</b>		
<b>ME707</b>	Quickrelease valve - 3/8" FNPT inlet and outlets	
<b>ME708</b>	Air Pressure Regulator 0-150 PSI - 1/8" FNPT Gauge Ports - 1/4" FNPT Outlet with Mounting Bracket	
<b>ME709</b>	1/4" FNPT x 1/4" MNPT LP Gas and Air Filter - Aluminum	

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P149



#P148



V129

3330



VL

44P  
44PX500  
44PX1000

ESV Air Tubing & Accessories

Part No	Description
<b>44P</b>	1/4" Plastic Air Tubing, 100' length only
<b>44PX500</b>	1/4" Plastic Air Tubing, 500' length only
<b>44PX1000</b>	1/4" Plastic Air Tubing, 1000' length only
<b>AP62P4</b>	1/4" Plastic Air Union
<b>AP64P4</b>	1/4" Plastic Air Tee
<b>AP68P4x2</b>	1/4" Plastic x 1/8" MNPT, male connector
<b>AP68P4x4</b>	1/4" Plastic x 1/4" MNPT, male connector
<b>AP69P4x2</b>	1/4" Plastic x 1/8" MNPT, elbow connector
<b>AP69P4x4</b>	1/4" Plastic x 1/4" MNPT, elbow connector
<b>AP61P4</b>	1/4" Ferrule and nut
<b>3330</b>	1/4" ESV Palm valve
<b>#P148</b>	"Pull to Close", 10"x 12", rigid plastic
<b>P149</b>	"Push to Close", 10"x 12", rigid plastic
<b>V129</b>	"Pull to Close", 5"x 6", soft vinyl sticker



# Cavagna Internal Valves



VL

These valves are designed as primary shut-offs to control product discharge in propane gas service. They are predominantly used in the liquid and vapor openings of bobtail and other transport vehicles. The valves can also be used in stationary and storage tank applications. All valves meet the requirements of NFPA 58.

All Cavagna internal valves have a robust one piece body design and incorporate an excess flow function. Each valve is designed with a weak point that allows the pump or piping to "shear" in the event of an accident leaving the valve closing mechanism intact.

Cavagna threaded valves are compact and can be operated either manually or remotely via cable or pneumatic control. The valves contain spring loaded PTFE packing providing excellent leakage protection and the standard disc material is Nitrile.

#### Operation

Both flanged and threaded internal valves can be manually or remotely operated by cable or pneumatic control.



cavagna group

 ENDURANCE

Connection Inlet x Outlet	Part Number		Closing Flow GPM Propane		Vapor Capacity SCFH Propane	
	Straight Body	Tee Body	Half Coupling	Full Coupling	25 psig Inlet	50 psig inlet
1 1/4" FNPT x 1 1/4" MNPT	<b>6902900101</b>	---	30	---	5,800	9,100
	<b>6902900102</b>	---	50	35	7,350	12,900
	<b>6902900103</b>	---	80	65	10,950	18,800
2" FNPT x 2" MNPT	<b>6902900104</b>	<b>6902900130</b>	100	60	21,550	3,800
	<b>6902900105</b>	<b>6902900131</b>	150	90	33,600	57,200
	<b>6902900106</b>	<b>6902900132</b>	250	130	---	---
3" FNPT x 3" MNPT	<b>6902900107</b>	<b>6902900112</b>	150	100	28,600	48,700
	<b>6902900108</b>	<b>6902900113</b>	200	125	43,500	73,900
	<b>6902900109</b>	<b>6902900114</b>	250	165	51,500	87,600
	<b>6902900110</b>	<b>6902900115</b>	400	235	80,100	139,000
	<b>6902900111</b>	<b>6902900016</b>	500	325	---	---



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Cavagna flanged valves are equipped with a built-in excess flow to prevent the uncontrolled release of product. They are perfect for mounting a pump or piping direct to the internal valve. Mounting bolts are weakened allowing the pump or piping to “shear” in the case of an accident leaving the valve intact. Cavagna flanged internal valves have a filter to trap dirt and particles before entering the pump. This filter can be removed when the valve is installed on the filling pipe line.

The valves contain spring loaded PTFE packing providing excellent leakage protection and the standard disc material is Nitrile.



## Cavagna Internal Valves

Single Flange	Double Flange	Inlet Connection	Outlet Connection	Excess Flow Rate	Vapor Capacity SCFH Propane	
					25 psig Inlet	100 psig Inlet
6902900117	6902900122	3" 300 lb ANSI RF Modified (4 7/8" dia bore)	3" 300 lb ANSI RF	150 GPM	25,100	42,700
6902900118	6902900123			200 GPM	36,900	62,800
6902900119	6902900124			250 GPM	42,200	71,800
6902900120	6902900125			400 GPM	59,400	100,900
6902900121	6902900126			500 GPM	---	---

Cavagna 4" Endurance Valves - Single Flange			
Part Number	Inlet Connection	Outlet Connection	Excess Flow Rate
6902900141	4" 300 lb ANSI RF Modified (4 7/8" diameter bore)	4" 300 lb ANSI RF	340 GPM
6902900142			440 GPM
6902900143			600 GPM
6902900144			800 GPM
6902900145			1000 GPM

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# Cavagna Rotary Cam Actuators

 ENDURANCE

 Bergquist  
bergquistinc.com



VL



Actuators		
Part Number	Name	Fits
<b>30009000000</b>	<b>O-205</b>	CAVAGNA 1”1/4 & 1”1/2 Threaded Internal Valve
<b>30009000001</b>	<b>O-206</b>	CAVAGNA 2” & 3” Threaded Internal Valve
<b>30009000002</b>	<b>O-207 SF</b>	CAVAGNA 3” Single Flange Internal Valve
<b>30009000003</b>	<b>O-207</b>	CAVAGNA 3” Double Flanged Internal Valve
<b>30009000004</b>	<b>O-208 SF</b>	CAVAGNA 4” Single Flange Internal Valve

## Features:

- The actuator is preassembled and ready to install.
- Compared to current devices which require adjustments the installment is quick and easy (3 screws and 1 split pin).
- The actuator can be fitted to the valve in four separate positions allowing optimization of space on the vehicle.
- Direct drive design does not apply side load to internal valve stem packing for maximum valve life.
- The actuator uses an internal cam mechanism, which guarantees higher performance optimiizing the opening torque.
- Torque moment: The return torque moment relies only on the spring and is independent from the supply pressure.
- Immediate and automatic closing in absence of air (no need for additional rapid discharge accessories).
- OPEN/CLOSE indicator.
- Compact design and lightweight.
- Aluminum body, components in stainless steel and aluminum.
- Valve anchoring bracket made in stainless steel.
- The actuator is self-lubricating with PTFE carbon-graphite seals.
- The actuator guarantees complete opening of the valve and is equipped with limit switch.
- Operating media: compressed filtered air, not necessarily lubricated.
- 500,000 opening cycles guaranteed.

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# Semi Internal Pressure Relief Valves



MEV200SIR

Designed for use in large stationary LPG containers as a primary pressure relief valve. These pressure relief valves have been specifically designed to provide optimum performance when installed in either a 2" half or full coupling making them perfect for most large stationary tank installations.

Note: Available with all stainless steel components for NH<sub>3</sub> stationary container service applications.



VL

### Semi Internal Pressure Relief Valve Features

- Durable forged brass body with 3" NPT outlet pipeaway thread
- All steel & stainless steel stem, spring, and valve gasket holder for maximum corrosion resistance
- Available with Nitrile, Viton®, or Kalrez® valve seals
- Large seating surface for superior seal performance & reliability
- Available with 125, 250, 265 PSI  LISTED set pressures
- Custom set pressures available

Part No.	STD/PSIG	Container Connection	Pipeaway Connection	Installation Hex	Flow Capacity SCFM/Air** UL @ 120% Set Pressure	Service		Seat Material	Accessories
						LPG	NH <sub>3</sub>		
<b>MEV200SIR/125</b>	125	2"MNPT	3"MNPT	3-1/2"	4,870	Yes	No	Nitrile	MEV200SIR-106 (Cap & Lanyard)  MEP104-24 (Pipeaway adapter) see page 31
<b>MEV200SIR/250</b>	250	2"MNPT	3"MNPT	3-1/2"	10,925	Yes	No	Nitrile	
<b>MEV200SIR/265</b>	265	2"MNPT	3"MNPT	3-1/2"	11,475	Yes	No	Nitrile	
<b>MEV200SIRV/125</b>	125	2"MNPT	3"MNPT	3-1/2"	4,870	Yes	No	Viton®	
<b>MEV200SIRV/250</b>	250	2"MNPT	3"MNPT	3-1/2"	10,925	Yes	No	Viton®	
<b>MEV200SIRV/265</b>	265	2"MNPT	3"MNPT	3-1/2"	11,475	Yes	No	Viton®	
<b>MEV200SIRK/125*</b>	125	2" MNPT	3"MNPT	3-1/2"	4,870	Yes	No	Kalrez®	
<b>MEV200SIRK/250*</b>	250	2" MNPT	3"MNPT	3-1/2"	10,925	Yes	No	Kalrez®	
<b>MEV200SIRK/265*</b>	265	2" MNPT	3"MNPT	3-1/2"	11,475	Yes	No	Kalrez®	

\* Seat Material not UL Listed

Note: For stainless steel add "S" to part to part number - i.e. MEV200SSIR/265

\*\* Flow rates are shown as bare relief valves.

\*\*\* Size relief capacity per NFPA 58 2011, table 5.7.2.6

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# Full Internal Pressure Relief Valves



Designed for use in mobile LPG & NH<sub>3</sub> containers as a primary pressure relief valve for bobtail and transport trailer installations. All working components are internal to the container connection preventing damage to the valve should a roll-over occur.

## Full Internal Pressure Relief Valve Features

- Durable stainless steel body construction
- All stainless steel internal components for maximum corrosion resistance
- Available with Nitrile, Viton®, or Kalrez® valve seals
- Large seating surface for superior seal performance & reliability.
- Available with 250 & 265 PSI LISTED set pressures
- Custom set pressures available

**MEV200FIR/  
MEV300FIR**

VL

Part No.	STD/ PSIG	Container Connection	Installation Hex	Flow Capacity SCFM/Air**	Service		Seat Material	Accessories	
				UL @ 120% Set Pressure	LPG	NH <sub>3</sub>		Cap	Hex Installation Tool
MEV200FIR/250	250	2"MNPT	1-1/2"	4,460	Yes	Yes	Nitrile	MEV200FIR-09	MEP200FIR
MEV200FIR/265	265	2"MNPT	1-1/2"	4,670	Yes	Yes	Nitrile	MEV200FIR-09	MEP200FIR
MEV200FIRV/250	250	2"MNPT	1-1/2"	4,460	Yes	No	Viton®	MEV200FIR-09	MEP200FIR
MEV200FIRV/265	265	2"MNPT	1-1/2"	4,670	Yes	No	Viton®	MEV200FIR-09	MEP200FIR
MEV200FIRK/250*	250	2"MNPT	1-1/2"	4,460	Yes	Yes	Kalrez® ~	MEV200FIR-09	MEP200FIR
MEV200FIRK/265*	265	2"MNPT	1-1/2"	4,670	Yes	Yes	Kalrez® ~	MEV200FIR-09	MEP200FIR
MEV300FIR/250	250	3" MNPT	2-1/2"	10,865	Yes	Yes	Nitrile	MEV300FIR-09	MEP300FIR
MEV300FIR/265	265	3" MNPT	2-1/2"	11,600	Yes	Yes	Nitrile	MEV300FIR-09	MEP300FIR
MEV300FIRV/250	250	3" MNPT	2-1/2"	10,865	Yes	No	Viton®	MEV300FIR-09	MEP300FIR
MEV300FIRV/265	265	3" MNPT	2-1/2"	11,600	Yes	No	Viton®	MEV300FIR-09	MEP300FIR
MEV300FIRK/250*	250	3" MNPT	2-1/2"	10,865	Yes	Yes	Kalrez® ~	MEV300FIR-09	MEP300FIR
MEV300FIRK/265*	265	3" MNPT	2-1/2"	11,600	Yes	Yes	Kalrez® ~	MEV300FIR-09	MEP300FIR

\* Seat Material not UL Listed

\*\* Flow rates are shown for bare relief valves, pipe-aways will reduce flow

\*\*\* Size relief capacity per NFPA 58 2011, table 5.7.2.6

~ Recommended for LPG and NH<sub>3</sub> Dual Service Applications

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# Flanged Full Internal Pressure Relief Valves

Designed for use in mobile LPG & NH<sub>3</sub> containers as a primary pressure relief valve for bobtail and transport trailer installations. All working components are internal to the container connection preventing damage to the valve should a roll-over incident occur. Our unique design incorporates a standard 3" ANSI - 300LB. raised face flange connection to assure a 100% leak free connection for rugged over the road applications. This eliminates problems associated with NPT threaded connections and/or tank coupling wear due to vibration caused by over the road transit, providing maximum tank and relief valve service life.



VL



## Flanged Full Internal Pressure Relief Valve Features

- Durable single piece stainless steel flanged body construction.
- All stainless steel internal components for maximum corrosion resistance.
- Available with Nitrile, Viton®, or Kalrez® valve seals.
- Large seating surface for superior seal performance & reliability.
- Available with 250 & 265 PSI  LISTED set pressures.
- Custom set pressures available

MEV200FIR

Part No.	STD/ PSIG	Container Connection	Flow Capacity SCFM/Air**	Service		Seat Material	Accessories
			UL @ 120% Set Pressure	LPG	NH <sub>3</sub>		Cap
<b>MEV300FIR-3F/250</b>	250	3" 300LB. Flange	10,865	Yes	Yes	Nitrile	MEV300FIR-09
<b>MEV300FIR-3F/265</b>	265	3" 300LB. Flange	11,600	Yes	Yes	Nitrile	
<b>MEV300FIRV-3F/250</b>	250	3" 300LB. Flange	10,865	Yes	No	Viton®	
<b>MEV300FIRV-3F/265</b>	265	3" 300LB. Flange	11,600	Yes	No	Viton®	
<b>MEV300FIRK-3F/250*</b>	250	3" 300LB. Flange	10,865	Yes	Yes	Kalrez® ~	
<b>MEV300FIRK-3F/265*</b>	265	3" 300LB. Flange	11,600	Yes	Yes	Kalrez® ~	

\* Seat Material not UL Listed

\*\* Flow rates are shown for bare relief valves.

\*\*\* Size relief capacity per NFPA 58 2011, table 5.7.2.6

~ Recommended for LPG and NH<sub>3</sub> Dual Service Applications

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# Hydrostatic Pressure Relief Valves



Designed to protect piping and shutoff valves from over pressure situations where liquid LP-Gas or NH<sub>3</sub> has the potential to be trapped. These relief valves provide pressure relief at or in excess of the stated pressure setting, protecting against line or plumbing system failures.

Note: NFPA #58 states, "Hydrostatic relief valves designed to relieve the hydrostatic pressure that can develop in sections of liquid piping between closed shutoff valves shall have pressure settings not less than 400 psig or more than 500 psig unless installed in systems designed to operate above 350 psig. Hydrostatic relief valves for use in systems designed to operate above 350 psig shall have settings not less than 110 percent or more than 125 percent of the system design pressure."

VL

## Hydrostatic Relief Valve Features

- Compact design to fit any application
- Stainless steel spring
- Non-adjustable, tamper resistant design
- Stainless steel models rated for LP-Gas & NH<sub>3</sub>
- Specially designed internal components to increase flow at discharge



MEH225SS



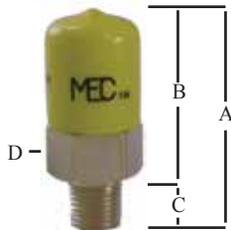
MEH25



MEH50



MEH75



MEPI73

Part No.	Body Material	Seal Material	Start-to-Discharge Setting PSIG	Inlet MNPT	A	B	C	D	Accessory
									Pipeway Adapter
MEH225	Brass	Nitrile	440	1/4"	1-1/16"	13/16"	1/4"	9/16" Hex	—
MEH225SS/350	Stainless Steel	Nitrile	350****	1/4"	1-1/16"	13/16"	1/4"	9/16" Hex	—
MEH225SS/400	Stainless Steel	Nitrile	400	1/4"	1-1/16"	13/16"	1/4"	9/16" Hex	—
MEH225SS	Stainless Steel	Nitrile	440	1/4"	1-1/16"	13/16"	1/4"	9/16" Hex	—
MEH25/450	Brass	Nitrile	450	1/4"	1-59/64"	1-43/64"	1/4"	7/8" Hex	MEPI73*
MEH25K/450	Brass	Kalrez®	450	1/4"	1-59/64"	1-43/64"	1/4"	7/8" Hex	MEPI73*
MEH25V/450	Brass	Viton®	450	1/4"	1-59/64"	1-43/64"	1/4"	7/8" Hex	MEPI73*
MEH50/460	Brass	Nitrile	460	1/2"	2-1/2"	2-1/8"	3/8"	1-1/8" Hex	MEPI74**
MEH75/460	Brass	Nitrile	460	3/4"	2-21/32"	2-5/32"	1/2"	1-1/8" Hex	MEPI74**
MEJ602H***	Brass	Nitrile	440	1/4"	—	—	—	—	—

\* 1/4" FNPT Outlet; \*\* 1/2" FNPT Outlet; \*\*\* Factory Installed Vent Valve, \*\*\*\* Special Applications

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# Protective Relief Valve Caps

These protective caps are made of durable, fade resistant vinyl. All relief valves must have a protective cap to keep debris and water out of the valve.



MEH50I

Part No.	Cap ID	Cap Height	Replacement Protective Cap for Part No.	Part No.	Cap ID	Cap Height	Replacement Protective Cap for Part No.
MEH50I-.437	.437"	3/8"	MEH225 MEH225SS Series	MEH50I-1.75	1.75"	1"	—
MEH50I-.812	.812"	1"	MEH25/450	MEH50I-2.25	2.25"	1"	—
MEH50I-1.062	1.062"	3/4"	MEH50/460 MEH75/460	MEH50I-2.625	2.625"	1"	—
MEH50I-1.5	1.50"	1"	—	MEV250-013*	3.974	1/2"	MEV250 Series

\*With Lanyard

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# Marshall Excelsior Relief Valve Manifold

ME QUAD  
PORT A



ME QUAD  
PORT B



VL

## Features

- Heavy Duty Ductile Iron Body
- Vapor Equalizing Feature for Easy Port to Port Rotation
- All Stainless Steel Internal Components
- Heavy Duty Lifting Chain Included
- Durable Teflon V-Pack Stem Seals
- Supplied with Spiral Wound Flange Gasket
- Large Diameter Spiked Hand wheel and Port Indicator
- Molded rubber Weather Guard for Manifold Rotary Gear with Port Plug
- Available with 250 PSIG and 265 PSIG Relief Valve Set Pressures

Type Number	Tank Connection	Service		Relief Valve		Flow Rating SCFM/Air@ 120% of set pressure	
		LPG	NH3	Qty	Part Number	US Rating	ASME
<b>ME903S-3F-250VM</b>	3" 300 lb Flange <sup>(2)</sup>	Yes	No	3	<b>MEV250/250</b>	20,400	(2)
<b>ME903S-3F-250CN<sup>(1)</sup></b>		Yes	Yes	3	<b>ME250CN/250VM<sup>(1)</sup></b>	20,400	(2)
<b>ME903S-3F-265VM</b>		Yes	No	3	<b>MEV250/265VM</b>	20,400	(2)
<b>ME903S-3F-265CN<sup>(1)</sup></b>		Yes	Yes	3	<b>ME250/265CN<sup>(1)</sup></b>	20,400	(2)
<b>ME904S-3F-250VM</b>		Yes	No	4	<b>MEV250/250VM</b>	27,740	(3)
<b>ME904S-3F-250CN<sup>(1)</sup></b>		Yes	Yes	4	<b>ME250/250CN<sup>(1)</sup></b>	27,740	(3)
<b>ME904S-3F-265VM</b>		Yes	No	4	<b>MEV250/265VM</b>	27,740	(3)
<b>ME904S-3F-265CN<sup>(1)</sup></b>		Yes	Yes	4	<b>ME250/265CN<sup>(1)</sup></b>	27,740	(3)
<b>ME904S-4F-250VM</b>	4" 300 lb Flange	Yes	No	4	<b>MEV250/250VM</b>	27,740	(3)
<b>ME904S-4F-250CN<sup>(1)</sup></b>		Yes	Yes	4	<b>ME250/250CN<sup>(1)</sup></b>	27,740	(3)
<b>ME904S-4F-265VM</b>		Yes	No	4	<b>MEV250/250VM</b>	27,740	(3)
<b>ME904S-4F-265CN<sup>(1)</sup></b>		Yes	Yes	4	<b>ME250/250CN<sup>(1)</sup></b>	27,740	(3)
<b>ME903S-4F-250VM</b>		Yes	No	3	<b>MEV250/250VM</b>	20,400	(2)
<b>ME903S-4F-250CN<sup>(1)</sup></b>		Yes	Yes	3	<b>ME250/250CN<sup>(1)</sup></b>	20,400	(2)
<b>ME903S-4F-265VM</b>		Yes	No	3	<b>MEV250/265VM</b>	20,400	(2)
<b>ME903S-4F-265CN<sup>(1)</sup></b>		Yes	Yes	3	<b>ME250/265CN<sup>(1)</sup></b>	20,400	(2)
Notes: (1) Relief valve seal material not UL listed (2) For use with modified 300 lb ANSI flange with 4" port							
Accessories							
<b>ME904SK</b>	8 stud/Nut universal mounting kit - hardened steel for ME903S and ME904S series manifolds						
<b>MEP250</b>	Installation and removal tool for 2 1/2" external relief valves						
<b>MEV250-015</b>	Replacement stainless steel weep hole deflector for MEV250 series relief valves						
<b>MEV250-013</b>	Replacement vinyl cap with lanyard for MEV250 series relief valves						
<b>MEPI70</b>	2" MNPT x 2 1/2" FNPT relief valve adaptor						

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# Mini Quad-Port Relief Valve Manifold



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ME904S-16/250

For use with large LPG & NH<sub>3</sub> stationary storage containers with 2" FNPT openings. These Relief Manifolds have an additional relief valve excluded from the flow rating, which allows for service and/or exchange of any one relief valve without evacuating the tank. Our large port selection handle allows for each specific valve port to be closed off so that the relief valve may be removed while the remaining valves stay under pressure protecting the tank and contents. Each manifold model is rated based on the flow through the relief valves with one valve removed from service.

- Heavy Duty Ductile Iron Body
- All Stainless Steel Internal Components
- Durable Teflon V-Pack Stem Seals
- Large Diameter Port Selection Handle and Port Indicator
- Molded Rubber Weather Guard for Manifold Rotary Gear with Port Plug
- Available with 250 PSIG and 265 PSIG Relief Valve Set Pressures
- Vapor Equalizing Feature for Easy Port to Port Rotation
- Includes Tank Stabilizer Nut for Maximum Strength at Container Connection

**COVERS MOST 30,000 GALLON TANKS WITH ONLY TWO MANIFOLDS**



MEPI78K  
(Pipeaway Adapter and Stabilizer Kit)

Part No.	Relief Valve STD	Application		Tank Connection Size	Relief Valve		***Flow Rating SCFM/AIR @ 120% of set pressure
		YES	NO				
<b>ME902S-16B/250</b>	250 PSIG	YES	NO	2" MNPT	2	MEV125B/250	5,115 (1)
<b>ME902S-16/250</b>	250 PSIG	NO	YES	2" MNPT	2	MEV125/250	5,115 (1)
<b>ME902S-16/265</b>	265 PSIG	NO	YES	2" MNPT	2	MEV125/265	5,855 (1)
<b>ME903S-16B/250</b>	250 PSIG	YES	NO	2" MNPT	3	MEV125B/250	9,320 (2)
<b>ME903S-16/250</b>	250 PSIG	NO	YES	2" MNPT	3	MEV125/250	9,320 (2)
<b>ME903S-16/265</b>	265 PSIG	NO	YES	2" MNPT	3	MEV125/265	10,795 (2)
<b>ME904S-16B/250</b>	250 PSIG	YES	NO	2" MNPT	4	MEV125B/250	12,481 (3)
<b>ME904S-16/250</b>	250 PSIG	NO	YES	2" MNPT	4	MEV125/250	12,481 (3)
<b>ME904S-16/265</b>	265 PSIG	NO	YES	2" MNPT	4	MEV125/265	13,630 (3)

\*\*\*Flow rating based on number of valves indicated in parenthesis ( ).  
Flow rates shown are for bare relief valves, pipeways will reduce flow rates.  
Note: For 265 PSIG set pressure change part number suffix - i.e. ME903S-16/265  
To order Viton seal materials add "VM" for Viton® after the prefix part number - i.e. ME904S-16B/250VM

Accessories	
<b>MEV125-109</b>	Replacement Plastic Rain Cap for MEV125 Series Relief Valves - Black
<b>MEPI78</b>	Pipeaway Adapter for MEV125 Series w/ 2" FNPT Outlet - Aluminum
<b>MEPI78K</b>	Pipeaway Adapter Kit w Stabilizer Bracket for ME904S-16
<b>MEPI23</b>	Installation / Removal Tool for MEV125 Series Relief Valves



## Pipeaway Adapter

Designed to be installed between semi-internal pressure relief valves and vent stacks or at any point in plant plumbing where breakaway protection is needed. This plated steel adapter has a weak section to help protect the relief valve if vent stack is damaged or to help protect plant plumbing from catastrophic failure.



Part No.	Inlet & Outlet	Material
MEPI04-24	3" FNPT	Steel



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MEV250VM/250



MEP250



MEPI70



MEV50/250

Part No.	Container Connection	Seal Material*	Start-to-Discharge Setting PSIG	OAL	Wrench Hex	Flow Capacity SCFM/Air** UL @ 120% Set Pressure	Suitable for Tanks w/Surface Area Up To:***	Application	Accessories	
<b>MEV25/60</b>	1/4" MNPT	Nitrile	60	1-59/64"	7/8"	—	—	LPG	MEPI73 Pipeway Adapter	
<b>MEV25/250</b>	1/4" MNPT	Nitrile	250	1-59/64"	7/8"	—	—	LPG		
<b>MEV25/312</b>	1/4" MNPT	Nitrile	312	1-59/64"	7/8"	—	—	LPG		
<b>MEV25/375</b>	1/4" MNPT	Nitrile	375	1-59/64"	7/8"	—	—	LPG		
<b>MEVI25B/250</b>	1-1/4" MNPT	Nitrile	250	10-1/2"	2-11/16"	6,330	1,010	LPG	MEVI25-013 Replacement cap MEPI70 Relief valve adapter MEPI23 Installation and removal tool	
<b>MEVI25B/265</b>	1-1/4" MNPT	Nitrile	265	10-1/2"	2-11/16"	6,545	1,045	LPG		
<b>MEVI25BVM/250</b>	1-1/4" MNPT	Nitrile	250	10-1/2"	2-11/16"	6,330	1,010	LPG		
<b>MEVI25BVM/265</b>	1-1/4" MNPT	Nitrile	265	10-1/2"	2-11/16"	6,545	1,045	LPG		
<b>MEVI25/250</b>	1-1/4" MNPT	Nitrile	250	10-1/2"	2-11/16"	6,330	1,010	LPG & NH <sub>3</sub>		
<b>MEVI25/265</b>	1-1/4" MNPT	Nitrile	265	10-1/2"	2-11/16"	6,545	1,045	LPG & NH <sub>3</sub>		
<b>MEVI25VM/250</b>	1-1/4" MNPT	Nitrile	250	10-1/2"	2-11/16"	6,330	1,010	LPG		
<b>MEVI25VM/265</b>	1-1/4" MNPT	Nitrile	265	10-1/2"	2-11/16"	6,545	1,045	LPG		
<b>MEV50/250</b>	1/2" MNPT	Nitrile	250	2-1/2"	1-1/8"	200	—	LPG		MEPI74 Pipeway Adapter
<b>MEV50/375</b>	1/2" MNPT	Nitrile	375	2-1/2"	1-1/8"	—	—	LPG		
<b>MEV75/250</b>	3/4" MNTP	Nitrile	250	2-21/32"	1-1/8"	—	—	LPG		
<b>MEV75/312</b>	3/4" MNTP	Nitrile	312	2-21/32"	1-1/8"	—	—	LPG		
<b>MEV75/375</b>	3/4" MNTP	Nitrile	375	2-21/32"	1-1/8"	—	—	LPG		
<b>MEV250VM/250</b>	2-1/2" MNPT	Viton®	250	10-1/2"	4-1/8"	10,333	610 Sq Ft.	LPG	MEPI70 Relief Valve Adapter MEP250 Installation & Removal Tool	
<b>MEV250CN/250</b>	2-1/2" MNPT	Nitrile	250	10-1/2"	4-1/8"	10,333	610 Sq Ft.	LPG & NH <sub>3</sub>		
<b>MEV250VM/265</b>	2-1/2" MNPT	Viton®	265	10-1/2"	4-1/8"	10,948	655 Sq Ft.	LPG		
<b>MEV250CN/265</b>	2-1/2" MNPT	Nitrile	265	10-1/2"	4-1/8"	10,948	655 Sq Ft.	LPG & NH <sub>3</sub>		

Note: Kalrez option available

\* Nitrile and Kalrez® not UL Listed

\*\* Flow rates are shown for bare relief valves, pipeways will reduce flow

\*\*\* Per NFPA 58, table 5.7.2.5 area shown is for UL or ASME flow rating, which ever is greater

Part No.	Description	Material	STD Setting	Flow Capacity SCFM/Air UL@120% Set Pressure	OAL Length (A)	Height (B)	Install Depth (C)	Install Hex (D)
<b>MEVS-PVE43IB/250</b>	3/4" MNPT Vapor Relief Valve w/Cap	Nitrile	250 PSIG	1,740	3-21/64"	2-7/16"	1"	1-3/4"
<b>MEVS-PVE43I/250</b>	1" MNPT Vapor Relief Valve w/Cap	Nitrile	250 PSIG	1,740	4"	2-53/64"	3/4"	1-3/4"
Accessories								
MEPS-UT12X	Replacement Poly Cap for MEVS-PVE43I and 43IB							
MEPS-43I	1" FNPT Pipeway Adapter for MEVS-PVE43I and 43IB							

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# Pressure Relief Valve Warning



## Chart A - Minimum Required Rate of Discharge for LP-Gas Pressure Relief Valves Used on ASME Containers

From NFPA Code #58, Table 5.7.2.6 (2011 Edition)

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure relief valves to be used on containers other than those constructed in accordance with Interstate Commerce specification.

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Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air
20 or less	626	85	2050	150	3260	230	4630	360	6690	850	13540	1500	21570
25	751	90	2150	155	3350	240	4800	370	6840	900	14190	1550	22160
30	872	95	2240	160	3440	250	4960	380	7000	950	14830	1600	22740
35	990	100	2340	165	3530	260	5130	390	7150	1000	15470	1650	23320
40	1100	105	2440	170	3620	270	5290	400	7300	1050	16100	1700	23900
45	1220	110	2530	175	3700	280	5450	450	8040	1100	16720	1750	24470
50	1330	115	2630	180	3790	290	5610	500	8760	1150	17350	1800	25050
55	1430	120	2720	185	3880	300	5760	550	9470	1200	17960	1850	25620
60	1540	125	2810	190	3960	310	5920	600	10170	1250	18570	1900	26180
65	1640	130	2900	195	4050	320	6080	650	10860	1300	19180	1950	26750
70	1750	135	2990	200	4130	330	6230	700	11550	1350	19780	2000	27310
75	1850	140	3080	210	4300	340	6390	750	12220	1400	20380		
80	1950	145	3170	220	4470	350	6540	800	12880	1450	20980		

Surface area = Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (ft.) x outside diameter (ft.) x 3.1416
2. Cylindrical container with other than hemispherical heads. Area (in sq. ft.) = [overall length (ft.) + .3 outside diameter (ft.)] x outside diameter (ft.) x 3.1416.
3. Spherical container. Area (in sq. ft.) = outside diameter (ft.) squared x 3.1416.

Flow Rate CFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F and atmospheric pressure (14.7 psia).

The flow rate discharge may be interpolated for intermediate values of surface

area. For containers with total outside surface area greater than 2000 square feet, the required flow rate can be calculated using the formula. Flow Rate in CFM Air = 53.632 A<sup>0.82</sup>. Where A = total outside surface area of the container in square feet.

Valves not marked "Air" have rate marking in cubic feet per minute of liquefied petroleum gas. These can be converted to ratings in cubic feet per minute of air by multiplying the liquefied petroleum gas ratings by the factors listed below. Air flow ratings can be converted to ratings in cubic feet per minute of liquefied petroleum gas by dividing the air ratings by the factors listed below.

### Air Conversion Factors

Container Type	100	125	150	175	200
Air Conversion Factor	1.162	1.142	1.113	1.078	1.010

## Chart B - Minimum Required Rate of Discharge for Anhydrous Ammonia Pressure Relief Valves Used on ASME Containers

From ANSI K61.1-1999, Appendix A

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure for pressure relief valves to be used on containers other than those constructed in accordance with United States Department of Transportation cylinder specifications.

Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air
20 or less	626	85	2050	150	3260	230	4630	360	6690	850	13540	1500	21570
25	751	90	2150	155	3350	240	4800	370	6840	900	14190	1550	22160
30	872	95	2240	160	3440	250	4960	380	7000	950	14830	1600	22740
35	990	100	2340	165	3530	260	5130	390	7150	1000	15470	1650	23320
40	1100	105	2440	170	3620	270	5290	400	7300	1050	16100	1700	23900
45	1220	110	2530	175	3700	280	5450	450	8040	1100	16720	1750	24470
50	1330	115	2630	180	3790	290	5610	500	8760	1150	17350	1800	25050
55	1430	120	2720	185	3880	300	5760	550	9470	1200	17960	1850	25620
60	1540	125	2810	190	3960	310	5920	600	10170	1250	18570	1900	26180
65	1640	130	2900	195	4050	320	6080	650	10860	1300	19180	1950	26750
70	1750	135	2990	200	4130	330	6230	700	11550	1350	19780	2000	27310
75	1850	140	3080	210	4300	340	6390	750	12220	1400	20380		
80	1950	145	3170	220	4470	350	6540	800	12880	1450	20980		

Surface area = Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (ft.) x outside diameter (ft.) x 3.1416
2. Cylindrical container with other than hemispherical heads. Area (in sq. ft.) = [overall length (ft.) + .3 outside diameter (ft.)] x outside diameter (ft.) x 3.1416.
3. Spherical container. Area (in sq. ft.) = outside diameter (ft.) squared x 3.1416.

Flow Rate CFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F and atmospheric pressure (14.7 psia).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2,500 square feet, the required flow rate can be calculated using the formula, Flow Rate in CFM Air = 22.11 A<sup>0.82</sup> where A = outside surface area of the container in square feet.

### Conversion Factor

$$\text{ft}^2 \times 0.092903 = \text{m}^2$$

$$\text{CFM} \times 0.028317 = \text{m}^3/\text{min}$$

$$\text{ft.} \times 0.3048 = \text{m}$$

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ME980C-6



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ME980-905-25



Emergency Shutoff Valves (ESV's) are designed to provide rapid and positive shutdown of gas lines should a down stream rupture or piping break occur. Due to the presence of a built-in fuseable element at the valve operating hub the ESV will automatically close when exposed to heat between 212\* F. - 250\* F. These valves are ideally suited for installation at direct fired vaporizer inlets for automatic emergency shutdown as a result of fire or at dispensing pump inlets to provide immediate and positive remote shutdown.

Features:

- Powder coated ductile iron body with cast hexagonal ends for maximum durability and ease of installation.
- Integral swing away check valve with soft seat to promote maximum product flow and minimize product loss in the event of a line failure.
- All stainless steel internal component construction provides maximum corrosion resistance
- Provides clear visual indication if valve is open / closed
- UL Listed for use with LP Gas and Anhydrous Ammonia - 400 PSI WOG
- Integral fusible element for automatic closure when exposed to fire
- Durable Teflon packing gland and resilient seals provide long lasting service life
- Available with pneumatic or cable style latch mechanism.

Emergency Shut Off Valves (ESV's)		
Part No.	Description	Latch Type
<b>ME980-6</b>	3/4" FNPT Emergency Shutoff Valve (ESV)	Pneumatic
<b>ME980-8</b>	1" FNPT Emergency Shutoff Valve (ESV)	Pneumatic
<b>ME980C-6</b>	3/4" FNPT Emergency Shutoff Valve (ESV)	Cable
<b>ME980C-8</b>	1" FNPT Emergency Shutoff Valve (ESV)	Cable

Accessories / Repair Kits	
Part No.	Description
<b>ME980-905</b>	Universal Thermally Activated Remote Cable Release Mechanism
<b>ME980-905-25</b>	Universal Thermally Activated Remote Cable Release Mechanism w/ 25' Cable
<b>ME980-905-50</b>	Universal Thermally Activated Remote Cable Release Mechanism w/ 50' Cable
<b>ME980-906-25</b>	Universal Remote Release Cable - 25'
<b>ME980-906-50</b>	Universal Remote Release Cable - 50'
<b>ME980-907</b>	Remote Thermally Activated Elbow 1/4" cc Inlet - For Pneumatic Latch Systems
<b>ME980-6-901</b>	3/4"-1" ESV / Sight Indicating Back Check Valve Replacement Clapper Assembly
<b>ME980-6-902</b>	3/4"-1" ESV Replacement Pneumatic Latch Assembly
<b>ME980-6-903</b>	3/4"-1" ESV Replacement Cable Latch Assembly
<b>ME980-6K</b>	3/4"-1" ESV Complete Valve Repair Kit
<b>ME980-6SRK</b>	3/4"- 1" ESV Seal Repair Kit

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# Emergency Shutoff Valves (cont.)



ME980-16-2F



VL



ME980-10



ME980-24



Emergency Shut Off Valves (ESV's)		
Part	Description	Latch Type
<b>ME980-1 0</b>	1-1/4" FNPT Emergency Shutoff Valve (ESV)	Pneumatic
<b>ME980C-10</b>	1-1/4" FNPT Emergency Shutoff Valve (ESV)	Cable
<b>ME980-16</b>	2" FNPT Emergency Shutoff Valve (ESV)	Pneumatic
<b>ME980C-16</b>	2" FNPT Shutoff Valve (ESV )	Cable
<b>ME980-24</b>	3" FNPT Shutoff Valve (ESV )	Pneumatic
<b>ME980C-24</b>	3" FNPT Emergency Shutoff Valve (ESV )	Cable
<b>ME980-16-2F</b>	2" - 300 lb. Flange Emergency Shutoff Valve (ESV )	Pneumatic
<b>ME980C-16-2F</b>	2" - 300 lb. Flange Emergency Shutoff (ESV )	Cable
<b>ME980-24-3F</b>	3" - 300 lb. Flange Emergency Shutoff Valve (ESV )	Pneumatic
<b>ME980C-24-3F</b>	3" - 300 lb. Flange Emergency Shutoff (ESV )	Cable
<b>ME980-24-4F</b>	4" - 300 lb. Flange Emergency Shutoff Valve (ESV)	Pneumatic
<b>ME980C-24-4F</b>	4" - 300 lb. Flange Emergency Shutoff Valve (ESV )	Cable

Accessories / Repair Kits	
Part No.	Description
<b>ME980-905</b>	Universal Thermally Activated Remote Cable Release Mechanism
<b>ME980-905-25</b>	Universal Thermally Activated Remote Cable Release Mechanism w/ 25' Cable
<b>ME980-905-50</b>	Universal Thermally Activated Remote Cable Release Mechanism w/ 50' Cable
<b>ME980-906-25</b>	Remote Release Cable - 25'
<b>ME980-906-50</b>	Universal Remote Cable - 50'
<b>ME980-907</b>	Remote Thermally Activated Elbow 1/4" cc Inlet - For Pneumatic Latch Systems
<b>ME551</b>	1-1/4" - 3" ESV Pneumatic Actuator
<b>ME552</b>	1-1/4" - 3" ESV Rotary Actuator
<b>ME980-10-901</b>	1-1/4" ESV / Sight Flow Back Check Clapper Assembly
<b>ME980-16-901</b>	2" ESV / Sight Flow Back Check Clapper Assembly
<b>ME980-24-901</b>	3" ESV / Sight Flow Back Check Clapper Assembly
<b>ME 980-10K</b>	1-1/4" ESV Complete Valve Repair Kit
<b>ME980-16K</b>	2" ESV Complete Valve Repair Kit
<b>ME980-24K</b>	3" ESV Complete Valve Repair Kit
<b>ME980-10SRK</b>	1-1/4" ESV Seal Repair
<b>ME980-16SRK</b>	2" ESV Seal Repair Kit
<b>ME980-24SRK</b>	3" ESV Seal Repair Kit



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## Flow Indicators

Part Number	Pipe Size	Back Check	Manufacturer
<b>FC125</b>	1 1/4" FNPT	Yes	Corken
<b>FC150</b>	1 1/2" FNPT	Yes	Corken
<b>FC200</b>	2" FNPT	Yes	Corken
<b>FC300</b>	3" FNPT	Yes	Corken
<b>ME875S-16</b>	2" FNPT	Yes	Marshall Excelsior
<b>ME875S-24</b>	3" FNPT	Yes	Marshall Excelsior



ME875S-16

VL



FC200

## Flow Indicator Repair Parts

Part Number	Repair Valve	Comment
Individual	G201 Series	Contact us
FC125 Kit	FC125, FC150	Tool 3432 needed for repair
FC200 Kit	FC200, FC300	

### Materials of Construction

Body - cast bronze, LP only

Tail Piece - brass rod

Ball Check - glass filled TFE Teflon

Guide - brass rod

Spring - 300 Series stainless steel

Part No.	Size
<b>61-102</b>	3/8" FNPT
<b>61-103</b>	1/2" FNPT
<b>61-104</b>	3/4" FNPT
<b>61-105</b>	1" FNPT
<b>61-106</b>	1 1/4" FNPT
<b>61-107</b>	1 1/2" FNPT
<b>61-108</b>	2" FNPT

## Ball Cone Check Valves



"Apollo"

61-105

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



VL



ME981-10



ME982-10

Application:

Promotes maximum pump efficiency by allowing system operators a visual inspection point for monitoring liquid flow conditions as well as providing a soft seat back check valve to prevent reverse product flow. Installation of a flow indicating swing check valve upstream of the pump, allows the operator to observe product flow and make pump adjustments for maximum flow without cavitation. Suitable for stationary and mobile applications.

- Features:
- Powder coated ductile iron body for maximum durability
- Removable flanged ends for ease of field service
- Integral swing away check valve with soft seat to promote maximum product flow and prevent reverse product flow
- All stainless steel internal component construction provides maximum corrosion resistance
- Magnetically coupled flow indicator for maximum protection against leaks and minimal resistance to product flow
- Clear/Easy to read flow indicator with “Glow” arrow allows the operator to easily see if the valve is open or closed
- Indicator dial removable under full system pressure
- UL Listed for use with LP Gas and Anhydrous Ammonia - 400 PSI WOG

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



VL

Flow Indicating Valves				
Part No.	Description	Material	Flange Material	OAL
<b>ME981-10</b>	1-1/4" FNPT Flow Indicating Check Valve	Ductile Iron	Ductile Iron	5-3/8"
<b>ME981-16</b>	2" FNPT Flow Indicating Check Valve	Ductile Iron	Cast Steel	6-7/8"
<b>ME981-24</b>	3" FNPT Flow Indicating Check Valve	Ductile Iron	Ductile Iron	9-5/8"
<b>ME982-10</b>	1-1/4" FNPT Non-Indicating Check Valve	Ductile Iron	Ductile Iron	5-3/8"
<b>ME982-16</b>	2" FNPT Non-Indicating Check Valve	Ductile Iron	Cast Steel	6-7/8"
<b>ME982-24</b>	3" FNPT Non-Indicating Check Valve	Ductile Iron	Ductile Iron	9-5/8"
<b>ME981-16-2F</b>	2" - 300 lb. Flange Flow Indicating Check Valve	Ductile Iron	Ductile Iron	11-7/6*
<b>ME981-24-3F</b>	3" - 300 lb. Flange Flow Indicating Check Valve	Ductile Iron	Ductile Iron	14-1/8"
<b>ME981-24-4F</b>	4" - 300 lb. Flange Flow Indicating Check Valve	Ductile Iron	Ductile Iron	14-1/4*
<b>ME982-16-2F</b>	2" - 300 lb. Flange Flow Non-Indicating Check Valve	Ductile Iron	Ductile Iron	11-7/8"
<b>ME982-24-3F</b>	3" - 300 lb. Row Indicating Check Valve	Ductile Iron	Ductile Iron	14-1/8"
<b>ME982-24-4F</b>	4" - 300 lb. Flange Flow Indicating Check Valve	Ductile Iron	Ductile Iron	14-1/4"

# Excess Flow Valves-Marshall Excelsior



## Marshall Excess Flow Valves

VL

Part Number	Inlet Connection	Outlet Connection	Closing Flow GPM (1)	Material
ME880-6/14	3/4" MNPT	3/4" FNPT	14	Brass
ME880-6/17			17	
ME880-6/22			22	
ME880-6/28			28	
ME880-6/4.6			4.6	
ME880-10/32	1 1/4" FNPT	1 1/4" MNPT	32	
ME880-10/42			42	
ME880-16/105	2" FNPT	2" MNPT	105	
ME880-16/114			114	
ME880-16/80			80	
ME880S-6/14	3/4" MNPT	3/4" FNPT	14	Steel
ME880S-6/17			17	
ME880S-6/22			22	
ME880S-6/28			28	
ME880S-6/4.6			4.6	
ME880S-10/32	1 1/4" FNPT	1 1/4" MNPT	32	
ME880S-10/42			42	
ME880S-16/105	2" FNPT	2" MNPT	105	
ME880S-16/114			114	
ME880S-16/80			80	
ME880S-24/265	3" FNPT	3" MNPT	265	
ME880S-24/350			350	
ME880SS-6/14	3/4" MNPT	3/4" FNPT	14	Stainless
ME880SS-6/17			17	
ME880SS-6/22			22	
ME880SS-6/28			28	
ME880SS-6/4.6			4.6	
ME880SS-10/32	1 1/4" FNPT	1 1/4" MNPT	32	
ME880SS-10/42			42	
ME880SS-16/105	2" FNPT	2" MNPT	105	
ME880SS-16/114			114	
ME880SS-16/80			80	
ME882S-16/105	2" MNPT	2" MNPT	105	Steel
ME882S-16/114			114	
ME882S-16/80			80	

Note 1 - Gallons per minute liquid propane

Marshall Excelsior Excess Flow Valves are intended for use in liquid or vapor LP Gas or NH3 systems. Excess flow valves can be used for filling, withdrawal, and vapor equalization in containers or line applications, specifically long lines or branch piping. This product protects against excessive discharge as a result of a break in the hose or piping system. The excess flow feature is designed to remain closed after activation until the system pressure equalizes on both sides of the shutoff poppet.

### Features:

- All Models Feature Stainless Steel Stem, Spring, and Valve Guide
- Valve Body and Shutoff Poppet Available In Brass, Zinc Plated Steel, or Stainless Steel
- Available From 3/4" NPT Through 3" NPT (Male x Female & Male x Male)
- Zinc Plated Steel and Stainless Steel Models can be Used with LP Gas or NH3
- Break Away Feature Leaves Valve Assembly Intact with Internal Hex Broach for Easy Removal
- Available in a Wide Variety of Closing Flow Rates.



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

Marshall Excelsior High Flow Back Check Valves provide back flow protection to container openings or liquid lines where flow is intended for one direction. The valve is normally held closed until pressure activates the valve when flow is directed into piping or containers causing the back check to open. When flow stops or reverses, the check returns to the closed position. All Marshall Excelsior High Flow Back Check Valves are supplied with o-ring soft seats, which can be removed for metal to metal seating.



VL

ME870S



**Features:**

- Dual Purpose Seat Reduces Inventory - 2 for 1
- Universal Seat - Remove O-Ring Seal to Create Metal to Metal Seating Surface
- Up to 20% More Flow than Nearest Competitor
- Maximum Product Flow Achieved by Full Port and Stem Travel Design
- All Models Feature Stainless Steel Stem, Spring, and Valve Guide
- Valve Body and Shutoff Poppet Available In Brass, Zinc Plated Steel, or Stainless Steel
- Available From 3/4" NPT through 3" NPT (Male x Female & Male x Male NPT)
- Zinc Plated Steel and Stainless Steel Models can be Used with LP Gas or NH3

## Marshall Excelsior Back Check Valves

Part Number	Inlet Connection	Outlet Connection	Closing Flow GPM (I)	Material
<b>ME870-6</b>	3/4" FNPT	3/4" MNPT	24	Brass
<b>ME870-10</b>	1 1/4" FNPT	1 1/4" MNPT	61	
<b>ME870-16</b>	2" FNPT	2" MNPT	187	
<b>ME870S-6</b>	3/4" FNPT	3/4" MNPT	24	Steel
<b>ME870S-10</b>	1 1/4" FNPT	1 1/4" MNPT	61	
<b>ME870S-16</b>	2" FNPT	2" MNPT	187	
<b>ME870S-24</b>	3" FNPT	3" MNPT	449	
<b>ME870SS-6</b>	3/4" FNPT	3/4" MNPT	24	Stainless
<b>ME870SS-10</b>	1 1/4" FNPT	1 1/4" MNPT	61	
<b>ME870SS-16</b>	2" FNPT	2" MNPT	187	
<b>ME872S-16</b>	2" MNPT	2" MNPT	187	Steel

Note I - Gallons Per Minute of liquid propane at 10 psig pressure differential

# High Flow Double Back Check Valves



ME869-10/8



Marshall Excelsior High Flow Double Back Check Valves provide back flow protection to container openings or liquid lines where flow is intended in one direction. The valve is normally held closed until pressure activates the valve when flow is directed into piping or containers causing the double back check to open. When flow stops or reverses, both checks return to the closed position. All MEC High Flow Double Back Check Valves are supplied with the correct ACME cap and chain assembly, as well as factory installed hydrostatic relief protection.

ME869-24



- Primary Seat - Creates metal to metal seating surface
- Secondary Seat - bonded nitrile soft seat for a leak free seal
- Up to 20% More Flow than nearest competitor
- Maximum product flow achieved by full port and stem travel design
- All models feature stainless steel stem, spring and valve guide in body check assembly
- Built in hydrostatic relief valve
- For use with LP Gas ONLY

Part No.	Description	Propane Flow		
		Differential Pressure		
		10 PSI	25 PSI	50 PSI
ME869-10/10	Double Back Check Valve 1-1/4" MNPT x 2-1/4" M.Acme	75	116	157
ME869-10/8	Double Back Check Valve 1-1/4" MNPT x 1-3/4" M.Acme	51	85	124
ME869-16	Double Back Check Valve 2" MNPT x 3-1/4" M.Acme	195	296	416
ME869-24	Double Back Check Valve 3" MNPT x 3-1/4" M.Acme	347	519	718

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

VL

# Marshall Excelsior Next Generation 2" Globe and Angle Valves

Marshall Excelsior's Next Generation 2" Globe and Angle valves provide a positive shut-off valve that is highly reliable with full flow performance while permitting bi-directional flow and/or reduced product emissions.

These valves have all of the same great features of the original full flow MEC Globe and Angle valves with additional product performance enhancements.



~ Pilot Feature: (P) These globe and angle valve models incorporate a pilot orifice feature to facilitate pressure equalization in sections of system piping that have bidirectional flow. This greatly reduces the opening torque required and prevents premature wear of the valve seat.

~ Integrated Back Check Feature: (IBC) These globe and angle valve models incorporate an integrated back check feature to allow trapped downstream pressure to automatically bypass to the upstream side of the valve. These valves are designed for systems with flow in one direction, creating a closed loop system that prevents the product from relieving to the atmosphere making for a low emission, more environmentally friendly option.



VL



## Marshall Excelsior Next Generation 2" Globe and Angle Valves

Angle Part No	Globe Part No	Description	Side Ports	Inlet	Outlet
<b>ME815P-16</b>	<b>ME825P-16</b>	Full flow valve with Integrated Pilot Feature	1/4" FNPT	2" FNPT	2" FNPT
-	<b>ME828P-16</b>				3 1/4" M Acme
-	<b>ME824P-16</b>				2" FNPT
<b>ME815IBC-16</b>	<b>ME825IBC-16</b>	Full flow valve with Integrated Back Check	1/4" FNPT	2" FNPT	2" FNPT
-	<b>ME828IBC-16</b>				3 1/4" M Acme
-	<b>ME824IBC-16</b>				2" FNPT
Replacement Parts					
Part Number		Description			
<b>ME815IBC-16BRK</b>		2" angle & globe valve with integrated back check - complete bonnet assembly			
<b>ME815IBC-16SRK</b>		2" angle & globe valve with integrated back check - seal replacement kit			
<b>ME815-10/16HRK</b>		1 1/4", 1 1/2" & 2" angle & globe valve replacement handle & retaining nut			

# Marshall Excelsior Full Port Globe and Angle Valves



ME825-16



ME829

Marshall Excelsior's globe and angle valves provide a positive shut-off that is highly reliable with full flow performance. The globe valve seat area is tilted to a 30° angle for maximum product flow. Valve is ergonomically correct for Bobtail, Transport and Bulk Plant applications.

All stainless steel internal components with rotating seat disc design and V-cup Teflon packing stem seals. Ductile iron body and flange cap with automotive grade powder coat finish. Standard nitrile seat seal, also available with optional Teflon and Viton seat seal. 1/4" FNPT plugged accessory ports upstream and downstream of valve seat.

Available with the E-Z turn knob feature for easier valve operation.

Part Number	Inlet	Outlet	Body Style
<b>ME815-4</b>	1/2" FNPT	1/2" FNPT	Angle
<b>ME815-6</b>	3/4" FNPT	3/4" FNPT	
<b>ME815-10</b>	1 1/4" FNPT	1 1/4" FNPT	
<b>ME815-16</b>	2" FNPT	2" FNPT	
<b>ME815-24 (1)</b>	3" FNPT	3" FNPT	
<b>ME825-4</b>	1/2" FNPT	1/2" FNPT	Globe
<b>ME825-6</b>	3/4" FNPT	3/4" FNPT	
<b>ME825-8</b>	1" FNPT	1" FNPT	
<b>ME825-10</b>	1 1/4" FNPT	1 1/4" FNPT	
<b>ME825-16</b>	2" FNPT	2" FNPT	
<b>ME825-24 (1)</b>	3" FNPT	3" FNPT	
<b>ME826-10</b>	1 1/4" FNPT	1 3/4" M Acme	
<b>ME827-10</b>	1 1/4" FNPT	2 1/4" M Acme	
<b>ME828-16</b>	2" FNPT	3 1/4" M Acme	

To order Teflon or Viton Seal add "T" or "V" after the prefix Part Number  
(1) Includes EZ turn knob as standard equipment

### Accessories

Part Number	Description
<b>MEH225</b>	1/4" MNPT Hydrostatic Relief Valve 440 psig - 1 1/16" OAL Brass
<b>MEH225SS</b>	1/4" MNPT Hydrostatic Relief Valve 440 psig - 1 1/16" OAL Stainless Steel
<b>MEH425/450</b>	1/4" MNPT Hydrostatic Relief Valve 450 psig - 1 59/64" OAL Brass
<b>MEJ402S</b>	1/4" MNPT Liquid Vent Valve w/ Tee Handle - Stainless Steel
<b>ME829</b>	Universal E-Z Turn Knob & Bolt Kit

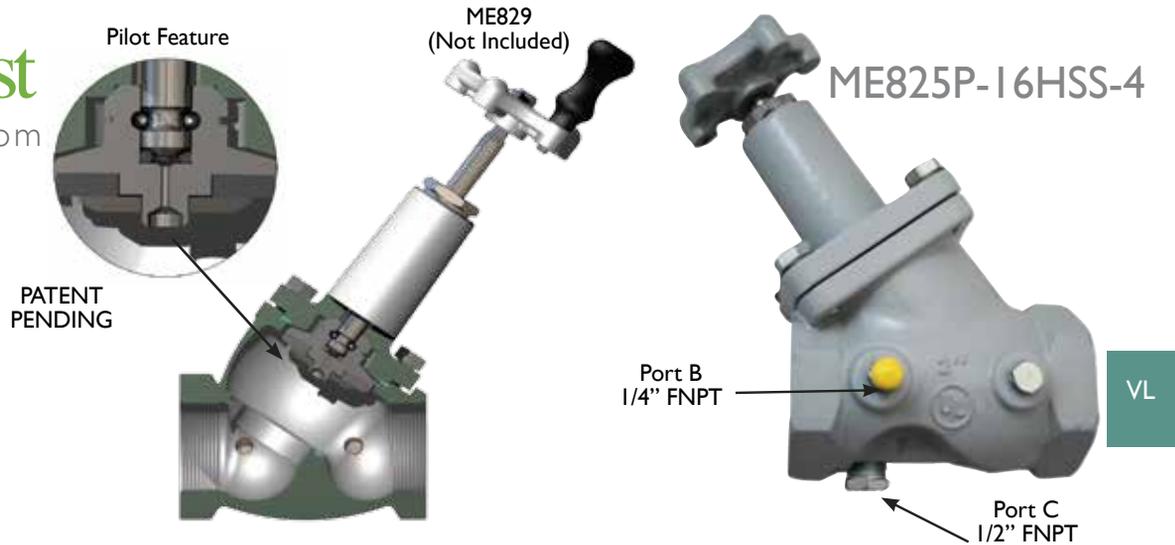
### Replacement Parts

<b>ME815-10BRK</b>	1 1/4" Angle & Globe Valve Complete Bonnet Assembly
<b>ME815-10SRK</b>	1 1/4" Angle & Globe Valve Replacement Seal Repair Kit
<b>ME815-16BRK</b>	2" Angle & Globe Valve Complete Bonnet Assembly
<b>ME815-16SRK</b>	2" Angle & Globe Valve Replacement Seal Repair Kit
<b>ME816-10/16HRK</b>	1 1/4" & 2" Angle & Globe Valve Replacement Handle & Retaining Nut
<b>ME815-24BRK</b>	3" FNPT Angle & Globe Valve Replacement Bonnet Assembly
<b>ME815-24HRK</b>	3" FNPT Angle & Globe Valve Replacement Hand Wheel Kit
<b>ME815-24SRK</b>	3" FNPT Angle & Globe Valve Replacement Seal Ki



ME815-16

# Next Generation 2" Bottom Port Globe Valves



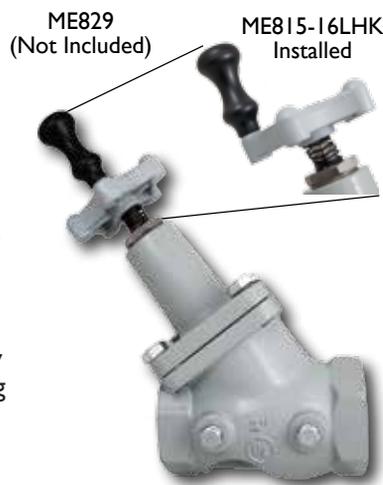
Part No.	Description	1/4" FNPT Side Port A	1/4" FNPT Side Port B	1/2" FNPT Bottom Port C	Inlet/Outlet
ME825P-16-4	Full Flow Valve with Integrated Pilot Feature	Plugged	Plugged	Plugged	2" FNPT
ME825P-16H-4	Full Flow Valve with Integrated Pilot Feature	Plugged	MEH225	Plugged	2" FNPT
ME825P-16HSS-4	Full Flow Valve with Integrated Pilot Feature	Plugged	MEH225SS	Plugged	2" FNPT

Provides a positive shut-off valve that is highly reliable with full flow performance while providing bi-directional flow. Ideally suited for use on transport trailers with 1/2" blow down lines to provide rapid and complete product evacuation prior to disconnecting the transfer hose. Valves can be purchased with hydrostatic relief valves pre-installed in the side port of the globe valve downstream of the main seal.

- All of the same great features of the original full flow MEC globe valves with additional product performance enhancements.
- **Pilot Feature; (P)** These globe valve models incorporate a pilot orifice feature to facilitate pressure equalization in sections of system piping that have bidirectional flow or high differential pressures. This greatly reduces the opening torque required and prevents premature wear of the valve seat.

## Push-To-Turn Locking Handwheel Kit

Helps prevent accidental opening of any 1-1/4", 1-1/2", or 2" MEC angle or globe valve configuration. Once installed the kit requires the operator to push down on the hand wheel to engage the valve stem in order to open or fully close the valve making it a deliberate action to actuate.



- Kit is 100% reverse compatible with all 1-1/4", 1-1/2" and 2" MEC model angle & globe valves.
- Vinyl coated spring to prevent contact with stem seal surface
- Includes: handwheel, spring, and all mounting hardware



ME815-16LHK

Note: MEC strongly recommends use of ME829 EZ-Turn Handwheel knob to promote ease of use for this product (NOT INCLUDED IN ME815-16LHK KIT).

Part No.	Description
ME815-16LHK	Push-To-Turn Locking Handwheel Kit for all 1-1/4", 1-1/2" & 2" MEC Angle / Globe Valve

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# I-1/4" MNPT x 4 Bolt Flange Internal Valve



**ME991-10**



1-1/4" MNPT x 4 Bolt Type A Flanged Internal Valve

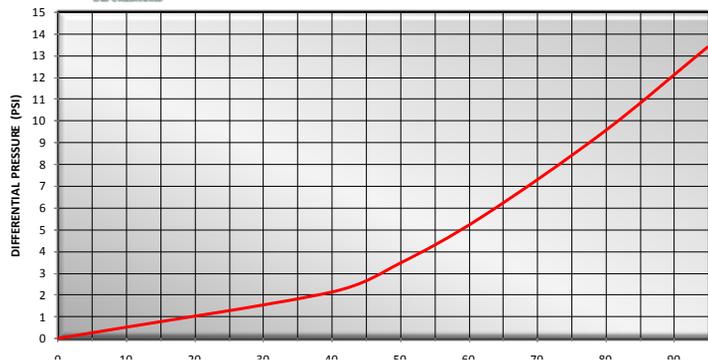
The ME991-10 Series valves feature our new modular Excel-Flange 4 bolt outlet flange design that can be easily adapted to both NTP thread or socket weld type B companion flanges (ME842 & ME843 Series) ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve outlet. Intended for use on bobtail trucks and storage tanks with 1-1/4" threaded connections in directional or bi-directional flow applications. Provides both manual shut-down as well as excess flow closing in the event of the piping being separated from the valve. Can be equipped with manual latch, pneumatic or rotary actuator, open/closing devices. All valve models are equipped with a break-away feature in the cast body which permits the piping to shear off in the event of side impact, leaving the valve poppet intact and protecting the tank from catastrophic product loss. For liquid or vapor service applications.

VL

- Durable 316 SS body
- All stainless internal component construction
- Precision machined hard coated stem
- Fully retained nitrile seat disc
- Large variety of excess flow closing values
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearing on stub shaft
- 4 Bolt universal outlet flange for built in union joint



1 1/4" Internal Valve Liquid LPG Closing Flow-Downward Discharge



## Excela-flange

### Bobtail



"X"	1-1/4" Valve Liquid Closing Flow Values
35	35 GPM LPG Closing Flow
55	55 GPM LPG Closing Flow
85	85 GPM LPG Closing Flow
* For NH <sub>3</sub> multiply GPM by .90	

#### MEC Excela-Flange™ I-1/4" NPT x 4 Bolt Internal Valves

Part No.	Description	Mating Flange Type	Weight (lbs.)
<b>ME991-10-"X"</b>	I-1/4" MNPT x 4 Bolt Type A Flange Internal Valve - Only	B	5.7
<b>ME991A-10-"X"</b>	I-1/4" MNPT x 4 Bolt Type A Flange Internal Valve - w/Pneumatic Actuator	B	9.5
<b>ME991AR-10-"X"</b>	I-1/4" MNPT x 4 Bolt Type A Flange Internal Valve - w/Rotary Actuator	B	10.2
<b>ME991M-10-"X"</b>	I-1/4" MNPT x 4 Bolt Type A Flange Internal Valve - w/Manual Latch	B	5.7

\* Note: Indicate desired excess flow closing value when ordering - see chart for values  
 i.e. ME991-10-85 (85 GPM)  
 To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME991K-10-35  
 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME991N-10-35  
 To order Viton® add "V" for Viton® after the prefix part number i.e. ME991V-10-35

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OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# High Flow Socket Weld Back Check Valves

These Excelsa-Flange High Flow Socket Weld Back Check valves lead the industry with up to 20% More Flow than the nearest competitor. Back check valves provide flow protection to container openings or liquid lines where flow is intended for one direction. The valve is normally closed until pressure activates the valve when flow is directed into piping or containers causing the back check to open. When flow stops or reverses, the check returns to the closed position.

Being socket weld connection points, these valves are ideally suited for inline applications where welded piping construction is desired, such as in a bobtail spray fill / bypass return combination line. A perfect companion to the MEC Excelsa-Flange product line. Only available with metal-to-metal seat due to high heat associated with socket weld construction/ installation.

NOTE: Leaving the O-ring soft seat installed on the valve will require a minimum of 15 psig pressure differential between the transfer line and container to unseat the valve and allow it to fully open.



VL

**ME870SW-16**  
2" Male Socket Weld X 2" Female Socket Weld Back Check Valve

- Up to 20% More Flow than nearest competitor
- Maximum flow achieved by full port and increased stem travel design
- Integral breakaway feature leaves valve assembly intact
- All stainless steel internal components
- High temperature Inconel spring withstands heat from welding

## Excelsa-Flange

### Bobtail



MEC Excelsa-Flo High Flow Socket Weld Back Check Valve				
Part No.	Inlet Socket Weld	Outlet Socket Weld	Propane Flow @ 10 PSIG Pressure Differential	Weight (lbs.)
<b>ME870SW-16</b>	2" Female	2" Male	189	1.77
* Rated for LP-Gas & NH <sub>3</sub>				
** Includes removable o-ring				

Liquid Butane Capacity = Flow Rate x .94

Liquid Anhydrous Ammonia Capacity = Flow Rate x .90

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# 2"-300LB. x 2" -8 Bolt Companion Flange Series Internal Valves



The ME994S-2F series valves feature our new modular Excelsa-Flange 2"-8 bolt outlet flange design that can be easily adapted to either 2" NPT or socket weld companion flanges (MEP994S-2F-2SW) making it universal to either piping construction.



**ME994S-2F-16**

- Durable steel body with cadmium surface plating
- Universal 2"-8 bolt outlet flange connection for threaded or welded piping
- Universal 2" -8 bolt outlet flange provides a built-in union joint for easy servicability
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem & stem guide
- Fully retained nitrile seat disc
- Largest variety of excess flow closing values
- Corrosion resistant sleeved flange bolt holes
- Xylan coated corrosion resistant mounting studs
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- Available with 316 Stainless Steel bodies
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts
- Fits standard 2" - 300# flanged tank openings

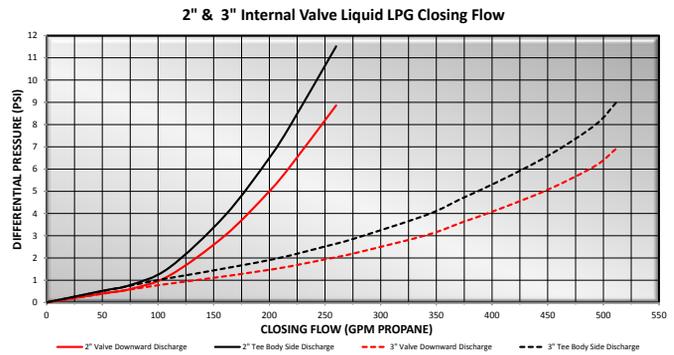
VL

X	2" Valve Liquid Closing Flow Values
110	110 GPM LPG Closing Flow
160	160 GPM LPG Closing Flow
260	260 GPM LPG Closing Flow

\* For NH<sub>3</sub> Multiply GPM by .90

## Excelsa-Flange

## Transport



MEC Excelerator™ Excelsa-Flange 2"-300lb. x 2"-8 Bolt Companion Flange Internal Valves		
Part No. *	Description	Weight (lbs.)
<b>ME994S-2F-16-"X"</b>	Excelerator™ 2"-300 lb. Modified Single Flange x 2"-8 Bolt Flange Internal Valve - Only	21.6
<b>ME994SA-2F-16-"X"</b>	Excelerator™ 2"-300 lb. Modified Single Flange x 2"-8 Bolt Flange Internal Valve - with Pneumatic Actuator	35.5
<b>ME994SAR-2F-16-"X"</b>	Excelerator™ 2"-300 lb. Modified Single Flange x 2"-8 Bolt Flange Internal Valve - with Rotary Actuator	28.9

\* Note: Indicate desired excess flow closing value when ordering - see chart for values i.e. ME994S-2F-16-260 (260 GPM)  
 To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME994SK-2F-16-260  
 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME994SN-2F-16-260  
 To order Viton® add "V" for Viton® after the prefix part number i.e. ME994SV-2F-16-260  
 Available in Stainless Steel – add "SS" to part number i.e. ME994SS-3F-24-500

MEC Excelerator™ Excelsa-Flange Companion Flange Kits		
Part No. *	Description	Weight (lbs.)
<b>MEP994-2F-16</b>	2" -8 Bolt x 2" FNPT Excelsa-Flange Companion Flange Kit w/ Bolts and O-Ring	3.5
<b>MEP994-2F-2SW</b>	2" -8 Bolt x 2" Socket Weld Excelsa-Flange Companion Flange Kit w/ Bolts and O-Ring	3.6

Available in Stainless Steel with Stainless Steel Bolts – Add "SS" to part number i.e. MEP994SS-3F-3SW

80

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# 3" -300LB. x 3"-8 Bolt Companion Flange Series Internal Valves

The ME994S-3F series valves feature our new modular Excela-Flange 3"-8 bolt outlet flange design that can be easily adapted to either 3" NPT or socket weld companion flanges (MEP994S-3F-3SW) making it universal to either piping construction.

