

# Bosch Inverter Ducted Packaged Heat Pump

19 SEER Series (5 Ton Capacity)

R410A



# BOSCH

## Product Specifications





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## 1 Product Features

### 1.1 Features and Benefits

- ▶ Superior efficiency – rated at 19 SEER, 12.5 EER, 10 HSPF
- ▶ Fully modulating Inverter Drive precisely matches the heating/cooling load
- ▶ 85 Step Compressor (25% - 110% capacity), modulation in 1% increments
- ▶ Two stage x13 ECM blower for enhanced humidity control and quiet operation
- ▶ 2-way design allows for horizontal and downflow installations, air return/ supply are convertible
- ▶ Easy to install – compatible with most standard 24 VAC heat pump thermostats

### 1.2 Standard Features

- ▶ R-410A Chlorine-Free Refrigerant
- ▶ Load 25%-110%
- ▶ Intelligent Oil Return Technology
- ▶ Inverter Driven Rotary Compressor
- ▶ Crankcase Heater Standard
- ▶ Compressor Sound Blanket
- ▶ Multiple System Protection:
  - High pressure switch and low pressure transducer
  - Compressor liquid return protection
  - Compressor high or low compression ratio protection
  - Compressor high temperature protection
  - High / low voltage protection and over current protection
  - IPM and electronic control board high temperature protection
- ▶ AHRI certified; ETL listed

### 1.3 Cabinet Features

- ▶ Baked-on powder paint finish
- ▶ Wire fan discharge grille
- ▶ Steel louver coil guard

### 1.4 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.

For Products installed in a building other than a one or two family residential dwelling, BTC warrants that all compressors incorporated into the Product at the time of shipment by BTC shall remain free from defects in workmanship and materials for three (3) years\* and other internal components incorporated into the Product components for one (1) year\* 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

