

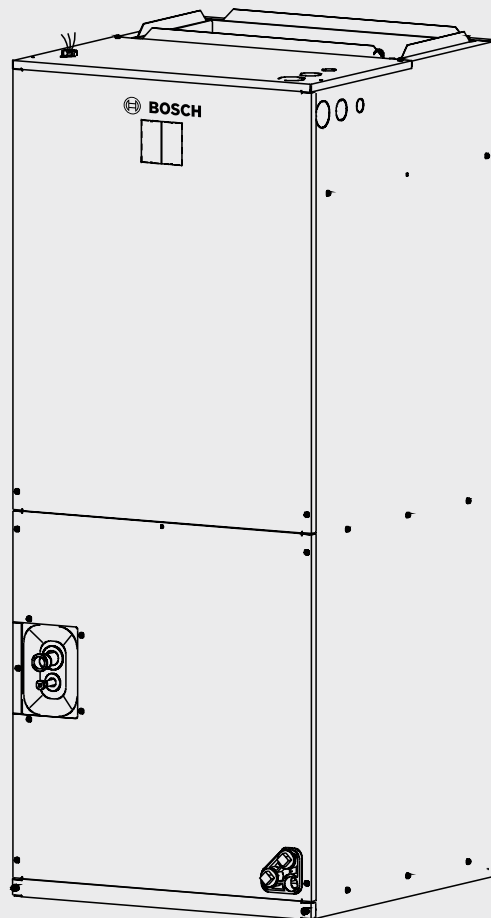


# BOSCH

Product Specifications

## Bosch IDS Heat Pump Light Series Air Handler

2-3-4-5 Ton Capacity | R454B



BTC 762008306 A / 09.2024





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## 1 Product Features

### 1.1 Features and Benefits

- Premium efficiency – Up to 15.2 SEER2, up to 8.5 HSPF2
- Factory installed A2L sensor
- 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](http://www.bosch-climate.us) for full warranty terms and conditions.

\*\* Warranty Labor Allowance Schedule details are available on [www.boschprohvac.com](http://www.boschprohvac.com)