- Durable steel body with cadmium surface plating
- Universal 3"-8 bolt outlet flange connection for threaded or welded piping
- Universal 3"-8 bolt outlet flange provides a built-in union joint for easy servicability
- All stainless internal component construction
- One piece threaded packing gland
- Precision machined hard coated stem & stem guide
- Fully retained nitrile seat disc
- Largest variety of excess flow closing values
- Corrosion resistant sleeved flange bolt holes
- Xylan coated corrosion resistant mounting studs
- Roller cam actuation
- Industry's fastest bleed time
- Removable data plate
- Industry's easiest valve to service
- Standard construction utilizes nitrile seals
- Available with Neoprene, Viton®, or Kalrez® seals
- Available with 316 Stainless Steel bodies
- UL LISTED for LPG & NH<sub>3</sub> service
- Rulon™ bearings on stem and stub shafts
- Fits standard 3" - 300# flanged tank openings



ME994S-3F-24

## Excela-Flange

## Transport



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MEC Excelerator™ Excela-Flange 3"-300 lb. x 3" -8 Bolt Companion Flange Internal Valves

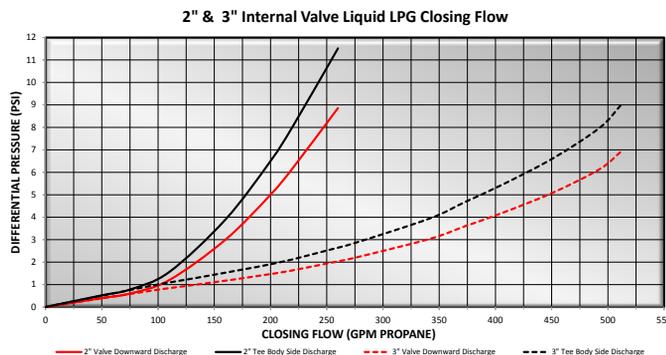
Part No. *	Description	Weight (lbs.)
<b>ME994S-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3"-8 Bolt Companion Flange Internal Valve - Only	38.3
<b>ME994SA-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3"-8 Bolt Companion Flange Internal Valve - with Pneumatic Actuator	52.8
<b>ME994SAR-3F-24-"X"</b>	Excelerator™ 3"-300 lb. Modified Single Flange x 3"-8 Bolt Companion Flange Internal Valve - with Rotary Actuator	45.9

\* Note: Indicate desired excess flow closing value when ordering - see chart for values i.e. ME994S-3F-24-260 (260 GPM)  
 To order Kalrez® add "K" for Kalrez® after the prefix part number i.e. ME994SK-3F-24-260  
 To order Neoprene add "N" for Neoprene after the prefix part number i.e. ME994SN-3F-24-260  
 To order Viton® add "V" for Viton® after the prefix part number i.e. ME994SV-3F-24-260  
 To order Stainless Steel add "SS" to part number i.e. ME994SS-3F-24-500

MEC Excelerator™ Excela-Flange Companion Flange Kits

Part No. *	Description	Weight (lbs.)
<b>MEP994-3F-24</b>	3" -8 Bolt x 3" FNPT Excela-Flange Companion Flange Kit w/ Bolts and O-Ring	4.8
<b>MEP994-3F-3SW</b>	3" -8 Bolt x 3" Socket Weld Excela-Flange Companion Flange Kit w/ Bolts and O-Ring	4.9

Available in Stainless Steel with Stainless Steel Bolts – Add "SS" to part number i.e. MEP994SS-3F-3SW



X	3" Valve Liquid Closing Flow Values
175	175 GPM LPG Closing Flow
250	250 GPM LPG Closing Flow
300	300 GPM LPG Closing Flow
375	375 GPM LPG Closing Flow
400	400 GPM LPG Closing Flow
475	475 GPM LPG Closing Flow
500	500 GPM LPG Closing Flow

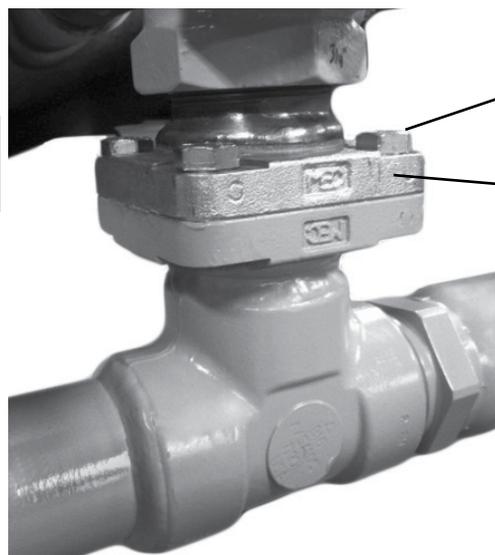
\* For NH<sub>3</sub> Multiply GPM by .90

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# 4-Bolt Unions and Companion Flanges



## Excelsa-Flange Bobtail Transport



VL

**ME841-16F**  
(Requires purchase of flat face flange)  
**TYPE A FLANGE**

**ME843-16-107**  
(Requires purchase of mating kit)  
**TYPE B FLANGE**

- All steel construction for maximum durability and weldability
- Available in 1-1/4" - 2" FNPT or Socket Weld configurations
- Zinc plated flange faces for maximum corrosion resistance
- No plating on weld surfaces for improved weld quality with minimum weld prep
- Approved for use in LPG or NH<sub>3</sub> service
- Rated 400 WOG

These 4 bolt unions can be used anywhere system piping needs to be joined together between shut off valves. Using piping unions such as these significantly improves the ease by which maintenance can be performed particularly where long runs or multiple directional changes are necessary. Our flange unions feature a captured o-ring design, hardened mounting bolts, and are available in NTP or Socket Weld configurations. Suitable for use in mobile or stationary applications.

MEC Flat Face Flanges			
Part No.	Description	Flange Type	Weight (lbs.)
<b>ME842-10-107</b>	1-1/4" FNPT Tapped 4 Bolt Flat Face Flange Adapter	B	2.7
<b>ME843-10-107</b>	1-1/4" Socket Weld 4 Bolt Flat Face Flange Adapter	B	2.6
<b>ME842-12-107</b>	1-1/2" FNPT Tapped 4 Bolt Flat Face Flange Adapter	B	2.6
<b>ME843-12-107</b>	1-1/2" Socket Weld 4 Bolt Flat Face Flange Adapter	B	2.5
<b>ME842-16-107</b>	2" FNPT Tapped 4 Bolt Flat Face Flange Adapter	B	2.2
<b>ME843-16-107</b>	2" Socket Weld 4 Bolt Flat Face Flange Adapter	B	2.0
MEC Universal Flange Kit			
Part No.	Description	Flange Type	Weight (lbs.)
<b>ME840-10F</b>	1-1/4" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	3.0
<b>ME841-10F</b>	1-1/4" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	2.9
<b>ME840-12F</b>	1-1/2" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	2.8
<b>ME841-12F</b>	1-1/2" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	2.7
<b>ME840-16F</b>	2" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	2.5
<b>ME841-16F</b>	2" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring	A	2.3
<b>MEP840-10</b>	1-1/4" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.8
<b>MEP841-10</b>	1-1/4" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.7
<b>MEP840-12</b>	1-1/2" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.6
<b>MEP841-12</b>	1-1/2" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.6
<b>MEP840-16</b>	2" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.3
<b>MEP841-16</b>	2" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring	A	4.2



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Turbo-Flo LE Dry Break Transfer Systems

FOR USE WITH LPG & NH<sub>3</sub> TRANSFER SYSTEMS

The ME808-16 Series valves feature our new modular Excelsa-Flange 4-bolt inlet flange design that can be easily adapted to both NTP thread or socket weld type A companion flanges (ME840 & ME841 Series) ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet. The Turbo-Flo LE system provides a safe, ergonomic and efficient solution for liquid or vapor transfer applications while increasing productivity and dramatically reducing fugitive product emissions. For use with bobtail, transport, railcar and bulk plant applications.



**ME808-16**

VL

## Excelsa-Flange Bobtail Transport

- Universal 4 bolt inlet flange for built in union joint
- Reduces product emissions 99.6% over standard valve combinations
- 100% compatible with all existing acme transfer connections
- Heavy duty spring loaded safety latch prevents accidental opening of valve
- Cam operated vapor equalization feature for smooth valve operation
- All stainless internal components
- Factory installed hydrostatic relief valve
- Specially formulated low temperature valve seals for maximum performance and life under all operating conditions
- Integrated Back Check (IBC) feature to allow trapped liquid to be forced back upstream of the valve if liquid is trapped downstream of the valve seat.
- Available with brass or steel acme connections.

MEC Excelsa-Flange Turbo-Flo LE™ Transfer Valves					
Part No.	Description	Discharge at Disconnect	Material	Mating Flange Type	Weight (lbs.)
<b>ME808-16</b>	Low Emission Transfer Valve 4 Bolt Type B Flange x 3-1/4" M.Acme Fixed	3.2 CC	Ductile/Brass	A	12.3
<b>ME808A-16</b>	Low Emission Transfer Valve 4 Bolt Type B Flange x 3-1/4" M.Acme Fixed - w/ screen	3.2 CC	Ductile/Brass	A	12.3
<b>ME808S-16</b>	Low Emission Transfer Valve 4 Bolt Type B Flange x 3-1/4" M.Acme Fixed	3.2 CC	Ductile/Steel	A	12.3
<b>ME808SA-16</b>	Low Emission Transfer Valve 4 Bolt Type B Flange x 3-1/4" M.Acme Fixed - w/ screen	3.2 CC	Ductile/Steel	A	12.4
Replacement Parts & Accessories					
Part No.	Description				
<b>ME806HRK</b>	Handle Repair Kit for ME806 & ME807 Series				
<b>ME807CRK</b>	Replacement 3-1/4" M.Acme Adapter Repair Kit (Brass) for ME807 Series				
<b>ME807SCRK</b>	Replacement 3-1/4" M.Acme Adapter Repair Kit (Steel) for ME807 Series				
<b>ME807VRK</b>	Complete Valve Repair Kit for ME807 Series				
<b>ME807PIB</b>	MEC Smart Interlock Sensor Kit for ME807 Series				

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## Excelsa-Flange Bobtail Transport

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**ME819P-16**  
2" - Flange x NPT  
Globe Valve

The Next Generation Flanged 2" Globe and Angle Valves feature our new modular Excelsa-Flange 4 Bolt inlet/outlet design that can be easily adapted to both NPT thread or socket weld type A companion flanges (ME840 & ME841 Series) ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet/outlet connections.

- All of the same great features of the original full flow MEC globe valves with additional product performance enhancements.

**Pilot Feature: (P)** This globe valve model incorporates a pilot orifice feature to facilitate pressure equalization in sections of system piping that have bidirectional flow or high differential pressures. This greatly reduces the opening torque required and prevents premature wear of the valve seat.

**Integrated Back Check Feature: (IBC)** These globe and angle valve models incorporate an integrated back check feature to allow trapped downstream pressure to automatically bypass to the upstream side of the valve. These valves are designed for systems with flow in one direction, creating a closed loop system that prevents the product from relieving to the atmosphere making for a low emission, more environmentally friendly option.

Integrated Back Check  
Feature



**ME823IBC-16**



Pilot Feature



**ME823P-16**



MEC Excelsa-Flange Single & Double Flange Next Generation Globe and Angle Valves

Angle	Globe	Description	Side Ports	Inlet	Outlet	Mating Flange Type	Weight (lbs.)	
							Angle	Globe
ME813IBC-16	ME823IBC-16	2" Full Flow 4 Bolt Double Flange (IBC) Valve	1/4" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	17.6	20.1
—	ME822IBC-16	2" Full Flow 4 Bolt Double Flange (IBC) Valve	1/2" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	—	19.7
ME813P-16	ME823P-16	2" Full Flow 4 Bolt Double Flange (P) Valve	1/4" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	18.1	20.1
—	ME822P-16	2" Full Flow 4 Bolt Double Flange (P) Valve	1/2" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	—	20.1
—	ME818IBC-16	2" Full Flow 4 Bolt Single Flange (IBC) Valve	1/2" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	18.2
—	ME818P-16	2" Full Flow 4 Bolt Single Flange (P) Valve	1/2" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	18.2
—	ME819IBC-16	2" Full Flow 4 Bolt Single Flange (IBC) Valve	1/4" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	18.1
—	ME819P-16	2" Full Flow 4 Bolt Single Flange (P) Valve	1/4" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	18.1

# 2" Bottom Port Pilot Operated Flanged Globe Valves

Provides a positive shut-off valve that is highly reliable with full flow performance while providing bi-directional flow. Ideally suited for use on transport trailers with 1/2" blow down lines to provide rapid and complete product evacuation prior to disconnecting transfer hose. Valves can be purchased with hydrostatic relief valves pre-installed on the out board side port of the globe valve main seal.

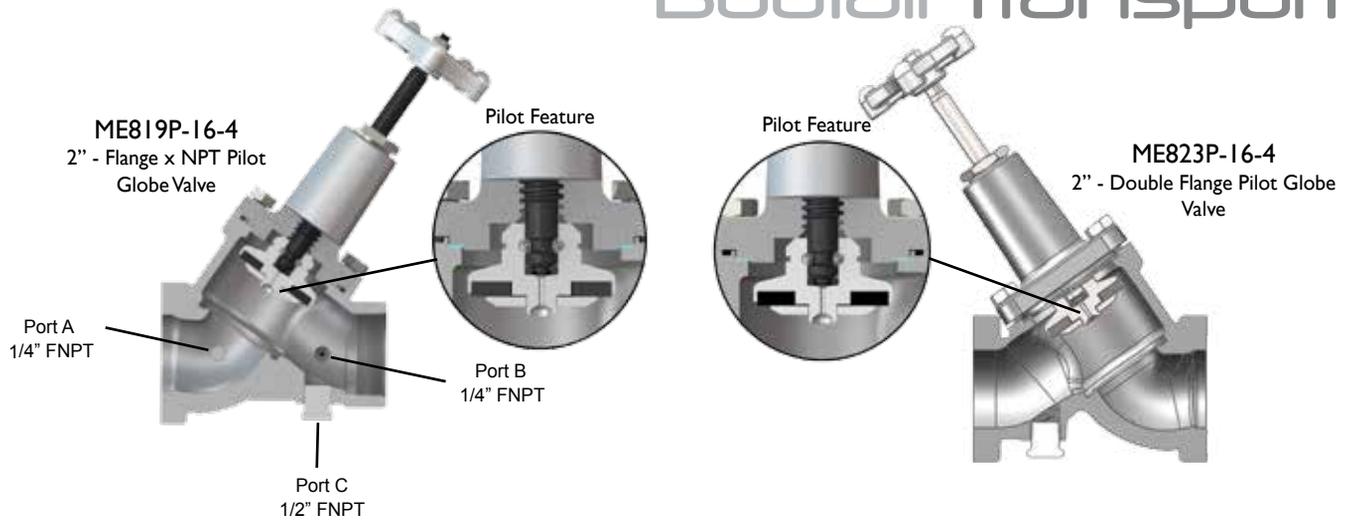
- All of the same great features of the original full flow MEC globe valves with additional product performance enhancements.

**Pilot Feature: (P)** This globe valve model incorporates a pilot orifice feature to facilitate pressure equalization in sections of system piping that have bidirectional flow or high differential pressures. This greatly reduces the opening torque required and prevents premature wear of the valve seat.

The Excelsa-Flange 2" bottom port operated flanged globe valves feature our new modular Excelsa-Flange 4 bolt inlet/outlet flange design that can be easily adapted to both NPT thread or socket weld Type A companion flanges (ME840 & ME841 Series) ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet/outlet connections.

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## Excelsa-Flange Bobtail Transport



MEC Excelsa-Flange Full Flow Single & Double Flange Globe Valves								
Part No	Description	1/4" FNPT Side Port A	1/4" FNPT Side Port B	1/2" FNPT Side Port C	Inlet	Outlet	Mating Flange Type	Weight (lbs)
<b>ME822P-16-4*</b>	2" Full Flow 4 Bolt Flange (P) Valve	Plugged	Plugged	Plugged	4 Bolt Flange Type B	4 Bolt Flange Type B	A	20.2
<b>ME823P-16-4</b>		Plugged	Plugged	Plugged		4 Bolt Flange Type B	A	20.1
<b>ME823P-16H-4</b>		Plugged	MEH225	Plugged		4 Bolt Flange Type B	A	20.1
<b>ME823P-HSS-4</b>		Plugged	MEH225SS	Plugged		4 Bolt Flange Type B	A	20.1
<b>ME818P-16-4*</b>		Plugged	Plugged	Plugged		2" FNPT	A	18.2
<b>ME819P-16-4</b>		Plugged	Plugged	Plugged		2" FNPT	A	18.2
<b>ME819P-16H-4</b>		Plugged	MEH225	Plugged		2" FNPT	A	18.2
<b>ME819P-16HSS-4</b>		Plugged	MEH225SS	Plugged		2" FNPT	A	18.2
*Indicates all ports 1/2" FNPT								
Accessories & Replacement Parts								
Part No.	Description							
<b>ME815P-16BRK</b>	2" Angle & Globe Valve with Pilot - Complete Bonnet Assembly							
<b>ME815P-16SRK</b>	2" Angle & Valve with Pilot - Seal Replacement Kit							
<b>ME815-10/16HRK</b>	1-1/4", 1-1/2" & 2" Angle & Globe Valve Replacement Handle & Retaining Nut							

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Full Flow Globe and Angle Valves



ME823-10  
1-1/4" Double Flange Globe valve

ME813-16  
2" Double Flange  
Angle Valve



The ME813, ME818, ME819 and ME823 Series valves feature our new modular Excelsa-Flange 4 Bolt inlet/outlet design that can be easily adapted to both NTP thread or socket weld type A companion flanges (ME840 & ME841 Series) ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet/outlet connections.

VL

- All stainless steel internal components with rotating seat disc design & V-cup Teflon® packing stem seals
- Double lead acme stem thread ensures quick and efficient operation
- Durable ductile iron valve body with zinc plating finish
- 1-1/4" & larger globe valves have 35° seat angle for maximum product flow
- 1-1/4" & larger globe valve designed ergonomically correct for bobtail transport and bulk plant applications
- Rated for 400 WOG
- Operating temperature -40° to +212° Fahrenheit
- Up to **70% MORE FLOW** than the nearest competitor
- 1/4" FNPT or 1/2" FNPT plugged accessory ports upstream and downstream of valve seat
- Standard Nitrile seat, optional Teflon or Viton seat

ME819-16  
2" Flange x NPT Globe Valve



## Excelsa-Flange Bobtail Transport

MEC Excelsa-Flange Single & Double Flange Full Flow Globe and Angle Valves								
Angle	Globe	Description	Side Ports	Inlet	Outlet	Mating Flange Type	Weight (lbs.)	
							Angle	Globe
ME813-10	ME823-10	1-1/4" - 4 Bolt Full Flow Double Flange Valve	1/4" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	14.8	15.3
—	ME822-16	2" - 4 Bolt Full Flow Double Flange Valve	1/2" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	—	19.7
ME813-16	ME823-16	2" - 4 Bolt Full Flow Double Flange Valve	1/4" FNPT	4 Bolt Flange Type B	4 Bolt Flange Type B	A	17.6	19.6
—	ME818-16	2" - 4 Bolt Full Flow Single Flange Valve	1/2" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	17.7
—	ME819-10	1-1/4" - 4 Bolt Full Flow Single Flange Valve	1/4" FNPT	4 Bolt Flange Type B	1-1/4" FNPT	A	—	14.0
—	ME819-16	2" - 4 Bolt Full Flow Single Flange Valve	1/4" FNPT	4 Bolt Flange Type B	2" FNPT	A	—	17.7

Viton® and Teflon® are trademarks of DuPont Performance Elastomers.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

The ME873S Series valves feature our new modular Excelsa-flange 4 bolt inlet flange design that can be easily adapted to both NPT thread or socket weld type B companion flanges ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary extra connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet. Marshall Excelsior High Flow back check valves provide back flow protection to container openings or liquid lines where flow is intended for one direction. The valve is normally held closed until pressure activates the valve when flow is directed into piping or containers causing the back check to open. When flow stops or reverses, the check returns to the closed position. All MEC High Flow Back Check valves are supplied with o-ring soft seats, which can be removed for metal to metal seating. Also available with permanently bonded on main valve seals (SBN).



**ME873S-24**  
SHOWN WITH O-RING  
REMOVED  
METAL TO METAL

VL



**ME873SBN-24**  
(SBN - BONDED SEAT)



**ME873S-16**  
SHOWN WITH O-RING REMOVED  
METAL TO METAL

## Excelsa-Flange Bobtail Transport

MEC Excelsa-Flange High Flow Back Check Valves					
Part No.	Description	Material	Propane Flow 10 PSIG Pressure Differential	Mating Flange Type	Weight (lbs.)
<b>ME873S-16</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Back Check Valve	Ductile	187	B	4.2
<b>ME873SBN-16</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Back Check Valve (SBN) Bonded Seat	Ductile	187	B	4.2
<b>ME873S-24</b>	Excelsa-Flange 3" MNPT x 4 Bolt Type A Flange Back Check Valve	Ductile	449	B	7.0
<b>ME873SBN-24</b>	Excelsa-Flange 3" MNPT x 4 Bolt Type A Flange Back Check Valve (SBN) Bonded Seat	Ductile	449	B	7.1

Liquid Butane Capacity = Flow Rate x .94

Liquid Anhydrous Ammonia Capacity = Flow Rate x .90

Replacements o-rings available upon request

- Universal seat - Remove O-ring seal to create metal to metal seating surface or (SBN) bonded seat
- Up to **20% MORE FLOW** than nearest competitor
- Maximum product flow achieved by full port and stem travel design
- All models feature stainless steel stem, spring and valve guide
- Valve body: Ductile Iron / Shutoff poppet assy: steel & stainless steel
- Available in 2" NPT and 3" NPT x 4 Bolt Type A Flange
- All models can be used with LP Gas or NH<sub>3</sub>
- Universal 4 bolt flange inlet type A

## Valve Installation Tool

The MEP873 is intended to fit all Excelsa-Flange™ type A flange tank valves. This tool is designed to fit snugly into each of the 4 type A smooth bore flange bolt holes with individual posts. Each replaceable post features a self-retaining spring action ball detent to hold the tool firmly in place while attached to the Excelsa-Flange™ valve and has rubber cushioning pads to prevent direct contact with sealing surfaces. The MEP873 features a robust 1" square socket drive for use with even the most heavy duty impact or socket wrenches.



**MEP873**

Part No.	Description
<b>MEPI83</b>	4 Bolt Type A Flange Valve Installation Tool w/ 1" Square Drive
<b>MEPI83-102</b>	Replacement Torque Posts

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

## Excelsa-Flange Bobtail Transport

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**ME883S-16/105**  
2" NPT x 4 Bolt Flange  
Excess Flow Valve

Marshall Excelsior offers the largest closing flow selection in the industry. These excess flow valves are intended for use in liquid or vapor LP-Gas or NH<sub>3</sub> systems. These valves can be used for filling, withdrawal and vapor equalization in containers or line applications, specifically long lines or branch piping. This product is designed to protect against excessive discharge as a result of a break in the hose or piping system. The excess flow feature is designed to remain closed after activation until the system pressure equalizes on both sides of the shutoff poppet.

The ME883S-16 Series valves feature our new modular Excelsa-flange 4 bolt inlet flange design that can be easily adapted to both NPT thread or socket weld type B companion flanges ranging from 1-1/4" to 2" in diameter making it universal to piping sizes within this range. This innovative system allows installers the ability to eliminate unnecessary extra connections as well as possible leak points by integrating a convenient 4 bolt flange union at the valve inlet.

**WARNING:** An excess flow valve will not activate if there is a break or leak downstream of the valve that does not equal or exceed the closing flow of the valve or if the excess flow valve installed exceeds the flow capacity of the system. See the Excess Flow Warning page for more information regarding the use of excess flow devices.

- All models feature stainless steel stem, spring and valve guide
- Valve body: Ductile Iron / Shutoff poppet assy: zinc plated steel & stainless steel
- Available 2" NPT x 4 Bolt Type A Flange
- All models can be used with LP Gas or NH<sub>3</sub>
- Available in a wide variety of closing flow rates - see chart below

MEC Excelsa-Flange Excess Flow Valves					
Part No.	Description	Material	Closing Flow	Mating Flange Type	Weight (lbs.)
<b>ME883S-16/80</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Excess Flow	Ductile	80	B	4.23
<b>ME883S-16/105</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Excess Flow	Ductile	105	B	4.23
<b>ME883S-16/114</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Excess Flow	Ductile	114	B	4.23
<b>ME883S-16/140</b>	Excelsa-Flange 2" MNPT x 4 Bolt Type A Flange Excess Flow	Ductile	140	B	4.23

**\*\*WARNING** - Reducing outlet pipe size below 2" nominal diameter could result in excess flow feature failing to close as designed

Liquid Butane Capacity = Flow Rate x .94

Liquid Anhydrous Ammonia Capacity = Flow Rate x .90

These tees and elbows are available in both 2" and 3" socket weld pipe configuration and maximize flow through system piping where a 90° turn must be made. Flow rates are maximized by an optimized flow path as well as nearly seamless piping joints reducing turbulence and focusing flow through the system. Ideally suited for pump discharge lines, transport loading/unloading tee assemblies, spray fill lines or any other piping application where piping is welded and high flow rates are desired.



**MEP996S-16**

2" F. SOCKET WELD X 2" F. SOCKET WELD ELBOW

VL

## Excelsa-Flange Bobtail Transport

- All steel construction for maximum durability and weldability
- Available in 2" & 3" Socket Weld configurations
- Coated for maximum corrosion resistance
- Approved for use in LPG or NH<sub>3</sub> service
- Rated 400 WOG



**MEP995S-24/16**

3" F. SOCKET WELD X (2") -2" F. SOCKET WELD TEE

MEC Excelsa-Flange High Flow Socket Weld Tees		
Part No.	Description	Weight (lbs.)
<b>MEP995S-16</b>	Excelsa-Flange 2" x 2" x 2" Socket Weld High Flow Tee Body-Steel	6.1
<b>MEP995S-24/16</b>	Excelsa-Flange 3" x 2" x 2" Socket Weld High Flow Tee Body-Steel	7.8
MEC Excelsa-Flange High Flow Socket Weld Elbows		
Part No.	Description	Weight (lbs.)
<b>MEP996S-16</b>	Excelsa-Flange 2" x 2" Socket Weld High Flow Elbow Body-Steel	3.8
<b>MEP996S-24</b>	Excelsa-Flange 3" x 3" Socket Weld High Flow Elbow Body-Steel	6.7

Tees and elbows also available in stainless steel

CSB790TT112



VL

### Union End Valves

Marpac union end valves are constructed with steel bodies and carbon steel union ends. These valves feature full flow ports, teflon seals, and union ends for ease of installation.

**MARPAC**

## Marpac Union End Valves

Part Number	Size	Style	Valve Length	Pressure Rating
<b>CSB790TT34</b>	3/4" FNPT	Union End	4 1/2"	1000 CWP
<b>CSB790TT1</b>	1" FNPT	Union End	4 15/16"	1000 CWP
<b>CSB790TT114</b>	1 1/4" FNPT	Union End	5 3/8"	1000 CWP
<b>CSB790TT112</b>	1 1/2" FNPT	Union End	5 7/8"	1000 CWP
<b>CSB790TT2</b>	2" FNPT	Union End	6 7/8"	1000 CWP

## Repair Parts For Marpac Union End Valves

Kit Number	Description
<b>5807ETT</b>	1" B790 Seal Kit
<b>5807FTT</b>	1 1/4" B790 Seal Kit
<b>5807GTT</b>	1 1/2" B790 Seal Kit
<b>5807HTT</b>	2" B790 Seal Kit
<b>9109KTT</b>	3" D1800 Seal Kit

Jomar 3 piece, four bolt, 100% full port. 316 stainless steel body, ball, stem and latch handle. UL Listed for liquid propane, 1000 WOG with new 2nd. generation PTFE modified seats.

Model Number	Size
500-306	1 1/4" FNPT
500-307	1 1/2" FNPT
500-308	2" FNPT
500-310	3" FNPT

Jomar four bolt, 100% full port ball valve. Carbon steel body with 316 stainless steel ball and stem, and standard latch handle. 1000 WOG. UL Listed for liquid propane. New generation PTFE modified seats.

Model Number	Size
500-406	1 1/4" FNPT
500-407	1 1/2" FNPT
500-408	2" FNPT

Jomar four bolt, 100% full port ball valve. Carbon steel valve same as the 500-400 Series, but with socket weld ends.

Model Number	Size
500-506	1 1/4" Socket Weld
500-507	1 1/2" Socket Weld
500-508	2" Socket Weld

Apollo carbon steel, full port ball valve. 1000 WOG. Reinforced TFE seats and seals with a chromium plated ball. In-line repairable.

Model Number	Size
83-106	1 1/4" FNPT
83-107	1 1/2" FNPT
83-108	2" FNPT

### Repair Parts For 4 Bolt Ball Valves Only

Part No.	Description	For Valve
899-916	Seal Kit	1 1/4" Jomar
899-917	Seal Kit	1 1/2" Jomar
899-918	Seal Kit	2" Jomar
899-908	Handle (TCS10004B)	All Jomar
82-006-01	Seal Kit	1 1/4" Apollo 83 Series
82-007-01	Seal Kit	1 1/2" Apollo 83 Series
82-008	Seal Kit	2" Apollo 83 Series
W5648-00	Handle	1 1/4" Apollo 83 Series
W6356-00	Handle	1 1/2" & 2" Apollo 83 Series

## 4-Bolt Valves

500-307

Jomar



VL

500-407



500-508



Apollo

83-107



# Apollo 'Full Port' Bronze Ball Valves



Apollo



77-107

VL

Apollo full port, 600 WOG, with chromium plated ball, and reinforced tee packing. Designed for easy actuator mounting.

## Apollo Full Port Ball Valves

Model Number	Size
<b>77-106</b>	1 1/4" FNPT
<b>77-107</b>	1 1/2" FNPT
<b>77-108-01</b>	2" FNPT

## Apollo '77 Series' Repair Parts

Part Number	Description
<b>RK70-007</b>	1 1/4" Seal Kit
<b>RK70-008</b>	1 1/2" Seal Kit
<b>78-020-01</b>	2" Seal Kit
<b>W5648-00</b>	1 1/4" Handle
<b>W6356-00</b>	1 1/2" & 2" Handle

## Apollo 'Standard Port' Bronze Ball Valves



80-108

Apollo

UL Listed for propane gas and flammable liquids, 600 WOG, with chromium plated ball, and TFE packing.

## Apollo Standard Port Ball Valves

Part No.	Thread Size FNPT	Port Diameter	Valve Length
<b>80-101</b>	1/4"	3/8"	2 1/16"
<b>80-102</b>	3/8"	3/8"	2 1/16"
<b>80-103</b>	1/2"	1/2"	2 1/4"
<b>80-104</b>	3/4"	1 1/16"	3"
<b>80-105</b>	1"	7/8"	3 3/8"
<b>80-106</b>	1 1/4"	1"	4"
<b>80-107</b>	1 1/2"	1 1/4"	4 3/8"
<b>80-108</b>	2"	1 1/2"	4 11/16"
<b>80-100</b>	3"	2 1/2"	6 3/4"

## Apollo '80 Series' Repair Parts

Part Number	Description
<b>RK70-004</b>	Seal Kit 3/4" Valve
<b>RK70-005</b>	Seal Kit 1" Valve
<b>RK70-006</b>	Seal Kit 1 1/4" Valve
<b>RK70-007</b>	Seal Kit 1 1/2" Valve
<b>RK70-008</b>	Seal Kit 2" Valve
<b>RK70-009</b>	Seal Kit 3" Valve
<b>W5640-00</b>	Handle 1/4", 3/8", 1/2" Valve
<b>W5644-00</b>	Handle 3/4" Valve
<b>W5648-00</b>	Handle 1" & 1 1/4" Valve
<b>W6356-00</b>	Handle 1 1/2" & 2" Valve
<b>W-5653-00</b>	Handle 3" Valve

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# Apollo Ball Valves with Deadman Return Spring



Part Number	Description
<b>76-501</b>	1/4" FPT Apollo SS Ball Valve
<b>76-502</b>	3/8" FPT Apollo SS Ball Valve
<b>76-503</b>	1/2" FPT Apollo SS Ball Valve

VL

# Jomar Stainless Steel Ball Valves



### Features

- Stainless steel spring return handle
- Two-piece standard port
- For LP gas and anhydrous ammonia 250 psi max
- Pressure rating: 2000 WOG/150 WSP
- Hostaflo-TFM 1600 seats and stem packing
- 316 stainless steel ball and stem
- Solid ball construction
- 29 in-HG vacuum rating
- Latch lock may be locked in open or closed position
- 1 1/4" - 2" 3 piece, 4 bolt pattern

Part Number	Description
<b>100-931DH</b>	1/4" FPT Jomar SS Ball Valve
<b>100-932DH</b>	3/8" FPT Jomar SS Ball Valve
<b>100-933DH</b>	1/2" FPT Jomar SS Ball Valve
<b>100-934DH</b>	3/4" FPT Jomar SS Ball Valve
<b>100-935DH</b>	1" FPT Jomar SS Ball Valve
<b>100-936DH</b>	1 1/4" FPT Jomar SS Ball Valve
<b>100-937DH</b>	1 1/2" FPT Jomar SS Ball Valve
<b>100-938DH</b>	2" FPT Jomar SS Ball Valve

# Ball Valves



Jomar 'Full Port' Ball Valves  
 'Economical - Good All Purpose  
 Propane Valve'  
 Forged brass body, chrome plated  
 ball, double Viton o-rings, UL  
 Listed for liquid propane,  
 500 WOG rated,  
 with PTFE modified seats.

VL

R250 I 1/4

## Jomar R250 Series Ball Valves

Part Number	Size
<b>R250 1/4</b>	1/4" FNPT
<b>R250 3/8</b>	3/8" FNPT
<b>R250 1/2</b>	1/2" FNPT
<b>R250 3/4</b>	3/4" FNPT
<b>R250 1</b>	1" FNPT
<b>R250 1 1/4</b>	1 1/4" FNPT
<b>R250 1 1/2</b>	1 1/2" FNPT
<b>R250 2</b>	2" FNPT
<b>R250 3</b>	3" FNPT



Jomar Stainless Steel Ball Valves

1/4 turn, latch-lock, lever handle operated,  
 CF8M stainless steel body with 316 stainless  
 steel ball and stem, 100% full port, blow-out  
 proof stem, and 2-piece body design. Pressure  
 rating 1000 WOG/150 WSP

## Repair Parts for Jomar R250 Series Ball Valves

Part Number	Description
<b>899-701</b>	1/4", 3/8", 1/2" Handle
<b>899-704</b>	3/4" Handle
<b>899-705</b>	1" & 1 1/4" Handle
<b>899-708</b>	1 1/2" & 2" Handle
<b>899-710</b>	3" Handle

## Apollo Stainless Steel Ball Valves



316 stainless steel,  
 investment cast components,  
 reinforced TFE seats, with  
 stainless steel lever  
 and nut.

76-103

## Jomar Full Port Stainless

Part Number	Size
<b>100-961</b>	1/4" FNPT
<b>100-963</b>	1/2" FNPT
<b>100-964</b>	3/4" FNPT
<b>100-966</b>	1 1/4" FNPT
<b>100-967</b>	1 1/2" FNPT
<b>100-968</b>	2" FNPT

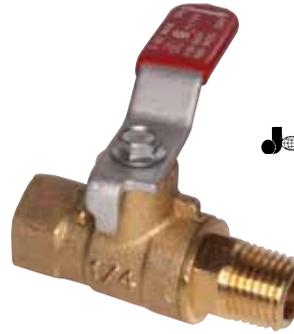
## Apollo Stainless Steel Ball Valves

Part Number	Size	Pressure
<b>76-101</b>	1/4" FNPT	2000 WOG
<b>76-102</b>	3/8" FNPT	2000 WOG
<b>76-103</b>	1/2" FNPT	2000 WOG
<b>76-104</b>	3/4" FNPT	2000 WOG

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**Jomar 100-299**

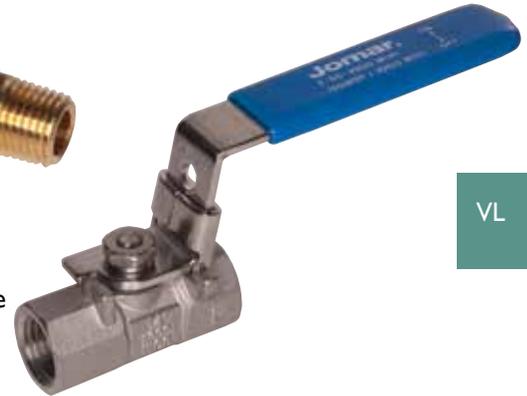
Brass body, 1/4" MNPT x 1/4" FNPT, 600 WOG  
For use in bleed down or blow down applications.



**Jomar**

**Jomar 500-101**

1/4" FNPT, steel construction, with locking handle  
1000 WOG  
Construction heater applications.



VL

**Jomar 100-953**

1/2" carbon steel, with locking handle,  
2000 WOG  
Multi use.  
Apollo 73-103  
1/2" carbon steel, 2000 WOG  
Also available in 1/4" ...73-101  
Multi use.

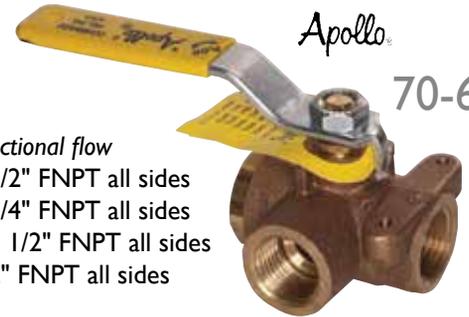


73-103  
Apollo

**Apollo 70-600 Series**

Three way valve, 400 WOG  
Use with purging systems or for multi-directional flow  
Stocked in four sizes...

- 70-603** - 1/2" FNPT all sides
- 70-604** - 3/4" FNPT all sides
- 70-607** - 1 1/2" FNPT all sides
- 70-608** - 2" FNPT all sides



Apollo  
70-603

## Jomar 240-004B & 241-004B Lockable Meter Stop

**Jomar 240-004B &**

**241-004B Lockable Meter Stop**

Full port, hot forged brass body, CSA Certified,  
175 psig certified, 3/4" FNPT  
241 series includes a dielectric union

241-004B



**Jomar**



240-004B

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# Blue Handle Brass Ball Valves (cont. next page)



Designed for use with  
LP Gas and Natural Gas.  
UL Listed.  
600 WOG pressure rated.

R60212



## Jomar R602 Series Pipe Thread

Part Number	Inlet	Outlet	Box Qty
<b>R60238</b>	3/8" FNPT	3/8" FNPT	12
<b>R60212</b>	1/2" FNPT	1/2" FNPT	12
<b>R60234</b>	3/4" FNPT	3/4" FNPT	12

VL

R602FF12



## Jomar R602 Series Flare

Part Number	Inlet	Outlet	Box Qty
<b>R602F38</b>	3/8" Flare	1/2" FNPT	14
<b>R602F12</b>	1/2" Flare	1/2" FNPT	14
<b>R602FF-38</b>	3/8" Flare	3/8" Flare	12
<b>R602FF12</b>	1/2" Flare	1/2" Flare	12
<b>R602FF58</b>	5/8" Flare	5/8" Flare	12
<b>R602FM-38</b>	3/8" Flare	1/2" MPT	12
<b>R60212M</b>	1/2" Flare	1/2" MPT	12



R602F12



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R602S12

## Jomar R602 Series Side Tap

Part Number	Inlet	Outlet	Box Qty
<b>R602S14</b>	1/4" FNPT	1/4" FNPT	10
<b>R602S38</b>	3/8" FNPT	3/8" FNPT	10
<b>R602S38FF</b>	3/8" Flare	3/8" Flare	15
<b>R602S12</b>	1/2" FNPT	1/2" FNPT	10
<b>R602S12FF</b>	1/2" Flare	1/2" Flare	12
<b>R602S34</b>	3/4" FNPT	3/4" FNPT	10
<b>R602S58FF</b>	5/8" Flare	5/8" Flare	15
<b>R602S1</b>	1" FNPT	1" FNPT	6



R602S12FF



### Extra Heavy Dielectric Unions



VL

Part No.	Description
<b>GS33XH</b>	3/4" O-ring insulated union, forged steel, dielectric, 3000#
<b>GS44XH</b>	1" O-ring insulated union, forged steel, dielectric, 3000#
<b>GS55XH</b>	1-1/4" O-ring insulated union, forged steel, dielectric, 3000#
<b>GS66XH</b>	1-1/2" O-ring insulated union, forged steel, dielectric, 3000#
<b>GS77XH</b>	2" O-ring insulated union, forged steel, dielectric, 3000#
<b>GS88XH</b>	3" O-ring insulated union, forged steel, dielectric, 3000#

### Standard Dielectric Unions



Part No.	Description
<b>GS22</b>	1/2" 150# insulated union
<b>GS33</b>	3/4" 250# insulated union
<b>GS44</b>	1" 150# insulated union
<b>GS55</b>	1-1/4" 150# insulated union
<b>GS77</b>	2" 150# insulated union

### Dielectric Meter Stop



Part No.	Description
<b>241-004B</b>	3/4" meter stop shut off valve with dielectric union

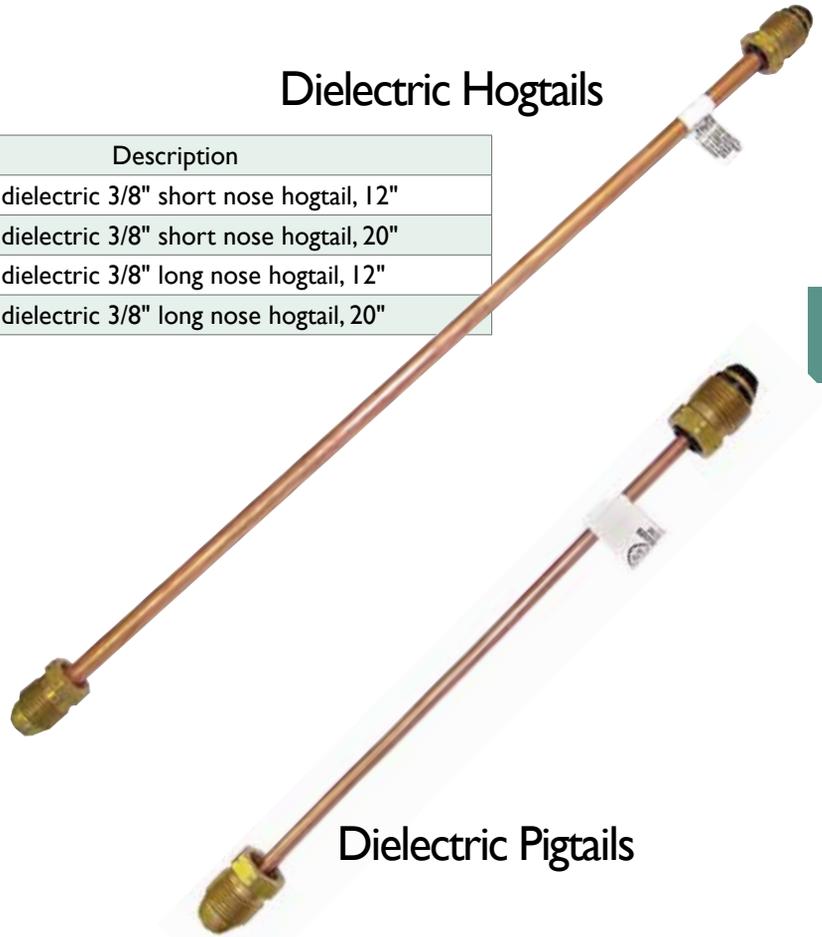
### Dielectric Brass Connectors



Part No.	Description
<b>ME690-4-10</b>	Insulated 150# dielectric union, 1/2" MPT x 5/8" M. flare
<b>ME690-4-6</b>	Insulated 150# dielectric union, 1/2" MPT x 3/8" M. flare
<b>ME690-4-8</b>	Insulated 150# dielectric union, 1/2" MPT x 1/2" M. flare
<b>ME690-6-10</b>	Insulated 150# dielectric union, 3/4" MPT x 5/8" M. flare
<b>ME690-6-6</b>	Insulated 150# dielectric union, 3/4" MPT x 3/8" M. flare
<b>ME690-6-8</b>	Insulated 150# dielectric union, 3/4" MPT x 1/2" M. flare

### Dielectric Hogtails

Part No.	Description
<b>MEI 680D-12</b>	POL x POL dielectric 3/8" short nose hogtail, 12"
<b>MEI 680D-20</b>	POL x POL dielectric 3/8" short nose hogtail, 20"
<b>MEI 680LD-12</b>	POL x POL dielectric 3/8" long nose hogtail, 12"
<b>MEI 680LD-20</b>	POL x POL dielectric 3/8" long nose hogtail, 20"



VL

### Dielectric Pigtails

Part No.	Description
<b>MEI 662D-12</b>	POL x POL dielectric 1/4" long nose hogtail, 12"
<b>MEI 662D-20</b>	POL x POL dielectric 1/4" long nose hogtail, 20"
<b>MEI 664D-12</b>	POL x POL dielectric 1/4" short nose hogtail, 12"
<b>MEI 664D-20</b>	POL x POL dielectric 3/8" short nose hogtail, 20"
<b>MEI 669D-12</b>	POL x 1/4" MNPT dielectric 1/4" short nose pigtail, 12"
<b>MEI 669D-20</b>	POL x 1/4" MNPT dielectric 1/4" short nose pigtail, 20"
<b>MEI 679D-12</b>	POL x 1/4" MNPT dielectric 1/4" long nose pigtail, 12"
<b>MEI 679D-20</b>	POL x 1/4" MNPT dielectric 1/4" long nose pigtail, 20"

### Dielectric Ball Valves

Part No.	Description
<b>R602F12DU</b>	1/2" male flare x 1/2" FPT valve w/dielectric union
<b>R60212DU</b>	1/2" FPT ball valve with dielectric union
<b>R60212MDU</b>	1/2" MPT x 1/2" MFL ball valve w/dielectric insulated union
<b>R60234DU</b>	3/4" FPT ball valve with dielectric union
<b>R60234MDU</b>	3/4" MPT x 3/4" FPT ball valve w/dielectric insulated union





ME940  
ASME Series



Marshall Excelsior Accu-Max Float Gauges  
Application:

Measures liquid levels within horizontal DOT and Stationary ASME Tanks with fluid capacities above 2,300 gallons. Suitable for use in bobtail, transport, railcar and bulk storage applications  
Features:

- All stainless steel construction for use with LPG & NH3 applications
- Welded tube to coupling design for maximum strength and durability
- Integral spring loaded shock absorber for arduous over-the-road application
- Exclusive easy to read “glow in the dark” dial face perfect for low light situations
- Dial face 100% sealed and argon filled to prevent moisture build-up & fogging
- Factory set and precision tuned for superb accuracy
- Dial face and mounting hardware universal with other industry standard gauges
- Mounts to all standard 8 bolt tank flange adapters



ME930  
DOT Series

FG

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## Accu-Max Float Gauges

<b>DOT Float Gauges</b>		
Part No	Description	Dial Face
<b>ME930-72</b>	Accu-Max DOT Float Gauge Assy. Glow Dial - 72"	Glow/Black
<b>ME930-79</b>	Accu-Max DOT Float Gauge Assy. Glow Dial - 79"	
<b>ME930-84</b>	Accu-Max DOT Float Gauge Assy. Glow Dial - 84"	
<b>ME930C-72</b>	Accu-Max DOT Float Gauge Assy. Classic Dial - 72"	Silver/Black
<b>ME930C-79</b>	Accu-Max DOT Float Gauge Assy. Classic Dial - 79"	
<b>ME930C-84</b>	Accu-Max DOT Float Gauge Assy. Classic Dial - 84"	
<b>ASME Stationary Float Gauges</b>		
Part No	Description	Dial Face
<b>ME940-108</b>	Accu-Max Stationary Float Gauge Assy.- Glow Dial - 108"	Glow/Black
<b>ME940-130</b>	Accu-Max Stationary Float Gauge Assy.- Glow Dial - 130"	
<b>ME940C-108</b>	Accu-Max Stationary Float Gauge Assy.- Classic Dial - 108"	Silver/Black
<b>ME940C-130</b>	Accu-Max Stationary Float Gauge Assy. - Classic Dial - 130"	
<b>Accessories and Replacement Parts</b>		
Part No	Description	
<b>ME930-905</b>	Accu-Max DOT Replacement Dial Face - Glow Dial	
<b>ME930C-905</b>	Accu-Max DOT Replacement Dial Face - Classic Dial	
<b>ME940-905</b>	Accu-Max Stationary Replacement Dial Face - Glow Dial	
<b>ME940C-905</b>	Accu-Max Stationary Replacement Dial Face - Classic Dial	
<b>ME931</b>	2-1/2" MPT x 8 Bolt Tank Flange Mount for 8" or 10" Dial	
<b>ME932</b>	8 Bolt Tank Weld Flange Adapter Steel	
<b>ME930-211</b>	Replacement Universal Float Bulb 2" x4-1/2" - SS	
<b>ME930-212</b>	Replacement Spiral Wound Teflon SS Flange Gasket	
<b>ME930-222</b>	Replacement DOT 4" Dial Mountng Bracket - SS	
<b>ME930-223</b>	Replacement Universal Mounting Hex Nut 1/2-13 - SS	
<b>ME930-224</b>	Replacement Universal Mounting Stud Bolt 1/2-13 - SS	
<b>ME930-239</b>	Replacement Glass for DOT 4" Dial Face	
<b>ME930-240</b>	Replacement Glass Seal for DOT 4" Dial Face	
<b>ME930-243</b>	Replacement Universal Dial Nut #10-32 - SS	
<b>ME930-244</b>	Replacement Universal Dial Scrw #10-32 - SS	
<b>ME930-903-72</b>	Replacement Float Tube & Bulb Assy - 72"	
<b>ME930-903-79</b>	Replacement Float Tube & Bulb Assy - 79"	
<b>ME930-903-84</b>	Replacement Float Tube & Bulb Assy - 84"	
<b>ME940-206</b>	Replacement Stationary 8" Dial Mounting Bracket - SS	
<b>ME940-210</b>	Replacement Glass for Stationay 8" Dial Face	
<b>ME940-211</b>	Replacement Glass Seal for Stationary 8" Dial Face	
<b>ME940-903-108</b>	Replacement Float Tube & Bulb Assy - 108"	
<b>ME940-903-130</b>	Replacement Float Tube & Bulb Assy - 130"	

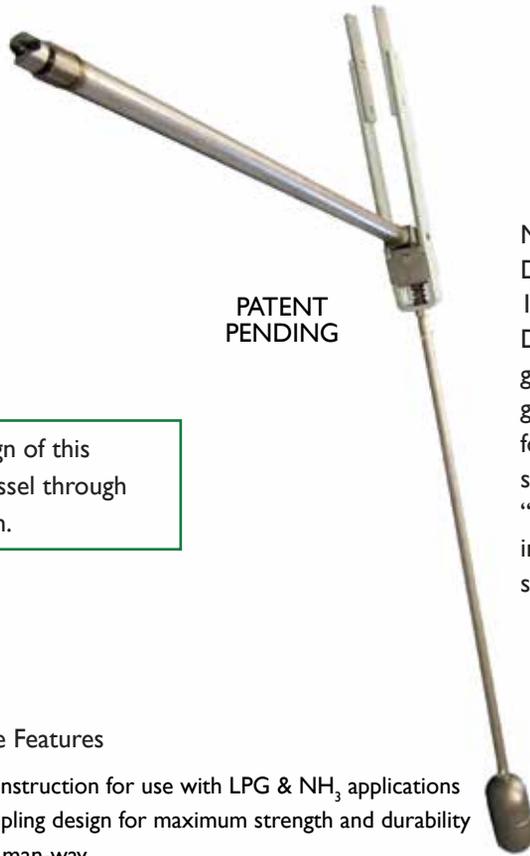
FG

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# Accu-Max Float Gauges, Trans-Max Series



ME930WG DOT Series  
ME940WG ASME Series



PATENT  
PENDING

Measure liquid levels within horizontal DOT and Stationary ASME Tanks with 1" FNPT tank gauge port openings. Designed to replace rotary style gauges in tanks with fluid capacities greater than 2,300 gallons. Suitable for use in bobtail, transport, and bulk storage applications. MEC exclusive "wedge" design allows for easy installation while greatly reducing time spent inside the vessel.

Note: The heavy duty design of this gauge requires entering vessel through man-way during installation.

FG

## Trans-Max Float Gauge Features

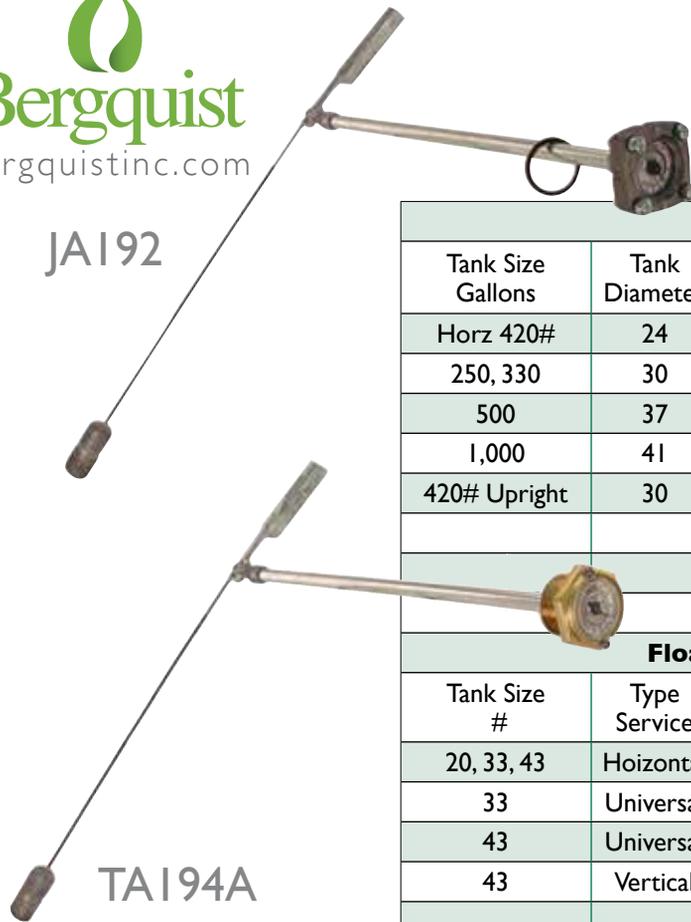
- All stainless steel construction for use with LPG & NH<sub>3</sub> applications
- Welded tube to coupling design for maximum strength and durability
- Installation requires man-way
- Converts rotary style gauge to heavy duty Accu-Max style for both mobile & stationary applications
- Integral spring loaded shock absorber for arduous over-the-road application
- Easy to assemble
- Exclusive easy to read "glow in the dark" dial face perfect for low light situations
- Dial face 100% sealed and argon filled to prevent moisture build-up & fogging
- Factory set and precision tuned for superb accuracy
- Dial face and mounting hardware universal with other industry standard gauges
- Mounts to all standard 1" NPT tank coupling adapters
- Custom lengths available upon request
- Available with classic style dial face

Trans-Max Accu-Max DOT Float Gauges			
Part No.	Description	Dial Face	Tank Diameter
ME930WG-72	Trans-Max Accu-Max DOT Float Gauge Assembly	Glow/Black	72"
ME930WG-79	Trans-Max Accu-Max DOT Float Gauge Assembly	Glow/Black	79"
ME930WG-84	Trans-Max Accu-Max DOT Float Gauge Assembly	Glow/Black	84"
ME930CWG-72	Trans-Max Accu-Max DOT Float Gauge Assembly (Classic)	Silver/Black	72"
ME930CWG-79	Trans-Max Accu-Max DOT Float Gauge Assembly (Classic)	Silver/Black	79"
ME930CWG-84	Trans-Max Accu-Max DOT Float Gauge Assembly (Classic)	Silver/Black	84"

Trans-Max Accu-Max ASME Stationary Float Gauges			
Part No.	Description	Dial Face	Tank Diameter
ME940WG-108	Trans-Max Accu-Max Stationary Float Gauge Assembly	Glow/Black	108"
ME940WG-130	Trans-Max Accu-Max Stationary Float Gauge Assembly	Glow/Black	130"
ME940CWG-108	Trans-Max Accu-Max Stationary Float Gauge Assembly (Classic)	Silver/Black	108"
ME940CWG-130	Trans-Max Accu-Max Stationary Float Gauge Assembly (Classic)	Silver/Black	130"

# Float Gauges for Bulk Tanks and Lift Truck Cylinders

\* Junior and Senior gauges are complete with gasket and four screws



Float Gauges for Bulk Tanks					
Tank Size Gallons	Tank Diameter	Junior Head*	Senior Head*	Screw In 1"	Screw In 1 1/4"
Horz 420#	24	<b>JAI24I</b>	--	<b>2069.UI</b>	<b>TAI30A</b>
250, 330	30	<b>JAI54A</b>	<b>SAI60A</b>	<b>2070.UI</b>	<b>2070.UI-1/4</b>
500	37	<b>JAI92</b>	<b>SAI94A</b>	<b>HA194A</b>	<b>TAI94A</b>
1,000	41	<b>2072.U</b>	<b>SA214A</b>	<b>2072.UI</b>	<b>TA210A</b>
420# Upright	30	<b>6281-85</b>	<b>SA230E</b>	<b>G12427</b>	<b>7281-85</b>
Float Gauges for Lift Truck Cylinders					
Tank Size #	Type Service	Junior Head	3/4 NPT	1 1/4 NPT	
20, 33, 43	Horizontal	<b>JD060A</b>	--		
33	Universal	<b>JUI60B</b>	<b>UUI60B</b>	<b>TUI60B</b>	
43	Universal	<b>JU212A</b>	--	<b>TU212A</b>	
43	Vertical	--	--		
20	Universal	<b>6284-33</b>	<b>7384-1005</b>	--	

FG

## Special Order Gauges

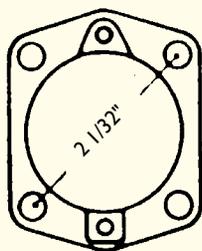
In addition to the standard gauges, special order gauges are available. Delivery time is approximately 2 weeks on special order gauges.

We will need to know;

- Gauge Head Type... (A) Junior 4 Bolt (about 2" diagonal - bolt to bolt)  
(B) Senior 4 Bolt (about 2 1/2" diagonal bolt to bolt)  
(C) Threaded Screw-In ( 3/4", 1", 1 1/4"

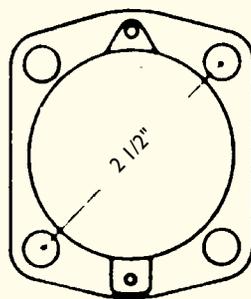
- Tank Diameter \_\_\_\_\_ inches in diameter
- Gauge Location Top, at 45°, or at 90°
- Rise Off Tank is there a rise off the tank surface - as on an underground domed tank.

NPT)

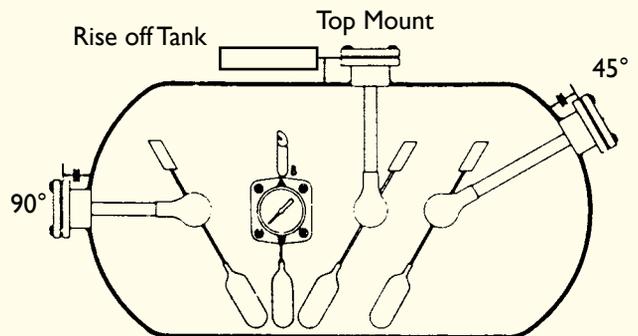


Junior Gauge  
2 1/32" Bolt Circle

Gauge Head



Senior Gauge  
2 1/2" Bolt Circle



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# Fork Lift Dials/Sending Units/Gauge Parts



## Fork Lift Dials

2733U

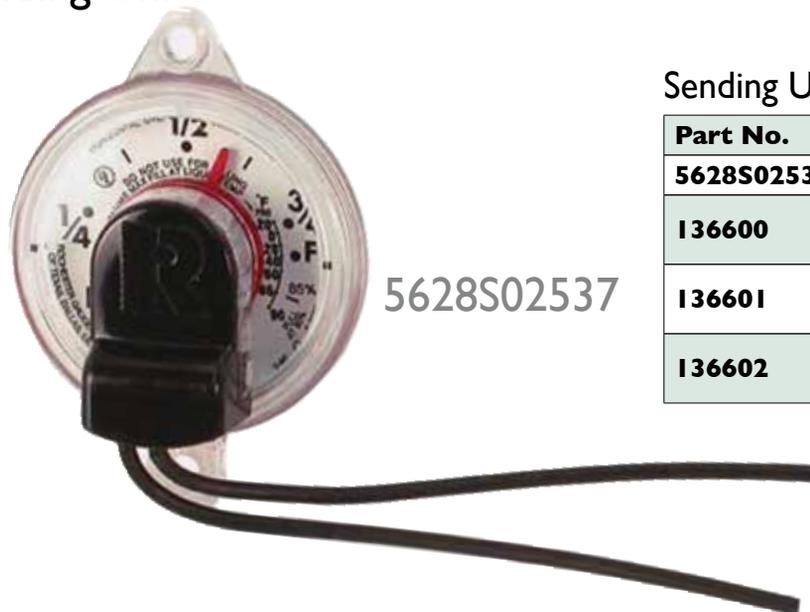


## Fork Lift Dials

Part No.	Description
<b>2733U</b>	Round Junior Dial., Fits JU160B
<b>5343S01791</b>	Junior Universal 33# Dial
<b>2710</b>	Dial for 43# Vertical
<b>5714S02591</b>	Snap on Universal Dial 33#

## Sending Units

FG



5628S02537

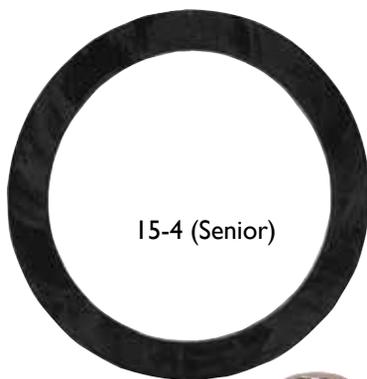
## Sending Units

Part No.	Description
<b>5628S02537</b>	90 OHM sender
<b>136600</b>	MD 90 OHM sender, GM and RV's (red and brown wires)
<b>136601</b>	MD 70-10 OHM sender, Old Ford and Chrysler (orange and yellow wires)
<b>136602</b>	MD 15-160 OHM sender, New Ford (green and blue wires)

## Gauge Parts



15-7 (Junior)



15-4 (Senior)

40-414 (JUNIOR)



40-415 (SENIOR)



## Gauge Parts

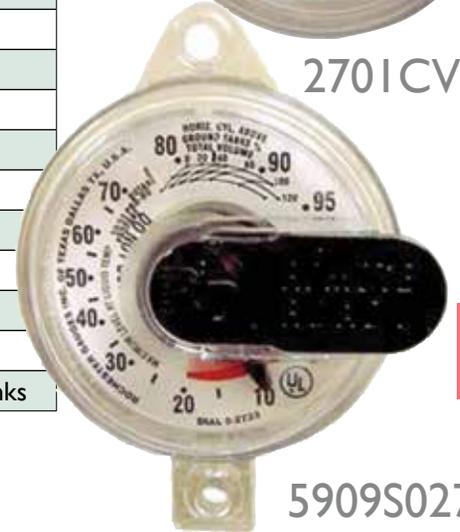
Part No.	Description
<b>40-414</b>	Junior Screw
<b>40-415</b>	Senior Screw
<b>40-416</b>	Dial Screw
<b>15-4</b>	Senior Gauge Gasket
<b>15-7</b>	Junior Gauge Gasket
<b>2-223A</b>	Senior Gauge O-Ring
<b>2-219A</b>	Junior Gauge O-Ring
<b>130101</b>	Junior Blank Head
<b>130104</b>	Senior Blank Head

## Replacement Dials

Part Number	Dial Size	Description
<b>5909S02733</b>	Junior	Above ground
<b>5909S02772</b>	Junior	420# Vertical with tabs
<b>5986S02733</b>	Senior	Above ground
<b>5364S01951</b>	Snap-On	420# Vertical
<b>2765</b>	Round	420# Cylinder
<b>2701CV</b>	Round	For screw in gauges
<b>2700CV</b>	Round	For underground tank
<b>2700CVX</b>	Round	Chemitrol underground only
<b>5323S01789</b>	Junior	1/4, 1/2, 3/4 horizontal cylinder
<b>136610</b>	Junior	Horizontal mobile tanks
<b>2089VERT</b>	Junior	420# Cylinder
<b>2089HORZ</b>	Junior	Aboveground Horizontal ASME Tanks



2701CV



5909S02733

FG

## Universal Dial Kits

### Universal Dial Kits

Part Number	Dial Size	Description
<b>130010</b>	Senior	Squibb
<b>130005</b>	Junior	Squibb Kit
<b>130010</b>	Senior	Squibb Kit
<b>130101</b>	Junior	JR Blank Flange
<b>130104</b>	Senior	SR Blank Flange

130005



130010

Note: Glue is not included in kits.

Note: Squibb VIS2 is not available with ears & set screws.

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# Blue Moon Filters/Liquid Y Strainers

## Blue Moon®



Today's most advanced filtration system.

Blue Moon® is a unique multi-stage filter system that extracts 90-97% of impurities from LPG. This innovative filter eliminates heavies and particulates (sulfur, metal flake, etc.) protecting fuel injectors and precision components more completely than any other product available in the industry today. Over the long term, this saves on replacement parts and repairs.



### Blue Moon Filters

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Part Number	Description	Flow Rate GPM	Replacement Cartridge
<b>FST-26</b>	3/8" FPT Disposable filter for LP	15	N/A
<b>FST-42</b>	3/8" FPT filter for LP	15	FST-RF2
<b>FST-63</b>	1" FPT Disposable filter for LP	35	N/A
<b>FST-634</b>	1" FPT filter for LP	50	FST-RF6
<b>FST-124HV</b>	1", 1-1/2" or 2" FPT filter for LP	65-85	FST-RF4
<b>FST-418</b>	3" FPT filter for LP	85	FST-RF8
<b>FST-818</b>	3" FPT filter for LP	170	FST-RF8

### Liquid Y Strainers

Ductile iron strainers rated at 600 lb.

Self cleaning Y-type design

40 mesh stainless steel screen



ME656SP

### Liquid Y Strainers

Part Number	Description	Clean Out Plugs Size, Part Number
<b>ME650SP</b>	1/2" FNPT	1/2", 600515
<b>ME651SP</b>	3/4" FNPT	1/2", 600515
<b>ME652SP</b>	1" FNPT	3/4", 600520
<b>ME653SP</b>	1 1/4" FNPT	3/4", 600520
<b>ME654SP</b>	1 1/2" FNPT	1", 600525
<b>ME655SP</b>	2" FNPT	1", 600525
<b>ME656SP</b>	3" FNPT	1 1/4", 600530

Note: Clean out plugs are included, replacement part numbers are provided above. Hex plugs are forged steel. You may want to install a plugged ball valve here for easy future clean out.

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## Tank Monitor For Commercial Use



**Schneider Wireless LP Gas Tank Level Meter**  
Get accurate, up-to-the-minute LP gas level readings in the home. Place the base station in a convenient location such as the kitchen or bedroom. Then place the wireless tank monitor on the LP tank.



### Ethernet Controller

The Schneider Ethernet Controller wirelessly receives data from any Schneider RF monitor and communicates the data to the Schneider data center via the Internet. It is a cost-effective alternative for anyone needing continuous tank level updates, or level on demand capability. The Ethernet Controller connects to any Ethernet based network and comes equipped with an integral RJ45 jack for quick and easy installation.



### IS Cellular Propane Monitor

The Schneider Intrinsically Safe Cellular Propane Monitor is the first cellular propane monitor approved for use in flammable atmospheres. It is UL and CAN/CSA certified so you can be sure it's safe to use in demanding environments anywhere in the world. And like other Schneider products, its ease of installation, long battery life, and rugged enclosure ensure a long life of excellent performance.



### Store & Forward Controller

The Schneider Store & Forward Controller stores all data transmitted by the assigned monitors. It stores up to 100 data points then automatically downloads the information to the Schneider Data Center for customer access. The controller contacts the Data Center immediately when any monitor transmission is manually initiated so current tank status is available on demand.



### Gauge Monitor

The Gauge Monitor is magnetically attached to the propane tank. Propane level is measured using a reliable Hall effect sensor that senses float position inside the tank. No tank penetration is needed for installation. The sensor snaps into tank gauges equipped with the Rochester Remote Ready gauge, or replaces the entire mechanical dial. Monitor installation takes less than 5 minutes



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### SatComm Gateway System

The Schneider SatComm Gateway System receives tank level information from any Schneider tank monitor and transmits the data to the Schneider Data Center using the Orbcomm Low Earth Orbit satellite network. Use it in mining pits, quarries, construction sites, offshore, rural and wilderness tank storage facilities where phone lines and cellular communication is either unavailable or unreliable.



### Cellular Gateway

The Schneider Cellular Gateway receives tank level information from any Schneider RF tank monitor and transmits the data to the Schneider Data Center using digital cellular communications. The Cellular Gateway is an excellent choice for anyone who needs up-to-date level information at any time.



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# Schneider Tank Monitoring System

## Continued next page



Schneider's advanced tank monitoring system gives you the ability to prioritize deliveries, optimize truck loading and reduce emergency fills and fleet size. Using state-of-the-art technology, the system gives you the level of info you need, when you need it. The sensor technologies have years of proven reliability in the field and the long battery life eliminates worry of frequent replacements. The monitor, controller and data center combine to help you manage your tanks better than ever before.

### Tank Level Monitors

All Schneider propane monitors use a robust Direct Sequence Spread Spectrum battery powered radio for reliable, wireless data communication, even from underground tanks. And each monitor is intrinsically safe, so they can be located in the hazardous area of the propane tank without worry. Installation is quick and easy, requiring no special tools or technical skills. And all have UL50 Type 3 enclosures to provide the protection needed in a propane environment.

### Gauge Monitor

The Gauge Monitor is magnetically attached to the propane tank. Propane level is measured using a reliable Hall effect sensor that senses float position inside the tank. No tank penetration is needed for installation. The sensor snaps into tank gauges equipped with the Rochester Remote Ready gauge, or replaces the entire mechanical dial. Monitor installation takes less than 5 minute

### Alarm Monitors

Schneider Alarm Monitors are the perfect solution for your monitoring needs if immediate notification is needed when alarm set points are exceeded. They are used with the Schneider Alarm Console to generate an audible or visual alarm on site or used with the Schneider Data Center for remote monitoring.

### Switch Monitor

The Schneider Switch Alarm Monitor can be interfaced with a variety of simple switches. Use it to monitor position switches, temperature switches or pressure switches. The Monitor transmits immediately whenever the switch changes state and has the capacity to handle up to two independent switches.

### High Level Alarm Monitor

Schneider Alarm Monitors sense fluid level and immediately transmit an alarm signal when a set point level is reached. The Dual Input High Level Alarm Monitor is specifically designed to provide two alarms for added protection against overfills. Use it with the Schneider Alarm Console to generate an immediate audible and visual alarm, or to automatically shut down the dispensing pump. Just reset the console after the first alarm and the monitor will transmit again when the second limit is reached to re-activate the alarm. The monitor also communicates with any standard Schneider Controller so the alarm status can be accessed at any remote location with Internet access

Schneider Controllers receive information transmitted by Schneider monitors and send it to one of the Schneider Data Collectors for customer access. Each controller is set up by the customer through the data collector and can be revised at any time to optimize system performance. Controllers with various monitor capacities and performance features are available to suit a wide variety of applications.

