# CBA25UH

**MERIT®** Series

Upflow/Horizontal | R-410A | 60Hz

RESIDENTIAL PRODUCT SPECIFICATIONS (EHB)



1.5 to 5 Tons Optional Electric Heat - 4 to 20 kW



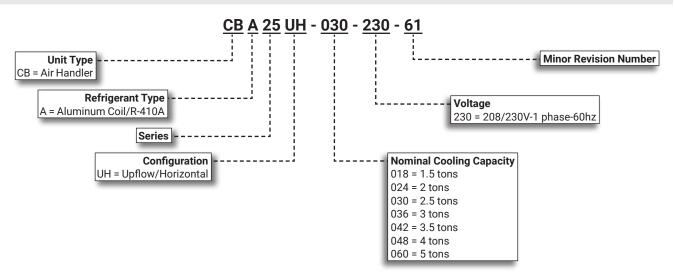




NOTE - These air handlers are sold in Canada for system installation and replacement!

These air handlers are sold in the US for repair/replacement only (no system installations are allowed)!

# MODEL NUMBER IDENTIFICATION



# **FEATURE HIGHLIGHTS**

- 1. Quantum™ Coil
- 2. Refrigerant Line Connections
- 3. Check and Expansion Valve
- 4. Blower Motor
- 5. Heavy Gauge Steel Cabinet
- 6. Anti-Microbial Dual Position Drain Pans
- 7. Air Filter
- 8. Transformer and Blower Relay
- 9. Electric Heat (option)



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### APPROVALS AND WARRANTY

### **APPROVALS**

- Tested with matching air conditioners and heat pump units in the Lennox Research Laboratory environmental test room in accordance with AHRI Standard 210/240
- AHRI Certified system match-ups and expanded ratings, visit www.LennoxPros.com
- ETL Listed to US and Canadian safety standards and components within are bonded for grounding to meet safety standards for servicing required by NEC and CEC
- Optional electric heaters are ETL listed and rated in accordance with US Department of Energy (DOE) test procedures and Federal Trade Commission (FTC) labeling regulations
- · Blower performance data according to unit tests conducted in Lennox air test chamber
- Approved for installation in manufactured housing and mobile homes.
- ISO 9001 Registered Manufacturing Quality System

### WARRANTY

- All covered components
  - · Limited five years in residential applications
  - Limited one year in non-residential applications

**NOTE** - Refer to Lennox® Basic Limited Warranty at <a href="www.Lennox.com">www.Lennox.com</a> for additional details.

### **FEATURES**

### **APPLICATIONS**

- 1.5 to 5 ton nominal sizes
- · Upflow or horizontal applications

**NOTE** - Downflow applications require optional conversion kit.

- Applicable to R-410A expansion valve systems in cooling applications and check and expansion valve systems in heat pump applications
- Wide-range check and expansion valve is factory installed
- Optional field installed electric heaters available in several sizes for additive heating capacity

# REFRIGERANT SYSTEM

# 1 Quantum™ Coil

- Lennox designed and fabricated coil
- Enhanced aluminum alloy tube/enhanced fin coil for superior corrosion resistance
- · Aluminum tubing, hairpins, distributor and header tubes
- Ripple-edged aluminum fins
- Twin coil construction assembled in a "A" configuration for large surface area
- Provides excellent heat transfer and low air resistance for maximum efficiency
- Precise circuiting for uniform refrigerant distribution
- Lanced fins provide maximum exposure of fin surface to air stream
- Rifled tubing provides superior heat transfer
- Coil thoroughly factory tested under high pressure to ensure leakproof construction

# 2 Refrigerant Line Connections

- Copper refrigerant sweat connections on both liquid and suction lines for easy brazing
- Lines extend outside of the cabinet for ease of connection
- See dimension drawings for locations

# Braze-Free/Press Fitting Flexibility

 Units can accommodate braze-free or press fittings for installation versatility

# 3 Check and Expansion Valve

- For use with R-410A systems
- · Wide range valve with Chatleff style fitting
- · Factory installed on all models, internal to cabinet

### **BLOWER**

# Permanent Split Capacitor (PSC) Motor (018 Through 042 Models)

- · Multi-speed PSC motor
- · Choice of blower speeds
- Speed changes easily accomplished by a simple wiring change
- Blower is easily removed from unit for servicing

# Time Delay Blower Relay (PSC motors only)

 Relay allows one second blower "on" delay before continuous fan or cooling operation and 45 second blower "off" delay after continuous fan or cooling operation

# Constant Torque Blower Motor (048 and 060 Models)

- Programmable high efficiency multi-speed blower motor
- By maintaining constant torque output, blower motor can deliver more uniform (but not constant) airflow over the static pressure range
- Programmable multi-speed operation is achieved by the use of an ECM (Electronically Commutated Motor) motor
- Leadless blower motor features simple plug-in connections
- Choice of blower speeds is available

#### **FEATURES**

## **CABINET**



- 5 · Constructed of heavy gauge galvanized steel
  - Pre-painted cabinet finish
  - Completely insulated with foil faced fiberglass insulation
  - · Removable panels provide complete service access
  - Filter access door for easy filter replacement
  - Thumbscrews hold filter door in place
  - Electrical inlets provided in sides and top of cabinet
  - · See dimension drawing for locations
  - Plugs in cabinet for drain connections for upflow (left and right) and horizontal applications
  - · See dimension drawing

