

Bosch BVA 15 Series Air Handler

2-3-4-5 Ton Capacity
R410A



BOSCH

Product Specifications



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1 Product Features

1.1 Features and Benefits

- ▶ Premium efficiency – Up to 16 SEER, up to 9 HSPF
- ▶ All aluminum evaporator coil for superior corrosion resistance
- ▶ PSC Motor, 3 optional speeds
- ▶ 5, 7.5, 10, 15, 20 kW electric heat accessory kits available for supplemental or emergency heating needs
- ▶ Easy to install – compatible with most standard 24 VAC heat pump thermostats
- ▶ Factory-installed TXV metering
- ▶ Multi-position Installation - upflow or horizontal right standard; field convertible to horizontal left or downflow
- ▶ Multiple electrical entry locations
- ▶ Dual front panel design for ease of maintenance
- ▶ Blower and coil easy slide out for ease of maintenance
- ▶ Fully-insulated cabinet design
- ▶ Horizontal and vertical condensate drain pans standard
- ▶ Condensate drain pan is polymer with UVC inhibitor
- ▶ Primary and secondary condensate drain fittings
- ▶ Factory-sealed cabinet certified to achieve 2% or less air leakage rate at 1.0 inch water column
- ▶ Integrated filter rack with tool-less door access
- ▶ AHRI and ETL Listed

1.2 Limited Warranty

For Products installed in a one or two family residential dwelling, BTC warrants that all compressors and internal components incorporated into the Product at the time of shipment by BTC shall remain free from defects in workmanship and materials for ten (10) years* from the Commencement Date. If the Warranty Registration process has been completed and BTC determines that the Product or any part of the Product has a defect in workmanship or materials, BTC shall pay labor charges associated with the repair or replacement of the part in accordance with the Warranty Labor Allowance Schedule** for the period of ninety (90) days from the Commencement Date.

* Please refer to www.bosch-climate.us for full warranty terms and conditions.