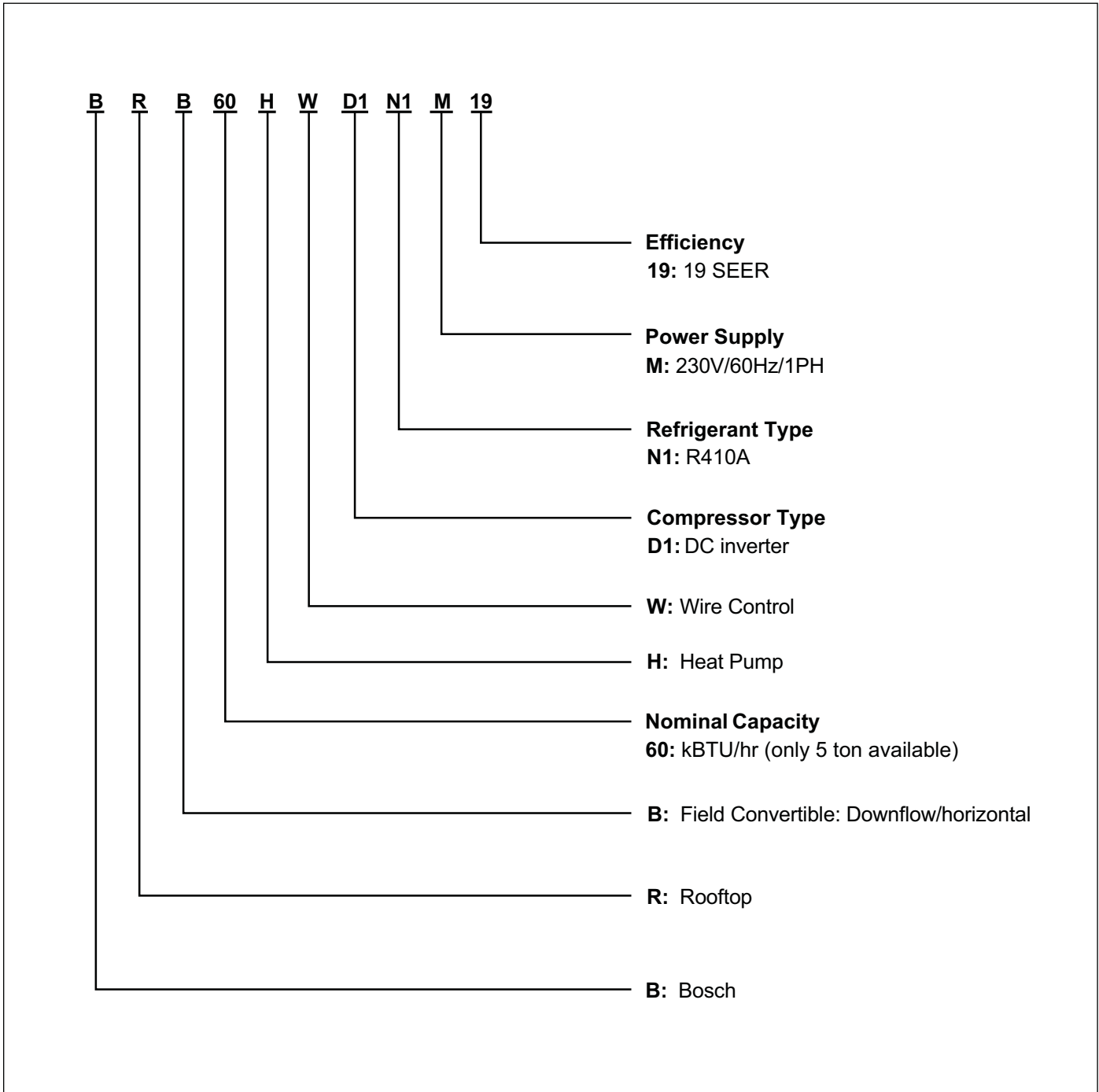


Figure 1

### 3 Product Specifications

	BRB-60HWD1N1-M19
<b>Electrical Data</b>	
Rated Volts/Ph/Hz	208-230/1/60
<b>Performance Cooling</b>	
	23°F - 125°F
BTUH (High)	57000
Indoor Airflow (CFM)	1800
Power Input (KW)	4.56
BTUH (Low)	38000
Indoor Airflow (CFM)	1300
Power Input (KW)	2.17
SEER / EER-HI	19 / 12.5
<b>Performance Heating</b>	
	-4°F - 86°F
(High Temp.) BTUH / COP (High)	57000/3.8
Power Input (KW)	4.4
(Low Temp.) BTUH / COP (High)	44000/2.46
Power Input (KW)	5.2
HSPF (BTU / Watt-Hr.)	10
<b>Power Conn. - V/Ph/Hz</b>	
	208-230/1/60
Min. Brch. Cir. Ampacity <sup>1</sup>	41.9
Max. Overcurrent Protection <sup>2</sup>	60
Min. / Max. Volts	172 / 270
Fuse Size - Max. / Recmd. (amps)	60
<b>Compressor</b>	
	Rotary
Volts/Ph/Hz	208-230/1/60
R.L. Amps - L.R. Amps	27/52
<b>Outdoor Coil - Type</b>	
	Finned Tube Exchanger
Rows/F.P.I.	3/17
Face Area (sq.ft.)	20.17
Tube Size (in.)	9/32
Circuitry Type	Interlaced
Refrigerant Control	Electric Expansion Valve
<b>Indoor Coil - Type</b>	
	Finned Tube Exchanger
Rows/F.p.i.	4 / 17
Face Area (Sq.ft.)	6.1
Tube Size (In.)	9/32
Circuitry Type	Interlaced
Refrigerant Control	Electric Expansion Valve
Drain Conn. Size (In.)	3/4 Female NPT
<b>Outdoor Fan - Type</b>	
	Propeller
Dia. (in.)	26-3/8"
Drive/No. Speeds	Direct / 10
CFM @0.0 in. w.g.	4100
Motor - HP/R.P.M.	1/4 / 200~880
Volts/Ph/Hz	208-230/1/60
F.L. Amps/L.R. Amps	2.1/2.1

Table 1

<sup>1</sup> Wire size should be determined in accordance with National Electrical Codes; extensive wire runs will require larger wire sizes.

<sup>2</sup> Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.



Always check the rating plate for electrical data on the unit being installed.

BRB-60HWD1N1-M19	
<b>Indoor Fan - Type</b>	Centrifugal
Dia x Width (in.)	11" X 10-5/8"
Motor Frame Size	48"
Drive/No. Speeds	DIRECT / 5
CFM @0.0 in. w.g.	SEE FAN PERFORMANCE TABLE
Motor - HP/R.P.M.	3/4 / 1075
Volts/Ph/Hz	208-230/1/60
F.L. Amps/L.R. Amps	6.0/6.0
<b>Filter / Furnished</b>	No
Type Recommended	THROWAWAY
Recmd. Face Area (L x W x D)	16" x 14" x 1"
<b>Refrigerant / Charge (lbs. - oz.)</b>	R410a / 12 - 9
<b>Dimensions</b>	
Unit only L x W x H (in.)	51-9/16" x 44-13/16" x 51-7/16"
<b>Weight<sup>3</sup></b>	
Net (lbs.)	561
Gross (lbs.)	596

Table 2

<sup>3</sup> Weight values are estimated.



Always check the rating plate for electrical data on the unit being installed.

#### 4 AHRI 210/240 Performance Data

Nominal HP System Tonnage	Heat Pump Model	Cooling Capacity (BTU/h)			Heating Capacity			CFM
		Total	EER <sup>2</sup>	SEER <sup>1</sup>	Hi	HSPF <sup>3</sup>	Low <sup>4</sup>	
5	BRB-60HWD1N1-M19	57000	12.5	19	57000	10	44000	1800/1300

Table 3

<sup>1</sup> Seasonal Energy Efficiency Ratio; Certified per AHRI 210/240

<sup>2</sup> Energy Efficiency Ratio; Certified per AHRI 210/240

<sup>3</sup> HSPF = Heating Seasonal Performance Factor; Certified per AHRI 210/240



