

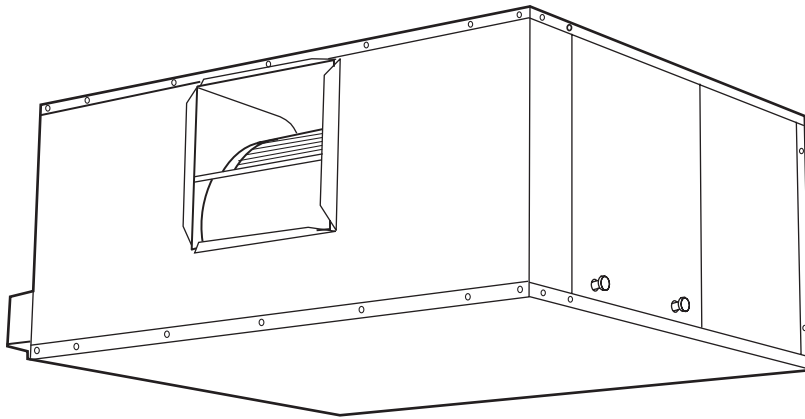


## Product Data

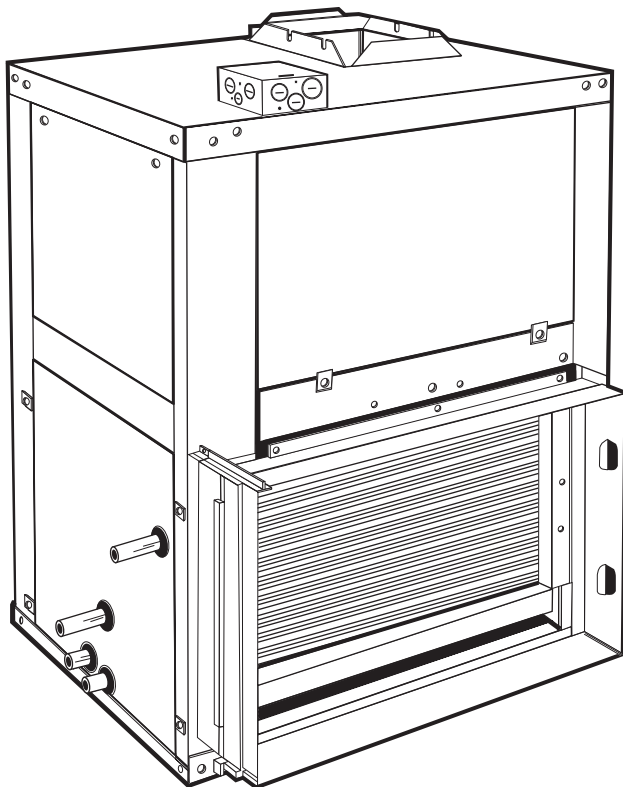
# AIRSTREAM™ 42BHC, BVC System Fan Coils

600 to 4000 Cfm

# AIRSTREAM™



42BHC UNIT



42BVC UNIT

Carrier's versatile belted fan coil units satisfy design requirements:

- A selection of 8 sizes covers capacities from 600 to 4000 cfm
- Choice of motors, from 1/4 to 5 hp, eliminates oversizing
- Wide range of coil options for 2-pipe or 4-pipe systems
- Optional DX coils with expansion valve and distributor
- Single and three-phase electric heat (1.0 to 40 kW)

## Features/Benefits

**The 42BHC, BVC belt drive fan coil units provide year-round comfort air conditioning with central station operating economy.**

**A variety of coil options reduces first cost**

Four, 6 or 8-row cooling coils combine needed capacities with the most efficient heat transfer surface. For 4-pipe systems, select either of two split-coil options. Coils consist of aluminum fins securely bonded to 1/2-in. OD seamless copper tubes. Each fin's aluminum collar ensures accurate control of the fin spacing, while completely covering the tubes to lengthen coil life. All coils also feature manual air vents, with automatic air vent available as an option.



### Fan wheels are designed to provide low operating costs

The forward-curved, centrifugal, double-inlet fans are statically and dynamically balanced at the factory to minimize transmission of vibration to the building structure.

The belt-driven motor (single or three phase) has a variable-pitch pulley which adjusts at the jobsite to accommodate limited ranges of air quantities and pressures.

All motors (single and three phase) are UL listed, factory wired, single speed with thermal overload protection and are continuous duty rated. Motors are supplied with permanently lubricated bearings, class-B insulation and are open drip-proof. The motor mount has an adjustable platform for easy belt adjustment. The motor and its mounting are independently isolated from the cabinet and the blower. An adjustable pitch pulley allows cfm balancing to meet system requirements. Motor drive packages are provided with keyed pulleys.

### Complete factory assembly minimizes on-the-jobsite costs and problems

Compact, lightweight units are designed for easy mounting. Knockouts designed to accept 3/8-in. threaded rods are

provided on the top and bottom of each corner of the unit. One-in. duct collars on discharge and on return are furnished standard. These integral duct collars cut installation time and labor expense.

### Durable construction means easy-to-maintain units

The 42BHC,BVC fan coils casings are fabricated from heavy-gage galvanized G90 steel, reinforced for maximum rigidity and structural strength. Removable side panels with tool-less camlock fasteners allow easy access for servicing interior components.