** Warranty Labor Allowance Schedule details are available on www.boschprohvac.com

2 Nomenclature

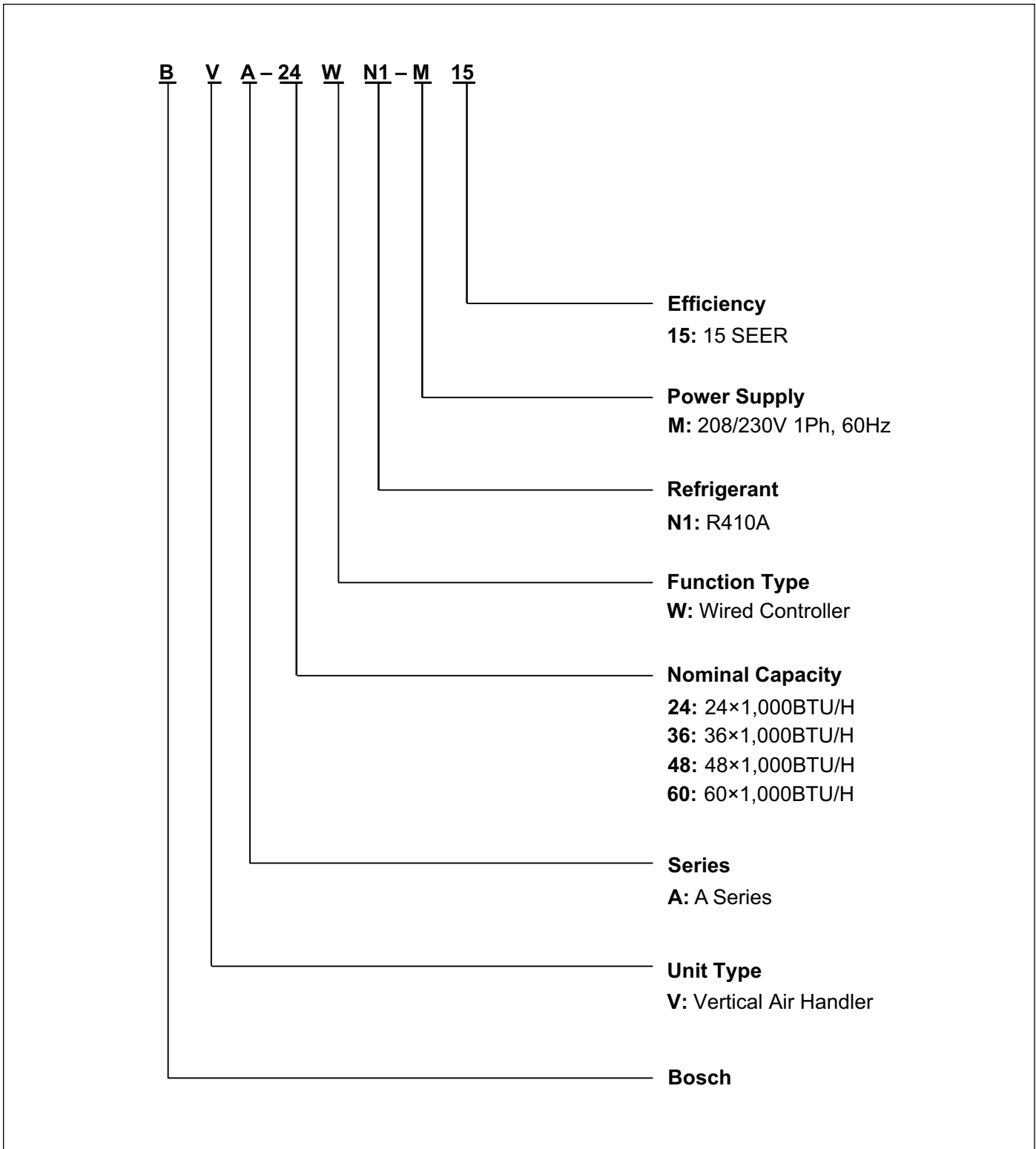


Figure 1

3 Product specifications

	BVA-24WN1- M15	BVA-36WN1- M15	BVA-48WN1- M15	BVA-60WN1- M15
Blower				
Diameter (mm)	10-63/64" (279mm)	10-63/64" (279mm)	10-63/64" (279mm)	10-63/64" (279mm)
Width (mm)	10-43/64" (271mm)	10-43/64" (271mm)	10-43/64" (271mm)	10-43/64" (271mm)
Fan Motor				
Horsepower (HP)	1/5	1/2	1/2	3/4
Full Load Amps	1.6	2.6	3.3	4.5
Refrigeration System				
Refrigerant Line Size ¹				
Liquid Line Size (O.D.)	3/8"	3/8"	3/8"	3/8"
Suction Line Size (O.D.)	3/4"	3/4"	7/8"	7/8"
Refrigerant Connection Size				
Liquid Line Size (O.D.)	3/8"	3/8"	3/8"	3/8"
Suction Line Size (O.D.)	3/4"	3/4"	7/8"	7/8"
Expansion Device [TXV=Thermal Expansion Valve]	TXV			
Decibels dB(A)				
High Speed	62	65	67	69
Medium Speed	59	62	65	67
Low Speed	55	58	61	63
Electrical Data				
Voltage-Phase-Hz	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Minimum Circuit Ampacity ²	2	3.3	4.2	5.7
Max. Overcurrent Protection ³	15	15	15	15
Min / Max Volts	172/270V			
Air Filter				
Air Filter Sizes	18" x 20"	18" x 20"	20" x 22"	20" x 22"
Weight				
Net Weight (without packaging) (lbs)	126	128	159	165
Gross Weight (including packaging) (lbs) ⁴	154	156	192	198
Dimensions				
Unit D x W x H (in.)	21-5/8 x 19-5/8 x 46-1/2	21-5/8 x 19-5/8 x 46-1/2	24 x 22 x 54-1/2	24 x 22 x 54-1/2
Unit D x W x H (in.) (with pallet and packaging)	25-3/8 x 22-5/16 x 52-9/16	25-3/8 x 22-5/16 x 52-9/16	27-11/16 x 24-11/16 x 60-5/8	27-11/16 x 24-11/16 x 60-5/8
Indoor Coil				
Net face area-sq. ft.	4.02	4.02	5.99	5.99
Tube diameter	9/32"(7mm)	9/32"(7mm)	9/32"(7mm)	9/32"(7mm)
No. of rows	4	4	4	5
Fins per inch	17	17	17	17

Table 1

¹ Tested and rated in accordance with AHRI Standard 210/240.