### Low Leakage Cabinet

 All models have less than 2% air leakage and meet ANSI/ASHRAE Standard 193-2010 "Method of Test for Determining the Air Tightness of HVAC Equipment"

## Upflow/Horizontal Capability (Optional Downflow)

- · Shipped for upflow and horizontal right-hand discharge
- May be field converted to horizontal left-hand air discharge by repositioning horizontal drain pan
- Optional downflow kit required for field conversion



# 6 Anti-Microbial Dual Position Drain Pans

- Anti-Microbial additive resists growth of mold and mildew on drain pan which improves indoor air quality and reduces drain line blockage
- Drain pans designed for upflow or horizontal applications
- Deep, corrosion resistant high temperature engineered polymer drain pans have dual pipe drains
- · See dimension drawing

## **Optional Accessories**

### **Downflow Conversion Kit**

- Required for field conversion to downflow position
- Kit consists of insulated downflow drain pan, insulated drain pan drip shields, coil drip shields, seal plates and support brackets for repositioning coil and drain pan

### Horizontal Support Frame Kit

- Provides support of unit in horizontal applications
- Consists of (2) 1 x 1-1/2 x 32-5/8 in. and (2) 1 x 3 x 53-7/8 in. painted heavy gauge cold rolled steel support channels with assembly and suspending holes
- Bolts and nuts furnished for field assembly
- · Suspending rods must be field provided

# Side Return Unit Stand (Upflow Only)

- Raises unit 16 in. above floor for side return air duct connection
- Eliminates need for wooden platform construction
- All aluminum construction
- Two adjustable frames fit all sizes

### Wall Hanging Bracket Kit (Upflow Only)

- · Allows unit to be hung on wall at any height
- Consists of heavy-gauge steel support brackets (one for air handler, one for wall mount)
- · Screws furnished for fastening one bracket to unit
- Bolts for fastening one bracket to wall are field provided

# High Performance Economizer (Commercial Applications Only)

- Designed for applications requiring outdoor air to be utilized in a commercial HVAC system
- Allows the entry of fresh outdoor air for free cooling, reducing the requirement for mechanical cooling
- Heavy gauge galvanized steel cabinet lined with thick fiberglass insulation
- Mixed air sensor, outdoor air sensor and 24VAC transformer furnished
- Approved for California Title 24 building standards
- · ASHRAE 90.1-2010 compliant
- See separate Product Specifications bulletin for additional information and available control and sensor options

### **FILTER**



- Disposable 1 inch filter is furnished
- Filter rack furnished in cabinet for easy filter installation
- See Specifications tables for filter sizes

#### **FEATURES**

# **CONTROLS**

# Transformer and Blower Cooling Relay

- 24 volt transformer and blower cooling relay furnished as standard
- Factory installed in the unit control box
- · Terminal strip furnished

### Optional Accessories

### M30 Smart Wi-Fi Thermostat

- Wi-Fi-enabled, electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat
- 4 Heat/2 Cool
- Auto-changeover
- · Dual-fuel control with optional outdoor sensor
- Controls dehumidification during cooling mode and humidification during heating mode



- Offers enhanced capabilities including humidification / dehumidification / dewpoint measurement and control, Humiditrol<sup>®</sup> control, and equipment maintenance reminders
- Easy to read 4.3 in. color touchscreen (measured diagonally)
- · LCD display with backlight shows the current and set temperature, time, inside relative humidity, system status (operating mode and schedules) and outside temperature (optional outdoor sensor required)
- Smooth Setback Recovery starts system early to achieve setpoint at start of program period
- Compressor short-cycle protection (5 minutes)
- Up to four separate schedules are available plus Schedule IQ™
- One-Touch Away Mode A quick and easy way to set the cooling and heating setpoints while away
- Smart Away<sup>™</sup> Uses geo-fencing technology to determine when the homeowner is within a predetermined distance from the home to operate the system when leaving, away and arriving
- · Wi-Fi remote monitoring and adjustment through a home wireless network for desktop PCs, laptops and apps for smartphones or tablets
- Smart home automation compatible with Amazon Alexa® and Google Assistant

**NOTE** - See the Lennox® M30 Smart Wi-Fi Thermostat Product Specifications bulletin in the Controls section for more information.

## Remote Outdoor Temperature Sensor

- Used with the Lennox® M30 Smart Thermostat
- Outdoor sensor allows thermostat to display outdoor temperature

**NOTE** - Sensor is required for the Enhanced Dehumidification Accessory (EDA).



### Thermostat

- · Thermostat is not furnished with unit
- See Lennox Price Book or LennoxPros for selection

# **OPTIONAL ELECTRIC HEAT**

- ETL listed
  - · Field install internal to unit cabinet
  - Available in several kW sizes
  - See Electric Heat tables
  - · Helix wound nichrome heating elements exposed directly in air stream resulting in instant heat transfer, low element temperatures and long service life
  - Each element equipped with accurately located limit control with fixed temperature off setting and automatic
  - Thermal sequencer relay brings elements on and off line, in sequence and equal increments, with time delay between each
  - Initiates and terminates blower operation
  - · Heating control relay(s) furnished as standard
  - Factory assembled with controls installed and wired
  - Electric heat control wiring plugs into mating connector on air handler unit