### Store & Forward Controller

The Schneider Store & Forward Controller stores all data transmitted by the assigned monitors. It stores up to 100 data points then automatically downloads the information to the Schneider Data Center for customer access. The controller contacts the Data Center immediately when any monitor transmission is manually initiated so current tank status is available on demand.

### Large Tank Gauges

Rochester and Taylor large dials are available with the gauge monitor attached. Both 4' and 8" dials are available

### Alarm Console

On-site personnel use the Schneider Alarm Console and Schneider Alarm Monitors for applications that require immediate attention when the monitored parameter exceeds a preset value. The Alarm Console can be used to activate an audible or visual alarm or switch an external relay when an alarm condition occurs.

### Data Collection

Schneider offers several ways for customers to remotely access their tank information. The Schneider Data Center is an Internet based system that provides access for multiple users from any location with Internet access. It is the most versatile and lowest maintenance system. The PCView data collectors offer customers the ability to collect and manage their tank information independently. Whatever the system, all Schneider data collectors provide customers with easy access to their tank information and provide secure and reliable performance.

### "Web View" Schneider Data Center

The "Web View" Schneider Data Center is designed to meet the needs of businesses of all sizes. From single site facilities to thousands of tanks located throughout North America, the Schneider Data Center can be customized to fit any business need. And since it is Internet based, tank information is easily retrieved from any location with Internet access. Schneider manages the data center to ensure customer information is safe and secure and to maintain optimum system performance.



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### Delivery Logistics

Dispatch Compass™ is a web based, dynamic fleet routing system built from the ground up specifically for the liquid product delivery markets. It enables dispatchers to quickly create efficient delivery routes for all combinations of scheduled, will call, and remotely monitored tanks. Any fleet of bulk, multi-compartment, packaged goods, or combo trucks will travel fewer miles in less time for less cost than ever before when Dispatch Compass is used to determine their daily routes

For companies that use remote tank monitoring, the Dispatch Compass OptiFill option automatically decides which tanks at multi-tank locations need product so that "top offs" are eliminated and fleet capacity is maximized. With OptiFill a dramatic increase in delivery capacity can be realized so that new customers can be added with no additional trucks or drivers.

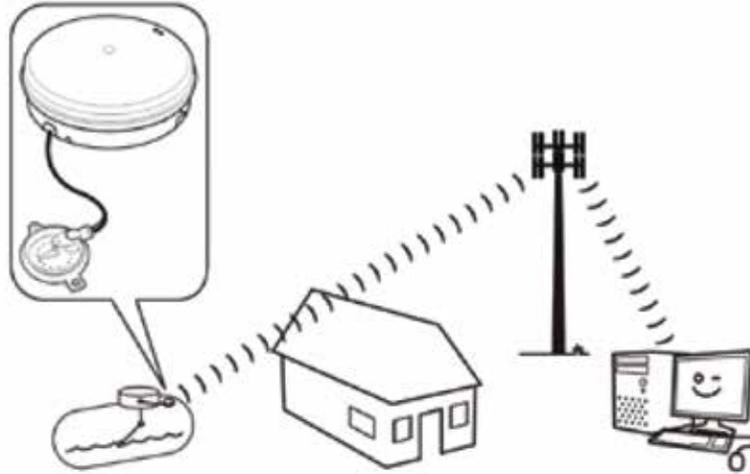
Part Number	Description
<b>Optional Individual Components for Replacement or Multiple Installations</b>	
<b>DG0000VIS</b>	Cellular LP monitor - no wire harness or dial, Class I Division 1
<b>DG0001VIS</b>	Cellular LP monitor with 5 ft wire harness, no dial, Class I Division 1
<b>DG0000V</b>	Cellular LP Monitor - no wire harness or dial, Class I Division 2
<b>DG0001V</b>	Cellular LP Monitor w/5ft wire harness, no dial Class I Division 2
<b>GSHB10A</b>	10ft wir harness w/sensor for large 8" and 4" dial gauges
<b>SA000EDI00F9000</b>	SatCOMM Gateway Satellite sytens:24 hour transmit internal, 100-240VAC,antenna with mounting hardware
<b>SA000EDI00F9001</b>	SatComm Gateway Satellite sytens:24 hour transmit internal, 12V DC input, antenna with mounting hardware
<b>Renewable Call Blocks</b>	
<b>500 CALL BLOCK</b>	Block of 500 Calls
<b>1000 CALL BLOCK</b>	Block of 1,000 Calls
<b>5000 CALL BLOCK</b>	Block of 5,000 Calls
<b>Remote Ready Tank Gauge Dials</b>	
<b>I30022</b>	Taylor A Style replaces 2701CV Top Mount Remote Ready (Pinholes: Large at 95% and Small at 35%)
<b>I30023</b>	Taylor B Style Replaces 2701CV Top Mount Remote Ready (Pinholes: Small at 65% and Large at 5%)
<b>5909S02733</b>	Rochester Junior Above Ground Tank Gauge, Remote Ready
<b>5986S02733</b>	Rochester Senior Above Ground Tank Gauge, Remote Ready
<b>5909S02772</b>	Rochester Junior 420 DOT / TABS Tank Gauge Remote Ready
<b>5AAAS02772</b>	Rochester Junior 420 DOT SNAP ON Tank Gauge Remote Ready
<b>GSLRH10100</b>	Rochester 8" Bulk Gauge w/10ft wire Remote Ready - w/8 bolts top bolt at 12 Noon
<b>GSLTH10100</b>	JY Taylor 8" Bulk Gauge w/10ft wire Remote Ready - w/7 bolts
<b>GSLMH101000</b>	Rochester Magnetel 4" dial Remote Ready
<b>GSLSH10100</b>	Rochester Sr 4" dial Remote Ready
<b>Harness Cables</b>	
<b>GSU05</b>	5 Foot Length - Propane Harness Cable
<b>GSU10</b>	10 Foot Length - Propane Harness Cable
<b>SIC86640</b>	Serial cable connets controller to PC, for non call block applications

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# Remote Cellular Tank Monitoring

Continued next page



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SC645A1

## REMOTE CELLULAR TANK MONITORING

GASLOG remote cellular tank monitoring gives you control of:

- Unpredictable customers
- Remote locations
- Bulk storage tanks

By improving delivery efficiency and driver workload, reducing or eliminating run outs and customer turnover, improve company cash flow.

Installed by drivers in under 15 minutes - Tank level available same day.

## GASLOG features and benefits

FEATURE	BENEFIT
UL approved (class I div. I)	Safe in any hazardous location
Cellular communications	No home access required
Factory fitted SIM card	Operates on all GSM networks
Waterproof housing/connectors	Very robust and reliable
Two universal inputs	Can monitor two tanks
Built-in temperature sensor	Records level and temperature
Operates from -40F to +1220F	Designed for hostile environments
5+ year battery life	Minimal maintenance
Clip-on sender adapters	Works on majority of float gauges
Remote configuration	Adjust alarm set points
End to end connectivity	Secure, reliable data

- No home access required
- Maintenance free design
- UL certified (Class I, Div. I)
- 5+ year battery life

110

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## GASLOG remote cellular tank monitoring

Dialer and Transmitter	
SC414C7411	GASLOG Cellular Dialer, 2 Input 3V Transmitter
Sender and cables	
SC645A1	GASLOG Sender Dial with 3ft cable for horizontal tank
SC645B1	GASLOG Sender Dial with 3ft cable for vertical tank
SENIOR ADAPTOR	GASLOG Senior Adaptor for all SC645 Senders
SNAP ON ADAPTOR	GASLOG Snap on dial adaptor for all GASLOG SC645 Senders
SCREW DOWN ADAPTOR	GASLOG Screw down dial adaptor for all GASLOG SC645 Senders
ZAB TYPE ZC	GASLOG Extension Cable 6ft with ZAB Type ZC connectors
Tools and accessories	
SC663	GASLOG Magnetic Activation Tool for SC414C7 Dialer
SC664	GASLOG Removal tool to access SC414C7 dialer
SC BATTERY	GASLOG AA Lithium Battery for SC414C7 Dialer
SC CALL FEE	GASLOG Call Fee for one dialer, 7 calls per month for 1 year

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# Flexible Connectors



630136

Braided stainless steel.

350 PSI rated.

Schedule 80 ends.

For liquid propane service and anhydrous ammonia service.

Prevents piping damage from vibration and thermal expansion.

We can custom make flexlines to your specifications  
Allow 3 days for custom lines.

The length shown in the chart is the minimum.  
36" is the maximum allowed.

## Flexible Connectors

Part Number	Pipe Size	Overall Length	# of Steel Braids	SPECIAL ORDER Minimum Lengths
<b>630002</b>	1/2" MNPT	12"	Single	10"
<b>630006</b>	3/4" MNPT			
<b>630008</b>		16"		
<b>630010</b>		18"		
<b>630026</b>	1" MNPT	16"	Double	12"
<b>630056</b>	1 1/4" MNPT			
<b>630096</b>	1 1/2" MNPT			
<b>630136</b>	2" MNPT	18"		
<b>630171</b>	3" MNPT	22"		

Notes: *Never use a flexline to correct bad plumbing.  
Flexline must be kept straight.  
Do not use on mobile installations - use high pressure  
Parker rubber hose, with pressed on ends, certified.*



Item	Rating	Pipe Size (Inches)									
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3
90° Elbow	2000 lb	611011	611012	611013	611014	611019	611024	611029	611034	611039	611049
45° Elbow				611079	611077	611080	611081	611129	611134	611139	611143
Tees			611168	611169	611170	611171	611173	611174	611176	611175	611180
Crosses			611509	611511	611513	611515	611524	611530		611533	611537
90° Street Elbow	3000 lb	611156	611160	611161	611162	611163	611164	611165	611166	611167	
Couplings		600100	600105	600110	600115	600120	600125	600130	600135	600140	600150
Hex Head Plugs			600505	600510	600515	600520	600525	600530	600535	600540	600550
Caps		600395	600400	600405	600410	600415	600420	600425	600430	600435	
Unions			660105	660110	660115	660120	660125	660130	660135	660140	660150
Pipe Nipples - Close	XH Sch 80		612019	612020	612040	612095	612170	612220	612285	612335	612405
1 1/2" Long Nipples			612008	612022	612045						
2" Long Nipples			612009	612024	612050	612105	612175	612225	612287		
2 1/2" Long nipples			612010		612055	612110	612180	612230	612290	612345	
3" Long Nipples			612011	612025	612060	612115	612185	612235	612295	612350	612410
3 1/2" Long Nipples					612065	612120	612190	612240	612300	612355	
4" Long Nipples			612013	612027	612070	612125	612195	612245	612305	612360	612415
4 1/2" Long Nipples					612075	612130	612200	612250	612310	612370	
5" Long Nipples			612017	612026	612080	612135	612205	612255	612315	612375	612420
5 1/2" Long Nipples					612085	612138	612210	612260	612320	612380	
6" Long Nipples			612014	612029	612090	612145	612215	612265	612325	612385	612425
7" Long Nipples								612270		612390	612435
8" Long Nipples					612094			612275			612440
9" Long Nipples						612150					
10" Long Nipples			612018				612216	612277		612398	612446
12" Long Nipples					612093	612160	612218	612279	612328	612401	612448
18" Long Nipples						612168					
24" Long Nipples							612217	612281			



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BP



HEXAGON BUSHING



REDUCER



SWAGE NIPPLE

BP

## Extra Heavy (XH) Forged Steel Fittings

Pipe Size	Swage Nipples (Sch. 80)	Hex Bushings (3000lbs)	Reducing Couplings (3000lbs)
3/8 x 1/4		603110	600600
3/4 x 1/4		603135	600607
3/4 x 3/8	C1206	603140	600610
3/4 x 1/2	C1208	603145	600609
1 x 1/4		603155	600611
1 x 3/8		603160	600612
1 x 1/2	C1608	603165	600613
1 x 3/4	C1612	603170	600614
1 1/4 x 1/4		603180	
1 1/4 x 1/2	C2008	603190	
1 1/4 x 3/4	C2012	603195	600619
1 1/4 x 1	C2016	603200	600620
1 1/2 x 1/4		603210	
1 1/2 x 1/2		603220	
1 1/2 x 3/4	C2412	603225	
1 1/2 x 1	C2416	603230	600626
1 1/2 x 1 1/4	C2420	603235	600627
2 x 1/4		603258	
2 x 3/4	C3212	603260	
2 x 1	C3216	603265	600633
2 x 1 1/4	C3220	603270	600634
2 x 1 1/2	C3224	603275	600635
2 1/2 x 1		603305	
2 1/2 x 2	C4032	603313	600637
3 x 3/4		603345	
3 x 1 1/4	C4820	603350	
3 x 1 1/2	C4824	603352	
3 x 2	C4832	603365	600639
3 x 2 1/2	C4840		

Parker LP Gas Hose...7132 Series  
Heavy duty, flexible, for liquid or vapor transfer,  
350 psig working pressure, black neoprene cover, continuous labeling,  
UL Listed  
Hose is available in cut lengths (by the foot), or in reel lengths.  
Order by inside diameter.

HP04 REEL



## Propane Hose

Part Number	Hose I.D.	Hose O.D.	# of Braids	Ft/Reel *
HP04	1/4"	.58"	2	350'/700'
HP06	3/8"	.75"	2	600'
HP08	1/2"	.94"	2	500'
HP12	3/4"	1.25"	2	350'
HP16	1"	1.50"	2	250'
HP20	1 1/4"	1.87"	2	150'
HP24	1 1/2"	2.18"	3	150'
HP32	2"	2.75"	3	100'

\*Estimated - some reels may be different lengths.

Note: Rubber hose is pin pricked the length of the hose to allow for natural permeation of LP Gas through the cover. This may appear as bubbles when the hose is wet or sitting in water.

Crimped-on ends are available on any length of hose.

Testing & Certification available... We will pressure test (nitrogen tested at 420 psi, unless specified otherwise) and send a 'certification sheet' with the hose.

## Parker Crimped-on Hose Ends

Part Number	Hose Size	Hose End
<b>4NP</b>	1/4" I.D.	1/4" MNPT
<b>HY04-04FA</b>	1/4" I.D.	1/4" Female Flare
<b>6NP</b>	3/8" I.D.	3/8" MNPT
<b>HY06-06FA</b>	3/8" I.D.	3/8" Female Flare
<b>8NP</b>	1/2" I.D.	1/2" MPT
<b>HY08-08FA</b>	1/2" I.D.	1/2" Female Flare
<b>12NP</b>	3/4" I.D.	3/4" MNPT
<b>16NP</b>	1" I.D.	1" MNPT
<b>20NP</b>	1 1/4" I.D.	1 1/4" MNPT
<b>24NP</b>	1 1/2" I.D.	1 1/2" MNPT
<b>32NP</b>	2" I.D.	2" MNPT

## Rubber Flex Connectors

Hose Size	Coupling Length	Minimum Overall Length
1/2" ID	2 7/8"	9"
3/4" ID	3"	9"
1" ID	3 1/2"	10"
1 1/4" ID	4"	12"
1 1/2" ID	4"	12"
2" ID	5 1/2"	12"



## Parker Rubber Flex Connectors

Custom made and certified rubber flex connectors. Maximum length available is 36" - see table for minimum lengths.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Bobtail Hose



One inch bobtail delivery hose with crimped on ends.  
 Factory crimped - Tested - Certified - Boxed  
 Stocked in 3 sizes.



## One Inch Bobtail Hose with Crimped On Ends

HPI6X100CR

Type	Part Number	Length
PARKER	<b>HPI6X100CR</b>	100'
	<b>HPI6X125CR</b>	125'
	<b>HPI6X150CR</b>	150'
PARKER LOW TEMP	<b>HPI6X125PARKER</b>	125'
	<b>HPI6X150PARKER</b>	150'
POLAR FLEX LOW TEMP	<b>HPI6X125CRLT</b>	125'
	<b>HPI6X150CRLT</b>	150'

Note: 125' bobtail hose is the most commonly used.

## Reusable Hose Couplings Clamp Style

ME3162-32



Reusable clamp style couplings - suitable for propane and anhydrous service.

ME3162-32S



## Clamp Style Reusable Hose Couplings

Marshall Excelsior Part Number	Hose ID	Outlet
<b>ME3162-08</b>	1/2"	1/2" MNPT
<b>ME3162-12</b>	3/4"	3/4" MNPT
<b>ME3162-16</b>	1"	1" MNPT
<b>ME3162-20</b>	1 1/4"	1 1/4" MNPT
<b>ME3162-24</b>	1 1/2"	1 1/2" MNPT
<b>ME3162-32</b>	2"	2" MNPT
--	3"	3" MNPT
<b>ME3162-12S</b>	3/4"	1 3/4" F.Acme Swivel
<b>ME3162-32S</b>	2"	3 1/4" F.Acme Swivel
<b>ME3162-32B*</b>	2"	3 1/4" F.Acme Swivel
--	3"	4 1/4" F.Acme Swivel

\*Brass nut not suitable for Anhydrous.

Note: Two piece screw together couplings are not available.

HS

116 {	OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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Protect your transfer hoses from abrasion with 'Pig's Tail' protective wrapping.  
Easy to install - Lightweight - UV Resistant - Beveled Edges - Temperature Operating Range...-40°F to 140°F.



## Pig's Tail

Part number	Description
<b>R50SSG</b>	Fits 1 1/4" I.D. Hose
<b>R75SSG</b>	Fits 2" I.D. Hose

Parker stainless steel braid with cloth cover for motor fuel (liquid service). Synthetic rubber high temperature tube, one stainless steel wire braid and two textile braids.

## Motor Fuel Hose

Part Number	I.D.	O.D.	Working Pressure
<b>#4</b>	3/16"	.52	350
<b>#6</b>	5/16"	.67	
<b>#8</b>	13/32"	.77	
<b>#10</b>	1/2"	.92	



## Motor Fuel Hose

## Steel Fittings for Wire Braid Hose

Part Number	Hose #	Female Flare End	Male Pipe Thread End
<b>4412-4-4</b>	#4	---	1/4" MNPT
<b>4412-4-6</b>	#6	---	1/4" MNPT
<b>4412-6-6</b>	#6	---	3/8" MNPT
<b>4412-8-10</b>	#10	---	1/2" MNPT
<b>4401-4</b>	#4	1/4" F.F.	---
<b>4401-6</b>	#6	3/8" F.F.	---
<b>4401-8</b>	#8	1/2" F.F.	---
<b>4401-8-10</b>	#10	1/2" F.F.	---
<b>4401-10</b>	#10	5/8" F.F.	---
<b>190299-6</b>	#6	3/8" F.F. -45°	---
<b>190302-6</b>	#6	3/8" F.F. -90°	---
<b>4411-6</b>	#6	3/8" Male Flare	---



## Steel Fittings

HS

## Brass Hose Ferrules



7327

## Brass Hose Ferrules

Part Number	I.D.	Commonly used for
<b>7323</b>	.525"	1/4" Accuflex
<b>7324</b>	.531"	1/4" Accuflex
<b>7325</b>	.562"	1/4" Accuflex
<b>7326</b>	.593"	1/4" Rubber & 5/16" Accuflex
<b>7327</b>	.625"	1/4" Rubber
<b>7328</b>	.656"	3/8" Accuflex
<b>7329</b>	.687"	3/8" Accuflex & Red Low Pressure Hose
<b>7330</b>	.718"	3/8" Accuflex
<b>7331</b>	.750"	3/8" Rubber (Single Braid)
<b>7332</b>	.781"	3/8" Rubber (Double Braid)

*Note: LP hose is sold by inside diameter - sometimes the outside diameter may vary from hose to hose.*

## Crimping Tool



CR100

The **CR100** crimps ferrules on 3/16", 1/4", 5/16" and 3/8" I.D. Hose

Repair parts...

**856-8** - adjustment screw with .75 die

## Wheeler-Rex Hose Cutter



SNIPPER

The SNIPPER cuts hose and plastic tubing.

## Wheeler-Rex Hose Cutter

Part Number	Description
<b>Snipper</b>	Snipper Hose/Plastic Cover
<b>5200</b>	Replacement Blade

*Note: Blade can be reversed*



5200

HS

## Female Flare Swivel by Hose Barb Connector

Part Number	Hose I.D.	Female Flare Swivel
HC5333	1/4"	1/4"
HC4335	1/4"	3/8"
HC4334	1/4"	Barb only for NS4E Flare Nut
126HBLFSV-5-6	5/16"	3/8"
HC4355	3/8"	3/8"
HC4357	3/8"	1/2"



HC4355

Note: Part number includes both pieces, except HC4334 - barb only

## Male Flare by Hose Barb

Part Number	Hose I.D.	Flare Size O.D.
HC4835	1/4"	3/8"
HC4855	3/8"	3/8"
HC4857	3/8"	1/2"



HC4855

## Female NPT by Hose Barb Connector

Part Number	Hose I.D.	Female Pipe Size
#552	1/4"	1/8" FNPT
#555	1/4"	1/4" FNPT
#558	1/4"	3/8" FNPT
126HBL-5-4	5/16"	1/4" FNPT
126HBL-5-6	5/16"	3/8" FNPT
#557	3/8"	1/4" FNPT
#560	3/8"	3/8" FNPT



#560

Note: Female connectors are one piece...they do not swivel.

## Male NPT by Hose Barb Connector

Part Number	Hose I.D.	Male Pipe Size
A339	1/8"	1/8" MNPT
#545	1/4"	1/8" MNPT
#541	1/4"	1/4" MNPT
#537	1/4"	3/8" MNPT
125HBL-5-4	5/16"	1/4" MNPT
#538	5/16"	3/8" MNPT
#543	3/8"	1/4" MNPT
#539	3/8"	3/8" MNPT



#539

Note: 1/8" MNPT is the test port size on Kosan+ regulators.  
Use A339 or #545 to connect to your manometer.

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# Hose Barb Fittings



## Tank Connection by Hose Barb Connector



HC5930



ME518-25H



HC5133

Part Number	Hose I.D.	Description
<b>GI683</b>	1/4"	MPOL x 1/4 hose barb 7/8" hex
<b>GI656</b>	1/4"	Soft nose MPOL X 1/4" hose barb full flow w/ handwheel
<b>GI655</b>	1/4"	Excess flow soft nose MPOL x 1/4" hose barb with plastic handwheel
<b>ME517</b>	1/4"	QCCI adapter w/ 1/4" MPT black nut - 70,000 BTU max
<b>ME518</b>	1/4"	QCCI adapter with 1/4 inch MPT green nut - 200,000 BTU max
<b>ME518-25H</b>	1/4"	QCCI adapter w/ 1/4 " hose barb green nut - 200,000 BTU max
<b>ME517-EV</b>	n/a	QCCI purge adapter for cylinder 1 5/16 acme
<b>HC5930</b>	1/4"	MPOL X 1/4" hose barb 7/8 hex full flow

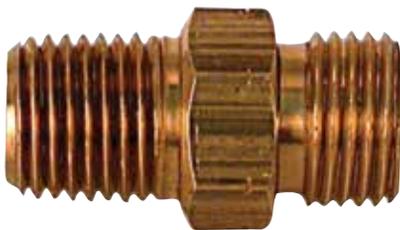
## Miscellaneous Hose Barb Fittings



#37



41B



#33

Part Number	Hose I.D.	Description
<b>HC5133</b>	1/4"	1/4" Male Inverted Flare (Pigtail)
<b>#37</b>	1/4"	Hose Splicer
<b>#149</b>	3/8"	Hose Splicer

## 9/16 Left Hand Connectors

Part Number	Hose I. D.	Description
<b>#8 Nut</b>	---	9/16" Left Hand Nut
<b>#17</b>	1/4"	Stem for #8 Nut
<b>#20</b>	3/8"	Stem for #8 Nut
<b>#41B</b>	1/4"	Male 9/16" Left Hand
<b>#31</b>	---	9/16"Male LH x 9/16" Male LH
<b>#33</b>	---	1/4" MNPT x 9/16" MLH
<b>#143</b>	---	3/8" MNPT x 9/16" MLH
<b>A193</b>	---	9/16" Female Swivel x 1/4" MNPT
<b>A243</b>	---	9/16" Male LH x 1/4" Female Pipe



#8 & #17

*Note: 9/16 left hand fittings are commonly used on torches and construction heaters - look for the indents on the nut - that indicates a left hand fitting*

120 {	OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## Needle Valves

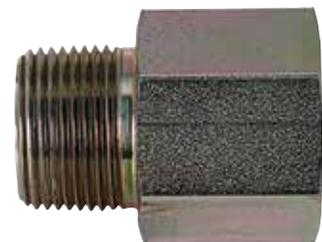
Part Number	Inlet	Outlet
<b>#206</b>	1/4" MNPT	9/16" MLH
<b>#208</b>	9/16" MLH	1/4" MNPT
<b>#208F</b>	9/16" MLH	1/4" FNPT
<b>#211</b>	1/4" MNPT	1/4" MNPT
<b>ME831</b>	1/4" MNPT	1/4" FNPT
<b>YV-51</b>	9/16" L Female	2 - 9/16" Male (Y)
<b>V3055P</b>	1/4" FNPT	1/4" MNPT Red Dragon Torch Valve
<b>PC4021</b>	Cap and Chain 9/16" LH	



## Solid Pipe to Pipe (MxF) Adapters

Part Number	Male Size	Female Size
<b>2040-8-12</b>	1/2" MNPT	3/4" FNPT
<b>2040-12-12</b>	3/4" MNPT	3/4" FNPT
<b>2040-12-16</b>	3/4" MNPT	1" FNPT
<b>2040-16-16</b>	1" MNPT	1" FNPT
<b>2040-16-20</b>	1" MNPT	1 1/4" FNPT

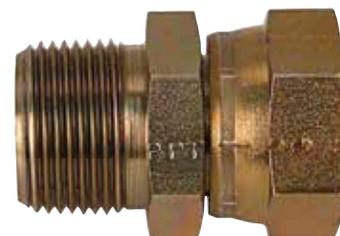
## Steel Pipe Adapters Continued on next page



2040-8-12

## Swivel Pipe to Pipe (MxF) Adapters

Part Number	Both Sides Same Size
<b>2045-4-4</b>	1/4" M x F
<b>2045-6-6</b>	3/8" M x F
<b>2045-8-8</b>	1/2" M x F
<b>2045-12-12</b>	3/4" M x F
<b>2045-16-16</b>	1" M x F
<b>2045-20-20</b>	1 1/4" M x F
<b>2045-24-24</b>	1 1/2" M x F
<b>2045-32-32</b>	2" M x F



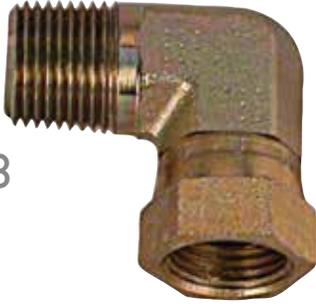
2045-8-8

HS

# Steel Pipe Adapters (cont.)



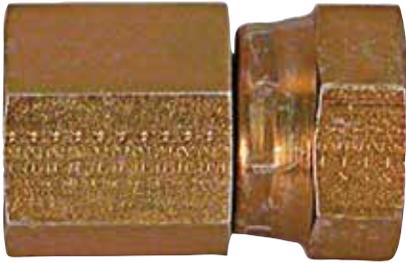
2047-8-8



## Swivel Pipe to Elbow (MxF)

Part Number	Description
<b>2047-8-8</b>	1/2", M x F, 90° Elbow, Swivel
<b>2047-12-12</b>	3/4", M x F, 90° Elbow, Swivel

2046-16-16



## Swivel Female Pipe Adapter (Straight)

Part Number	Female Size, Both Sides
<b>2046-4-4</b>	1/4"
<b>2046-6-6</b>	3/8"
<b>2046-8-8</b>	1/2"
<b>2046-12-12</b>	3/4"
<b>2046-16-16</b>	1"
<b>2046-20-20</b>	1 1/4"
<b>2046-24-24</b>	1 1/2"
<b>2046-32-32</b>	2"

2048-12-12



## Swivel Female Pipe Adapter (Elbow)

Part Number	Female Size, Both Sides
<b>2048-8-8</b>	1/2"
<b>2048-12-12</b>	3/4"
<b>2048-24-24</b>	1 1/2"
<b>2048-32-32</b>	2"

2092-4-4



## Steel Street Tee

Part Number	Description
<b>2092-4-4</b>	1/4" NPT, 3 Way

*Note: One application - use to install a hydrostat and a bleeder in same 1/4" NPT opening.*

HS

122

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## Left Hand, Hopane, CGA 555

Part Number	Description
<b>ME308</b>	Filling Adapter, FPOL x F Hopane Swivel
<b>ME306</b>	Female Hopane x 1/4" MNPT
<b>M307</b>	Female Hopane x 9/16" Male
<b>A653</b>	Male Hopane x 1/2" MNPT
<b>414-1</b>	Male Hopane x 1/4" FNPT
<b>PC555</b>	Hopane Cap and Chain
<b>#72</b>	Hopane Nut only
<b>#73</b>	Nipple only for M306
<b>#62</b>	Uncommon, Right Hand Nut, CGA 540



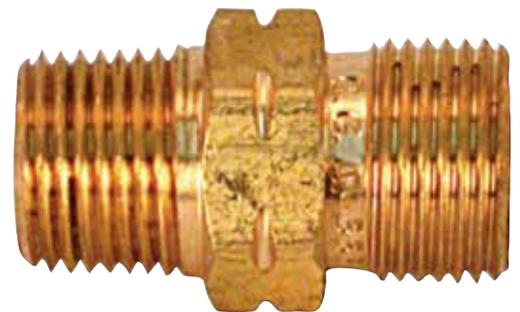
ME308



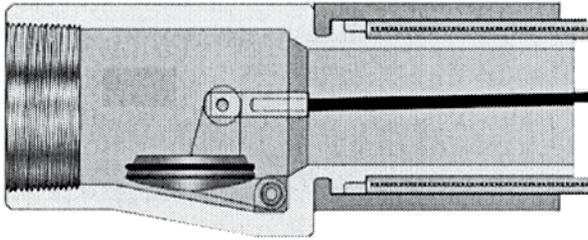
PC555



414-1



A653



The Smart-Hose safety system is combined with a heavy duty LPG transfer hose designed to meet the most rugged applications found in the LPG industry. All hose meets UL 21. To achieve lower operating cost, return used Smart-Hose couplings for attachment to new hose.

1. Each hose is tested under water with dry air or nitrogen to Test Pressure.
2. Each hose is serial numbered.
3. Each hose comes with Test Certification & Operating Booklet.
4. 316 Stainless steel couplings are designed for reuse on new hose.
5. Each hose meets DOT HM225 - 46CFR173.315
6. Each hose meets NFPA 58 & 59
7. Each hose meets DOT HM212 - (Special rail car unloading exemption eliminates requirement for human monitoring during unloading procedure) DOT-SP 1232S

**Hose Data:**

Cover - Black CR w/Blue Longitudinal Stripe - abrasion and weather resistant  
 Reinforcement - Multiple layers of Polyester - min. burst 1750 PSI  
 Tube - oil resistant - resistant to permeation of Butane/Propane  
 Branding - LPG Hose MHI2585 350 MAX WP, Quarterly/Year. Made in USA  
 TEMPERATURE - -40°F to 180°F

Part Number	Description
<b>FH2</b>	2" x 15' OAL Smart Hose System Lifeline 3 Facility Hose FPT x FPT
<b>SH2F</b>	2" FPT x 18' OAL Smart Hose Lifeline 3 for LP
<b>SH2FA</b>	2" FPT x 18' OAL Smart Hose Lifeline 3 for NH3
<b>LL3B-15</b>	2" FPT x 15' OAL Smart Hose w/ breakaway Swivel, Facility Use
<b>LL3B-15A</b>	2" FPT x 15' OAL Smart Hose w/ breakaway Swivel, for NH3 Facility Use
<b>LL3B-18</b>	2" FPT x 18.5' OAL Smart Hose w/ breakaway Swivel, DOT Certified
<b>LL3B-18A</b>	2" FPT x 18.5' OAL Smart Hose w/ breakaway Swivel, for NH3, DOT Certified

# Turbo-Flo LE Dry Break Transfer Systems

TF

For use with LPG & LHZ Transfer Systems. This revolutionary system provides a safe, ergonomic and efficient solution for transfer applications while increasing productivity and dramatically reducing fugitive product emissions. For use with bobtail, transport, railcar and bulk plant applications.



ME806-16



ME807-16

- Reduces product emissions 99.6% over standard valve combinations
- 100% compatible with all existing acme transfer connections
- Heavy duty spring loaded safety latch prevents accidental opening of valve
- Cam operated vapor equalization feature for smooth valve operation
- All stainless internal components
- Factory installed hydrostatic relief valve
- Specially formulated low temperature valve seals for maximum performance and life under all operating conditions
- Hardend steel bearing race with stainless steel ball bearings (ME806 Series Only)
- Integrated Back Check (IBC) feature to allow trapped liquid to be forced back upstream of the valve if liquid is trapped downstream of the valve seat (ME807 Series Only)
- Available with brass or steel acme connections (ME806 & ME807 Series)
- Both ME806 & ME807 series allow for bi-directional flow of product

ME868-16/  
ME825IBC-16



### Turbo-Flo LE Transfer Valves

Part No.	Description	Discharge at Disconnect	Material
<b>ME806-16</b>	Low Emission Transfer Valve 2" FNPT x 3-1/4" F.Acme Swivel	.09CC	Ductile/Brass
<b>ME806S-16</b>	Low Emission Transfer Valve 2" FNPT x 3-1/4" F.Acme Swivel	.09CC	Ductile/Steel
<b>ME807-16</b>	Low Emission Transfer Valve 2" FNPT x 3-1/4" M.Acme Fixed	.09CC	Ductile/Brass
<b>ME807S-16</b>	Low Emission Transfer Valve 2" FNPT x 3-1/4" M.Acme Fixed	.09CC	Ductile/Steel

### Low Emission Acme Adapters

Part No.	Description	Discharge at Disconnect	Material
<b>ME868-16</b>	Low Emission Acme Adapter 2" MNPT x 3-1/4" M.Acme	3.11CC	Brass
<b>ME868-24</b>	Low Emission Acme Adapter 3" MNPT x 3-1/4" M.Acme	3.11CC	Brass
<b>ME868A-16</b>	Low Emission Acme Adapter 2" MNPT x 3-1/4" M.Acme W/ Screen	3.11CC	Brass
<b>ME868A-24</b>	Low Emission Acme Adapter 3" MNPT x 3-1/4" M.Acme W/ Screen	3.11CC	Brass

### Replacement Parts & Accessories

Part No.	Description
<b>ME806CRK</b>	Replacement 3-1/4" Acme Coupling Repair Kit for ME806 Series
<b>ME806HRK</b>	Handle Repair Kit for ME806 & ME807 Series
<b>ME806VRK</b>	Complete Valve Repair Kit for ME806 Series
<b>ME807CRK</b>	Replacement 3-1/4" M.Acme Adapter Repair Kit (Brass) for ME807 Series
<b>ME807SCRK</b>	Replacement 3-1/4" M.Acme Adapter Repair Kit (Steel) for ME807 Series
<b>ME807VRK</b>	Complete Valve Repair Kit for ME807 Series
<b>ME807PIB</b>	MEC Smart Interlock Sensor Kit for ME807 Series

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TF



**ME868-16**  
Patent Pending

Turbo-Flo LE Acme Adapters								
Part No.	Inlet (M.Acme)	Outlet (MNPT)	Factory Installed Screen	Discharge at Disconnect	Material	Accessories		
						Mechanical Brake Interlock Retro-Fit	Electronic Proximity Interlock Kit	Back Check Test Adapter
<b>ME866-8</b>	1-3/4"	1"	No	.16 CC	Brass	—	—	—
<b>ME866A-8</b>	1-3/4"	1"	Yes	.16 CC	Brass	—	—	—
<b>ME866-10</b>	1-3/4"	1-1/4"	No	.16 CC	Brass	—	—	—
<b>ME866A-10</b>	1-3/4"	1-1/4"	Yes	.16 CC	Brass	—	—	—
<b>ME867-10</b>	2-1/4"	1-1/4"	No	1.96 CC	Brass	—	—	—
<b>ME867A-10</b>	2-1/4"	1-1/4"	Yes	1.96 CC	Brass	—	—	—
<b>ME868-16*</b>	3-1/4"	2"	No	3.11 CC	Brass	ME868MIB	ME868PIB	MEP105
<b>ME868A-16*</b>	3-1/4"	2"	Yes	3.11 CC	Brass	ME868MIB	ME868PIB	MEP105
<b>ME868-24*</b>	3-1/4"	3"	No	3.11 CC	Brass	ME868MIB	ME868PIB	MEP105
<b>ME868A-24*</b>	3-1/4"	3"	Yes	3.11 CC	Brass	ME868MIB	ME868PIB	MEP105

\* Not for use in conjunction with soft seat back check

To determine payback and cost savings visit [www.marshallexcelsior.com](http://www.marshallexcelsior.com)

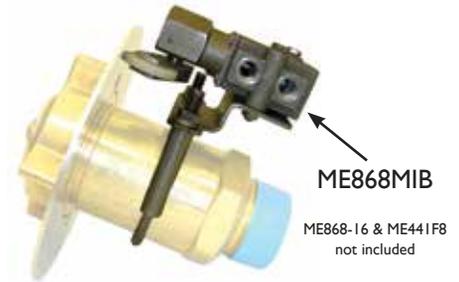
# Turbo-Flo LE Transfer System Accessories (cont.)

**ME868BLK** – “Bypass Line Kit” is used to create a one-way closed loop between the upstream and downstream sides of a Marshall Excelsior 2” globe valve when used in conjunction with a ME868 Series low emission Acme adapter. The kit features a brass one-way check valve and preformed heavy wall copper tubing with brazed end fittings for durability. This product is intended to prevent over pressurization of the ME868 Series low emission Acme adapters making them truly low emission. This product will also greatly reduce pressures within the ME868 Series adapters thereby decreasing any wear that may occur to the shutoff valves or the low emission Acme adapter.

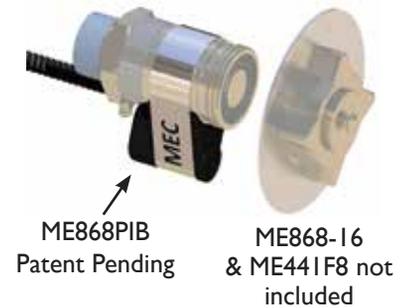


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**ME868MIB** – “Mechanical Interlock Bracket” allows for a standard Parker style pneumatic air roller valve normally used in conjunction with standard bobtail brake interlock systems to be retro-fit to the ME868 Series low emission Acme adapters. This bracket system allows the standard brake interlock system and connections to be moved forward to the end of the low emission adapter where normal contact with the ME441F8 flange Acme cap can occur. The kit includes all bracketing and mounting hardware. (Kit does not include Parker style pneumatic roller valve)



**ME868PIB** – “Proximity Interlock Bracket” uses the new MEC smart interlock technology designed to connect with the Allison automatic transmission “auxiliary function range inhibit” preventing operation of the bobtail while this connection is in use. MEC smart interlock technology incorporates a high grade TURCK proximity switch that senses the presence of the stainless steel flange on the ME441F8 Acme cap when secured tightly to the ME868 Series low emission Acme adapter. This kit comes complete with all mounting hardware, MEC smart interlock technology and wiring harness to reach 5’ below the deck of the bobtail.



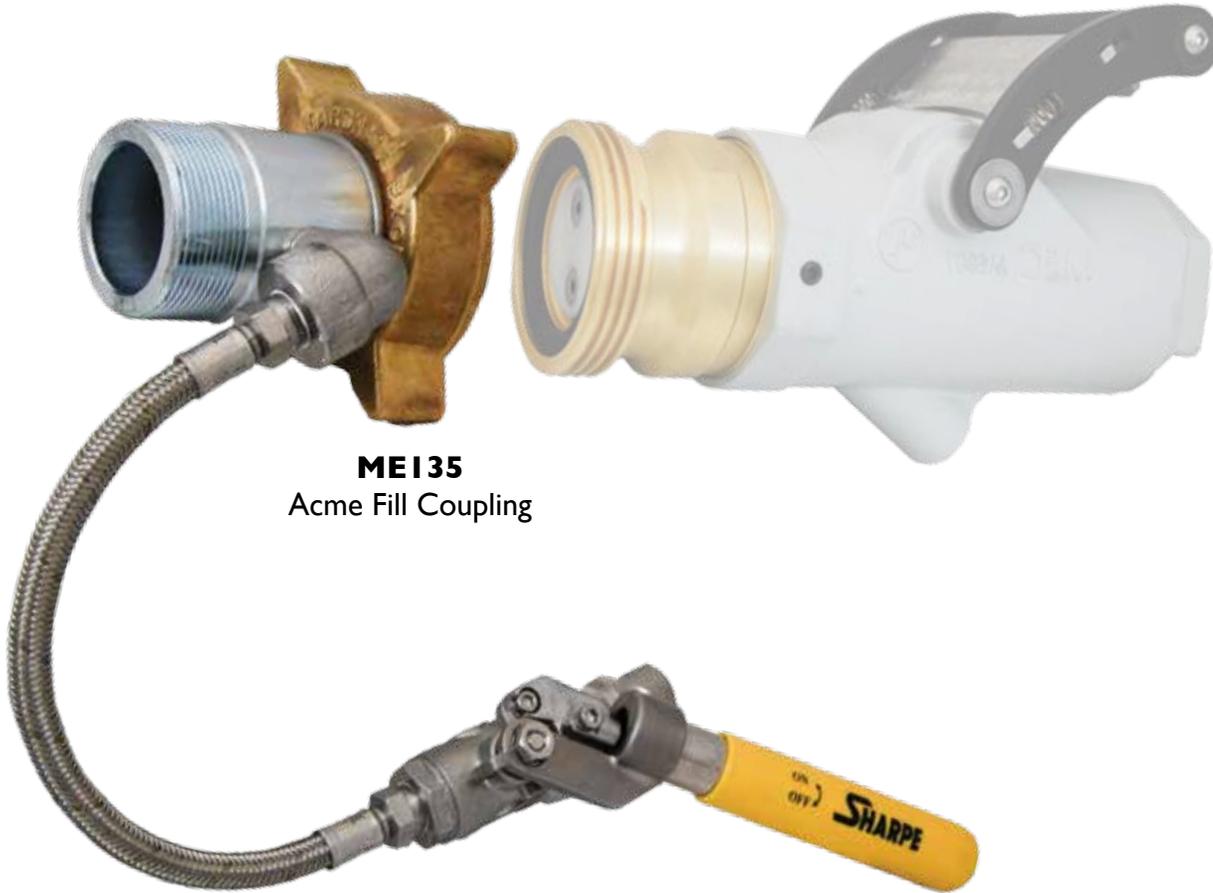
**MEPI05** – This adapter allows for the periodic evacuation and testing of a bobtail’s internal back check valve during five year inspection requirements. The adapter fits snugly into the female Acme side of a MEI30 which then can be threaded onto the ME868 Series low emission Acme adapter pushing the valve poppet to the open position thereby depressurizing the system for testing purposes. (Note: Be sure to consult instruction manual supplied with MEPI05 test adapter before attempting use.)



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# 3 1/4" F. Acme x 2" MNPT Filler Coupling

TF



**ME135**  
Acme Fill Coupling

Intended for use in conjunction with our new ME807-16 in applications where our ME806-16 Turbo-Flo LE Valve is not practical due to space or lack of fixed loading / unloading lines. The ME135 allows for normal use of on board passive shutdown hoses and traditional product "blow down" discharge lines in instances where LE hose end valves are not available or practical. Acme connection comes fully assembled with an stainless steel hose, fittings, self-closing ball valve and quick disconnect for easy installation.

Note: Quick Disconnect is 3/8" FNPT

## 3-1/4" F.Acme x 2" MNPT Filler Coupling

Part No.	Description	F.Acme	MNPT	LPG	NH3
<b>ME135</b>	Filler Coupling - Brass Nut/Steel Stem & S.S. Hose Assembly	3-1/4"	2"	Yes	No
<b>ME135S</b>	Filler Coupling - Steel Nut/Steel Stem & S.S. Hose Assembly	3-1/4"	2"	Yes	Yes

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OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

These hose end valves are leading the industry in minimal product loss during disconnect without sacrificing flow. They have instant full-on flow with the added protection of a quick closing, self-locking handle to prevent accidental opening of the valve during transport. They are designed to be used at the end of a filling hose on a bobtail, dispensing system or nurse tank.

ME800

New High Flow Model



TF

### Hose End Valve Features

- All stainless steel component construction
- Molded and riveted on valve main seal
- Vents less than .50cc for minimal loss of product at disconnect
- Self-locking toggle handle prevents accidental valve opening
- Toggle handle and stem assembly rotate 360°
- Durable ductile iron valve body with automotive grade powder coat finish
- Stainless steel 1-3/4" female Acme insert cast into the handle
- No additional adapters or connectors needed for operation
- Optional extended version offers 6 inches of additional reach for filling underground containers or other hard to reach applications
- Optional composite style offers a durable lightweight handle that is resistant to frosting and cold transfer during the filling operation
- Optional factory installed **EZTurn** stainless steel swivel



ME800G



ME800GWS

Part No.	Inlet (FNPT)	Outlet (F.Acme)	Handle Style	Handle Material	Factory Installed E-Z Turn Swivel	Extended Version	Accessories	
							Holster	
ME800	1"	1-3/4"	Standard	Aluminum	No	No	MEP801	
ME800WS	1"	1-3/4"	Standard	Aluminum	Yes	No	MEP801	
ME800C	1"	1-3/4"	Standard	Composite	No	No	MEP801	
ME800CWS	1"	1-3/4"	Standard	Composite	Yes	No	MEP801	
ME800G	1"	1-3/4"	Fluted	Aluminum	No	No	MEP801	
ME800GWS	1"	1-3/4"	Fluted	Aluminum	Yes	No	MEP801	
ME800GC	1"	1-3/4"	Fluted	Composite	No	No	MEP801	
ME800GCWS	1"	1-3/4"	Fluted	Composite	Yes	No	MEP801	
ME800EXT	1"	1-3/4"	Standard	Aluminum	No	Yes	No	
ME800EXTWS	1"	1-3/4"	Standard	Aluminum	Yes	Yes	No	

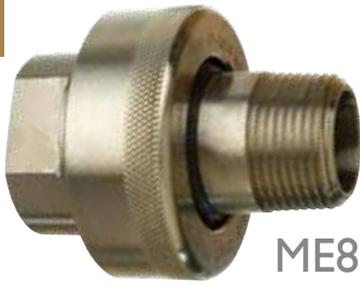


ME800EXTWS

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Swivel Connectors

TF



ME850SS-8



JOI



## Swivel Connectors

Part No	Description	Service	Body Style	Manufacturer
<b>ME850SS-6</b>	3/4" FNPT x 3/4" MNPT	LP and NH3	Straight Through	Marshall Excelsior
<b>ME850SS-6/8</b>	3/4" MNPT x 1" MNPT	LP and NH3	Straight Through	Marshall Excelsior
<b>ME850SS-10/8</b>	1 1/4" FNPT x 1" MNPT	LP and NH3	Straight Through	Marshall Excelsior
<b>JOI</b>	1" FNPT x 1" MNPT	LP Only	Straight Through	Full Circle
<b>ME850SS-8</b>	1" FNPT x 1" MNPT	LP and NH3	Straight Through	Marshall Excelsior
<b>ME850SS-8/6</b>	1" FNPT x 3/4" MNPT	LP and NH3	Straight Through	Marshall Excelsior
<b>SMAC114</b>	1 1/4" x 1 1/4" FNPT	LP Only	90° Angle	Full Circle
<b>SMAC112</b>	1 1/2" x 1 1/2" FNPT	LP Only	90° Angle	Full Circle
<b>SMAC112ST</b>	1 1/2" x 1 1/2" FNPT	LP Only	Straight Through	Full Circle

Repair kits available for all units. Call for details | 800 537 7518

## Stainless Steel Swivels for Systems Routinely Depressurized



- Stainless Steel housings resistant to environment and moisture-laden air-creep in depressurized systems.
- Corrosion-resistant seal package.
- Three-piece seal tracks movement in three directions, simultaneously. Intermediary seal ring rotates at one-half speed.
- Seal package compensates for wear; held together by system pressure for ease of rotation.
- No wearing lip seals, o-rings, or disc-seals.
- High-load rated ball bearing, maintenance-free.
- Available in straight-through and 90° configurations.
- UL-Listed for LP-gas service.



## SS Series Swivels

Part No.	Description
<b>2" Stainless Steel Swivels</b>	
SMAC200SS	SMAC 2" x 90° hose end swivel, stainless steel, corrosion resistant.
SMAC200STSS	SMAC 2" straight hose end swivel, stainless steel, corrosion resistant.
<b>Repair Kits</b>	
SMAC-200SKSS	Repair kit for SMAC200 2" x 90° hose end swivel, stainless steel, corrosion resistant.
SMAC-200STSKSS	Repair kit for SMAC200 2" straight hose end swivel, stainless steel, corrosion resistant.

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OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



## Hose End Valve Adapters

Part Number	Description
<b>ME570</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Solid - No Swivel
<b>ME571</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Internal Swivels
<b>ME571H</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Internal Swivels - High Capacity
<b>ME572</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Swivels
<b>ME574</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Swivels with Bleeder
<b>ME574EXT</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Extended Tube with Bleeder - Swivels
<b>ME574EXTHD</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Heavy Duty Extended Tube - Swivels
<b>ME578</b>	1 3/4" F.Acme x 1 3/4" M.Acme - Flow Max Manual Locking Closure - Swivels
<b>Repair Parts</b>	
<b>ME578-02</b>	Replacement Key for ME578

# Hose End Valve Lock

TF



Padlock Sold Separately

ME800G Not Included

Designed to prevent valve operation while in place, eliminating the possibility of accidental discharge and/or theft of product. Simply slide the lock over the handle/ bonnet of the hose end or quick acting dispensing valve. For maximum security a common padlock can be installed.

### Hose End Valve Lock Features

- All stainless steel construction
- 3/8" diameter through holes for standard 2-1/2" shackle style padlock

Part No.	Fits	Accessories	
		2-1/2" Deep Shackle Padlock	
		Keyed Alike	Keyed Different
ME540	ME800, ME810, ME820 Series	ME540P-KA	ME540P-KD

# Hose End Valve Holster



MEP801H



MEP801

Designed to provide a durable and convenient receptacle to store bobtail hose end delivery valves during over-the-road transit.

This holster can be mounted fully above deck or partially below deck in left or right hand hose reel applications with an ergonomic angle providing optimum conditions for delivery personnel.

### Hose End Valve Holster Features

- All aluminum and stainless steel construction
- Urethane anti-vibration valve sleeve to prevent incidental damage to delivery valve
- Machined adjustment ribs for easy, secure height adjustment
- Deck backing plate and all mounting hardware supplied

Part No.	Description	Fits	Accessories
MEP801	Bobtail Hose End Valve Holster- Aluminum	ME800 Series	MEP801H (Urethane Weather Hood)
MEP802	Bobtail Hose End Valve Holster- Aluminum w/ All Weather Hood	ME800 Series	MEP801-04 (Urethane Holster Strap)

ME200PIBK



ME890PIB



ME217PIB



Smart Interlock Technology



MEP801PIH  
ME800  
Not Included

Part No.	Description	Temperature Range	Accessories
ME200PIB	Sensor Bracket Assembly for ME200 Wheel Chocks	-20° to +160° F.	ME200EXT (Standoff Extension Kit)
ME200PIBK	Sensor Bracket Assembly with ME200 Wheel Chocks	-20° to +160° F.	
ME217PIB	Sensor Bracket Assembly for ME217 Series	-20° to +160° F.	MEP801PC/20 (20' Proximity Cable)  MEP801PC/30 (30' Proximity Cable)  Includes Water Tight Receptacle Plug
ME503PIB	Sensor Bracket Assembly for ME503-16 & ME252-16	-20° to +160° F.	
ME868PIB	Sensor Bracket Assembly for ME868 Valve Series	-20° to +160° F.	
MEP801PIH	Sensor Assembly with MEP801 Hose End Valve Holster	-20° to +160° F.	
MEP802PIH	Holster W/Proximity Interlock Sensor Assembly with All Weather Hood	-20° to +160° F.	
MEP801PIK	Interlock Retro Fit Kit for MEP801 Hose End Valve Holster	-20° to +160° F.	
MEP801PIKL	Low Temperature Interlock Retro Fit Kit for MEP801 Hose End Valve Holster	-50° to +160° F.	
ME890PIB	Universal Sensor Bracket Assembly for Enclosures	-20° to +160° F.	



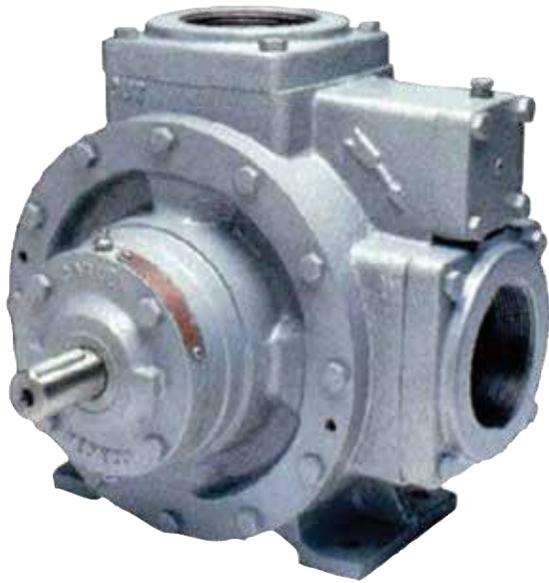
MEP801PIK



MEP802PCK/20

Smart Interlock Technology Wiring Harness Kits						
Part No.	Description	No. of Relays	LED Power Indicator	Inline Fuse	Cable Length	Accessories
MEP801PCK/20	Wiring Harness Kit	1	Yes	Yes	20'	MEP801PC/20 (20' Proximity Cable)
MEP801PCK/30	Wiring Harness Kit	1	Yes	Yes	30'	MEP801PC/30 (30' Proximity Cable)  Includes Water Tight Receptacle Plug
MEP802PCK/20	Wiring Harness Kit	2	Yes	Yes	20'	
MEP802PCK/30	Wiring Harness Kit	2	Yes	Yes	30'	
MEP803PCK/30	Wiring Harness Kit	3	Yes	Yes	30'	

# Corken Plant Pumps



**52IEG**

Reliable, time tested and proven, the best plant pump in the industry...

Floating rotor and hydraulically actuated vanes.

**CORKEN**

Note: Add -103 to the model number to indicate the complete unit; pump, baseplate, motor slide base, belts and pulleys, with belt guard.

Stock units are setup at 780 RPM

PM

Motors should be ordered separately - 1750 RPM, explosion proof, three phase or single phase.

Bare Pumps					
Part Number	Inlet Connection	Outlet Connection	Weight	Recommended Motor Size	Capacity
<b>52IEG</b>	2"	2"	132 lbs	5 HP <sup>1</sup>	30 - 85 GPM
<b>Z3500HG</b>	3"	3"	140 lbs	10 HP <sup>1</sup>	52 - 197 GPM
<b>Z4500HG</b>	4" ANSI RF Flange	3" ANSI RF Flange	261 lbs	10 HP <sup>1</sup>	197 - 382 GPM

(1) Explosion Proof Motors, if required, should be ordered separately. Electrical options include Voltage & Phase Rating.

Complete Pump, Base & Motor Assembly				
Part Number	Inlet Connection	Outlet Connection	Weight	Installed Motor
<b>52IEG-103</b>	2"	2"	422 lbs	(1)
<b>Z3500HGAMT-103-10HP</b>	3"	3"	424 lbs	10HP
<b>Z4500HGASP-103-25HP</b>	4" ANSI RF Flange	3" ANSI RF Flange	1028 lbs	25HP
<b>FF150CD6A-101-14</b>	1 1/2" ANSI RF Flange	1" ANSI RF Flange	396 lbs	10HP
<b>FF150CD6A-101-14-7.5HP</b>			396 lbs	7.5HP (2)

(1) Stocked without motor. Motor can be sized and installed before shipping. Contact our sales team for assistance.  
 (2) Use 7.5 HP motor when electrical service is limited.

# Corken Bulk Truck and Transport Pumps

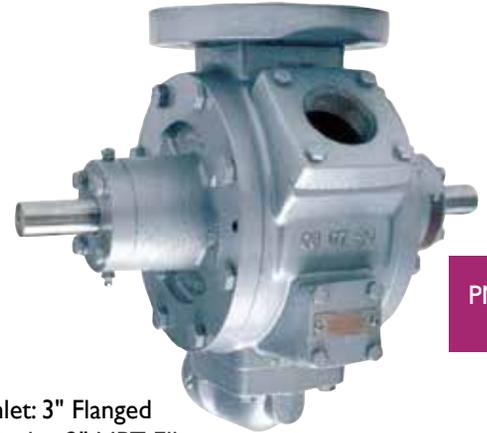
Controlling thrust loads and cavitation are critical for extended pump life. The new Corken Z pump thrust bearing design is rated up to 4000 lb. of thrust. Z pumps last longer and need service less often because of their new materials and design.

You can hear the quiet superiority of the Z pump. It is easy to switch to a Z pump... no piping changes. And the best warranty in the business. Now is the time to step up to Corken quality.

### Bulk Truck/Bobtail Pump

The Z3200 is a truck pump that is typically used on delivery trucks requiring capacities of 63 to 121 GPM. The Z3200 is designed with 300 lb. ANSI flanges for maximum strength. The belly-mount flange design minimizes cavitation and increases pumping efficiency.

Z3200HG



PM

Inlet: 3" Flanged  
 Outlet: 2" NPT Elbow  
 Auxil. Inlet: 1 1/2", 2" NPT or Blind

## CORKEN

### Transport Pump

The Z4200 is a truck pump used on transports requiring capacities of 200 to 400 GPM. It is designed with 300 lb. ANSI flanges for maximum strength. The belly-mount flange design minimizes cavitation and increases pumping efficiency.

Z4200



Inlet: 4" Flanged  
 Outlet: 2" Dual NPT

### Bulk Truck/Bobtail Pump

The Z2000 is a foot-mounted, sliding vane, pump designed for bulk delivery trucks requiring 41 to 85 GPM flow capacity. The pump is securely mounted on a steel frame fixed to the truck's chassis and is piped from the internal valve on the truck's barrel.

Z2000



Inlet: 2" NPT  
 Outlet: 2" NPT

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

Kit No.	2904X2		3109X1	2905X5	2906X2		2907X3	
For Pump Model	521E	522E,T522E, TR522E	T522G, TR522G	T722G, TR722G	1021E, F1021E	1022E, F1022E	F1521F	F1522F,T1522F, TR1522F
Seal Assembly (Qty)	1769XRA (2)		1769XRA (2)	1769XRA (2)	1769XRA (2)		1769XRA (2)	
Bearings (Qty)	2754X (2)		2754X(2)	2754X(2)	2754X (2)		3209	
Outer Race	-	-	-	-	-	-	2754 (2)	
Thrust Bearing	-	-	-	-	-	-	-	
Grease Seals (Qty)	1358 (2)		1358 (2)	1358 (2)	1358 (2)		1358 (2)	
Grease Seal Thrust	-	-	-	-	-		2014	
Blades / Vanes (Qty)	1168-7 (10)		4000 (6)	3981 (6)	1308-9 (10)		3477 (6)	
Blade/Vane Driver	-	-	-	-	-	-	-	-
Sideplates (Qty)	1163-2 (2)		3932 (2)	3932 (2)	1209-1 (2)		3476R, 3476L	
Case O- Ring (Qty)	2-261A (2)		2-261A (2)	2-261A (2)	2-268A (2)		2-268A (2)	
Inlet Flange O-Ring	2-234A	?	?	-	** 2-245A, 2-249A		-	-
Outlet Flange O-Ring	2-234A	?	?	2-234A	** 2-245A, 2-249A		-	-
R Valve Cap O-Ring	2-224A		?	-	2-228A		-	-
RV Adj Screw O-ring	2-112A		?	-	2-112A		-	-
RV Flange O-Ring	-		?	-	-		2-245A, 2-249A, 2-234A, 2-238A	
Cam / Liner	* 1162-2		?	* 4192	* 1201-2 (1 0		* 1792-1	
Rotor & Shaft	* 11661X1R	* 11661X2R		* 3983X2R	* 12081X1R	* 12081X2R	* 3350X1R	* 3350X2R

\* Items Not included in Kit

\*\* 2 pieces each 3" standard & 4" optional. Flange O-Rings are included with kit 2906X2

Kit No.	3193X1	3195X1	3195X2	3197X1
For Pump Model	Z2000	Z3200, ZH3200	Z3500	Z4200, Z4500
Seal Assembly (Qty)	4431XA2 (2)	4431XA2	6660XA2 (2)	4464XA2 (2)
Roller Bearing (Qty)	2754X (2)	2754X (2)	2754X (2)	4460X (2)
Outer Race	-	-	-	-
Thrust Bearing (Qty)	4432 (2)	4432 (2)	4432 (2)	4453 (2)
Thrust Bearing Mtg Ring (Qty)	4435 (2)	4435 (2)	4435 (2)	4454 (2)
Grease Seals (Qty)	4441 (2)	4441 (2)	4441 (2)	4463 (2)
Blades / Vanes (Qty)	4428 (6)	4232 (6)	3936 (6)	4448 (6)
Blade/Vane Driver (Qty)	4262X (3)	4262X (3)	5554X (2)	4449X (5)
Sideplates (Qty)	*4427 (2)	* 4231 (2)	* 3935 (2)	* 4446 (2)
Case O- Ring (Qty)	* 2-261A (2)	* 2-262A (2)	* 2-268A (2)	* 2-270A (2)
Inlet Flange O-Ring	2-231A	-	* 2-259A	-
Aux Inlet Flange O-Ring	-	-	-	2-234A
Outlet Flange O-Ring (Qty)	2-231A (2)	2-234A (2)	* 2-245A	2-231A
R Valve Cap O-Ring	2-224A	2-224A	2-228A	2-234A
Bearing Cap Shim (0.002) (Qty)	4439 (8)	4439 (8)	4439 (8)	4458 (8)
Bearing Cap Shim (0.010) (Qty)	44391 (2)	44391 (2)	44391 (2)	44581 (2)
Bearing Cap Shim (0.020) (Qty)	44392 (2)	44392 (2)	44392 (2)	44582 (2)
Shaft Key	2270	2270	2270	4459
Cam / Liner	*4414	* 4242	* 5539	* 4443
Rotor & Shaft	4430X2R	* 4495X2R	* 12081X6R	* 4444X2R

\* Items Not included in Kit

Rebuild Kit No.	3194X1	3196X1	3196X2	3198X1
For Pump Model - includes all repair kit items plus sideplates & cam/liner	Z2000	Z3200, ZH3200	Z3500	Z4200 Z4500



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

The Corken Autogas Pump achieves new levels of performance with higher flow at high differential pressures, non-pulsating and quiet transfer, longer pump life and a design that is easy to repair. The pump is also versatile enough to be used in like applications such as cylinder filling, vaporizer feeding or bulk transfer.

**CORKEN**



Frame mount shown  
C-Face mount also available.

## FF-150 Coro-Flo Model

Model No	Description	Inlet	Outlet	RPM	Working Pressure	Maximum Recommended Differential Pressure
<b>FF075</b>	Bare pump	1 1/2" ANSI 300# RF Flange	1" ANSI 300# RF Flange	3450	400 psig	150 psig
FF075CD6A-101-14(213)	Pump on direct drive mount 213T baseplate - no motor					
<b>FF075CD6A-101-14-7.5 HP</b>	Pump on direct drive mount baseplate with 7.5 hp motor					
<b>FF150<sup>123</sup></b>	Bare pump					250 psig
FF150CD6A-101-14 (184) <sup>123</sup>	Pump on direct drive mount 184T baseplate - no motor					
FF150CD6A-101-14 (213) <sup>123</sup>	Pump on direct drive mount 213T baseplate - no motor					
FF150CD6A-101-14 <sup>123</sup>	Pump on direct drive mount 215T baseplate and 10 HP motor					
<b>HDPFF075-1P75<sup>134</sup></b>	Pump on direct drive mount with bypass and 7.5 HP motor. Includes Variable Frequency Drive					
<b>HDPFF075-3P75<sup>13</sup></b>	Pump on direct drive mount with bypass and 7.5 HP motor.					

**Notes**

- (1) All pumps require companion flange kit (part no 6133X1) which includes bolts, nuts, flexitalluc gaskets and flanges
- (2) Use B166B-1CAU bypass with 100 - 225 psi spring range (150 max allowed per NFPA 58)
- (3) Switch not included. Requires 3 phase explosion proof switch with magnetic starter
- (4) Variable frequency drive converts single phase to three phase service, also has slow start up function which helps nuisance excess flow closures and allows for switch without magnetic starter

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

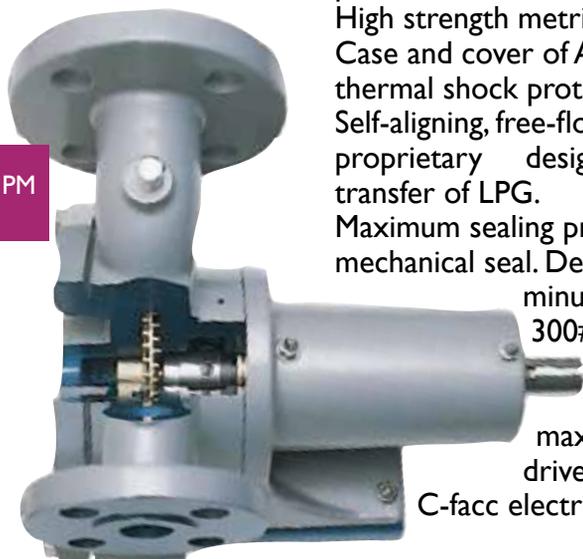
# 060 Autogas Pump (cont. on next page)



**CORKEN**

Designed for underground and aboveground tank applications  
 Pressure gauge connections help simplify analysis system performance.  
 High strength metric fasteners.  
 Case and cover of ASTM A536 ductile iron, providing maximum thermal shock protection.  
 Self-aligning, free-floating precision machined impeller, incorporating proprietary design, optimizes flow and provides quiet non-pulsating transfer of LPG.  
 Maximum sealing provided by a single balanced, precision lapped, mechanical seal. Designed for ease of service. Seal can be replaced in minutes by simply removing the cover. ANSI and DIN 300# flanges provide optimal leak control and enhances structural integrity. Heavy-duty ball bearings are rated for continuous duty service and provide maximum life. Three mounting options available: direct drive with coupling, belt drive, and direct mounted with C-facc electric motor.

PM



060 Autogas

**A Cost Effective Alternative for Single Phase Applications Meeting Global Demands for Autogas Applications...**  
 In our continuous effort to meet the global demands by underground and aboveground tank applications, the 060 autogas series was designed for applications that require a lower flow rate and horsepower yet high differential pressure. The 060 is mounted above ground and is ideal for single hose applications.  
**Continuous Duty Design...**  
 Built for continuous duty service the 060 autogas series incorporates heavy duty bearings, free floating impeller, a single mechanical seal, ANSI or DIN flange connections, metric fasteners, and a ductile iron case.

**Multiple Mounting Options...**  
 The 060 autogas pump is available with two mounting options. You may select from a frame mount for direct or belt drive configurations or a direct mount that bolts to a standard C-Facc 60 Hz (3450 RPM) motor.

**Serviceability is Simple and Cost Effective...**  
 Unlike submersible designs, the 060 is mounted aboveground so there is no need to disturb the piping. All parts are easily accessed by simply removing the pump head. This feature allows you to quickly service the pump on site and minimize costly downtime thereby making the 060 autogas pump a cost effective alternative to a submersible design.

- Applications:**
- Autogas dispensing
  - Cylinder filling
  - Vaporizer feed
  - Bulk transfer
- Direct burner feed

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Part	Standard Material	Optional Material
Case, cover	Ductile iron ASTM A536	
Impeller	Copper alloy ASTM B584, UNS C92300 (also known as Navy Bronze)	Steel Stainless steel
Impeller key	Steel, zinc plated	
Seal seat	Silicon carbide	
Seal rotor	Carbon	
Seal metal parts	Stainless steel	
Seal sleeve	Stainless steel	
Seal housing	Stainless steel	
Shaft	Steel	Stainless steel
Frame	Gray iron ASTM A48. Class 30	
	DLF/DLD: Ductile iron ASTM A536	
Bearing cap	Ductile iron	
O-rings	Buna-N	Neoprene, Viton, Buna-N, Kalrez
Retainer rings	Steel	
Bearings	Ball	

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Operating Specifications	
Inlet:	1-1/2" ANSI 300# RF (DIN opt.)
Outlet:	1" ANSI 300# RF (DIN opt.)
RPM:	3450 60 Hz
Max. working pressure:	400 psig (27.6 bar)
Maximum driver:	15 hp (11 kW)
Max. differential pressure:	150 psig (10.3 bar)
Temperature range:	-25° to 225°F (-32° to 107°C)
Flow range:	7-22 gpm (26.5 to 83.3 L/min)
Differential pressure:	10.0 bar 145.0 psi
Flow:	32.2 L/min 8.5 gpm
Power required:	3.8 kW 5.15 hp

# Corken Coro-Flo Pumps for Dispensing Units



The world's most popular propane gas pump, the Corken Coro-flo, achieved its wide acceptance because it is long-lived, dependable, quiet, impossible to over-work, easy to repair and simple to maintain.

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C12SM

C Model features.....

- Only one moving part!
- Smooth, pulseless flow
- No rubbing parts
- Floating impeller
- Ductile iron case
- Hydraulically balanced mechanical seal
- Replaceable shaft sleeve under mechanical seal
- No coupling necessary
- No bearing in pump!
- Adjusted for wear
- Compact construction
- Motor overload in switch
- Automatic drain on motor
- Heavy duty motor

## Coro-Flo 'C' Model

Model No.	C-Models			On-Off Switch	FNPT Inlet	FNPT Outlet	Gal./Min. at 50lbs. Differential
	HP	PH	Volts				
C-10	2	1	115/230	Yes	1 1/4"	1"	6.5
C-12	2						15
C-13	2				22		
C-14	3	3	230/460	No	1 1/2"		32

Note: Always use a B166 bypass valve with C & F model pumps... usually a B166-3/4" with C/F10, C/F12 and a B166-1" with C/F13 and C/F14



F models pumps are similar to C models but without a motor. Typically, these pumps are mounted on a baseplate and close coupled to a motor of your choice.