## 2 Nomenclature

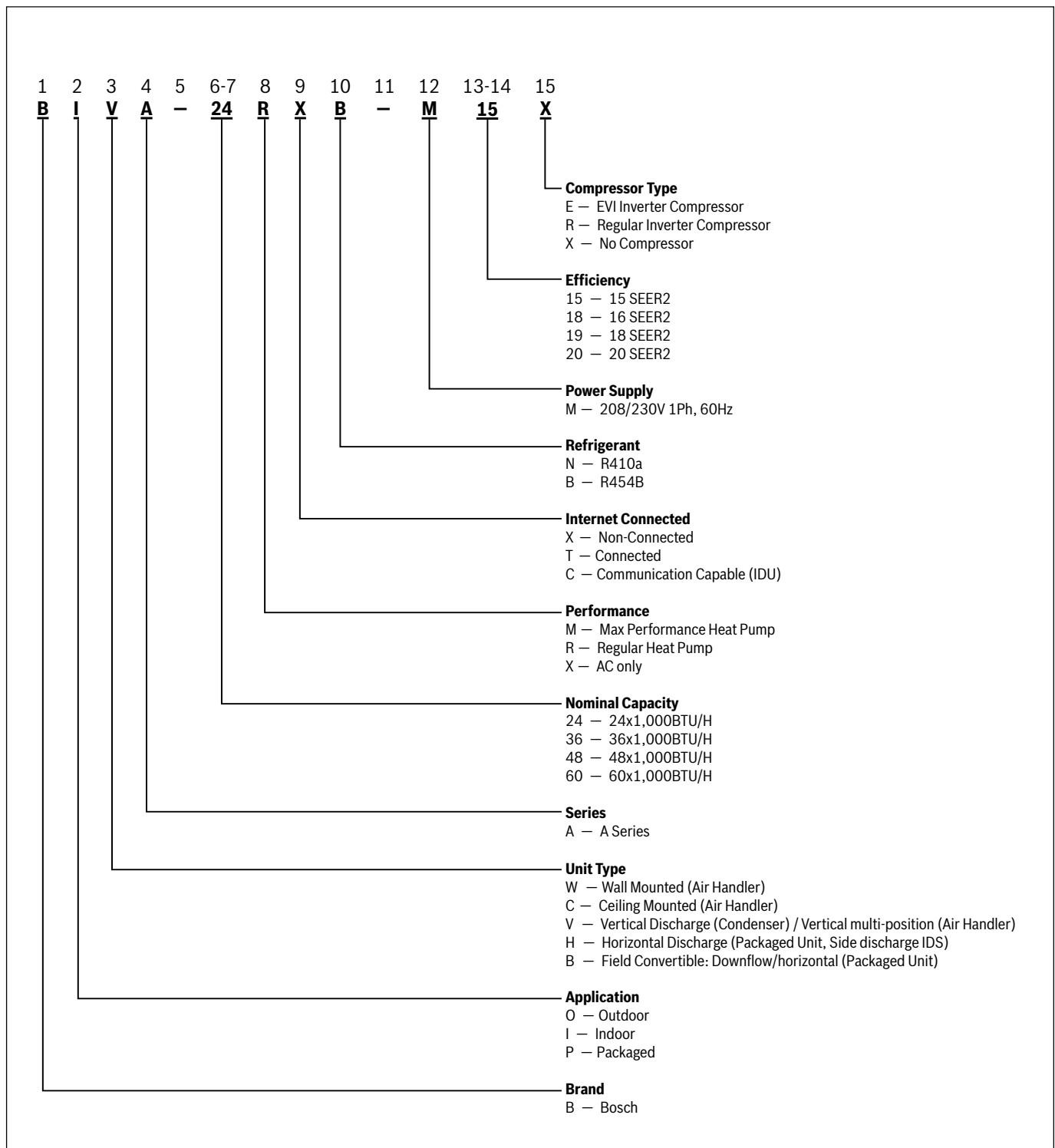


Figure 1

### 3 Product specifications

	BIVA15-24	BIVA15-36	BIVA15-48	BIVA15-60
Cooling Capacity				
Nominal Cooling (BTU/h)	24000	34200	46000	54000
Nominal Heating (BTU/h)	24000	34600	47000	56000
Blower				
Diameter (mm)	10-63/64" (279)	10-63/64" (279)	10-63/64" (279)	10-63/64" (279)
Width (mm)	10-43/64" (271)	10-43/64" (271)	10-43/64" (271)	10-43/64" (271)
Fan Motor				
Horsepower (HP)	1/5	1/3	2/5	1/2
Full Load Amps	1.4	2.6	3.4	4.0
Refrigeration System				
Refrigerant Line Size¹				
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			
Decibels dB(A)				
High Speed	63.5	69.7	72.4	73.7
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	1.8	3.3	4.3	5.0
Max. Overcurrent Protection ³	15	15	15	15
Minimum Circuit Ampacity²	1.8	3.3	4.3	5.0
Max. Overcurrent Protection ³	15	15	15	15
Min / Max Volts	187V/253V			
Air Filter				
Air Filter Sizes	18" x 20"	18" x 20"	20" x 22"	20" x 22"
Weight				
Net Weight (without packaging)(lbs)	127	130	157	163
Gross Weight (including packaging)(lbs) ⁴	154	157	189	195
Dimensions				
Unit D x W x H (in.)	21-5/8"×19-5/8"×46-1/2"	21-5/8"×19-5/8"×46-1/2"	24"×22"×54-1/2"	24"×22"×54-1/2"
Unit D×W×H (in.) (with pallet and packaging)	25-3/8"×22-5/16"×52-9/16"	25-3/8"×22-5/16"×52-9/16"	27-11/16"×24-11/16"×60-5/8	27-11/16"×24-11/16"×60-5/8
Indoor Coil				
Net face area-sq.ft.	4.02	4.02	5.99	5.99
Tube diameter	9/32" (7 mm)	9/32" (7 mm)	9/32" (7mm)	9/32" (7mm)
No. of rows	4	4	4	5
Fins per inch	17	17	17	17

Table 1

<sup>1</sup> Tested and rated in accordance with AHRI Standard 210/240.<sup>2</sup> Wire size should be determined in accordance with National Electrical Codes; extensive wire runs will require larger wire sizes.<sup>3</sup> Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.<sup>4</sup> Weight shown includes packaging