² Wire size should be determined in accordance with National Electrical Codes; extensive wire runs will require larger wire sizes.

³ Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.

⁴ Weight shown includes packaging

4 Dimensions

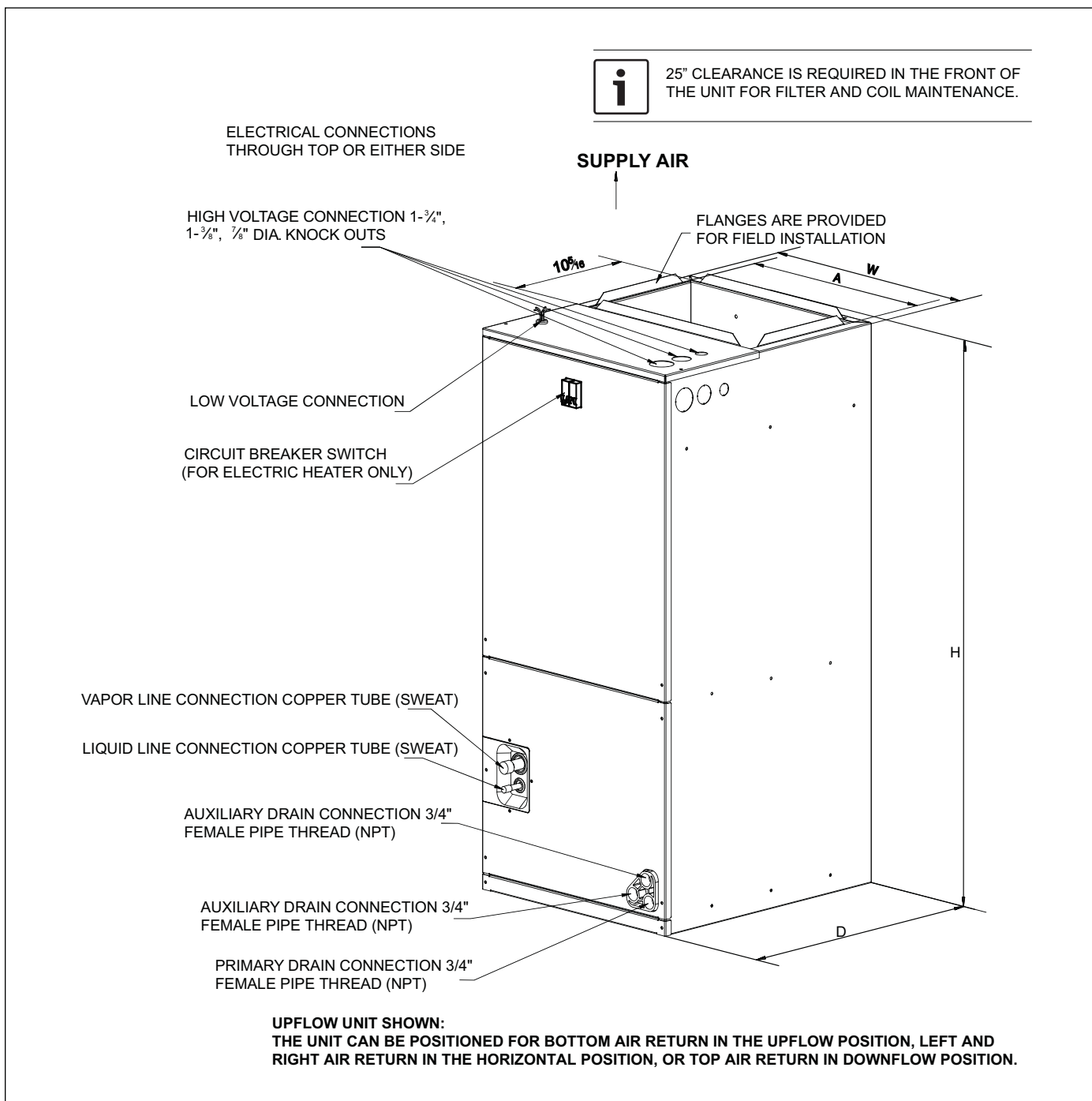


Figure 2

Model Size	Dimensions Inch [mm]				
	Unit Height "H"	Unit Width "W"	Unit Length "D"	Supply Duct "A"	Liquid Line / Vapor Line
24	46-1/2 [1180]	19-5/8 [500]	21-5/8 [550]	18 [456]	3/8 / 3/4 [9.5]/[19]
36	46-1/2 [1180]	19-5/8 [500]	21-5/8 [550]	18 [456]	3/8 / 3/4 [9.5]/[19]
48	54-1/2 [1385]	22 [560]	24 [610]	19-1/2 [496]	3/8 / 7/8 [9.5]/[22]
60	54-1/2 [1385]	22 [560]	24 [610]	19-1/2 [496]	3/8 / 7/8 [9.5]/[22]

Table 2

5 Airflow Performance

Airflow performance data is based on cooling performance with a coil and no filter in place. Check the performance table for appropriate unit size selection. External static pressure should stay within the minimum and maximum limits

Air Handler Model Size	Motor Speed		SCFM								
			External Static Pressure-Inches W.C. [kPa]								
			0 [0]	0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]
24	Low	SCFM	743	692	619	550	494	409	339	245	190
		Watts	207	204	200	195	190	184	178	168	161
		Amps	0.91	0.89	0.87	0.85	0.84	0.81	0.79	0.76	0.73
	Medium (Default)	SCFM	958	913	865	810	711	656	576	467	368
		Watts	241	239	236	231	223	218	211	201	191
		Amps	1.05	1.04	1.03	1	0.97	0.95	0.92	0.89	0.84
	High	SCFM	1107	1066	1022	973	897	807	697	662	526
		Watts	315	310	305	299	293	280	270	262	246