## Coro-Flo 'F' Model

Model No.	FNPT Inlet	FNPT Outlet	Gal./Min. at 50lbs. Differential
F-10 *	1 1/4"	1"	6.5
F-12 *	1 1/2"		15
F-13 *			32

\*To order with a baseplate use -101. Example F12-101

## F12CD

The Coro-Vane® pump was designed for higher flow and head conditions, pumping thin liquids and liquefied gases. **The C51A** is the smallest of the Corken Coro-Vane® sliding vane pumps. It is designed for small LPG and NH3 applications needing very low flow. It is a very compact and economical pump and can be used industrially as well. Flow range: 1–6 gpm (3.8–22.7 L/min) Maximum differential pressure: 125 psi (8.6 bar) Maximum driver size: 2 hp (1.5 kW) NPT or ANSI flanges C51 UL listed for use with LPG

Part Number	Description	Inlet Connection	Outlet Connection	Weight
C51A	Coro Vane Pump w/Close coupled 1/2 HP Motor	1"	3/4"	50 lbs

## Corken Coro-Flo Pump Repair Parts - C & F Models

Pump	Seal Kit	Brass Impeller	C Model Motors	Motor HP
C10/F10	113CXA	1003-0	2556	1
C12/F12	113CXA	1003-2	2556	1
C13/F13	113CXA	1003-3	4261	2
C14/F14	113CXA	1003-4	2557'	3

Notes:

- 1) C model motors are single phase, except for the C14-2557-3HP
- 2) You must order the Corken motor for replacement on C pumps.  
The motor shaft is drilled where the seal pin is placed.

## BLACKMER PUMP REPAIR KITS - REPAIR PARTS

### Blackmer Pump Repair Kits

Pump Model	New Maintenance Kit	New Rebulid Kit
LGFI, LGFIP	898994	--
LGL- 1 1/4	898976	899077
LGRLF- 1 1/4	898976	899076
LGL- 1 1/2	898976	899078
LGLD2E	898979	899079
LGLD3E	898981	899081
TLGLF3	898980	899080
LGLD4A/TIGLF4A	898922	899022

Notes:

Blackmer **Maintenance Kits** include; discs, vanes, push rods, o-rings, gaskets, seals, and bearings.

Blackmer **Rebuild Kits** include; all maintenance kit parts, plus liner, liner key, bearing locknut, rotor & shaft.

## Common Repair Parts for Blackmer Pumps

Parts	LGF 1	LGF 1 1/4	LGLD2E	LGLD3E	TLFLF3	TLGLF4A
Seals	332920	333045	334439	335225	331652	332050
Vanes	092913	093088	091419	095131	095132	092019
Push Rods	--	123076	123905	125105	121607	122005
Bearings	903405	903114	903156	903166	903156	903172
Liner	--	183004	184405	185111	185101	182000
Disc	--	063075	064412	065112	065121	062039
Rotor and Shaft	262901	4-263076 8-262300	264443	265149	265147	262041

# Blackmer Liquefied Gas Pumps (cont. next page)



Blackmer offers a full line of liquefied gas pumps and oil-free gas compressors, designed for maximum performance and reliability. From the smallest cylinder filling operation to the largest, most sophisticated bulk plant/rail car unloading system, you will find Blackmer pumps and compressors operating throughout the world.

Sliding vane design is ideal for butane, propane, anhydrous ammonia, propellants, refrigerants and similar liquefied gases

Blackmer liquefied gas pumps are widely used for cylinder filling, motor fueling, bulk transfer, vaporizers, and on bobtails and transports.

Utilizing Blackmer's unique sliding vane design, these positive displacement pumps offer the best combined characteristics of sustained high-level performance, energy efficiency, trouble-free operation, and low maintenance cost.

Pump models are available in 1 to 4-inch port sizes. All models have ductile iron construction for thermal shock resistance, low friction ball bearings for high efficiency and quiet operation, and threaded lockcollars that prevent end thrust wear.



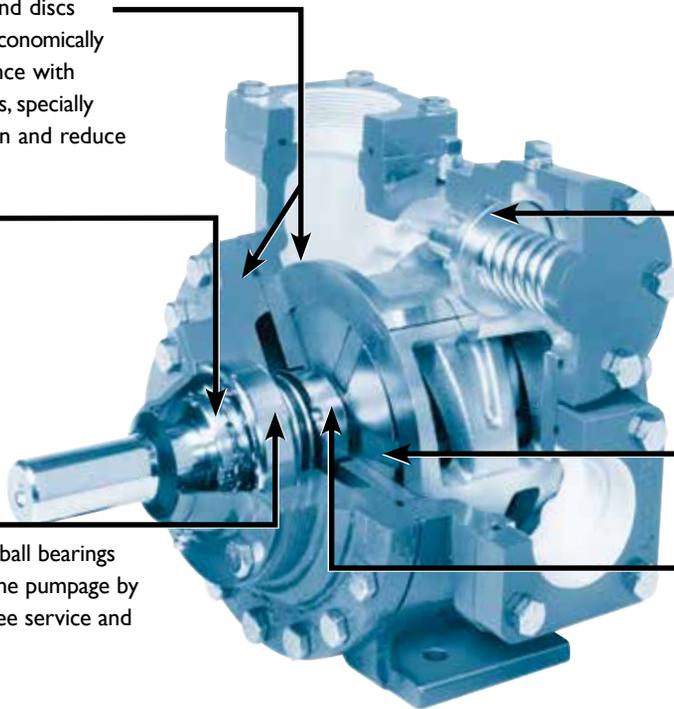
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## High Performance Design Features

**Replaceable casing liner and end discs**  
Blackmer LGL models can be economically rebuilt for like-new performance with replaceable end discs and liners, specially designed to suppress cavitation and reduce wear.

**Two-piece threaded lock collars** Precisely position the rotor and shaft, allowing the pump to operate under high inlet pressures. In addition, this positive lock thrust control helps prevent premature wear to internal components.

**External ball bearings**  
Low friction grease-lubricated ball bearings are completely isolated from the pumpage by mechanical seals for trouble-free service and long life.



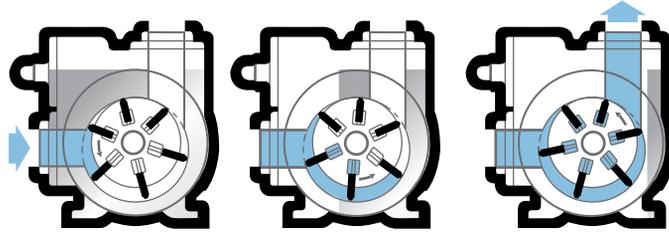
**Ductile iron construction**  
All pressure parts are of ductile iron for greater resistance to both thermal and mechanical shock.

**Internal relief valve**  
Protects the pump from excessive pressure buildup in the event of an obstructed or closed return line.

**Nonmetallic Duravanes**  
Designed to resist wear under non-lubricating conditions. These chemically inert vanes are formulated of a tough resin material for long life and quiet operation.

**Blackmer mechanical seals**  
Specially developed for non-lubricating liquids, Blackmer's exclusive component type design is field proven to provide long life and reliable service on a wide range of liquefied gas applications.

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**FIGURE 1. How Blackmer's sliding vane action works**

## Cavitation Suppression Liners

1.25 through 4-inch models now have special liners that "cushions" the effects of collapsing vapor bubbles within the pump, sharply reducing the noise, vibration, and wear normally caused by entrained vapors. See page 6 for additional details.

## How Blackmer sliding vane pumps achieve high efficiency

As shown in Figure 1, Blackmer pumps use a rotor with sliding vanes that draw the liquid in behind each vane, through the inlet port and into the pumping chamber. As the rotor turns, the liquid is transferred between the vanes to the outlet where it is discharged as the pumping chamber is squeezed down. Each vane provides a positive mechanical push to the liquid before it.

Vane contact with the chamber wall is maintained by three forces: (1) centrifugal force from the rotor's rotation, (2) push rods moving between opposing pairs of vanes, and (3) liquid pressure entering through the vane grooves and acting on the rear of the vanes.

Each revolution of a Blackmer pump displaces a constant volume of fluid. Variance in pressure has minimal effect. Energy-wasting turbulence and slippage are minimized and high volumetric efficiency is maintained.

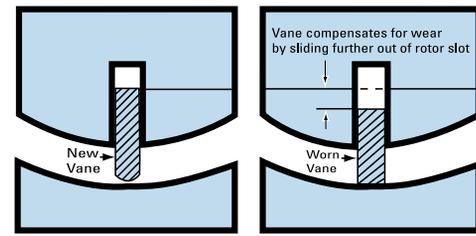
## Efficiency means energy savings

The high efficiency of Blackmer pumps means they require less horsepower than other positive displacement pumps. So you spend less on motors initially and less on electricity to operate the pumps after they are installed.

## High capacity at lower speeds means reduced wear

The volumetric efficiency of Blackmer pumps saves more than energy. Their inherently low slippage allows them to operate at substantially lower rpms than other positive displacement pump types, while still delivering equivalent output. These lower operating speeds mean quieter operation, longer service life, and reduced maintenance requirements.

**FIGURE 2. How Blackmer's sliding vanes maintain efficiency**



## Self-adjusting vanes keep performance high

The performance of gear pumps will constantly diminish as wear increases clearances. To compensate for the reduced performance, you must increase the pump speed (which further accelerates pump wear) or put up with reduced capacity until performance drops to a totally unacceptable level. The vanes on a Blackmer pump automatically slide out of their rotor slots to continuously adjust for wear. No more speeding up to compensate and no more putting up with poor performance. Blackmer pumps maintain near-original efficiency and capacity throughout the life of the vanes.

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Simple vane replacement requires no special tools.

## Vane replacement in minutes, easy inspection

Vane replacement is easy. Simply remove the outboard head assembly, slide out the old vanes, insert the new ones, and reinstall

the head. In a matter of minutes, your pump is back in operation. Routine inspection is equally easy. In fact, most maintenance can be done without disconnecting the pump from its piping or drive shaft.

## Replaceable liners economically restore efficiency

Blackmer LGL pumps are equipped with replaceable liners that protect the pump casing and provide the economy of simple replacement, restoring the pump to like-new efficiency. No special tools are required to remove a worn liner and install a new one, and the simple operation can be completed in a few minutes without taking the pump off line.

## UL and ISO 9001

All pump and bypass valve models described in this bulletin are listed by Underwriters Laboratories for both LP-gas and anhydrous ammonia service. All products in this bulletin are manufactured to ISO 9001 quality standards.



Easily replaceable liner restores efficiency.

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# Blackmer Pumps (cont.)

## LGFI & LGBI Pumps

### Motor Speed Pumps for Cylinder Filling



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LGFI/LGIP cutaway



LGFI/LGFI



LGBI/LGBIP

These 1-inch motor speed pumps have long been popular for cylinder filling, small volume motor fueling and supplying small vaporizers. They offer the same heavy-duty construction of larger Blackmer models and are available in two mounting styles and capacity ranges. The LGFI model is fitted with an integral bracket and coupling for direct flange mounting to a NEMA C-face motor. This bracket also allows the pump body to be rotated to simplify hookup to piping systems. The LGBI model is equipped with a coupling and bracket for mounting to a conventional base. The LGFI and LGBI models will handle up to 10 U.S. gpm (38 L/min). The LGFIP and LGBIP models offer 50% greater capacity and will handle up to 15 U.S. gpm (57 L/min).

All models have 1-inch NPT tapped ports and use an exclusive "combination" valve that acts as both a back-to-tank bypass valve and as an internal relief valve. This feature lowers installation costs by eliminating the need for a separate bypass valve. It also assures pressure relief if the back-to-tank bypass line is closed. The valve's unique three-stage operation is shown in Figure 3.

Standard construction materials for these models include Buna-N mechanical seals and Duravanes for handling both LP gas and anhydrous ammonia. Maximum differential pressure is 125 psi (8.62 Bar) for both models.

### Assembled Pump Units



#### LGFI Drive Style

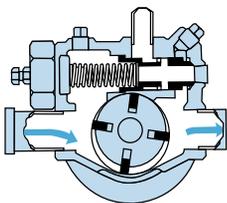
Flange Mounting - Direct Motor Drive  
 LGFI and LGFIP models are supplied with an integral bracket and flexible shaft coupling, ready to accept a NEMA C-face motor. All LGFI units are available with or without electric motors.

#### DM Drive Style

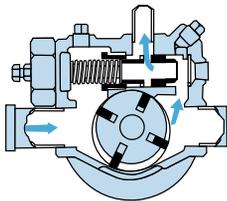
Bracket Mounting - Direct Motor Drive  
 LGBI-DM or LGBIP-DM base-mounted units are available, complete with pump, bracket, coupling and coupling guard, mounted on a common base, ready to accept a standard NEMA motor. All DM units are available with or without electric motors.



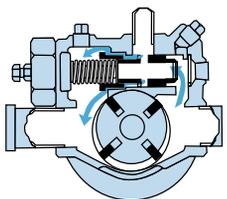
FIGURE 3. Combination relief/bypass valve



**Normal Operation**  
 Valve is completely closed during normal operation with discharge line open.



**Back-to-Tank Bypassing**  
 Discharge pressure exceeding the valve setting opens valve to second stage, returning all or part of pump flow back to supply tank.



**Pressure Relief**  
 If back-to-tank line is closed, valve opens to third stage, passing flow back to inlet side of pump.

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When selecting a standard pump or assembled unit from the table below, check the pump's delivery and brake horsepower requirements in the performance curves. These pumps are rated for continuous duty, although such applications may accelerate pump wear rates, particularly if vaporization occurs in the pump

intake line. Pumps used on vaporizers should be mounted with inlet up, and sized for a capacity of at least 150% of the normal peak load to prevent system failure due to sudden pressure drop on start-up. Additional system requirements can be achieved by series of parallel staging.

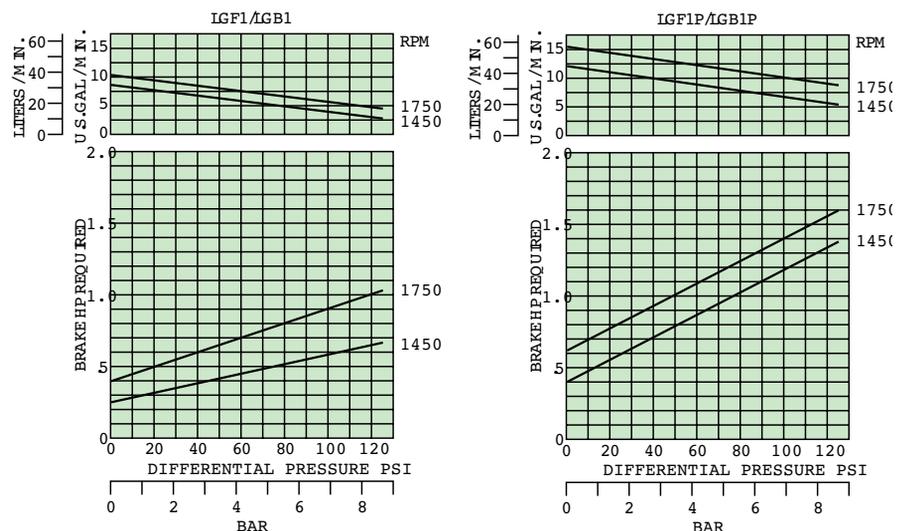
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Assembled Pump Units		Pump and Motor Speed rpm	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown <sup>1</sup>				Maximum Differential Pressure		Maximum Working Pressure <sup>3</sup>		Normal Time To Fill LP Gas Cylinders in Minutes		Standard Motor <sup>2</sup>	Motor Size For Mounting on Standard Base <sup>2</sup>	
Model	Factory Relief Valve Setting		50 PSI (3.45 Bar)		100 PSI (6.89 Bar)		psi	Bar	psi	Bar	20 lb. (9 kg) Cylinder	100 lb. (45 kg) Cylinder	hp	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min									
LGFI	105 psi (7.24 bar)	1,750	8.0	30.3	6.0	22.7	125	8.62	350	24.13	¾	3	I	56C	184C <sup>4</sup>
LGBI-DM	105 psi (7.24 Bar)	1,750	8.0	30.3	6.0	22.7	125	8.62	350	24.13	¾	3	I	56	184
LGFI-P	120 psi (8.27 Bar)	1,750	13.0	49.2	10.0	37.9	125	8.62	350	24.13	½	2	I½	56C	184C <sup>4</sup>
LGBIP-DM	120 psi (8.27 Bar)	1,750	13.0	49.2	10.0	37.9	125	8.62	350	24.13	½	2	I½	56	184

1 Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary.  
 2 Motors may be specified from Electric Motor Price List No. 10-MTRG-01 (explosion-proof manual start switch for 1 & 1-1/2 horsepower single-phase motors also available).  
 3 Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH3 (limited by U.L. and N.F.P.A. 58).  
 4 Pump flange accepts NEMA C-face motors with 5-7/8" bolt circle diameter. Pump flange will not accept 182TC or 184TC frames.

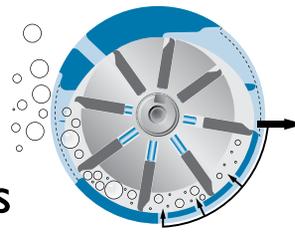
## Performance Curves

These curves are based on approximate delivery rates when handling propane or anhydrous ammonia at 80°F (26.7°C). Line restrictions such as excess flow valves, elbows, etc. will adversely affect deliveries. For propane at 32°F (0°C), actual delivery will be further reduced to about 80% of nominal. Delivery of butane at 80°F (26.7°C) will be 60% to 70% of these values, and may run as low as 35% to 45% at 32°F (0°C). This loss of delivery is not a pump characteristic but is caused by natural thermodynamic phenomena of liquefied gases.



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# Blackmer Pumps (cont.)



## LGL Series Pumps With Cavitation Suppression Liners

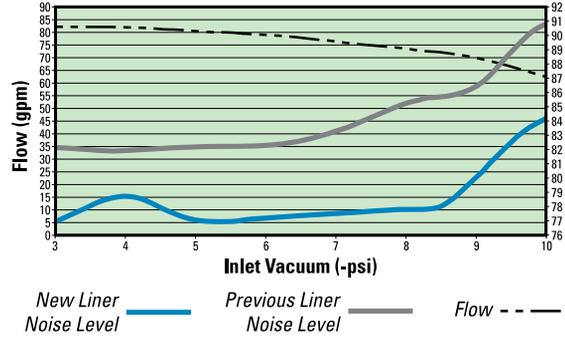
1.25-inch through 4-inch LGL pumps feature noise suppression liners. This patented technology reduces noise at its source by reducing the amount of cavitation in the pump. Reducing the cavitation level also reduces vibration and wear.

The sudden collapse of vapor bubbles inside the pump is known as cavitation. By allowing a controlled amount of fluid at discharge pressure to bleed back toward the suction of the pump, the vapor bubbles are collapsed over a longer period time. The net result is less noise, less vibration and less wear.

As shown in the chart, the reduction in noise level can be quite dramatic. Similar noise reductions have been measured in all the LGL pump sizes.

Patent number: 6,030,191

**Flow and Noise vs. Inlet Vacuum**  
TLGLF3, 125 psi, 640 rpm



## LGRL1.25, LGLI.25 & LGLI.5 Pumps Motor Speed Pumps for Motor Fueling and Multi-Cylinder Filling



LGLI.25/LGLI.5

These durable motor speed pumps offer capacities from 9 to 35 U.S. gpm (34-132 L/min), and are ideal for motor fueling, multiple-station cylinder filling and a variety of small transfer jobs. The LGL models are designed for foot mounting to a common base-plate. The LGLF models are fitted with an integral bracket and coupling for direct flange mounting to a NEMA C-face motor. This bracket also allows the pump body to be rotated to simplify hookup to piping systems.

Available with 1.25 or 1.5-inch NPT tapped ports, all models are equipped with an internal relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary. The LGRLF 1.25-inch model features a special liner, which offers lower flow rates than the LGL 1.25-inch pump. In addition, these pumps feature cavitation suppression liners to reduce noise, vibration and wear.

Standard construction materials for these models include Buna-N mechanical seals and Duravanes for handling both LP gas and anhydrous ammonia. Maximum differential pressure is 150 psi (10.34 Bar) for all models.



LGLI.25/LGLI.5

### Assembled Pump Units



LGRLF1.25/  
LGLF1.25

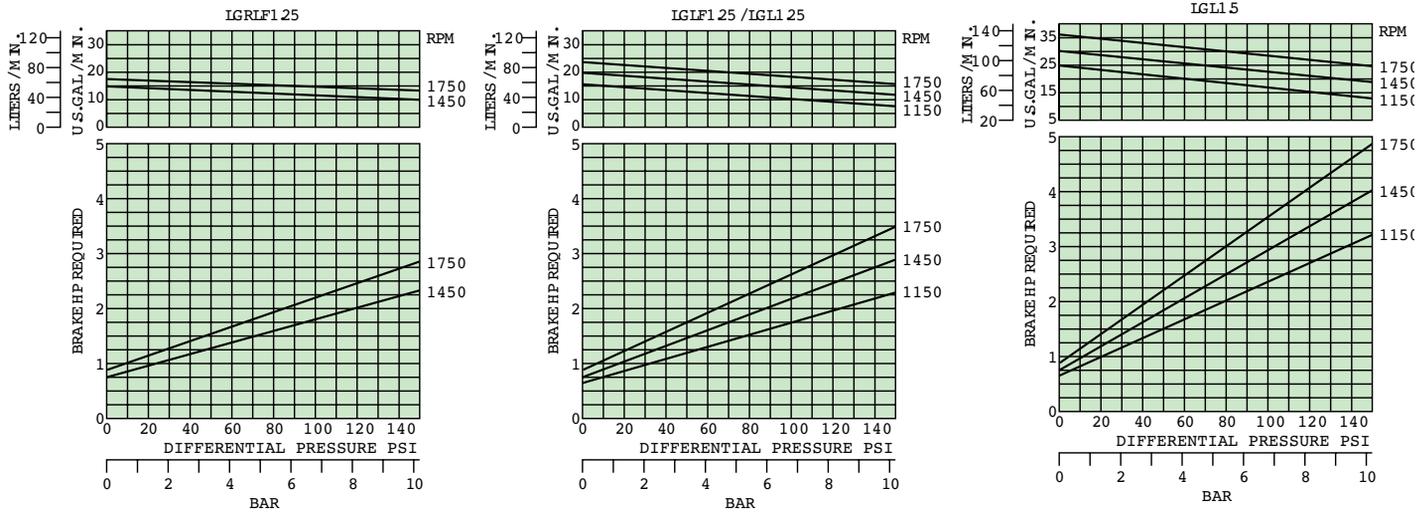
### LGF Drive Style

Flange Mounting - Direct Motor Drive  
Standard LGRLF1.25, LGLF1.25, and LGLF1.5 models are supplied with an integral bracket and a flexible shaft coupling, ready to accept a NEMA C-face motor. All LGF units are available with or without electric motors.

### DM Drive Style

Foot Mounting - Direct Motor Drive  
LGLI.25-DM and LGLI.5-DM base-mounted units are available, complete with pump, coupling and coupling guard, mounted on a common base, ready to accept a standard NEMA motor. All DM units are available with or without electric motors.

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These curves are based on approximate delivery rates when handling propane or anhydrous ammonia at 80°F (26.7°C). Line restrictions such as excess flow valves, elbows, etc. will adversely affect deliveries. For propane at 32°F (0°C), actual delivery will be further reduced to about 80% of nominal. Delivery of butane at 80°F (26.7°C) will be 60% to 70% of these values and may run as low as 35% to 45% at 32°F (0°C). This loss of delivery is not a pump characteristic but is caused by natural thermodynamic phenomena of liquefied gases.

## Selection Data

When selecting a standard pump or assembled unit from the table below, check the pump's delivery and brake horsepower requirements in the performance curves. These pumps are rated for continuous duty, although such applications may accelerate pump wear rates, particularly if vaporization occurs in the pump intake line. Pumps used on vaporizers should be mounted with inlet up, and sized for a capacity of at least 150% of the normal peak load to prevent system failure due to sudden pressure drop on startup. Additional system requirements can be achieved by series or parallel staging.

Assembled Pump Units		Pump and Motor Speed rpm	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown <sup>1</sup>				Maximum Differential Pressure		Maximum Working Pressure <sup>2</sup>		Motor Size For Mounting on Standard Base <sup>3</sup>	
Model	Factory Relief Valve Settings		50 psi (3.45 Bar)		100 psi (6.89 Bar)		psi	Bar	psi	Bar	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min						
LGR1F1.25	150 psi (10.34 Bar)	1,750	16.0	60.6	14.0	53.0	150	10.34	350	24.13	56C	184C <sup>4</sup>
		1,150	13.0	49.2	10.0	37.9	150	10.34	350	24.13	56C	184C <sup>4</sup>
LGL1.25-DM	150 psi (10.34 Bar)	1,750	21.0	79.5	18.0	68.1	150	10.34	350	24.13	56	215
		1,150	13.0	49.2	10.0	37.9	150	10.34	350	24.13	56	215
LGL1.5-DM	150 psi (10.34 Bar)	1,750	33.0	124.9	29.0	109.8	150	10.34	350	24.13	56	215
		1,150	20.0	75.7	17.0	64.4	150	10.34	350	24.13	56	215
LGL1.5	150 psi (10.34 Bar)	1,750	33.0	124.9	29.0	109.8	150	10.34	350	24.13	56C	184C
		1,150	20.0	75.7	17.0	64.4	150	10.34	350	24.13	56C	184C

<sup>1</sup> Check the pump's delivery and brake horsepower requirements in the performance curves. See footnote with the curves which explains the factors that can cause delivery to vary.

<sup>2</sup> Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH<sub>3</sub> (limited by U.L. and N.F.P.A. 58).

<sup>3</sup> Motors may be specified from Electric Motor Price List No. 10-MTRG-01 (explosion-proof manual start switch for 1 & 1-1/2 horsepower single-phase motors also available).

<sup>4</sup> Pump flange accepts NEMA C-face motors with 5-7/8" bolt circle diameter. Pump flange will not accept I82TC or I84TC frames.

Note: Refer to back cover for external bypass valve information.

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# Blackmer Pumps (cont.)

## LGL I50 Series Motor Speed High Differential Pressure Pumps

Designed for the toughest LPG applications:



### Applications

- Single and dual hose fuel dispensers
- Aerosol filling
- Vaporizer feed
- Underground tank applications
- Aboveground tank applications
- Other high differential pressure liquefied gas applications
- U.L. listed for use on propane, butane, butane/propane mixes and anhydrous ammonia

### Features

- Designed for high differential pressure of 13.7 bar (200 psi)
- Sliding vane, positive displacement design for consistent performance
- Motor speed operation at 1,450 rpm (50Hz) or 1,750 rpm (60Hz) operation
- LGL I58 suction lift up to 13 feet (4 meters) – smaller pumps have less lift capability
- LGL I54 & I56 Models designed to allow use of single phase motors
- Cavitation suppression liner
- Replaceable liner and discs
- Ductile iron construction
- Flanged inlet and outlet connections
- Factory ISO-9001 certified

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LGL I54



LGL I58A



### Pump Specifications

Pump Model	Maximum Speed	GPM (L/min)	HP (kW)	Maximum Differential Pressure	Recommended Bypass Valve Setting	Relief Valve Setting	Maximum Working Pressure
LGL I54	1,750	11.2 (42.4)	3 (2.2)	140 PSI (9.6 bar)	140 PSI (9.6 bar)	225 PSI (15.5 bar)	425 PSI (29.3 bar)
LGL I56	1,750	21 (79.5)	4.9 (3.6)	160 PSI (11.0 bar)	160 PSI (11.0 bar)	225 PSI (15.5 bar)	425 PSI (29.3 bar)
LGL I58	1,750	32.3 (122)	6.5 (4.8)	200 PSI (13.8 bar)	200 PSI (13.8 bar)	225 PSI (15.5 bar)	425 PSI (29.3 bar)

### DM Drive Style

Direct Motor Drive

Base mounted units are available, complete with pump, coupling and coupling guard, mounting on a common base, ready to accept a standard NEMA motor. DM units are available with and without electric motors.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# High Flow Bypass Valve for Dispensing Applications

## High Flow Bypass Valve Features

- Ductile iron body and bonnet construction
- Large range of set pressure springs
- Two 1/4" FNPT plugged auxiliary pressure ports (outlet side)
- Stainless steel main valve poppet
- Heavy duty protective stem cap
- Available in 3/4" & 1" FNPT threaded versions
- Factory set at 125 PSI
- Durable powder coat finish

Intended for use in small cylinder filling applications as a bypass and primer valve for turbine style dispensing pumps. These bypass valves feature a special "check ball" mechanism that helps eliminate vapor from liquid while keeping the pump flooded and properly primed. The priming and vapor elimination features in combination with the high flow bypass design significantly reduces pump wear and promotes seal longevity.



PM

ME840-6/150

Part No.	Description	Standard Spring Range*
<b>ME840-6-150</b>	3/4" FNPT High Flow Bypass Valve	50-150 PSI
<b>ME840-8-150</b>	1" FNPT High Flow Bypass Valve	50-150 PSI

\* Alternate spring ranges available. Please see replacement parts section in back of catalog

# High Flow 3" Bypass Valve for Plant Applications



ME840-24-100

Specifically designed for plant systems where maximum bypass flow is necessary to protect the pump from rapid pressure changes or over pressurization. Perfectly suited for 4" base mount pumps or larger pump applications.

## 3" High Flow Bypass Valve Features

- Ductile iron body and bonnet construction
- All stainless steel internal wetted components
- Bonnet / seat positioned at 35° angle for maximum product flow
- Downstream bleed port to boost product flow during bypass
- Two 1/4" FNTP plugged auxiliary pressure ports
- Heavy duty protective stem cap
- Factory set at 100 PSI
- Durable powder coat finish

Part No.	Description	Standard Spring Range*	
<b>ME840-24-100</b>	3"FNPT high flow bypass valve	0-100 PSI	
<b>Parts and Accessories</b>			
<b>ME840-24K</b>	3"complete bypass repair kit - less spring (Major Kit)		
<b>ME840-24SRK</b>	3" bypass seal repair kit (Minor Kit)		
<b>ME840-24-105-100</b>	3" bypass valve spring 0-100 PSI		
<b>ME840-24-105-200</b>	3"bypass valve spring 100-200 PSI		
<b>Flow Range Minimum and Maximum Flow Rating* - GPM (water) @</b>			
Part No.	Pressure	Min. Flow (GPM/Water)	Max. Flow (GPM/Water)
<b>ME840-24-100</b>	125	451	1,038

\* Alternate spring ranges available.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# High Flow Bypass Valves for Bobtail Truck/ Plant Applications



These bypass valves are specifically designed to protect truck and plant pumps from damage due to excessive pressure while providing the industry's best bypass flow rates across a full range of set pressures. They feature wide open flow channels with an orifice weep hole chamber to prevent the valve from slamming open / closed. The weep hole chamber also helps prevent valve seat chatter by allowing constant pressure communication between both the upstream and downstream side of the seat.

## High Flow Bypass Valve Features

- All ductile iron body and bonnet
- All stainless steel wetted components
- Heavy duty protective stem cap
- Wide open flow channels for industry best flow rates
- Orifice weep hole to maintain constant pressure above and below valve seat
- Large range of set pressure springs
- Weldable steel NPT and socket weld flanges
- Zinc dichromate finish for maximum corrosion resistance
- Available with or without flanges factory assembled
- Flanges available 1-1/4" through 2" NPT and socket weld construction
- Universal 4 bolt, flanged body configuration
- Two 1/4" FNPT plugged auxiliary pressure ports
- Factory set at 125 PSI



ME840-16/125

Part No.	Description	Standard Spring Range*
<b>ME840-10-125</b>	1-1/4" FNPT High Flow Bypass Valve	90-125 PSI
<b>ME841-10-125</b>	1-1/4" Socket Weld High Flow Bypass Valve	90-125 PSI
<b>ME840-12-125</b>	1-1/2" FNPT High Flow Bypass Valve	90-125 PSI
<b>ME841-12-125</b>	1-1/2" Socket Weld High Flow Bypass Valve	90-125 PSI
<b>ME840-16-125</b>	2" FNPT High Flow Bypass Valve	90-125 PSI
<b>ME840C-16-125</b>	2" FNPT Classic Flow Bypass Valve	90-125 PSI
<b>ME841-16-125</b>	2" Socket Weld High Flow Bypass Valve	90-125 PSI
<b>ME840-125</b>	1-1/4" -2" Universal High Flow Bypass w/o Flanges	90-125 PSI

\*Alternate spring ranges available.

Universal Flange Kits	
Part No.	Description
<b>ME840-10F</b>	1-1/4" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>ME841-10F</b>	1-1/4" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>ME840-12F</b>	1-1/2" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>ME841-12F</b>	1-1/2" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>ME840-16F</b>	2" FNPT 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>ME841-16F</b>	2" Socket Weld 4 Bolt Flange Adapter Plate w/ Bolts & O-Ring
<b>MEP840-10</b>	1-1/4" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring
<b>MEP841-10</b>	1-1/4" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring
<b>MEP840-12</b>	1-1/2" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring
<b>MEP841-12</b>	1-1/2" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring
<b>MEP840-16</b>	2" FNPT 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring
<b>MEP841-16</b>	2" Socket Weld 4 Bolt 90° Flange Adapter Elbow w/ Bolts & O-Ring

PM



**ZV200**

Tank and station-ary pump by-pass

**T166 BY-PASS**



Differential by-pass with pressure sensing line from storage tank for true differential control.

**BI77 BY-PASS**

The new ZV200 is a low-pressure build-up bypass valve designed for applications requiring protection for positive displacement pumps. Specifically designed for protecting pumps with capacities up to 250gpm (946L/min). The continuous internal bleed will assist in the operation of systems with "air" or "electric" operated internal valves. Typical applications include bobtail, transport and stationary loading and unloading of LPG, NH3 and other light liquids.



PM

## Corken Bypass Valves

Part Number	Size	PSI Range	Description
<b>B166-.75</b>	3/4"	50 - 150	Vapor elimination for all
<b>B166-1</b>	1"	50 - 150	
<b>T166-1.25</b>	1 1/4"	50 - 150	Modulating Flo-Control Valve
<b>T166-1.5</b>	1 1/2"	50 - 150	
<b>B177-2</b>	2"	30 - 80	Differentiating by-pass with pressure sensing line from storage
<b>B177-2.5</b>	2 1/2"	80 - 160	
<b>ZV200</b>	2"	91 - 125	Truck Applications

Notes: For B166 Repair Kit order B166 RPR Kit



**BI66-.75**

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Bypass Valves and 4-way Valve



*Blackmer*

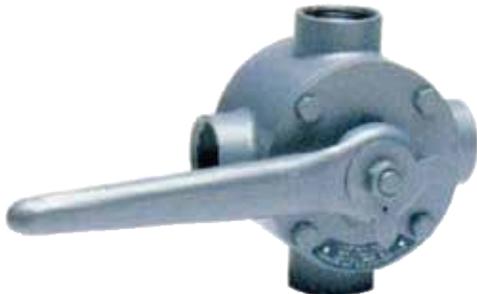


PM

BVI 1/4

## Blackmer Bypass Valves

Part No.	Body Size	Pump Size	Set PSI	PSI Range	Cap. GPM
<b>BV 1</b>	1" NPT	1 1/4" - 1 1/2"	95	70 - 100	50
<b>BV 1 1/4</b>	1 1/4" NPT	1 1/4" - 2"	115	90 - 125	125
<b>BV 1 1/2</b>	1 1/2" NPT	2" - 3"			
<b>BV 2</b>	2" NPT	3" - 4"	95		



3989X

## 4-Way Valve

Part No.	Size
<b>3989X</b>	1"
<b>3990X</b>	1 1/4"

Non-lubricated full port design.  
Carbon steel construction

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## Selection Guide

**Model BV0.75** (ports are 3/4-inch NPT tapped)  
**Model BV1** (ports are 1-inch NPT tapped)

These models are commonly used for cylinder-filling system. Either valve can be used with 1.25 or 1.5-inch Blackmer pump models.

**Model BV1.25** (ports are 1-1/4-inch NPT tapped)  
**Model BV1.5** (ports are 1-1/2-inch NPT tapped)

These models are normally used for bobtail trucks and smaller bulk plant systems. Either valve can be used with 2 or 3-inch Blackmer pump models. Both valves are available with optional springs for use with the LGL 158 or LGLH2.

**Model BV2** (ports have 2-inch NPT companion flanges, 1-1/4-inch and 1-1/2-inch NPT and WELD bolt-on flanges are available)

The BV2 model is widely used for transports or larger bulk plant systems. It is recommended for use with 3 and 4-inch Blackmer pump models. The BV2 is factory set at 125 psi.



Blackmer differential bypass valves are designed to protect pumps and system components from excessive pressure damage, and no LP gas pump installation is complete without one. Blackmer offers five different models that provide

full-flow pressure control to 250 U.S. gpm (946 L/min) at 120 psid (8.27 Bar). Installation is easy with NPT tapped ports in sizes from 3/4" to 2". All models are suitable for both LP gas and anhydrous ammonia service.

## Technical Assistance

In some applications, selecting the right pump or compressor may require more detailed information than can be presented in this bulletin. Your Blackmer representative can help you find the correct equipment to ensure the best performance possible for your specific application.

If you have a unique gas or fluid handling problem, please contact Blackmer at the telephone or fax number listed below.

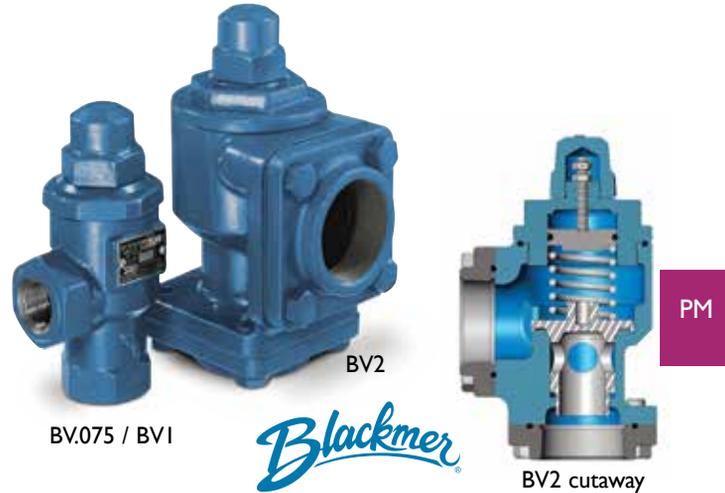
View maintenance and training videos online at <http://www.youtube.com/BlackmerGlobal/>.

In operation, Blackmer valves provide exceptionally close pressure control, even under widely varying bypass flow

## Maximum flow through valve

Model	Maximum Rated Flow* - gpm (L/min) @			
	20 psi (1.38 Bar)	50 psi (3.45 Bar)	80 psi (5.52 Bar)	120 psi (8.27 Bar)
BV0.75 / BV1	25 (95)	40 (151)	50 (189)	60 (227)
BV1.25 / BV1.5	60 (227)	80 (303)	100 (379)	125 (473)
BV2	150 (568)	180 (681)	220 (833)	250 (946)

# Blackmer Bypass Valves Precise, On-Line Pressure Protection



\*Normal maximum bypass flow rates without significantly exceeding the set pressure limit.

conditions. The performance curve in Figure 4 below shows how a Blackmer valve maintains a virtually constant pressure of 100 psi (6.89 Bar) even as the volume being bypassed rises from 10 gpm to 100 gpm (38-378 L/min). Although the curve is that of a BV1.5" valve, the precision it demonstrates is typical of any Blackmer valve.

Blackmer bypass valves have no small, easily plugged, sensing passages; and with only two moving parts, their operation is simple and reliable. They open precisely at the preset spring pressure, and they close smoothly and quietly, thanks to a patented dash-pot design. As shown in Figure 5, a small chamber in the valve stem fills with liquid when the valve opens. This liquid then provides a hydraulic cushion preventing the valve from slamming shut if pressure is suddenly released. It also minimizes chatter and valve seat wear when pressures hover around the crucial limit.

The BV0.75 , BV1, BV1.25, and BV1.5 are all UL Listed for 200 PSI.

FIGURE 4. Bypass volume/pressure curve BV1.5

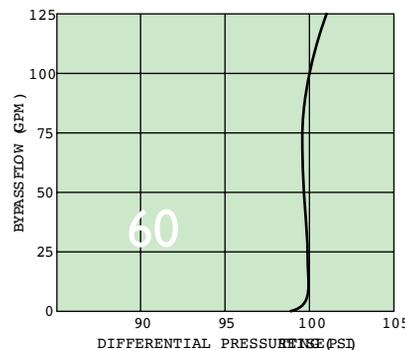
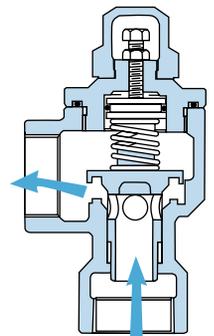


FIGURE 5. Bypass valve operation



Dash-pot chamber cushions closing of valve



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# Corken Compressors, Repair Parts, Exchange Program



PM

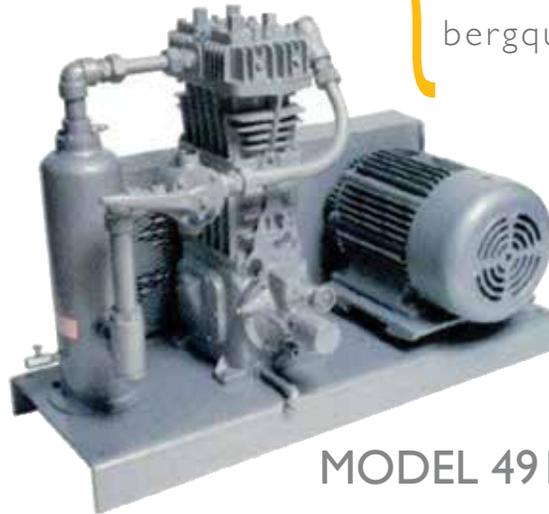
Corken compressors are extremely versatile. They can be used to transfer liquids between tanks, off-load liquids, recover residual vapor, and evacuate vapors for maintenance purposes.

For compressors, compressor service, parts or additional information, please call Bowling Green, KY Warehouse. 800-448-9504

Compressor repair and return program also available at Bergquist Inc. Bowling Green, Kentucky facility.

## Compressor Exchange Program

- 6 Month Warranty
1. Order the like model of the down compressor
  2. Bergquist will immediately ship the exchange compressor to you
  3. Ship the down compressor to Bergquist, Bowling Green, KY
  4. If core is rebuildable, credit will be issued for core charge included in price of rebuilt compressor.
- Repair & return service is also available.



MODEL 49I-107

**CORKEN**

## Compressor Selection Chart

Model	Capacity GPM	Horsepower Required
9I	44	5
29I	77	7 1/2
29I	88	10
49I	110	10
49I	198	15
69I	265	20
69I	330	30

**Add 107** to the model number to include the following: complete gas compressor bulk plant unit with pressure gauges, steel baseplate, liquid trap, 4-way valve, relief valve, strainer, interconnecting piping, adjustable driver slide base, V-belt drive and enclosed belt guard - ready to receive an electric motor driver.

## Corken Compressor Repair Kit

Model #	Kit #
9I	<b>3549X1</b>
29I	<b>3550X</b>
49I	<b>3551X1</b>
69I	<b>3552X2</b>

### Corken Compressor Repair Parts

We have a full line of **single stage compressor** parts for models 29I, 49I, and 69I to include valves, piston rings and expanders, packings, packing nuts, crossheads, wrist pins, bushings, crankshafts, oil pumps, bushings, springs, gasket sets, etc. We also have several parts available for **two stage compressors**: 19I, 39I, and 59I compressors. Please call **1-800-448-9504** for further assistance. Complete model and serial # will be helpful for a quicker response.

*Note: Repair kits include valves, piston rings, packing, rod bearings and gaskets.*

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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PM

**BALDOR**  
MOTORS AND DRIVES

## Three Phase Baldor Explosion Proof Motors

Part Number	H.P.	RPM	Volts	Frame	Full Load Amps	Weight
<b>EM7018T-I</b>	1 1/2	3450	230/460	143T	2.1	42
<b>EM7042T-I</b>	3	1725	230/460	182T	4.1	105
<b>EM7044T-I</b>	5	1725	230/460	184T	6.7	120
<b>EM7072T-I</b>	5	3450	230/460	184T	5.6	85
<b>EM7047T-I</b>	7 1/2	1725	230/460	213T	10.2	177
<b>EM7170T-I</b>	10	1725	230/460	215T	14.2	225
<b>EM7174T</b>	10	3450	230/460	215T	11.6	236
<b>EM7054T-I</b>	15	1770	230/460	254T	18	347
<b>EM7056T-I</b>	20	1760	230/460	256T	24	365
<b>EM7058T-I</b>	25	1775	230/460	284T	30.8	454

Note: (I) truck loading facilities where motors may run intermittently. Also, applications where explosion-proof motors are installed outdoors, exposed to the environment, and may not be operated for extended periods of time.

# Motors, Single Phase

PM



## Single Phase Baldor Explosion Proof Motors

Part Number	H.P.	RPM	Volts	Frame	Fold Load Amps	Weight
<b>VL5023A *</b>	1	1725	115/230	56C	6.5	54
<b>VL5024A *</b>	1 1/2	1725	115/230	56C	8	76
<b>L5030T</b>	1 1/2	3450	115/230	143T	7.5	56
<b>L5018</b>	3	1725	115/230	215	15	152
<b>L5028T</b>	3	3450	115/230	184T	14.5	84
<b>L5020</b>	5	1725	230	215	21	166

\* C faced motors for Blackmer pumps

Note: Corken F & FF model pumps use 3450 RPM

**CORKEN**



PM

Part Number	Description			Mount
	HP	RPM	Phase, Volt	
<b>6007-2C2BI</b>	3	3600	3 phase 230V	182T
<b>6008-1C2BI</b>	5	1800	3 phase Exp. proof	184T
<b>6008-1C7AI</b>	5	1800	Single phase, 230V Exp. proof	213
<b>6008-2C2BI</b>	5	3450	Single phase 230/460V 60HZ Exp. proof	184T
<b>6008-2C7AI</b>	5	3450	Single phase, 115/230V 60HZ	215T
<b>6009-1C2BI</b>	7.5	1800	3 phase Exp. proof	213T, base mont
<b>6009-2C2BI</b>	7.5	3600	3 phase XP Motor	213T, base mount
<b>6010-1C2BI</b>	10	1750	3 phase 230/460V 60HZ	215T, Frame
<b>6010-2C2BI</b>	10	3540	3 phase 230/460V 60HZ	215T
<b>6011-2C2BI</b>	15	3600	XP Motor	256T
<b>6013-1C2BI</b>	25	1800	3 phase 230/460V XP Motor	284T
<b>6037-2C1AI</b>	3	3450	Single phase, 230V C-Face	-
<b>6038-2C2BI</b>	5	3600	3 phase 230/460V 60HZ C-Face	184T
<b>6038-2C7AI</b>	5	3600	Single phase 230/460V 60HZ C-Face	213T Frame
<b>6039-2C2BI</b>	7.5	3600	3 phase 230/460V 60HZ	213TC Frame
<b>6040-2C2BI</b>	10	3600	3 phase 230/460V 60HZ	215TC Frame
<b>2557</b>	3	-	C14 Coro-Flo Motor 50/60 HZ	-
<b>4261</b>	2	3600	220V Single phase, C-Face Coro-Flo Motor	-

# Krug Compressors and Hand Pumps



PM

## H50G

### Tank Evacuation Vapor Compressor

The Krug compressor transfers liquid by increasing vapor pressure in the tank being emptied, and decreasing vapor pressure on the tank being filled. A separate hose transfers the free flowing liquid.

Note: Check the compressor crankcase oil before each use. The compressor requires 5/8 of a pint of SAE 40 oil, 1" on the dipstick. Low or no oil may damage the compressor.

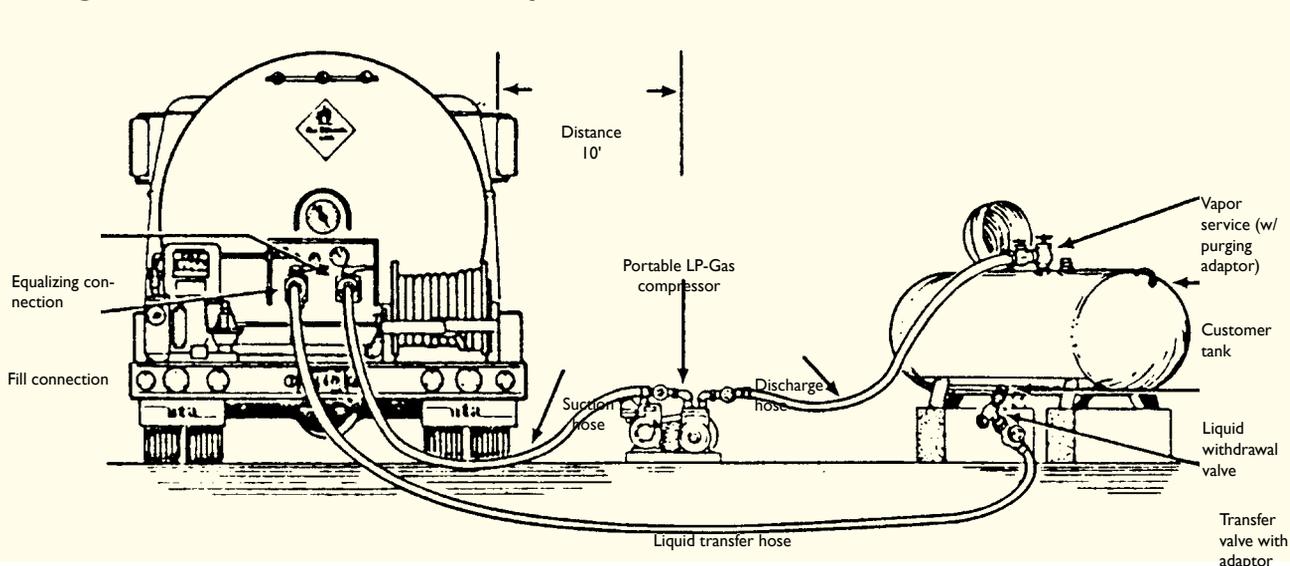
### Tank Evacuation Vapor Compressor

Part No.	Engine Fuel	Inlet/Outlet
<b>H50LPH</b>	Propane	1/2" FNPT
<b>H50GH</b>	Gasoline	
<b>760001</b>	Compressor Only	

### Krug Compressor Hose Kit

Part No	Kit Contains
K-K2	Vapor lines & connectors include: 2 - 13ft 1/2" vapor hoses with 1/2 MNPT connections 2 - 1/2" ball valves 1 - 1 1/4" female acme coupling 1 - 1 3/4" female acme coupling 1 - 1 1/4" female acme x 1 3/4" male acme adaptor 1 - POL fitting with 1/4" brass elbow & 0-300 pressure gauge to monitor differential pressure between tanks
	Liquid line & connectors include: 25' of 3/4" liquid hose with 1 3/4" female acme couplings 1 - ME449 liquid transfer valve with adaptor

## Using A Portable LP-Gas Compressor



Simple piston hand pump for use in filling portable and motor fuel cylinders. Six gallon capacity at 40 strokes per minute.

### Krug Hand Pump

Part No.	Inlet	Outlet
<b>760002</b>	1"	3/4"
<b>M7A</b>	Shaft packing only	

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

RL100108A12



Note: 3/4" and 1" meters are used in dispensers. Both have 3/4" FNPT flanges. The 1" meter is the newer version with higher volumn. Read the data plate to verify which meter you have.

MT

## Neptune Liquid Meters

Part Number	In/Out Size	Min/Max Gal/Min	Register	Temperature Compensation
<b>RL100108A12, 1"</b>	3/4" FNPT	3-18 GPM	600 (AAAAD)	No
<b>RL100118A23</b>	3/4" FNPT		600 (AAAAD)	Yes
<b>RL12521RGDI</b>	1 1/4" FNPT	5-30 GPM	833-0	
<b>RL15021RGDI</b>	1 1/2" FNPT	12-60 GPM		
<b>RL20021RGD2</b>	2" FNPT	20-100GPM		
<b>RL2002N21RGD2*</b>	2" FNPT			

\* Ductile iron body, all others are aluminum

## Common Neptune Replacement Parts

Meter Size	Gear Train	Chamber	Main Case Gasket	Differential Diaphragm	Strainer
<b>3/4"</b>	080905-012	042075-101	004861-016	100028-001*	087185-000
<b>1"</b>	080905-017	001748-001	004861-016	100028-001*	101738-001
<b>1 1/4"</b>	083501-000	043260-101	004862-008	1000624	101433-704
<b>1 1/2"</b>	084981-000	083271-101			101405-004
<b>2"</b>	083502-000	045806-101	084806-000		

\* Replacement differential valve

Note: More parts available, check with inside sales

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



neptune

100498-016

MT

**Neptune 600 Series Mechanical Registers**  
The 600 series Register is mechanically driven designed for easy adaptation to a local or remote batching and recording system. The 600 series register offers a 5 digit delivery quantity reset similar to the Models 831/841 and an 8 digit non-resettable totalizer. It is fully mechanical and does not offer mechanical preset or ticket printing options.

**600 Series Register Features**

- Five digit roller type reset wheels, with 3/4" numerals for ease in reading up to 10-15 feet away
- Eight small non-resettable totalizing wheels mounted at the top right of the register front serve as an odometer
- Low profile for ease in retro fit installations
- Light weight, heavy gauge steel outer casing
- Ability to mount all digital and analog pulse transmitters, calibrated output
- Available in US and Imperial gallons, litres, decalitres, pounds and kilograms

**Neptune 800 Series Mechanical Registers**  
The 800 series register is the latest of four multi-function devices specifically designed for petroleum distribution and industrial process industries. Some models allow automatic preset deliveries via mechanical valve and Weights and Measures approved ticket printing.

**Models**

The 800 Series Registers consist of the Model 830 Series and the Model 840 Series. Model 830 Series registers are in tenths and the Model 840 Series registers are in units.

Models 831 and 841 are direct reading resettable registers with the basic non-resettable totalizer.

Models 832 and 842 are the basic 830 and 840 features plus a preset register that provides automatic deliveries. The operator sets the register for the desired quantity from the front panel. The flow will cut off automatically at the exact volume desired when used in conjunction with either a mechanical valve or a solenoid actuated valve. There are two preset models available, a single trip for one stage shutoff or a double trip for two stage shutoff (delivery decreases, then the final shutoff stops the delivery).

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

880030-000



Models 833 and 843 are the basic 830 and 840 features plus a printer register that prints a receipt or ticket showing the readings before and after delivery. The register locks the ticket during delivery to prevent fraud. Providing two letter wheels in the register makes it possible to print a letter code on the ticket to identify the flowmeter or truck. These letter wheels can print any single letter or combination of two letters from A to J, omitting I. Additionally, three serial number wheels are provided in the register to number each ticket consecutively from 000 to 999. There are four printer models available:

- Accumulative Face Up (most commonly used): Prints beginning reading and the final reading
- Accumulative Face Down (for outside use): Prints beginning reading and the final reading
- Zero Start Face Up (for larger deliveries): Prints all zeros and the actual delivery
- Zero Start Face Down (for larger deliveries): Prints all zeros and the actual delivery

Models 834 and 844 are printer-preset registers that combine the features of the other registers. They contain the preset quantity control plus the printed ticket features.

### 800 Series Register Features

- Standard eight digit non-resettable totalizer, five digit delivery display, four preset and five or six digit printer
- Measurement in Gallons, tenths of gallons, litres, dekalitres, pounds and kilograms
- High visibility 3/4" wheels
- Long life, precision die cast Zamac printer wheels provide clear, sharp, easy to read tickets
- Exchange Register Program

MT

Bergquist offers an exchange program where you can trade in an old 433, 600 or 800 series register for a rebuilt unit. This program is an economical way to refurbish your registers.

## Neptune Registers

Part Number	Model	Description
<b>100498-009</b>	600AEAAD	Reset register, 3/4" 4D only
<b>100498-016</b>	600AAAAD	Reset register, 3/4" 4D only
<b>100198-018</b>	600AAAAF	Reset register, 1" 4D with ATC only
<b>601010-000</b>	n/a	Electronic register, 1" RL100
<b>880010-025</b>	831-00	Reset register   1/4" - 2"
<b>880030-000</b>	833-0	Reset register   1/4" - 2"
<b>833EXCH</b>	833-0	Reset register   1/4" - 2", Rebuilt

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## Positive Displacement Meter - MA7

A new standard for LPG custody transfer accuracy. No metal-to-metal contact provides the longest, most reliable service in the industry. Compact, cost efficient package offers greater mounting flexibility. Accessories include vapor eliminator and strainer with 100-mesh or 200-mesh screen, diaphragm valve, choice of mechanical or electronic registration with optional temperature/volume compensation.

MA-7 Meters in class 10 construction are designed for LPG truck and bulk loading applications (UL Listed):

- Capacity: 100 GPM (380 L/min.) Class 12 construction for NH<sub>3</sub> (Anhydrous Ammonia) service available upon request.
- Choice of 2" NPT standard, 1 1/2" optional companion flanges.

LectroCount is an electronic register that replaces the mechanical register, calibration gears and/or adjuster mechanism traditionally used on many flow meters.

Weights & Measures (custody transfer) approved advanced microprocessor based electronic registration, presetting and printing control systems. LectroCount is designed to meet - even adapt to - your flow meter and process control instrumentation requirements. Units are rated NEMA-4 non-incendive Class 1, Division 2, Group C & D.

LectroCount accepts pulse input from most flow meters and includes RS232.485 communications capability.

## Power Requirements

- LectroCount LC<sup>3</sup>, +10 - 18VDC
- LectroCount LCR-II, +9 - 28VDCik



MT

## POSITIVEDISPLACEMENT METER MA-7



## LectroCount TM ELECTRONIC REGISTER

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Veeder-Root, Neptune, Mid:Com Electronic Registers



The Neptune E4000 electronic register automates transaction operations for deliveries of LPG, distillate fuels, and other commercially distributed liquids through flow meters on bulk delivery trucks. Designed for compatibility with emerging automation technologies, the E4000 offers the ability to modernize truck metering operations today and provides a platform for data collection technology tomorrow. Its improved accuracy and efficiency mean less loss, providing a fast return on investment and safeguarding future profits.

### Smarter Today...

- Easy to use, menu driven display
- Start with simple pump and print (imitate your mechanical register)
- Electronic temperature compensation (accurate, rapid response)
- Stand-alone pricing (print invoices directly from the truck)
- Ten products, ten prices
- Configure register from laptop computer

### Smarter Tomorrow...

- Add data collection devices (hand held, laptop, wireless) without the need for additional register hardware.
- No requirement for early commitment to proprietary technology.
- Interface with popular industry office software packages.

## Veeder-Root Registers

Part No.	New/Remanufactured	Reset Knob Location
<b>789002-002</b>	New	Right
<b>R789002-002</b>	Remanufactured	Right
<b>789022-701</b>	New	Left
<b>R789022-071</b>	Remanufactured	Left

## Neptune — Veeder-Root Conversion Adapters

Part No.	Description
<b>I17900-233</b>	Adapter for 1 1/4" thru 2" Neptune w/Temperature Compensation
<b>G310450-422</b>	Gear Plate for 1 1/4" thru 2" Neptune Meter w/Temperature Compensation

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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### Standard Features:

- 99 Products - each with a custom product label, price, two taxes, cash discount and two special charges
- Preset deliveries made by volume or price
- Unlimited presets on each delivery
- Pulse input
- Pulse output
- Backlit display
- 2 auxiliary inputs
- 4 auxiliary outputs
- I/O customized software available
- Volume displayed in Gallons or Litres
- Mass displayed in Pounds or Kilograms
- Display can also show flow rate and total
- Whole unit or 1/10th
- Auto calibration
- Serial port for peripheral connections



## E:Count

New E:Count LT Register - rated Class I Div I - can be used anywhere, including bulk plants.



**789002-002**

**VEEDER-ROOT**  
Petroleum Products

Remanufactured registers may be purchased or be part of the register exchange program; we send you a remanufactured register and you return the old register for a core credit.

A gear plate, adapter and register are needed for conversion



## 8000 COMPUTER PRINTER

**Mid:Com 8000**...adapts to all liquid meters. This New Generation of computer registers makes the job of recording deliveries a snap.

The programed RAM card holds customer information as well as the days deliveries. All the information on this card can be transferred directly into your branch computer each night. The RAM card is about the size of a credit card, it holds an unprecedented 512K of memory to provide hundreds of deliveries with multiple data items. The new 8000 also sports a new printer. Tested and proven in the Mid:Com 6501B, this printer is designed and built for varying requirements of the customer. Of Dot Matrix design, it prints equally well on 2-part or 5-part tickets of NCR or carbon paper copies. Operators find the Mid:Com 8000 easy to operate day after day, or once in a while. The in-cab display directs the operator to the next move or procedure, eliminating confusion.

MT



## ROAD WARRIOR

Road Warrior is the newest on-board computer from Mid:Com. It provides many features and functions that were not available from earlier generations of our computers. The Operating System is Windows CE 5.0 which makes it compatible with many other devices. Readability for the driver is enhanced with a 7" wide screen graphical color display. Account look-up has never been easier with a full alphanumeric keyboard that is sealed from the elements, but offers a tactile response. Accounts can be accessed by Account #, Name, Tank #, Address or Street, Driver #, Route or Notes. Two way communications to other devices via multiple built-in USB or Serial Ports, or Ethernet and CANbus.

Road Warrior is not a general purpose computer, it is built to be an extremely rugged special purpose computer from the one company that has been building on-board systems for trucks since 1975. Mid:Com.

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Since 1933 Hannay Reels has set the standard for quality, service, and delivery. The modern state-of-the-art facility in Westerlo, New York produces over 70,000 reels a year, ranging in size from hand portables to reels over 12 feet in length. The propane delivery reels are now produced in standard painted steel, polished aluminum, or unpolished 304 sst.

**Things to consider when ordering a new reel;**

- 1) Capacity - how many feet of 1" hose do you want on the reel. Typical lengths are 100', 125', and 150' (125' is the most common).
- 2) Which side do you want the 1 1/2" inlet and 12 volt motor located on? (as you look at the reel).
- 3) Do you want an auxillary hand crank?
- 4) Do you want any roller assemblies?
- 5) Would you like the reel to be top wind or bottom wind?
- 6) Would you like a Guidemaster installed?

- Notes:**
- 1.) If you have the model and serial number of a reel you now have and like, Hannay can duplicate it.
  - 2.) "Spool Assembly"...If you want the disc & drum width brackets to fit your old reel, order a spool assembly by model and serial number. Specify how complete you want the assembly - then just drop it in the old frame and piping.

# Hannay Reels and Reel Parts

17.0060

Junction Boxes



Part No.	Description
17.0060	Round Junction Box
17.0030	Square Junction Box

## Circuit Breakers

17.0021



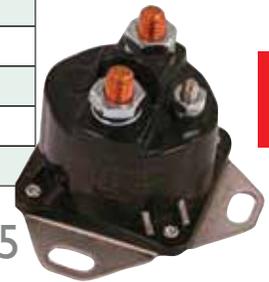
CB-2 (17.0024)



Circuit Breakers

Part No	Description
17.0021	50 Amp Breaker
17.0022	70 Amp Breaker
17.0024	CB-2 Bracket
17.0025	12 Volt Solenoid

17.0025



## Operating Switches For Electric Rewind Reels

EPS-I (NEW STYLE)



Part No.	Description
17.0200	New EPS-1 Switch Complete
17.0207	Bracket New EPS-1 GM700
17.0205	Bracket (Old) EPS-3 GM600
17.0208	Top Side Universal Bracket
17.0004	Capped Push Button Switch
17.0008	Rubber Cap only



EXPB-2A

Part No.	Description
17.0001	Switch Complete - 12 Volt
17.0014	Internal Switch
17.0150	Red Dot Cover/Plunger Assembly



SMAC 112

## Swivel Joint

Part No.	Description
<b>SMAC112</b>	1 1/2, 90° Swivel Joint
<b>SMAC112ST</b>	1 1/2, Straight Swivel
<b>SMAC200</b>	2", 90° Swivel Joint
<b>SMAC200ST</b>	2", Straight Swivel

## Swivel Joint Repair Kits

Part No.	Description
<b>SMAC-112SK</b>	Repair Kit SMAC112
<b>SMAC-200SK</b>	Repair Kit SMAC200
<b>36.0643</b>	1 1/2" & 2" Hannay Kit
<b>36.0630</b>	1 1/2" Chicksan Kit
<b>36.0730</b>	2" Chicksan Kit
<b>38.0042</b>	54 Ball Bearings, 1 1/2" Chicksan
<b>38.0044</b>	48 Ball Bearings, 2" Chicksan

39.0060



39.0041



## Roller Assemblies

Part No.	Description
<b>39.0041</b>	FH338 Roller and Spool
<b>39.0060</b>	Assembly A Straight Roller

Note: Both rollers are stocked at the maximum length - cut to fit your reel. Parts available

RL



2.1400



2.1610

## Bearings

Part No.	Description
<b>2.1400</b>	Back bearing w/ Bracket
<b>2.1500</b>	Back Bearing Only
<b>2.1610</b>	Front Bearing w/Bracket
<b>2.1700</b>	Front Bearing only
<b>54.0022</b>	1-1/2" Hub Space Washer



54.0022



10.1423



15.0003A



38.0051  
14 OZ. TUBE  
OF GREASE

### Sprockets, Motors, Chain and Links

	Part No.	Chain Type	Description	
Motors	<b>15.0003</b>	#35	12V DC 1/2 HP 650 RPM Motor 5/8" Shaft	Flange Mount
	<b>15.0013</b>			Base Mount Motor
	<b>15.0003A</b>			Flange Mount w/ 1 5/16" sprocket
	<b>15.0009</b>	#40 Heavy Duty	12V DC 2/3 HP 500 RPM Motor 5/8" Shaft	Flange Mount
Chain & Links	<b>12.0001</b>	#35	10 ft. Chain with Connecting link	
	<b>12.0010</b>		Connecting Link	
	<b>12.0063</b>	#40 Heavy Duty	4.5 ft. Chain with Connecting Link	
	<b>12.0009</b>		Connecting Link	
	<b>12.0016</b>		Half Link	
Sprockets	<b>10.1118</b>	#35	Motor Sprocket 11 Tooth 5/8" Shaft 1 5/16" Long	
	<b>10.1119</b>		Motor Sprocket 11 Tooth 5/8" Shaft 1 3/4" Long	
	<b>10.1116</b>		Motor Sprocket 11 Tooth 5/8" Shaft 3/4" Long	
	<b>10.1423</b>		Drum Sprocket 138 Tooth	
	<b>10.0917</b>	#40 Heavy Duty	Motor Sprocket 9 Tooth 1 5/16" Long	
	<b>10.3121</b>		Drum Sprocket 104 Tooth	

RL

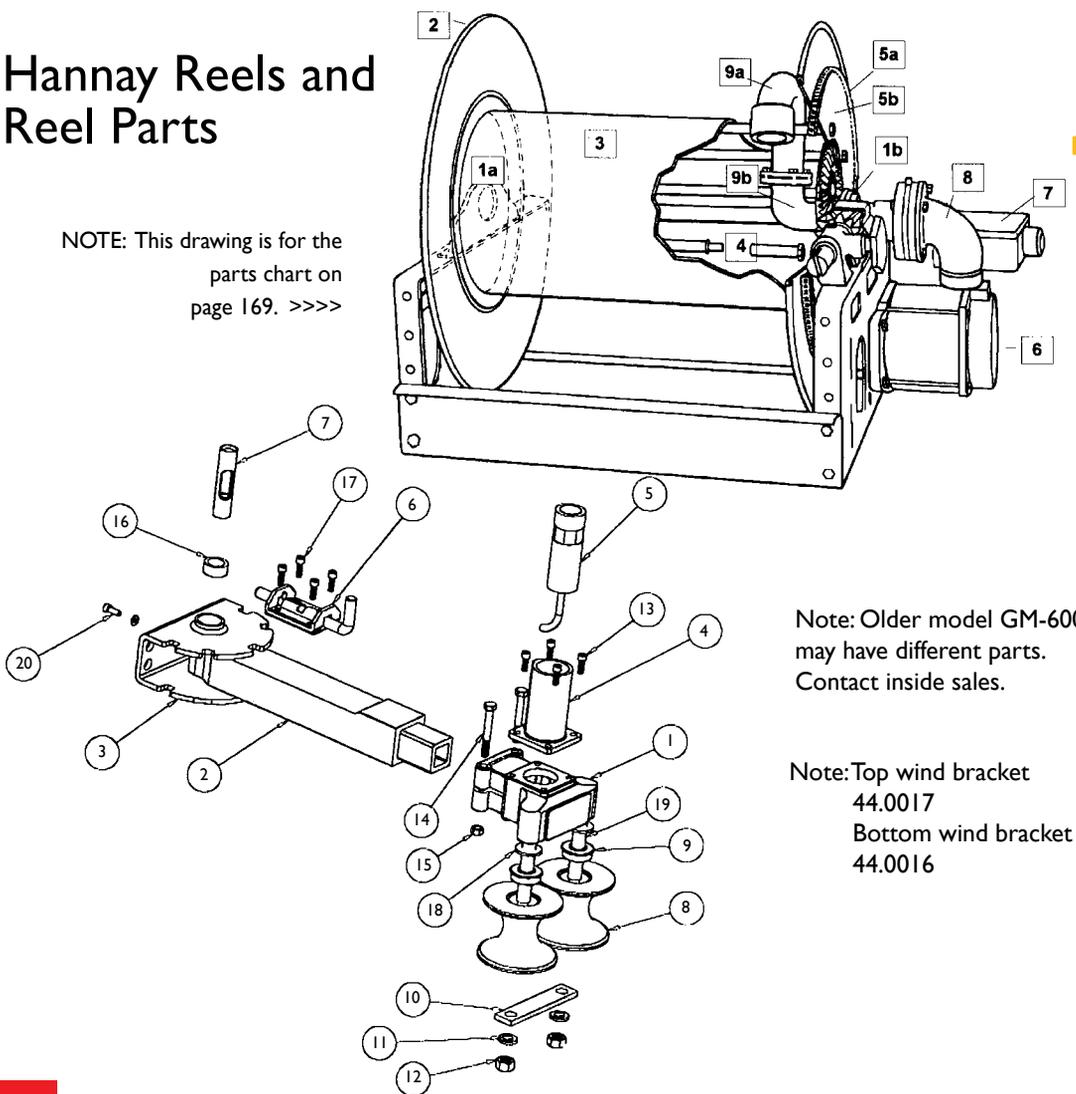
Note - Upgrade kit to heavy duty chain #40 (part number 20.3001) includes disc, motor sprockets, chain, carriage bolts & nuts as needed. Must specify model and serial number of reel being upgraded. Does not include motor.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Hannay Reels and Reel Parts



NOTE: This drawing is for the parts chart on page 169. >>>>



Note: Older model GM-600 may have different parts. Contact inside sales.