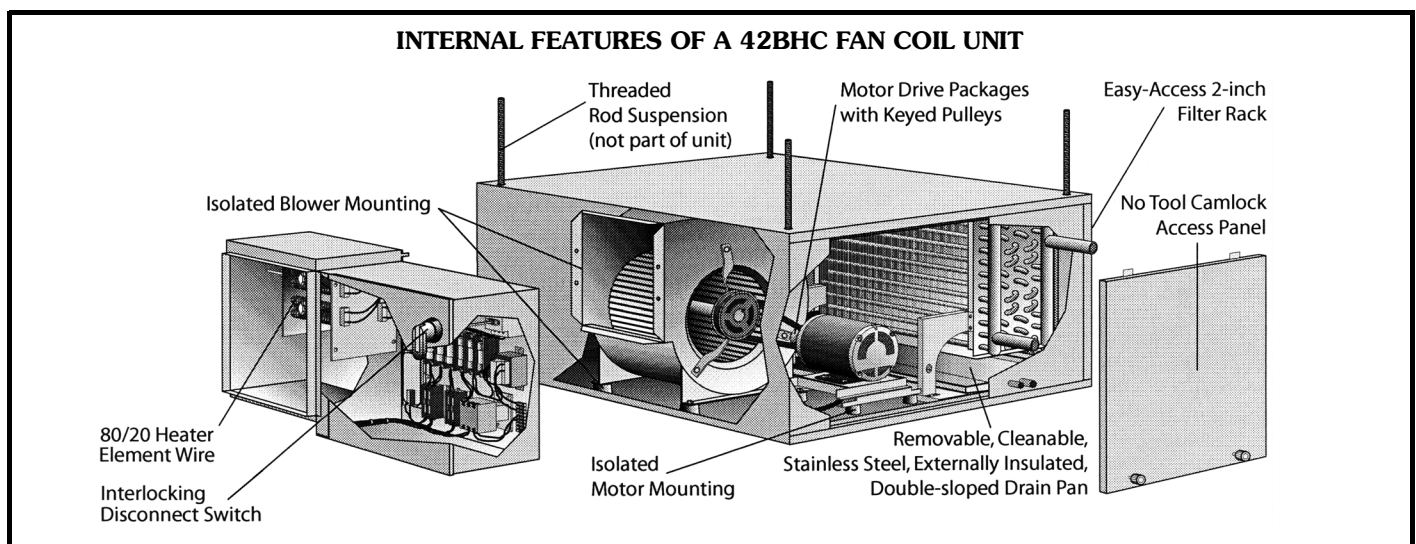
One-inch matte surface, fiberglass thermal/acoustical insulation lines the fan coil cabinets to prevent sweating and to muffle sound transmission.

The stainless steel, double-sloped condensate drain pan extends under full coil surface to cut maintenance costs.

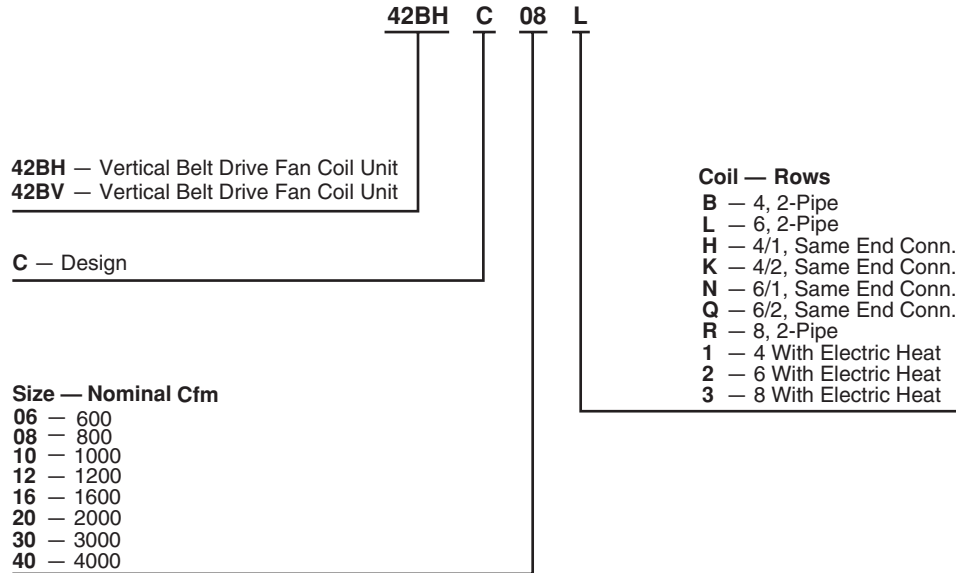
Slide-in return-duct collar filter makes it possible to remove and replace the filter without disturbing return air ductwork.

## Table of contents

	Page
Features/Benefits . . . . .	1,2
Model Number Nomenclature . . . . .	3
Physical Data . . . . .	3
Options and Accessories . . . . .	4,5
Base Unit Dimensions . . . . .	6-13
Accessory Dimensions . . . . .	14-18
Application Data . . . . .	19-21
Selection Procedure . . . . .	22
Performance Data . . . . .	23-33
Typical Wiring Schematics . . . . .	34-36
Electrical Data . . . . .	37
Controls . . . . .	38
Guide Specifications . . . . .	39,40



# Model number nomenclature



NOTE: Refer to current 42 Series Master Prices for complete model definition, including motor, cfm and total static pressure.

## Physical data

UNIT SIZE 42BHC, BVC	06	08	10	12	16	20	30	40
<b>NOMINAL CFM</b>	600	800	1000	1200	1600	2000	3000	4000
<b>42BHC SHIPPING WT (lb)</b> (no heat/ with heat)	203/234	205/236	253/287	256/290	312/346	344/380	437/474	553/590
<b>42BVC SHIPPING WT (lb)</b> (no heat/ with heat)	200/231	202/233	243/277	247/281	289/323	351/387	436/473	522/559
<b>FILTERS (2 in. pleated)</b> Number...Size (in.) Face Area (sq ft)	1...16 <sup>1</sup> / <sub>2</sub> x 24 2.8	1...16 <sup>1</sup> / <sub>2</sub> x 24 2.8	1...18 <sup>1</sup> / <sub>4</sub> x 33 4.2	1...18 <sup>1</sup> / <sub>4</sub> x 33 4.2	2...18 <sup>1</sup> / <sub>4</sub> x 21 <sup>1</sup> / <sub>2</sub> 5.5	2...20 <sup>3</sup> / <sub>4</sub> x 22 6.3	2...29 x 22 8.9	2...29 x 29 11.7
<b>COILS</b> Size (in.) Face Area (sq ft) Fins per inch Coil Water Weight (approx. lb per row of coil)	15 x 20 2.1	15 x 20 2.1	15 x 29 3.0	15 x 29 3.0	15 x 39 4.1	18 x 40 4.9	27 x 40 7.7	27 x 54 10.3
<b>FANS</b> Number...Size (in.)	1...9 x 4	1...9 x 6	1...10 x 4	1...10 x 7	1...11 x 10	1...12 x 9	1...12 x 12	1...15 x 12
<b>COPPER COIL CONN. 8 ROW (in.) (Cooling)</b>	1 OD						1 <sup>1</sup> / <sub>2</sub> OD	
<b>COPPER COIL CONN. 4 AND 6 ROW (in.) (Cooling)</b>	<sup>3</sup> / <sub>4</sub> OD				1 OD		1 <sup>1</sup> / <sub>2</sub> OD	
<b>COPPER COIL CONN. 1 AND 2 ROW (in.) (Heating)</b>	1/2 OD							
<b>DRAIN CONN. SIZES (in.)</b>	<sup>3</sup> / <sub>4</sub> MPT							

# Options and accessories



## 42BHC, BVC OPTIONS AND ACCESSORIES

ITEM	OPTION*	ACCESSORY†
Automatic Air Vents	X	
Controls	X	
Electric Heat	X	
Filters	X	
Heating/Cooling Coils	X	
Insulation	X	
Mixing Boxes		X
Motors	X	
Thermostats		X
Valve Packages		X

\*Factory-installed option.  
†Field-installed accessory.

