Enhanced Air Handler with Variable Speed

BCS2**V

APPLICATION

- 2 - 5 ton sizes
- Upflow and horizontal
- Sequenced for demand management
- External access to heater circuit breakers

INSTALLATION

- 1 Piece design for easier installation
- Multiposition - Upflow/Horizontal Left/Right

CABINET

- Foil faced insulation
- Painted, heavy-gauge galvanized cabinet
- Filter rack built into every air handler
- High-strength, UV- and heat-resistant plastic drain pan for corrosion resistance
- Microban® antimicrobial built in to drain pan to resist mold and mildew growth and fouling of the drain
- 2% or less air leakage

5 year limited warranty on all parts
Extended warranty available

COMPONENTS

- Efficient ECM variable speed motors
- Standard transformer and blower relay
- Field-installed 5-20 kW electric heat kits with easy plug connections
- Built-in indoor time delay for increased efficiency
- Sleeves on distributor tubing to protect tubing

ACCESSORIES

- Counterflow kit
- Single point power kit
- TXV kit

Model Number Guide

BC S 2 M 36 V 00 N A 1P - 1

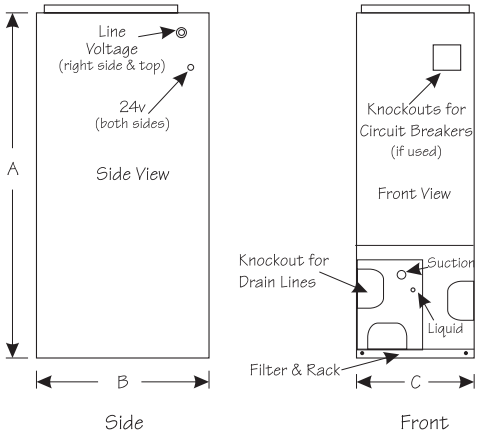
- Blower Coil
- Single Piece Cabinet
- Series
- M = Multi-position (Upflow, Horizontal Right or Left
- Nominal Capacity
  36 = 36,000 Btuh
- Blower Motor -
  V = Variable Speed
- Heat Size
  00 = kW Elec.
  kW Kits Available
  24 - 5, 7.5, 10
  36 - 5, 7.5, 10, 15
  42 - 4, 7.5, 10, 15
  48 - 5, 7.5, 10, 15, 20
  60 - 5, 7.5, 10, 15, 20
- Circuit Protection -
  N = None
- Voltage -
  A = 208-230v/60Hz/1Ph
- Metering Device
  1P = Piston Orifice
- Revision Code

Physical

Model	Volts/Hz/Phase	Max. Elec. Heat Available (kW)	Tranformer Size & Type	Filter Size (in.)	Refrigerant Connection (IDS)		Florator Piston Size	Weight (lbs.)
					Suction (in.)	Liquid (in.)		
BCS2M24	208-230/60/1	10	40 VA, Class 2	16 x 20	3/4	3/8	59	127
BCS2M36	208-230/60/1	15	40 VA, Class 2	18 x 20	7/8	3/8	73	146
BCS2M42	208-230/60/1	15	40 VA, Class 2	18 x 25	7/8	3/8	80	170
BCS2M48	208-230/60/1	20	40 VA, Class 2	18 x 25	7/8	3/8	84	176
BCS2M60	208-230/60/1	20	40 VA, Class 2	18 x 25	7/8	3/8	93	189

Dimensions (in.)