		Amps	1.37	1.34	1.33	1.3	1.27	1.2	1.19	1.15	1.09
36	Low	SCFM	1028	985	930	859	781	712	649	571	468
		Watts	362	353	345	335	323	313	303	290	276
		Amps	1.64	1.62	1.6	1.57	1.54	1.51	1.49	1.45	1.42
	Medium (Default)	SCFM	1315	1266	1208	1146	1065	981	866	775	686
		Watts	406	399	392	385	372	361	344	331	320
		Amps	1.82	1.8	1.78	1.75	1.72	1.69	1.65	1.62	1.59
	High	SCFM	1532	1478	1421	1347	1284	1184	1082	932	805
		Watts	524	513	502	491	478	462	446	423	407
		Amps	2.39	2.36	2.34	2.31	2.28	2.23	2.2	2.14	2.11
48	Low	SCFM	1336	1310	1282	1234	1182	1140	1049	925	833
		Watts	492	483	474	463	452	443	422	393	374
		Amps	2.24	2.22	2.17	2.13	2.1	1.93	2.03	1.9	1.87
	Medium (Default)	SCFM	1654	1610	1569	1510	1461	1394	1350	1265	1034
		Watts	550	537	526	512	503	489	475	458	416
		Amps	2.4	2.38	2.35	2.32	2.3	2.18	2.16	2.08	2.04
	High	SCFM	1918	1875	1817	1771	1715	1651	1584	1511	1395
		Watts	717	703	686	670	652	635	617	600	570
		Amps	3.2	3.18	3.14	3.1	3.04	3	2.9	2.87	2.85
60	Low	SCFM	1726	1693	1655	1637	1584	1500	1421	1328	1217
		Watts	678	658	639	619	602	576	553	526	495
		Amps	2.95	2.87	2.78	2.69	2.62	2.52	2.42	2.31	2.18
	Medium (Default)	SCFM	1983	1933	1879	1828	1760	1685	1597	1507	1403
		Watts	695	675	655	635	615	596	574	550	522
		Amps	3.02	2.93	2.85	2.76	2.67	2.59	2.5	2.4	2.28
	High	SCFM	2138	2086	2024	1952	1873	1797	1722	1646	1516
		Watts	793	773	751	726	702	679	658	638	604
		Amps	3.45	3.37	3.27	3.17	3.06	2.97	2.88	2.79	2.65

Table 3

Bold outlined areas represent airflow outside of the required 300-450 cfm/ton range.