### Circuit Breaker (CB) Models

- All "CB" model heaters are equipped with circuit breakers for overload and short circuit protection
- Factory wired and mounted on electric heat unit
- Current sensitive and temperature actuated
- Manual reset
- Flexible plastic circuit breaker cover protects circuit breaker in areas with high humidity or unconditioned areas to prevent nuisance tripping
- · Circuit breakers qualify as disconnect means at unit in many areas, eliminate the need for field provided disconnect
- · Consult local electrical code in your area

## Optional Accessories

### Single-Point Power Source Control Box

- · Control Box may be used with optional electric heat when single power supply is connected to multi-circuit electric heat
- Field installs external to the unit cabinet on either side or
- · Constructed of heavy gauge steel, baked enamel finish, prepunched mounting holes, electrical inlet knockouts, and terminal strip
- · Removeable cover provides easy access
- Dimensions (H x W x D) 7 x 7 x 4 in

SPECIFICA	TIONS				
Size		018	024	030	036
Nominal Tonnag	je	1.5	2	2.5	3
Refrigerant Type	e	R-410A	R-410A	R-410A	R-410A
Connections	Liquid line (OD) sweat - in.	3/8	3/8	3/8	3/8
	Suction line (OD) sweat - in.	3/4	3/4	3/4	7/8
	Condensate drain (FPT) - in.	(2) 3/4	(2) 3/4	(2) 3/4	(2) 3/4
Indoor	Net face area - ft.2	3.30	3.77	4.72	5.66
Coil	Tube diameter - in.	3/8	3/8	3/8	3/8
	Rows	3	3	3	3
	Fins - in.	15	15	15	15
Blower	HP	1/5	1/3	1/2	1/3
	Wheel nominal diameter x width - in.	9 x 6	9 x 6	10 x 8	10 x 8
	Air volume range - cfm	420 - 920	203 - 1054	406 - 1341	422 - 1523
<sup>1</sup> Filters	Size - in.	15 x 20 x 1	15 x 20 x 1	15 x 20 x 1	18 x 20 x 1
Shipping Data -	lbs.	129	136	143	169
<b>ELECTRICA</b>	L DATA				
	Line voltage data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
<sup>2</sup> Maximum ove	rcurrent protection (MOCP) amps (unit)	15	15	15	15
	<sup>3</sup> Minimum circuit ampacity (MCA) (unit)	5.0	5.0	5.0	5.0
	Blower Motor Full Load Amps	1.1	1.6	2.2	2.0

Size		042	048	060
Nominal Tonnag	10	3.5	4	5
Refrigerant Type		R-410A	R-410A	R-410A
Connections	Liquid line (OD) sweat - in.	3/8	3/8	3/8
	Suction line (OD) sweat - in.	7/8	7/8	7/8
	Condensate drain (FPT) - in.	(2) 3/4	(2) 3/4	(2) 3/4
Indoor	Net face area - ft.²	5.66	6.13	7.08
Coil	Tube diameter - in.	3/8	3/8	3/8
	Rows	3	3	3
	Fins - in.	15	15	15
Blower	HP	3/4	1	1
	Wheel nominal diameter x width - in.	10 x 8	12 x 10	12 x 10
	Air volume range - cfm	568 - 1656	845 - 1899	687 - 2010
<sup>1</sup> Filters	Size - in.	18 x 20 x 1	18 x 20 x 1	18 x 20 x 1
Shipping Data -	lbs.	169	179	190
<b>ELECTRICA</b>	L DATA			
	Line voltage data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60
<sup>2</sup> Maximum overd	current protection (MOCP) amps (unit)	15	15	15
<sup>3</sup> N	Minimum circuit ampacity (MCA) (unit) [	5.0	9.5	9.5
	Blower Motor Full Load Amps	2.5	7.6	7.6

<sup>&</sup>lt;sup>1</sup> Disposable filter. <sup>2</sup> HACR type circuit breaker or fuse.

<sup>&</sup>lt;sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

OPTIONAL ACCESSORIES - ORDER SEPARATELY						
Model	-018	-024 -030	-036	-042 -048 -060		
M30 Smart Wi-Fi Thermostat	15Z69	15Z69	15Z69	15Z69		
Remote Outdoor Temperature Sensor	X2658	X2658	X2658	X2658		
Downflow Conversion Kit	Y9658	Y9658	Y9659	Y9659		
Electric Heat - See Electric Heat Data Tables		4 to 2	20 kW			
Horizontal Support Frame Kit	56J18	56J18	56J18	56J18		
Side Return Unit Stand (Upflow Only)	45K32	45K32	45K32	45K32		
Single-Point Power Source Control Box (for Electric Heat)	21H39	21H39	21H39	21H39		
Wall Hanging Bracket Kit (Upflow Only)	45K30	45K30	45K30	45K30		
High Performance Economizer (Commercial Only)	10U53	10U53	10U53	10U53		