The 42BHC and 42BVC fan coil units are designed to offer maximum flexibility in an application, accessibility for service, quiet operation and durability.

### Factory-installed options

**Automatic air vents** — Automatic air vents have fiber-washers, which allow air in the pipes to pass through, automatically bleeding the system. The fiber washers eliminate the need to manually remove air from the system. When wet, washers swell and seal the system.

**Coils** — Coils are available in a choice of two-pipe system with 4-row cooling/heating or four-pipe system with 4, 6 or 8-row cooling and 1 or 2 row heating.

Reheat operation is standard. Preheat is available as an option.

### Controls

- Interlocking disconnect switch
- Heater power fusing
- 24 v Class 2 transformer (40 va)
- 8-pole control terminal strip
- Auto reset temperature limit switch
- Airflow safety switch
- Motor power fusing
- Motor control contactor
- 24 v condensate overflow switch

**Electric heat** — Total electric heat eliminates the requirement for a boiler. Heating and/or cooling may be available on an individual basis throughout the year. Resistance electric heat is available from 1.0 kW to 40.0 kW (refer to

electric heater data table for availability per unit) with single-stage or multiple-stage, single power source.

Voltages:

- 115 v, 208 v, 230 v and 277 v single-phase 60 Hz
- 208 v, 230 v and 480 v three-phase 60 Hz

Electric heat is available with the following staging options (3-phase staging is balanced).

- 1 to 12 kW 1 stage only — single phase
- 3 to 12 kW 1 or 2 stage only — single phase
- 1 to 40 kW 1 stage only — 3 phase
- 4 to 40 kW 1 or 2 stage only — 3 phase
- 12 to 40 kW 1, 2, or 3 stage — 3 phase

Heater coils are constructed of high-grade resistance wire that is supported by ceramic insulators on plated steel brackets. These heat elements are suspended directly in front of the outlet after the blower and the coil. High limit thermal cutouts protect the heater in the event of air failure.

**Filters** — Two in. pleated filters are standard. One-in. pleated, two 1-in. throwaway, or 2-in. MERV (minimum efficiency reporting value) 11 filters with 2-in. pleated pre-filter are available. The 2-in. MERV 11 filters with 2-in. pleated pre-filter include a filter rack.

**Insulation** — Tuf-Skin™ II (1-in. thick) insulation is standard. Units are available with ¾-in. closed cell, 1-in. Tuf-Skin Rx™ edge sealed, or 1-in. foil-faced insulation.

**Motors** — A wide selection of standard motors provides efficient operation in ducted applications with excellent performance with up to 2 inches of total static pressure.

Available motor options:

- 115 v, 208 v, 230 v and 277 v single-phase 60 Hz
- 208 v, 230 v and 460 v three-phase 60 Hz
- Open drip-proof motors
- External junction box

### Field-installed accessories

**Mixing boxes** — Mixing boxes can be used when outside air is required for ventilation. Preassembled at the factory and shipped separately with base rails for field installation, mixing boxes include a linkage kit consisting of two crank arms, 2 swivels and either a 25 in. long (for sizes 06-16) or a 84 in. long (for sizes 20-40) rod for field installation of an actuator.



**Thermostats** — Three thermostats are available for field installation:

Honeywell T834C manual changeover, single-stage heat thermostat features:

- off-cool-heat system switch
- on-auto fan mode switch
- single-stage electric heat
- outside air signal

Honeywell T8500 digital, automatic/manual changeover, 2-stage heat thermostat features:

- digital display of temperatures and all functions
- off-cool-heat-auto system mode buttons
- single speed fan operation
- on-auto fan mode button
- single or two stage electric heat signal
- outside air signal
- remote temperature sensor available

Sunne T170 single-stage heat, 2-pipe heat/cool auto changeover thermostat features:

- digital display of ambient temperature and operating mode
- single fan speed operation, power and operating mode buttons
- continuous fan operation, cycling water control valve
- 4-pipe ACO/MCO (automatic changeover/manual changeover) with “on-auto” fan mode button
- one or 2 stage electric heat signal available
- purge cycle and temperature sensor for 2-pipe cold water/hot water systems

- programmable operating range, dead band, digital display, temperature set-back

**THERMOSTAT FUNCTIONS**

SYSTEM	FUNCTION	CHANGEOVER	THERMOSTATS		
			Honeywell T834C	Honeywell T8500	Sunne T170
2 Pipe	HW-Heat Only	ACO	—	X	X
2 Pipe	CW-Cool Only	ACO	—	X	X
2 Pipe	CW/HW Heat/Cool	MCO	—	—	X
		ACO	—	—	X
2 Pipe	CW/HW Heat/Cool with Aux. Electric Heat	MCO	—	—	X
		ACO	—	—	X
2 Pipe	CW-Cooling with Total Electric Heat	MCO	X	X	X
		ACO	—	X	X
4 Pipe	CW/HW Heat/Cool	MCO	X	X	X
		ACO	—	X	X

**LEGEND**

- ACO** — Automatic Changeover
- Aux** — Auxiliary
- CW** — Chilled Water
- HW** — Hot Water
- MCO** — Manual Changeover

