

Bosch BVA Series Air Handler

2-3-4-5 Ton Capacity
R410A



BOSCH

Product Specifications



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1 Product features

- ▶ Multi-speed ECM blower motor.
- ▶ Factory-installed TXV metering.
- ▶ Multi-position Installation - upflow or horizontal right standard; field convertible to horizontal left or downflow.
- ▶ Multiple electrical entry locations.
- ▶ Field-installed electric heater kits 5, 7.5, 10, 15, 20KW available as an accessory.
- ▶ 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.

2 Nomenclature

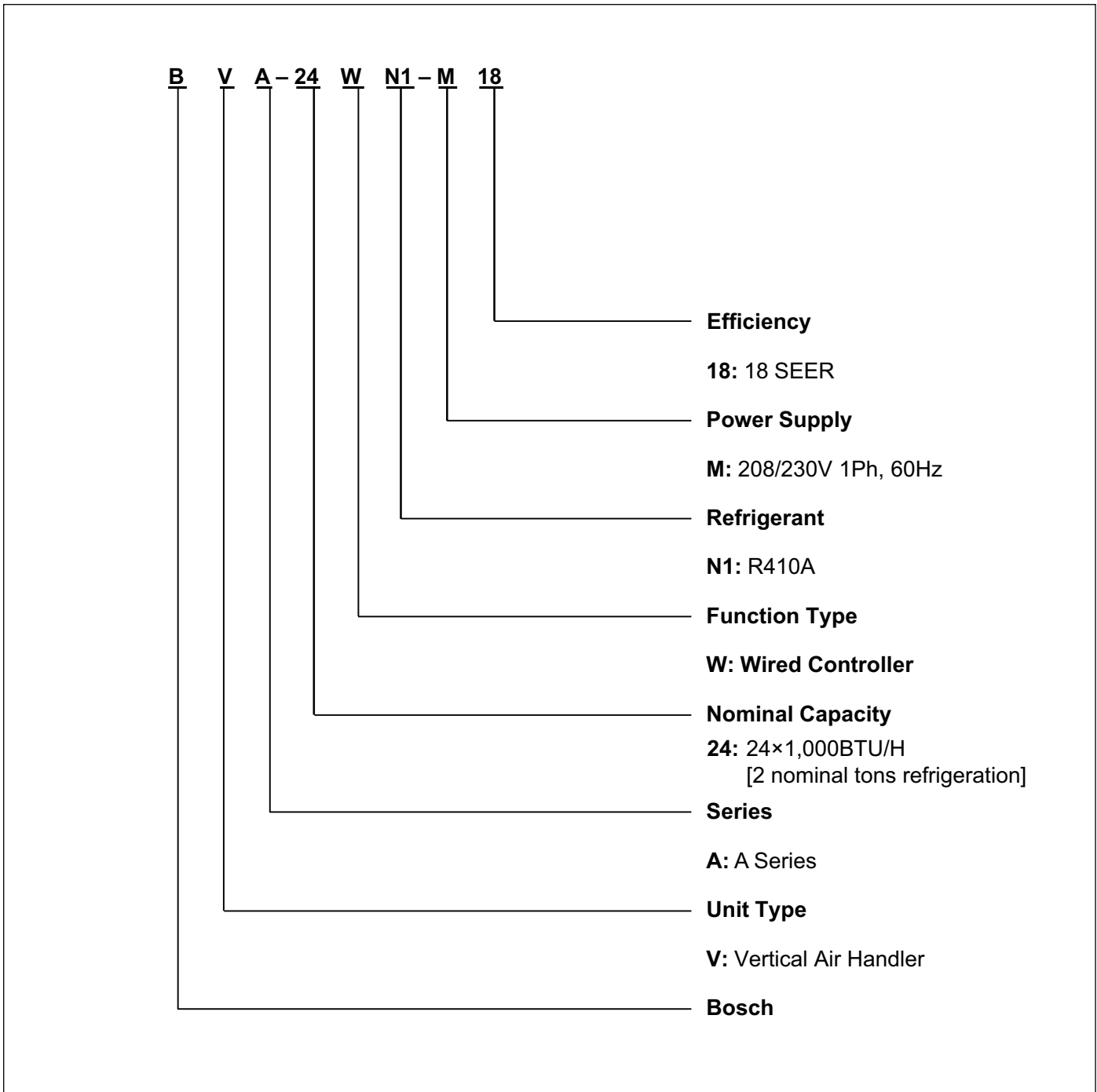


Figure 1

3 Product specifications

	BVA-24WN1-M18	BVA-36WN1-M18[B]	BVA-48WN1-M18	BVA-60WN1-M18
Cooling Capacity				
Nominal Cooling (BTU/h)	24,000	34,600	47,000	57,000
Nominal Heating (BTU/h)	24,000	33,600	46,500	55,000
Blower				
Diameter	10 $\frac{1}{2}$ "	11"	11"	11"
Width	8"	10 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "
Fan Motor				
Horsepower (HP)	1/3	1/2	3/4	3/4
Full Load Amps	2.8	4.1	6.0	6.0
Refrigeration System				
Refrigerant Line Size ¹				
Liquid Line Size ("O.D.)	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "
Suction Line Size ("O.D.)	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
Refrigerant Connection Size				
Liquid Line Size ("O.D.)	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "
Suction Line Size ("O.D.)	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
Expansion Device [TXV=Thermal Expansion Valve]	TXV	TXV	TXV	TXV
Decibels dB(A)				
High Speed	62	65	67	68
Medium Speed	59	62	63	64
Low Speed	55	58	59	60
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	3.5	5.1	7.5	7.5
Max. Overcurrent Protection ³	15	15	15	15
Min / Max Volts	187 / 253	187 / 253	187 / 253	187 / 253
Air Filter				
Air Filter Sizes	18" x 20"	18" x 20"	20" x 22"	20" x 22"
Weight				
Equipment Weight (lbs)	119	126	162	170
Ship Weight (lbs) ⁴	132	139	180	188