Note: Top wind bracket 44.0017  
Bottom wind bracket 44.0016

RL



Part Number	Drawing No.	Description	Quantity
45.1001	1	Roller Body Casting w/Mounting Bolts (for GM-700)	1
45.1002	2	Guide Arm Casting (for GM-700)	1
45.0009	3	Mounting Yoke with Bronze Bushings	1
17.0207	4	Switch Mounting Bracket (for GM-700)	1
17.0200	5	EPS-I Explosion-Proof Switch	1
45.1003	6	Guidemaster Pinlock Assembly, S/S (GM-700)	1
45.0024	7	SST Pivot Pin (with 1/4" cap screw and lock washer)	1
45.0019	8	GM-609 Roller (with 2 Pressed-in Ball Bearings)	2
45.0026	9	GM-608 Ball Bearing	4
45.1004	10	Guidemaster Bottom Roller Plate (for GM-700)	1
54.0030	11	1/2" Lock Washer	2
54.0036	12	1/2"-13 Hex Nut	2
45.0015	13	1/4"-20 x 3/4" Socket Head Cap Screw	4
45.0013	14	5/16-24 x 2 1/2" Plater Bolt with Nut	2
45.0027	15	5/16"- Hex Nut	2
45.0011	16	Oil-impregnated Bronze Bushing for Yoke	2
45.0015	17	1/4"-20 x 3/4" SST Socket Head Cap Screw	4
54.0008	18	1/2" Flat Washer	2
45.1005	19	Roller Mounting bolt (threaded) for GM-700	2
45.0055	20	1/4"-20 x 5/8" SST Socket Head Cap Screw and Lock Washer	2

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## Hannay Parts

<b>#1 Bearings</b>	
1a Back Bearing	2.1400 Bearing complete w/bracket
	2.1500 Bearing only
1b Front Bearing	2.1610 Bearing complete w/bracket
	2.1700 Bearing only
<b>#2 Disc</b>	
2	Call for assistance. Need model # of reel or diameter of disc.
<b>#3 Drum</b>	
3	Call for assistance. Need model # of reel or length of drum.
<b>#4 Carriage Bolts w/nuts</b>	
4 Sized 1 2/2" OAL longer than drum length.	4.0226 15" long
	4.0229 17" long
	4.0232 19" long
	4.0235 21 1/2" long
	4.0238 23 1/2" long
<b>#5 Chain/Sprocket</b>	
5a Chain	12.0001 #35 Chain w/link
	12.0009 #40 Chain connect link
	12.0010 #35 Chain connect link
	12.0016 #40 Half Link
	12.0063 #40 Chain 4.5 ft use with 104T sprocket on pressed frame
5b Sprocket/Drive	10.1423 138 tooth sprocket
	10.3121 104 tooth sprocket, 16.65" diameter
5 Sprocket/Motor (Not Shown)	10.1011 9 tooth x 1" long...1/2" shaft
	10.1116 11 tooth x 3/4" long...5/8" shaft
	10.1117 11 tooth x 1 1/6" long...5/8" shaft
	10.1118 11 tooth x 1 5/16" long...5/8" shaft
	10.1119 11 tooth x 1 3/4" long...5/8" shaft
	10.0917 9 tooth, #40 chain sprocket, 1 5/16" long
<b>#6 Motor</b>	
6 Motor	15.0003A Flange mount, 1/2 HP w/sprocket
	15.0009 SX-043 12V DC Flange mount, 2/3 HP 500 RPM, SS shaft
	15.0013 Base mount, 1/2 HP, without sprocket
	16.0070 Set of 2 brushes
<b>#7 Junction Box</b>	
7 Junction Box	17.0030 Junction box - complete - square
	17.0060 Junction box - complete - new style
<b>#8 Swivel Joint</b>	
8 Swivel Joint	SMAC112ST 1 1/2" Straight (Smith)
	SMAC112 1 1/2" 90 Ell (Smith)
	31.4521 2" 90 Ell (Hannay)
	112 Roto Seal
	SMAC112 1 1/2" 90 Ell (Smith)
	SMAC112ST 1 1/2" Straight (Smith)
	SMAC200 2" 90 Ell (Smith)
	SMAC200ST 2" Straight (Smith)
8 Swivel Joint Repair Kit	36.0630 1 1/2" Chicksan
	36.0643 1 1/2" & 2" Buna N Pac/ for LP only
	36.0730 2" Chicksan
<b>#9 Hub Assembly</b>	
9a Hub Riser	1.2460 1" FNPT
	65.0021 Riser gasket
9b Hub (see insert at left)	1.3640A 13 1/2" B dimation
	1.3640B 15 1/2" B dimation
	1.3640C 17 1/2" B dimation
	1.3640D 20" B dimation
	1.3640E 22" B dimation

RL

# Carburetion Equipment



**CA300A50-2**  
 PRIMARILY USED ON DUAL  
 FUEL APPLICATIONS



Equipment and parts by Impco, Century, Garretson, Beam, J&S, and Gann.  
 Complete conversion kits available.

## Impco Dual Fuel Mixers

**CT425M2**  
 TAMPER RESISTANT



## Impco Dual Fuel Mixers

Part Number	Description
<b>CA300A-20M-2</b>	Mixer/Dual Fuel
<b>CA300A50-2</b>	Mixer/Dual Fuel
<b>CA300AM-70-2</b>	Mixer/Dual Fuel
<b>CT425M2</b>	Propane Only

## Mixer Subassemblies



**AVI-16-2**



**ADI-28**

## Mixer Subassemblies

Part Number	Description
<b>ADI-28</b>	Idle Diaphragm for CA & CT 425 Mixer
<b>AVI-16-2</b>	Air Valve & Diaphragm for CA & CT 425

## Converters

CB

**2504A**



**EB2**



**SV**



## Converters

Part Number	Description
<b>EB2</b>	IMPCO Converter 325 H.P.
<b>JB-2</b>	IMPCO Converter 100 H.P.
<b>LB-2</b>	IMPCO Converter 325 H.P.
<b>1477B</b>	Century Model "H", 136 H.P. Max.
<b>2335B</b>	Century Model "G85", 85 H.P. Max
<b>2504A</b>	Century Model "M6", 350 H.P. Max
<b>SV</b>	IMPCO Start Assist Valve Subassembly

170

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## Fuellocks

Part Number	Description
<b>VFF30-2</b>	IMPCO Filter/Fuellock 325 H.P. (Propane)
<b>ET98-50362-001</b>	Century 12 Volt Fuellock (Propane)
<b>2314</b>	Century 12 Volt Gasoline Fuellock



VFF30-2

## Impco Repair Kits

Part Number	Description
<b>FI-10</b>	VFF30-2 Replacement Filter
<b>RKVFF30-2</b>	VFF30 Series Repair Kit
<b>RKE2</b>	Model "E" Converter Kit
<b>RKJ2</b>	Model "J" Converter Kit
<b>RKL2</b>	Model "L" Converter Kit
<b>RK300MI-1/20-2</b>	Minor Kit
<b>RK300MI-50-2</b>	Minor Kit
<b>RK300MA-1/20-2</b>	Major Kit
<b>RK300MA-50/70-2</b>	Major Kit

## Impco Repair Kits



RKE2



FI-10

## Century Repair Kits

Part Number	Description
<b>286-1794</b>	Model 2384B Filter Kit
<b>286-1301</b>	Model "H" Minor Kit
<b>286-1332</b>	Model "M5" Minor Kit
<b>286-1554</b>	Model "G85" Minor Kit
<b>286-1688</b>	Model "M6" Minor Kit
<b>323-529</b>	12 Volt coil 2384 assembly

## Century Repair Kits



286-1794

CB

## Misc. Carburetion Equipment

### Misc. Carburetion Equipment

Part Number	Description
<b>#6</b>	5/16" Steel Braid Liquid Fuel Line
<b>VH100</b>	1" Vapor Carb Hose "Skunk Hose"
<b>TB2</b>	Horizontal Bracket, 33#/43#
<b>TB2-60</b>	Toggle Nut & Washer



#6



VH100



TB2

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Acme Adapters



## Brass Male Acme X MNPT Adapters

ME503-16



Marshall Excelsior Part No.	Description
<b>ME498-4/2*</b>	1 1/4" M.Acme x 1/2" MNPT x 1/4" FNPT Adapter
<b>ME498-6/3*</b>	1 1/4" M.Acme x 3/4" MNPT x 3/8" FNPT Adapter
<b>ME215</b>	1 3/4" M.Acme x 3/4" MNPT Adapter
<b>ME216</b>	1 3/4" M.Acme x 1" MNPT Adapter
<b>ME217</b>	1 3/4" M.Acme x 1 1/4" MNPT Adapter
<b>ME233</b>	2 1/4" M.Acme x 1 1/4" MNPT Adapter
<b>ME502-12/8*</b>	2 1/4" M.Acme x 1 1/2" MNPT x 1" FNPT Adapter
<b>ME502-16/10*</b>	2 1/4" M.Acme x 1 1/4" FNPT x 2" MNPT Adapter
<b>ME502-16/12*</b>	2 1/4" M.Acme x 1 1/2" FNPT x 2" MNPT Adapter
<b>ME503-16</b>	3 1/4" M.Acme x 2" MNPT Adapter
<b>ME262</b>	3 1/4" M.Acme x 3" MNPT Adapter

\*Dual thread Male outside / Female inside

## Acme Adapters With Vent Valves

ME503JB-16



Part No.	Description
<b>ME252J-16</b>	3 1/4" M. Acme x 2" FPT (Brass) with 1/4" FPT and vent hole
<b>ME252JB-16</b>	3 1/4" M. Acme x 2" FPT (Brass) with brass vent valve
<b>ME252JS-16</b>	3 1/4" M. Acme x 2" FPT (Brass) with stainless steel vent valve
<b>ME252SJ-16</b>	3 1/4" M. Acme x 2" FPT (Zinc Plated Steel) with 1/4" FPT and vent hole
<b>ME252SJB-16</b>	3 1/4" M. Acme x 2" FPT (Zinc Plated Steel) with brass vent valve
<b>ME252SJS-16</b>	3 1/4" M. Acme x 2" FPT (Zinc Plated Steel) with stainless steel vent valve
<b>ME503J-16</b>	3 1/4" M. Acme x 2" MPT (Brass) with 1/4" FPT and vent hole
<b>ME503JB-16</b>	3 1/4" M. Acme x 2" MPT (Brass) with brass vent valve
<b>ME503JS-16</b>	3 1/4" M. Acme x 2" MPT (Brass) with stainless steel vent valve
<b>ME503SJ-16</b>	3 1/4" M. Acme x 2" MPT (Zinc Plated Steel) with 1/4" FPT and vent hole
<b>ME503SJB-16</b>	3 1/4" M. Acme x 2" MPT (Zinc Plated Steel) with brass vent valve
<b>ME503SJS-16</b>	3 1/4" M. Acme x 2" MPT (Zinc Plated Steel) with stainless steel vent valve

AD

## Acme Adapters

### Brass Male Acme X FNPT Adapters

Marshall Excelsior Part No.	Description
<b>ME192</b>	1 1/4" M.Acme x 1/2" FNPT Adapter
<b>ME193</b>	1 1/4" M.Acme x 3/4" FNPT Adapter
<b>ME210</b>	1 3/4" M.Acme x 1/4" FNPT Adapter
<b>ME211</b>	1 3/4" M.Acme x 3/8" FNPT Adapter
<b>ME212</b>	1 3/4" M.Acme x 1/2" FNPT Adapter
<b>ME213</b>	1 3/4" M.Acme x 3/4" FNPT Adapter
<b>ME214</b>	1 3/4" M.Acme x 1" FNPT Adapter
<b>ME250</b>	3 1/4" M.Acme x 1 1/4" FNPT Adapter
<b>ME251</b>	3 1/4" M.Acme x 1 1/2" FNPT Adapter
<b>ME252</b>	3 1/4" M.Acme x 2" FNPT Adapter
<b>ME498-4/2*</b>	1 1/4" M.Acme x 1/4" FNPT x 1/2" MNPT Adapter
<b>ME498-6/3*</b>	1 1/4" M.Acme x 3/8" FNPT x 3/4" MNPT Adapter
<b>ME502-12/8*</b>	2 1/4" M.Acme x 1 FNPT x 1 1/2" MNPT Adapter
<b>ME502-16/10*</b>	2 1/4" M.Acme x 1 1/4" FNPT x 2" MNPT Adapter
<b>ME502-16/12*</b>	2 1/4" M.Acme x 2" MPNT x 1 1/2" FNPT Adapter
<b>ME508-24</b>	3 1/4" M.Acme x 3" FNPT Adapter



ME252

\* Dual Threads -  
Male outside / Female inside



### Steel Male Acme X MNPT Adapters

Marshall Excelsior Part No.	Description
<b>ME520S-8</b>	1 1/4" M Acme x 1" MNPT
<b>ME215S</b>	1 3/4" M Acme x 3/4" MNPT
<b>ME216S</b>	1 3/4" M Acme x 1" MNPT
<b>ME217S</b>	1 3/4" M Acme x 1 1/4" MNPT
<b>ME233S</b>	2 1/4" M Acme x 1 1/4" MNPT
<b>ME503S-16</b>	3 1/4" M Acme x 2" MNPT
<b>ME262S</b>	3 1/4" M Acme x 3" MNPT



ME503S-16

### Steel Male Acme X FNPT Adapters

Marshall Excelsior Part No.	Description
<b>ME213S</b>	1 3/4" M Acme x 3/4" FNPT
<b>ME214S</b>	1 3/4" M Acme x 1" FNPT
<b>ME502S-16/10*</b>	2 1/4" M Acme x 1 1/4" FNPT x 2" MNPT
<b>ME252S-16</b>	3 1/4" M Acme x 2" FNPT
<b>ME508S-24</b>	3 1/4" M Acme x 3" FNPT



ME252S-16

AD

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# 3 1/4" M.Acme Conical Filter Screen



MEP503-16  
(not included)



MEP503K  
(installed)



MEP503

## Application:

Provides a low cost and effective means to filter both truck and plant liquid inlet lines equipped with 3 1/4" M.Acme fittings. This screen is easily removed without discharge of product and can be cleaned then reinstalled in minutes.

## Features:

- Reinforced perforated stainless steel body and retainer lip
- 30 Mesh stainless steel inner filter screen
- All welded construction

Part No.	Description
<b>MEP503</b>	3 1/4" M.Acme Conical Filter Screen Only, 30 Mesh, SS
<b>MEP503K</b>	3 1/4" M.Acme Conical Filter Screen and Retainer Clip Kit, 30 Mesh, SS

## Acme Adapters with Strainer Screen

Part No.	Description
<b>ME503A-16</b>	3 1/4" M Acme x 2" MNPT
<b>ME262A</b>	3 1/4" M Acme x 3" MNPT
<b>ME250A</b>	3 1/4" M Acme x 1 1/4" FNPT
<b>ME251A</b>	3 1/4" M Acme x 1 1/2" FNPT
<b>ME252A-16</b>	3 1/4" M Acme x 2" FNPT
<b>ME508A-24</b>	3 1/4" M Acme x 3" FNPT
<b>ME251-02</b>	Replacement screen for adaptors
<b>ME251-03</b>	Replacement snap ring for screen



ME252A-16



## Brass Filler Couplings

Marshall Excelsior Part No.	Type of Acme Nut	Description
<b>ME100</b>	Knurled Brass Nut	1 1/4" F Acme x 3/8" MNPT
<b>ME101</b>		1 1/4" F Acme x 1/2" MNPT
<b>ME110</b>		1 3/4" F Acme x 1/2" MNPT
<b>ME111</b>		1 3/4" F Acme x 3/4" MNPT
<b>ME112</b>		1 3/4" F Acme x 1" MNPT
<b>ME110C</b>	EZ Grip Brass Nut	1 3/4" F Acme x 1/2" MNPT
<b>ME111C</b>		1 3/4" F Acme x 3/4" MNPT
<b>ME112C</b>		1 3/4" F Acme x 1" MNPT
<b>ME120S</b>		2 1/4" F Acme x 1 1/4" MNPT - Steel Nipple
<b>ME130B</b>		3 1/4" F Acme x 2" MNPT - Brass Nipple
<b>ME130</b>		3 1/4" F Acme x 2" MNPT - Steel Nipple



ME120

# Acme Couplings



## Steel Filler Couplings

Marshall Excelsior Part No.	Type of Acme Nut	Description
<b>ME635-4</b>	Heavy Duty Grip Steel	1 3/4" F Acme x 1/2" MNPT
<b>ME635-6</b>		1 3/4" F Acme x 3/4" MNPT
<b>ME635-8</b>		1 3/4" F Acme x 1" MNPT
<b>ME635-10</b>		1 3/4" F Acme x 1 1/4" MNPT
<b>ME111S</b>	Knurled Steel	1 3/4" F Acme x 3/4" MNPT
<b>ME112S</b>		1 3/4" F Acme x 1" MNPT
<b>ME111SC</b>	EZ Grip Steel	1 3/4" F Acme x 3/4" MNPT
<b>ME112SC</b>		1 3/4" F Acme x 1" MNPT
<b>ME113SC</b>		1 3/4" F Acme x 3/4" FMNPT
<b>ME121S</b>		2 1/4" F Acme x 1 1/4" MNPT
<b>ME130S</b>		3 1/4" F Acme x 2" MNPT

ME121S



ME112S



ME635-6

## Brass Vapor Couplings

Marshall Excelsior Part No.	Description
<b>ME140</b>	1 1/4" F Acme x 3/8" MNPT Vapor Return
<b>ME141</b>	1 1/4" F Acme x 1/2" MNPT Vapor Return
<b>ME150</b>	1 3/4" F Acme x 3/4" MNPT Vapor Return
<b>ME151</b>	1 3/4" F Acme x 1" MNPT Vapor Return
<b>ME160</b>	2 1/4" F Acme x 1 1/4" MNPT Vapor Return - Brass Nut/Steel Nipple



## Steel Vapor Couplings

Marshall Excelsior Part No.	Description
<b>ME141S</b>	1 1/4" F Acme x 1/2" MNPT Vapor Return Coupling
<b>ME646-4</b>	1 3/4" F Acme x 1/2" MNPT Vapor Return Coupling - 7" O.A.L.
<b>ME646-6</b>	1 3/4" F Acme x 3/4" MNPT Vapor Return Coupling - 7" O.A.L.
<b>ME646-8</b>	1 3/4" F Acme x 1" MNPT Vapor Return Coupling - 7" O.A.L.
<b>ME151S</b>	1 3/4" F Acme x 1" MNPT Vapor Return Coupling - 3 1/4" O.A.L.
<b>ME160S</b>	2 1/4" F Acme x 1 1/4" MNPT Vapor Return Coupling - 3 3/8" O.A.L.



ME141

AD

ME273S



## Brass Male Acme Adapters

Marshall Excelsior Part No.	Description
<b>ME270</b>	1 1/4" M.Acme x 1 1/4" M.Acme
<b>ME273</b>	1 3/4" M.Acme x 1 3/4" M.Acme
<b>ME275</b>	2 1/4" M.Acme x 2 1/4" M.Acme
<b>ME277</b>	3 1/4" M.Acme x 3 1/4" M.Acme

## Steel Male Acme Adapter

Marshall Excelsior Part No.	Description
<b>ME273S</b>	1 3/4" M.Acme x 1 3/4" M.Acme
<b>ME275S</b>	2 1/4" M.Acme x 2 1/4" M.Acme
<b>ME277S</b>	3 1/4" M.Acme x 3 1/4" M.Acme

## Adapter Caps



ME612

## Brass Adapter Caps

Marshall Excelsior Part No.	Description
<b>ME611</b>	2 1/4" F.Acme x 1 3/4" M.Acme
<b>ME612</b>	3 1/4" F.Acme x 1 3/4" M.Acme
<b>ME442</b>	3 1/4" F.Acme x 1 1/4" FNPT
<b>ME614</b>	3 1/4" F.Acme x 2 1/4" M.Acme



ME442S

## Steel Adapter Caps

Marshall Excelsior Part No.	Description
<b>ME611S</b>	2 1/4" F.Acme x 1 3/4" M.Acme Adapter
<b>ME612S</b>	3 1/4" F.Acme x 1 3/4" M.Acme Adapter
<b>ME442S</b>	3 1/4" F.Acme x 1 1/4" FNPT Adapter

# Acme Caps with Flange



ME441F8

The flange allows for easy operation of pneumatic or proximity interlock switches which control the safety systems of transport vehicles. The stainless steel flange is flush mounted to the Acme cap.

Part No.						F. Acme	Style	Flange Diameter	Accessory	
Brass			Steel *						Chain Only	Cable Only
Cap with Flange	Cap with Flange & Chain	Cap with Flange & Cable	Cap with Flange	Cap with Flange & Chain	Cap with Flange & Cable					
ME229F5	ME229F5-I	ME229F5-IC	ME229FS5	ME229FS5-I	ME229FS5-IC	1-3/4"	Knob	5"	MEPI67	MEPI68
ME441F8	ME441F8-I	ME441F8-IC	ME441FS8	ME441FS8-I	ME441FS8-IC	3-1/4"	Knob	8"	MEPI67	MEPI68
ME441R8	ME441R8-I	—	—	—	—	3-1/4"	Tapped Hole	8"	MEPI67	MEPI68

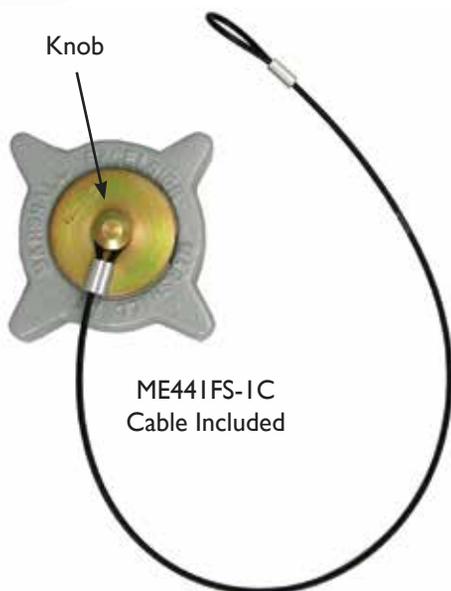
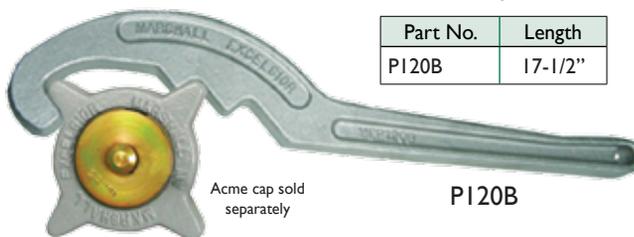
\* Rated for LP-Gas & NH<sub>3</sub>

# Heavy Duty Acme Spanner Wrenches

EZ-Turn Ergonomic Aluminum Acme spanner wrench for 3-1/4" female Acme caps.



Aluminum Acme spanner wrench for 1-3/4", 2-1/4", 3-1/4" and 4-1/4" female Acme caps.



AD

178	OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
	800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

## Metal Acme Caps



Part No.	Type of Acme Nut	Description
<b>ME220FP</b>	Knurled Brass	1 1/4" F Acme Cap
<b>ME229</b>	Knurled Brass	1 3/4" F Acme Cap
<b>ME229-I</b>		1 3/4" F Acme Cap w/ Ring & Chain
<b>ME229S</b>	Knurled Steel	1 3/4" F Acme Cap
<b>ME229S-I</b>		1 3/4" F Acme Cap w/ Ring & Chain
<b>ME229F</b>	EZ Grip Brass	1 3/4" F Acme Cap
<b>ME229F-I</b>		1 3/4" F Acme Cap w/ Ring & Chain
<b>ME229FS</b>	EZ Grip Steel	1 3/4" F Acme Cap
<b>ME229FS-I</b>		1 3/4" F Acme Cap w/ Ring & Chain
<b>ME431</b>	EZ Grip Brass	2 1/4" F Acme Cap w/ Knob Plug
<b>ME431F-I</b>		2 1/4" F Acme Cap w/ Knob Plug, & Chain
<b>ME431FS</b>	EZ Grip Steel	2 1/4" F Acme Cap w/ Knob Plug
<b>ME431FS-I</b>		2 1/4" F Acme Cap w/ Knob Plug, & Chain
<b>ME441F</b>	EZ Grip Brass	3 1/4" F Acme Cap w/ Knob Plug
<b>ME441F-I</b>		3 1/4" F Acme Cap w/ Knob Plug, Ring & Chain
<b>ME441FS</b>	EZ Grip Steel	3 1/4" F Acme Cap w/ Knob Plug
<b>ME441FS-I</b>		3 1/4" F Acme Cap w/ Knob Plug, Ring & Chain

## ACME DUST CAP



ME106



ME179

## Plastic Acme Caps

## Plastic Acme Caps

Marshall Excelsior Part No.	Description
<b>ME106</b>	3 1/4" F.Acme Dust Cap - Yellow Plastic
<b>ME106-I</b>	3 1/4" F.Acme Cap with Chain Assembly - Yellow Plastic
<b>ME108</b>	1 1/4" F.Acme Cap - Yellow Plastic
<b>ME108-I</b>	1 1/4" F.Acme Cap With Ring and Chain - Yellow Plastic
<b>ME109</b>	1 3/4" F.Acme Cap - Yellow Plastic
<b>ME109-I</b>	1 3/4" F.Acme Cap with Ring and Chain - Yellow Plastic
<b>ME109-NH3</b>	1 3/4" F.Acme Cap - Anhydrous Service
<b>ME109-NH3-I</b>	1 3/4" F.Acme Cap and Chain Assembly - Anhydrous Service

## Dust Plugs

## Dust Plugs

Marshall Excelsior Part No.	Description
<b>ME178</b>	1 1/4" M Acme Yellow Plastic Dust Seal
<b>ME178-I</b>	1 1/4" M Acme Yellow Plastic Dust Seal with Chain Assembly
<b>ME179</b>	1 3/4" M Acme Yellow Plastic Dust Seal
<b>ME179-I</b>	1 3/4" M Acme Yellow Plastic Dust Seal with Chain Assembly
<b>ME180</b>	2 1/4" M Acme Yellow Plastic Dust Seal
<b>ME180-I</b>	2 1/4" M Acme Yellow Plastic Dust Seal with Chain Assembly
<b>ME181</b>	3 1/4" M Acme Yellow Plastic Dust Seal
<b>ME181-I</b>	3 1/4" M Acme Yellow Plastic Dust Seal with Chain Assembly

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# Dispenser Quick Acting Valves and Filling Adapters



## Dispenser Quick Acting Valves



ME791C

Part No.	Inlet Connection	Outlet Connection	Locking Handle
<b>ME791C</b>	1/2" FNPT	1/4"FNPT	No
<b>ME791D</b>	1/2" FNPT	1/2"FNPT	No
<b>ME792C</b>	1/2" FNPT	1/4"FNPT	Yes
<b>ME792D</b>	1/2" FNPT	1/2"FNPT	Yes
<b>ME820-4</b>	1/2" FNPT	1/2"FNPT	Yes
<b>ME820-6</b>	3/4" FNPT	3/4"FNPT	Yes
<b>ME820-8</b>	1" FNPT	1"FNPT	Yes - Globe body
<b>ME810</b>	1" FNPT	1"FNPT	Yes - Globe body

Note: ME791K Valve Repair Kit for ME790 Series



## Filling Adapters

### Filling Adapters



ME790

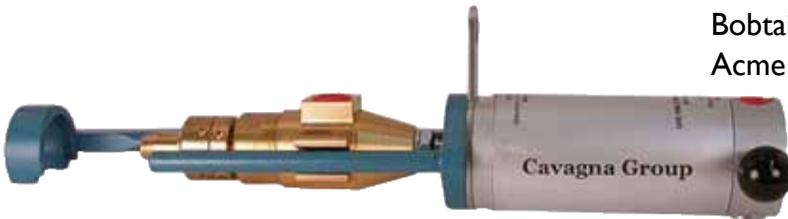


MEM390

Part No	Manufacturer	Description
<b>MEM390</b>	Marshall Excelsior	Softnose POL x 1/4" MNPT - Long
<b>ME790</b>	Marshall Excelsior	Forklift Filler x 1/4" MNPT - Long
<b>G820</b>	Marshall Brass	1 5/16" Swivel (QCCI) x 1/4" MNPT
<b>ME516</b>	Marshall Excelsior	1 5/16" Swivel (QCCI) x 1/4" MNPT
<b>I29A003</b>	Cavagna	Kosan POL Filling Head
<b>I29A006</b>	Cavagna	Kosan Forklift Filling Head
<b>I29A009</b>	Cavagna	Kosan OPD Filling Head
<b>ME392</b>	Marshall Excelsior	1 5/16" Swivel (QCCI) x FPOL
<b>ME568</b>	Marshall Excelsior	1 3/4" F Acme x FPOL
<b>ME393HD</b>	Marshall Excelsior	1 5/16" Male QCCI x Softnose MPOL
<b>ME393-I</b>	Marshall Excelsior	1 5/16" Male QCCI x 1/4" FNPT
<b>ME394</b>	Marshall Excelsior	1 5/16" Male QCCI x 1 1/4" F Acme
<b>ME569</b>	Marshall Excelsior	1 3/4" F.ACME x 1 5/16" M.ACME

Bobtail Hose End Valves Page 129

Acme Adapters Page 172



I29A006

ME516



ME568

AD



180

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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## POL Adapters

Part Number	Excess Flow	Soft Nose	Outlet
<b>G1638</b>	#60 Orifice	Yes	1/4" MNPT
<b>G1650</b>	No	No	9/16" MLH
<b>G1675</b>	No	No	1/4" MNPT
<b>G1689</b>	Yes	No	9/16" MLH
<b>G1690</b>	Yes	No	1/4" MNPT
<b>ME345</b>	No	No	90° 1/4" MNPT
<b>I685N</b>	-	-	7/8" Hex Nut Only
<b>I685NLH</b>	-	-	1 1/8" Hex Nut Only



G1675



G1654A

## POL Adapters

Part Number	Excess Flow	Soft Nose	Description
<b>G1654</b>	No	Yes	Plastic Handwheel
<b>G1654A</b>	No	Yes	Brass Handwheel
<b>G1653</b>	Yes	Yes	Plastic Handwheel
<b>G1653A</b>	Yes	Yes	Brass Handwheel
<b>G1645</b>	Yes	Yes	9/16" LH, Plastic Handwheel
<b>2-110A</b>	---	---	"O" Ring Replacement



G475

## POL Adapters

Part Number	Description
<b>G475</b>	Softnose, Handwheel, POL x 1" 20 Male
<b>G1691</b>	Brass POL Plug
<b>PC4510</b>	Brass POL plug with chain & ring
<b>G1699</b>	Brass POL Cap



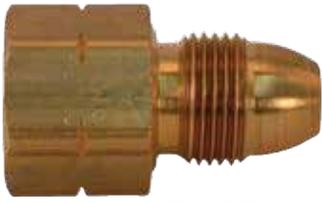
G1691



G1699

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Single Piece POL Adapters



ME357



ME353

## Single Piece POL Adapter

Part Number	POL Connection	Other Connection
ME301	Female POL	1/4" FNPT
ME303	Female POL	1/2" FNPT
ME284	Female POL	1/4" MNPT
ME285	Female POL	3/8" MNPT
ME286	Female POL	1/2" MNPT
ME287	Female POL	3/4" MNPT
ME357	Male POL	1/2" FNPT
ME353	Male POL	3/8" SAE Flare
ME355	Male POL	1/2" SAE Flare
ME356	Male POL	5/8" SAE Flare

## POL Tee Blocks & Tee Checks

Part Number	Check	Inlet	Outlet	POL Hex
<b>I703B</b>	No	MPOL	FPOL	1 1/8" Hex
<b>I702A</b>	Yes	MPOL	FPOL	1 1/8" Hex
<b>P403</b>	No	FPOL	FPOL	1 1/8" Hex
<b>P414</b>	Yes	1/4" Inv Flr	1/4" MNPT	-
<b>MEI700A</b>	Yes	1/4" Inv Flr	1/4" MNPT	-
<b>G1700B</b>	No	1/4" Inv Flr	1/4" MNPT	-
<b>P413</b>	No	1/4" MNPT	FPOL	-



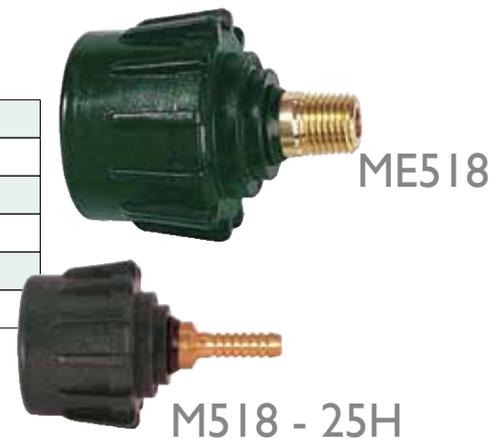
## POL Excess Flow Manifold Adapters

Part #	Description	GPM Closing Rate
<b>ME353EX9</b>	Male POL x 3/8" M FLARE	0.9
<b>ME353EX18</b>	Male POL x 3/8" M FLARE	1.8
<b>ME354EX9</b>	Male POL x 1/2" MNPT	0.9
<b>ME354X18</b>	Male POL x 1/2" MNPT	1.8
<b>ME355EX9</b>	Male POL x 1/2" M FLARE	0.9
<b>ME355EX18</b>	Male POL x 1/2" M FLARE	1.8
<b>ME356EX9</b>	Male POL x 5/8" M FLARE	0.9
<b>ME356EX18</b>	Male POL x 5/8" M FLARE	1.8

## Type I QCCI Fittings

### Type I QCCI Fittings

Part Number	Description
<b>ME517-EV</b>	Purge Adaptor Only, No threads on Outlet
<b>ME517</b>	QCCI x 1/4" MNPT, 70,000 BTU, Black Nut
<b>ME518</b>	QCCI x 1/4" MNPT, 200,000 BTU, Green Nut
<b>ME518-25H</b>	QCCI x 1/4" Hose Barb, 200,000 BTU, Green Nut
<b>ME519</b>	QCCI x 1/4" MNPT, 500,000 BTU, Red Nut



### 3-Way Reducing Tee No. 44 Forged



Part No.	O. D. Tube Size
	1.....2.....3
44EEC	3/8" x 3/8" x 1/4"
44EEF	3/8" x 3/8" x 1/2"
44EEI	3/8" x 3/8" x 5/8"
44FFE	1/2" x 1/2" x 3/8"
44FFI	1/2" x 1/2" x 5/8"
44IFF	5/8" x 1/2" x 1/2"
44IIE	5/8" x 5/8" x 3/8"
44IIF	5/8" x 5/8" x 1/2"

### Short Forged Nut No. NS4



Part No.	O. D. Tube Size
NS4C	1/4"
NS4E	3/8"
NS4F	1/2"
NS4I	5/8"
4IL	7/8"

### 2-Way Tee No. 44 Forged



Part No.	O. D. Tube Size - Pipe Size
	1.....2.....3
45EEE	3/8" x 3/8" x 3/8"
45EEF	3/8" x 3/8" x 1/2"
45FFF	1/2" x 1/2" x 1/2"

### Reducing Nut Forged No. NRS4



Part No.	O.D. Tube Size
NRS4EC	3/8" x 1/4"
NRS4FE	1/2" x 3/8"
NRS4IE	5/8" x 3/8"
NRS4IF	5/8" x 1/2"

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### 3-Way Tee No. 44 Forged



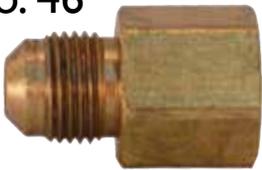
Part No.	O. D. Tube Size
44C	1/4"
44E	3/8"
44F	1/2"
44I	5/8"

### Swivel Nut No. US4



Part No.	O. D. tube Size
US4E	3/8"
US4F	1/2"
US4I	5/8"
US4EC	3/8" x 1/4"
US4FE	1/2" x 3/8"
US4IF	5/8" x 1/2"

### Female Connector No. 46



Part No.	O. D. Tube Size - Pipe Size
46EC	3/8" x 1/4"
46EE	3/8" x 3/8"
46EF	3/8" x 1/2"
46EK	3/8" x 3/4"
46FC	1/2" x 1/4"
46FE	1/2" x 3/8"
46FF	1/2" x 1/2"
46FK	1/2" x 3/4"
46IE	5/8" x 3/8"
46IF	5/8" x 1/2"
46IK	5/8" x 3/4"

### Full Union No. 42



Part No.	O. D. Tube Size
42C	1/4"
42E	3/8"
42F	1/2"
42I	5/8"

### Male Breakaway Nut with Sleeve



Part No	Size
CF639	1/8" O.D.
43283-2	1/4" O.D.
CF644	3/8" O.D.

### Compression Nut and Sleeve



Part No.	Tube Size
60C	1/4" Sleeve
61C	1/4" Female Compression Nut

### Reducing Union No. 42



Part No.	O. D. Tube Size
42FE	1/2" x 3/8"
42IE	5/8" x 3/8"
42IF	5/8" x 1/2"

# Flare Fittings

## Male Connector NO. 48

Part No.	O. D. Tube Size - Pipe Size
48CA	1/4" x 1/8"
48CC	1/4" x 1/4"
48CE	1/4" x 3/8"
48CF	1/4" x 1/2"
48EA	3/8" x 1/8"
48EC	3/8" x 1/4"
48EE	3/8" x 3/8"
48EF	3/8" x 1/2"
48EK	3/8" x 3/4"
48FC	1/2" x 1/4"
48FE	1/2" x 3/8"
48FF	1/2" x 1/2"
48FK	1/2" x 3/4"
48IE	5/8" x 3/8"
48IF	5/8" x 1/2"
48IK	5/8" x 3/4"



(Special fitting with longer male threads)

## Female Elbow No. 54 Forged

54CC	1/4" x 1/4"
54EA	3/8" x 1/8"
54EC	3/8" x 1/4"
54EE	3/8" x 3/8"
54EF	3/8" x 1/2"
54EK	3/8" x 3/4"
54FE	1/2" x 3/8"
54FF	1/2" x 1/2"
54FK	1/2" x 3/4"
54IE	5/8" x 3/8"
54IF	5/8" x 1/2"
54IK	5/8" x 3/4"



## 2-Way Elbow No. 55 Forged

Part No.	O. D. Tube Size
55E	3/8"
55F	1/2"
55I	5/8"
55FE	1/2" x 3/8"



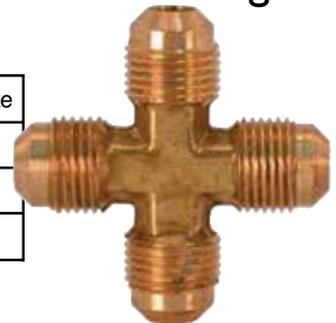
## Male Elbow No. 49 Forged

Part No.	O. D. Tube Size - Pipe Size
49CA	1/4" x 1/8"
49CC	1/4" x 1/4"
49EA	3/8" x 1/8"
49EC	3/8" x 1/4"
49EE	3/8" x 3/8"
49EF	3/8" x 1/2"
49EK	3/8" x 3/4"
49FC	1/2" x 1/4"
49FE	1/2" x 3/8"
49FF	1/2" x 1/2"
49FK	1/2" x 3/4"
49IE	5/8" x 3/8"
49IF	5/8" x 1/2"
49IK	5/8" x 3/4"



## SAE Flare Cross No. C1 Forged

Part No.	O. D. Tube Size
C1E	3/8"
C1F	1/2"
C1I	5/8"



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## Flare Cap No. N5

Part No.	O. D. Tube Size
N5C	1/4"
N5E	3/8"
N5F	1/2"
N5I	5/8"



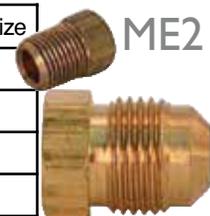
## Female Elbow No. 50 Forged

Part No.	O. D. Tube Size - Pipe Size
50EA	3/8" x 1/8"
50EC	3/8" x 1/4"



## Flare Plug No. P2

Part No.	O. D. Tube Size
P2C	1/4"
P2E	3/8"
P2F	1/2"
P2I	5/8"
ME2131	1/4" Inv. Flr.



## Copper Seal Bonnet

Part No	Size
B1C	1/4" O.D.
B1E	3/8" O.D.
B1F	1/2" O.D.
B1I	5/8" O.D.

ME2131

P2E

# Copper and Coated Copper Tubing, Aluminum Tubing



TU

## COPPER TUBING



CT0650

Refrigeration Copper  
Sold by outside diameter (O. D.)

Part Number	O.D. Tube Size	Length
CT0450	1/4"	50'
CT0650	3/8"	50'
CT06100	3/8"	100'
CT0850	1/2"	50'
CT08100	1/2"	100'
CT1050	5/8"	50'
CT10100	5/8"	100'

Type K Copper sold by inside diameter (I. D.)

Part Number	I. D. Tube Size	Length
KT0460	1/4"	60'
KT04100	1/4"	100'
KT0660	3/8"	60'
KT06100	3/8"	100'
KT0860	1/2"	60'
KT08100	1/2"	100'

Type L Copper sold by inside diameter (I. D.)

Part Number	I. D. Tube Size	Length
LT0460	1/4"	60'
LT04100	1/4"	100'
LT0660	3/8"	60'
LT06100	3/8"	100'
LT0860	1/2"	60'
LT08100	1/2"	100'



71900  
Termination flange for  
copper installations  
7/8" hex

## COATED COPPER TUBING



GT0650

Coated Refrigeration Copper  
Sold by outside diameter (O.D.)

Part Number	O.D. Tube Size	Length
GT0650	3/8"	50'
GT06100	3/8"	100'
GT0850	1/2"	50'
GT08100	1/2"	100'
GT1050	5/8"	50'
GT10100	5/8"	100'

Coated L Copper  
Sold by inside diameter (I. D.)



Part Number	I.D. Tube Size	Length
GTL0460	1/4"	60'
GTL04100	1/4"	100'
GTL0660	3/8"	60'
GTL06100	3/8"	100'
GTL0860	1/2"	60'
GTL08100	1/2"	100'

## ALUMINUM TUBING

Aluminum Tubing  
Sold by outside diameter (O. D.)  
Full rolls only.

Part Number	O.D. Tube Size	Length
AL0250	1/8"	50'
AL0450	1/4"	50'
AL0650	3/8"	50'

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613010

613015

# Standard Black Pipe Fittings



TU

TEE

Check with the sales dept. for any sizes not listed below.

Pipe Size	Hex Bushing	Bell Reducer	Reducing Ell
3/8" x 1/4"	613007	613300	-
1/2" x 3/8"	613006	613014	-
3/4" x 1/2"	613010	613015	613051
1" x 1/2"	613012	613351	-
1" x 3/4"	613013	613020	613052
1 1/4" x 3/4"	-	613362	613054
1 1/4" x 1"	613021	613022	-



613051



CAP

Carry the box  
with you to the  
job site.



Part Number	Description
613150	1/2" Nipple Pack, standard weight
613175	3/4" Nipple Pack, standard weight



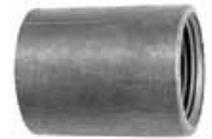
STREET  
ELBOW

We stock a large variety of standard black fittings that are not shown on this chart. Our Sales Dept. will be happy to help you with other sizes.

Item	Pipe Size (Inches)						
	1/4	3/8	1/2	3/4	1	1 1/4	2
90° Elbow	613039	613047	613050	613053	613055	613048	613049
45° Elbow	613200	613203	613206	613209	613212	613214	613218
Tees	612999	612998	613000	613003	613005	-	612996
Crosses	-	-	613415	613421	-	-	-
Cap	-	613023	613025	613028	613035	613036	-
90° Street Elbow	613037	613038	613040	613043	613044	-	613045
Couplings	612966	612968	612970	612975	612977	612979	-
Hex Head Plugs	613251	613253	612940	612943	613259	-	-
Unions	612951	612953	612955	612956	612957	612960	-
Pipe Nipples - Close	613057	613056	613060	613075	613090	613140	613147
1 1/2" Long Nipples	613058	-	613063	-	-	-	-
2" Long Nipples	613100	613103	613061	613078	613125	-	-
2 1/2" Long nipples	-	-	-	613079	-	-	-
3" Long Nipples	613059	613107	613062	613080	613127	-	613148
4" Long Nipples	613184	613106	613065	613082	613129	-	-
5" Long Nipples	613185	-	613067	613084	613131	-	-
6" Long Nipples	613064	613109	613069	613086	613133	-	613149
7" Long Nipples	-	613111	-	-	-	-	-
8" Long Nipples	-	-	613070	613113	-	-	-
9" Long Nipples	-	613112	-	-	-	-	-
10" Long Nipples	-	-	613072	613089	-	-	-
12" Long Nipples	-	-	613074	613088	-	-	-
18" Long Nipples	-	-	613161	613166	-	-	-
24" Long Nipples	-	-	-	613167	-	-	-



ELBOW



COUPLING



PLUG



UNION

Note: Schedule 80, Extra Heavy fittings are on pages 113-114

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Plastic Pipe, Con-Stab Fittings

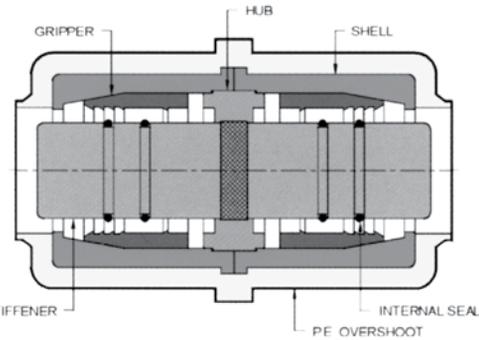
TU



Note: Plastic pipe is sold in CTS (copper tube size) and IPS (iron pipe size). We stock 1/2" CTS and IPS in all other sizes

## Plastic Pipe

Part Number	Description
<b>PP08</b>	1/2" CTS Tubing, 500' Roll - SDR 7 - Shrink wrapped or banded
<b>PP12</b>	3/4" IPS Tubing, 500' Roll - SDR 11
<b>PP16X500</b>	1" IPS Tubing, 500' Roll - SDR 11
<b>PP20X500</b>	1 1/4" IPS Tubing, 500' Roll - SDR 10
<b>PP32X250</b>	2" IPS Tubing, 250' Roll - SDR 11
<b>PP32X500</b>	2" IPS Tubing, 500' Roll - SDR 11



The internal seal enables each fitting to seal on scratched pipe. A seal is maintained on the smooth inside surface of the polyethylene pipe, regardless of the exterior surface of the piping. This improved seal protection creates the ultimate design for mechanical joints.

Each Con-Stab fitting provides the following unique features:

- Two internal seals
- Fixed stiffener
- Self-locking gripper
- Moisture lip
- Uni-body construction

The Con-Stab I.D. Seal® fittings provide the user with the following advantages:

- Cost effective joining method
- Simple assembly
- No additional assembly equipment required for installation (just chamfer pipe and push)
- Expanded product line with various configurations and material options (PE 2406 or PE 3408)
- Uni-body design eliminating all external parts
- Meets or exceeds all D.O.T. and ASTM requirements



Con-Stab Transition Fitting  
9932-00-0019-00

## Chamfer Tool

Part Number	Description
<b>0000-33-5481-00</b>	3/4" IPS x 1/2" CTS chamfer tool (5/8" O.D.)
<b>0000-33-6580-15</b>	1 1/4" IPS chamfer tool
<b>0000-33-6580-17</b>	2" IPS chamfer tool
<b>0000-33-5606-00</b>	1" IPS x 1" CTS chamfer tool



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## Reducing Tee

Part Number	Description
<b>3259-49-0413-66</b>	1/2" CTS x 1/2" CTS x 3/4" IPS
<b>3259-49-1304-66</b>	3/4" IPS x 3/4" IPS x 1/2" CTS
<b>3259-49-1413-66</b>	1" IPS x 1" IPS x 3/4" IPS

## Couplings

Part Number	Description
<b>3259-52-1004-66</b>	1/2" CTS
<b>3259-52-1013-66</b>	3/4" IPS
<b>3259-52-1014-66</b>	1" IPS
<b>3259-52-1015-00</b>	1 1/4" IPS
<b>3259-52-1017-00</b>	2" IPS



## 90° Elbow

Part Number	Description
<b>3259-51-1004-66</b>	1/2" CTS
<b>3259-51-1013-66</b>	3/4" IPS
<b>3259-51-1014-66</b>	1" IPS
<b>3259-51-1015-00</b>	1 1/4" IPS
<b>3259-51-1017-00</b>	2" IPS

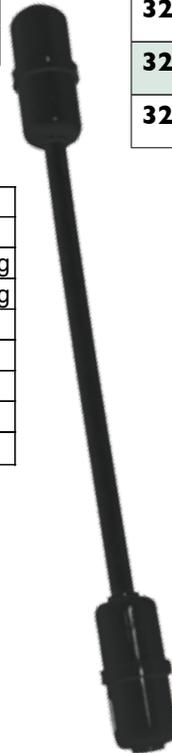


## End Caps

Part Number	Description
<b>3259-53-1004-00</b>	1/2" CTS con stab end cap Continental fitting
<b>3259-53-1013-00</b>	3/4" IPS con stab end cap Continental fitting
<b>3259-53-1014-00</b>	1" IPS con stab end cap SDR-11 Continental fitting
<b>3259-53-1015-00</b>	1 1/4" IPS con stab end cap Continental fitting
<b>3259-53-1017-00</b>	2" IPS con stab end cap Continental fitting

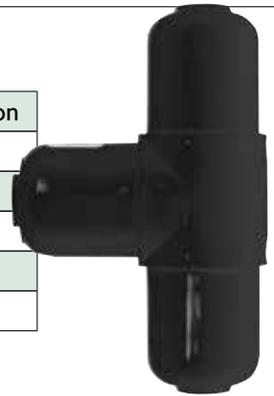
## Repair Couplings

Part Number	Description
<b>0459-56-0800-66</b>	1/2" CTS x 8" long
<b>0459-56-1200-66</b>	1/2" CTS x 12" long
<b>0459-56-2400-66</b>	1/2" CTS x 24" long
<b>1359-56-0800-66</b>	3/4" IPS x 8" long
<b>1359-56-1200-66</b>	3/4" IPS x 12" long
<b>1359-56-2400-66</b>	3/4" IPS x 24" long
<b>1459-56-0800-66</b>	1" IPS x 8" long
<b>1459-56-1200-66</b>	1" IPS x 12" long



## Tees

Part Number	Description
<b>3259-50-1004-66</b>	1/2" CTS
<b>3259-50-1013-66</b>	3/4" IPS
<b>3259-50-1014-66</b>	1" IPS
<b>3369-50-1015-00</b>	1 1/4" IPS
<b>3259-50-1017-00</b>	2" IPS



## Self-Tapping Tee

Part Number	Description
<b>5864-15-1604-66</b>	1 1/4" IPS Main x 1/2" CTS
<b>5864-15-1613-66</b>	1 1/4" IPS Main x 3/4" IPS
<b>5864-17-1604-66</b>	2" IPS Main x 1/2" CTS
<b>5864-17-1613-66</b>	2" IPS Main x 3/4" IPS
<b>5864-17-1614-66</b>	2" IPS Main x 1" IPS

## Reducing Couplings

Part Number	Description
<b>3259-54-1304-66</b>	3/4" IPS x 1/2" CTS
<b>3259-54-1404-66</b>	1" IPS x 1/2" CTS
<b>3259-54-1408-66</b>	1" IPS x 1" CTS
<b>3259-54-1413-66</b>	1" IPS x 3/4" IPS

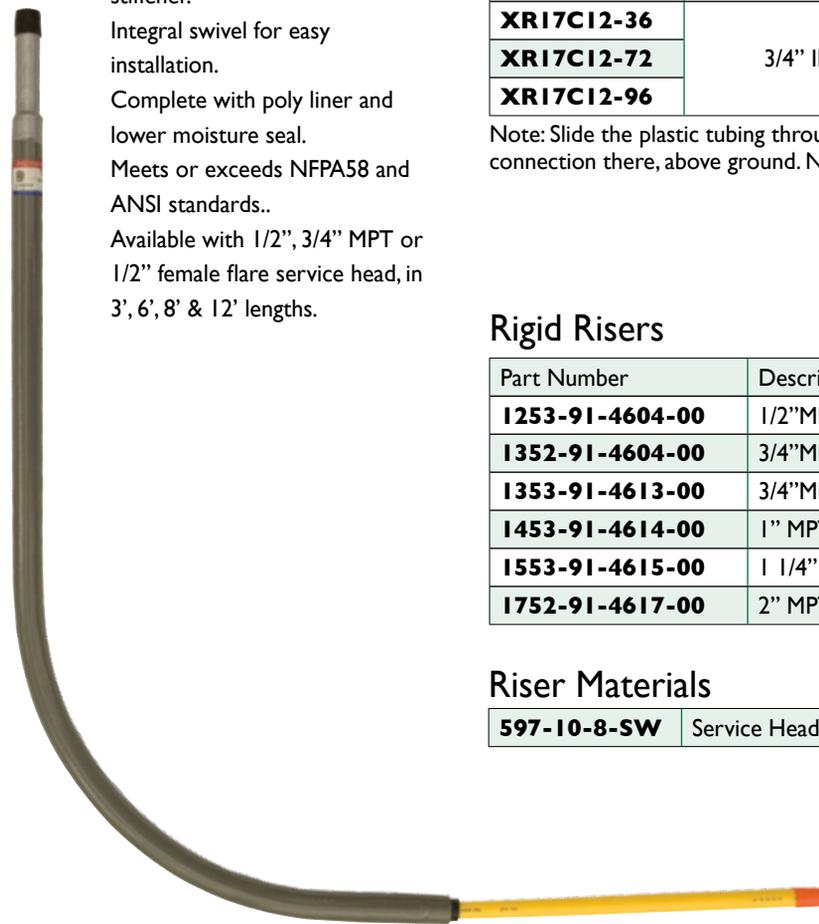


# Plastic Pipe Risers

TU



Flexible Riser System for Plastic Pipe Dependable, simplified compression style anodized service head. Reusable fitting with Buna seal, strengthened with a spiral steel stiffener. Integral swivel for easy installation. Complete with poly liner and lower moisture seal. Meets or exceeds NFPA58 and ANSI standards.. Available with 1/2", 3/4" MPT or 1/2" female flare service head, in 3', 6', 8' & 12' lengths.



Part Number	Plastic Pipe Size	Outlet Connection	Length
<b>XRI08-36</b>		1/2" MPT	3 ft
<b>XRI08-72</b>			6 ft
<b>XRI08-96</b>			8 ft
<b>XRI08-144</b>			12 ft
<b>XRI08SN-36</b>	1/2" CTS	1/2" Female Flare Swivel	3 ft
<b>XRI08SN-72</b>			6 ft
<b>XRI08SN-96</b>			8 ft
<b>XRI012-36</b>		3/4" MPT	3 ft
<b>XRI012-48</b>			4 ft
<b>XRI012-72</b>			6 ft
<b>XRI012-96</b>			8 ft
<b>XRI012-144</b>			12 ft
<b>XRI7C12-36</b>			3/4" IPS
<b>XRI7C12-72</b>	6 ft		
<b>XRI7C12-96</b>	8 ft		

Note: Slide the plastic tubing through the riser to the end and make your connection there, above ground. No connections underground, no coupling needed.

## Rigid Risers

Part Number	Description
<b>1253-91-4604-00</b>	1/2"MPT x 1/2" CTS Riser w/ 30" Vertical
<b>1352-91-4604-00</b>	3/4"MPT x 1/2" CTS Riser w/ 36" Vertical
<b>1353-91-4613-00</b>	3/4"MPT x 3/4" IPS Riser w/ 30" Vertical
<b>1453-91-4614-00</b>	1" MPT x 1" IPS Riser w/ 30" Vertical
<b>1553-91-4615-00</b>	1 1/4" MPT x 1 1/4" IPS Riser w/ 30" Vertical
<b>1752-91-4617-00</b>	2" MPT x 2" IPS Riser w/ 36" Vertical

## Riser Materials

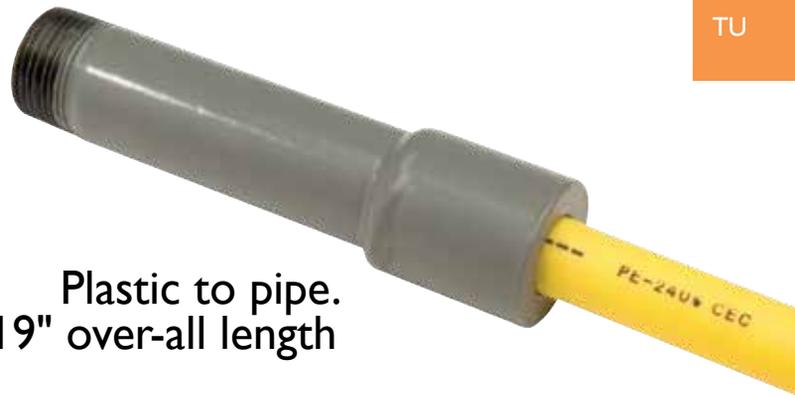
<b>597-10-8-SW</b>	Service Head Top Half 1/2" FFL Swivel for 1/2" CTS XX Riser
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M545C1  
M545C2

Plastic to pipe.  
19" over-all length



## Transition Fittings

Plastic to Copper, Male Flare Transition Fittings		
Part No.	Description	Manufacturer
<b>M545C1</b>	1/2" CTS X 3/8" M Flare Brass - Compression	Chicago Fittings
<b>M545C2</b>	1/2" CTS x 1/2" M Flare Brass - Compression	Chicago Fittings
<b>9943-99-0063-00</b>	1/2" CTS X 3/8" M Flare Brass - Con Stab	Continental Industries
<b>9943-99-0064-00</b>	1/2" CTS x 1/2" M Flare Brass - Con Stab	Continental Industries
Plastic to Female Pipe Transition Fittings		
Part No.	Description	Manufacturer
<b>M697C</b>	1/2" CTS x 1/2" FNPT Brass - Compression	Chicago Fittings
<b>9932-00-0019-00</b>	1/2" CTS x 1/2" FNPT Brass - Con Stab	Continental Industries
<b>M697B</b>	1/2" CTS x 3/8" FNPT Brass Compression	Chicago Fittings
<b>9932-00-0032-00</b>	3/4" IPS x 3/4" FNPT Brass - Con Stab	Continental Industries
Plastic to Pipe Transition Nipples 19" Over All Length (Requires Plastic Coupling)		
Part No.	Description	Manufacturer
<b>240369</b>	1/2" CTS x 3/4" MPT	RW Lyall
<b>240148</b>	3/4" IPS x 3/4" MPT	RW Lyall
<b>240151</b>	1" IPS x 1" MPT	RW Lyall
<b>240339</b>	1 1/4" IPS x 1 1/4" MPT	RW Lyall
<b>240340</b>	2" IPS x 2" MPT	RW Lyall

## Fusion Fittings

CURB VALVES, BOXES & SUPPORTS	
Part Number	Description
<b>VCI</b>	Curb Support 1/2" to 1 1/4" valves

All curb valves, curb boxes and supports are products of Handley Industries, Inc.

## CURB VALVE



VCI

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Plastic Pipe Accessories

TU



Butt fusion and socket fusion fittings are also available, some items in stock. Call for additional information: 1 800 537 7518.

## Plastic Pipe Accessories



TRACER TAPE

Part Number	Description
<b>Tracer Tape</b>	1000 ft Roll metal tracer tape Silver with yellow stripes
<b>Tracer Wire</b>	2500 ft roll Tracer Wire 14 AWG UF 600V heavy insulation Yellow
<b>Tracer Wire 500</b>	500 ft roll Tracer Wire 14 AWG UF 600V heavy insulation Yellow
<b>Marker</b>	5 ft yellow pipeline marker with CAUTION decal
<b>Snipper</b>	#5190 Cutting Tool for Plastic & Rubber up to 1" OD



TRACER WIRE

MARKER



SNIPPER

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



## Multi-Service Combination Valves

Part Number	Tank Connection	Outlet Connection	1/4 Vapor Connection	Comments
<b>670720</b>	3/4" MNPT	FPOL	Yes	Spitter in the middle
<b>ME665</b>	3/4" MNPT	FPOL	Yes	Spitter in the middle
<b>670808</b>	3/4" MNPT	FPOL	No	DOT 200#, 1 3/4" acme fill
<b>8555D11.6</b>	3/4" MNPT	FPOL	No	DOT 200#, 1 3/4" acme fill
<b>8555DL11.6</b>	3/4" MNPT	Male Hopane	No	1 3/4" acme/liquid withdrawal
<b>2033CLDB</b>	3/4" MNPT	FPOL	Yes	1/8" FPT pressure tap
<b>MESPVE2030BC-11.6</b>	3/4" MNPT	FPOL	No	DOT 200#, 1 3/4" acme fill
<b>MESPVE2035AT-11.7</b>	1" MNPT	FPOL	No	For DOT 420, 375 PSI Relief
<b>ME662</b>	1 1/2" MNPT	FPOL	No	1 3/4" acme fill
<b>670807</b>	2 1/2" FNPT	FPOL	Yes	Underground only, Float Gauge Flange
<b>G8475RV</b>	2 1/2" FNPT	FPOL	Yes	500 Gallon Tank Valve, Float Gauge Flange
<b>G8475RW</b>	2 1/2" FNPT	FPOL	Yes	1000 Gallon Tank Valve, Float Gauge Flange



## Check Lock and Liquid Withdrawal Valves

Part Number	Container Connection	Service Connection	Comments
<b>690010</b>	3/4" MNPT	New Style, use with 661109 or ME458 adaptor	Excess Flow
<b>5136</b>	3/4" MNPT	New Style, use with 661109 or ME458 adaptor	Excess Flow
<b>5137</b>	1 1/4" MNPT	New Style, use with 661109 or ME458 adaptor	Excess Flow
<b>7591U</b>	1 1/4" MNPT	New Style, use with 661109 or ME458 adaptor	Excess Flow
<b>ME458</b>	-	3/4" FNPT	New Style Adaptor
<b>661109</b>	-	3/4" FNPT	New Style Adaptor
<b>ME449</b>	3/4" MNPT	3/4" FNPT	Handwheel Valve
<b>ME449H</b>	3/4" MNPT	3/4" FNPT	Hydrostat relief valve
<b>ME449S</b>	3/4" MNPT	3/4" FNPT	Handwheel Valve, Steel Body
<b>ME449EXS/22</b>	3/4" MNPT	3/4" FNPT	Handwheel Valve, Steel Body, Excess Flow
<b>ME453</b>	3/4" MNPT	3/4" FNPT	Old style adaptor
<b>ME455</b>	3/4" MNPT	3/4" MNPT	Old style adaptor
<b>9107K8A</b>	3/4" MNPT	#555 Male Hopane	100# Liquid Tube
<b>3250ALMI16</b>	3/4" MNPT	#555 Male Hopane	Fixed Liquid Level Gauge
<b>ME461</b>	-	-	3/4" Check lock cap & gasket
<b>ME461SS</b>	-	-	3/4" Stainless steel check lock cap & gasket



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CY

# Tank Valves



661261

CY



661122



ME600



1876



## Filler Valves

Part Number	Container Connection	Service Connection	Manufacturer
<b>661122</b>	3/4" MPT	1 3/4 M Acme	Cavagna
<b>ME600-6 (1)</b>			Marshall Excelsior
<b>7647SC</b>			Rego
<b>661232</b>	1 1/4" MPT	1 3/4 M Acme	Cavagna
<b>661261 (2)</b>			
<b>661262 (2)</b>			

(1) Marshall Excelsior Flow-Max tank filler valves are lockable  
 (2) Filler valves include a shutoff at 90° (661261) or straight (661262)

## Vapor Return Valves

Part Number	Description
<b>1876</b>	1 1/4" ACME x 3/4" MNPT, with excess flow
<b>ME663</b>	1 1/4" ACME x 3/4" MNPT, double check
<b>ME664</b>	1 1/4" ACME x 3/4" MNPT, single check

Note: A vapor coupling with a projected nozzle opens the back check to permit flow in both direction.

## Auto Stop Filler Valves

Part Number	Description
<b>661154</b>	Cavagna 80% Auto shut off valve 3/4 MNPT
<b>LT3</b>	Valve adaptor 3/4 FNPT x SR Head Flange
<b>RK28095</b>	O ring kit for repair of obsolete 28095 valve

661154

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

Intended for use as a high capacity filler valve with a manual shut-off device in LPG or NH<sub>3</sub> containers. These valves can be equipped with either a soft seat back check or excess flow feature that is internal to the container. The excess flow version can also be used as a vapor equalizing valve typically found in NH<sub>3</sub> applicators and nurse tank applications.

Note: For proper operation and performance of the excess flow feature the manual shutoff must be completely open and back seated.

### Multipurpose Valve Features

- Plated ductile iron body with 1/4" NPT auxiliary plugged port
- All stainless steel internal construction for maximum corrosion resistance
- Supplied with ACME cap & chain assembly
- V-cup Teflon® packing stem seals
- Rated 400 PSI / WOG
- Removable data plate



CY

MEC Multipurpose Filler / Withdrawal Valves								
Part No.	Inlet (MNPT)	Fill Connection (M.Acme)	*GPM/LPG Fill Capacity	Approximate Excess Flow Closing Flow		Back Check	Accessories	
				*Liquid GPM/LPG	**Vapor SCFH/LPG		Hydrostatic Relief	Vent Valve
ME670DBC	1-1/4"	1-3/4"	100	N/A	N/A	Yes	MEH225***	MEJ400***
							MEH225SS	MEJ402S
ME670DEX****	1-1/4"	1-3/4"	100	58	27,000	No	MEH225***	MEJ400***
							MEH225SS	MEJ402S

\* For NH<sub>3</sub> Flow Rates Multiply by .90      \*\* Brass accessories cannot be used for NH<sub>3</sub>  
 \*\* For NH<sub>3</sub> @ 100 PSI, Multiply by 1.6      \*\*\*\* Available for 45 GPM NH<sub>3</sub> closing flow - e.i. ME670DEX/45

The ME671DIBC is equipped with an integrated back check (IBC) feature built into the lower portion of the seat disc assembly. This feature allows liquid pressure built upstream of the shut-off disc assembly to automatically be relieved back to the container when line pressures exceed 10-25 PSI over container pressure. The (IBC) feature eliminates the need for hydrostatic relief valves to protect upstream piping or lines as well as greatly reducing product emissions and overall system safety.

MEC Multipurpose Withdrawal Valves						
Part No.	Inlet (MNPT)	Withdrawal (FNPT)	Approximate Excess Flow Closing Flow Liquid GPM/LPG*	Back Check	Accessories	
					Hydrostatic Relief	Vent Valve
ME671DIBC-6	1-1/4"	3/4"	50	No	N/A	MEJ400**
					N/A	MEJ402S
ME671DIBC-8***	1-1/4"	1"	58	No	N/A	MEJ400**
					N/A	MEJ402S
ME671D-6	1-1/4"	3/4"	50	No	MEH225**	MEJ400**
					MEH225SS	MEJ402S
ME671D-8***	1-1/4"	1"	58	No	MEH225**	MEJ400**
					MEH225SS	MEJ402S
ME672D	1-1/4"	1"	78	No	MEH225**	MEJ400**
					MEH225SS	MEJ402S

\* For NH<sub>3</sub> Flow Rates Multiply by .90  
 \*\* Brass accessories cannot be used for NH<sub>3</sub> service  
 \*\*\* Available for 45 GPM NH<sub>3</sub> closing flow - e.i. ME671D-8/45



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Multipurpose Filler/Withdrawal Valves



Intended for use as a high capacity combination filler and liquid withdrawal valve with a manual shut off device in LPG or NH<sub>3</sub> containers. These valves can be equipped with either a soft seat back check or excess flow feature that is internal to the container. Ideally suited for use in dispensing applications as a dual purpose high capacity tank filler valve as well as a liquid return line from the pump bypass valve.

Note: For proper operation and performance of the excess flow feature the manual shutoff must be completely open and back seated.

CY

## Multipurpose Filler / Withdrawal Valve Features

- Plated ductile iron body with 1/4" NPT auxillary plugged port
- All stainless steel internal construction for maximum corrosion resistance
- Supplied with ACME cap & chain assembly
- V-cup Teflon® packing stem seals
- Rated 400 PSI / WOG
- Removable data plate



MEC Multipurpose Filler / Withdrawal Valves									
Part No.	Inlet (MNPT)	Fill Connection (M.Acme)	Withdrawal (FNPT)	*Fill Capacity GPM/LPG	Approximate Excess Flow Closing Flow		Back Check	Accessories	
					*Liquid GPM/LPG	**Vapor SCFH/LPG		Hydrostatic Relief	Vent Valve
<b>ME673DEX-6****</b>	1-1/4"	1-3/4"	3/4"	100	58	27,000	No	MEH225***	MEJ400***
								MEH225SS	MEJ402S
<b>ME673DEX-8****</b>	1-1/4"	1-3/4"	1"	100	58	27,000	No	MEH225***	MEJ400***
								MEH225SS	MEJ402S
<b>ME673DBC-6</b>	1-1/4"	1-3/4"	3/4"	100	N/A	N/A	Yes	MEH225***	MEJ400***
								MEH225SS	MEJ402S
<b>ME673DBC-8</b>	1-1/4"	1-3/4"	1"	100	N/A	N/A	Yes	MEH225***	MEJ400***
								MEH225SS	MEJ402S

\* For NH<sub>3</sub> Flow Rates Multiply by .90  
 \*\* For NH<sub>3</sub> @ 100 PSI, Multiply by 1.6  
 \*\*\* Brass accessories cannot be used for NH<sub>3</sub>  
 \*\*\*\* Available for 45 GPM NH<sub>3</sub> closing flow - e.i. ME673DEX-6/45

## Brass Elbows

Part Number	Description
<b>B100C</b>	1/4" 90°
<b>B116A</b>	1/8" 90° Street Elbow
<b>F116C</b>	1/4" 90° Street Elbow
<b>B124C</b>	1/4" 45° Street Elbow



B100C

CY

## Brass Hex Bushing

Part Number	Description
<b>B110CA</b>	1/4" x 1/8"
<b>B110EA</b>	3/8" x 1/8"
<b>B110EC</b>	3/8" x 1/4"
<b>B110FA</b>	1/2" x 1/8"
<b>B110FC</b>	1/2" x 1/4"
<b>B110FE</b>	1/2" x 3/8"
<b>B110KF</b>	3/4" x 1/2"



B110FE

## Brass Nipples

Part Number	Description
<b>B122AA</b>	1/8 X 1/8 hex nipple
<b>B122CC</b>	1/4 X 1/4 hex nipple
<b>B122EC</b>	3/8 X 1/4 hex nipple
<b>B122EE</b>	3/8 X 3/8 hex nipple
<b>B122FE</b>	1/2 X 3/8 hex nipple
<b>B122FF</b>	1/2 X 1/2 hex nipple



B122EE

## Brass Couplings

Part Number	Description
<b>B103A</b>	1/8"
<b>B103C</b>	1/4"
<b>B103E</b>	3/8"
<b>B119CA</b>	1/4" x 1/8" Reducing Coupling



B103E



MEJ40ISC

## Unloading Adapters

Part Number	Description
<b>ME450</b>	1 3/4 F Acme x 3/4 FNPT, 90° Use with 623B or 1855SD Fill Valves only Mfg after 1995

Note: Valve will open double back check filler valves for adding methanol, also used on older style multi-valve tanks for liquid withdrawal through the filler valve. The handwheel design opens the valve slowly for safety.