### **CBA25UH-018 PERFORMANCE**

External Static	Air Volume / Watts at Various Blower Speeds								
Pressure	High		Med	lium	Lo	Low			
in. w.g.	cfm Watts		cfm	Watts	cfm	Watts			
0.10	920	264	690	190	540	144			
0.20	880	251	670	183	525	140			
0.30	855	238	640	176	505	136			
0.40	790	224	605	167	470	130			
0.50	710	210	550	155	420	122			

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

### **CBA25UH-024 PERFORMANCE**

External Static	Air Volume / Watts at Various Blower Speeds								
Pressure	High		Med	lium	Low				
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts			
0.10	1105	342	1010	280	675	210			
0.20	1045	322	980	262	675	202			
0.30	1000	307	940	247	655	192			
0.40	915	284	805	235	630	180			
0.50	855	268	740	216	590	170			

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

# **CBA25UH-030 PERFORMANCE**

External Static	Air Volume / Watts at Various Blower Speeds								
Pressure	Hi	gh	Med	lium	Low				
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts			
0.10	1310	496	1080	391	870	310			
0.20	1260	466	1055	378	870	301			
0.30	1215	449	1025	361	855	288			
0.40	1155	431	985	343	810	278			
0.50	1085	408	935	325	770	265			

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

### **CBA25UH-036 PERFORMANCE**

External Static		Air Volume / Watts at Various Blower Speeds						
Pressure	Hi	gh	Medium		Low			
in. w.g.	cfm Watts		cfm	Watts	cfm	Watts		
0.10	1560	532	1275	402	1020	295		
0.20	1520	518	1240	388	970	287		
0.30	1445	502	1190	375	955	280		
0.40	1395	480	1150	363	910	270		
0.50	1325	460	1085	346	805	254		

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

### **CBA25UH-042 PERFORMANCE**

External Static	Air Volume / Watts at Various Blower Speeds								
Pressure	Hi	gh	Med	lium	Low				
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts			
0.10	1815	674	1525	498	1300	394			
0.20	1755	652	1495	486	1275	387			
0.30	1695	634	1450	473	1250	376			
0.40	1605	607	1390	455	1210	367			
0.50	1530	582	1345	441	1155	356			

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

### **CBA25UH-048 PERFORMANCE**

External		Air Volume / Watts at Various Blower Speeds								
Static Pressure	Hi	gh	Mediu	m-High	Med	lium	Mediu	m-Low	Lo	ow
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.10	1899	512	1773	426	1733	395	1524	279	1277	187
0.20	1867	530	1741	443	1697	410	1480	295	1234	197
0.30	1837	544	1704	460	1661	424	1442	307	1190	208
0.40	1806	559	1678	472	1629	437	1400	321	1145	217
0.50	1775	574	1645	486	1597	449	1348	332	1099	229
0.60	1745	588	1612	500	1552	466	1323	344	1011	243
0.70	1710	604	1577	514	1519	478	1284	356	934	252
0.80	1680	616	1546	525	1482	491	1212	372	896	258
0.90	1644	632	1509	539	1451	502	1129	385	845	272

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

# **CBA25UH-060 PERFORMANCE**

External		Air Volume / Watts at Various Blower Speeds									
Static Pressure	Hi	gh	Mediu	m-High	Med	lium	Mediu	m-Low	Lo	ow	
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	
0.10	2010	630	1903	553	1826	496	1673	387	1147	144	
0.20	1976	642	1876	566	1791	512	1630	402	1085	155	
0.30	1947	656	1843	583	1762	525	1596	415	1035	164	
0.40	1912	672	1815	596	1732	538	1563	428	1006	171	
0.50	1883	683	1782	613	1704	551	1526	443	954	180	
0.60	1851	701	1750	627	1669	567	1495	455	825	194	
0.70	1821	715	1722	641	1637	582	1464	467	783	199	
0.80	1776	717	1691	655	1602	597	1436	477	739	208	
0.90	1745	722	1643	656	1583	604	1406	488	687	219	

NOTE - All air data measured external to unit with dry coil and 1 inch non-pleated air filter in place. Electric heaters have no appreciable air resistance.

INSTALLATION CLEARANCES WITH ELECTRIC HEAT							
Cabinet	0 inch (0 mm)						
To Plenum	0 inch (0 mm)						
To Outlet Duct within 3 feet (914 mm)	0 inch (0 mm)						
Floor 0 inch (0 mm) See Note #1							
Service / Maintenance See Note #2							

<sup>&</sup>lt;sup>1</sup> Units installed on combustible floors in the downflow position with electric heat do not require a downflow combustible flooring base.

NOTE - If cabinet depth is more than 24 inches (610 mm), allow a minimum of the cabinet depth plus 2 inches (51 mm).

 $<sup>^{\</sup>rm 2}$  Front service access - 24 inches (610 mm) minimum.