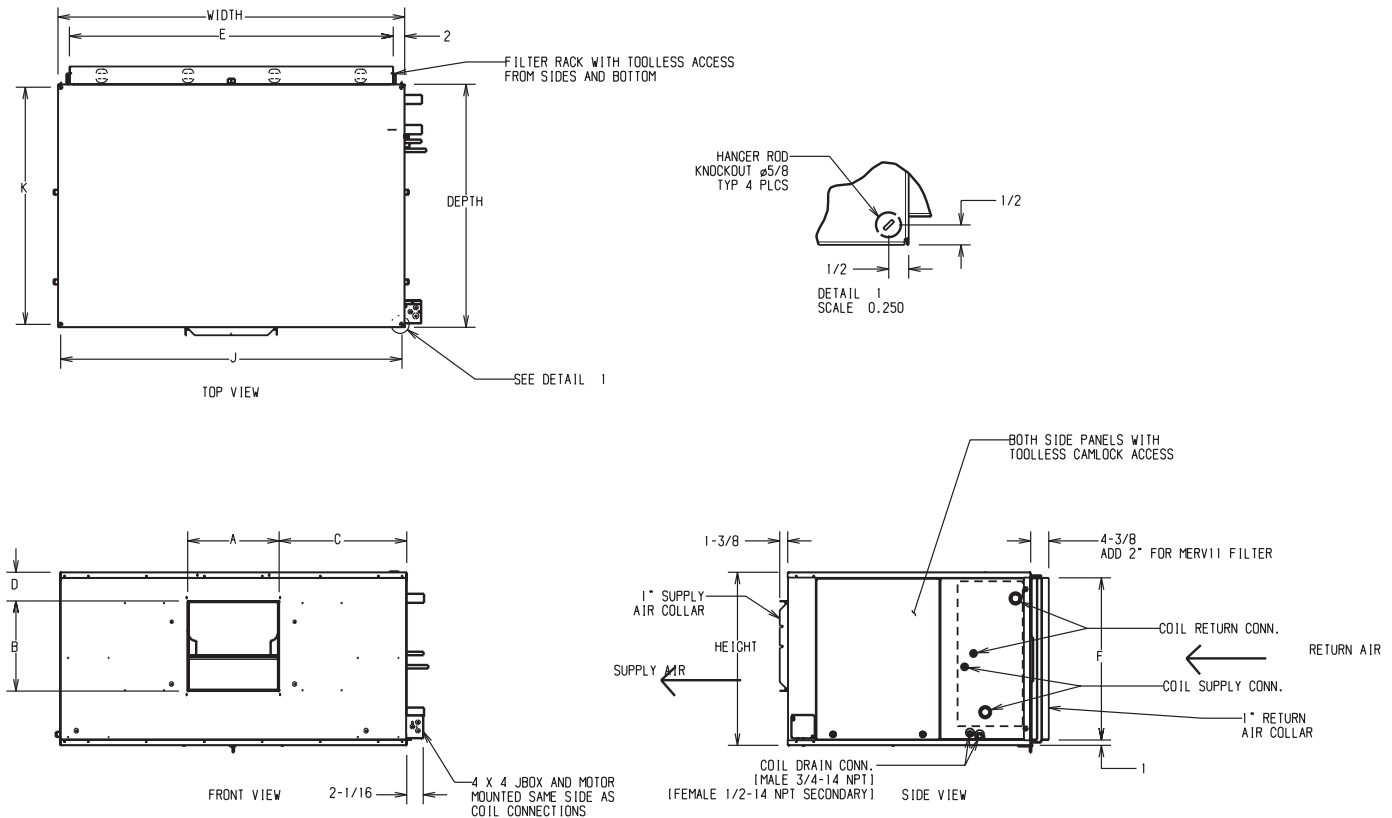
**Valve packages** — Valve packages are factory assembled for field installation. Motorized valves (24 v) can be operated with power on with spring return or power off/power on.

It is recommended that basic motor controls are ordered when valve packages are ordered.