CY

Marshall Excelsior Part Number	Inlet	Dip Tube	Stop Fill Dial	Comment
MEJ400	1/4" MNPT	No	No	Brass
<b>MEJ402S</b>	1/4" MNPT	No	No	Stainless Steel, MEJ402S has tee handle
<b>MEJ410-054</b>	1/4" MNPT	Yes	No	Brass, Dip Tube 5.4"
<b>MEJ410-066</b>	1/4" MNPT	Yes	No	Brass, Dip Tube 6.6"
<b>MEJ410-120</b>	1/4" MNPT	Yes	No	Brass, Dip Tube 12.0"
<b>MEJ415</b>	3/4" MNPT	No	No	Stainless Steel, Two 1/4" Outlet
<b>MEJ400/72'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve #72 Orifice
<b>MEJ40ISC<sup>2</sup></b>	1/4" MNPT	Yes	No	Replacement Self Cleaning Bleeder Screw and Seat
<b>MEJ410/72-5.4'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve with 5.4" dip tube
<b>MEJ410/72-5.7'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve with 5.7" dip tube
<b>MEJ410/72-6.6'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve with 6.6" dip tube
<b>MEJ410/72-6.9'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve with 6.9" dip tube
<b>MEJ410/72-120'</b>	1/4" MNPT	Yes	No	Low Emission Brass Vent Valve with 12.0" dip tube

- Notes: (1) The Marshall Excelsior low emission vent valve provides minimal loss of product while allowing the operator to bleed down connections and detect liquid levels during filling operations.  
 (2) MEJ40ISC includes a captured #54 orifice drill reamer to ream the valve's orifice hole each time the adjusting screw is loosened eliminating nuisance orifice clogging. Compatible with all exiting vent valve bodies for easy field change out.

Parts: MEJ401 Standard bleeder stem & seat only (the part that turns)  
 2550-40P "Stop Filling When Liquid Appears" dial only

## Pressure Gauges

Part Number	Pressure Range	Connection Type	Liquid Filled	Connection Size	Comment	
<b>KA50ECO-2</b>	0-30" WC	Bottom	No	1/4" MNPT	Non-Adjustable	
<b>ME60-2</b>	0-35" WC	Bottom	No	1/4" MNPT	Adjustable	
<b>KA510</b>	0-15 PSIG	Back	No	1/4" MNPT	Non-Adjustable	
<b>KA500</b>	0-15 PSIG	Bottom	No	1/4" MNPT		
<b>KA603LP-01</b>	0-15 PSIG	Bottom	Yes	1/4" MNPT		
<b>KA511</b>	0-30 PSIG	Back	No	1/4" MNPT		
<b>KA511-18</b>	0-30 PSIG	Back	No	1/8" MNPT		
<b>KA501</b>	0-30 PSIG	Bottom	No	1/4" MNPT		
<b>KA501-18</b>	0-30 PSIG	Bottom	No	1/8" MNPT		
<b>KA512</b>	0-60 PSIG	Back	No	1/4" MNPT		
<b>KA502</b>	0-60 PSIG	Bottom	No	1/4" MNPT		
<b>KA513</b>	0-100 PSIG	Back	No	1/4" MNPT		
<b>KA503</b>	0-100 PSIG	Bottom	No	1/4" MNPT		
<b>KA504</b>	0-160 PSIG	Bottom	No	1/4" MNPT		
<b>KA505</b>	0-200 PSIG	Bottom	No	1/4" MNPT		
<b>KA516</b>	0-300 PSIG	Back	No	1/4" MNPT		
<b>KA506</b>	0-300 PSIG	Bottom	No	1/4" MNPT		
<b>MEJ520</b>	0-5 PSIG	Bottom	No	1/4" MNPT		4 1/2" Dial for Storage Tank
<b>MEJ580</b>	0-300 PSIG	Bottom	No	1/4" MNPT		
<b>MEJ524</b>	0-400 PSIG	Back	Yes	1/4" MNPT		Brass Connection SS Body
<b>MEJ526</b>	0-400 PSIG	Back	Yes	1/4" MNPT		All Stainless Steel
<b>MEJ542</b>	0-400 PSIG	Bottom	Yes	1/4" MNPT		
<b>MEJ552</b>	0-400 PSIG	Bottom	Yes	1/4" MNPT	Brass Inlet	
<b>KA603HP-01</b>	0-300 PSIG	Bottom	Yes	1/4" MNPT		



CY

Non-Adjustable

KA501

- Notes:
- 1...Liquid filled gauges absorb shock from pumps and compressors better.
  - 2...KA501-18 & KA511-18 with 1/8" pipe thread can be used directly with regulators for testing or permanent installation.
  - 3...Use adaptor B120CA to convert any 1/4" connect gauge to 1/8" connect for pressure testing.

# Relief Valve Covers, Lock Caps, POL Locks



ME501

## Additional Relief Valve Covers

Part Number	Description
<b>MEH501-.437</b>	Protective Vinly Cap for MEH225
<b>MEH501-.812</b>	7/8" ID Soft Yellow Plastic
<b>MEH501-1.062</b>	1 1/6" ID Soft Yellow Plastic
<b>ME501-1.5</b>	1 1/2" ID Soft Yellow Plastic
<b>MEH501-1.75</b>	1 3/4" ID Soft Yellow Plastic
<b>MEH501-2.25</b>	2 1/4" ID Soft Yellow Plastic
<b>MEH501-2.625</b>	2 3/4" ID Soft Yellow Plastic
<b>3133-54</b>	3" ID Soft Yellow Plastic
<b>MEH502</b>	1/2" & 3/4" Shower Cap Style, 10 per bag
<b>MEH503</b>	3/4" - 1 1/4" Shower Cap Style, 10 per bag
<b>11001</b>	Metal - Fits Exhaust with O.D. between 1" and 1 3/16", 3/4" pipe
<b>11002</b>	Metal - Fits Exhaust with O.D. between 1 1/4" and 1 7/16", 1" pipe
<b>11006</b>	Metal - Fits Exhaust with O.D. between 2 1/4" and 2 7/16", 2" pipe
<b>11011</b>	Metal - Fits Exhaust with O.D. between 3 1/2" and 3 11/16", 3" pipe
<b>11013</b>	Metal - Fits Exhaust with O.D. between 4" and 4 3/16", 3 1/2" pipe
<b>11015</b>	Metal - Fits Exhaust with O.D. between 4 1/2" and 4 11/16", 4" pipe



ME531-50



VS04

## Lock Caps and POL Locks

Part Number	Description
<b>Barrel Lock</b>	#141 Barrel lock, stud with edn, 2 pcs
<b>#1</b>	Filler Valve Lock Cap 1 3/4" Acme
<b>S4</b>	Lock Cap for 2 1/2" Handwheel
<b>VS04</b>	Plastic Lock Cap 2 1/2" - 5" Handwheel
<b>VS09</b>	Plastic Lock Cap 6 1/2" - 10" Handwheel
<b>ME530</b>	Saf T Lok Male POL Lock
<b>ME530-03</b>	Saf T Lok Key for POL, pipe and barrell locks
<b>ME530PL</b>	Saf T Lok - Male POL lock with padlock cap, soft nose
<b>ME531-50</b>	Locking Pipe Cap 1/2" FNPT
<b>ME531-75</b>	Locking Pipe Cap 3/4" FNPT
<b>ME532-38</b>	Locking Flare Plug 3/8"
<b>ME532-50</b>	Locking Flare Plug 1/2"
<b>ME533</b>	Locking Acme Cap 1 3/4"
<b>ME540</b>	Hose end & quick acting valve lock - use with ME540P
<b>ME540P-KA</b>	Master® padlock with 2 1/2" deep shackle - keyed alike
<b>ME540P-KD</b>	Master® padlock with 2 1/2" deep shackle - keyed differently

#1 METAL LOCK CAP



ME540-KA  
ME540-KD



ME530-03



ME540  
ME540-KA

200 {

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## Internal Relief Valves

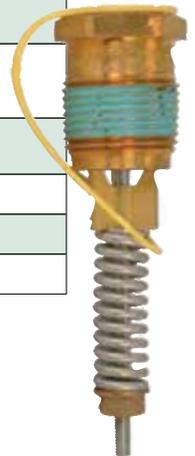
ASME					
Part Number	Container Connection	Relief (PSIG) Setting	Flow/Air SCFM - UL	Maximum Surface Area Capacity - Sq. Ft.	Raincap
<b>661128</b>	3/4" MPT	250	1852	75	MEH501-1.5
<b>661129</b>	1" MPT	250	2795	124	MEH501-1.75
<b>661130</b>	1 1/4" MPT	250	4312	212	MEH501-2.25
<b>MEVS-UVE433AM/250*</b>	3/4" MPT	250	1930	79	
<b>MEVS-UVE443AM/250*</b>	1" MPT	250	2755	122	
<b>MEVS-UVE453AM/250*</b>	1 1/4" MPT	250	4640	230	
FORKLIFT RELIEF VALVES, DOT*					
<b>MEV75FIR</b>	3/4" MPT	375	368	11	MEP175C
<b>660248</b>			400	11	
<b>661027</b>	3/4" MPT w/Pipeaway		400	11	
ENGINE FUEL & RV RELIEF VALVES & DOT					
<b>MEVS-PVE445/AT/375</b>	1" MNPT	375	1625	64	
<b>MEVS-VVE445/AM/250</b>	1" MNPT	250	987	34	
<b>661135</b>	1" MNPT	250	967	25	

\*California setting at 275 psig also available.



CY

661029



661058

## Forklift Valve Accessories



MEP175-45



MEP175-90

\* All containers used in industrial trucks (including forklift truck cylinders) shall have the pressure relief valve replaced by a new or unused valve within 12 years of the date of manufacture of the container and each 10 years thereafter.



660248

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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802064

CY

## Forklift Equipment

Cavagna Part Number	Marshall Excelsior Part Number	Rego Part Number	Inlet Connection	Outlet Connection	Comments
<b>802064</b>	<b>ME9101P5H</b>	<b>9101P5H</b>	3/4 MNPT	3/8" MNPT	Forklift Liquid Valve
<b>661024</b>	<b>ME220M</b>	<b>7141M</b>	3/8" FNPT	1 1/4" M Acme	Service Adaptor
<b>661023</b>	<b>ME220F</b>	<b>7141F</b>	1 1/4" F Acme	1" FNPT	Service Adaptor
-	<b>ME220FSN</b>	-	1 1/4" F Acme	1/4" FNPT	Moto Seal Low Emission Service Adaptor
<b>660248</b>	<b>MEV75FIR</b>	<b>8545AK</b>	3/4" MNPT	-	Relief Valve
<b>661122</b>	-	-	3/4" MNPT	-	Filler Valve
-	<b>MEJ410-054</b> <b>MEJ410-066</b>	-	1/4" MNPT	-	Fixed liquid level gauge, specify dip tube length

Relief Valves page 51.  
Float gauges page 58.



661024

## Miscellaneous Forklift Equipment

Part Number	Description
<b>MSW4P</b>	Forklift connector washer, bag of 100
<b>2-114A</b>	Forklift "O" Ring, inside of MSW4, bag of 100
<b>WB-FL-RK</b>	Starter Kit for replacing Forklift Liquid Tubes
<b>FLDT</b>	Replacment Liquid Tube for 33# Cylinders
<b>FLDT43</b>	Replacment Liquid Tube for 43# Cylinders
<b>ME790</b>	Filler Connector, 1 1/4 F Acme x 1/4" MNPT
<b>ME790SN</b>	Moto Seal Low Emission Filler Connector, 1 1/4 F Acme x 1/4" MNPT
<b>ME795-3-02</b>	Rubber seal tip replacement for ME795, ME220FSN & ME790SN
<b>MEJ400/72</b>	Low Emission Brass Vent Valve #72 Orifice
<b>MEJ405</b>	Low Emission Retro Fit Vent Valve connects in existing valve
<b>MEJ410-054</b>	Vent Valve with Dip Tube with 5.4" diptube
<b>MEJ410/72-5.4</b>	Low Emission Brass Vent Valve with 5.4" dip tube
<b>MEJ410-066</b>	Vent Valve with Dip Tube with 6.6" dip tube
<b>MEJ410/72-6.6</b>	Low Emission Brass Vent Valve with 6.6" dip tube
<b>I29A006</b>	Air actuated automated filling head for forklift cylinders



ME790



## OPD Valves

Part Number	Dip Tube Length	Fits Cylinder	Connection Type	Manufacturer
<b>V21113</b>	3.0"	5# Steel	QCCI	Cavagna
<b>808109</b>	4.8"	30# Steel		
<b>808110</b>	6.5"	40# Steel		
<b>V21130</b>	3.6"	10# Steel		
<b>808107</b>	4.0"	20# Steel		
<b>V21464'</b>	4.0"	20# Steel	QCCI	Manchester
<b>PV3004A</b>	5.8	30# Aluminum		Emerald Isle
<b>PV4004A</b>	7.0"	40# Aluminum		
<b>ME392P</b>	1 5/16" FACME sealing brass cap protects threads during refurbishment			Marshall Excelsior
<b>94QCI</b>	QCCI plastic valve cover cap pre-bagged quantity-25			

(1) Sureflame® Float valve and gauge dial, replacement dial part no V21462

808107



CY

### Purpose:

Provides a fast and reliable connection for filling cylinders with QCC style 1-5/16" M.Acme service valves. This coupling provides a snap on / snap off design specifically intended to reduce labor and repetitive motion associated with threaded type fill couplings. Our glass filled nylon handle and stainless steel internal components provide a durable, light weight, and easy to operate fill coupling that will withstand even the harshest working conditions while reducing cylinder valve thread wear.

### Features:

Easy to use snap on / snap off action for quick fill operation

Durable glass filled nylon handle

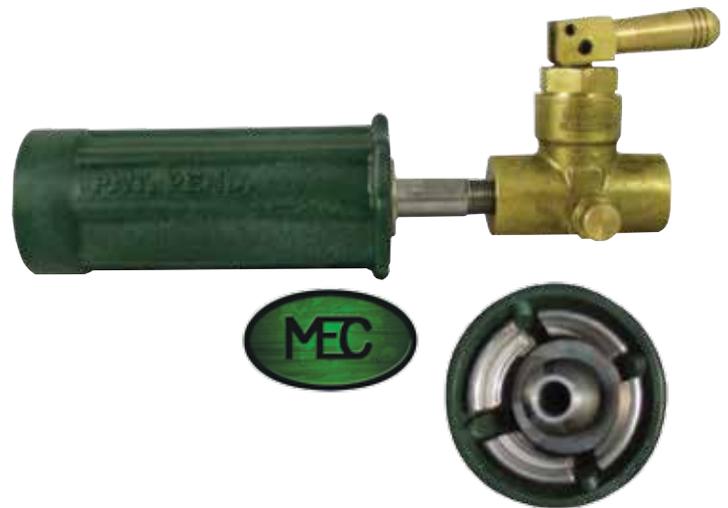
All stainless steel internal components

Large bore stainless steel stem for increased flow

Designed for universal right or left hand operation

Provides universal fill connection for all model QCC service valves

## QCC Quick Fill Coupling



### Coupling detail

QCC Quick Fill Coupling	
Part No.	Description
<b>ME796</b>	QCC Quick Fill Coupling 1-5/16" Acme x 1/4" MNPT
<b>Tear Cap</b>	Single use plastic cover with pull tab cap



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Quick Jaw Hose End Valve



CY



Squibb Taylor  
L364

- Minimum Loss Valve ~ .6cc at disconnect
  - Safety Tab prevents lifting collar when valve is open
  - The operating handle can be moved to any position without cutting seat
  - User friendly handle is large enough to operate with gloved hands
- Self latching handle with safety latch to prevent accidental opening  
Only 1/8 turn to connect or disconnect  
No additional adapters or connectors needed for operation

L364...3/4" FPT x 1-3/4" Acme Quick Jaw minimum loss hose end valve

#### Easy Operation...

- Pull up on the locking collar to open jaws.
- Place jaws on the fill valve, release collar and tighten 1/8 turn and open valve to fill.
- Close valve, loosen collar 1/8 turn to bleed, pull up on the collar to release.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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3250BC-312



## Cylinder Valves

Part Number	Description
<b>802146</b>	FPOL service valve, No relief, 3/4" MPT, 1.5 GPM excess flow
<b>805016</b>	100# Cylinder Valve with Spitter, 375 psig Relief
<b>806032</b>	Heavy Duty, Up to 200# Cylinder Valve, with Spitter
<b>802146</b>	FPOL service valve, No relief, 3/4" MPT, no dip tube
<b>3250ALG11.6</b>	100# Cylinder Valve with Spitter, 375 psig Relief
<b>3250ALM116</b>	100# Cylinder valve for liquid with excess flow check and dip tube
<b>3250ALG711</b>	420# Cylinder Service Valve, 11" Diptube, No Relief
<b>3250BC-312</b>	RV Valve, 312 psig Relief, FPOL x 3/4" MNPT
<b>3329BDB</b>	FPOL service valve, No relief, 3/4" MPT, no dip tube
<b>9107K8A</b>	100# Cylinder Withdrawal Valve, Male CGA 555, Excess Flow
<b>9103D11.6</b>	100# Cylinder Valve 11.6" Diptube 375 psig Relief

Note: 2 lb. to 100 lb. cylinders for vapor service are required to have a fixed maximum liquid level gauge (spitter). The liquid level gauge can be separate or part of the cylinder valve.

CY

805016



## MEC Valve Repair Parts

MEC Valve Repair Parts			
Valve Number	3329, 3250BC, 2030BC, 2034CLT, 1447C, 1449	ME662, ME665, 3329, 3250BC, 2034CLT, 1447C, 1449	2035A, 3250C/CLG/ALG7T/ADT-7, CLM, 1427B, 1447B
Handwheel		ME662-102	MES1901S
LH Bonnet, Stem, Seat assy. & O-ring	MES3329-13LHK		MES3250-8LHK

## Miscellaneous Valve Repair Parts

Valve Number Description	1477, 2594, 3100, 7100, 6477, 2593	8100	901, 903, 6533D, 6543D, 8555S	9101C/D, 6532A, 6533A, 6542A, 6543A, 7556V, 8593A, G8475, 8555D/DL	8547W	6532, 6533R, 6542R, 6543R, 7556R, G8475R, 8555R, 8593R, 9101R
Handwheel	9107-31	9107-31	9107-31	---	9107-31	903-31
Diaphragm, bonnet & stem ass'y.	---	8100-50	---	---	---	---
Diaphragm ass'y.	3100-80B	---	---	---	---	---
Bonnet, valve stem, O-ring ass'y.	---	8100-50	---	---	---	---
Conversion kit	3100-81K	---	---	---	---	---
Bonnet ass'y., handwheel screw & washer	---	---	903-50 (L) 903-51 (S)	19100-50B	---	19104-50
Multi bonnet conversion kit	---	---	---	19104-50	---	---
Upper packing nut for multi-bonnet	---	---	---	---	---	19104-80

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# Cylinder Storage Cabinets



## Lift Truck Cylinder Cabinets

Part No. (1)	Description	Cabinet Dimensions			
		Deep	Wide	High	Weight
<b>M4</b>	4 Cylinder Cabinet	32"	30"	40"	120 lbs
<b>M6</b>	6 Cylinder Cabinet	32"	30"	55"	152 lbs
<b>M8</b>	8 Cylinder Cabinet	32"	30"	70"	170 lbs
<b>M12</b>	12 Cylinder Cabinet	32"	43"	70"	220 lbs
<b>M16</b>	16 Cylinder Cabinet	32"	60"	70"	305 lbs
<b>M24</b>	24 Cylinder Cabinet	32"	85"	70"	405 lbs

(1) Add an "A" to the Part Number for an Aluminum cabinet

F.O.B. Wawaka, IN. / Truck freight



- Fully fabricated & ready to put to use when received.
- Steel welded construction...no bolt to maintain in the field.
- Powder coated white or the color of your choice (red slightly higher)
- Extra heavy duty hinges
- Decal affixed to cabinet (1-No Smoking and 2-diamond shaped 1/4/0 on each side).
- Eberhard "T" handle latch with 2 keys and a place for a padlock included
- Slant roof for water run off.
- Construction; Frame - 1 1/2" angle / Shelves - tapered 1" angle / Roof - 16 gauge steel.
- Lift truck cabinets built to fit 33.5 lb cylinders. 43 lb cylinder cabinets available at additional cost.
- All cabinets available in aluminum (1)

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CY

## 20 LB. Cylinder Exchange Cabinets

Part No. (1)	Description	Cabinet Dimensions			
		Deep	Wide	High	Weight
<b>X8</b>	8 Cylinder Cabinet	27"	30"	50"	170 lbs
<b>X12</b>	12 Cylinder Cabinet	27"	43"	50"	215 lbs
<b>X16</b>	16 Cylinder Cabinet	27"	60"	50"	270 lbs
<b>X18</b>	18 Cylinder Cabinet	27"	43"	72"	270 lbs
<b>X24</b>	24 Cylinder Cabinet	27"	60"	72"	360 lbs
<b>X24LP</b>	24 Cylinder Cabinet Low Profile	27"	85"	50"	360 lbs
<b>X36</b>	36 Cylinder Cabinet	39"	60"	72"	490 lbs
<b>X36LP</b>	36 Cylinder Cabinet Low Profile	39"	85"	50"	490 lbs

(1) Add an "A" to the Part Number for an Aluminum cabinet

F.O.B. Wawaka, IN. / Truck freight

# Manchester Cylinders (cont. next page)



5 LB.



11 LB.  
SHORT



20 LB.

Part Number	Size Pounds	Service	Material	Valve
<b>CY414OPD</b>	4 1/2	Vapor	Steel	OPD
<b>CY5OPD</b>	5	Vapor	Steel	OPD
<b>CYAL6</b>	6	Vapor	Aluminum	OPD
<b>CY10OPD</b>	10 - Tall	Vapor	Steel	OPD
<b>CY11OPD</b>	11 - Short	Vapor	Steel	OPD
<b>CY15MC</b>	15		Steel	Mower Cylinder LH Connector, Acme Fill, No Gauge
<b>CY20OPD</b>	20	Vapor	Steel	OPD
<b>CY20SFG</b>	20	Vapor	Steel	OPD & Sureflame Gauge
<b>CYFL20</b>	20	Liquid	Steel	Forklift w/ Coupler & Gauge
<b>CY20HOR</b>	20	Vapor	Steel Horizontal w/ Gauge	OPD
<b>CY20BUF</b>	20	Vapor	Steel Verticle for Buffer	Forklift w/ Coupler & Gauge
<b>CYAL20BUF</b>	20	Vapor	Aluminum Buffer Verticle Only	Forklift w/ Coupler & Gauge
<b>CY30OPD</b>	30	Vapor	Steel	OPD
<b>CY30HOR</b>	30	Vapor	Steel Horizontal w/ Gauge	OPD
<b>CY33.5</b>	33.5	Liquid	Steel	Forklift w/ Coupler & Gauge
<b>CYAL33.5</b>	33.5	Liquid	Aluminum	Forklift w/ Coupler & Gauge

Special quantity pricing may apply on pallet quantities or truck load quantities. Check with inside sales. 1 800 537 7518



**CYAL33.5  
ALUMINUM**

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<b>CYAL33.5FV</b>	33.5	Liquid	Aluminum	Forklift w/ Coupler, Fill Valve & Gauge
<b>CYAL33.5MC</b>	33.5		Aluminum	Mower Cylinder LH Connector, Acme Fill, Gauge
<b>CY40OPD</b>	40	Vapor	Steel	OPD
<b>CYAL40OPD</b>	40	Vapor	Aluminum	OPD
<b>CY435</b>	43.5	Liquid	Steel	Forklift w/ Coupler
<b>CYAL435</b>	43.5	Liquid	Aluminum	Forklift w/ Coupler & Gauge
<b>CY50</b>	50	Vapor	Steel	POL
<b>CY60</b>	60	Vapor	Steel	POL
<b>CY100</b>	100	Vapor	Steel	POL
<b>CY100L</b>	100	Liquid	Steel	CGA555 Hopane
<b>CY100ASME</b>	100	Vapor	Steel	POL & Gauge
<b>CY200DOT</b>	200	Vapor	Steel	POL & Gauge
<b>CY200ASME</b>	200	Vapor	Steel	POL & Gauge
<b>CY420DOT</b>	420	Vapor	Steel	Multi-Valve
<b>VC11 (1)</b>	11	Vapor	Fiberglass	OPD Valve
<b>VC17 (2)</b>	17	Vapor	Fiberglass	OPD Valve
<b>VC31 LIQUID</b>	31	Liquid	Fiberglass	Forklift Valve
<b>VC31 VAPOR</b>	31	Vapor	Fiberglass	Forklift Valve

Tankfoot tank stabilizer part number F273169 is available to assist the consumer in transporting 20, 30 & 40 lb cylinders

- (1) Available in Dark Blue, Light Green, and Red  
(2) Available in Dark Blue, Dark Grey, Orange and Red



VC11



VC17



VC31



100 LB.



420 LB.

Special quantity pricing may apply on pallet quantities or truck load quantities. Check with inside sales.  
1 800 537 7518

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# Cylinder Equipment

## Cylinder Caps and Collars

Part Number	Description
<b>312MV</b>	3 1/2" collar with multi-valve cutout
<b>312</b>	Standard 3 1/2" collar
<b>318MV</b>	Old style 3 1/8" collar for multivalve
<b>C312</b>	Standard 3 1/2" cap
<b>C318</b>	Old style 3 1/8" cap

Note: For use on cylinders in transit and on construction sites. 'MV' collars have a cutout to fit over multivalves.



312MV



C312

CY



33-SCOOP



247200

## Heavy Duty Hand Trucks

Part Number	Description
<b>CD-505</b>	100 lb Cylinder Cart
<b>HTBQI</b>	420 lb Cylinder Cart
<b>33-SCOOP</b>	Forklift Cylinder Cart - 4 Cylinders
<b>247200</b>	Forklift Cylinder Cart - 4 Cylinders



CD-505



HTBQI

## Cylinder Straps

Part Number	Description
<b>Cyl Strap</b>	12' x 2" strap complete, extra wide handle
<b>Long Strap</b>	8' strap, part of the cylinder strap
<b>Short Strap</b>	4' strap part of the cylinder strap
<b>Webbing</b>	Replacement webbing by the foot
<b>Ratchet</b>	Ratchet only for cylinder strap



## Hoods, Stands and Bases

Part Number	Description
<b>C-2A-PB*</b>	Complete Unit, Hood, Stand, Base
<b>B-476*</b>	Base Only (Drilled)
<b>HA-44I</b>	Hood Only
<b>P-449</b>	Post Only
<b>C-2A-PBLB</b>	Hood & Stand, less Base
<b>CON-10I</b>	Hardware

\* Quantity discounts on 10, 50, 100, 200 or more units.



210

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## CYLINDER VALVE WRENCHES

Part Number	Description
<b>20-1</b>	Steel POL plug for valve wrench
<b>20-2</b>	Valve wrench distance piece
<b>20-3</b>	Handle
<b>20-4</b>	Chain vise
<b>20-5</b>	Plumbers pot wrench
<b>20-6</b>	Combo wrench (fits Rego & Sherwood)
<b>20-8A</b>	OPD 1 piece unit
<b>MEPI22</b>	2 piece wrench QCC
<b>MEPI25</b>	Socket drive crows foot
<b>800411</b>	1 1/8" offset wrench (Cavagna valves)
<b>800412</b>	1 7/32" offset wrench



# Miscellaneous Cylinder Equipment



Air operated light weight tool for dating requalified cylinders.

CY



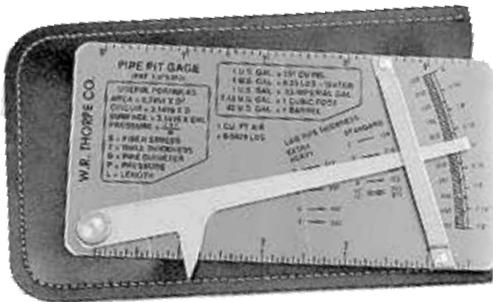
## Chicago Pneumatic Air Scribe

Part No.	Description
<b>CP9361</b>	Air scribe, hose, filter
<b>P054177Y</b>	Stylus point for Air Scribe
<b>P054186</b>	Ring ball lock
<b>S000821</b>	1/8" ball
<b>S008613</b>	5/32" ball
<b>P043886</b>	8 ft. hose for Air Scribe



## Spark Proof Hammer

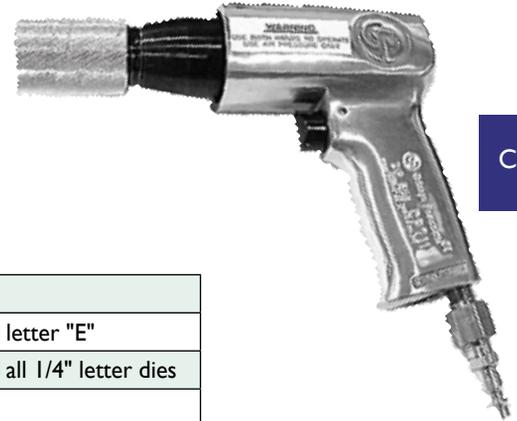
Part Number	Description
<b>Hammer</b>	1.5 lbs., brass head, steel handle



## Thorpe Pit Gauge

Part Number	Description
<b>Thorpe Pit Gauge</b>	Pit gauge complete with leather case

The EZ Stamp only requires 60 lbs. of air pressure to impact the new information onto the cylinder. By rotating the EZ Stamp slowly, the rapid beats (3200 beats per minute) drives the die into the cylinder or cylinder collar without denting the cylinder or the cylinder collar. Within 30 seconds you have a new legible date that doesn't fade away when you clean the paint off the cylinder.



CY

## EZ Stamp

Part No.	Description
<b>EZ Stamp Mod A</b>	1/4" numbers and letter "E"
<b>EZ Stamp Mod B</b>	1/4" numbers and all 1/4" letter dies
Includes Air Gun but not hose assembly	

## Cylinder Vise

Part Number	Description
<b>Cylinder Vise</b>	Brindle cylinder vise
<b>200XX</b>	Replacement strap
<b>Ratchet</b>	Replacement ratchet



cylinder not included

## Steel Stamps

Part Number	Description
<b>Stampset</b>	1/4" numbers with letter "E"
<b>E Stamp</b>	"E" stamp only 1/4"
<b>N Stamp</b>	"N" stamp only 1/4"
<b>V Stamp</b>	"V" stamp only 1/4"
<b>Letter Set</b>	27 Piece letter set 1/4" includes "."



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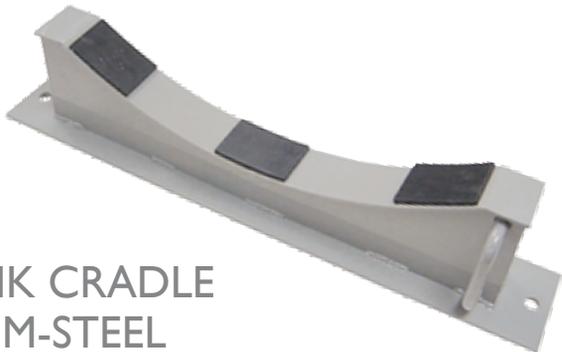
# Tank Transportation DOT Special Permit 1334I

The efforts of the National Propane Gas Association (NPGA) have resulted in DOT issuing Special Permit 1334I, authorizing, under certain circumstances, the transportation of 500 gallon ASME tanks containing more than 5% propane.

To insure compliance this new permit, contact your state association or NPGA for the full terms of this special permit.

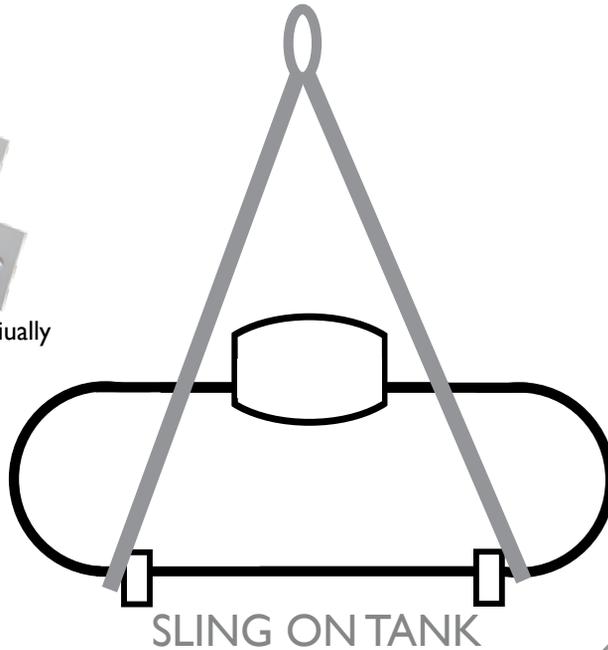


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Cradle Sold Individually

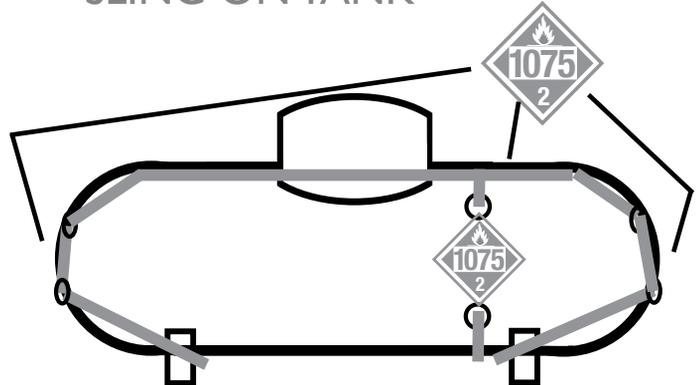
TANK CRADLE  
ALUM-STEEL



SLING ON TANK



TANK STRAP



1075PSSS  
1075 PLACARD STRAP SYSTEM



D-RING

## DOT Special Permit 1334I Transportation Items

Part Number	Description
<b>TANK CRADLE ALUM</b>	Aluminium Tank Cradle W/ Rubber Liner for 500 gal Tank
<b>TANK CRADLE</b>	Steel Tank Cradle W/ Rubber Liner for 500 gal Tank
<b>1075PSSS</b>	1075 Placard Strap System
<b>LIFTING SLING</b>	3" x 16ft Strap set of 2
<b>LIFTING SLING SHORT</b>	3" x 13ft Strap set of 2
<b>LIFTING BRIDLE</b>	2 Leg Bridle Lifting Sling Strap 11' overall length
<b>D RING</b>	D Ring Web Shackle 18,000 lb. Working Load
<b>TANK STRAP</b>	20 Ft. Tie down strap for ASME Tank 3300 lb. Working Load

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## Electrical bonding of Gastite CSST

This technical bulletin provides requirements for the direct bonding of Gastite CSST. These requirements supersede any prior documents and are mandatory manufacturer's instructions until such time as requirements are adopted by the appropriate national/state model codes and direct bonding installation instructions are specified therein. This document replaces Technical Bulletin TB2007-01 and Section 4.10 Electrical Bonding/ Grounding of the January 2008 Gastite Design and Installation Guide. This technical bulletin is effective for a all Gastite CSST installed from this date forward. Direct bonding of Gastite CSST is required for all gas-piping systems incorporating Gastite CSST whether or not the connected gas equipment is electrically powered. This requirement is provided as part of the manufacturer's instruction for single-family and multi-family buildings. A person knowledgeable in electrical system design, the local electrical code and these requirements should specify the bonding for commercial applications. Gastite CSST installed inside or attached to a building or structure shall be electrically continuous and direct bonded to the electrical ground system of the premise in which it is installed. The gas piping system shall be considered to be direct bonded when installed in accordance with the following. The piping is permanently and directly connected to the electrical service equipment enclosure, the grounded conductor at the electrical service, the grounding electrode conductor (where of sufficient size) or to one or more of the grounding electrodes used. For single and multi-family structures, a single bond connection shall be made downstream of the individual gas meter for each housing unit and upstream of any CSST connection. The bonding conductor shall be no smaller than a 6 AWG copper wire or equivalent. The bonding jumper shall be attached in approved manner in accordance with NEC Article 250.70 and the point of attachment for the bonding jumper shall be accessible. Bonding/grounding clamps shall be installed in accordance with its listing per UL 467 and shall make metal-to-metal contact with the piping. This bond is in addition to any other bonding requirement as specified by local codes. For attachment to the CSST gas piping system, a single bonding clamp must be attached to either a segment of steel pipe or to a rigid pipe component.

The corrugated stainless steel tubing portion of the gas piping system shall not be used as the point of attachment of the bonding conductor at any location along its length under and circumstances. Proper bonding and grounding will reduce the risk of damage and fire from a lightning strike. Lightning is a highly destructive force. Even a nearby lightning strike that does not strike a structure directly can cause all electrically conductive systems in the structure to become energized. If these systems are not adequately bonded, the difference in electrical potential between the systems may cause the charge to arc from one system to another. Arcing can cause damage to CSST. Direct bonding and grounding as set forth above will reduce the risk of arcing and related damage over a non direct bonded system. Depending upon conditions specific to the location of the structure in which the Gastite system is being installed, including but not limited to whether the area is prone to lightning, the owner of the structure should consider whether a lightning protection system is necessary.

CG

Part No	Description
<b>FS-8-250</b>	1/2" CSST Tubing Gastite - 250ft coil
<b>FS-8-125</b>	1/2" CSST Tubing Gastite - 125ft coil
<b>FS-8-50</b>	1/2" CSST Tubing Gastite - 50ft coil
<b>FS-11-125</b>	3/4" CSST Tubing Gastite - 125 ft coil
<b>FS-11-250</b>	3/4" CSST Tubing Gastite - 250 ft coil
<b>FS-11-50</b>	3/4" CSST Tubing Gastite - 50 ft coil
<b>FS-16-150</b>	1" CSST Tubing Gastite - 150ft coil
<b>FS-16-50</b>	1" CSST Tubing Gastite - 50ft coil
<b>FS-16-75</b>	1" CSST Tubing Gastite - 75ft coil

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# Gastite© Corrugated Stainless Steel Tubing



Gastite © is CSA design certified to ANSI LCI-2005 for "Fuel Gas Piping Systems using corrugated stainless steel tubing (CSST)". CSST supplies natural gas or liquefied petroleum gas (LP gas) to appliances. Simple hand tools such as tubing cutters, wrenches and utility knives are all that are needed to work with the Gastite components. Gastite is a reliable, cost-effective system that can be installed in all modes of construction: residential, commercial and industrial; new construction and retrofits. Featuring its patent-pending multi-point seal, the XR2 fitting sealing surface does not sit on the cut end of the tubing, so even the most unsightly cut will yield a tight seal. The XR2 is also reduced in size and requires minimal torque, making the installation of larger sizes considerably easier. With no O-rings or gaskets, the reusable brass components provide a reliable metal-to-metal installation.

CG



FSCPL-8



## STRIKER PLATES AND CONDUITS

Part No	Description
<b>XR2FTG6</b>	3/8" Straight Fitting tube - 1/2" MPT Gastite CSST
<b>XR2FTG8</b>	1/2" Straight Fitting tube - 1/2" MPT Gastite CSST
<b>XR2FTG11</b>	3/4" Straight Fitting tube - 3/4" MPT Gastite CSST
<b>XR2FTG16</b>	1" Straight Fitting tube - 1" NPT Gastite CSST

Part No	Description
<b>XR2CPL6</b>	3/8" Coupling Gastite CSST
<b>XR2CPL8</b>	1/2" Coupling Gastite CSST
<b>XR2CPL11</b>	3/4" Coupling Gastite CSST
<b>XR2CPL16</b>	1" Coupling Gastite CSST

Part No	Description
<b>TFM201</b>	3" x 7" Half Striker Plate for CSST Gastite
<b>TFM204</b>	3" x 2" Quarter Striker Plate for CSST Gastite
<b>TFM205</b>	3" x 12" Full Striker Plate for CSST Gastite
<b>TFM210</b>	6" x 17" Long Striker Plate for CSST Gastite
<b>FLOPPY12</b>	3/4" Coil Steel Conduit fits 3/8" CSST Gastite (50 ft/coil)
<b>FLOPPY16</b>	1" Coil Steel Conduit fits 1/2" CSST Gastite (50ft/coil)
<b>FLOPPY20</b>	1-1/4" Coil Steel Conduit fits 3/4" CSST Gastite (25ft/coil)
<b>FLOPPY24</b>	1-1/2" Coil Steel Conduit fits 1" CSST Gastite (25ft/coil)
<b>MSTRAPS6</b>	Metal Tubing Strap - Fits 3/8" Gastite CSST (250 per box)
<b>MSTRAPS8</b>	Metal Tubing Strap - Fits 1/2" Gastite CSST (250 per box)
<b>MSTRAPS11</b>	Metal Tubing Strap - Fits 3/4" Gastite CSST (150 per box)
<b>MSTRAPS16</b>	Metal Tubing Strap - Fits 1" Gastite CSST (100 per box)
<b>ANGLE STUB-01-10</b>	1/2"M x 4-1/2"L x 72.5° Angle Stub for Fireboxes Gastite CSST

Gastite now has the FlashShield lightning resistant CSST. Contact sales department for more information.

Part No	Description
<b>FST-8</b>	1/2" Tee Fitting Gastite CSST
<b>FST-11</b>	3/4" Tee Fitting Gastite CSST
<b>FST-16</b>	1" Tee Fitting Gastite CSST



FST-8

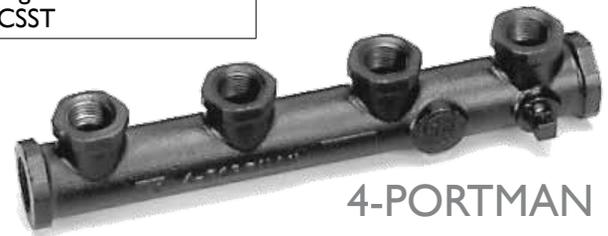
Part No	Description
<b>FSTRM-8</b>	1/2" Termination Fitting - Cast Flange 1/2" NPT
<b>FSTRM-11</b>	3/4" Termination Fitting - Cast Flange 3/4" NPT
<b>FSTRM-16</b>	1" Termination Fitting - Cast Flange 1" NPT
Note - Fittings available without the flange	



CG

FSTRM  
TERMINATION  
FITTING

Part No	Description
<b>1/2X12STUB</b>	1/2"M x 12"L Straight Stub Gastite CSST
<b>1/2X6STUB</b>	1/2"M x 6"L Straight Stub Gastite CSST
<b>1X12STUB</b>	1"M x 12"L Straight Stub Gastite CSST
<b>1X6STUB</b>	1"M x 6"L Straight Stub Gastite CSST
<b>3/4X12STUB</b>	3/4"M x 12"L Straight Stub Gastite CSST
<b>3/4X6STUB</b>	3/4"M x 6"L Straight Stub Gastite CSST
<b>XRAPSTUB11</b>	1/2" M x 1/2" M x 1-1/2" Stub length with 3/4" female fitting Gastite CSST
<b>XRAPSTUB11-11</b>	3/4" M x 3/4" M x 1-1/2" Stub length with 3/4" female fitting Gastite CSST
<b>XRAPSTUB8</b>	1/2" M x 1/2" M x 1-1/2" Stub length with 1/2" female fitting Gastite CSST



4-PORTMAN

Part No	Description
<b>4-PORTMAN</b>	Four ports 3/4" F by 1/2" F x 1/2" F Gastite CSST

Part No	Description
<b>GTCUTTER SM</b>	Cutter with flat rollers for 3/8" - 1" Gastite CSST
<b>GTCUTTER LG</b>	Cutter with flat rollers for up to 2" Gastite CSST
<b>GTBLADE LG</b>	Replacment Blade for GTCUTTER LG Gastite CSST pkg of 5 blades
<b>GTBLADE SM</b>	Replacment Blade for GTCUTTER SM Gastite CSST pkg of 5 blades

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# Sumter Coatings, Painting Tools



Tank Size Gallons	Approx. Sq. Ft.	Gallons of Paint Needed
30,000	2,000	8
18,000	1,250	6
12,000	1,160	5
1,000	225	1
500	116	2 tanks per gallon
250	57	4 tanks per gallon

How much paint do I need?



Part Number	Description
<b>880W2203</b>	Blued white alkyd enamel, workhorse of the industry. Custom colors available upon request. Covers in one coat. Slow-chalking. (S5)
<b>880W2201</b>	Silicone alkyd white. Provides long-lasting finish. Excellent gloss. Excellent color retention. Bright white. Custom colors available. Easily applied with brush, roller or spray. Covers up to 350 sq. ft. per gallon, dries in 6-12 hours. Use (889W1370) Epoxy Off White primer for best adhesion. (S7)
<b>880W2685</b>	Modified Silicone alkyd white. (S-6)
<b>Satin Shield Enamels* (885 series) Over 60 colors.</b>	Fast and easy. Quick-dry, one coat coverage. Eliminates the need for a separate primer coat. Corrosion-resistant. Excellent color holdout. Lead and chromate free. Designed with cylinders in mind. In extreme weather conditions, where salt and moisture are a concern, chose a Sumter undercoat for the best possible results.
<b>Eniviro-Tuff Industrial Enamels* (886 Series) 15 colors</b>	Great for accent dome colors. Built-in rust-inhibition. Excellent color retention and durability.
<b>888S2006</b>	High-grade aluminum in every gallon. Excellent elasticity. Can be rolled on. A rust-inhibitive primer and bright aluminum finish. Wears long with less tarnishing from weather. (1110)
<b>888S2005</b>	2 lbs. of aluminum in every gallon. Excellent workability with rollers. Perfect for bulk and storage tanks. (1000)
<b>888S2007</b>	Aluminum paint with high hiding power. Produces a tougher dry film. (1151)
<b>855DI373 - Gray</b> <b>855GI368 - Gray Green</b> <b>855WI370 - Off White</b>	Rust-inhibitive primer. Excellent adhesion. Corrosion resistance. Gray, Gray Green, and Off White. (1373/1368/1370)
<b>880N2209</b>	One-coat phenolic compound, primer and finish in one. For cylinder bottoms. May be used for underground tanks and pipes. Apply by brush, roller or spray. (L122)
<b>856X2210</b>	Thinner for all Sumter Coatings paints. (XL Thinner)
<b>PL005</b>	Penetrol wetting agent. Daub or brush on wherever rust cannot be removed (hinges, cotter keys on domes). May also be mixed with paint to slow drying time.

\*Contact inside sales for more information.

P/S

PL005

BC0003  
BONNET  
ON



KM-1009  
EMPTY 5  
GALLON  
BUCKET



LCV16

TTB002

EP03P

Part No.	Description	Part No.	Description
<b>BC0003</b>	Bucket cover	<b>EP03P</b>	Extension pole (42", 4 piece)
<b>TTB002</b>	Tank trim brush (w/12" handle)	<b>EX048</b>	Extension pole (48" piece)
<b>WB042</b>	Wire brush (w/metal scraper)	<b>TA072</b>	Telescoping aluminum extension (6'-12')
<b>BG0001</b>	Bucket grid (w/dimple)	<b>AP024</b>	Aluminum extension pole (2'-4')
<b>TR09K</b>	Tank roller (handle only)	<b>PS012</b>	Production sandpaper (med. grade sheets)
<b>LCV16</b>	Poly/lambswool cover (for 9" roller)	<b>SCR007</b>	Springs (for contour rollers)
<b>CR063</b>	Contour roller (7" complete assembly)	<b>KN006</b>	Knurled nuts (for contour rollers)
<b>CR006</b>	Contour roller refill (for 7" assembly)	<b>AX101</b>	Mildewcide additive Ass-X (1 oz.)
<b>RC09P</b>	9" Economy roller cover	<b>PSB11</b>	Paint Strainer (for gallons)
		<b>KM-1009</b>	Empty 5 gallon bucket

CR063

218



## Diagraph Stenciling Ink and Accessories

Part Number	Description
3" Type N	3" roller assembly complete
Type N Rep Roller	3" replacement roller
RIO Cond	Roll It On conditioner
RIO Pads	Roll It On ink pads
S-1	Black ink - quart
S-4	Red ink - quart
S-6	Blue ink - quart

Many colors available.  
Price varies with color.



## DECALS, SIGNS AND LABELS



RIN LABEL

### OPD Retrofit Guidelines

Cylinder Size	Material	Cylinder I.D. (in)	Cylinder Water Capacity (lb)	Recommended Dip Tube Length (in)
4.25H	Steel	8.9	16.2	3.2
4H	Steel	7.8	15.9	3.6
6H	Steel	7.8	19.9	3.2
10H	Steel	8.9	26.2	3.6
11H	Steel	12.0	26.2	3.6
11.8H	Steel	12.0	27.3	3.2
20H	Steel	12.0	47.6	4.0
20H	Steel	12.0	36.7	4.8
30H	Steel	12.0	71.9	4.8
40H	Steel	12.0	98.3	6.0
60	Aluminum	6.9	15.0	4.8
100	Aluminum	10.0	25.6	4.0
200	Aluminum	12.0	47.6	4.8
300	Aluminum	12.0	71.9	6.0
400	Aluminum	12.0	98.3	7.0

Notes:  
1. This table indicates the appropriate head maximum liquid level gauge dip tube lengths to be used for retrofitting cylinders with various capacities requiring an overfilling prevention device. This table does not cover other cylinder design or configurations.  
2. Important: If the dip tube length that is listed in the cylinder does not appear in the above table, use the next longer dip tube length in the table. Example: When the dip tube length marked on the cylinder is 5.0 in., use a 6.0 in. dip tube for the retrofit.  
3. The dip tube length is not marked on the cylinder; contact the manufacturer for the recommended dip tube length.

P-114



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Decals and Signs



AAI6/AAI6 ROLL



2NI



SP53R



P102

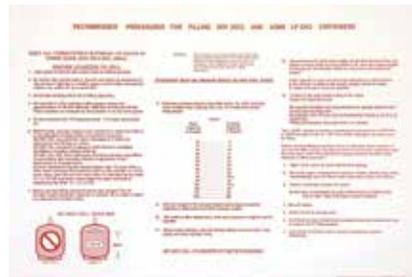
P/S

Prefix	Suffix
P = Polyethylene (plastic)	A = 6" Letters
S= Scotchlite® (or equal) reflective	B = 4" Letters
V = Vinyl (stick-on) decal	BB = 3" Letters
M = Metal (aluminum)	C = 2" Letters
G = Magnetic blanket	D = 1" Letters
C = Coroplast	

Part Number	Description
<b>A16</b>	Custom imprinted DOT cylinder labels - min. order 3500
<b>AAI6</b>	DOT cylinder labels - min. order 100
<b>AAI6ROLL</b>	DOT cylinder labels 500 per roll
<b>AAI6GHS-CUSTOM</b>	Custom GHS DOT cylinder labels - min. order 2,000
<b>2NI</b>	For all portable cylinders - 500 per roll DOT 1075 / Warning ANSI / NFPA Pamphlet 58
<b>V56R</b>	3 in 1 Hazardous Material Label, 10 x 3 1/2"
<b>V56RGHS-CUSTOM</b>	Custom GHS 3 in 1 Hazardous Material Labels - Minimum order 500
<b>SP53R</b>	Warning label, 3 valves. Black on yellow
<b>P-101</b>	Water capacity chart
<b>P102</b>	Notice for your safety
<b>P-206</b>	Cylinder filling instructions (ASME/DOT) - poly
<b>V206</b>	Cylinder filling instructions (ASME/DOT) - vinyl
<b>V14</b>	Cylinder exchange check list - vinyl
<b>C37</b>	Cylinder exchange check list - coroplast
<b>PIII</b>	OPD sign - "Does your valve look like this ..."
<b>P-114</b>	OPD retrofit guide
<b>PMICH</b>	No Smoking - No Open Flame ..Warning: Filling the following...
<b>V128</b>	This container is NOT equipped with an OPD' (for horizontal cylinders)
<b>RIN LABEL</b>	RIN DOT Cylinder decal label 50 per roll
<b>CUSTOM RIN</b>	RIN DOT Cylinder decal label 500 per roll



C37



P-206/V206

WATER CAPACITY (GALLONS)	WATER CAPACITY (LITERS)	WATER CAPACITY (KILOGRAMS)
2.39	1	35.8
4.78	2	38.2
7.17	3	40.6
9.56	4	43.0
11.9	5	45.4
14.3	6	47.8
16.7	7	50.2
19.1	8	52.6
21.5	9	55.0
23.9	10	57.4
26.2	11	59.8
28.6	12	62.2
31.0	13	64.6
33.4	14	67.0

P-101



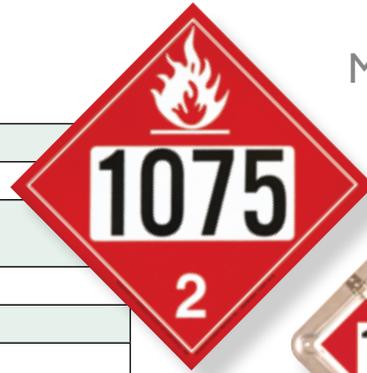
V56R

220 {

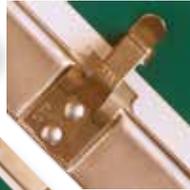
OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



Part Number	Description
<b>MI075</b>	Magnetic diamond placard 1075-2 LPG
<b>PI075</b>	Plastic placard diamond 1075-2 LPG, works with MPH69 holder
<b>SI075</b>	Scotchlite reflective 1075 decals
<b>VI075</b>	Vinyl placard diamond decal 1075-2 LPG
<b>MPH69</b>	Placard holder
<b>CG126FO</b>	Flip placard assembly metal frame
<b>81-CLIP</b>	Stainless steel clip for CG126FO metal placard
<b>V83</b>	Shipping paper 1075-2 one truck
<b>V83-CYL</b>	Shipping paper for cylinder truck
<b>V83-TANK</b>	Shipping Paper One Storage Tank
<b>VDOT</b>	"Operating under 49 CFR 171.5" white on black decal
<b>S22B</b>	Decal 4" X 36" We Stop at all Railroad ( RR ) Crossings
<b>S22C</b>	8" x 12" We stop at all decal railroad ( RR ) crossings
<b>S500</b>	3X5" black diamond " PROPANE " decal
<b>HZ116</b>	OSHA Commercial cylinder decal 2-4-0 PROPANE
<b>HZ116GHS-CUSTOM</b>	Custom GHS OSHA Commercial Cylinder Decal 2-4-0 PROPANE minimum order 500
<b>SMV7</b>	Slow Moving Vehicle decal
<b>V92</b>	Liquid/Clutch/PTO/By Pass decal
<b>V8</b>	Vapor/Relief/Liquid decal
<b>V45</b>	Valve ID label set 10 X 10 decal
<b>V65</b>	QT Decal
<b>V66</b>	NQT Decal
<b>V31</b>	HM-183 annual inspection decal kit
<b>V32</b>	HM 183 5 yr. inspection decal kit
<b>V33</b>	Number sheet only for V31 & V32 decal
<b>V90-5</b>	"Liquid" five per sheet 1 X 4" decal
<b>V91-5</b>	"Vapor" five per sheet 1 X 4" vinyl decal
<b>V58C</b>	LPG Octane label 2 1/2 x 3 decal
<b>V75-20</b>	Container Shutoff decal
<b>V75-20 Tag</b>	Container shut off warning tag



MPH69



MI075  
PI075  
SI075  
VI075

CG126FO  
81-CLIP  
REPLACEMENT  
CLIPS



V90-5

V91-5



V8



V45

P/S



V83-CYL  
NO OF  
CYLINDERS



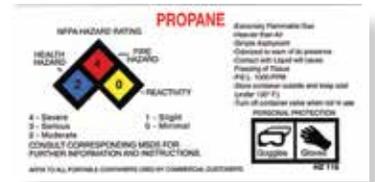
V83  
ONE  
TRUCK LOAD



V83-TANK  
ONE  
STORAGE TANK



V92



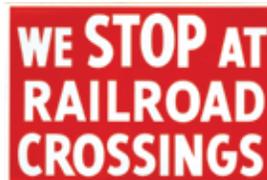
HZ116



V66



V65



S22B

S22C

V32



V31



# Decals and Signs

## FLAMMABLE

V24A / V24BB / V24C

## FLAMMABLE GAS

V17B / V17C

## PROPANE

V28A / V28B / V28BB / V28C

## PROPANE GAS

V288BB

## NO SMOKING

V23A / V23BB / V23B  
M23BB / V23C

**NO SMOKING  
SHUT OFF MOTOR  
WHILE FUELING**

P/S

V39B /  
M39B

**NO SMOKING  
OR OPEN FLAMES  
WITHIN 25 FEET**

V26A



M97A  
M97AD

M97FR  
Optional  
Frame  
& Base



M97AX  
M97AXD

M97FR  
Optional  
Frame  
& Base

V52



Part Number	Description
<b>M97A</b>	2' x 4' Aluminum single faced "PROPANE FILLING STATION"
<b>M97AD</b>	2 x 4 Aluminum double faced "PROPANE FILLING STATION"
<b>M97AX</b>	2' x 4' Aluminum single faced "PROPANE CYLINDERS EXCHANGED"
<b>M97AXD</b>	2 x 4 Aluminum double faced "PROPANE CYLINDERS EXCHANGED"
<b>M97FR</b>	2' x 4' frame for metal signs
<b>V24A</b>	6" flammable decal
<b>V24BB</b>	3" flammable decal
<b>V24C</b>	2" flammable decal
<b>V17B</b>	4" flammable gas vinyl decal
<b>V17C</b>	2" flammable gas vinyl decal
<b>V52</b>	11" Flammable Gas diamond decal red with white letters, class 2
<b>V52S</b>	4" Flammable Gas diamond decal red with white letters, class 2
<b>V28A</b>	Propane 6" letters decal
<b>V28B</b>	Propane 4" letters decal
<b>V28BB</b>	Propane 3" letters decal
<b>V28C</b>	Propane 2" letters decal
<b>V288BB</b>	Propane Gas 3" letters decal
<b>V39B</b>	12" x 18" No Smoking or Open Flames 25 feet decal
<b>M39B</b>	12" x 18" metal No Smoking within 25ft
<b>V26A</b>	12x18 No Smoking/Shut off motor decal
<b>V23A</b>	6" No Smoking decal
<b>V23BB</b>	3" No Smoking decal
<b>V23B</b>	4" No Smoking decal
<b>M23BB</b>	3" No Smoking on metal
<b>V23C</b>	2" No Smoking decal
<b>V21</b>	Concerned for your safety cylinder filling decal
<b>V121</b>	Port cylinder fill instructions decal
<b>PI3</b>	Emergency contact #'s 18" x 24"
<b>VI53</b>	Vinyl 10" x 12" "For Your Safety Leave Cylinder Outside"
<b>PI53</b>	Plastic 10" x 12" "For Your Safety Leave Cylinder Outside"



V21



C37

# Decals and Signs

Part Number	Description
#PI48	Plastic sign Liquid Valve Emergency Shut Off PULL To Close 10" x 12"
V81	Vinyl sign Emergency Shut Off PULL To Close 10" x 12"
V126	Vinyl decal Emergency Shut Off PULL To Close 5" X 6"
PI49	Plastic sign Liquid Valve Emergency Shut Off PUSH To Close 10" x 12"
V129	Vinyl decal Emergency Shut Off PUSH To Close 5" x 6"
V302BB	3" Liquid Petroleum Gas vinyl decal
V302C	2" Liquid Petroleum Gas vinyl decal
V2A	2" Anhydrous Ammonia vinyl decal
V5	4" Anhydrous Ammonia (straight) decal
V5A	4" Anhydrous Ammonia (curved) decal
V2B	2" Vinyl Inhalation Hazard decal
V1005	NH3 Placard diamond vinyl decal green stick on diamond 1005
V41	2" Liquefied -Green letters decal
704-1	2-4-0 OSHA diamond 7.5 X 7.5 propane decal
704-3	2-4-0 OSHA diamond 15 X 15 propane decal
V30	Tank filling instructions 15 X 22 "Motor Fuel" decal
7282Q	Methanol Warning Decal 3 x 5
V1203	UN 1203 Gasoline diamond decal Placard
6STCC-B	Tank Car Connected blue sign plate
4015-01	Steel holder - clamps to railhead, non-locking
4017-01	Manual hand mover lever for rail cars - includes wood handle
4011-06	'C' type double steel chock w/flag - handle length 28"
UG DOME SIGN	Plastic sign UG DOME SIGN 10" x 12" Yellow



V81/V126



6STCC-B



V129



UG DOME



#PI48

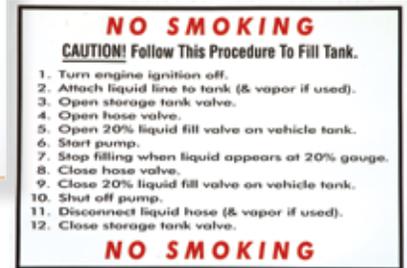


V1005

P/S



PI49



V30

**ANHYDROUS AMMONIA**

V2A

**ANHYDROUS AMMONIA**

V5

**INHALATION HAZARD**

V2B



704-1

704-3

**LIQUEFIED PETROLEUM GAS**

V302BB/V302C



7282Q

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Fire Extinguishers, Extinguisher Accessories, SignGuardian System



2.5 LBS. - 20LBS.  
EXTINGUISHERS

## Amerex Fire Extinguishers

Part No.	Description
<b>417T</b>	2 1/2 LB. ABC Extinguisher
<b>402T</b>	5 LB. ABC Extinguisher
<b>441</b>	10 LB. ABC Extinguisher
<b>411</b>	20 LB. ABC Extinguisher
<b>FEC2W</b>	Cover w/windows for 20 LB. Extinguisher
<b>FLI</b>	"Fire Extinguisher Inside", Decal 1 3/4" x 10"
<b>PTAG</b>	Plastic Inspection Tag
<b>809</b>	Running Board Bracket for 10 LB. Extinguisher
<b>810</b>	Running Board Bracket for 20 LB. Extinguisher

\* Brackets can be installed vertical or horizontal.



FEC2W



810



FLI



PTAG

P/S

## SignGuardian System



Innovative hardware available from Bergquist makes hanging signs and fire extinguishers a snap. Keep warning signs tamper-proof and rust-free with the all new Sign Guardian System. Stainless steel and nylon make this innovative hardware long-lasting and care-free. Plus, now changing up signs and hanging extinguishers is easy.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Thermometers, Chock Blocks, Utility Brackets Reflector Triangles, Throttle Control

## THERMOMETER ARMOUR



## TANK CAR THERMOMETER

### Industrial Thermometers

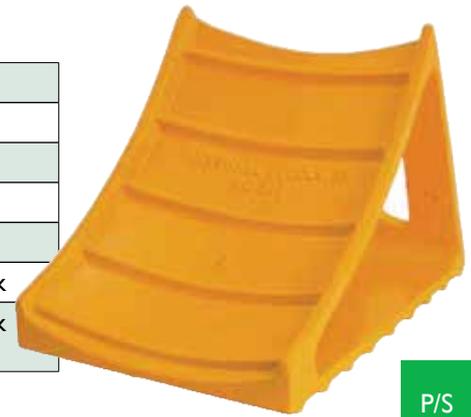
Part Number	Dial	Stem	Connection
<b>MEJ700</b>	2"	4"	1/2" MNPT
<b>MEJ701</b>	2"	6"	1/2" MNPT
<b>MEJ702</b>	3"	4"	1/2" MNPT
<b>MEJ703</b>	3"	6"	1/2" MNPT
<b>Tank Car Thermometer</b>	Thermometer only		
<b>Thermometer Armour</b>	Armour only		

All themometers have a temperature range of -40°F to +120°F



MEJ703

Part Number	Description
<b>ME200</b>	Aluminum Chock Block 7" wide x 9 1/2" long x 7" high
<b>ME200B</b>	Wheel Chock Block Holder with hardware
<b>ME200BK</b>	Wheel Chock Block Holder Kit w/(2) - ME200
<b>ME200EXT</b>	Wheel Chock Block 6" Standoff Extension Kit
<b>ME200PIB</b>	Wheel Chock Block Holder Kit w/ MEC Smart Interlock
<b>ME200PIBK</b>	Wheel Chock Block Holder Kit w/ MEC Smart Interlock and (2) ME200



ME200

P/S

Part No.	Description
MEP082	Universal Spring Loaded Utility Bracket

Provides a safe and secure method to mount and retain hand tools such as shovels, picks, brooms or other equipment for bobtail or utility vehicles during over the road transit.



MEP082



902195

Reflector Triangles	
Part No.	Description
<b>902195</b>	Reflector Triangles w/ Carrying Case



VCGx25

Throttle Control	
Part No.	Description
<b>VCGX25</b>	Self Locking Throttle Control w/25'of Cable

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Bergquist Dispenser (cont, next page)



Aluminum or Steel  
Custom built to your specifications.



- **Secure**...3 doors secured by 1 lock.
- **Compact**...our unique cabinet design was engineered with you in mind.
- **Convenient**...Cabinet & contents are shipped assembled. (except scale)
- **Heavy Duty Cabinet**...Welded steel construction, aluminum or primed and painted white\*, side floor vents, hose hanger, tank can be installed at rear or either side. (\*Optional & custom colors available)
- **Components** from the industry's leaders. Corken pump, Neptune meter, Fairbank 1000 lb. capacity scale, angle valves, Parker hose, quick acting hose end valves, and top quality strainer and fittings.
- **Fold Back Top**...makes filling and weighing cylinders easy, including 100 lbs. cylinders.
- **Tank Stands Included**.These tank stands accept pipe rails which connect the tank to the cabinet base. (2 - 2" sch. 40 lengths of pipe are required to tie tank stands to cabinet.)
- **Universal Base**... allows installation flexibility. Face cabinet door away from tank end or rotate to 90 degree position. Pipe tee option also available for mid-tank mount.
- **Complete**...your dispenser unit comes assembled and ready to go. All you need to supply is; propane, a bulk propane tank, electricity (110 or 220 volt), 2-2" sch. 40 lengths of pipe for skids and sch.80 pipe for liquid transfer.
- **Optional ~ Integral Purging System**... adjustable 15 lb. regulator with pressure gauge & hose assembly. Two ball valves piped in series allow product venting through pipe-away stack. Purge system uses a three-way ball valve.