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

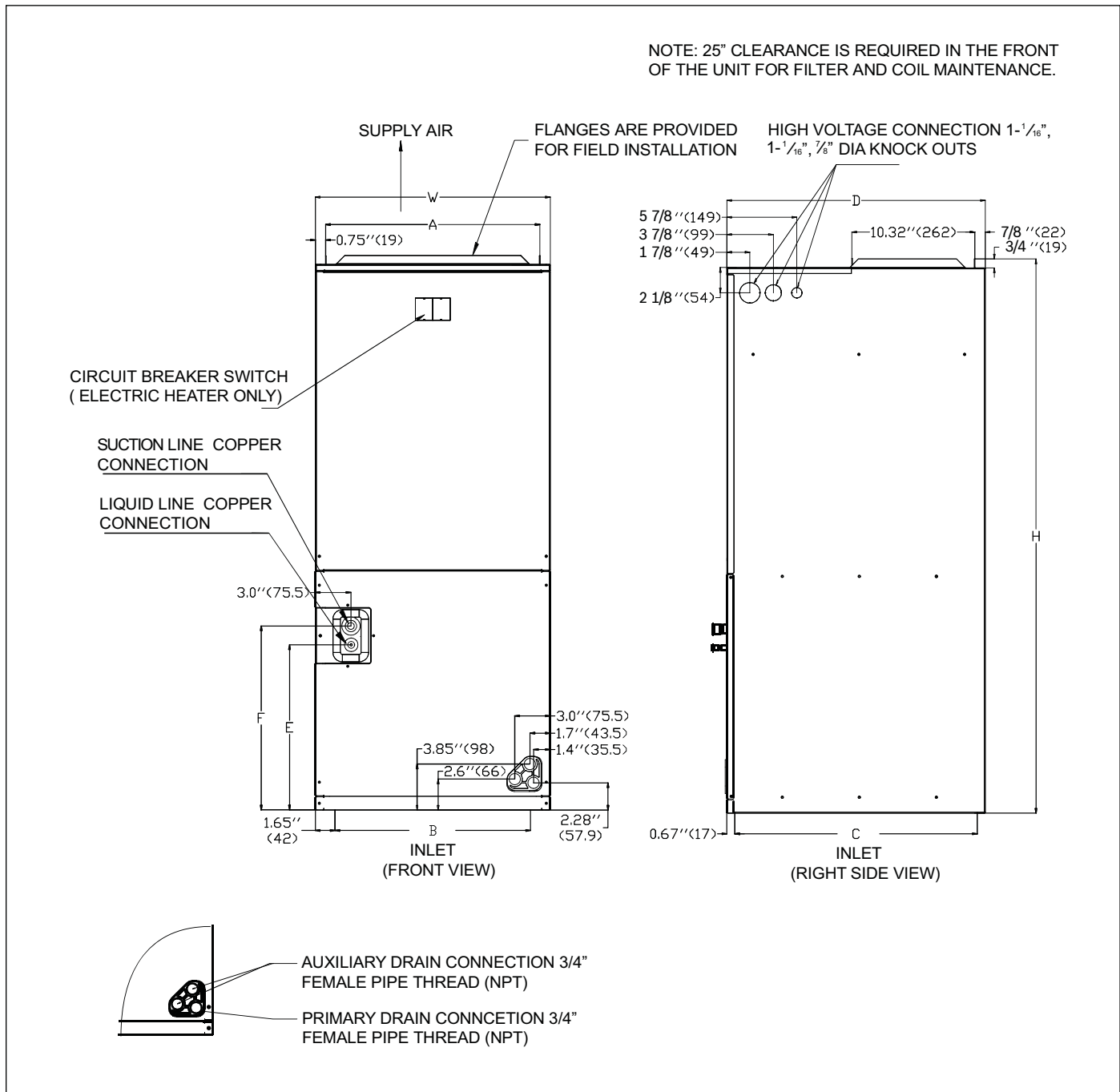


Figure 2

Model Size	Dimensions (Inches)			Dimensions Inch [mm]				
	"H" in. [mm]	"W" in. [mm]	"L" in. [mm]	"A" in. [mm]	"B" in. [mm]	"C" in. [mm]	"E" in. [mm]	"F" in. [mm]
24	46½"[1180]	19½"[500]	21½"[550]	18"[456]	16 ⁵ / ₁₆ "[416]	20 ⁵ / ₁₆ "[516]	13¾"[350]	15 ⁵ / ₁₆ "[390]
36	46½"[1180]	19½"[500]	21½"[550]	18"[456]	16 ⁵ / ₁₆ "[416]	20 ⁵ / ₁₆ "[516]	13¾"[350]	15 ⁵ / ₁₆ "[390]
48	54½"[1385]	22"[560]	24"[610]	19½"[496]	18¾"[476]	22¾"[576]	19 ⁵ / ₁₆ "[492]	21"[532]
60	54½"[1385]	22"[560]	24"[610]	19½"[496]	18¾"[476]	22¾"[576]	19 ⁵ / ₁₆ "[492]	21"[532]

Table 11

5 Blower Data

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.

Air Handler Model Size	Motor Speed		SCFM								
			External Static Pressure-Inches W.C. [kPa]								
				0.1[.02]	0.2[.05]	0.3[.07]	0.4[.10]	0.5[.12]	0.6[.15]	0.7[.17]	0.8[.20]
24	Tap(5)	SCFM	1016	955	914	870	827	790	741	691	657
		Watts	139	146	157	165	174	185	195	202	209
	Tap(4)	SCFM	955	892	853	804	768	729	671	630	---
		Watts	118	125	135	142	152	162	169	178	---
	Tap(3) -Default Setting	SCFM	927	829	789	739	701	643	597	---	---
		Watts	109	105	113	121	131	137	147	---	---
	Tap(2)	SCFM	887	766	671	631	567	522	465	---	---
		Watts	97	87	83	93	99	108	112	---	---
	Tap(1)	SCFM	829	698	547	366	347	277	234	---	---
		Watts	81	71	60	54	60	64	72	---	---
36	Tap(5)	SCFM	1452	1403	1343	1287	1214	1144	1085	1022	968