# Base unit dimensions



## 42BHC FAN COIL BASE UNIT (NO CONTROLS)

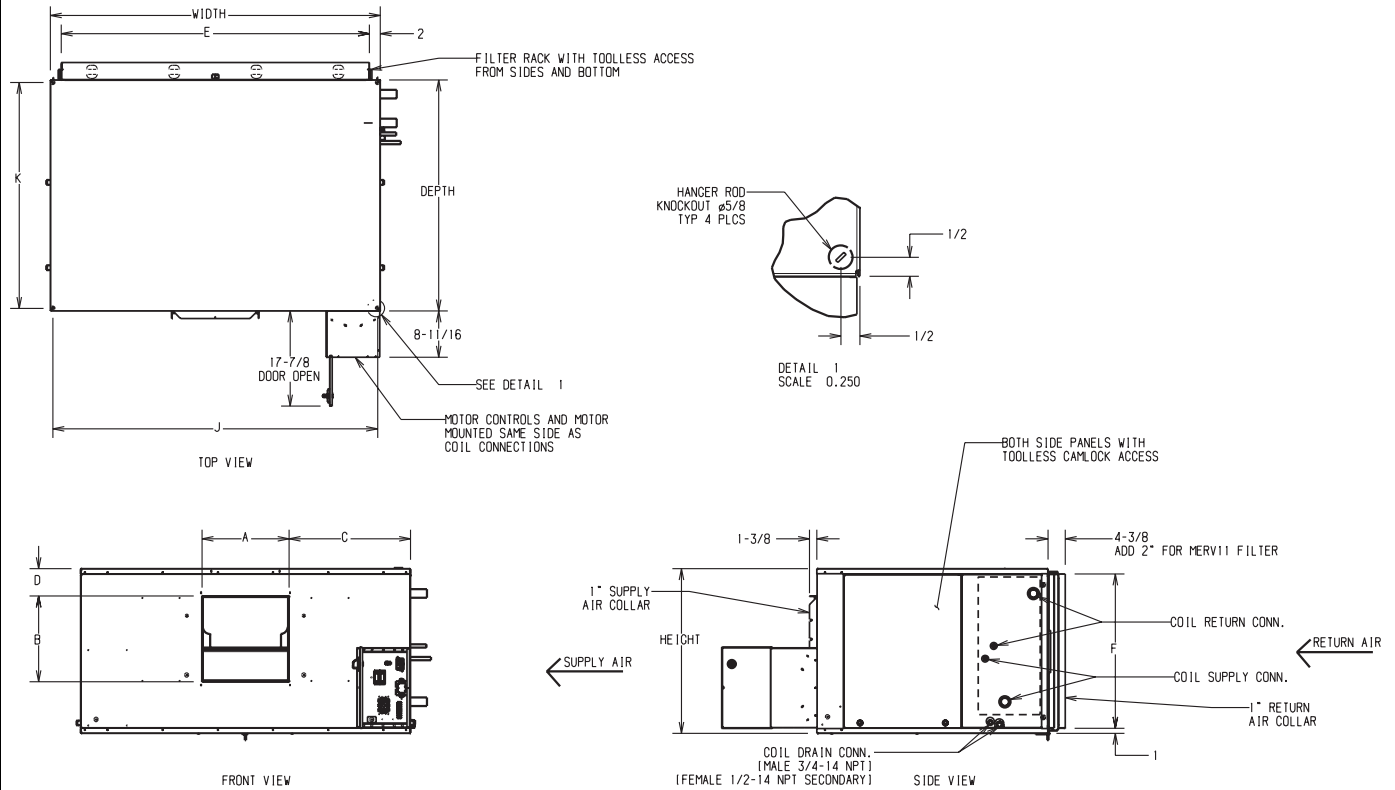


UNIT 42BHC	DIMENSIONS (in.)											
	Fan Size	Depth	Width	Height	Supply Duct				Return Duct		Mounting Holes	
					A	B	C	D	E	F	J	K
06	9 x 4	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
08	9 x 6	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	8 <sup>9</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
10	10 x 4	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
12	10 x 7	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	9 <sup>15</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
16	11 x 10	37 <sup>15</sup> / <sub>16</sub>	47 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	13 <sup>5</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	16 <sup>13</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>16</sub>	37
20	12 x 9	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	20 <sup>11</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
30	12 x 12	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	31	15 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
40	15 x 12	43 <sup>9</sup> / <sub>16</sub>	62 <sup>1</sup> / <sub>16</sub>	31	16 <sup>7</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	22 <sup>13</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	58 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	61 <sup>3</sup> / <sub>16</sub>	42 <sup>5</sup> / <sub>8</sub>

**NOTES:**

1. All dimensions are in inches ( $\pm 1/4$  in.).
2. Any modifications to product specifications by any person are subject to acceptance of the factory. Product specifications are subject to change without notice.
3. Right hand shown, left hand opposite.
4. Hanger rods, which are field-supplied, are shown for reference only.

### 42BHC FAN COIL WITH MOTOR CONTROL OPTION



UNIT 42BHC	DIMENSIONS (in.)											
	Fan Size	Depth	Width	Height	Supply Duct				Return Duct		Mounting Holes	
					A	B	C	D	E	F	J	K
06	9 x 4	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
08	9 x 6	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	8 <sup>9</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
10	10 x 4	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
12	10 x 7	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	9 <sup>15</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
16	11 x 10	37 <sup>15</sup> / <sub>16</sub>	47 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	13 <sup>9</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	16 <sup>13</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>16</sub>	37
20	12 x 9	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	20 <sup>11</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
30	12 x 12	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	31	15 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
40	15 x 12	43 <sup>9</sup> / <sub>16</sub>	62 <sup>1</sup> / <sub>16</sub>	31	16 <sup>7</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	22 <sup>13</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	58 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	61 <sup>3</sup> / <sub>16</sub>	42 <sup>5</sup> / <sub>8</sub>

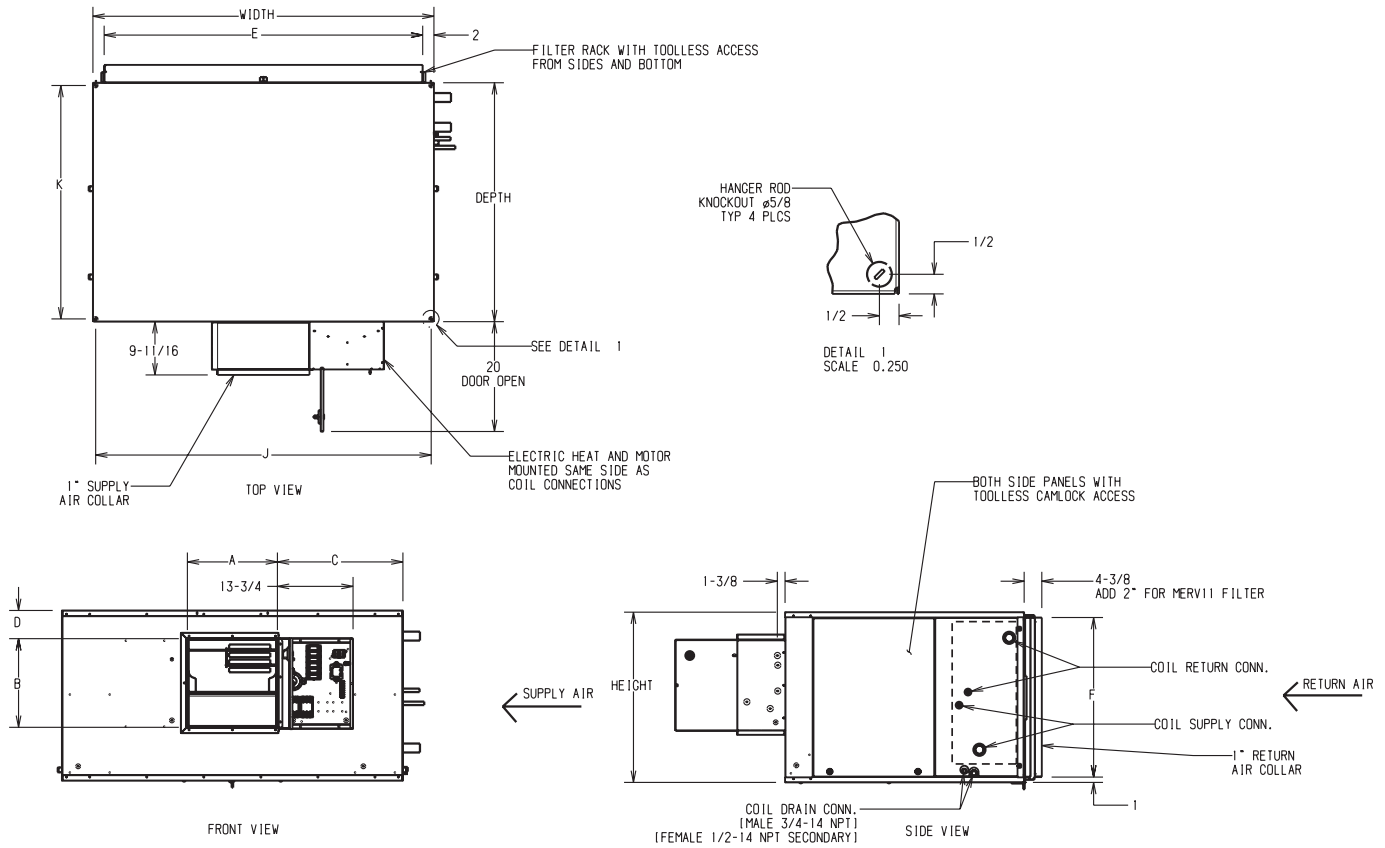
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# Base unit dimensions (cont)