Items in **bold** boxes meet the requirements for ENERGY STAR

## 5 Extended Performance Data

### 5.1 BRB-60HWD1N1-M19 For Cooling

BRB-60HWD1N1-M19 For Cooling																		
Indoor Airflow (SCFM)	Outdoor DB	IWB (°F)	59				63				67				71			
		IDB (°F)	70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
1500	65	TC	40.8	41	41.2	41.4	48.4	48.6	48.8	49.1	55.5	55.8	56.1	56.4	\	65	65.4	65.7
		S/T	0.81	1.00	1.00	1.00	0.55	0.73	0.93	1.00	0.36	0.53	0.70	0.85	\	0.36	0.50	0.64
		kW	2.22	2.22	2.22	2.22	2.37	2.37	2.37	2.37	2.83	2.83	2.83	2.83	\	3.33	3.33	3.33
	75	TC	40.8	41	41.2	41.4	48.4	48.6	48.8	49.1	55.5	55.8	56.1	56.4	\	65	65.4	65.7
		S/T	0.81	1.00	1.00	1.00	0.55	0.73	0.93	1.00	0.36	0.53	0.70	0.85	\	0.36	0.50	0.64
		kW	2.68	2.68	2.68	2.68	2.88	2.88	2.88	2.88	3.48	3.48	3.48	3.48	\	4.09	4.09	4.09
	85	TC	40.8	41	41.2	41.4	48.4	48.6	48.8	49.1	55.5	55.8	56.1	56.4	\	65	65.4	65.7
		S/T	0.81	1.00	1.00	1.00	0.55	0.73	0.93	1.00	0.36	0.53	0.70	0.85	\	0.36	0.50	0.64
		kW	3.18	3.18	3.18	3.18	3.59	3.59	3.59	3.59	4.19	4.19	4.19	4.19	\	5.05	5.05	5.05
	95	TC	40.8	41	41.2	41.4	48.4	48.6	48.8	49.1	55.5	55.8	56.1	56.4	\	65	65.4	65.7
		S/T	0.81	1.00	1.00	1.00	0.55	0.73	0.93	1.00	0.36	0.53	0.70	0.85	\	0.36	0.50	0.64
		kW	3.54	3.54	3.54	3.54	4.29	4.29	4.29	4.29	5.05	5.05	5.05	5.05	\	5.96	5.96	5.96
105	TC	40.8	41	41.2	41.4	48.4	48.6	48.8	49.1	54.4	54.7	55	55.3	\	57.5	57.8	58.1	
	S/T	0.81	1.00	1.00	1.00	0.55	0.73	0.93	1.00	0.36	0.53	0.70	0.85	\	0.36	0.50	0.64	
	kW	4.28	4.28	4.28	4.28	5.21	5.21	5.21	5.21	5.86	5.86	5.86	5.86	\	5.98	5.98	5.98	
115	TC	40.8	41	40.4	41.4	42.2	42.4	42.6	42.8	44.4	44.7	44.9	45.1	\	46.9	47.1	47.4	
	S/T	0.81	1.00	1.00	1.00	0.57	0.79	0.98	1.00	0.40	0.59	0.78	0.95	\	0.37	0.56	0.78	
	kW	4.98	4.98	4.98	4.98	5.14	5.14	5.14	5.14	5.3	5.3	5.3	5.3	\	5.46	5.46	5.46	
1800	65	TC	41.5	41.7	41.9	42.1	49.1	49.4	49.6	49.9	56.4	56.7	57	57.3	\	66.1	66.4	66.8
		S/T	0.85	1.00	1.00	1.00	0.57	0.76	0.97	1.00	0.38	0.55	0.73	0.89	\	0.37	0.52	0.67
		kW	2.24	2.24	2.24	2.24	2.39	2.39	2.39	2.39	2.85	2.85	2.85	2.85	\	3.36	3.36	3.36
	75	TC	41.5	41.7	41.9	42.1	49.1	49.4	49.6	49.9	56.4	56.7	57	57.3	\	66.1	66.4	66.8
		S/T	0.85	1.00	1.00	1.00	0.57	0.76	0.97	1.00	0.38	0.55	0.73	0.89	\	0.37	0.52	0.67
		kW	2.7	2.7	2.7	2.7	2.9	2.9	2.9	2.9	3.51	3.51	3.51	3.51	\	4.12	4.12	4.12
	85	TC	41.5	41.7	41.9	42.1	49.1	49.4	49.6	49.9	46.4	56.7	57	57.3	\	66.1	66.4	66.8
		S/T	0.85	1.00	1.00	1.00	0.57	0.76	0.97	1.00	0.38	0.55	0.73	0.89	\	0.37	0.52	0.67
		kW	3.21	3.21	3.21	3.21	3.61	3.61	3.61	3.61	4.22	4.22	4.22	4.22	\	5.09	5.09	5.09
	95	TC	41.5	41.7	41.9	42.1	49.1	49.4	49.6	49.9	56.4	56.7	57	57.3	\	66.1	66.4	66.8
		S/T	0.85	1.00	1.00	1.00	0.57	0.76	0.97	1.00	0.38	0.55	0.73	0.89	\	0.37	0.52	0.67
		kW	3.20	3.20	3.20	3.20	3.90	3.90	3.90	3.90	4.56	4.56	4.56	4.56	\	5.41	5.41	5.41
105	TC	51.5	41.7	41.9	42.1	49.1	49.4	49.6	49.9	55.3	55.6	55.9	56.1	\	58.4	58.7	59	
	S/T	0.85	1.00	1.00	1.00	0.57	0.76	0.97	1.00	0.38	0.55	0.73	0.89	\	0.38	0.53	0.68	
	kW	4.31	4.31	4.31	4.31	5.25	5.25	5.25	5.25	5.9	5.9	5.9	5.9	\	6.02	6.05	6.02	
115	TC	41.5	41.7	41	42.1	42.9	43.1	43.3	43.5	45.1	45.4	45.6	45.8	\	47.6	47.9	48.1	
	S/T	0.85	1.00	1.00	1.00	0.60	0.82	1.00	1.00	0.42	0.62	0.81	0.99	\	0.39	0.58	0.81	
	kW	5.02	5.02	5.02	5.02	5.18	5.18	5.18	5.18	5.34	5.34	5.34	5.34	\	5.5	5.5	5.5	
1900	65	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	67.1	67.5	67.8
		S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.39	0.54	0.70
		kW	2.26	2.26	2.26	2.26	2.42	2.42	2.42	2.42	2.88	2.88	2.88	2.88	\	3.39	3.39	3.39
	75	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	67.1	67.5	67.8
		S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.39	0.54	0.70
		kW	2.72	2.72	2.72	2.72	2.93	2.93	2.93	2.93	3.55	3.55	3.55	3.55	\	4.16	4.16	4.16
	85	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	67.1	67.5	67.8
		S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.39	0.57	0.70
		kW	3.24	3.24	3.24	3.24	3.65	3.65	3.65	3.65	4.27	4.27	4.27	4.27	\	5.14	5.14	5.14
	95	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	67.1	67.5	67.8
		S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.69	0.54	0.70
		kW	3.6	3.6	3.6	3.6	4.37	4.37	4.37	4.37	5.14	5.14	5.14	5.14	\	6.07	6.07	6.07
105	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	59.3	59.6	59.9	
	S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.40	0.55	0.71	
	kW	4.35	4.35	4.35	4.35	5.31	5.31	5.31	5.31	5.96	5.96	5.96	5.96	\	6.08	6.08	6.08	
115	TC	42.1	42.3	42.5	42.7	49.9	50.2	50.4	50.7	57.3	57.6	57.9	58.2	\	48.4	48.6	48.9	
	S/T	0.88	1.00	1.00	1.00	0.59	0.79	1.00	1.00	0.40	0.58	0.76	0.93	\	0.40	0.60	0.85	
	kW	5.07	5.07	5.07	5.07	5.24	5.24	5.24	5.24	5.4	5.4	5.4	5.4	\	5.56	5.56	5.56	