		Watts	253	264	271	284	296	303	313	324	329
	Tap(4) -Default Setting	SCFM	1255	1203	1150	1062	995	920	854	797	719
		Watts	170	182	193	201	212	221	229	239	244
	Tap(3)	SCFM	1109	1050	985	897	841	841	766	702	617
		Watts	126	136	147	154	164	170	180	187	195
	Tap(2)	SCFM	1020	907	818	733	673	586	520	---	---
		Watts	103	98	109	114	124	129	139	---	---
	Tap(1)	SCFM	962	807	627	551	450	380	296	---	---
		Watts	90	80	71	79	83	93	96	---	---
48	Tap(5)	SCFM	2072	2013	1935	1923	1878	1830	1783	1736	1688
		Watts	447	464	489	497	514	530	545	558	570
	Tap(4)	SCFM	1860	1816	1735	1679	1640	1591	1542	1504	1481
		Watts	348	364	383	395	408	418	429	451	463
	Tap(3) -Default Setting	SCFM	1702	1651	1560	1547	1497	1438	1385	1331	1280
		Watts	268	281	304	312	325	337	349	361	375
	Tap(2)	SCFM	1393	1358	1179	1155	1139	1074	1020	964	896
		Watts	227	234	258	269	270	283	296	313	325
	Tap(1)	SCFM	1365	1239	1078	1050	965	904	886	831	797
		Watts	220	226	243	264	269	281	293	301	317
60	Tap(5)	SCFM	2054	2015	1947	1928	1886	1846	1804	1742	1654
		Watts	470	495	518	528	542	553	569	567	548
	Tap(4) -Default Setting	SCFM	1883	1840	1783	1754	1712	1670	1622	1579	1541
		Watts	367	388	411	420	422	445	454	466	479
	Tap(3)	SCFM	1721	1674	1582	1566	1528	1484	1443	1401	1345
		Watts	289	305	327	330	341	353	365	378	387
	Tap(2)	SCFM	1515	1463	1386	1358	1308	1262	1215	1153	1073
		Watts	205	218	235	239	251	263	276	285	301
	Tap(1)	SCFM	1337	1265	1156	1148	1095	984	955	963	789
		Watts	145	157	173	178	186	197	212	225	235