Air Handler Size	A (in.)	B (in.)	C (in.)	Supply Duct Opening		Return Duct Opening	
				Depth (in.)	Width (in.)	Depth (in.)	Width (in.)
BCS2M24	46 3/4	22	18 1/2	17	16 1/2	20 1/4	16
BCS2M36	51	22	21 1/4	17	19 1/4	20 1/4	18 3/4
BCS2M42-48	54	26	21 1/4	21	19 1/4	24 1/4	18 3/4
BCS2M60	60	26	21 1/4	21	19 1/4	24 1/4	18 3/4



Electrical

Blower Size	Elec. Heating Cap.		Blower Amps		(2) (3) Total Amps per Circuit						Total Unit Amps		Circuit Breaker	
	kW	Btuh			208v			240v					Amps per Stage	
	(1) 240v	(1) 240v	208v	240v	1	2	3	1	2	3	208	240	1	2
24 (no heat)	0	0	2.0	2.0	-	-	-	-	-	-	2.0	2.0	15	-
24	5	17,100	2.0	2.0	20	-	-	22.8	-	-	20.0	22.8	30	-
24	7.5	25,600	2.0	2.0	29.1	-	-	33.3	-	-	29.1	33.3	45	-
24	10	34,100	2.0	2.0	38.1	-	-	43.7	-	-	38.1	43.7	60	-
36 (no heat)	0	0	2.5	2.5	-	-	-	-	-	-	2.5	2.5	15	-
36	5	17,100	2.5	2.5	20.5	-	-	23.3	-	-	20.5	23.3	30	-
36	7.5	25,600	2.5	2.5	29.6	-	-	33.8	-	-	29.6	33.8	45	-
36	10	34,100	2.5	2.5	38.6	-	-	44.2	-	-	38.6	44.2	60	-
36	15	51,200	2.5	2.5	38.6	18.1		44.2	20.8		56.7	65.0	60	30
42 (no heat)	0	0	2.8	2.8	-	-	-	-	-	-	2.8	2.8	15	-
42	5	17,100	2.8	2.8	20.9	-	-	23.6	-	-	20.9	23.6	35	-
42	7.5	25,600	2.8	2.8	29.9	-	-	34.1	-	-	29.9	34.1	45	-
42	10	34,100	2.8	2.8	38.9	-	-	44.5	-	-	38.9	44.5	60	-
42	15	51,200	2.8	2.8	38.9	18.1		44.5	20.8		57.0	65.3	60	30
48 (no heat)	0	0	3.0	3.0	-	-	-	-	-	-	3.0	3.0	15	-
48	5	17,100	3.0	3.0	21.1	-	-	23.8	-	-	21.1	23.8	35	-
48	7.5	25,600	3.0	3.0	30.1	-	-	34.3	-	-	30.1	34.3	45	-
48	10	34,100	3.0	3.0	39.1	-	-	44.7	-	-	39.1	44.7	60	-
48	15	51,200	3.0	3.0	39.1	18.1		44.7	20.8		57.2	65.5	60	30
48	20	68,300	3.0	3.0	39.1	36.1		44.7	41.7		75.2	86.4	60	60
60 (no heat)	0	0	3.8	3.8	-	-	-	-	-	-	3.8	3.8	15	-
60	5	17,100	3.8	3.8	21.9	-	-	24.6	-	-	21.9	24.6	35	-
60	7.5	25,600	3.8	3.8	30.9	-	-	35.1	-	-	30.9	35.1	45	-
60	10	34,100	3.8	3.8	39.9	-	-	45.5	-	-	39.9	45.5	60	-
60	15	51,200	3.8	3.8	39.9	18.1		45.5	20.8		58.0	66.3	60	30
60	20	68,300	3.8	3.8	39.9	36.1		45.5	41.7		76.0	87.2	60	60