Table 4

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power



**5.2 BRB-60HWD1N1-M19 For Heating**

BRB-60HWD1N1-M19 For Heating																	
Airflow (SCFM)	ID (°F)	OD (°F)	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
1500	60	TC	74.9	74.9	74.9	74.9	70.4	66.2	62.2	58.4	54.9	51.7	48.5	46.1	44.3	43.0	42.6
		kW	4.24	4.58	5.02	5.47	5.3	5.15	5.05	4.95	4.86	4.77	4.68	4.59	4.57	4.53	4.49
	70	TC	58.2	58.2	58.2	58.2	58.2	58.2	58.2	52.8	49.8	46.8	43.7	42.4	41.7	40.8	40.7
		kW	3.18	3.41	3.65	3.94	4.34	4.71	5.13	4.96	4.86	4.73	4.61	4.57	4.61	4.56	4.52
	75	TC	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	49.6	47.3	43.9	41.7	40.4	40.0	39.9
		kW	2.91	3.07	3.27	3.52	3.81	4.16	4.51	4.9	5.18	5.21	5.01	4.87	4.83	4.81	4.75
	80	TC	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	39.6	37.9	37.6	37.5
		kW	2.39	2.52	2.67	2.86	3.08	3.27	3.57	3.9	4.18	4.42	4.65	4.72	4.74	4.7	4.64
1800	60	TC	70.7	70.7	70.7	70.7	66.5	62.5	58.7	55.2	51.9	48.8	45.9	43.6	41.8	40.6	40.2
		kW	4.22	4.55	4.99	5.44	5.27	5.13	5.02	4.92	4.83	4.74	4.66	4.57	4.55	4.51	4.46
	70	TC	57.0	57.0	57.0	57.0	57.0	57.0	57.0	51.7	48.7	45.8	42.8	41.5	40.6	39.8	39.7
		kW	3.16	3.39	3.63	3.92	4.31	4.69	5.1	4.93	4.83	4.7	4.58	4.54	4.57	4.52	4.48
	75	TC	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	46.4	44.1	41	39	37.8	37.4	37.3
		kW	2.76	2.91	3.11	3.34	3.61	3.95	4.28	4.65	4.91	4.94	4.75	4.62	4.58	4.56	4.51
	80	TC	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	40.1	38.6	38.1	38.0
		kW	2.37	2.51	2.65	2.84	3.06	3.25	3.55	3.88	4.15	4.4	4.62	4.69	4.71	4.67	4.61
1900	60	TC	77.3	77.3	77.3	77.3	72.7	68.3	64.2	60.4	56.7	53.4	50.2	47.7	45.8	44.4	42.5
		kW	4.25	4.59	5.03	5.48	5.31	5.16	5.05	4.95	4.86	4.77	4.69	4.6	4.58	4.54	4.5
	70	TC	58.0	58.0	58.0	58.0	58.0	58.0	58.0	52.6	49.5	46.4	43.4	42.0	41.0	40.2	40.0
		kW	3.18	3.41	3.66	3.95	4.34	4.72	5.13	4.96	4.85	4.72	4.59	4.55	4.57	4.51	4.47
	75	TC	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	57.0	54.1	50.4	47.8	46.4	45.9	45.7
		kW	3.23	3.41	3.64	3.91	4.23	4.62	5.01	5.45	5.75	5.79	5.57	5.41	5.37	5.35	5.28
	80	TC	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	40.8	39.3	38.9	38.8
		kW	2.39	2.52	2.67	2.86	3.08	3.27	3.58	3.91	4.18	4.43	4.66	4.73	4.75	4.71	4.64

Table 5


## 6 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 shown in the table below in order to ensure proper operation of both cooling, heating, and electric heating operation.

Model Number	Motor Speed		SCFM								
			External Static Pressure-Inches W.C. [kPa]								
			0[0]	0.1[.02]	0.2[.05]	0.3[.07]	0.4[.10]	0.5[.12]	0.6[.15]	0.7[.17]	0.8[.20]
60	Tap 1	SCFM	1385	1300	1230	1136	1045	959	867	787	717
		Watts	164	171	180	192	204	217	232	238	249
	Tap 2 -Default Log Stage Setting	SCFM	1489	1432	1352	1279	1172	1088	1013	934	863
		Watts	1.76	1.8	1.89	1.96	2.02	2.13	2.24	2.34	2.43
	Tap 3	SCFM	1843	1782	1711	1639	1572	1497	1409	1341	1271
		Watts	343	362	377	390	400	411	427	440	456
	Tap 4 -Default High Stage Setting	SCFM	1964	1903	1840	1786	1724	1655	1591	1488	1427
		Watts	435	450	466	479	494	507	521	535	551
	Tap 5	SCFM	2339	2307	2247	2204	2135	2056	1922	1800	1659
		Watts	695	707	725	734	747	746	737	719	686

Table 6

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

### NOTES:

1. The high stage airflow must be used as the rated airflow for the full load operation of machine.
2. The rated airflow of systems without electric heater kits requires between 300 and 450 cubic feet of air per minute (CFM).
3. The rated airflow of systems with electric heater kits requires between 350 and 450 cubic feet of air per minute (CFM).
4. The air distribution system has the greatest effect on airflow. Therefore, the contractor should use only industry-recognized procedures.
5. Duct design and construction should be carefully done. System performance can be lowered dramatically through poor design or workmanship.
6. 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.
7. 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).