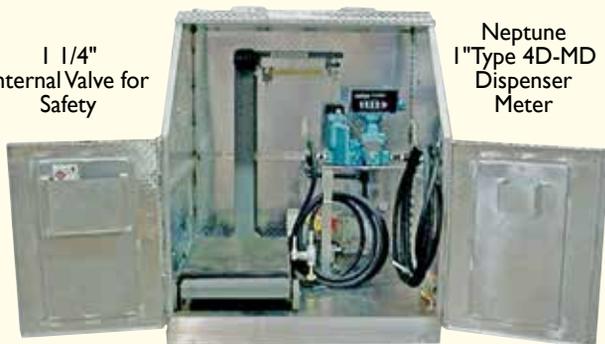
## Includes;

- **1 1/4" Internal Valve for Safety**  
Excess flow protection, fire protection, and remote shutdown capability.
- **Corken C12 Pump with 1 hp Motor.**  
Designed specifically for Propane and is simple to service. The C12 has heavy-duty, permanently lubricated ball bearings, free-floating impeller design, ductile iron case, balanced mechanical seal assembly, high flow inlet and discharge, and continuous-duty motor. 2 year Limited Warranty.
- **Fairbanks Beam Scale 1000 lb capacity**  
The Model 1124 scale is rugged, long lasting, easy to read, compact and easy to move. It has a cast iron base, cast iron lever system and a cast iron platform. The Fairbanks 1124 provides exceptional accuracy over many years of service, resisting corrosion and bending.
- **Neptune 1" Type 4D-MD Dispenser Meter**  
The standard unit includes a 600 Series totalizing register with a 5 digit resettable counter and an 8 digit non-resettable totalizer. The Neptune 4D-MD designed oscillating piston measuring chamber is both accurate and reliable. Electronic register options available
- **2 Parker Hoses**  
1-6' hose for cylinder filling and 1-18' hose for RV's
- **2-Quick Acting Hose End Valves**
- **Adaptors for filling cylinders, forklifts, and RV's.**
- **3/4" Pullaway**
- **High Quality Fittings**
- **Strainer**
- **Decals**
- **Supply of POL Plugs & DOT Labels.**

Corken C12 Pump  
with 1HP Motor

1 1/4"  
Internal Valve for  
Safety

Neptune  
1" Type 4D-MD  
Dispenser  
Meter

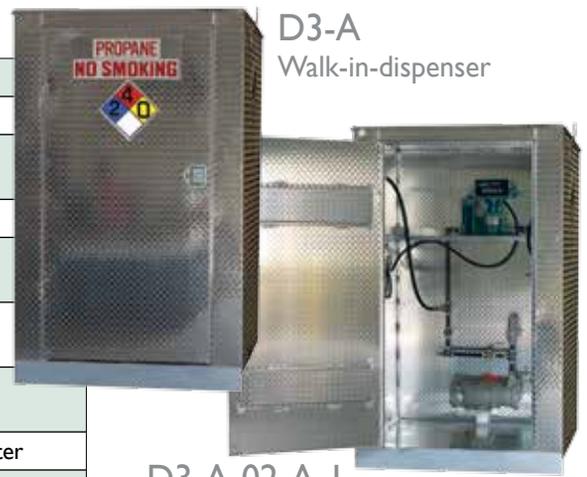


Fairbanks Portable Beam  
1000 lb. Capacity Scale

2 Parker Hoses  
18' for RVs  
6' for cylinder  
filling

DS

Part Number	Description
<b>D2-S-02-A-1</b>	Pump, Meter, D2 steel cab with all fittings for Dispenser
<b>D2-A-02-A-1</b>	Pump, Meter, D2A aluminum cabinet with all fittings for Dispenser
<b>D1-S-02-A-1</b>	Pump, Meter, D1 steel cab with all fittings for Dispenser
<b>D1-A-02-A-1</b>	Pump, Meter, D1A aluminum cabinet with all fittings for Dispenser
<b>D3-S-02-A-1</b>	Pump, Meter, WID-6 Tall Steel Cab with all fittings for Dispenser
<b>D3-A-02-A-1</b>	Pump, Meter, WID-6A Tall Aluminum Cabinet with Dispenser fittings
<b>D2-S-02-Z-2</b>	Pump, D2 steel cab, scale, stands, fittings 1 hose, No Meter
<b>D2-A-02-Z-2</b>	Pump, D2A aluminum cab, scale, stands, fittings 1 hose, No Meter
<b>D1-S-02-A-3</b>	Motor Fuel Disp Kit- small steel cabinet, C12 pump,meter,piping, 1 hose,no scale
<b>D1-S-02-Z-6</b>	Motor Fuel Disp Kit- small steel cabinet, C12 pump, piping, 1 hose, no scale, no meter
<b>D1-A-02-A-3</b>	Motor Fuel Disp Kit- small aluminum cabinet, C12 pump,meter,piping,1 hose,no scale
<b>D1-A-02-Z-6</b>	Motor Fuel Disp Kit- small aluminum cabinet, C12 pump, piping, 1 hose,no scale, no meter
<b>Options and Accessories</b>	
<b>ATCM</b>	Automatic 1" temperature compensated meter non printing
<b>RL100108A3D</b>	1" meter with printing 833 register (non temperature compensated only)
<b>Dispenser Step</b>	Steel step for tank filling with a "C" clamp attachment
<b>NOZBX-A</b>	Hose end mounting bix with lock for Gas Guard nozzle, aluminum
<b>GGIE</b>	Gas Guard LP dispensing nozzle, 1 3/4" acme x 3/4 FPT Long-nose and latch options available
<b>Purge Kit</b>	Integral purge system for dispenser with 6' hose, pipe away stack & 15 lb regulator
<b>6102</b>	Dispenser hose retractor with 78" post and 1" OD hose clamp
<b>Tank Skid</b>	Frame for complete dispenser package with tank installed
<b>1000 A/G Tank</b>	Tank for use with Tank Skid
<b>Skid Lifting Bridle</b>	4 leg lifting bridle for tank skid
<b>411</b>	A-B-C rated fire extinguisher
<b>Tank Pipe Kit</b>	For installation of 2nd supply tank. Includes internal valves, piping flex lines, and ESV.
<b>RECT</b>	"2" branch tees with receiver couplings for mid-mount tank
<b>661261</b>	1 1/4" MNPT x 1 3/4" AC filler valve with 90-degree inlet and shutoff lever
<b>601010-000</b>	E1000 electronic register head for RL100 Neptune dispenser meter
<b>901-0076</b>	Mid:Com E:Count LT Electronic Dispenser Register, Non-ATC
<b>901-0077</b>	Mid:Com E:Count LT Electronic Dispenser Register, with ATC
<b>XEX200GG</b>	Explosion proof ceiling light for tall dispenser kit
<b>TB-A</b>	Tool box for dispenser, diamond plate aluminum with clasp lock
<b>FST-63</b>	1" FPT disposable Blue Moon filter for liquid propane, 25 GPM, installed after pump
<b>2SGALV</b>	2" galvanized schedule 40 black pipe, 21 ft length, 2 pc required



**D3-A**  
Walk-in-dispenser

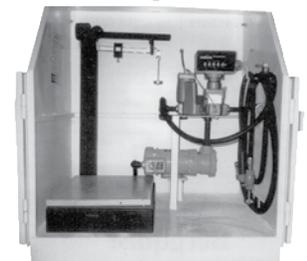
**D3-A-02-A-1**  
Walk-in-dispenser



**D1-A -02-Z-6**  
Compact cabinet



**D2-S**



**D2-S-02-A-1**

**DS**

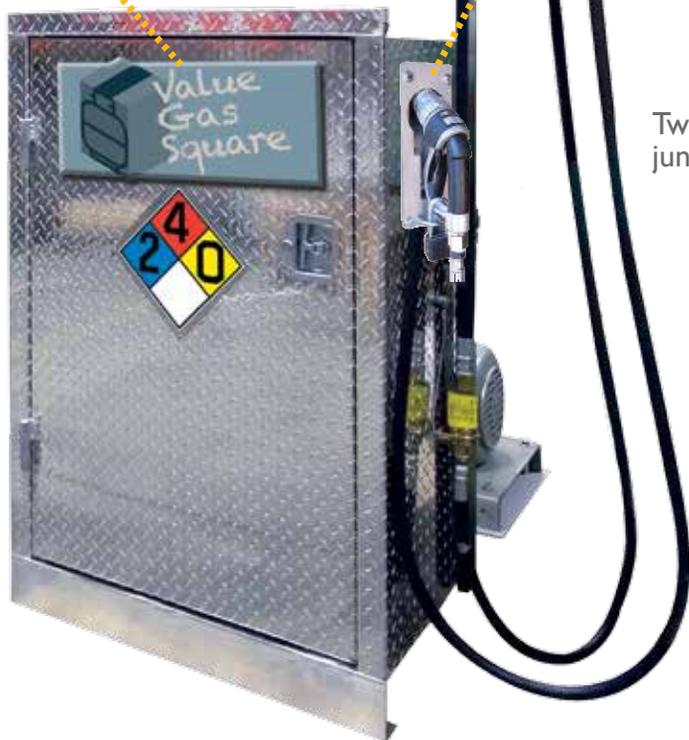


**D1-S**  
Compact cabinet

# DIAFF Fleet Fueling Dispensers

One in a series of the finest dispensers, all designed with you in mind. (Mechanical Register)

Your company logo here!



The DIAFF is shown with the optional OPW hose retractor system and flush mount nozzle holster



Neptune 1" type 4D-MD meter with 600 Series Mechanical Register

Interior View



Two outlet junction box

Compare these features & benefits

- Compact DIAFF Aluminum Cabinet
- 1" Neptune Type 4D Meter with 600 Series mechanical register
- High Differential Pump Options Available
- Single Phase Service Options
- External Pump & Motor Mount for Ease of Maintenance
- Fully Assembled with Receiver Couplings for integral base
- Internal valve & Gas Guard filler
- Stainless steel flex line, Y strainer, Breakaway, Decals
- Steel tank stands
- Fully Assembled - Leak Checked

Available Options & Accessories

- ATCM - temperature compensated meter (VI, SD, ND, MT required)
- Hose retraction system (6102) (as shown)
- Blue Moon filter

Back View

External mount for easy maintenance motor - pump - bypass

Corken Bypass (B166-1)

Corken High Differential Pump

6133X1 companion flanges

Ball Valve

Corken Pump

TPMP-C external pump base

2" pipe receiver couplings



Optional VFD Variable Frequency Drive Converts single phase source to 3 phase service Improves motor efficiency and reduces electrical consumption Slow start-up feature prevents flow surges Controls motor speed for maximum performance Includes motor overload protection

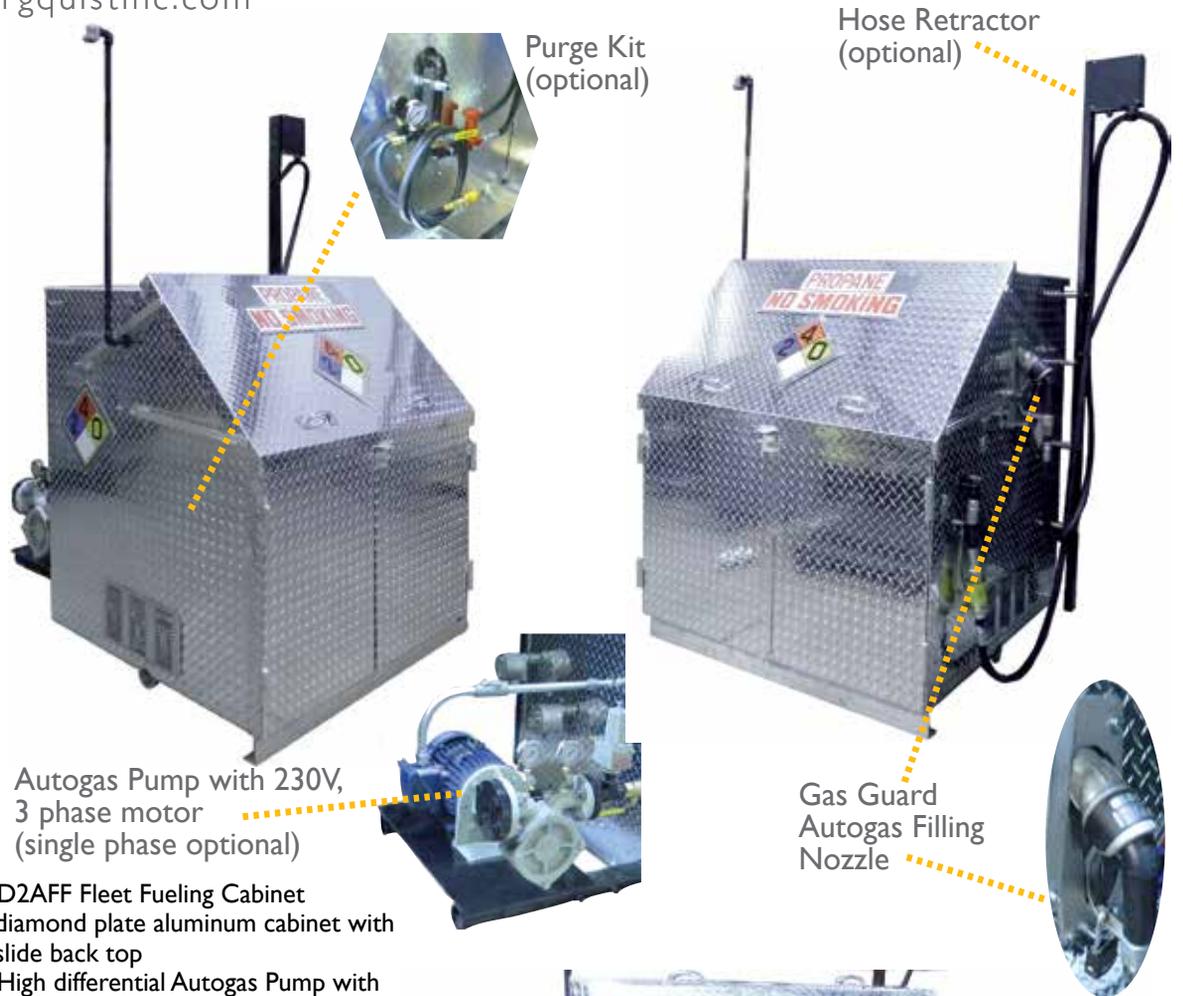
DS

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# D2AFF Hybrid Dispenser

## Two Dispensers in one.

### Cylinder filling + Fleet Fueling



Autogas Pump with 230V, 3 phase motor (single phase optional)

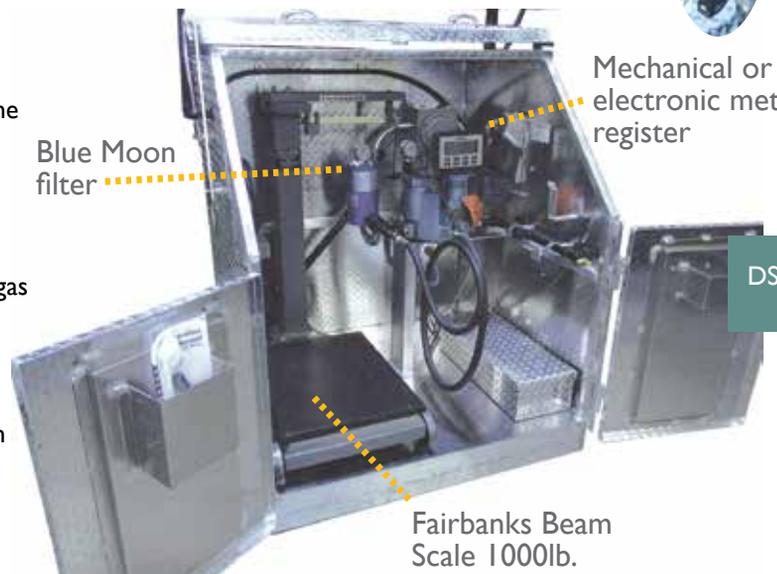


Gas Guard Autogas Filling Nozzle



- D2AFF Fleet Fueling Cabinet diamond plate aluminum cabinet with slide back top
- High differential Autogas Pump with 230V, 3 phase motor (single phase option available)
- 2 - Fill hoses, one for bottle filling, one for metered delivery
- 1" meter with mechanical register, standard
- Electronic register option (for connection to FMU)
- Metered hose with Gas Guard Autogas filling nozzle
- Scale hose with bottle filling nozzle
- Pump flange kit, base, pressure gauges, ball valve
- Excess flow and pull-away protection
- Hoses coiled on cabinet door hook or add hose retractor option.
- Pump suction piping, y-strainer, flex-line, ball valve
- 1-1/4" Internal valve with latch and pull-to-close cable
- Piping painted and leak tested
- Tank stands, bolt kit, filling adapters, decals, QCCI dust caps etc.
- Filler adapters for forklift and POL cylinders

Blue Moon filter



Mechanical or electronic meter register

Fairbanks Beam Scale 1000lb. capacity

Removable locking doors w/decals pouch

Available options  
ATC | Purge Kit | Micron Filter | Hose Retractor  
Tank Fill Step

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# Bergquist Autogas Dispenser (cont. next page)



The new Bergquist Autogas Dispenser with compact FF-02 cabinet provides the professional look your customers desire as a stand-alone unit or in home-based fleet-fuel applications. Get in on the top autogas dispenser for the 'green' future of propane with the durability and design LP gas professionals require.

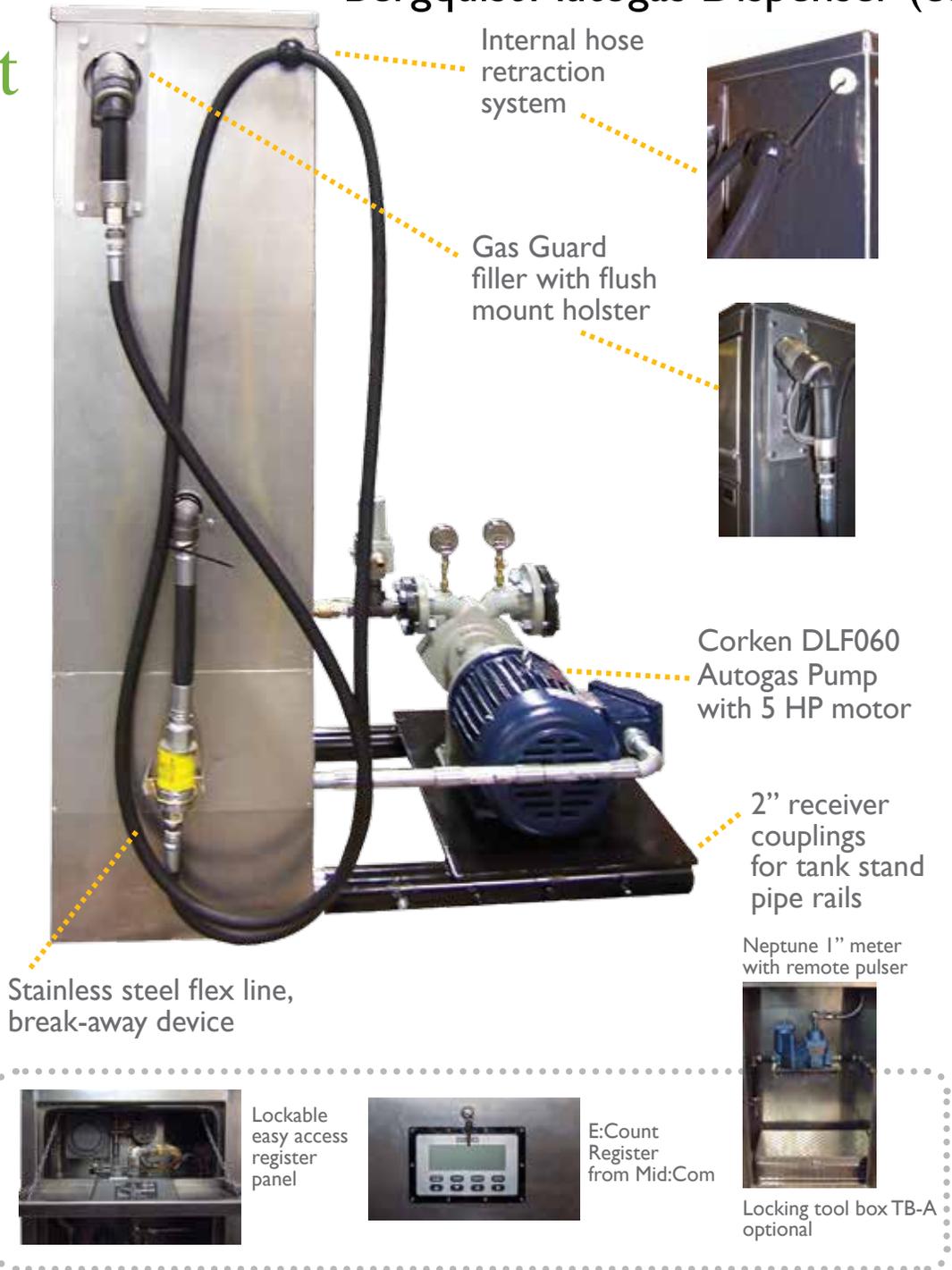
Standard features:

- Compact FFC-AL cabinet (smooth aluminum finish)
- Neptune 1" meter with remote E:Count LTIS register
- Pulse output for FMU interface
- Internal power supply with pump starter control
- Supply 220v to unit - no additional wiring needed
- Gas Guard filler nozzle with flush mount holster
- Holster interlock shut-down
- Internal hose retraction system
- 1-1/4" internal valve with remote closure
- Compact foot print 28"W x 16" D x 60" H
- Steel tank stands for up to 2000 GWC
- Fully assembled, leak tested, and powered up prior to shipping



Your logo goes here! Shown with custom branding decal.

# Bergquist Autogas Dispenser (cont.)



Dispenser Packages	
<b>FF-02 Series</b>	Autogas Dispensers
<b>Pump Package Options Includes pump, motor, base, by-pass, flange kit and pressure gauges</b>	
<b>HDPDLF060-3P53</b>	Corken Autogas package w/5HP, 3 ph motor
<b>HDPDLF060-1P53</b>	Corken Autogas package w/5HP, 3 ph motor and VFD
<b>HDPDLF060-3P51</b>	Corken Autogas package w/5HP, 1 ph motor
Accessories	
<b>FST-634</b>	Blue Moon Filter
<b>LAMPE014</b>	Post Mount XP light
<b>Dispenser Step</b>	Folding dispenser fill step

# P4 Series LPG Dispensers (Continued on next page)

Advanced Technology / Competitive Pricing



P4-150, Two Hose  
Autogas & Cylinder  
(pump option shown)

ETL Listed to UL- 495  
NTPF Certified for Retail Sale

Parafour's "P4-Series" offer the next generation in advanced LPG refueling systems. From electronic upgrades to existing "Cabinet" style dispensers, to dual purpose cylinder and Autogas dispensers, through full retail "Pay at the Pump" with the PARA-FUEL fuel management system. The P4-Series offer the best technology at the best price. You won't find a more feature rich and capable dispenser. Built to exacting standards and designed around ALL applicable codes and regulations (NFPA 58, NEC, UL-495 and NCWM). Parafour offers the most capable and compliant dispensers available today.

Attractive, Compact, Robust and Reliable. The P4-Series have no rivals. Designed and built by the most accomplished and experienced LPG dispenser design team in North America, you simply will not find a better product, better technology, better support or better price!

Parafour Innovations is dedicated to quality, technology and affordability, with a focus on technology, support and future expandability, to meet the needs of a rapidly evolving and LPG refueling market. Invest today in a product which will give you years of faithful service and upgradable enhancements to improve your efficiency and customer service as your business grows!



P4-100 Single Hose

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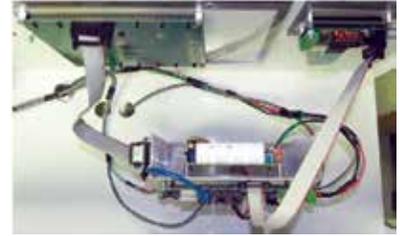
P4-200, Dual Hose  
2-Sided, Lane Oriented

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# P4 Series LPG Parafour Dispensers (cont.)

## Computer Features:

- Single large display with total Sale, price and gallons
- Easy to read back-lit LCD displays
- Intuitive programming with secure keypad
  - 16 Key alpha-numeric keypad
  - 5-level secure access programming
  - 110 vac / 60Hz power supply
- Communicates to most fuel management systems
- Integral Gilbarco 2-wire communication protocol



Calculating Computer

## Standard Features:

- Automatic Temperature Compensation
- Advanced Electronic "No-Seal" Calibration
- Enhanced Accuracy with Quadrature Pulser
- 5-level Present Pricing
- Leak / Theft Detection
- Integrated Fuel Management System Interface
- All Models Fully Field Upgradable:
  - Printer Option
  - PARA-FUEL Fuel Management System



Front/Rear view of receipt printer

## Optional Equipment:

- 2" Roll Thermal Receipt Printer
- Pedestal / Post Mount Options for the P4-050
- Integrated Fleet Fuel Management with RFID Key-FOB
- PARA-FUEL Fleet / Retail "pay-at-the-pump" System
- Integrated 12 gpm Pump for Dual Purpose LPG Resellers
- English, Spanish, Russian and Other Languages Available
- Hose / Pull-away / Nozzle Kits



## The Petro Vend PVI100™ Fuel Control System

OPW Fuel Management Systems proudly introduces the Petro Vend 100™ (PVI100) Fuel Control System - a stand-alone pedestal-mounted system for small or mid-sized fleet-fueling sites that require one or two hose control.

The OPW Petro Vend 100™ is the ideal solution for unattended fueling for small or mid-sized fleets. As a 'turnkey system,' the unit is designed for quick and easy installation. It ships, ready-to-use with 50 pre-configured users and requires only power, and hose-control line connections in order to initiate system operation. The PVI100™

stores dispensed fuel amounts as card - and pump - specific totals, which can be viewed on the display or retrieved with an external USB flash drive for transfer to local computer. A great solution for small fleets of a single department, at a very competitive price and pre-configured for installation with P4-Series Dispensers.



Petro Vend PVI100



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## Petro Vend 100™

Controls up to two hoses

### Features

- User selectable PINs, form 3 to 6 digits in length, allowing only authorized users to access fuel
- Dual, manual, pump override control enables pump relays and the recording of dispenser-fuel volumes during a specific time
- Monochrome graphic display
- Optional dual-head magnetic card reader
- Includes USB flash drive for transaction storage
- Allows you to adjust programming parameters, view card and pump totals, and transfer all data to a USB flash drive via Manager Card access in on-screen manager mode

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# Quick Connect Autogas Fill Nozzles

The Light Weight  
GPVI4-L  
Comes with Latch

**As easy to handle as a gasoline or diesel nozzle.**

- place nozzle onto male Quick Connect filling connection
- pull lever



## Staubli Propane Autogas Fill Nozzle

- Snap-on threadless Quick Connection
- Uncoupled safety - no flow unless coupled to filler valve
- 3/4" FPT swivel inlet
- Ultra-low emission, less than 1 cc release at discharge
- Flow rate at 10 psi pressure drop: 125 liters/min, 33 GPM



**STÄUBLI**

**Easy to use.**

- The valve design allows connection without effort

**Safe operation...** the connection sequence prohibits handling errors:

- If the nozzle is not connected correctly
  - no venting of gas
  - no gas will flow
  - no possibility of partial locking
  - no automatic unlocking when the lever is released

**Integrated safety** - fully automatic operation:

- audible click when the nozzle is seated on filling unit
- automatic locking and opening of the circuit when lever is pulled



DS



Gas Guard Quick Connect Autogas Nozzle  
ZVG2  
ZVG8 /Optional hold open fill lever latch assembly for ZVG2 Quick Connect Nozzle



Gas Guard Nozzle Holster Boot  
NB-GG  
Cast aluminum one piece body  
4" W x 12.5" H x 4.25" D  
Fits ZVG2 Quick Connect Filler Nozzle and Staubli GPVI4L

**Snap-on threadless Quick Connect connection**

**Uncouple safety**

**No flow unless coupled to filler valve**

**3/4" FPT swivel inlet**

**Metallic body with rubber hand grip**

**Flow rate 13 GPM**

**UL Listed**

**Ultra-low emission, less than 1 cc release at discharge**



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# Quick Connect Autogas Fill Valves and Adapters



1009500283  
Quick Connect  
Autogas Fill Valve  
Housing black plastic  
with flip door



16095000320  
Quick Connect  
Vehicle Fill Adapter  
1-3/4" Male Acme x FEM  
Quick Connect snap-on



1609500331  
Quick Connect  
Fill Nozzle Adapter  
Male snap-on x 1-3/4"  
FEM Acme swivel

6602901292  
Quick Connect  
Autogas Fill Valve  
Male snap-on x 1/2"  
flare 90°



660201359  
Quick Connect  
Autogas Fill Valve  
Male snap-on x 1/2"  
flare bulkhead  
Direct retro-fit for  
the 1-3/4" Acme  
auto gas remote fill  
valves  
Easier connection,  
faster flow, lower  
emission discharge  
Fits the Roush  
Bluebird buses



033-473  
Plastic Replacement  
Cap with Lanyard  
For 660201359



6602901327  
Quick Connect Fill  
Valve for Forklift  
Cylinders  
3/4" MNPT Forklift  
EN 12806 Filler  
Valve  
Container  
Connection:  
3/4" MNPT  
Wrench Hex Flat:  
1-3/4"



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# Tankless Water Heaters (cont. next page)



The Rinnai Luxury Series Tankless Water Heaters  
Key Features of the Luxury Series

- Sleek, modern design
- Commercial-grade heat exchanger for residential and commercial applications
- Industry-leading activation rate of 0.4 GPM to accommodate low flow fixtures
- EZConnect\* (connects two units together)
- Up to 12 yr. heat exchanger limited warranty (5 yr. commercial use), 5 yr. labor and parts.

The Rinnai Tankless Water heater is a state-of-the-art, energy-efficient water heating system that uses a gas-powered heat exchanger to heat water only when you need it, for as long as you want it. Compact in size, this innovative tankless technology heats water when water flow is detected, resulting in continuous hot water. Rinnai Tankless Water Heaters can deliver hot water to multiple locations simultaneously at a constant user-set temperature. Benefits...

- Continuous hot water
- Significant space savings
- Isolation valves included in every box (excludes Value Series)
- Commercial-grade heat exchanger for residential and commercial applications
- Models certified for installation in manufactured (mobile) homes available.
- Integrated condensate collector for interior models
- RL Series: 12-year heat exchanger limited warranty (5-year commercial), 5-year on parts, 5 years on labor.

### Heat Water Only When You Need It!

Tankless water heating is the wave of the future - available to you today. You'll enjoy more than 40% energy savings, continuous hot water, and significant space savings - plus a typical life span of 20 years or more in residential applications. And this 'green' technology produces less CO and NO than conventional gas or electric tank water heaters. You see, Rinnai Tankless Water Heaters use propane gas (or natural) to heat water when needed. When water flow is detected, the Rinnai begins heating water as it passes through its copper heat exchanger. The design of the unit allows it to capture up to 84% of the heat energy, making it highly efficient and cost effective. When the demand of water ceases, the tankless unit shuts down and uses no electricity - a revolutionary advantage over inefficient tank-style heaters. More efficient when it's on and off when it's off, the Rinnai Tankless Water Heater is the ultimate choice in today's world of high energy costs and environmental preservation.

Tankless water heating is one of the few energy-saving technologies that actually improves the quality of your life. With continuous hot water - for bathing, cooking dishes, and laundry. Plus, the digital controllers give precise control of the output water temperature for the ultimate in comfort and safety.

### Save Space

Traditional tank water heaters can take up to 16sq. ft. of valuable floor space. Your Rinnai unit - only about the size of a carry-on suitcase - can be installed on virtually any wall inside or outside your home or building, so you can strategically locate the unit for maximum performance and energy efficiency.

### Perfect For Any Home

The combination of design and performance makes the RL Series the perfect choice. Whether you're building a spacious new home - complete with luxurious spa bath and body spray system - or remodeling an older home, RL Series units can be used individually, in pairs, or in banks of three or more to supply all your hot water needs. Rinnai Luxury Series interior-mount units can be placed in any room - no need to hide them in closets or utility rooms - and vent directly to the outside. Exterior units require no additional venting and can even be installed in a recessed enclosure, then painted or textured to match the exterior of your home for a clean, inconspicuous appearance.

### Flexible Installation

For interior installation, Rinnai units use a concentric venting system - a single vent assembly featuring an inner, metal vent for exhaust gases and an outer PVC or metal tube for bringing combustion air from outdoors. The result: a direct-vent, sealed-combustion system that offers optimum safety, performance and ease of installation.



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## Rinnai® TANKLESS WATER HEATERS

Luxury Series -Exterior	RL75e	RL94e
Dimensions	14" W x 23" H x 10" D	14" W x 23" H x 10" D
Weight	51 lbs.	51 lbs.
Max. /Min. Gas Rate (Input BTUs)	180,000/10,300(LP) 180,000/9,900(NG)	199,000/10,300(LP) 199,000/9,900(NG)
Hot Water Capacity Range	0.26 to 7.5 GPM (0.4 activation rate for RL Series)	0.26 to 9.4 GPM (0.4 activation rate for RL Series)
Energy Factor (LP & NG)	.82	.82
Gas Type	Models available in Propane (LP) or Natural Gas (NG) Units	
Temperature Range (Min - Max) Residential ** Commercial ***	98°F-140°F 98°F-160°F	98°F-140°F 98°F-185°F
Standard Digital Controller	MC-91-I	
Optional Digital Controller	MC-100V-I, BC100V-I, MCC-91-I	

Luxury Series -Interior	RL75i	RL94i
Dimensions	14" W x 23" H x 10" D	14" W x 23" H x 10" D
Weight	51 lbs.	51 lbs.
Max. /Min. Gas Rate (Input BTUs)	180,000/10,300(LP) 180,000/9,900(NG)	199,000/10,300(LP) 199,000/9,900(NG)
Hot Water Capacity Range	0.26 to 7.5 GPM (0.4 activation rate for RL Series)	0.26 to 9.4 GPM (0.4 activation rate for RL Series)
Energy Factor (LP & NG)	.82	.82
Gas Type	Models available in Propane (LP) or Natural Gas (NG) Units	
Temperature Range (Min - Max) Residential ** Commercial ***	98°F-140°F 98°F-160°F	98°F-140°F 98°F-185°F
Standard Digital Controller	MC-91-I	
Optional Digital Controller	MC-100V-I, BC100V-I, MCC-91-I	

### Residential / Commercial Models

#### Accessories

Rinnai's line of digital controllers allows you to set water temperature precisely for multiple locations in your home, analyze and troubleshoot the water heater, and even automatically fill your bath to a pre-set temperature and volume. (Note: the MC-91 controller is integrated on the front panel of the RL Series interior units and comes standard with all RL Series exterior units.)

#### Flexible Installation Options

Rinnai Tankless Water Heaters can be installed virtually anywhere: Interior Mount, Recessed Box Option, Exterior Mount or Parallel Installation.

#### Interior Roof or Wall Venting

The Rinnai can be vented vertically or horizontally.

Exterior Wall-Mount installations require no additional venting accessories.

•• Units come with a default max. temp. of 120 F for increased safety and code compliance. An option to increase the max. temp to 140° F is also available.

••• To achieve temperatures over 140°F, an MCC-91 commercial controller must be purchased separately.

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# Breakaway Couplings, Scales

TR



ME860S-6

Designed to separate in case of accidental pull away of fill hose on dispensing units. Requires approximately 60 lbs. pull to separate. Be sure to put shut off valve with bleeder and hydrostat before breakaway. Coupling must be left free to swivel in the direction of pull.



Part Number	Type of Mount	Pipe Size
<b>ME860S-6</b>	With Mounting Bracket	3/4" FPT
<b>ME860S-8</b>		1" FPT
<b>ME860S-10</b>		1-1/4" FPT
<b>ME861S-6</b>	With Wire Lanyard	3/4" FPT
<b>ME861S-8</b>		1" FPT
<b>ME861S-10</b>		1-1/4" FPT
<b>ANCHOR001</b>	3/8" x 2 1/4" wedge anchor bolt for breakaway coupling	-

## Common Scale Parts

Description		Fairbanks Part No.	Detecto Part No.
Beam insert 0 - 100 lbs. x 1/2 lbs. 		55441BI (set of 2)	not applicable
Counter poise 		2-55444-40	6P10021X
Counter poise weight 	Pounds		
	100 lbs.	2-55444-55	6PP100X
	200 lbs.	2-55444-56	6PP200X
	400 lbs.	2-55444-57	6PP500X
50 lb. test weight 		C73082	C73082



Fairbanks Portable Beam Scale

Capacity: 1000 lbs.  
Platform: 17 3/4" x 23 1/2"  
Height: 42 3/4"  
Ship.Wtg.: 175 lbs.

1124



Detecto Portable Platform Scale

Capacity: 1000 lbs.  
Platform: 19" x 28"  
Height: 45" Width: 24"  
Ship.Wtg.: 132 lbs.

854F100P



Detecto Platform Bench Scale

Capacity: 350 lbs.  
Platform: 10.5" x 14.5"  
Height: 27"  
Ship.Wtg.: 46 lbs.

4420

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## E-Z TRENCH EZ9100



### Trenchers

Model	Engine H. P.	Cutting Depth	Weight	Comments
<b>EZ9100</b>	6.5 Honda	0-13"	250 lbs.	New wet clutch absorbs sudden impact, for extremely rocky areas.
<b>J9000H</b>	8 Honda	0-13"	250 lbs.	Standard upgrade from J3000
<b>J1000</b>	5 Honda	0-7"	85 lbs.	

Replacement parts available...call for assistance: 1 800 537 7518



## Red Dragon Vapor Torches

Part No.	Description
VT 1 1/2-0	50,000 Btu torch head
VT 1 1/2-12	50,000 Btu torch only
VT 1 1/2-12C	50,000 Btu torch kit
VT 2-23 C	50,000 Btu lawn & garden torch
VT 2-0	100,000 Btu torch only
VT 2 1/2-0	400,000 Btu torch head
VT 2 1/2-24CE	400,000 Btu economy torch kit
VT 2 1/2-30	400,000 Btu torch only
VT 2 1/2-30C	400,000 Btu torch kit
VT 3-0	500,000 Btu torch head
VT 3-6	500,000 Btu torch head with 6" stem
VT 3-30	500,000 Btu torch only
VT 3-30C	500,000 Btu torch kit (most popular)



VT3-30C



VT2 1/2  
24CE

## Red Dragon Torches and Equipment

Part No.	Description
HT 1 1/2-10	50,000 Btu hand torch
HT 1 1/2-10C	50,000 Btu hand torch kit
RT 1 1/2-10	50,000 Btu roofing torch
RT 1 1/2-10C	50,000 Btu roofing torch kit
RT 2 1/2-20C	400,000 Btu roofing torch kit
HP10C	10' hose, 1/4" MNPT x 1/4" FNPT
HP25	25' hose, 1/4" MNPT both ends
H-1	Handle only, Red Dragon
H-19H	Safety valve
L2001	Spark lighter with flints
V3055P	Needle valve, 1/4" FNPT x 1/4" MNPT
V880-P	Squeeze valve with adjustable pilot
S-122	12 volt, DC, solenoid, 1/2" FNPT, 312 psig max.
S-117	115 volt, AC, solenoid, 1/2" FNPT, 300 psig max.



FV-11



RT1 1/2-10C

## Burners Inc. Torches and Liquid Burners

Part No.	Description
FV-10	500,000 Btu vapor torch only
FV-10-TP	500,000 Btu vapor torch kit (contractor choice)
FV-11	300,000 Btu vapor torch only
FV-11-TP	300,000 Btu vapor torch kit (best seller)
FV-15	520,000 Btu @ 50 psi, top of the line torch
FL-1	Liquid burner, 750,000 Btu max.
FL-2	Same as FL-1 with a 36" pipe rise to valve
TK-30-A	750,000 Btu max., sleeve type, liquid



FL-1

## Invensys Vapor Meters

Part No.	Temperature Compensated	Max. Pressure	Capacity at 11" WC, Btu	Connections
<b>S275B CU</b>	Yes	5 psig	388,000 Btu	Side, 3/4" FNPT
<b>S275B CU(00)</b>	Yes	5 psig	388,000 Btu	Side, 3/4" FNPT
<b>S275 GAL</b>	Yes	5 psig	388,000 Btu	Side, 3/4" FNPT
<b>415</b>	Yes	10 psig	650,000 Btu	Top, 1 1/4" MNPT



**S275BCU**

**Notes:**

- 1) All meters read in standard cubic feet, except the S-275 GAL which reads in gallons. SCF must be used if invoicing from the meter reading.
- 2) A second stage regulator should be installed directly before the meter, to read SCF at 11" WC. A pressure multiplier must be used if a pressure different from 11" WC is used. Contact inside sales.
- 3) Be aware most direct read indexes have one or two constant zeros at the end of the reading. This constant is stamped on the index.

Mounting bracket kit (00163-555-15000).  
Mounting brackets come on meters with model numbers that end with 'B'

Side inlet & outlet.

## Meter Installation Kits

Part Number	1st Stage Regulator	2nd Stage Regulator	Pigtail or Hogtail	Includes
MK1	984HP-04	998LP-04	MEI669-12	1 - S275B CU 2 - 3/4 x 2" brass nipples 1 - 241-004B
MK1A		998LP-05	MEI669-12	
MK2	988HP-05	998LP-04	MEI680-12	
MK2A		998LP-05	MEI680-12	
MK3	N/A	998LP-04	N/A	
MK3A	N/A	998LP-05	N/A	



**HC7**



**METER SEAL**

## Vapor Meter Equipment

Part Number	Description
<b>HC7</b>	HC7 seal press for meter wire
<b>Blank Die</b>	Blank die for HC7 seal press for meter wire
<b>Meter Seal</b>	1/2 lead meter seal with 16 inch wire for press
<b>Lead Seal</b>	1/2 lead only
<b>PMB</b>	Post for mounting S275B meter
<b>GS22</b>	1/2" 150# insulated threaded union
<b>GS33</b>	3/4" 150# insulated threaded union
<b>GS44</b>	1" 150# insulated threaded union
<b>GS55</b>	1 1/4" 150# insulated threaded union
<b>GS77</b>	2" 150# insulated threaded union
<b>240-003B</b>	1/2" FPT meter stop locking shut off valve, brass
<b>240-004B</b>	3/4" FPT meter stop locking shut off valve, brass
<b>241-004B</b>	3/4" FPT meter stop locking shut off valve, brass with dielectric union
<b>240970</b>	#4 Barrell lock with end cap cadmium plated for meter stops
<b>240975</b>	#4 barrel lock key modified



**241-004B**



**GS22**

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Methanol and Methanol Equipment



TR



MEP700

Part Number	Description
<b>MEP700</b>	Complete Vapor Return Methanol Injector 1-1/4" F Acme Assembly
<b>ABJ-2</b>	Holds 5 oz., empties in 5-10 strokes, fits POL
<b>INJECT I</b>	Methanol injector pump and hose assembly, Manual, fits vapor return

ABJ-2



INJECT I



Part No.	Description
<b>Methanol</b>	55 gallon drum
<b>1710X</b>	Barrel pump for the 55 gallon drum
<b>81</b>	Faucet for a 55 gallon drum
<b>135</b>	Tilting drum gradle
<b>830</b>	Drum vent
<b>8B-898-2</b>	1 gallon oval style safety can
<b>8B-29781</b>	Funnel
<b>7282Q</b>	Methanol Warning decal / 3" x 5"

830



81



8B-898-2



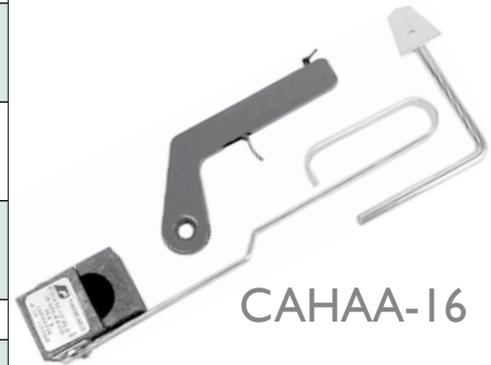
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OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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17#

Part Number	Description
<b>Cathodic Protection Equipment</b>	
<b>17#</b>	17 lb magnesium anode bag with 13' of no 12 lead wire attached 1 for 500 gallon tank, 2 for 1,000 gallon tank
<b>5#</b>	5 lb magnesium anode bag with 13' of no 12 lead wire attached Generally used for piping
<b>9#</b>	9 lb magnesium anode bag with 13' of no 12 lead wire attached Generally used for piping
<b>Testing and Optional Equipment</b>	
<b>CAHAA-16</b>	Cadwelder
<b>CA-15</b>	Box of 20 weldshots with 20 discs
<b>BI17A</b>	Disc for shots (20 per package)
<b>CA-BI33-1H</b>	Copper sleeves (100 per box)
<b>LRT-1</b>	Spark igniter
<b>Anode Clamp</b>	#40 anode clamp
<b>6A</b>	Copper sulfate half cell tester
<b>049-011</b>	6A refill of copper sulfate - 1lb 3 oz
<b>Lug</b>	Copper anode lug for attaching anode to tank
<b>Anode Test Kit</b>	Complete kit - Digital multimeter, Copper sulfate half cell and copper sulfate crystals
<b>Anode Extension Lead</b>	Red 12 ft extension lead for multi meter
<b>MCM50280-50282</b>	Telescoping ball top anode test rod with meter adapter plate
<b>DM200</b>	Digital Multi Meter with leads, 600volts AC/DC
<b>AC504</b>	Carrying case - 3 place, hard sided



CAHAA-16



6A



Anode Test Kit



ME690-4-8

Part No	Description	OAL
<b>ME690-4-6</b>	Dielectric union 1/2" mnpt x 3/8" male flare	3-3/8"
<b>ME690-6-6</b>	Dielectric union 3/4" mnpt x 3/8" male flare	3-1/2"
<b>ME690-4-8</b>	Dielectric union 1/2" mnpt x 1/2" male flare	
<b>ME690-6-8</b>	Dielectric union 3/4" mnpt x 1/2" male flare	3-5/8"
<b>ME690-4-10</b>	Dielectric union 1/2" mnpt x 5/8" male flare	
<b>ME690-6-10</b>	Dielectric union 3/4" mnpt x 5/8" male flare	3-3/4"



Anode Test Rod

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Algas Vaporizers (cont. on next page)



VP

TORREXX

Model #	GPH Capacity	BTU/HR Capacity	Depth	Width	Height	Liquid Inlet Size (NPT)	Vapor Outlet Size (NPT)
<b>Direct Fired Vaporizers</b>							
<b>40/40</b>	40	3,600,000	21"	22"	41"	3/4"	1"
<b>80/40</b>	80	7,200,000	21"	35"	41"	3/4"	1"
<b>120/60</b>	120	10,800,000	21"	35"	50"	3/4"	1"
<b>160H</b>	160	14,560,000	22"	26"	61"	3/4"	1"
<b>320H</b>	320	29,120,000	41"	33"	61"	2"	2"
<b>480H</b>	480	43,680,000	59"	33"	61"	2"	2"
<b>640H</b>	640	58,240,000	78"	33"	61"	2"	2"
<b>800H</b>	800	72,800,000	96"	33"	61"	2"	2"
<b>Electric Vaporizers</b>							
<b>Zimmer</b>	20	1,800,000	6 1/2"	31 1/8"	10 1/4"	3/4"	1"
<b>TX25</b>	12.5	1,150,000	45 1/2"	12 3/4"	41"	3/4"	1"
<b>TX50</b>	25	2,275,000	45 1/2"	12 3/4"	41"	3/4"	1"
<b>TX100</b>	50	4,550,000	45 1/2"	12 3/4"	41"	3/4"	1"
<b>TX160</b>	80	7,280,000	51 1/2"	12 3/4"	47"	3/4"	1"
<b>TX240</b>	120	10,900,000	56 1/2"	12 3/4"	52"	3/4"	1"
<b>TX320</b>	160	14,560,000	64 1/2"	12 3/4"	59"	3/4"	1"
<b>Accessories</b>							
Part Number	Description						
<b>80445</b>	XP Auto Restart Option						
<b>80449</b>	XP Economy Option						
<b>80887</b>	Zimmer Tank Mount Kit						
<b>80888</b>	Zimmer Tank Mount Piping Kit						
<b>80885</b>	Zimmer Wall Mount Kit						
<b>80890</b>	Zimmer Regulator & Gauge Kit , High Temperature						
<b>80892</b>	Zimmer Strainer & Piping Kit						
<b>41051</b>	Torrex economy option						

## Algas Vaporizer Repair Parts

Description	40/40	60/60	80/40	120/60
Master Rebuild Kit - prior to Oct 2002	3-0002	n/a	3-0003	n/a
Master Rebuild Kit - after Oct 2002	81111	41032	81112	41042
Repair Kit	3-0034	41030	3-0035	41040
Thermocouple & Pilot Kit	3-0014	41031	81112	41042
Pilot Assembly Kit	81113	81113	41021	41021
Thermocouple	46-5	37050	46-4	37050
Liquid Inlet Valve Kit	3-0016	3-0016	3-0016	3-0016
Capacity Control Valve Kit	3-0017	3-0017	3-0017	3-0017
Thermostat Control	41073	41073	41073	41073
Regulator (Burner Train)	34800	34800	34800	34800
9 Volt Pilot Relighter	4-1011	4-1011	4-1011	4-1011

Algas-SDi vaporizers are used to provide sufficient vapor from your propane tank to your equipment. They are typically used in commercial and industrial applications with large BTU requirements

### ASDI Direct Fired Vaporizers

As its name implies, a Direct Fired vaporizer uses direct flame to vaporize liquid LPG inside a heat exchanger. Requiring no electricity, the Direct Fired vaporizer utilizes LPG itself as its source of energy and provides a constant supply of LPG, regardless of the LPG composition. Its durable and safe design make it perfect for any number of agricultural and industrial applications, including animal confinement, crop drying, construction heating, manufacturing processes and many more.



VP

80/40

### ZIMMER™ Electric LPG Vaporizer

The ZIMMER's Patented design incorporates breakthrough technology never before seen in the LP-Gas industry. By departing from the status quo, Algas-SDI has created a product that is simple, reliable and affordable. You no longer have to make a choice between high quality and low price. With the ZIMMER you can have both!



ZIMMER

### POWER™ XP Electric LPG Vaporizer

The unique POWER XP vaporizer utilizes DRY ELECTRIC vaporization technology that eliminates the traditional maintenance and efficiency shortcomings of traditional electrically heated "waterbath" style units while requiring less space, less energy, and being easier to install. Over the past 15 years the POWER XP has become the industry standard for compact, high efficiency, electric vaporizers throughout the world.

### TORREXX™ Electric LPG Vaporizer

Set your mind at ease and deliver the reliability of LP-Gas that your customer expects with Algas-SDI's latest electric vaporizer-the TORREXX! Designed with both the discriminating LP-Gas professional and end-user in mind, the TORREXX raises the bar in performance, safety, and reliability. Compact, highly efficient, and extremely durable, the TORREXX is poised to become the new industry standard for electric vaporizers.

## Second Sun Tank Heater Model SS-30 11199-01

Flameless, Gas-Powered, Catalytic Heater

Self-contained, off-grid operation  
30,000 btu/hr input  
Adds 2.2 mm btu/hr of vaporization  
Safety controls for high pressure and high temperature

Designed for 41" to 84" diameter tanks,  
1,000 - 12,000 gallons  
Simple to install, 2 person install  
Easy to remove for tank inspection  
Meets hazardous location requirements  
Can be used with propane, butane and LPG  
Shipping dimensions and weight:  
84"L x 24" W x 20" H, 225 lbs



## Model SS-10 2202-2001

10,000 Btu/hr input 500,000 output  
Fits 250 gallon - 3,900 gallon tanks  
Tank diameter 30" to 41"  
Shipping dimensions and weight:  
42"L x 21" W x 12" H, 65 lbs

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# O-Rings and Washers



IE8122



IE8126



MSW4P



IE8128

IE8124

S/T

## Washers

Part No.	Size	Use
<b>MSW4P</b>	1 1/4" Acme	Fork lift connector
<b>1E8122</b>	1 1/4" Acme	Filler & vapor valves & adaptors
<b>1E8124</b>	1 3/4" Acme	
<b>1E8126</b>	2 1/4" Acme	
<b>1E8128</b>	3 1/4" Acme	

NOTE: ALL PICTURES ACTUAL SIZE

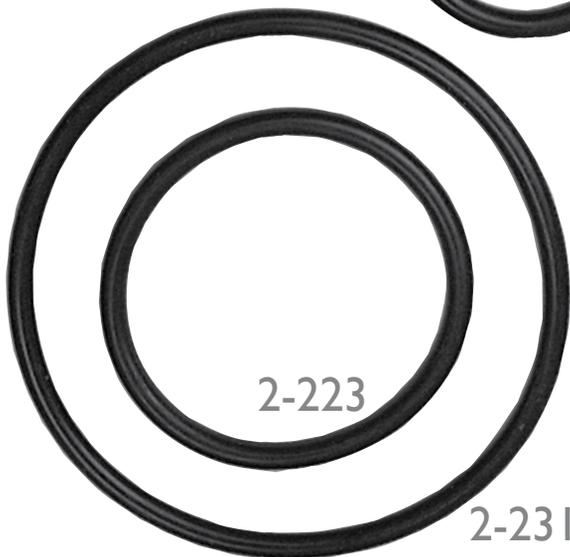
2-110  
(INSIDE)



2-114



2-216



2-223

2-231

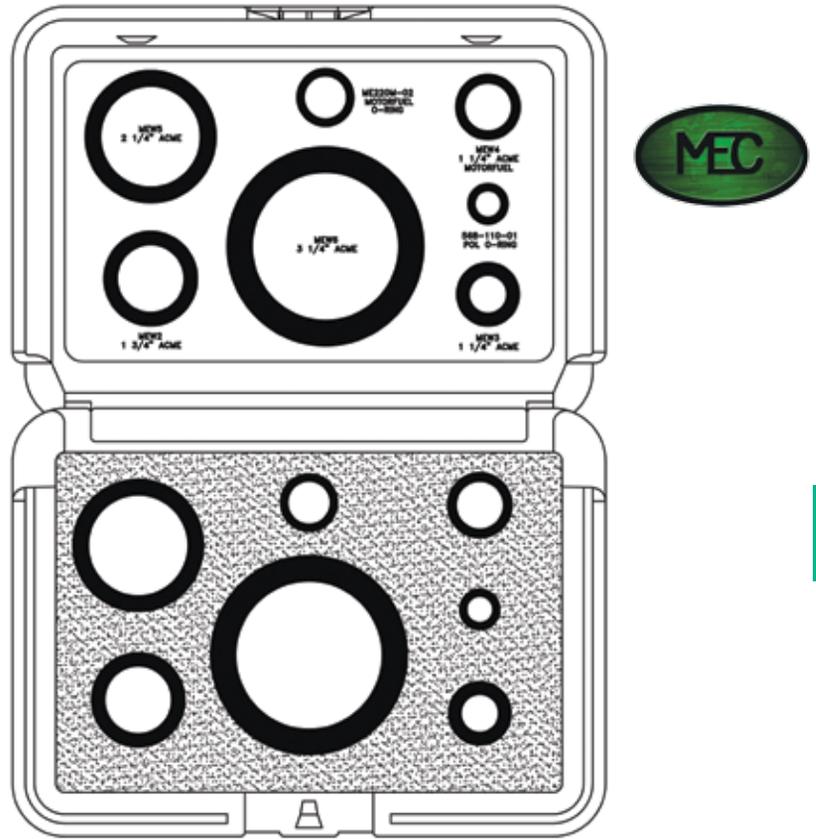


2-210

## O-Rings

Part No.	Size	Use
<b>2-012A</b>	POL	Mr. Heater
<b>2-110A</b>	POL	Marshall Excelsior & Rego
<b>2-111A</b>	POL	Fisher
<b>2-114A</b>	1 1/4" Acme	Internal fork lift
<b>2-210A</b>	1 1/4" Acme	Vapor valves
<b>2-216A</b>	1 3/4" Acme	Filler valves
<b>2-223A</b>	2 1/4" Acme	Bobtail, transport vapor return
<b>2-231A</b>	3 1/4" Acme	Bobtail, transport liquid loading
<b>2-238A</b>	4 1/2" Acme	Refinery, barge liquid unloading
<b>2-460A</b>	Manway cover gasket	

# MEWI Serviceman's Replacement Seal Kit



S/T

## MEWI Serviceman's Replacement Seal Kit

Part No	Qty	Description
<b>IE8126</b>	10	2 1/4" acme flat gasket
<b>IE8124</b>	10	1 3/4" acme flat gasket
<b>2-114A</b>	12	1 1/4" acme internal forklift o-ring
<b>IE8128</b>	10	3 1/4" acme flat gasket
<b>MSW4P</b>	9	1 1/4" fork lift connector gasket
<b>2-110A</b>	12	POL O-Ring
<b>IE8122</b>	10	1 1/4" acme flat gasket

# Manometers



## Dwyer U-Tube Manometer

Attach to vertical steel surface with magnets behind scale, if necessary attach using screws and bolts. Hose included.

1222-16



### EM150 Electric Manometer with hose

- Measures pressure to 20" Water Column with .05" resolution
- Rugged rubberized case with built-in magnet
- Simple two button operation
- Over pressure protection
- Auto reset feature
- Auto power off after 5 minutes no activity
- Battery life 50 hours with alkaline battery
- Optional AC319 soft sided carrying case available

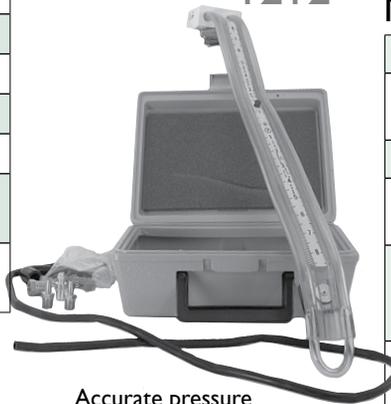
EM151

S/T

Part Number	Description
<b>I222-16</b>	U-Tube Manometer
<b>A126</b>	3/4 oz. Replacement green dye
<b>I222-16-D</b>	Oil Filled U-Tube Manometer
<b>A101</b>	3/4 oz. Red gauge oil
<b>A102</b>	4 oz. Red gauge oil
<b>A201</b>	3' tubing with replacement bell end
<b>A319</b>	Flexible Red PVC connector for I222 manometer

## Dwyer Slack-Tube Manometer

I212



Accurate pressure readings to 16" w.c. No fluid to lose, rolls up for convenient storage.

Part Number	Description
<b>I212</b>	Slack tube manometer
<b>A401</b>	I212 Case
<b>A126</b>	3/4 oz. green replacement dye
<b>A201</b>	3' tubing with replacement bell end
<b>ID4976</b>	Rubber bell adapter
<b>I212 KIT</b>	Adapter kit
<b>A339</b>	Brass adapter 1/8" MPT x 1/8" barb



MON-15

Mono-hydro-gauge. Alternative to an ordinary U-tube manometer.

### MON-15 Manometer

Part NO.	Description
<b>MON-15</b>	Manometer
<b>85P02</b>	Optional Adapter
<b>ID4976</b>	Rubber bell adapter

MAN-16



### MAN-16 Manometer

Part No.	Description
<b>MAN-16</b>	1-16" U-Tube Manometer

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

Test kits include 0-35 w.c. gauge,  
rubber hose with 'bell' end for easy fit  
on orifice and plastic protective case.

## Kuhlman 3-Instruments-in-One

Part Number	Description
<b>2000A</b>	Kuhlman instrument w/ metal case - complete
<b>2000A-FL</b>	1/2 pint pink fluid
<b>2000A-GAL</b>	Gallon of pink fluid
<b>#12</b>	Female Quick disconnect fitting
<b>B25</b>	Hand pump



- Pounds to 200 psi
- Inches of water to 16"
- Accurate leak tester

2000A

S/T

Part No	Description
<b>KA50ECO-2</b>	1/4" MPT Test Gauge 0-30" WC
<b>ME50P-2</b>	Gauge Test Kit 0-35" WC Non Adjustable Rubber Hose w/Bell Plastic Case
<b>ME50P-5</b>	Test Gauge 0-35" WC Non Adjustable Rubber Hose w/Bell No Case
<b>ME60-2</b>	1/4" MPT test gauge 0-35" WC Adjustable
<b>ME60P-2</b>	Gauge Test Kit 0-35" WC Adjustable Gauge w/ Included Screwdriver Rubber Hose w/Bell High Quality Case w/ Metal Hinge



ME50P-2



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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# Gas Detectors



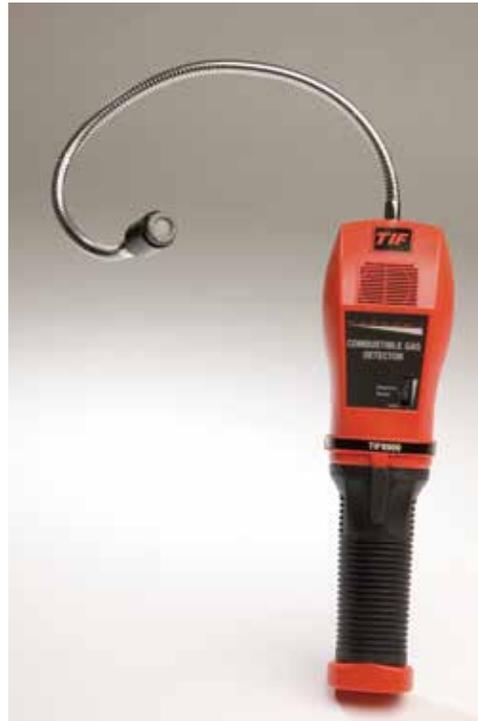
**CO71** ... Carbon Monoxide detector detects CO levels from 0 to 999 ppm. Tri-color warning indicates 3 concentration levels. Green when CO is 2-9 ppm. Amber when CO is 10-35 ppm and red with an audible alert at 34 ppm indicating dangerous CO levels. Handheld powered by 9V battery.



**Pocket Air Check** ... affordable pocket sized combustible gas leak detector. Handheld and highly sensitive makes finding gas leaks as easy as using a flashlight. Operates up to 8 hour on (2) AA batteries. Both audible and visual alarm indicators.

## 8900

**TIF 8900**...Combustible Gas Detector with case The 8900 is a highly reliable broadband combustible gas detector extremely useful as a general purpose tool in any environment where gasoline, propane, natural gas or fuel oil is used.



HS80504

**HS80504**...Carbon Monoxide, Propane & Methane Gas Detector

- Senses dangerous levels of carbon monoxide
- Two independent 85dB alarm sounds, one for CO, the other for methane/propane.
- Has computerized calibration to help eliminate false alarms
- Built-in self-diagnostics assures the unit is operating properly
- Plugs into standard 110-120v outlet
- Samples the air every 2.5 min.
- 5 year warranty

Part Number	Description
<b>8500A</b>	TIF CO Analyzer voice feature, case, LCD readout, cordless
<b>8900</b>	TIF Combustible Gas Detector
<b>8803</b>	TIF Battery recharger 120 volt
<b>8806A</b>	2 Rechargeable NI-CAD battery for TIF8900 2.4 volt
<b>TIF8801</b>	TIF sensing tip for 8900
<b>HS80504</b>	110 Volt Propane & Carbon Monoxide gas alarm
<b>Pocket Air Check</b>	Pocket gas detector for NG, LP, Methane & Butane. (2) AA batteries
<b>CO71</b>	Hand held carbon monoxide detector

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
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PTK-1A

Part No.	Description
<b>PTK-1A</b>	Male x Female POL w/ 0-300 PSI Gauge, without regulator

Note: Assembly required



**MEJ595**  
Pressure Gauge  
Adapter

Part No.	Description
<b>MEJ595</b>	1/2" MNPT x 1/2" FNPT adapter



Low Pressure  
Test Adapter

Part No.	Description
<b>I328</b>	For 3/8" O.D. tube
<b>I331</b>	For 1/2" O.D. tube
<b>I332</b>	For 5/8" O.D. tube

I332

Flare fitting unit for testing pressure in copper tubing lines, when test connection on appliance is not accessible.



MEJ601

S/T

High-  
Pressure Test Kit

Part No.	Description
<b>MEJ601</b>	MPOL x FPOL test block with 0-300 psi gauge and bleeder



ME299

Part No.	Description
<b>ME298</b>	1/2" MNPT x 1/2" FNPT, 1/8" FNPT side
<b>ME299</b>	3/4" MNPT x 3/4" FNPT, 1/8" FNPT side

Note: Side has #54 drill hole and plugged. This test adapter can be installed anywhere in the system and remains part of the permanent installation.



**I449**  
Pressure Gauge  
Snubber

Part No.	Description
<b>I449</b>	1/4" male x 1/2" female with #54 drill hole
<b>ME202SS</b>	1/4" male x 1/4" female with #55 orifice

Pressure snubber protects the gauge from damaging surges and moderates pulsating at the gauge.

# Leak Detection Equipment



SKVA



SKVB



ME10BTK

Leak Detection Equipment and Supplies	
Part Number	Description
<b>High Pressure</b>	
<b>MEJ601</b>	MPOL x FPOL test block with 0-300 psi gauge & bleeder
<b>PTK- I</b>	POL test kit with 0-300 gauge & ball valve (with regulator)
<b>PTK- IA</b>	POL test kit with 0-300 gauge & ball valve (no regulator)
<b>KVB Kit</b>	Type B kit w/tool box test block (12) 1/8" & (6) 1/4" type B valves, includes 0-30 psi gauge & 12 lb regulator
<b>V75-20</b>	Shut off valve warning decal
<b>Line Pressure (0-30 psi)</b>	
<b>ME10BTK-KIT30</b>	30 psi Schrader valve test kit
<b>MEJ610/30</b>	Test adaptor 0-30 psi gauge 3/4 FPT x Schrader valve
<b>KA511-18</b>	0-30 psi gauge 1/8 mpt back mount
<b>KA501-18</b>	0-30 psi gauge 1/8 mpt bottom mount
<b>KVB Kit</b>	Type B kit w/tool box test block (12) 1/8" & (6) 1/4" type B valves, includes 0-30 psi gauge & 12 lb regulator
<b>TGB</b>	Type B connection test gauge with bleeder, 0-30 psi gauge
<b>ME10BTK-1-01</b>	Female swivel adaptor Schrader x 1/8" FPT
<b>KR12</b>	1/4" FPT high pressure regulator preset at 12 psi
<b>V75-20</b>	Shut off valve warning decal
<b>Operating Pressure (0 - 35" WC)</b>	
<b>I222-16</b>	Dwyer U-Tube Manometer
<b>I222-16-D</b>	Dwyer Oil filled U-Tube Manometer
<b>I212</b>	Dwyer Slack Tube Manometer
<b>MON-15</b>	CMI Engineering Mono tube hydro gauge Manometer
<b>MAN-16</b>	CMI Engineering U-Tube Manometer
<b>2020</b>	0-20" WC Magnehelic Gauge
<b>2020 BUNA IC</b>	0-20" WC Magnehelic Gauge Buna diaphragm Impregnated Case (IC)
<b>2020LT</b>	0-20" WC Magnehelic Gauge Low Temp to -20F
<b>EM151</b>	0-20" WC Electronic Manometer, w/ 18" hose & 1/8" mpt adapter
<b>ME50P-2</b>	Gauge test kit 0-35" WC with case, hose & adapter
<b>ME50P-5</b>	Gauge test kit 0-35" WC with hose & adapter, no case
<b>ME60P-2</b>	0-35" WC gauge test kit with hose, case, adapter adjustable
<b>ME60P-5</b>	0-35" WC gauge test kit with hose, adaptor adjustable

Type B Leak Testing Equipment	
Part No.	Description
<b>SKVB</b>	Type B Universal Test Kit with 0-35" wc tester, POL test block, 12-1/8" type B valves, 6-1/4" Type B valves and tool box
<b>VB1</b>	Type B Test Tap Valve, 1/8" MPT x Type B connection
<b>VB2</b>	Type B Test Tap Valve, 1/4" MPT x Type B connection
<b>TGB</b>	Type B connection test gauge w/bleeder valve, 0-30 psi gauge
<b>HSB</b>	Type B test adaptor w/ 1/4" fpt for manometer / oz. gauge
<b>KR12</b>	Replacement regulator - 1/4" fpt regulator preset at 1 psi
The SKVB Kit meets the NFPA 54 requirements for leak check testing	

**The SQTG Kits** are ideal for bobtail drivers and service personnel that conduct leak check and regulator pressure testing. The SQTG kits contain four pressure gauges;

- a) 30 psi gauge for pressure tap valves in the outlet of a first-stage regulator, or intermediate pressure of and integral two-stage regulator
- b) 300 psi (with high pressure test block) for systems with no regulator pressure taps
- c) 5 psi gauge for testing set and lock up pressure in 2 psi regulators
- d) 35" WC gauge for use in second-stage regulator leak testing

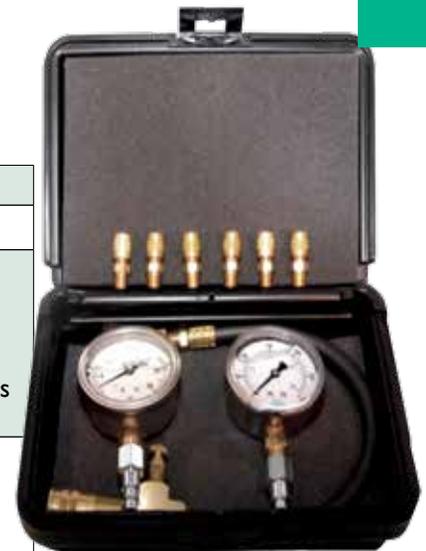
The hose assembly has an inlet swivel connection for attachment to the pressure tap valve. The outlet connection is a high pressure (300 psi) industrial quick disconnect coupling for attachment to any of the included gauges.



SQTG

S/T

**QTG Kits** include a 30 psi and a 300 psi gauge, six pressure tap valves, a high pressure test block and a hose assembly. The hose assembly has an inlet swivel connection for attachment to the pressure tap valve and the outlet connection is high pressure (300 psi) industrial quick disconnect coupling for attachment to either the 30 psi or 300 psi gauge. The 30 psi gauge is used when testing at a pressure tap between the first and second stage regulator or intermediate pressure of a integral two stage regulator. Where there is no regulator pressure tap to use the 30 psi gauge, the 300 psi gauge is used with the TBA or TBB high pressure test block installed between the service valve and the pigtail.



QTG

QTG Leak Check Gauge Kits	
Part No.	Description
<b>QTGI27A</b>	Type A universal kit w/ 1 - QHA hose assembly 1 - GA30N 30 psi gauge 1 - GA300N 300 psi gauge 6 - VAI 1/8" NPT x Schrader pressure tap valves 1 - TBA high pressure test block
<b>QTGI28B</b>	Type B universal kit w/ 1 - QHB hose assembly 1 - GA30N 30 psi gauge 1 - GA300N 300 psi gauge 6 - VBI 1/8" NPT x 1/4" flare pressure tap valves 1 - TBB high pressure test block
<b>SQTG4A</b>	Type A universal kit w/ 1 - QHA hose assembly 1 - GA30N 30 psi gauge 1 - GA300N 300 psi gauge 1 - GA5N 5 psi gauge 1 - GA35WN 35" w.c. gauge 6 - VAI 1/8" NPT x Schrader pressure tap valves 1 - TBA high pressure test block
<b>SQTG4B</b>	Type B universal kit w/ 1 - QHA hose assembly 1 - GA30N 30 psi gauge 1 - GA300N 300 psi gauge 1 - GA5N 5 psi gauge 1 - GA35WN 35" w.c. gauge 6 - VBI 1/8" NPT x 1/4" flare pressure tap valves 1 - TBA high pressure test block

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# Test Equipment (cont.)