(1) For 208 volt use .751 correction factor for kW and Btuh

(2) 15 and 20 kW (2 stage models) require 2 supply circuits

(3) Circuit #1 includes blower motor amps

Blower

Air Handler Size			CFM @ ESP - in. W.C.							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
24	Y1	Tap A	540	550	550	550	560	560	570	560
		Tap B	470	490	490	500	500	500	490	490
		Tap C	420	420	410	430	430	430	430	410
		Tap D	270	270	300	280	270	250	240	240
	Y1/Y2	Tap A	770	790	790	790	800	800	810	800
		Tap B	670	700	700	710	710	710	700	700
		Tap C	600	600	590	610	610	610	610	590
		Tap D	390	390	420	400	380	360	340	340
	G	Tap A	390	400	400	400	400	400	410	400
		Tap B	340	350	350	360	360	360	350	350
		Tap C	300	300	300	310	310	310	310	300
		Tap D	200	200	210	200	190	180	170	170
36	Y1	Tap A	820	830	850	850	870	870	870	670
		Tap B	700	700	700	690	700	710	710	700
		Tap C	570	560	560	560	550	550	540	520
		Tap D	440	420	390	390	370	360	360	340
	Y1/Y2	Tap A	1170	1180	1210	1210	1240	1240	1240	1240
		Tap B	1000	1000	1000	990	1000	1010	1010	1000
		Tap C	810	800	800	800	790	780	770	740
		Tap D	630	600	560	550	530	520	510	480
	G	Tap A	590	590	610	610	620	620	620	620
		Tap B	500	500	500	500	500	510	510	500
		Tap C	410	400	400	400	400	390	390	370
		Tap D	320	300	280	280	270	260	260	240
42	Y1	Tap A	920	970	970	970	980	990	990	1000
		Tap B	830	830	840	850	850	850	850	850
		Tap C	690	700	700	700	710	710	720	710
		Tap D	570	570	570	580	580	590	570	550
	Y1/Y2	Tap A	1320	1380	1380	1390	1400	1410	1410	1430
		Tap B	1180	1180	1200	1210	1220	1220	1220	1220
		Tap C	990	1000	1000	1000	1020	1020	1030	1020
		Tap D	810	810	810	830	830	840	820	790
	G	Tap A	860	690	690	700	700	710	710	720
		Tap B	590	590	600	610	610	610	610	610
		Tap C	500	500	500	500	510	510	520	510
		Tap D	410	410	410	420	420	420	410	400

NOTES

All above data given while air handler is operating with dry coil.

Humidistat will reduce cooling airflow by 10% in high humidity.

Adjust tap (+) will increase airflow by 10%, while (-) will decrease by 12%.

Adjust tap test will cause motor to run at 70% of full airflow. Use this for troubleshooting only.

At the start of a call for cooling/heating, there is a short run at 82% of airflow for 7.5 minutes.

At the end of a call for cooling/heating, there is a blower delay of 1 minute.

Blower

Air Handler Size			CFM @ ESP - in. W.C.							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
48	Y1	Tap A	1120	1120	1130	1140	1130	1130	1130	1140
		Tap B	960	970	970	980	990	990	990	1000
		Tap C	830	830	830	830	840	850	850	830
		Tap D	690	700	710	710	710	710	710	690
	Y1/Y2	Tap A	1600	1600	1610	1630	1620	1620	1620	1630
		Tap B	1370	1380	1390	1400	1420	1420	1410	1430
		Tap C	1190	1190	1190	1190	1200	1210	1210	1190
		Tap D	990	1000	1020	1010	1010	1020	1010	990
	G	Tap A	800	800	810	820	810	810	810	820
		Tap B	690	690	700	700	710	710	710	720
		Tap C	600	600	600	600	600	610	610	600
		Tap D	500	500	510	510	510	510	510	500
60	Y1	Tap A	1250	1270	1270	1300	1290	1290	1290	1280
		Tap B	1120	1120	1130	1130	1140	1130	1130	1130
		Tap C	990	990	990	980	980	970	960	970
		Tap D	840	850	850	850	840	850	830	820
	Y1/Y2	Tap A	1780	1810	1820	1850	1840	1840	1840	1830
		Tap B	1600	1600	1610	1610	1630	1620	1610	1610
		Tap C	1410	1420	1410	1400	1400	1390	1380	1380
		Tap D	1200	1220	1220	1210	1200	1210	1190	1170
	G	Tap A	890	910	910	930	920	920	920	920
		Tap B	800	800	810	810	820	810	810	810
		Tap C	710	710	710	700	700	700	690	690
		Tap D	600	610	610	610	600	610	600	590