## 7 Sound Data

Model	Mode	Frequency	dB (A)
BRB-60HWD1N1-M19	Cooling	High	75
		Mid	74
		Low	66
	Heating	High	75
		Mid	73
		Low	66
	Fan	High	74
		Mid	70
		Low	64

Table 7 IDP Sound power level

## 8 Electrical Data

Size (Tons)	Voltage - Phase - Frequency	Compressors (each)		OD Fan Motors (each)	Supply Blower Motor	Unit Circuit	
		RLA	LRA	FLA	FLA	MCA <sup>1</sup> (Amps)	Max Fuse <sup>2</sup> / Breaker <sup>3</sup> Size (Amps)
60 (5.0)	208/230-1-60	27A	52A	2.1A	6.0A	41.9	60

Table 8 Electrical Data Without Electric Heat

Heat Kit Model	Model	Electric Heat (kW)	Stages	MIN. Circuit Ampacity		MAX. Fuse or Breaker (HACR) Ampacity		Fan Speed				
				240 VAC	208 VAC	240 VAC	208 VAC	1	2	3	4	5
EHK-05J	60	5	1	26	23	30	25	X	X	●	●	●
EHK-08J		7.5	1	40	34	40	35	X	X	●	●	●
EHK-10J		10	1	53	46	60	50	X	X	●	●	●
EHK-15J		15	2	79	68	80	70	X	X	●	●	●
EHK-20J		20	2	105	91	110	100	X	X	X	●	●

Table 9 Electrical Data With Electric Heat

## 9 Dimensions

### 9.1 Unit Dimensions

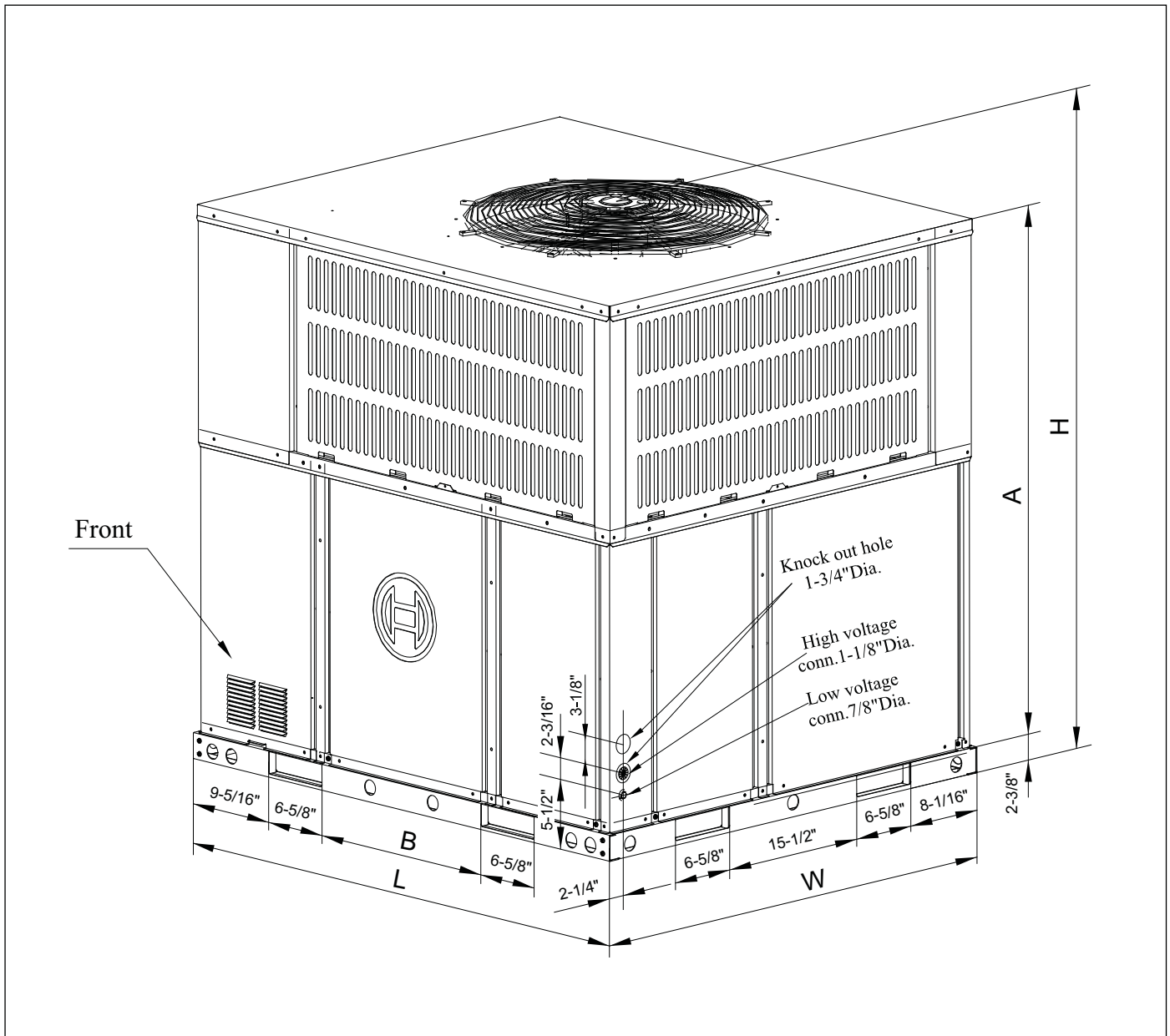


Figure 2

Heat Pump Model	L	W	H	A	B
BRB-60HWD1N1-M19	51-9/16"	44-13/16"	51-7/16"	47-5/16"	19-11/16"

Table 10 Unit Dimensions

Heat Pump Model	Net Weight	Gross Weight
BRB-60HWD1N1-M19	561 lbs (255kg)	596 lbs (271kg)