ELECT	RIC HEAT DATA	CBA25UH-018   SINGLE PHASE					
	Electric Heat Model Number		Input		Blower Motor Full Load	<sup>2</sup> Minimum Circuit	<sup>3</sup> Maximum Overcurrent
		Volt	kW	<sup>1</sup> Btuh	Amps	Ampacity	Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	1.1	19	4 20
	Terminal Block ECB45-4CB ( <b>27A12</b> )	220	3.4	11,450	1.1	20	4 20
	30A Circuit Breaker	230	3.7	12,550	1.1	21	<sup>4</sup> 25
		240	4.0	13,650	1.1	22	425
5 kW	ECB45-5 ( <b>27A09</b> )	208	3.6	12,300	1.1	23	425
	Terminal Block	220	4.0	13,800	1.1	24	4 2 5
	ECB45-5CB ( <b>27A13</b> ) 30A Circuit Breaker	230	4.4	15,000	1.1	25	425
		240	4.8	16,400	1.1	26	30
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	1.1	35	35
	Terminal Block	220	6.3	21,500	1.1	37	440
	ECB45-7.5CB ( <b>27A14</b> ) 45A Circuit Breaker	230	6.9	23,500	1.1	39	440
		240	7.5	25,600	1.1	40	440
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	1.1	45	<sup>4</sup> 45
	Terminal Block	220	8.0	27,500	1.1	47	4 50
	ECB45-10CB ( <b>27A15</b> ) 60A Circuit Breaker	230	8.8	30,000	1.1	49	4 50
		240	9.6	32,700	1.1	51	60

ELECT	RIC HEAT DATA	CBA25UH-024   SINGLE PHASE					
	Electric Heat Model Number		Input		Blower Motor Full Load	<sup>2</sup> Minimum Circuit	<sup>3</sup> Maximum Overcurrent
	model Hamber	Volt	kW	<sup>1</sup> Btuh	Amps	Ampacity	Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	1.6	20	4 20
	Terminal Block	220	3.4	11,450	1.6	21	<sup>4</sup> 25
	ECB45-4CB ( <b>27A12</b> ) 30A Circuit Breaker	230	3.7	12,550	1.6	22	<sup>4</sup> 25
		240	4.0	13,650	1.6	23	<sup>4</sup> 25
5 kW	ECB45-5 ( <b>27A09</b> ) Terminal Block ECB45-5CB ( <b>27A13</b> ) 30A Circuit Breaker	208	3.6	12,300	1.6	24	<sup>4</sup> 25
		220	4.0	13,800	1.6	25	425
		230	4.4	15,000	1.6	26	30
		240	4.8	16,400	1.6	27	30
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	1.6	36	440
	Terminal Block	220	6.3	21,500	1.6	38	440
	ECB45-7.5CB ( <b>27A14</b> ) 45A Circuit Breaker	230	6.9	23,500	1.6	39	440
		240	7.5	25,600	1.6	41	45
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	1.6	45	<sup>4</sup> 45
	Terminal Block	220	8.0	27,500	1.6	48	4 50
	ECB45-10CB ( <b>27A15</b> ) 60A Circuit Breaker	230	8.8	30,000	1.6	50	4 50
		240	9.6	32,700	1.6	52	60

<sup>&</sup>lt;sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

<sup>&</sup>lt;sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>&</sup>lt;sup>3</sup> HACR type breaker or fuse.

<sup>&</sup>lt;sup>4</sup> Bold indicates that the circuit breaker on "CB" circuit breaker models must be replaced with size shown. See table on page 15.

ELECTRIC HEAT DATA CBA25UH-030   SINGLE PHASE											
	Electric Heat	Input			Blower Motor	Cir	imum cuit acity	<sup>3</sup> Maximum Overcurrent Protection		Single Point Power Source	
	Model Number	Volt	kW	<sup>1</sup> Btuh	Full Load Amps	Ckt 1	Ckt 2	Ckt 1	Ckt 2	<sup>2</sup> Minimum Circuit Ampacity	3 Maximum Overcurrent Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	2.2	21		425			
	Terminal Block ECB45-4CB ( <b>27A12</b> )	220	3.4	11,450	2.2	22		425			
	30A Circuit Breake		3.7	12,550	2.2	23		425			
		240	4.0	13,650	2.2	24		425			
5 kW	ECB45-5 ( <b>27A09</b> )	208	3.6	12,300	2.2	24		4 2 5			
	Terminal Block ECB45-5CB ( <b>27A13</b> )	220	4.0	13,800	2.2	26		30			
	30A Circuit Breaker		4.4	15,000	2.2	27		30			
			4.8	16,400	2.2	28		30			
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	2.2	37		440			
	Terminal Block ECB45-7.5CB ( <b>27A14</b> ) 45A Circuit Breaker		6.3	21,500	2.2	39		440			
			6.9	23,500	2.2	40		440			
		240	7.5	25,600	2.2	42		45			
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	2.2	46		4 50			
	Terminal Block ECB45-10CB ( <b>27A15</b> )	220	8.0	27,500	2.2	49		4 50			
	60A Circuit Breaker	230	8.8	30,000	2.2	51		60			
		240	9.6	32,700	2.2	53		60			
12.5 kW	ECB45-12.5CB ( <b>27A16</b> )	208	9.4	32,000	2.2	40	19	440	420	59	60
	(1) 50A and (1) 25A Circuit Breaker	220	10.5	35,800	2.2	43	20	<sup>4</sup> 45	420	62	70
		230	11.5	39,200	2.2	44	21	<sup>4</sup> 45	25	65	70
		240	12.5	42,600	2.2	46	22	50	25	68	70
15 kW	ECB45-15CB ( <b>27A17</b> )	208	10.8	36,900	2.2	46	22	4 50	25	68	70
	(1) 60A and (1) 25A Circuit Breaker	220	12.1	41,300	2.2	49	23	4 50	25	72	80
	(1) 20/1 0/10/11 2/10/110		13.2	45,100	2.2	51	24	60	25	75	80
		240	14.4	49,100	2.2	53	25	60	25	78	80

<sup>&</sup>lt;sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

<sup>&</sup>lt;sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>&</sup>lt;sup>3</sup> HACR type breaker or fuse.