## 42BHC FAN COIL WITH ELECTRIC HEAT OPTION



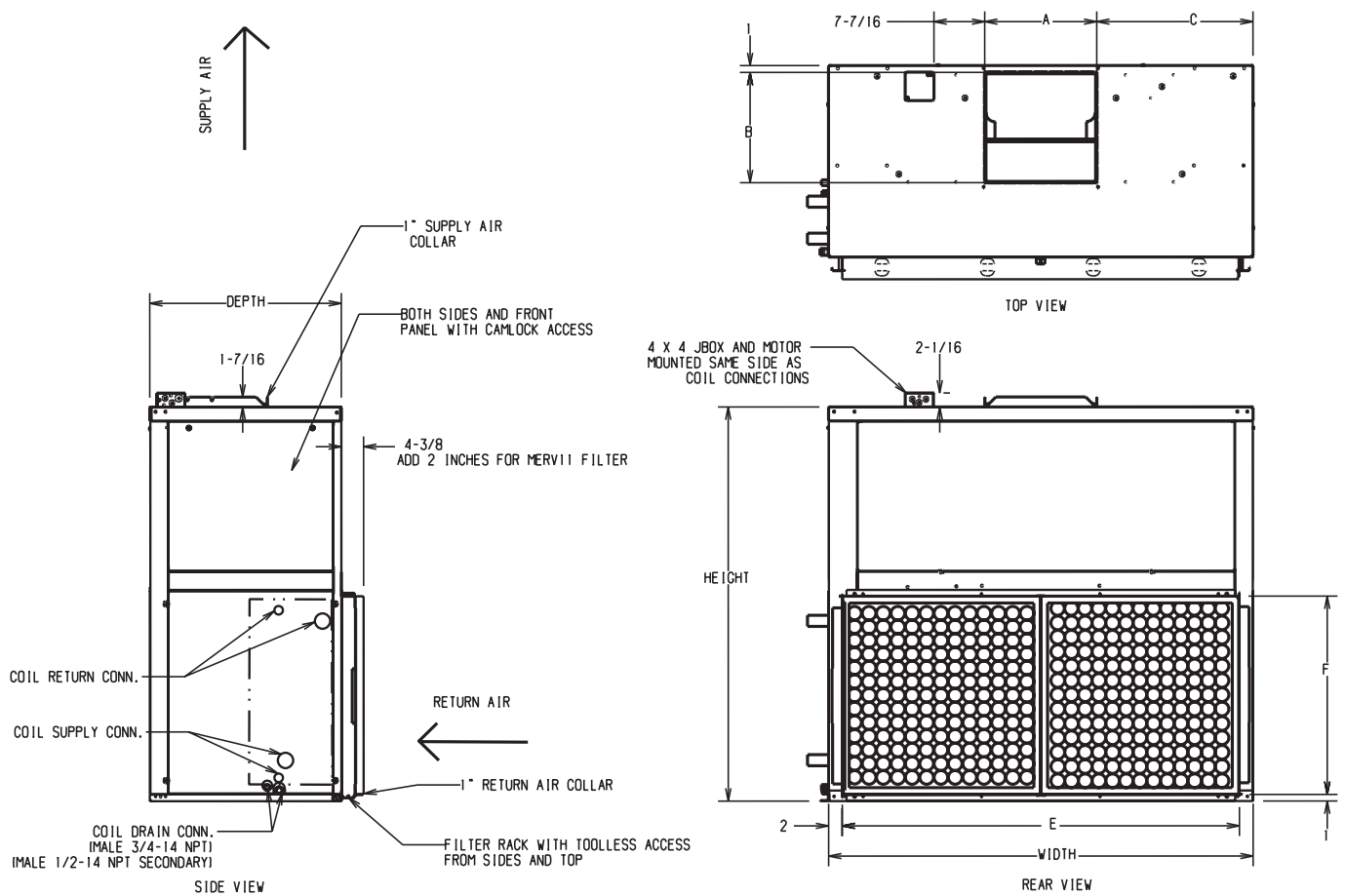
UNIT 42BHC	DIMENSIONS (in.)											
	Fan Size	Depth	Width	Height	Supply Duct				Return Duct		Mounting Holes	
					A	B	C	D	E	F	J	K
06	9 x 4	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
08	9 x 6	36 <sup>3</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>2</sub>	8 <sup>9</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>4</sub>
10	10 x 4	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
12	10 x 7	37 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	9 <sup>15</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	36 <sup>13</sup> / <sub>16</sub>
16	11 x 10	37 <sup>15</sup> / <sub>16</sub>	47 <sup>1</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	13 <sup>5</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	16 <sup>13</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>16</sub>	37
20	12 x 9	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	20 <sup>11</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
30	12 x 12	40 <sup>3</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	31	15 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	47 <sup>3</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>16</sub>
40	15 x 12	43 <sup>9</sup> / <sub>16</sub>	62 <sup>1</sup> / <sub>16</sub>	31	16 <sup>7</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	22 <sup>13</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	58 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	61 <sup>3</sup> / <sub>16</sub>	42 <sup>5</sup> / <sub>8</sub>

**NOTES:**

1. All dimensions are in inches ( $\pm 1/4$  in.).
2. Any modifications to product specifications by any person are subject to acceptance of the factory. Product specifications are subject to change without notice.
3. Right hand shown, left hand opposite.
4. Hanger rods, which are field-supplied, are shown for reference only.