Table 11 Unit Weights

9.2 Dimensions - Back and Bottom

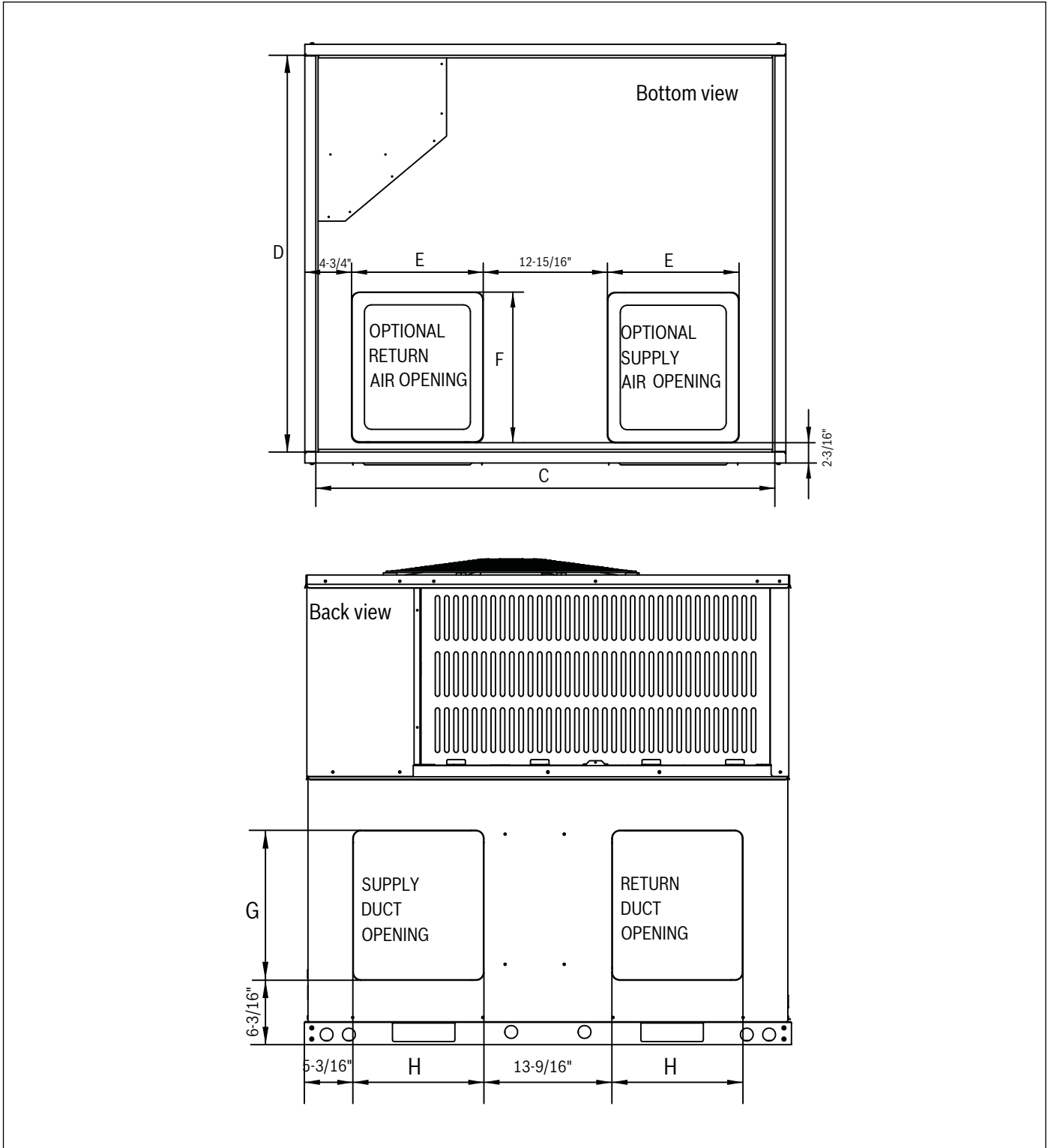


Figure 3

Heat Pump Model	C	D	E	F	G	H
BRB-60HWD1N1-M19	49-1/4"	42-1/2"	14-1/8"	16-1/8"	15-7/8"	13-7/8"