<sup>&</sup>lt;sup>4</sup> Bold indicates that the circuit breaker on "CB" circuit breaker models must be replaced with size shown. See table on page 15.

ELECTRIC HEAT DATA CBA25UH-036   SINGLE PHAS											E PHASE
	Electric Heat		Inpu	ıt	Blower Motor	Cir	imum cuit acity	Overc	imum urrent ection	Single Point Power Source	
	Model Number	Volt	kW	<sup>1</sup> Btuh	Full Load Amps	Ckt 1	Ckt 2	Ckt 1	Ckt 2	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	2.0	21		425			
	Terminal Block ECB45-4CB ( <b>27A12</b> )	220	3.4	11,450	2.0	22		425			
	30A Circuit Breaker	230	3.7	12,550	2.0	22		425			
		240	4.0	13,650	2.0	23		425			
5 kW	ECB45-5 ( <b>27A09</b> )	208	3.6	12,300	2.0	24		4 2 5			
	Terminal Block ECB45-5CB ( <b>27A13</b> )	220	4.0	13,800	2.0	25		425			
	30A Circuit Breaker	230	4.4	15,000	2.0	26		30			
			4.8	16,400	2.0	28		30			
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	2.0	36		440			
	Terminal Block ECB45-7.5CB ( <b>27A14</b> ) 45A Circuit Breaker		6.3	21,500	2.0	38		440			
			6.9	23,500	2.0	40		440			
		240	7.5	25,600	2.0	42		45			
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	2.0	46		4 50			
	Terminal Block ECB45-10CB ( <b>27A15</b> )	220	8.0	27,500	2.0	48		4 50			
	60A Circuit Breaker	230	8.8	30,000	2.0	50		4 50			
		240	9.6	32,700	2.0	53		60			
12.5 kW	ECB45-12.5CB ( <b>27A16</b> )	208	9.4	32,000	2.0	40	19	440	420	59	60
	(1) 50A and (1) 25A Circuit Breaker	220	10.5	35,800	2.0	42	20	445	420	62	70
		230	11.5	39,200	2.0	44	21	445	25	65	70
		240	12.5	42,600	2.0	46	22	50	25	68	70
15 kW	ECB45-15CB ( <b>27A17</b> )	208	10.8	36,900	2.0	46	22	4 50	25	68	70
	(1) 60A and (1) 25A Circuit Breaker	220	12.1	41,300	2.0	48	23	4 50	25	71	80
	(1) 20/1 Girean Breaker		13.2	45,100	2.0	50	24	4 50	25	74	80
		240	14.4	49,100	2.0	53	25	60	25	78	80

<sup>&</sup>lt;sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

<sup>&</sup>lt;sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>&</sup>lt;sup>3</sup> HACR type breaker or fuse.

<sup>&</sup>lt;sup>4</sup> Bold indicates that the circuit breaker on "CB" circuit breaker models must be replaced with size shown. See table on page 15.

# **ELECTRIC HEAT DATA**

# CBA25UH-042 | SINGLE PHASE

	Electric Heat				Blower Motor	Cir	imum cuit acity	3 Maximum Overcurrent Protection		Single Point Power Source	
	Model Number	Volt	kW	<sup>1</sup> Btuh	Full Load Amps	Ckt 1	Ckt 2	Ckt 1	Ckt 2	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	2.5	21		<sup>4</sup> 25			
	Terminal Block ECB45-4CB ( <b>27A12</b> )	220	3.4	11,450	2.5	22		<sup>4</sup> 25			
	30A Circuit Breaker		3.7	12,550	2.5	23		<sup>4</sup> 25			
		240	4.0	13,650	2.5	24		<sup>4</sup> 25			
5 kW	ECB45-5 ( <b>27A09</b> )	208	3.6	12,300	2.5	25		<sup>4</sup> 25			
	Terminal Block ECB45-5CB ( <b>27A13</b> )	220	4.0	13,800	2.5	26		30			
	30A Circuit Breaker	230	4.4	15,000	2.5	27		30			
		240	4.8	16,400	2.5	28		30			
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	2.5	37		440			
	Terminal Block ECB45-7.5CB ( <b>27A14</b> ) 45A Circuit Breaker	220	6.3	21,500	2.5	39		440			
		230	6.9	23,500	2.5	41		45			
		240	7.5	25,600	2.5	42		45			
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	2.5	46		<sup>4</sup> 50			
	Terminal Block ECB45-10CB ( <b>27A15</b> )	220	8.0	27,500	2.5	49		<sup>4</sup> 50			
	60A Circuit Breaker	230	8.8	30,000	2.5	51		60			
		240	9.6	32,700	2.5	53		60			
12.5 kW	ECB45-12.5CB ( <b>27A16</b> )	208	9.4	32,000	2.5	41	19	445	420	60	60
	(1) 50A and (1) 25A Circuit Breaker	220	10.5	35,800	2.5	43	20	445	420	63	70
		230	11.5	39,200	2.5	45	21	445	25	66	70
		240	12.5	42,600	2.5	47	22	50	25	68	70
15 kW	ECB45-15CB ( <b>27A17</b> )	208	10.8	36,900	2.5	46	22	<sup>4</sup> 50	25	68	70
	(1) 60A and (1) 25A Circuit Breaker	220	12.1	41,300	2.5	49	23	<sup>4</sup> 50	25	72	80
		230	13.2	45,100	2.5	51	24	60	25	75	80
		240	14.4	49,100	2.5	53	25	60	25	78	80