### 42BVC FAN COIL BASE UNIT (NO CONTROLS)



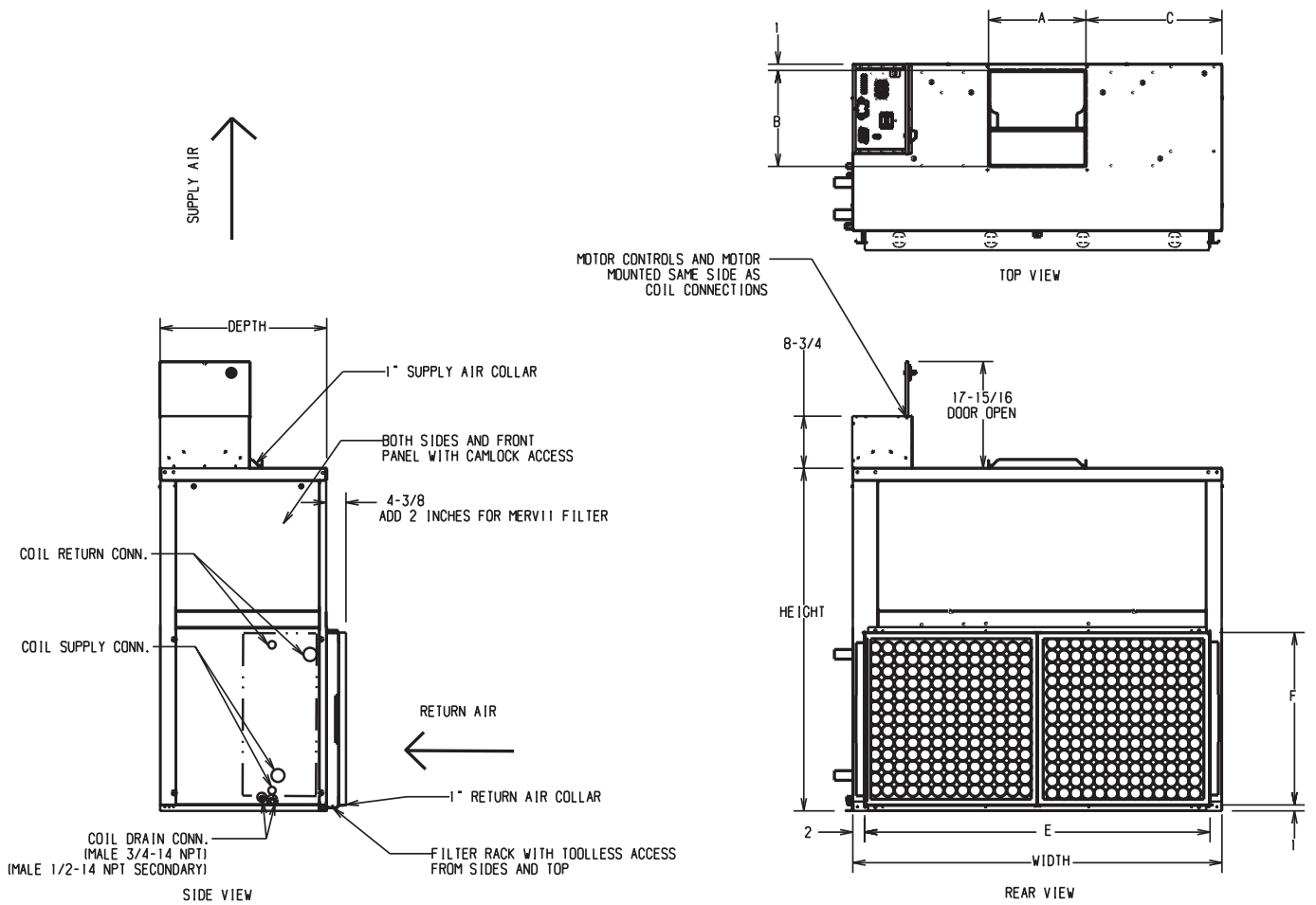
UNIT 42BVC	DIMENSIONS (in.)								
	Fan Size	Depth	Width	Height	Supply Duct			Return Duct	
					A	B	C	E	F
06	9 x 4	20	28 <sup>1/16</sup>	36 <sup>1/2</sup>	7 <sup>1/8</sup>	10 <sup>9/16</sup>	3 <sup>3/4</sup>	24 <sup>1/16</sup>	16 <sup>7/16</sup>
08	9 x 6	20	28 <sup>1/16</sup>	36 <sup>1/2</sup>	8 <sup>9/16</sup>	10 <sup>9/16</sup>	3 <sup>3/4</sup>	24 <sup>1/16</sup>	16 <sup>7/16</sup>
10	10 x 4	22	37 <sup>1/16</sup>	39 <sup>3/8</sup>	7 <sup>1/2</sup>	11 <sup>11/16</sup>	5 <sup>1/2</sup>	33 <sup>1/16</sup>	18 <sup>3/16</sup>
12	10 x 7	22	37 <sup>1/16</sup>	39 <sup>3/8</sup>	9 <sup>15/16</sup>	11 <sup>11/16</sup>	5 <sup>1/2</sup>	33 <sup>1/16</sup>	18 <sup>3/16</sup>
16	11 x 10	22	47 <sup>1/16</sup>	39 <sup>3/8</sup>	13 <sup>5/16</sup>	12 <sup>11/16</sup>	16 <sup>7/8</sup>	43 <sup>1/16</sup>	18 <sup>3/16</sup>
20	12 x 9	24	48 <sup>1/16</sup>	45 <sup>1/8</sup>	12 <sup>1/2</sup>	13 <sup>3/4</sup>	17 <sup>13/16</sup>	44 <sup>1/16</sup>	20 <sup>11/16</sup>
30	12 x 12	28	48 <sup>1/16</sup>	54 <sup>3/16</sup>	15 <sup>7/8</sup>	13 <sup>3/4</sup>	16 <sup>1/8</sup>	44 <sup>1/16</sup>	28 <sup>15/16</sup>
40	15 x 12	28	62 <sup>1/16</sup>	57 <sup>5/8</sup>	16 <sup>7/16</sup>	16 <sup>1/16</sup>	22 <sup>7/8</sup>	58 <sup>1/16</sup>	28 <sup>15/16</sup>

- NOTES:**
1. All dimensions are in inches ( $\pm 1/4$  in.).
  2. Any modifications to product specifications by any person are subject to acceptance of the factory. Product specifications are subject to change without notice.
  3. Right hand shown, left hand opposite.
  4. Hanger rods, which are field-supplied, are shown for reference only.