Table 3

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

i SCFM means Standard Cubic Foot per Minute.

i Airflow based upon Air Handler Unit operating at 230V with no electric heater kit and no filter. Airflow at 208V is approximately the same as 230V.

6 Heater Kit Data

Heat Kit Model	Air Handler Model	(kW)Electric Heat	MIN. Circuit Ampacity (Amps)		MAX. Fuse or Breaker (HACR) Ampacity (Amps)		Fan speed				
			240 VAC	208 VAC	240 VAC	208 VAC	1	2	3	4	5
WEHK05A	24	5	28.5	24.9	30	25	●	●	●	●	●
WEHK08A		7.5	41.5	36.3	45	40	X	X	●	●	●
WEHK10A		10	54.5	47.6	60	50	X	X	●	●	●
WEHK05A	36	5	29.7	26.2	30	30	●	●	●	●	●
WEHK08A		7.5	42.7	37.5	45	40	X	●	●	●	●
WEHK10A		10	55.8	48.8	60	50	X	X	●	●	●
WEHK15B	36	15	55.8+26.1	48.8+22.6	60+30	50+25	X	X	●	●	●
			81.8*	75.3*	90*	80*					
WEHK05A	48	5	33.6	30.1	35	35	●	●	●	●	●
WEHK08A		7.5	46.6	41.4	50	45	●	●	●	●	●
WEHK10A		10	59.6	52.7	60	60	X	●	●	●	●
WEHK15B	48	15	59.6+26.1	52.7+22.6	60+30	60+25	X	X	●	●	●
			85.7*	75.3*	90*	80*					
WEHK20B	48	20	59.6+52.1	52.7+45.2	60+60	60+50	X	X	X	●	●
			111.7*	97.8*	125*	100*					
WEHK05A	60	5	33.6	30.1	35	35	X	X	●	●	●
WEHK08A		7.5	46.6	41.4	50	45	X	X	●	●	●
WEHK10A		10	59.6	52.7	60	60	X	X	●	●	●
WEHK15B	60	15	59.6+26.1	52.7+22.6	60+30	60+25	X	X	●	●	●
			85.7*	75.3*	90*	80*					
WEHK20B	60	20	59.6+52.1	52.7+45.2	60+60	60+50	X	X	X	●	●
			111.7*	97.8*	125*	100*					

Table 4

- - means available
- X - means not available
- * - means single circuit



Electric Heater kit suitable for AHU multi position installation.

Model	Description	24	36	48	60
WEHK05A	5kW Heat Kit, Double Pole Breaker	●	●	●	●
WEHK08A	7.5kW Heat Kit, Double Pole Breaker	●	●	●	●
WEHK10A	10kW Heat Kit, Double Pole Breaker	●	●	●	●
WEHK15B	15kW Heat Kit, Double Pole Breaker	X	●	●	●
WEHK20B	20kW Heat Kit, Double Pole Breaker	X	X	●	●

Table 11

- - means available
- X - means not available

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