Accessories for all Test Kits	
<b>MEJ605</b>	Test adaptor female Schrader x 1/8" hose barb, brass
<b>MEJ607-02</b>	Test tap valve 1/4" MPT x Schrader connection
<b>MEJ607-03/100</b>	Warning label for 1/4" mpt Schrader valves
<b>MEJ608B-02</b>	Test tap valve 1/8" MPT x Schrader connection
<b>MEJ608B-03/100</b>	Warning label for 1/8" mpt Schrader valves
<b>ME298</b>	1/2" MNPT x 1/2" FNPT with 1/8" side port which has #54 drill hole
<b>ME299</b>	3/4" MNPT x 3/4" FNPT with 1/8" side port which has #54 drill hole
<b>VB1</b>	Test tap valve 1/8"mpt x 1/4" male flare "Type B" connection
<b>VB2</b>	Test tap valve 1/4"mpt x 1/4" male flare "Type B" connection
<b>ME10BTKL</b>	0-30" WC Schrader valve test kit with tool box & 10 valves
<b>HSB</b>	Type B test adaptor with 1/4" fFPT for manometer/oz gauge access
<b>I328</b>	3/8" OD test adaptor
<b>I331</b>	1/2" OD test adaptor
<b>I332</b>	5/8" OD test adaptor
<b>TL051</b>	Serviceman's Friend
<b>A339</b>	Brass adaptor 1/8" MPT x 1/8" hose barb
<b>AC319</b>	Soft sided carrying case for EM151
<b>A126</b>	3/4 oz bottle of green dye for manometer
<b>A101</b>	3/4 oz bottle of red gauge oil for manometer
<b>A102</b>	4 oz bottle of red gauge oil for manometer
<b>007</b>	2 oz bottle low temp -20F pink fluid for manometer

S/T



<b>ISV-A</b>	POL Isolation Valve w/Type A Schrader Test Tap, assembled
<b>ISV-B</b>	POL Isolation Valve w/Type B Test Tap, brass, assembled

## Bergquist Leak Detector

Part No.	Description
<b>150010</b>	One gallon low temp. leak detector / 4 per case
<b>150011</b>	55 gallon drum of low temp. leak detector
<b>150015</b>	8 oz. bottle with daube & low temp. leak detector
<b>150000</b>	Pint bottle with brush top, empty
<b>150002</b>	Pint trigger spray dispenser, empty



## Magnehelic Gauge

Part Number	Description
<b>2020</b>	Magnehelic Gauge 0-20" WC w/Case & Access. (2 boxes)
<b>2020LT</b>	Magnehelic Gauge 0-20" WC Low Temp to -20F w/Case & Acc (2 boxes)
<b>A432</b>	Case and Accessories for 2020 Magnehelic Gauge



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TT61

LACO



SS04



PB04



400-102

S/T

## Pipe Thread Sealant

Part Number	Description
<b>SS04</b>	Gasoila Soft-Set with Teflon 1/4 Pint Brush Top Sealant
<b>SS08</b>	Gasoila Soft-Set with Teflon 1/2 Pint Brush Top Sealant
<b>SS16</b>	Gasoila Soft-Set with Teflon 1 Pint Brush Top Sealant
<b>NT08</b>	Gasoila Non Teflon Blue Pipe Sealant 1/2 Pint Brush Top
<b>NT16</b>	Gasoila Non Teflon Blue Pipe Sealant 1 Pint Brush Top
<b>400-002</b>	1/4 Pint Gimme the White Stuff Pipe Sealant
<b>400-102</b>	1/4 Pint Green Stuff Pipe Sealant
<b>400-104</b>	1 Pint Green Stuff Pipe Sealant
<b>PB04</b>	PLS2 Pipe Thread & Gasket Sealer 1/4 Pint Brush Top Sealant
<b>PB16</b>	PLS2 Pipe Thread & Gasket Sealer 1 Pint Brush Top Sealant
<b>RTS-100</b>	1/4 Pint Rectorseal No 5 Pipe Thread Sealant
<b>RTS-101</b>	1/2 Pint Rectorseal No 5 Pipe Thread Sealant
<b>RTS-102</b>	1 Pint Rectorseal No 5 Pipe Thread Sealant
<b>LACO</b>	4 oz pipetite thread seal stick 443 sealant - 12 per case
<b>TT61</b>	1/2" x 520 inches pipe seal teflon tape
<b>TT54</b>	3/4" x 520 inches pipe seal teflon tape
<b>XRTU</b>	4" X 50" 12 MIL black tape pipe sealing wrap for underground electrolysis protection

FA06



BEE BOP



PS15



TW90



## Miscellaneous Service Equipment



HALT

Part Number	Description
<b>FA06</b>	Free All 6 oz Aerosol Spray Penetrating Oil
<b>FA12</b>	Free All 12 oz Aerosol Spray Penetrating Oil
<b>PS15</b>	Work Sav'R Power Scrub Cleaner 15 Oz Bottle
<b>TW90</b>	Tub-O-Towels disposable towels, moist, 90 Towel Canister
<b>BEEBOP</b>	Wasp and hornet spray 14 oz, 12 per case
<b>HALT</b>	Dog repellent, 1 1/2 oz, with belt clip 12 per case

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# Gloves



523173



## Gloves

Part Number	Size	Color	Description
<b>523173</b>	Large	Orange	Textured Monkey Grip Glove, Coated Safety Cuff, Insulated
<b>#2114</b>	Large	Green/Gray	Leather Palm Safety Glove
<b>2022</b>	Large	Yellow/Blue	Flex Thumb Glove - Yellow Knit with Leather Palm
<b>1100</b>	Large	Brown	Brown Jersey Glove (pair)
<b>7210</b>	Large		Insulated PVC Safety Cuff Glove
<b>52547</b>	Large		Hyd-Tuf nitrile-coated, safety cuff, soft jersey lining



#2114

S/T



2022

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# Dormont Connectors, Quick Connect Couplings

## Stainless Steel Gas Appliance Connectors

3/8" ID / 1/2" OD with 1/2" female x 1/2" male		1/2" ID / 7/8" OD with 3/4" female x 3/4" male	
Length	Part No.	Length	Part No.
12"	<b>1637NX12</b>	12"	<b>1650NX12</b>
18"	<b>1637NX18</b>	18"	<b>1650NX18</b>
24"	<b>1637NX24</b>	24"	<b>1650NX24</b>
36"	<b>1637NX36</b>	36"	<b>1650NX36</b>
48"	<b>1637NX48</b>	48"	<b>1650NX48</b>
60"	<b>1637NX60</b>	60"	<b>1650NX60</b>

Dormont residential connectors are durable, flexible, and easy to install. Designed with built-in safety features, Super-Safe connectors help prevent dangerous gas leaks and provide for a long and trouble-free service life.



1637NX12

S/T

## Super-Safe™ Connectors for Mobile Homes

Part No.	Description	Length
<b>1675NPX24</b>	3/4" I.D. / 1" O.D.	24"
<b>1675NPX36</b>	3/4" I.D. / 1" O.D.	36"

1/4" ID x 3/8" OD - 3/8" MPT x 1/2" FNPT	
Part #	Length
10-2132-12	12"
10-2132-18	18"
10-2132-24	24"
10-2132-36	36"
10-2132-48*	48"

\*Not black

## Dormont Black Appliance Connectors

Specifically engineered for High-Temperature applications such as gas logs, fireplace inserts, etc. Designed to reduce glare & hide the connector from view.



10-2132-12

## Quick Connect Couplings

Part Number	Description
<b>104061</b>	1/4" FPT quick disconnect appliance connector, female end only, 250 psi max
<b>401111</b>	1/4" Male Quick Connect Plug x 1/4" MPT
<b>401148</b>	Fill Plug FPOL x 1/4" Male Quik Disconnect for Filling CGA 810
<b>104406B</b>	3/8" FPT quick disconnect appliance connector, female end only, 1/2 psi max
<b>401207</b>	Sturgis brass plug 3/8 fpt x male quick connect
<b>104088</b>	1/2" FPT quick disconnect appliance connector, 5 PSI, female end only
<b>401506</b>	1/2" FPT quick disconnect plug end only
<b>104089</b>	3/4" FPT quick disconnect appliance connector, 5 PSI, female end only
<b>401606</b>	3/4" FPT quick disconnect plug end only



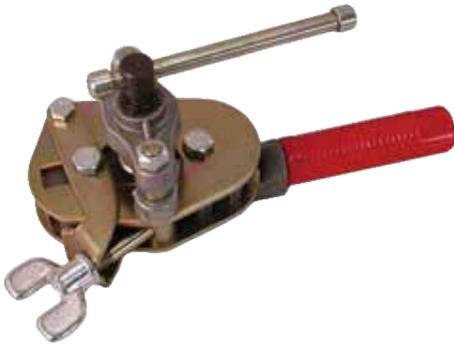
Quick Connect permits instant disconnection and fast, easy connection to gas supply line without using tools. Simply pull back operating ring and the coupling springs apart and shuts off gas. For gas connection bring two parts together until they snap in place. Fusible link (thermal shutoff) cuts off gas flow in presence of fire.

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# Service Equipment



Note: Single handle, most popular, automatic depth gauge, burnishes and flares in one motion.



## Parker Rolo-Flair Flaring Tool

Part Number	Description
<b>945TH</b>	Parker Rollo-Flare



## Rothenberger Swing Release Flaring Tool

Part No.	Description
<b>420</b>	3/16", 1/4", 5/16", 3/8", 1/2", & 5/8"

S/T



525F



195FC

## Imperial Professional Flaring Tool

Part No.	Description	Tube Size O.D.
<b>525F</b>	'Grabber' Rol-Air flaring tool	3/16" thru 5/8" one opening fits all sizes
<b>500FC</b>	'Rol-Air' flaring tool	3/16" thru 5/8"
<b>203FA</b>	Flaring tool for large size tubing	5/8" thru 1 1/8"
<b>195FC</b>	Flares 7 tube sizes	3/16" thru 5/8"



500FC



203FA



Note: Extra cutting wheel included under reamer

## Imperial Hi-Duty Tubing Cutter

Part Number	Description
<b>TC1000</b>	3/16" thru 1 1/8" tubing cutter with reamer
<b>75015</b>	Replacement cutting wheel



Note: Ideal for tight quarters.

## Imperial 'IMP' Tubing Cutter

Part No.	Description
<b>TC1050</b>	1/8" thru 5/8" cutter
<b>32633</b>	cutting wheel
<b>26883</b>	screw

Note: Formerly Papco, extra cutting wheel in handle. Most popular.



## Rothenberger Tubing Cutter

Part Number	Description
<b>512</b>	3/16" thru 1 1/8" tubing cutter with reamer
<b>7.0007</b>	Replacement cutter wheel for 512

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## Gas Matches

Part Number	Description
<b>GM3</b>	Gas Match w/ Continuous Ignitor 14-3/4"
<b>GM3X</b>	Gas Match 15" Flex Nozzle
<b>GM4</b>	Gas Match Refillable 11" Long
<b>GM12</b>	Multi Sparker Continuous Ignitor Gas Match
<b>GM12X</b>	Multi Sparker Continuous Ignitor Gas Match with Flex Nozzle
<b>99108</b>	Ronson Multi Fill Butane Refill Large Economy Size 5.3 oz
<b>EXT MATCH HLDR</b>	Extendable match holder



99108

EXT MATCH HOLDER

S/T



Packed in a convenient plastic storage container.

## Drill and Tap Kit for Bulk Tank Percentage Gauges

Part No.	Description
<b>Tap Kit</b>	Replace Jr. & Sr screws

Note: Jr. & Sr. screws can break off in the tank, save the tank by drilling and tapping. Kit includes steel Jr. & Sr. blocks for proper alignment, and Jr. & Sr. drill & taps.



## Flashlight

#912

Part No.	Description
<b>#912</b>	Hazardous area approved flashlight



## First-Aid Kit

Part No.	Description
<b>First Aid Kit</b>	Wall mount, plastic case, complete

First Aid Kit contains...

- 16-adhesive strips, 1" x 3"
- 1-triangular bandage, 40"
- 4-gauze pads, 3" x 3"
- 1-large wound dressing, 5" x 9"
- 2-eye pads
- 1-adhesive tape
- 6-first aid & burn cream packets, .9 gm.
- 1-gauze bandage, 4"
- 1-eye wash, 1 oz.
- 1-pair scissors
- 1-pair forceps
- 4-exam gloves
- 1-first aid instructions
- 30-antiseptic wipes

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# Service Equipment



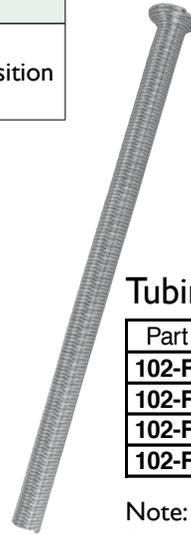
## Nipple Caddy

Part Number	Description
<b>T1005</b>	1/2" nipple caddy - 77 position count
<b>T1007</b>	3/4" nipple caddy - 66 position count
<b>T1057</b>	1/2" & 3/4" nipple caddy - 42 & 36 position count



## Tubing Bender

Part No.	O.D. Tube Size	Length
<b>102-F-04</b>	1/4"	10"
<b>102-F-06</b>	3/8"	10"
<b>102-F-08</b>	1/2"	12"
<b>102-F-10</b>	5/8"	12"



Note: For bending soft tubing to any shape without collapsing walls. Special spring steel, nickel finish. End belled for quick spring removal.

## Gauging Drill Set

Part Number	Description
<b>G4080</b>	Drill kit #40 to #80 & #90 reamer
<b>G1939</b>	Gauging drill kit #19-39



S/T

## Replacement Drills

Part Number	Description
<b>GD19 - GD80 (Each)</b>	Individual Drills #19 to #80
<b>G3015</b>	#90 without handle
<b>G3020</b>	#90 with handle



## Serviceman's Friend

Use with flow meter and other applications. One end has 1/8" pipe thread, 1/4" pipe thread and special 5/16" x 32 thread. Opposite end has regular hose fitting & 1/8" straight pipe thread. Hose can be used on either end.



Part No.	Description
<b>TL051</b>	Serviceman's friend

## Universal Thermocouples Johnson Controls

Part No.	Description
<b>AT18</b>	18" thermocouple
<b>AT24</b>	24" thermocouple
<b>AT30</b>	30" thermocouple
<b>AT36</b>	36" thermocouple
<b>AT48</b>	48" thermocouple
<b>AT60</b>	60" thermocouple

Notes:

- 1) Cool down time, 20 seconds minimum.
- 2) Sold individually or in boxes of 10.
- 3) Additional thermocouples, thermopiles & pilot generators are available for the heating units we sell. Specify manufacturer and model number when ordering.



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**Wheeler Rex Aluminum Pipe Wrench**

Part Number	Description
<b>004414</b>	14" Alum Heavy Duty Straight Pipe Wrench
<b>004424</b>	24" Alum Heavy Duty Straight Pipe Wrench
<b>4436</b>	36" Alum Heavy Duty Straight Pipe Wrench



004424

**Channellock Tongue and Groove Pliers**

Part No.	Description
<b>#420</b>	9 1/2", 5 adjustments, 1 1/2" capacity
<b>#440</b>	12", 7 adjustments, 2 1/4" capacity
<b>#460</b>	16", 8 adjustments, 4 1/4" capacity

Note: Right angle teeth grip in all directions. Undercut tongue & groove won't slip. Patented reinforced edge. Channellock blue comfort grips.



#460

S/T

**Channellock Adjustable Wrenches**

Part No.	Description
<b>#808</b>	8" wrench, capacity 15/16"
<b>#810</b>	10" wrench, capacity 1 3/16"
<b>#812</b>	12" wrench, capacity 1 3/8"
<b>#815</b>	15" wrench, capacity 1 3/4"

- Note:
- 1) Measurement scales on jaws ideal to determine size of nuts, pipe, etc.
  - 2) Chrome vanadium steel construction.
  - 3) Ergonomic handle, non protruding jaw.



#815

Ideal for heat exchanger and relief valve inspections.  
Note: Double ball joint, tempered steel links swivel mirror to any position, withstand stress or constant repositining, move freely, and hold desired position. The telescoping mirror has a hex inner rod that prevents the mirror from swinging out of present alignment. Has insulated vinyl grip.

Part No.	Description
<b>C-2</b>	Telescoping inspection mirror

**Telescoping Inspection Mirror**



C-2

**Spanner Wrenches**

Part No.	Description
<b>P120B</b>	2 1/4", 3 1/4", 4 1/4" wrench
<b>J Wrench</b>	3 1/4" acme wrench



JWRENCH

P120B

# Service Equipment



TL070

## How to install the MI100 Adaptor

- Remove the existing orifice from the appliance and place it in the TL074 Safety Anvil, where it is secured by a thumb screw. Ream out the orifice using a TL070 Reamer in conjunction with the TL061 Handpiece (always turn the reamer in one direction to provide a perfectly round, properly sized hole for the Adaptor).
- Remove the orifice from the Safety Anvil and insert the Adaptor (which is tapered to allow for insertion) into the reamed hole.
- Place the orifice (Adaptor side up) on the end of the Safety Anvil or other hard surface and use the TL063 Driving Tool and a hammer to fully seat the Adaptor. Please note the TL063 Driving Tool is designed so that it will not damage the orifice channel during insertion. On the end of the Safety Anvil is a small counter-sunk hole located off center; place the head of the Adaptor into this hole.
- With the orifice in this position, insert the TL062 Crimping Tool and strike once or twice. This will flare the inlet side of the Adaptor and allow an uninterrupted flow of gas.



TL102



TL074

S/T



TL0614

Part No	Description
<b>TL102</b>	Adjustable jet cleaner & orifice reamer drill .125 -52
<b>G1008</b>	Tapered broach .008" to .017", no handle
<b>TL061</b>	Handle for reamer and broacher
<b>TL062</b>	Crimping tool for large plugs
<b>TL063</b>	Driving tool
<b>TL070</b>	Large reamer
<b>TL074</b>	Safety anvil
<b>M1100-72</b>	Orifice adapter spud w/#72 pilot hole
<b>M1100K</b>	Master adapter kit with 100 M1100-72, TL061, TL062, TL063, TL064, TL070, TL074



## Wheeler Rex 6 in 1 Screwdriver



Part No.	Description
<b>6019</b>	6 in 1 screwdriver... 1 Phillips, 2 flat, 1/4" and 5/16" nut drivers



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### Special LP Plug and Cap Orifice Kit

Part No.	Description
<b>MI135</b>	LP plug & cap orifice kit

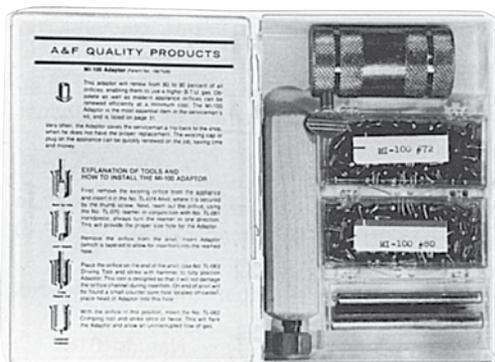
This kit is for LP only and consists of nearly 300 pieces. Including 23 popular items. All are 72 drill except PO527-80, PO539-.010, and PO519, PO520. PO523 and MI-108 which are blank. A chart describing and illustrating each item is inside the cover. Includes heavy gauge steel cabinet.



### Serviceman's Orifice Assortment Kit

Part No.	Description
<b>MI131LP</b>	Orifice assortment kit

The MI131 orifice cabinet contains 23 of the most commonly used orifices. Over 300 orifices in proportion to normal demand. A chart describing and illustrating each item is just inside the cover. Cabinet is made of heavy gauge steel with durable baked enamel finish, with radius bottom sections for easy removal.



### Adapter Kit

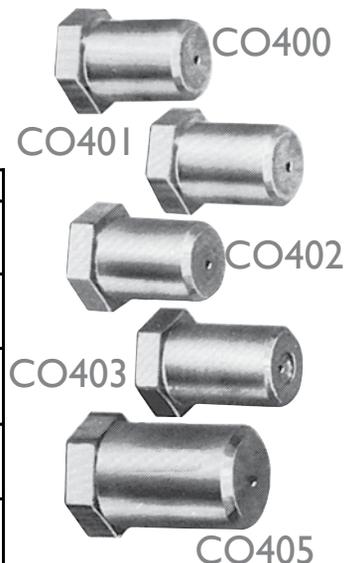
Part No.	Description
<b>MI100K</b>	Orifice adapter kit
<b>MI100-72</b>	Replacement #72 spud

Kit includes all tools needed to assemble MI-100 adaptors.. Kit includes 100 ea. MI-100, and 1 each of the following: TL-061, TL-062, TL-063, TL-064, TL-070, and TL-074 in a plastic box.

## Pilot Orifices and Plugs

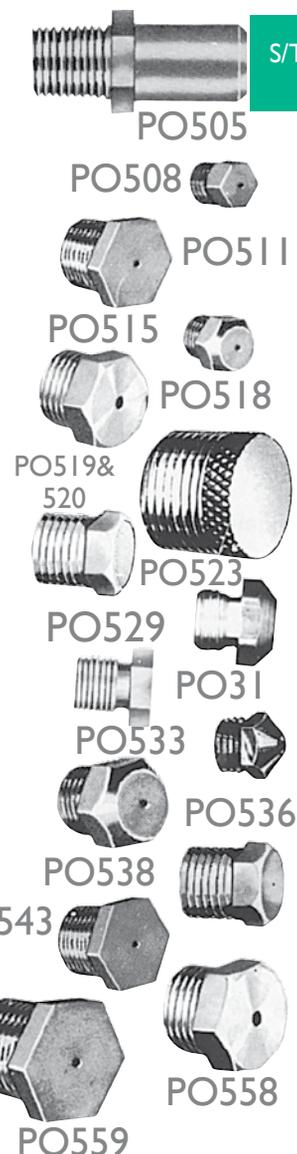
### Anderson Forrester Cap Orifices

Part No.	Description
<b>CO400</b>	Std. flat end 3/8" x 27 thread approx. length 23/32
<b>CO401</b>	Std. flat end 1/8" taper pipe thread approx. length 11/16"
<b>CO402</b>	Std. flat end 3/8" x 40 thread approx. length 11/16"
<b>CO403</b>	Std. counter bored end 3/8" x 27 thread approx. length 3/4"
<b>CO405</b>	Std. flat 1/2" x 20 thread approx. 15/16"



### Anderson Forrester Plug Orifices

Part No.	Description
<b>PO505</b>	With flat end 1/8" pipe thread. 72 drill size, unless ordered otherwise
<b>PO508</b>	1/4" x 28 thread. LP drill size 72.
<b>PO511</b>	7/16" x 27 thread. Drill size 72
<b>PO515</b>	1/4" x 32 thread. LP drill 72
<b>PO518</b>	11/32" x 32 thread. LP drill size 72
<b>PO519</b>	1/8" pipe thread
<b>PO520</b>	1/4" pipe thread
<b>PO523</b>	Manifold plug 1/8" taper pipe thread
<b>PO529</b>	5/16" x 27 thread. LP drill size 72
<b>PO531</b>	11/32" x 27 thread. LP drill size 72
<b>PO533</b>	5/16" x 32 thread LP drill size 72
<b>PO536</b>	3/8" x 27 thread LP drill size 72
<b>PO538</b>	3/8" x 32 thread LP drill size 72
<b>PO543</b>	7/16" x 24 thread LP drill size 72
<b>PO558</b>	9/16" x 27 thread LP drill size 72
<b>PO559</b>	5/8" x 27 thread LP drill size 72
<b>PO591-72</b>	1/8" MPT X 1/8" MPT orifice #72 drill
<b>PO592-72</b>	1/4" MPT x 1/4" MPT orifice #72 drill



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# Pilot Orifices and Plugs



## Anderson Forrester Baso

Part No.	Description
<b>BA701</b>	1/8" male pipe thread to 7/16" x 27 thread
<b>BA702</b>	1/4" compression connection to 7/16" x 27 thread. For LP only.
<b>BA703</b>	1/8" female pipe thread to 7/16" x 27 thread
<b>BA715</b>	1/4" compression connection to 7/16" x 27 thread
<b>BA718</b>	1/4" compression to 7/16" x 27 thread
<b>BA719</b>	1/8" female pipe thread to 7/16" x 27 thread
<b>BA720</b>	1/8" male pipe thread to 7/16" x 27 thread - double orifice

S/T



## Anderson Forrester Minneapolis-Honeywell

Part No.	Description
<b>MH851</b>	Orifice fitting. 1/4" compression connection to 7/16" x 27 male thread. LP drill size .011
<b>MH854</b>	Orifice fitting. 1/4" compression connection to 7/16" x 27 male thread. LP drill size .010
<b>MH856</b>	Pilot orifice. LP drill size .010
<b>MH857</b>	Bullet nose pilot orifice. LP drill size .010
<b>MH858</b>	Pilot orifice. LP drill size .010

Kit contains 32 of the most needed pilot orifices. Over 100 pieces. Replacement orifices for Baso, Robertshaw, General Controls, Honeywell, and White Rodgers. A chart is included describing and illustrating each part and thread size, replacement part number, etc. Cabinet is made of heavy gauge steel with durable baked enamel finish with radius bottom sections for easy removal.

## Anderson Forrester Pilot Orifice Assortment Kit

Part No.	Description
<b>MI132LP</b>	Pilot orifice assortment kit



## Anderson Forrester Robertshaw

Part No.	Description
<b>GR803</b>	Pilot orifice - 1/4" compression connection. LP drill size .009
<b>GR804</b>	Pilot orifice for 1/4" compression connection. LP drill size .008
<b>GR805</b>	Pilot orifice for 1/4" compression connection. LP drill size .007
<b>GR806</b>	Pilot orifice for 3/16" compression connection. LP drill size .008
<b>GR807</b>	Pilot orifice for 3/16" compression connection. LP drill size .008
<b>GR813</b>	Pilot orifice for 1/4" compression connection. LP drill size .010
<b>GR821</b>	Pilot orifice for 1/4" tube size. LP drill size .008

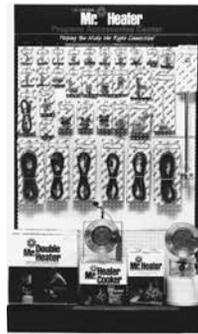
## Anderson Forrester White-Rodgers

Part No.	Description
<b>WR900</b>	1/4" compression connection to 1/2" x 20 thread. LP drill size .012
<b>WR902</b>	1/4" compression connection to 1/2" x 20 thread. LP drill size .012
<b>WR903</b>	1/4" compression connection to 7/16" x 20 thread. LP drill size .010
<b>WR904</b>	1/8" female pipe to 7/16" x 20 thread. LP drill size .010
<b>WR905</b>	1/4" compression connection to 7/16" x 20 thread. LP drill size .010



# Service Equipment

The Mr. Heater "Avalon" propane accessory display center offers attractively packaged and labeled items for easy selection. The "Avalon" plan-o-gram comes with 2 each of accessories, reorder cards, suggested retail price list, header and laminated Propace Accessory Installation Guide. Peg board display rack must be purchased separately



**F273949**  
"Avalon" contains 2 each of 27 different accessories.

**F273800**  
Pegboard display rack only.

Get the gas connectors out of the stockroom and onto the showroom floor where both the sales staff and the customer are made aware of the necessity of buying the gas connector with every new gas equipment purchase.



**9420W**  
**HARD HAT**  
Vulcan Hard Hats comply with ANSI A89.1, Type I, Class E,G, and C. The US made high-density polyethylene outer shell resists penetration, deflects falling objects, and reduces danger from electric shocks. Features include a rain trough, universal accessory slots, chinstrap holes, and detachable front sweatbands. White.

**9230**  
**SAFETY GLASSES**  
Fully adjustable temples, coated, scratch-resistant lenses, and full ANSI A89.1 compliance.



S/T



**9528** EAR PLUGS  
(2 per bag/sold in boxes of 200 bagged cordless pair vinyl foam ear plugs). Noise reduction rating 29 decibels. Soft vinly foam. Impervious to water and perspiration.



**ROUTE BOOK**  
Forms up to 8 1/2" x 12". Lightweight, built to last.



**ICE CLEATS**  
Rugged, light-weight.rubber strap-on spikes give you a firm grip on a icy day. Available in three sizes to fit any boot.



**7722PL**  
**LATEX GLOVES FOR PAINTING**  
Sold by carton only  
100 pair per carton  
Beaded cuff.



**DOOR POUCH**  
Access and visibility to your most important forms. Mounting hardware included.



**9300-916**  
Boot cover, dark blue  
X-large non-skid, latex free.  
Material is 40 GSM spunbound,  
Two pieces per polybag.  
150 per box.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

# Service Equipment (cont.), Outdoor Accessories



Cable Hound Underground  
Cable and Pipe Locator

- Locates buried cable up to 4 feet deep
- Provides both location and depth
- Battery operated, lightweight and portable
- Designed for use with Tracer wire (page 136)

99-0118



WP212

## Wood Safety Plugs

Part Number	Description	Suitable for Use On Pipe Sizes:
<b>MEP301</b>	3/4" x 12" Wood Plug with 5/16" hanger hole	1/8" - 1/2"
<b>MEP302</b>	1 1/2" x 12" Wood Plug w/ 5/16" hanger hole	1/4" - 1"
<b>MEP303</b>	2 1/2" x 12" Wood Plug w/ 5/16" hanger hole	1" - 2"
<b>MEP304</b>	3 1/2" x 12" Wood Plug w/ 5/16" hanger hole	1 1/4" - 2"
<b>MEP305</b>	4 1/2" x 12" Wood Plug w/ 5/16" hanger hole	1 1/4" - 3"

OT

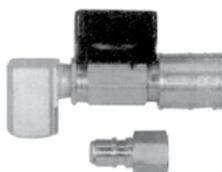
## GAS CONVENIENCE OUTLET AND QUICK CONNECTORS



Sturgis

103176WU

Sturgis wall outlet kit with cover. 1/2" FPT X FEM quick disconnect.



103028

Sturgis 1/2" male flare outlet. Quick disconnect and shutoff.



103031

Sturgis 12' nat/lp gas hose kit with quick disconnect and shutoff. For outdoor use only

103221-144

12' outdoor appliance hose. (3/8" FPT x FFL quick disconnect).

266

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**5LPA11C**  
Flow limiter plug.  
**5LPA8C**  
Full flow. Gas Mate II male plug 1/4" male pipe thread x male plug quick connect fitting. For use with 5LP510BK



**5LPAFPC**  
Propane cylinder fill plug 7/8" female POL x male plug for use with Gas Mate II quick connect coupling kit.  
Use LP gas fill plug for filling the tank with the Gas Mate II in place (it may be necessary to purchase this if LP filling station does not have this plug).



**5LP510BK**  
**5LPA11C**  
Gas Mate II propane gas coupling adapter kit. 1/4" male pipe thread x male plug/quick connect x POL, eliminates wrenches; provides plug in/plug out use of appliances such as gas grills, torches, heaters, cookers, etc. Plastic disposable assembly tool supplied for assembly.

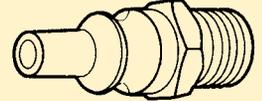


**5LP510BK**  
Gas Mate II gas grill "Quick Connect" propane adapter. Quick connect x POL, for use with Ducane, Weber and PGS gas grill or other grill users of a Gas Mate II system. Plastic disposable assembly tool supplied for assembly.

## Mr. Heater Quick Connectors

### F276328

Propane or natural gas male excess flow plug 1/4" male pipe thread x male plug quick connect fitting. For appliances 80,000 Btu's or less. Use with F276334. CSA Certified.



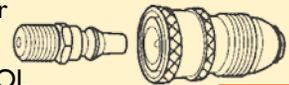
### F276329

Propane cylinder filling plug. 7/8" female POL x male plug. Use with F276330. Use LP gas fill plug for filling the tank with the GasMate II in place. CSA certified



### F276330

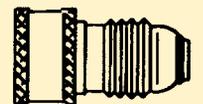
Propane gas coupling adapter kit. 1/4" male pipe thread x male plug/quick connect x POL eliminates wrenches: fits on all refillable propane cylinders: provides plug in/plug out use of appliances such as gas grills, torches, heaters cookers, etc. Assembly tool supplied. CSA certified.



OT

### F276334

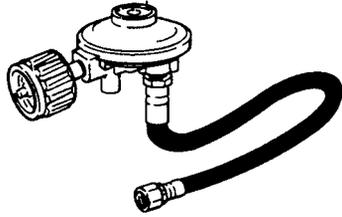
Propane gas grill "Quick Connect" adapter. Quick connect x POL. Use with Ducane, Weber and PGS gas grills or users of a Gas Mate II system. Assembly tool supplied. CSA certified.



OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

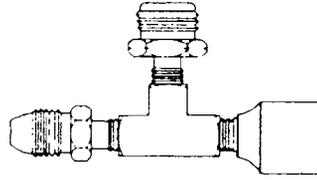
# Outdoor Accessories

## Mr. Heater Propane Accessories



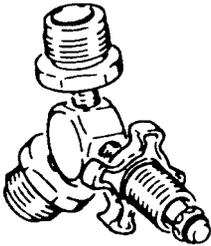
### F271161

22" Replacement propane BBQ hose and regulator assembly with appliance end fitting. Regulator w/ appliance end fitting x 3/8" female flare for type I (QCC1) gas grill system.



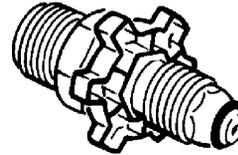
### F273751

Propane adapter tee w/ cap and plug. POL x 1"-20 (w/check) throwaway cylinder thread x female POL. Conveniently use your camper/trailer propane supply for lanterns, tabletop barbecue, etc.: at parks, campsites, etc. Use with hose assembly F273710-11.



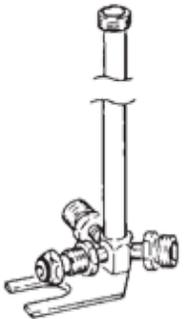
### F271715

Propane "Y" male adapter with Handwheel. 2-1"-20 throwaway cylinder threads x POL, allows two appliances to be hooked up to a refillable 20 lb. cylinder. Use with F273710-11 hose assembly.



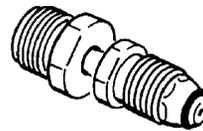
### F273758

Propane bulk cylinder adapter with handwheel. 1"-20 throwaway cylinder thread x POL. Allows appliances designed for use on throwaway cylinders, and with a hose/regulator assembly to be attached directly to a bulk tank; i. e., Mr. Camper, Coleman or Century Primus stove.



### F271731

30" distribution/lantern post 3-1"-20 male throwaway cylinder threads x POL, use with F273710-11 hose assembly. Hook up 3 appliances to a single refillable propane cylinder. Can hook up to new QCC-1 and old style cylinders.



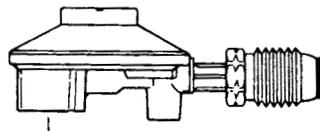
### F276132

Propane bulk cylinder adapter without handwheel. 1"-20 throwaway cylinder thread x POL. Allows appliances designed for use on throwaway cylinders, and with a hose/regulator assembly to be attached directly to a bulk tank, i. e., Mr. Camper or Coleman



### F271735

Propane "Y" female adapter with handwheel. 2-female QCC-1 x MPOL, allows two appliances to be hooked up to a bulk cylinder. Use with F273701-02, F276122-23



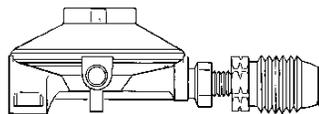
### F273759

90° propane low pressure regulator. 3/8" female pipe thread x POL- 11" low pressure regulator designed with 90° angle. Will operate all standard barbecue grills and appliances.



### F273169

Tank stabilizer. Fits 20 lb., 30 lb., and 40lb. cylinders; provides a "tip proof" condition while transporting cylinder in your RV, pick-up, car, etc. Required for MH14TC and MH26TC heater models.

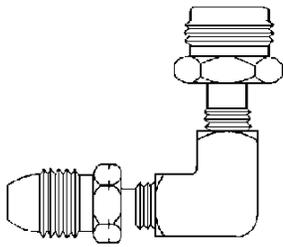


### F276136

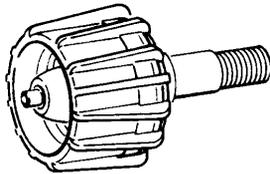
Propane low pressure regulator. 3/8" female pipe thread x POL-11" low pressure regulator will operate all standard barbecue grills and appliances.

OT

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291



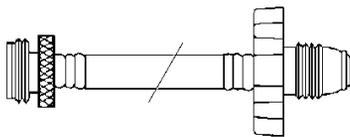
**F273760**  
90° elbow. POL x 1"-20 male throwaway cylinder thread. Allows appliances designed for use on throwaway cylinder to be attached directly to refillable cylinder such as a lantern.



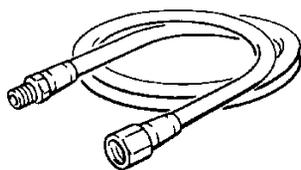
**G483**  
Propane brass cap. Provides threaded protection for most distribution posts, tees, etc.

**F276495**  
Appliance end fitting. (Coupling nut x 1/4" male pipe thread. For type I QCC-1) gas grill systems. For appliances with 80,000 Btu's or less.

## Mr. Heater Propane Hoses



**F273701**  
5' Propane hose assembly  
**F273702**  
12' Propane hose assembly  
Swivel 1"-20 male throwaway cylinder thread x soft nose excess flow POL w/handwheel. Mr. Heater's most popular hose. Connects appliances that are designed for disposable cylinders to a 5-20 lb. cylinder. Hand tighten swivel on both ends.



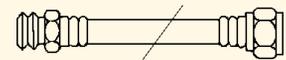
**F273707**  
5' propane hose assembly. 1/4" male pipe thread x 3/8" female flare. Replaces most hose assemblies between regulator and fish cooker/smoker, torches or other appliances.

**F273711**  
12' Propane hose assembly

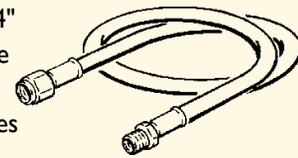


Swivel 1"-20 male throwaway cylinder thread x swivel 1"-20 female throwaway cylinder thread. Used with most distribution posts or "T" and "Y" connectors as well as 1 lb. disposable cylinders. Hand tighten swivel on both ends.

**F273716**  
22" Propane replacement barbecue hose. 3/8" male pipe thread x 3/8" female flare. Fits most barbecue gas grills.

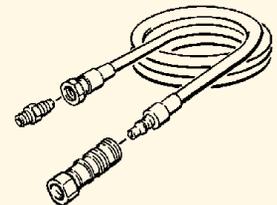


**F273717**  
5' propane hose assembly. 1/4" female pipe thread x 1/4" male pipe thread. Commonly used on most weed burners, torches and fish cookers.

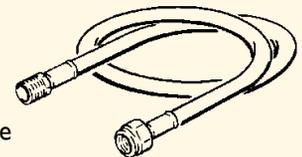


**F273720**

12' natural gas patio hose assembly. 3/8" female pipe thread x 3/8" male flare quick connect/disconnect with dust plug and cap. Most commonly used on connecting natural gas barbecue grills attached to decks or patios to the supply from a structure.



**F276124**  
5' propane hose assembly. 3/8" male pipe thread x 3/8" female pipe thread. Often used to connect low pressure appliances to low pressure regulators.



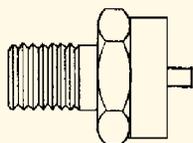
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OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

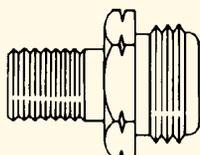
# Outdoor Accessories



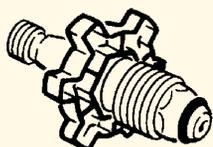
## Mr. Heater Propane Brass Fittings



**F273754**  
1/4" male pipe thread x  
1"-20 female throwaway  
cylinder thread.



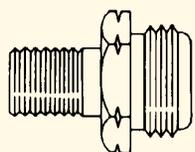
**F273755**  
1/4" male pipe thread x 1"-20  
male throwaway cylinder thread.



**F273757**  
9/16" left hand thread x POL  
w/handwheel.



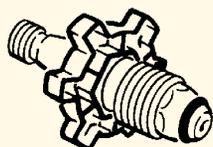
**F276129**  
9/16" left hand thread x POL.



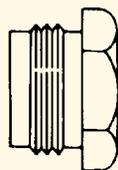
**F276130**  
9/16" left hand thread x 1"-20  
throwaway cylinder thread  
w/shutoff.



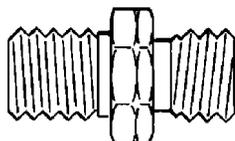
**F276139**  
1/4" male pipe thread x POL.



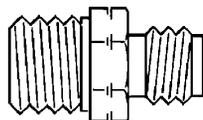
**F273756**  
1/4" male pipe thread x POL  
w/handwheel.



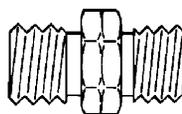
**F276140**  
Propane male throwaway  
cylinder adapter. Throwaway  
thread x 1/4" female pipe thread.



**F276152**  
1/4" male pipe thread x 9/16"  
left hand male thread.



**F276153**  
3/8" male pipe thread x 9/16"  
left hand male thread.



**F276154**  
9/16" left hand male pipe thread  
x 9/16" left hand male thread.

## Marshall Brass Adapters



**G493**  
9/16" 18 LH x male 1" 20 thread  
with check valve and "O" ring.

**G417**  
Male 1" 20 x 1/4" NPT with  
check.



**G487**  
Reserve cylinder adapter. Female  
1"20 x female POL.



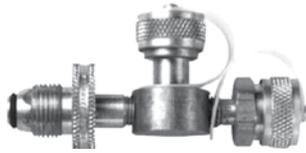
**G488**  
1/4" MPT x female 1"20.



**G492**  
1/4" FPT x male 1"20 thread  
w/"O" ring. No check valve.

OT

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## Marshall Brass Adapter Tees

**G413**

Tee-For-Two. Soft nose handwheel POL x male 1"20 x male 1"20.



**G414**

Add-A-Tee. Female 1"20 x male 1"20 x male 1"20.



**G415**

Extend-A-Flow Tee. Excess flow POL x female POL x male 1"20



**G420**

Extend-A-Stay Tee. Excess flow POL x female POL x male 1"20 x 1/4" female inverted flare.



**G475**

60 orifice soft nose POL with plastic handwheel x male 1"20.



**G483**

Cap-A-Tee. 1"20 female cap with gasket and strap.

## Marshall Brass POL Fittings



FULL FLOW POL

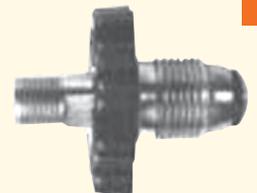


EXCESS FLOW POL



POL ASSEMBLY

OT



SOFT NOSE HANDWHEEL POL

## Marshall Brass POL Fittings

Part No.	Description
<b>G1675</b>	1/4" MPT x full flow POL 7/8" hex nut
<b>G1654</b>	1/4" MPT x soft nose full flow POL with handwheel
<b>G1690</b>	1/4" MPT x excess flow POL 7/8" hex nut
<b>G1653</b>	1/4" MPT x excess flow soft nose POL with handwheel
<b>G1689</b>	9/16" 18 LH x excess flow POL 7/8" hex nut
<b>G1645</b>	9/16" LH x soft nose excess flow POL with handwheel

# Outdoor Accessories



**ME952IVY**

Flow rate / Capacity specifications:

Model ME951 – Single Outlet\*

750,000 BTU/HR – 100 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

450,000 BTU/HR – 10 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

Model ME952 – Dual Outlet\*

One outlet closed

750,000 BTU/HR – 100 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

450,000 BTU/HR – 10 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

Both Outlets Open (at each outlet)

750,000 BTU/HR – 100 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

320,000 BTU/HR – 10 psig inlet pressure/ Outlet regulated at 9.5 – 13" WC (11" nom)

Application: Utilizes standard LP Gas outdoor appliance regulator and connector. All models provide full capacity operation at 10 PSI or higher inlet pressures for all outdoor appliances without modification or the hassles of a 20 LB cylinder. Simply thread the Type I QCC or POL connector onto the MEC Gas Box, turn on the shutoff valve and enjoy continuous LP Gas flow. Warning – appliances connected to the Gas Box MUST have a low pressure regulator with the output pressure regulated a 9.5 – 13" WC (11" nom.)

Part No	Description	Color
<b>ME951 BLK</b>	Single 1-5/16" M.Acme/F.POL with 1/2" FNPT Inlet	Black
<b>ME951 GRY</b>		Gray
<b>ME951 IVY</b>		Ivory
<b>ME952 BLK</b>	Dual 1-5/16" M.Acme/F.POL with 1/2" FNPT Inlet	Black
<b>ME952 GRY</b>		Gray
<b>ME952 IVY</b>		Ivory
Accessories		
Part No	Description	Length
<b>MER428 - 60</b>	Extension Hose Assembly (M. QCC/FPOL x F QCC)	60"
<b>MER428 - 120</b>	Extension Hose Assembly (M. QCC/FPOL x F QCC)	120"

\*These are average capacities and may change slightly due to pressure drop depending on individual installation conditions and length of gas supply runs for the service line. The BTU capacities shown will be further reduced by the flow limiting device in the female Type I connection provided with the appliance being attached to the Gas Box.

OT



**MER407-60 5'**  
**MER407-144 12'**  
Soft nose handwheel POL x 1" 20 swivel

The **MER407 Series** adapter hose has a safe, convenient, "user-friendly" design that makes it ideal for hooking up portable, high-pressure propane appliances such as camp stoves, lanterns, and table top grills to large cylinders. This hose pays for itself by eliminating the need for the small, yet expensive disposable cylinders normally used to fuel these appliances. One end of the hose is a convenient soft nose handwheel POL which requires no wrench for tightening and fits all propane vapor cylinder valves. The other end has a brass 1"20 male swivel fitting that threads into the appliance.



**MER421-60 5'**  
**MER421-144 12'**  
1" 20 male swivel x 1"20 female

The **MER421 Series** adapter hose is designed to thread directly into the opening of high pressure appliances. The opposite end is engineered to go into one of our four adapter tee fittings. The appliance connection has 1"20 male swivel, while the tee fitting connection is 1"20 female swivel.

OHIO	KENTUCKY	INDIANA	MISSOURI	MINNESOTA
800 537 7518	800 448 9504	800 662 3252	800 821 3878	800 328 6291

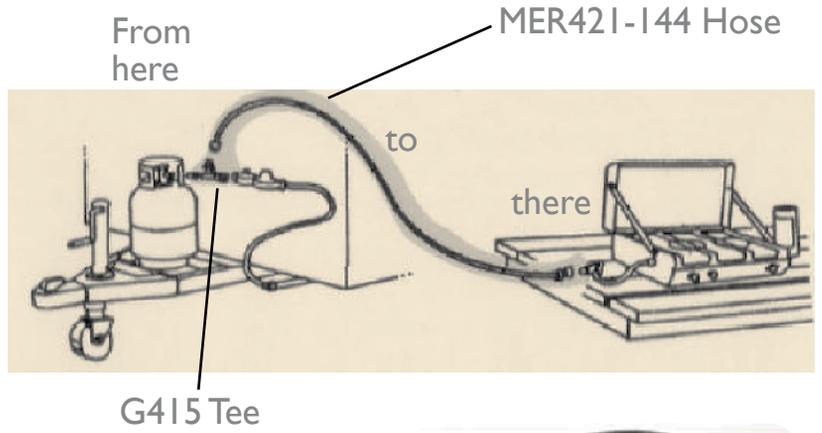
## Marshall Gas Adapter Hoses and Camping Hook-Up Kits

The Flow-Longer Propane Adapter Kit MER470 allows R.V. owners to fuel small, portable, high pressure propane appliances such as camp stoves, lanterns and table top grills directly from the fuel supply on their R.V. or cottage rather than using the small, expensive, throwaway propane cylinders that are designed to normally thread into these appliances. The kit includes a listed brass tee fitting, a twelve foot flexible hose and complete directions for installation, use and storage.

The Stay-Longer Propane Adapter Kit MER472 allow motor home owners to hook up to an auxiliary propane cylinder or tank so they can stay where they want for as long as they want without having to periodically move their rig to fill the propane tank.

The standard Stay-Longer Propane Adapter Kit MER472 includes illustrated instructions for installation and proper use, a listed brass tee fitting, and a five foot flexible pigtail for hooking up the auxiliary tank or cylinder when parked for an extended stay.

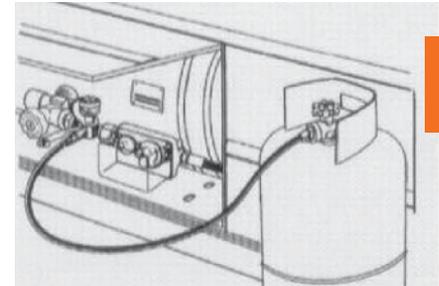
The Stay-Longer-Plus Propane Adapter Kit MER473 features an additional twelve foot hose to let the owner enjoy the additional benefits such as hooking up portable lanterns, camp stoves and table top grills.



MER470 Flow Longer Propane Adapter Kit w/ MER421-144 Appliance Hose and G415 Tee



Typical motorhome installation of Stay Longer fitting with 5' pigtail attached to reserve cylinder.  
Standard Kit: MER 472



MER472 and MER473 Stay Longer Propane Adapter Kits



MER421-144 Hose  
MER401 Standard Pigtail  
G420 Tee Fitting

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<b>Standard Domestic Propane Tank Specifications</b>			
Capacity	Diameter	Length	Tank Weight
Gallons (Liters)	Inches (mm)	Inches (mm)	Pounds (kg)
120 (454)	24 (610)	68 (1727)	288 (131)
150 (568)	24 (6100)	84 ( 2134)	352 (160)
200 (757)	30 (762)	79 (2007)	463 (210)
250 (946)	30 (762)	94 (2387)	542 (246)
325 (1230)	30 (762)	119 (3023)	672 (305)
500 (1893)	37 (940)	119 (3023)	1062 (482)
1000 (3785)	41 (1041)	192 (4877)	1983 (900)

<b>Approximate Vaporization Capacities of Propane Tanks</b>		
Btu. per hour with 40% liquid in domestic tank system		
Tank size water capacity	Prevailing air temperatures	
	<b>20°F (-7°C)</b>	<b>60°F (16°C)</b>
120	235,008	417,792
150	290,304	516,096
200	341,280	60,720
250	406,080	721,920
325	514,100	937,900
500	634,032	1,127,168
1000	1,088,472	1,978,051

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Physical Properties of Commercial Propane & Butane		Commercial Propane	Commercial Butane
<b>Formula</b>		<b>C3H8</b>	<b>C4H10</b>
<b>Normal State, 60°F. 30" Mercury</b>		<b>Gas</b>	<b>Gas</b>
<b>Freezing Point (or Melting), °F</b>		<b>-310</b>	<b>-210</b>
<b>Boiling Point, °F. at 30" Mercury</b>		<b>-44</b>	<b>32</b>
<b>Specific Gravity of Gas (Air = 1) at 60°F., 30" Hg.</b>		<b>1.52</b>	<b>2.00</b>
<b>Specific Gravity of Liquid (Water = 1) 60°F.</b>		<b>0.51</b>	<b>0.58</b>
<b>Weight Per Gallon of Liquid at 60°F., lbs.</b>		<b>4.24</b>	<b>4.85</b>
<b>Gallons Per Pound of Liquid at 60°F.</b>		<b>0.236</b>	<b>0.206</b>
<b>BTU Per Gallon (Vaporized)</b>		<b>91,500</b>	<b>102,600</b>
<b>BTU Per Pound (Vaporized)</b>		<b>21,560</b>	<b>21,180</b>
<b>BTU Per Cubic Foot (Vaporized)</b>		<b>2,520</b>	<b>3,260</b>
<b>Latent Heat of Vaporization at Boiling Point, BTU/lb.</b>		<b>185</b>	<b>166</b>
<b>Latent Heat of Vaporization at Boiling Point, BTU/Gal.</b>		<b>785</b>	<b>807</b>
<b>Specific Heat of Gas, BTU/Lb./°F. at 60°F</b>		<b>0.405</b>	<b>0.385</b>
<b>Specific Heat of Liquid, BTU/Lb./°F. at 60°F.</b>		<b>.0590</b>	<b>0.550</b>
<b>Density of Gas, Pounds per cubic foot</b>		<b>0.116</b>	<b>0.153</b>
<b>Density of Liquid, Pounds per cubic foot</b>		<b>31.7</b>	<b>36.0</b>
<b>Cu. Ft. of Gas/Gal. Liquid at 60°F., 30" Hg.</b>		<b>36.5</b>	<b>31.0</b>
<b>Cu. Ft. of Gas/Lb. Liquid at 60°F, 30" Hg.</b>		<b>8.55</b>	<b>6.51</b>
<b>Vapor Pressure, Lbs./sq. in. Gauge</b>			....
Temperature	-10°F	20	....
	0°F	28	....
	10°F	45	....
	32°F	60	....
	60°F	100	12
	80°F	130	22.5
	100°F	190	37
	120°F	240	55
<b>Combustion Data:</b>			
Cu. Ft. Air Required to Burn 1 cu. ft. Gas		23.5	30.0
Cu. Ft. Oxygen Required to Burn 1 cu. ft. Gas		5	6.25
Cu. Ft. Air Required to Burn 1 lb. of Gas		200	195
Ignition Temperature		920-1020	900-1000
Maximum Flame Temperature		3600	3625
Per cent Gas in Air for Max. Flame Temp.		4.4	3.5
Max. Rate of Flame Propagation in 1" Tube, inches/sec.		32	33
Limits of Inflammability, Percentage of Gas in Air Mixture			
Percent at Lower Limit		2.4	1.9
Percent at Maximum Rate of Flame Propagation		4.8	3.8
Percent at Upper Limit		9.5	8.5
<b>Octane Number (Iso-Octane 100)</b>		<b>125</b>	<b>91</b>
<b>Products of Complete Combustion:</b>			
Cu. Ft. CO2 per Cu. Ft. Gas		3.0	3.9
Cu. Ft. Water Vapor per Cu. Ft. Gas		4.0	5.0
Cu. Ft. N2 per Cu. Ft. Gas		18.5	23.6
Lbs. CO2 per Lbs. Gas		3.0	3.1
Lbs. H2O per Lbs. Gas		1.6	1.5
Lbs. N2 per Lbs. Gas		12.0	11.8
Ultimate CO2 Per cent by Volume		13.9	14.1

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# Orifice Capacities



Orifice Capacities			
LP 2500 Btu - 1.53 SP . GR			
Natural 1050 Btu - 0.65 SP . GR			
Drill Size	Decimal Inches	LP.....Inches of H <sub>2</sub> O...11	Natural.....Inches of H <sub>2</sub> O...4
		BTU	BTU
80	0.0135	1273	495
79	0.0145	1469	571
1/64	0.0156	1700	661
78	0.016	1788	695
77	0.018	2263	879
76	0.02	2794	1086
75	0.021	3081	1197
74	0.0225	3536	1374
73	0.024	4024	1563
72	0.025	4366	1696
71	0.026	4722	1835
70	0.028	5476	2128
69	0.0292	5956	2314
68	0.031	6713	2608
1/32	0.0313	6843	2659
67	0.032	7153	2779
66	0.033	7607	2956
65	0.035	8557	3325
64	0.036	9053	3518
63	0.037	9563	3716
62	0.038	10087	3919
61	0.039	10625	4128
60	0.04	11176	4343
59	0.041	11742	4563
58	0.042	12322	4788
57	0.043	12916	5019
56	0.0465	15104	5869
1/32	0.0469	15365	5970
55	0.052	18888	7339
54	0.055	21131	8211
53	0.0595	24730	9609
1/32	0.0625	27286	10603
52	0.0635	28167	10945
51	0.067	31357	12184
50	0.07	34228	13300
49	0.073	37225	14464
48	0.076	40347	15678
5/64	0.0781	42608	16556
47	0.0785	43045	16726
46	0.081	45831	17809
45	0.082	46969	18251
44	0.086	51663	20075
43	0.089	55331	21500
42	0.0935	61067	23729
3/32	0.0938	61460	23882
41	0.096	64377	25015
40	0.098	67087	26068

Data supplied by Anderson-Forrester

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# Dip Tube Lengths/Line Sizing for Liquid Propane

Recommended Dip Tube Lengths for Various Cylinders.				
Cylinder Size	Material	Cylinder I.D. (in.)	Cylinder Water Capacity (lb.)	Recommended Dip Tube Length (in.)
4.25 lb.	Steel	8.9	10.2	2.2
5 lb.	Steel	7.8	11.9	3.0
6 lb.	Steel	7.5	15.5	3.2
10 lb.	Steel	8.9	26.1	3.6
11 lb.	Steel	8.9	26.2	3.6
11 lb.	Steel	12.0	26.2	3.0
11.5 lb.	Steel	12.0	27.3	3.2
20 lb.	Steel	12.0	47.6	4.0
25 lb.	Steel	12.0	59.7	4.8
30 lb.	Steel	12.0	71.5	4.8
40 lb.	Steel	12.0	95.3	6.5
6 lb.	Aluminum	6.0	15.0	4.8
10 lb.	Aluminum	10.0	23.6	4.0
20 lb.	Aluminum	12.0	47.6	4.8
30 lb.	Aluminum	12.0	71.5	6.0
40 lb.	Aluminum	12.0	95.2	7.0

Notes: 1) This table indicates the approximate fixed maximum liquid level gauge dip tube lengths to be used for retrofitting cylinders with valves incorporating an overfilling prevention device. This table does not cover every cylinder design or configuration.  
2) Important: If the dip tube length that is marked on the cylinder does not appear in this table, use the next longer dip tube shown in the table. Example: When the dip tube length marked on the cylinder is 3.8 in., use a 4.0 in. dip tube for the retrofit. If the dip tube length is not marked on the cylinder, contact the manufacturer for the recommended dip tube length.

Line Sizing Chart For Liquid Propane Flow in GPM																		
Based on 2 psig pressure drop.						Propane at 60°F.						Based on Schedule 40/80 steel / iron pipe						
Pipe (ft.)	1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80
10	7.1	5.0	15.0	11.3	28.3	22.2	58	47.6	87	73	169	143	269	229	475	410	967	846
15	5.8	4.1	12.2	9.2	23.0	18.1	47.5	38.8	71	59	137	116	219	187	387	334	789	690
20	5.0	3.5	10.5	8.0	19.9	15.6	41.0	33.5	62	51	119	100	189	161	335	289	682	597
30	4.1	2.9	8.5	6.5	16.2	12.7	33.4	27.3	50.1	41.6	97	82	154	131	283	235	556	486
40	3.5	2.5	7.4	5.6	14.0	11.0	28.8	23.5	43.3	35.9	84	71	133	114	236	203	481	421
50	3.1	2.2	6.6	5.0	12.5	9.8	25.7	21.0	36.6	32.1	75	63	119	101	211	182	429	376
60	2.8	2.0	6.0	4.5	11.3	8.9	23.4	19.1	35.2	29.2	68	57	109	92	192	166	391	343
70	2.6	1.8	5.5	4.2	10.5	8.2	21.6	17.7	32.5	27.0	63	53	100	85	177	153	362	317
80	2.4	1.7	5.2	3.9	9.8	7.7	20.2	16.5	30.4	25.2	59	49.6	94	80	166	143	338	296
90	2.3	1.6	4.8	3.7	9.2	7.2	19.0	15.5	28.6	23.7	55	46.7	88	75	156	135	319	279
100	2.2	1.5	4.6	3.5	8.7	6.8	18.0	14.7	27.1	22.5	52	44.2	84	71	148	128	302	264
150	1.8	1.2	3.7	2.8	7.1	5.5	14.6	11.9	22.0	18.2	42.5	35.9	68	58	120	104	246	215
200	1.5	1.1	3.2	2.4	6.1	4.8	12.6	10.3	18.9	15.7	36.7	31.0	59	49.39	104	89	212	185
300	1.2	0.9	2.6	1.9	4.9	3.8	10.2	8.3	15.3	12.7	29.7	25.1	47.5	40.4	84	73	172	151
400	1.0	0.7	2.2	1.7	4.2	3.3	8.8	7.1	13.2	10.9	25.6	21.6	40.9	34.6	73	66	149	130

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# Pipe Sizing for 2 PSI Service

Pipe Sizing Between 2-psi Service Regulator & Line Pressure Regulator: Nominal Pipe Size, Schedule 40									
Pipe	1/2" 0.622	3/4" 0.824	1" 1.049	1 1/4" 1.380	1 1/2" 1.610	2" 2.067	3" 3.068	3 1/2" 3.548	4" 4.026
Length, Ft.									
10	2687	5619	10585	21731	32560	62708	176687	258696	360385
20	1847	3862	7275	14936	22378	43099	121436	177800	247690
30	1483	3101	5842	11994	17971	34610	97517	142780	198904
40	1269	2654	5000	10265	15381	29621	83462	122201	170236
50	1125	2352	4431	9098	13632	26253	73971	108305	150877
60	1019	2131	4015	8243	12351	23787	67023	98132	136706
70	938	1961	3694	7584	11363	21884	61660	90280	125767
80	872	1824	3436	7055	10571	20359	57363	83988	117002
90	819	1712	3224	6620	9918	19102	53822	78803	109779
100	773	1617	3046	6253	9369	18043	50840	74437	103697
150	621	1298	2446	5021	7524	14490	40826	59776	83272
200	531	1111	2093	4298	6439	12401	34942	51160	71270
250	471	985	1855	3809	5707	10991	30968	45342	63166
300	427	892	1681	3451	5171	9959	28060	41083	57233
350	393	821	1546	3175	4757	9162	25814	37796	52653
400	365	764	1439	2954	4426	8523	24015	35162	48984
450	343	717	1350	2771	4152	7997	22533	32991	45960
500	324	677	1275	2618	3922	7554	21284	31164	43413
600	293	613	1155	2372	3554	6844	19285	28236	39336
700	270	564	1063	2182	3270	6297	17742	25977	36188
800	251	525	989	2030	3042	5858	16506	24167	33666
900	236	493	928	1905	2854	5496	15487	22675	31588
1000	222	465	876	1799	2696	5192	14629	21419	29838
1500	179	374	704	1445	2165	4169	11747	17200	23961
2000	153	320	602	1237	1853	3568	10054	14721	20507

Note: Maximum undiluted propane capacities listed are based on a 2-psig setting and a 1-psi pressure drop. Capacities in 1000 Btu/hr.

# Pipe Sizing between Second-Stage and Appliance

Pipe Sizing Between Second-Stage and Appliance														
Maximum undiluted propane capacities listed are based on 11" W.C. Capacities in 1000 Btu Hr.														
Length of Pipe or Tubing, Feet	Schedule 40 Pipe Nominal Size (inside diameter)									Copper Tubing Type L Nominal Size (inside diameter)				
	1/2" (0.622)	3/4" (0.824)	1" (1.049)	1 1/4" (1.38)	1 1/2" (1.61)	2" (2.067)	3" (3.068)	3 1/2" (3.548)	4" (4.026)	1/4" (0.375)	3/8" (0.500)	1/2" (0.625)	5/8" (0.750)	3/4" (0.875)
10	291	608	1146	2353	3525	6789	19130	28008	39018	49	110	206	348	536
20	200	418	788	1617	2423	4666	13148	19250	26817	34	76	141	239	368
30	161	336	632	1299	1946	3747	10558	15458	21535	27	61	114	192	296
40	137	287	541	1111	1665	3207	9036	13230	18431	23	52	97	164	253
50	122	255	480	985	1476	2842	8009	11726	16335	20	46	86	146	224
60	110	231	435	892	1337	2575	7256	10625	14801	19	42	78	132	203
80	94	198	372	764	1144	2204	6211	9093	12668	16	36	67	113	174
100	84	175	330	677	1014	1954	5504	8059	11227	14	32	59	100	154
125	74	155	292	600	899	1731	4878	7143	9950	12	28	52	89	137
150	67	141	265	544	815	1569	4420	6472	9016	11	26	48	80	124
200	58	120	227	465	697	1343	3783	5539	7716	10	22	41	69	106
250	51	107	201	412	618	1190	3353	4909	6839	9	19	36	61	94
300	46	97	182	374	560	1078	3038	4448	6196	8	18	33	55	85
350	43	89	167	344	515	992	2795	4092	5701	7	16	30	51	78
400	40	83	156	320	479	923	2600	3807	5303	7	15	28	47	73

Table reprinted from tables 10-26 & 10-28 in NFPA Pamphlet 54-1996

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Maximum Capacity of CSST															
CSST Tube Size	In thousands of Btu per hour of undiluted liquified petroleum gases at a pressure of 2 psi and a pressure drop of 1 psi. (Based on a 1.52 specific gravity gas)														
	EHD** Flow Designation	Tubing Length (Feet)													
		10	25	30	40	50	70	80	100	150	200	250	300	400	500
3/8"	13	426	262	238	203	181	146	140	124	101	86	77	69	60	53
----	15	558	347	316	271	243	196	189	169	137	118	105	96	82	72
1/2"	18	927	591	540	469	420	344	333	298	245	213	191	173	151	135
----	19	1106	701	640	554	496	406	393	350	287	248	222	203	175	158
3/4"	23	1735	1120	1027	896	806	665	643	578	477	415	373	343	298	268
----	25	2168	1384	1266	1100	986	809	7684	703	575	501	448	411	355	319
----	30	4097	2560	2331	2012	1794	1457	1410	1256	1021	880	785	716	616	550
1"	31	4720	2954	2692	2323	2072	1685	1629	1454	1182	1019	910	829	716	638

This table does not include effect of pressure drip across the line regulator. If regulator loss exceeds 1/2 psi (based on 13" w.c. outlet pressure), DO NOT USE THIS TABLE. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate. CAUTION: Capacities shown in table may exceed maximum capacity for a selected regulator. Consult with regulator or tubing manufacturer for guidance.

\* Table includes losses for four 90° bends and two end fittings. Tubing runs with larger numbers of bends and/or fittings shall be increased by an equivalent length of tubing to the following equation:  $L = 1.3n$  where L is the additional length (ft) of tubing and n is the number of additional fittings and/or bends.

\*\*\*EDH - Equivalent Hydraulic Diameter - A measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EDH, the greater the gas capacity of the tubing.

\*Table reprinted from Table 10-30 in NFPA Pamphlet 54-1996.

With 11" W.C. System Maximum Capacity of CSST*																		
CSST Tube Size	In thousands of Btu per hour of undiluted liquified petroleum gases at a pressure of 11" W.C. and a pressure drop of 0.5" W.C. (Based on a 1.52 specific gravity gas)																	
	EHD** Flow Designation	Tubing Length (Feet)																
		5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300
3/8"	13	72	50	39	34	30	28	23	20	19	17	15	15	14	11	9	8	8
----	14	99	69	55	49	42	39	33	30	26	25	23	22	20	15	14	12	11
1/2"	18	181	129	104	91	82	74	64	58	53	49	45	44	41	31	28	25	23
----	19	211	150	121	106	94	87	74	66	60	57	52	50	47	36	33	30	26
3/4"	23	355	254	208	183	164	151	131	118	107	99	94	90	85	66	60	53	50
----	25	426	303	248	216	192	177	153	137	126	117	109	102	98	75	69	61	57
----	30	744	521	422	365	325	297	256	227	207	191	178	169	159	123	112	99	90
1"	31	863	605	490	425	379	344	297	265	241	222	208	197	186	143	129	117	107

\* Table includes losses for four 90° bends and two end fittings. Tubing runs with larger numbers of bends and/or fittings shall be increased by an equivalent length of tubing to the following equation:  $L = 1.3n$  where L is the additional length (ft) of tubing and n is the number of additional fittings and/or bends.

\*\*EDH - Equivalent Hydraulic Diameter - A measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EDH, the greater the gas capacity of the tubing.

\*Table reprinted from Table 10-29 in NFPA Pamphlet 54-1996.

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# Sizing between First and Second-Stage Regulators

Pipe Sizing Between First-Stage and Second-Stage Regulators										
Minimum undiluted propane capacities listed are based on a 10 psig first stage setting and 1 psig pressure drop. Capacities in 1,000 Btu/hr.										
Tubing Length, Ft.	Refrigeration Tubing Nominal Size (outside diameter)					Copper Tubing Type L Nominal Size (outside diameter)				
	3/8" (0.375)	1/2" (0.500)	5/8" (.0625)	3/4" (0.750)	7/8" (0.875)	1/4" (0.375)	3/8" (0.500)	1/2" (0.625)	5/8" (0.750)	3/4" (0.875)
30	299	726	1367	2329	3394	309	700	1303	2205	3394
40	256	621	1170	1993	2904	265	599	1115	1887	2904
50	227	551	1037	1766	2574	235	531	988	1672	2574
60	206	499	939	1600	2332	213	481	896	1515	2332
70	189	459	864	1472	2146	196	443	824	1394	2146
80	176	427	804	1370	1996	182	412	767	1297	1996
90	165	401	754	1285	1873	171	386	719	1217	1873
100	156	378	713	1214	1769	161	365	679	1149	1769
150	125	304	572	975	1421	130	293	546	923	1421
200	107	260	490	834	1216	111	251	467	790	1216
250	95	230	434	739	1078	90	222	414	700	1078
300	86	209	393	670	976	89	201	375	634	976
350	79	192	362	616	898	82	185	345	584	898
400	74	179	337	573	836	76	172	321	543	836
450	69	168	316	538	784	71	162	301	509	784
500	65	158	298	508	741	68	153	284	481	741
600	59	144	270	460	671	61	138	258	436	671
700	54	132	249	424	617	56	127	237	401	617
800	51	123	231	394	574	52	118	221	373	574
900	48	115	217	370	539	49	111	207	350	539
1000	45	109	205	349	509	46	105	195	331	509
1500	36	87	165	281	409	37	84	157	266	409
2000	31	75	141	240	350	32	72	134	227	350

To convert to capacities at 5 psig setting with 10% (0.5 psig) pressure drop, multiply values by 0.606. To convert to capacities at 15 psig setting with 10% (1.5 psig) pressure drop, multiply values by 1.380.  
Table reprinted from NFPA Pamphlet 54-1996

Polyethylene Plastic Pipe Sizing Between First-Stage and Second-Stage Regulators						
Plastic Pipe Length, Ft.	1/2" CTS SDR 7.00 (0.445)	3/4" IPS SDR 11.0 (0.860)	1" IPS SDR 11.00 (1.077)	1 1/4" IPS SDR 10.00 (1.328)	1 1/2" IPS SDR 11.00 (1.554)	2" IPS SDR 11.00 (1.943)
30	762	4292	7744	13416	20260	36402
40	653	3673	6628	11482	17340	31155
50	578	3256	5874	10176	15368	27612
60	524	2950	5322	9220	13924	25019
70	482	2714	4896	8483	12810	23017
80	448	2525	4555	7891	11918	21413
90	421	2369	4274	7404	11182	20091
100	397	2238	4037	6994	10562	18978
125	352	1983	3578	6199	9361	16820
150	319	1797	3242	5616	8482	15240
175	294	1653	2983	5167	7803	14020
200	273	1539	2775	4807	7259	13043
225	256	1443	2603	4510	6811	12238
250	242	1363	2459	4260	6434	11560
275	230	1294	2336	4046	6111	10979
300	219	1235	2228	3860	5830	10474
350	202	1136	2050	3551	5363	9636
400	188	1057	1907	3304	4989	8965
450	176	992	1789	3100	4681	8411
500	166	937	1690	2928	4422	7945
600	151	849	1531	2653	4007	7199
700	139	781	1409	2441	3686	6623
800	129	726	1311	2271	3429	6161
900	121	682	1230	2131	3217	5781
1000	114	644	1162	2012	3039	5461
1500	92	517	933	1616	2441	4385
2000	79	443	798	1383	2089	3753

Notes: 1) Maximum undiluted propane capacities listed are based on a pressure of 10 psig first-stage setting and 1-psi pressure drop. Capacities in 1000 Btu/hr.  
2) Dimensions in parentheses are inside diameter.

RF



# Terms

This catalog does not constitute an offer to sell by Bergquist, Inc., or the right to purchase from us.

## TERMS

All orders are accepted subject to credit approval. To customers with established credit our terms are Net 30 days from the date of the invoice. A late charge of 1 1/2% per month will be assessed on all past due accounts. If credit is not established all shipments will be COD. Any charges by the transportation company will be the responsibility of the buyer.

## FREIGHT

Routing of the shipment will be made by Bergquist, Inc. The customer's routing request will be followed if possible. All prices are FOB the shipping point, which is normally our warehouse. We reserve the right to ship from the manufacturer's factory or other points as needed.

## SHORTAGE OR DAMAGE CLAIMS

Claims for shortages must be made within 48 hours after receipt of shipment. Broken or damaged packages must be inspected immediately for damaged goods prior to signing for delivery. Claims of damaged goods should be filed with the delivering carrier. Bergquist is not responsible for products damaged in transit

## RETURNS

Bergquist has a no-squabble return policy. We will credit the purchase price for any unused standard stock merchandise. We ask that the merchandise be returned within 30 days, unused, in the original packaging for a prompt exchange or credit. To assure proper credit please call for a Return Goods Authorization Number prior to returning any equipment. All returns are subject to inspection.

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All products purchased from Bergquist, Inc. are subject to the manufacturers' warranty policy. In no case do we assume or admit any liability for labor, damage, leakage of other claims arising from defective goods.

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## CAUTION

Do not use any product in the catalog for any service other than LP Gas or NH3. If you have a need for use in a different application please call Bergquist.

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Installation, usage and maintenance of all products sold by Bergquist must be done in compliance with the manufacturer's instructions and applicable federal, state and local standards, codes, regulations and laws.

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The products contained in this catalog are mechanical devices that will eventually become inoperative due to wear, corrosion and other environmental conditions. Periodic maintenance and inspection are required to avoid serious injury and property damage.

Some of the products sold by Bergquist are manufactured to store, transport, transfer and use flammable liquids and gases. These products and the material they handle must be handled by experienced and trained personnel. These personnel should use accepted industry and governmental safety procedures.

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