<sup>&</sup>lt;sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

<sup>&</sup>lt;sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>&</sup>lt;sup>3</sup> HACR type breaker or fuse.

<sup>&</sup>lt;sup>4</sup> Bold indicates that the circuit breaker on "CB" circuit breaker models must be replaced with size shown. See table on page 15.

ELECTRIC HEAT DATA CBA25UH-048   CBA25UH-060   SINGLE P										E PHASE	
	Electric Heat		Inpu	ıt	Blower Motor	Cir	imum cuit acity	Overc	imum urrent ection	Single Point Power Source	
	Model Number	Volt	kW	<sup>1</sup> Btuh	Full Load Amps	Ckt 1	Ckt 2	Ckt 1	Ckt 2	<sup>2</sup> Minimum Circuit Ampacity	3 Maximum Overcurrent Protection
4 kW	ECB45-4 ( <b>27A08</b> )	208	3.0	10,250	7.6	28		30			
	Terminal Bloc ECB45-4CB ( <b>27A12</b>		3.4	11,450	7.6	29		30			
	30A Circuit Breaker	230	3.7	12,550	7.6	29		30			
		240	4.0	13,650	7.6	30		30			
5 kW	ECB45-5 ( <b>27A09</b> )	208	3.6	12,300	7.6	31		4 3 5			
	Terminal Block ECB45-5CB ( <b>27A13</b> )	220	4.0	13,800	7.6	32		4 35			
	30A Circuit Breaker	230	4.4	15,000	7.6	33		4 35			
		240	4.8	16,400	7.6	35		435			
7.5 kW	ECB45-7.5 ( <b>27A10</b> )	208	5.6	19,200	7.6	43		45			
	Terminal Block ECB45-7.5CB ( <b>27A14</b> )	220	6.3	21,500	7.6	45		45			
	45A Circuit Breaker	230	6.9	23,500	7.6	47		4 50			
		240	7.5	25,600	7.6	49		4 50			
10 kW	ECB45-10 ( <b>27A11</b> )	208	7.2	24,600	7.6	53		60			
	Terminal Block ECB45-10CB ( <b>27A15</b> )	220	8.0	27,500	7.6	55		60			
	60A Circuit Breaker	230	8.8	30,000	7.6	57		60			
		240	9.6	32,700	7.6	60		60			
12.5 kW	ECB45-12.5CB ( <b>27A16</b> )	208	9.4	32,000	7.6	47	19	50	420	66	70
	(1) 50A and (1) 25A Circuit Breaker	220	10.5	35,800	7.6	49	20	50	420	69	70
	(1) 23A Circuit Breaker	230	11.5	39,200	7.6	51	21	460	25	72	80
		240	12.5	42,600	7.6	53	22	460	25	75	80
15 kW	ECB45-15CB ( <b>27A17</b> )	208	10.8	36,900	7.6	53	22	60	25	75	80
	(1) 60A and (1) 25A Circuit Breaker	220	12.1	41,300	7.6	55	23	60	25	78	80
	(1) 23A GIICUIT BIEAKEI	230	13.2	45,100	7.6	57	24	60	25	81	90
		240	14.4	49,100	7.6	60	25	60	25	85	90
20 kW	ECB45-20CB ( <b>27A18</b> )	208	14.4	49,200	7.6	53	43	60	<sup>4</sup> 45	96	100
	(1) 60A and (1) 50A Circuit Breaker	220	16.1	55,000	7.6	55	46	60	50	101	110
	(1) JUA CIICUIL DIEAKEI	230	17.6	60,100	7.6	57	48	60	50	105	110
		240	19.2	65,500	7.6	60	50	60	50	110	110

<sup>&</sup>lt;sup>4</sup> Bold indicates that the circuit breaker on "CB" circuit breaker models must be replaced with size shown. See table on page 15.