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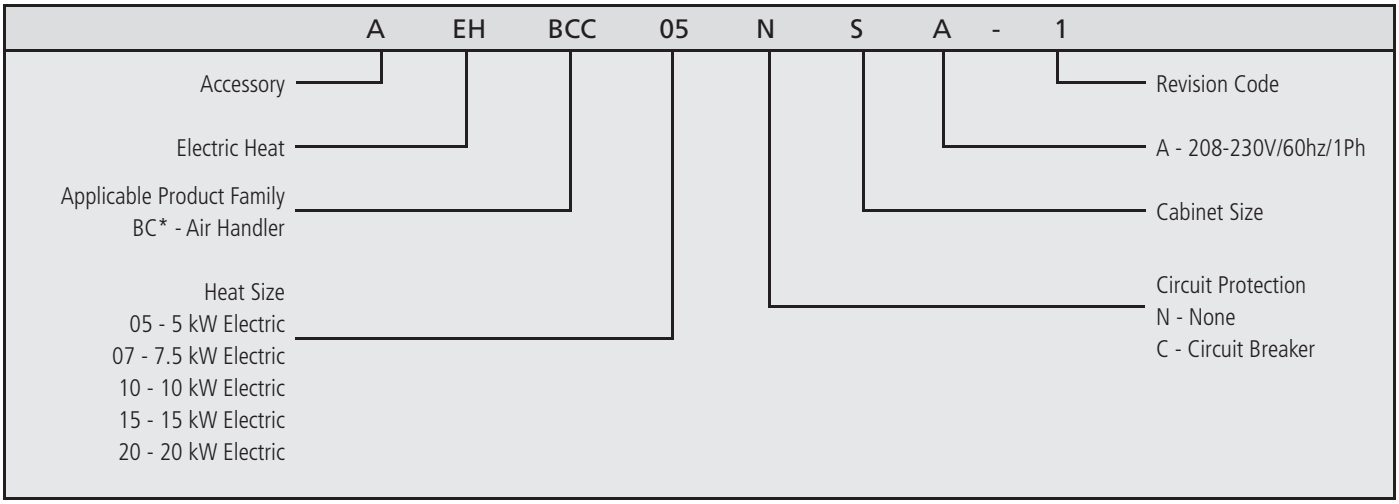
Accessories

Kit Number	Description	Used with
12W61	Counterflow Kit	All BCS's
LB62009C	Single Point Power Kit	All BCS's
A2TXV01	R22 TXV Kit	2 to 3 ton AC units
A2TXV02	R22 TXV Kit	3.5 to 5 ton AC units
A4TXV01	R410a TXV Kit	2 to 3 ton AC units
A4TXV02	R410a TXV Kit	3.5 to 5 ton AC units
H2TXV01	R22 TXV Kit	2 to 3 ton HP units
H2TXV02	R22 TXV Kit	3.5 to 5 ton HP units
H4TXV01	R410a TXV Kit	2 to 3 ton HP units
H4TXV02	R410a TXV Kit	3.5 to 5 ton HP units

Electric Heat Model Number Guide



Electric Heat Kits

Kit Number	Description	Used on
AEHBCC05NSA-1	5 kW with Terminal Block	*BCS2* 24, 36, 42, 48, 60
AEHBCC05CSA-1	5 kW with Circuit Breaker	*BCS2* 24, 36, 42, 48, 60
AEHBCC07NSA-1	7.5 kW with Terminal Block	*BCS2* 24, 36, 42, 48, 60
AEHBCC07CSA-1	7.5 kW with Circuit Breaker	*BCS2* 24, 36, 42, 48, 60
AEHBCC10NSA-1	10 kW with Terminal Block	*BCS2* 24, 36, 42, 48, 60
AEHBCC10CSA-1	10 kW with Circuit Breaker	*BCS2* 24, 36, 42, 48, 60
AEHBCC15CSA-1	15 kW with Circuit Breaker	*BCS2* 36, 42, 48, 60
AEHBCC20CSA-1	20 kW with Circuit Breaker	*BCS2*48, 60

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