## 4 Dimensions

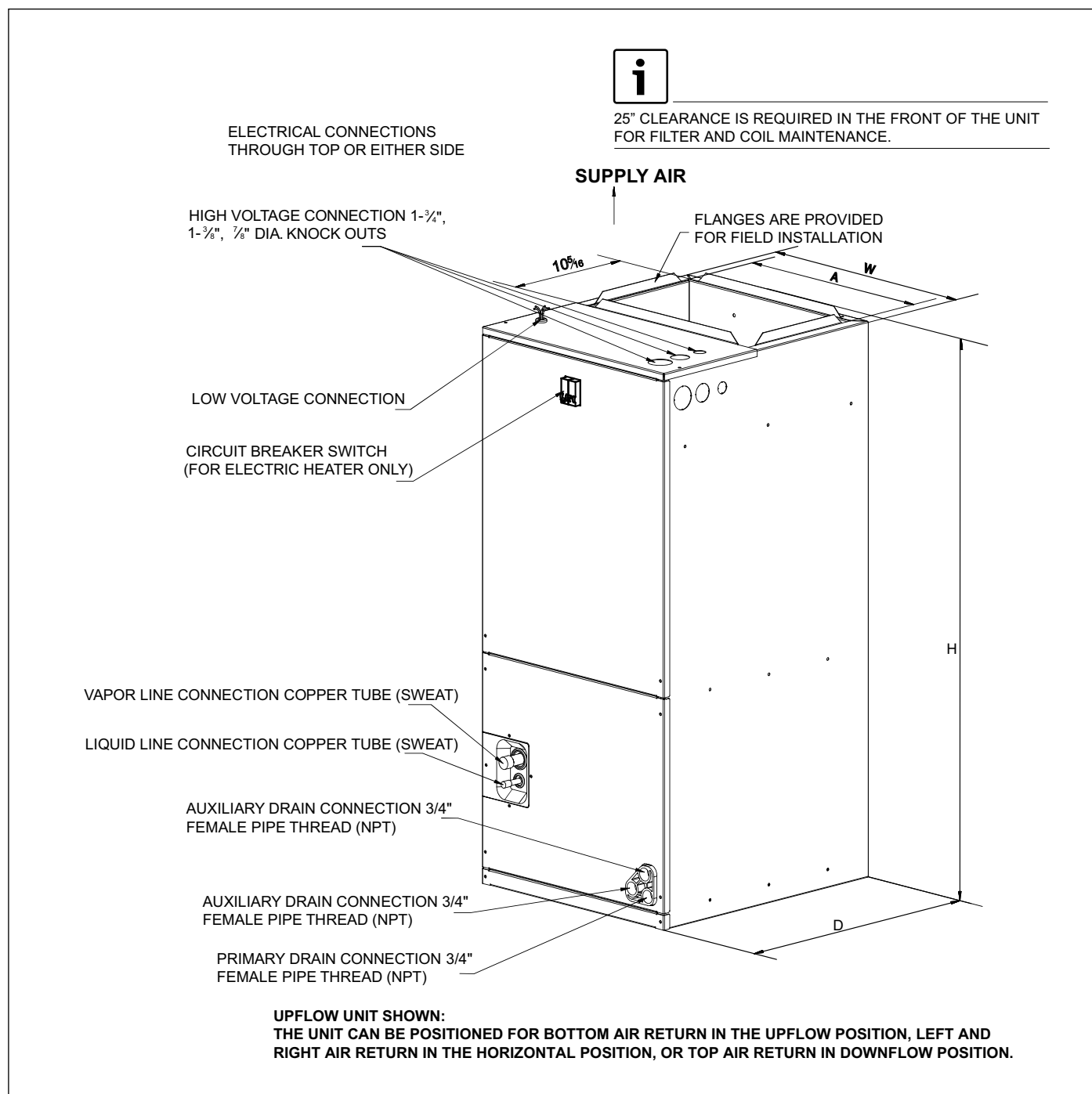


Figure 2

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		CFM Wet Coil Without Filter and Electric Heat								
			External Static Pressure-Inches W.C. [kPa]								
			0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
24	Low	Power (W)	206	202	202	202	192	186	181	175	175
		CFM	760	702	612	542	473	399	319	230	218
	Medium	Power (W)	240	238	234	230	226	221	215	212	199
		CFM	972	921	857	765	693	625	548	518	348
	High	Power (W)	312	308	303	297	291	284	277	267	259
		CFM	1134	1086	1032	949	866	793	718	634	555
36	Low	Power (W)	323	319	314	307	294	281	268	251	/
		CFM	1091	1048	1001	947	851	764	677	571	/
	Medium	Power (W)	368	361	354	348	339	325	312	297	/
		CFM	1335	1286	1230	1172	1103	986	866	752	/
	High	Power (W)	473	462	452	442	430	419	399	383	/
		CFM	1526	1467	1403	1335	1259	1181	1030	913	/
48	Low	Power (W)	491	472	456	442	430	417	399	351	/
		CFM	1496	1441	1383	1326	1273	1214	1137	872	/
	Medium	Power (W)	562	548	535	523	509	497	482	465	410
		CFM	1798	1731	1660	1597	1529	1452	1376	1283	921
	High	Power (W)	704	689	673	656	640	624	610	593	570
		CFM	1970	1896	1819	1737	1662	1580	1501	1411	1291
60	Low	Power (W)	643	626	610	594	575	555	527	508	466
		CFM	1793	1750	1691	1635	1568	1497	1390	1315	1141
	Medium	Power (W)	713	695	680	661	642	623	598	562	542
		CFM	2041	1992	1932	1858	1786	1702	1610	1465	1379
	High	Power (W)	818	800	780	762	741	717	692	650	631
		CFM	2157	2111	2047	1975	1894	1802	1701	1534	1455

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