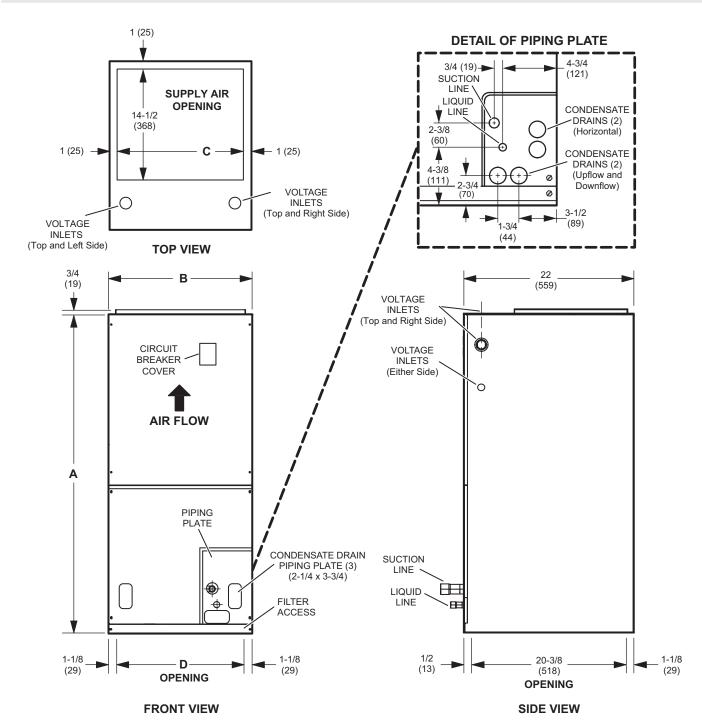
REPLACEMENT CIRCUIT BREAKERS										
Voltage Description Catalog No.										
208/240V - 1 Phase	25 amp, 2 pole	41K13								
	30 amp, 2 pole	17K70								
	35 amp, 2 pole	72K07								
	40 amp, 2 pole	49K14								
	45 amp, 2 pole	17K71								
	50 amp, 2 pole	41K12								
	60 amp, 2 pole	17K72								

<sup>&</sup>lt;sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

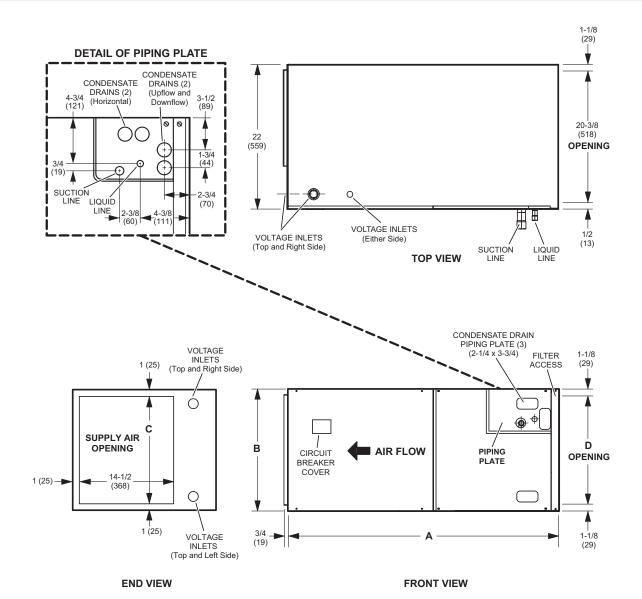
<sup>&</sup>lt;sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>&</sup>lt;sup>3</sup> HACR type breaker or fuse.

DIMENSIONS - UNIT UPFLOW POSITION

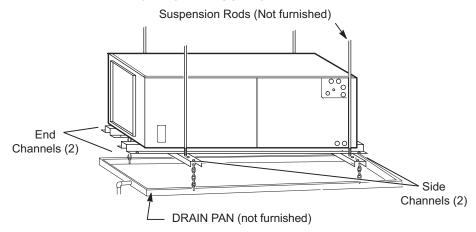


Dimensions	018		024		030		036, 042		048		060	
Dimensions	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
Α	43-1/2	1105	45-1/2	1156	47	1194	53-5/8	1362	55	1397	59-3/4	1518
В	18-1/2	470	18-1/2	470	18-1/2	470	21-1/2	546	21-1/2	546	21-1/2	546
С	16-1/2	419	16-1/2	419	16-1/2	419	19-1/2	495	19-1/2	495	19-1/2	495
D	16-1/4	413	16-1/4	413	16-1/4	413	19-1/4	489	19-1/4	489	19-1/4	489



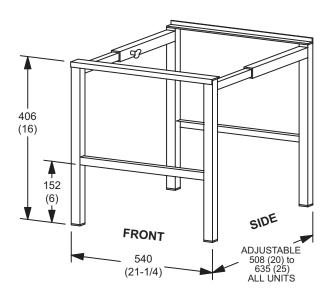
Dimensions	018		024		030		036, 042		048		060	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
Α	43-1/2	1105	45-1/2	1156	47	1194	53-5/8	1362	55	1397	59-3/4	1518
В	18-1/2	470	18-1/2	470	18-1/2	470	21-1/2	546	21-1/2	546	21-1/2	546
С	16-1/2	419	16-1/2	419	16-1/2	419	19-1/2	495	19-1/2	495	19-1/2	495
D	16-1/4	413	16-1/4	413	16-1/4	413	19-1/4	489	19-1/4	489	19-1/4	489

# HORIZONTAL SUPPORT FRAME KIT



Includes (2) 1 x 1-1/2 x 32-5/8 in. side channels and (2) 1 x 3 x 53-7/8 in. end channels.

# SIDE RETURN UNIT STAND (Upflow Only)







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