NOTES:

1. The rated airflow of systems without electric heater kits requires between 300 and 450 cubic feet of air per minute (CFM).
2. The rated airflow of systems with electric heater kits requires between 350 and 450 cubic feet of air per minute (CFM).
3. The air distribution system has the greatest effect on airflow. Therefore, the contractor should use only industry-recognized procedures.
4. Duct design and construction should be carefully done. System performance can be lowered dramatically through poor design or workmanship.
5. Air supplier ducts should be located along the perimeter of the conditioned space and properly sized. Improper location or insufficient air flow may cause drafts or noise in the ductwork.
6. Installers should balance the air distribution system to ensure proper quiet airflow to all rooms in the home. An air velocity meter or airflow hood can be used to balance and verify branch and system airflow (CFM).

6 Heater Kit Data

Heat Kit Model	Air Handler Model	Electric Heat (kW)	MIN. Circuit Ampacity (MCA)		MAX. Fuse or Breaker (HACR) Ampacity		Fan speed		
			240 VAC	208 VAC	240 VAC	208 VAC	Low	Med	High
EHK-05B	24	5	27.5	24.1	30	25	●	●	●
EHK-08B		7.5	41.6	36.3	45	40	●	●	●
EHK-10B		10	52.5	45.8	55	50	●	●	●
EHK-05B	36	5	29.1	25.7	30	30	●	●	●
EHK-08B		7.5	43.2	37.9	45	40	●	●	●
EHK-10B		10	54.1	47.4	55	50	●	●	●
EHK-15B	48	15	54.1/25	47.4/21.6	55/25	50/25	●	●	●
EHK-05B		5	30.3	26.9	30	30	--	--	●
EHK-08B		7.5	44.4	39.1	45	40	--	--	●
EHK-10B	60	10	55.3	48.6	55	50	--	--	●
EHK-15B		15	55.3/25	48.6/21.6	55/25	50/25	--	--	●
EHK-20B		20	55.3/50	48.6/43.3	55/50	50/45	--	--	●
EHK-05B	60	5	32.1	28.7	35	30	●	●	●
EHK-08B		7.5	46.2	40.9	50	45	●	●	●
EHK-10B		10	57.1	50.4	60	50	●	●	●
EHK-15B		15	57.1/25	50.4/21.6	60/25	50/25	●	●	●
EHK-20B		20	57.1/50	50.4/43.3	60/50	50/45	●	●	●

Table 4 Suitable heat kits for AHU multi position installation

- Electric Heat kits are suitable for AHU 4-way position installation
- Heat pump systems require a specified airflow. Each ton of cooling requires between 350 and 450 cubic feet of air per minute (CFM), or 400 CFM nominally
- All electric heat kits include breaker(s) for each heater element for short circuit protection
- EHK-05B, EHK-08B, and EHK-10B are single circuit (contain 1 heater element)
- EHK-15B and EHK-20B are dual circuit (contain 2 heater elements)
- Blower motor load is included in MCA and MAX Fuse/Breaker size (included in first circuit for EHK-15B and EHK-20B)
- MCA and MAX Fuse/Breaker size for the second circuit for EHK-15B and EHK-20B includes only the second circuit element load

Heater Kit Accessories

Model	Description	24	36	48	60
EHK05B	5 kW Heat Kit, Double Pole Breaker	●	●	●	●
EHK08B	7.5 kW Heat Kit, Double Pole Breaker	●	●	●	●
EHK10B	10 kW Heat Kit, Double Pole Breaker	●	●	●	●
EHK15B	15 kW Heat Kit, Double Pole Breaker	X	●	●	●
EHK20B	20 kW Heat Kit, Double Pole Breaker	X	X	●	●

Table 5

[● means available, X means not available]

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