Heater Kit Model	Air Handler Model	Electric Heat (kW)	Min. Circuit Ampacity		Max. Fuse or Breaker (HACR) Ampacity		Fan speed		
			240V	208V	240V	208V	Low	Medium	High
EHK-05B	24	5	27.5	24.0	30	25	●	●	●
EHK-08B		7.5	40.5	35.3	45	40	●	●	●
EHK-10B		10	53.5	46.6	60	50	--	●	●
EHK-05B	36	5	28.7	25.2	30	30	●	●	●
EHK-08B		7.5	41.7	36.5	45	40	●	●	●
EHK-10B		10	54.7	47.8	60	50	●	●	●
EHK-15B		15	54.7/26.1	47.8/22.6	60/30	50/25	●	●	●
EHK-20B		20	54.7/52.1	47.8/45.2	60/60	50/50	●	●	●
EHK-05B	48	5	29.5	26.0	30	30	--	--	●
EHK-08B		7.5	42.5	37.3	45	40	--	--	●
EHK-10B		10	55.5	48.6	60	50	--	--	●
EHK-15B		15	55.5/26.1	48.6/22.6	60/30	50/25	--	--	●
EHK-20B		20	55.5/52.1	48.6/45.2	60/60	50/50	--	--	●
EHK-05B	60	5	30.1	26.6	35	30	●	●	●
EHK-08B		7.5	43.1	37.9	45	40	●	●	●
EHK-10B		10	56.1	49.2	60	50	●	●	●
EHK-15B		15	56.1/26.1	49.2/22.6	60/30	50/25	●	●	●
EHK-20B		20	56.1/52.1	49.2/45.2	60/60	50/50	●	●	●

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 ]

**Online Help Resources**

Alternatively, please visit our Service & Support webpage to find FAQs, videos, service bulletins, and more; [www.boschheatingcooling.com/service](http://www.boschheatingcooling.com/service) or use your cellphone to scan the code below.

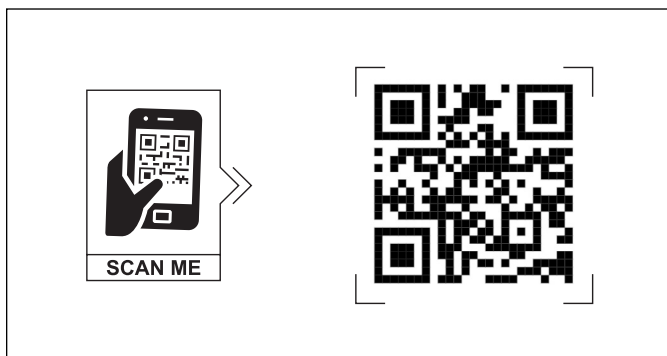


Figure 3

**NOTES:**

**United States and Canada  
Bosch Thermotechnology Corp.  
65 Grove St.  
Watertown, MA 02472**

**Tel: 800-283-3787  
[www.bosch-homecomfort.us](http://www.bosch-homecomfort.us)**

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