Table 12 Dimensions - Back and Bottom

9.3 Dimensions - Right and Top

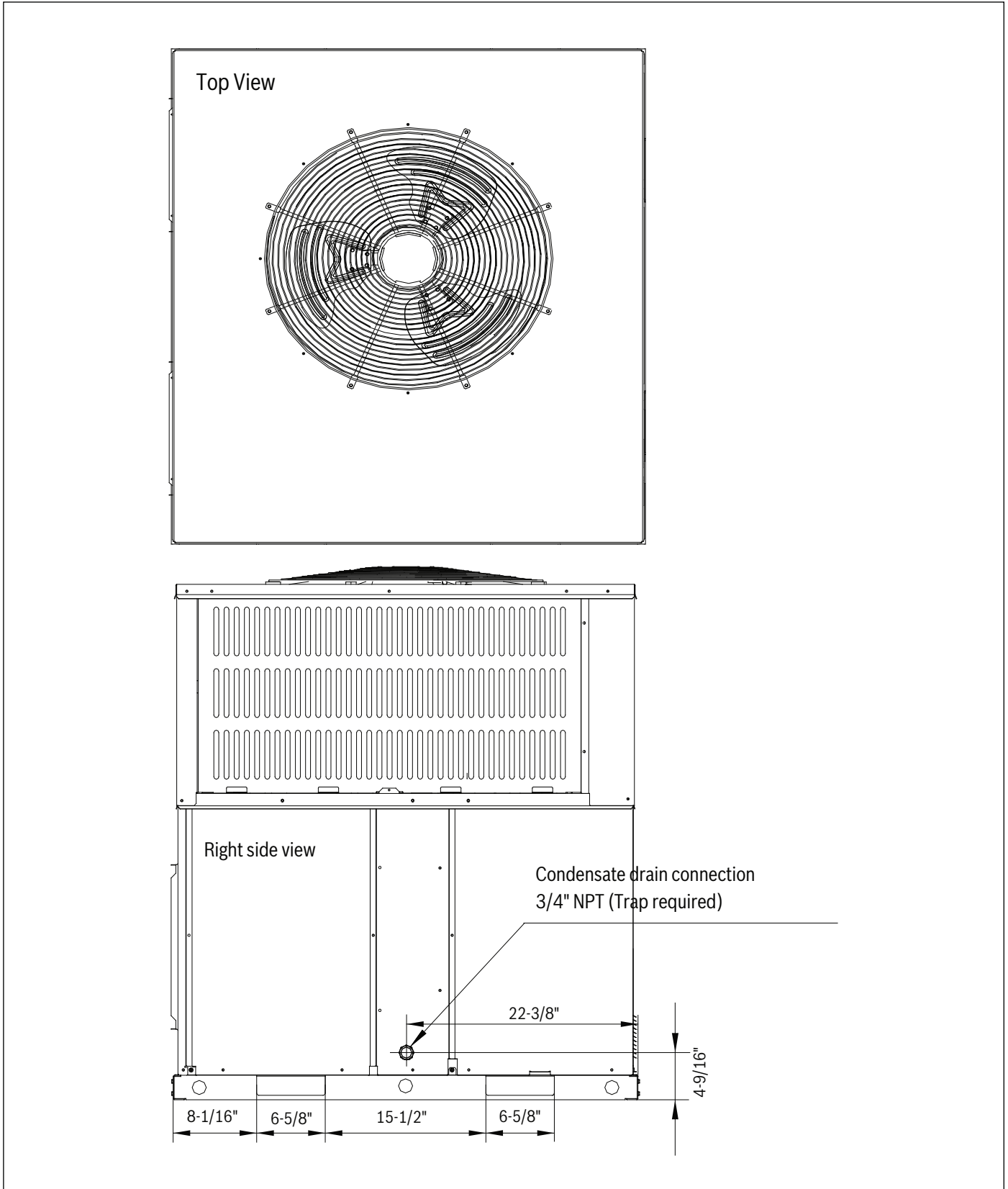


Figure 4

### 10 Rooftop Installation - Curb Mounting

The manufacturer does not supply roof curbs, they must be field supplied. On applications when a roof curb is used, the unit must be positioned on the curb so the front of the unit is tight against the curb (see Figure 6 Roof Curb Dimension).

The default orientation from the factory is for horizontal airflow. Convert the unit to downflow using the following procedure:

1. Remove the sheet metal screws securing the supply air cover and the sheet metal screws securing the return air cover from the base of the unit. Remove the covers from the base. See Figure 3.
2. Place the covers over the horizontal supply and return openings (painted side out). Align the screw holes, and secure using the same screws removed in step 1. See Figure 3.

Install the field-supplied roof mounting curb according to the Installation Instructions supplied with the curb. Install insulation, cant strips, roofing, and flashing. Ductwork must be attached to curb.

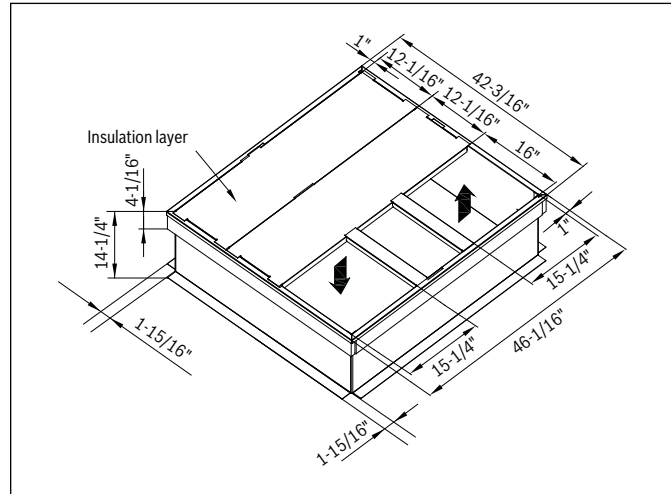


Figure 6 Roof Curb Dimensions

**NOTICE:**

- ▶ The gasketing of the unit to the roof curb is critical for a water tight seal. Install gasketing material supplied with the field supplied roof curb. Improperly applied gasketing also can result in air leaks and poor unit performance.



For units applied with a roof curb, the minimum clearance may be reduced from 1 inch to 1/2 inch between combustible roof curb material and supply air duct.

**NOTICE:**

- ▶ The unit must be secured to the curb by installing screws through the bottom of the curb flange and into the unit base rails.

**NOTICE: UNIT/STRUCTURAL DAMAGE HAZARD**

- ▶ Failure to follow this caution may result in property damage. Ensure there is sufficient clearance for saw blade when cutting the outer horizontal flange of the roof curb so there is no damage to the roof or flashing.

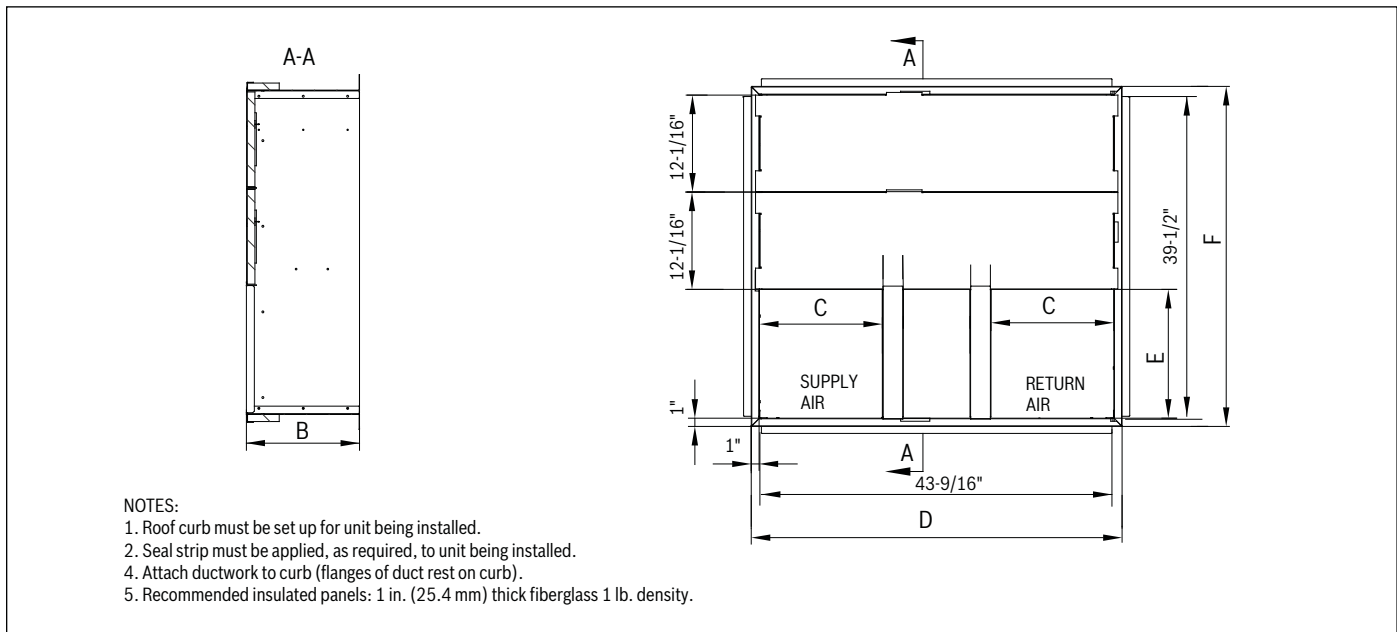


Figure 5 Roof Curb Details

	B	C	D	E	F
CURB	14-1/4"	15-1/4"	46-1/16"	16"	42-3/16"

Table 13 Roof Curb Details - inches

### 11 Wiring Diagram

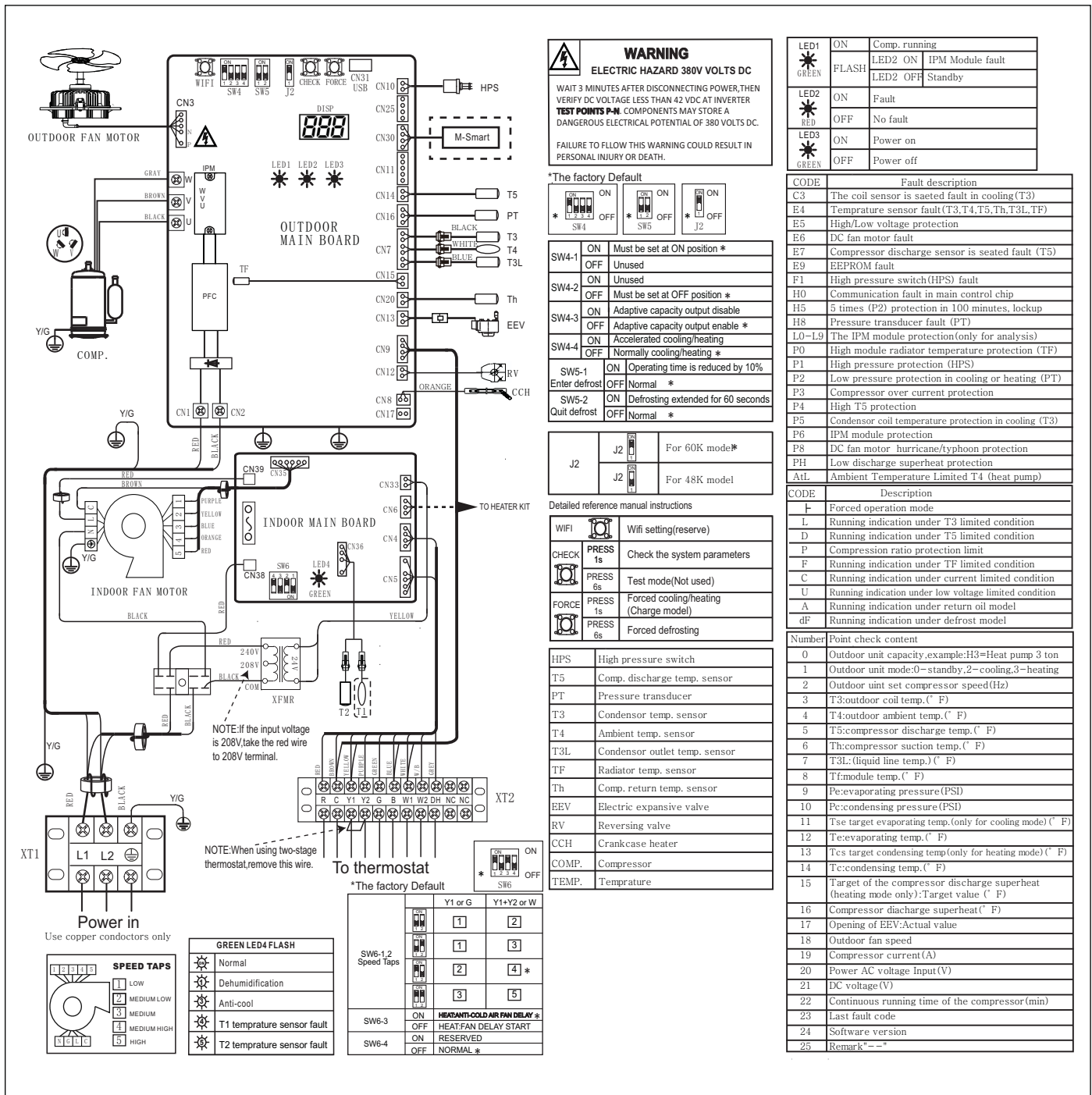


Figure 7









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