# Base unit dimensions (cont)



## 42BVC FAN COIL WITH MOTOR CONTROL OPTION

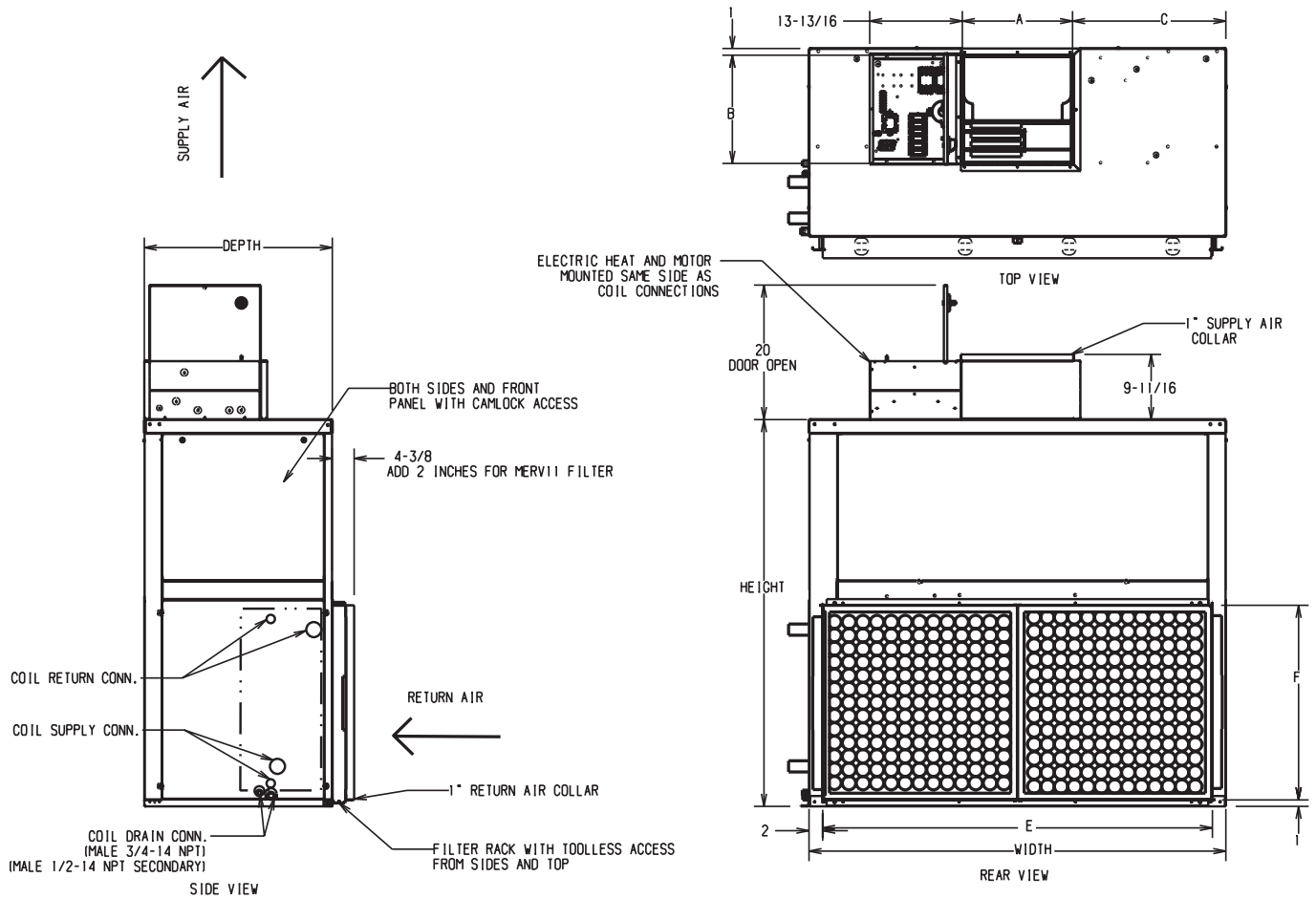


UNIT 42BVC	DIMENSIONS (in.)								
	Fan Size	Depth	Width	Height	Supply Duct			Return Duct	
					A	B	C	E	F
06	9 x 4	20	28 <sup>1</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	10 <sup>9</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>
08	9 x 6	20	28 <sup>1</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>2</sub>	8 <sup>9</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>
10	10 x 4	22	37 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>11</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
12	10 x 7	22	37 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	9 <sup>15</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
16	11 x 10	22	47 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
20	12 x 9	24	48 <sup>1</sup> / <sub>16</sub>	45 <sup>1</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	17 <sup>13</sup> / <sub>16</sub>	44 <sup>1</sup> / <sub>16</sub>	20 <sup>11</sup> / <sub>16</sub>
30	12 x 12	28	48 <sup>1</sup> / <sub>16</sub>	54 <sup>3</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>
40	15 x 12	28	62 <sup>1</sup> / <sub>16</sub>	57 <sup>5</sup> / <sub>8</sub>	16 <sup>7</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	22 <sup>7</sup> / <sub>8</sub>	58 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>

**NOTES:**

1. All dimensions are in inches ( $\pm 1/4$  in.).
2. Any modifications to product specifications by any person are subject to acceptance of the factory. Product specifications are subject to change without notice.
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4. Hanger rods, which are field-supplied, are shown for reference only.

### 42BVC FAN COIL WITH ELECTRIC HEAT OPTION



UNIT 42BVC	DIMENSIONS (in.)								
	Fan Size	Depth	Width	Height	Supply Duct			Return Duct	
					A	B	C	E	F
06	9 x 4	20	28 <sup>1</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	10 <sup>9</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>
08	9 x 6	20	28 <sup>1</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>2</sub>	8 <sup>9</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>
10	10 x 4	22	37 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>11</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
12	10 x 7	22	37 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	9 <sup>15</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
16	11 x 10	22	47 <sup>1</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>
20	12 x 9	24	48 <sup>1</sup> / <sub>16</sub>	45 <sup>1</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	17 <sup>13</sup> / <sub>16</sub>	44 <sup>1</sup> / <sub>16</sub>	20 <sup>11</sup> / <sub>16</sub>
30	12 x 12	28	48 <sup>1</sup> / <sub>16</sub>	54 <sup>3</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>8</sub>	44 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>
40	15 x 12	28	62 <sup>1</sup> / <sub>16</sub>	57 <sup>5</sup> / <sub>8</sub>	16 <sup>7</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	22 <sup>7</sup> / <sub>8</sub>	58 <sup>1</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>

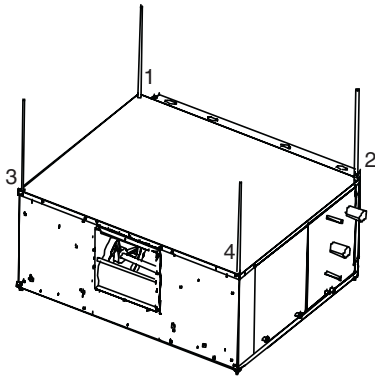
**NOTES:**

1. All dimensions are in inches ( $\pm 1/4$  in.).
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3. Right hand shown, left hand opposite.
4. Hanger rods, which are field-supplied, are shown for reference only.

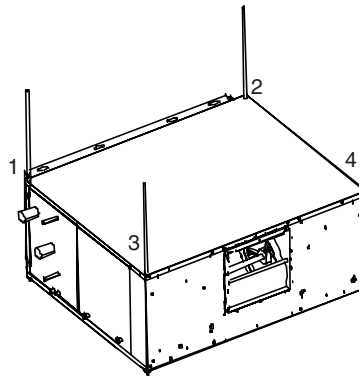
# Base unit dimensions (cont)



**42BHC UNIT CORNER WEIGHTS (lb)**



**RIGHT HAND UNIT**

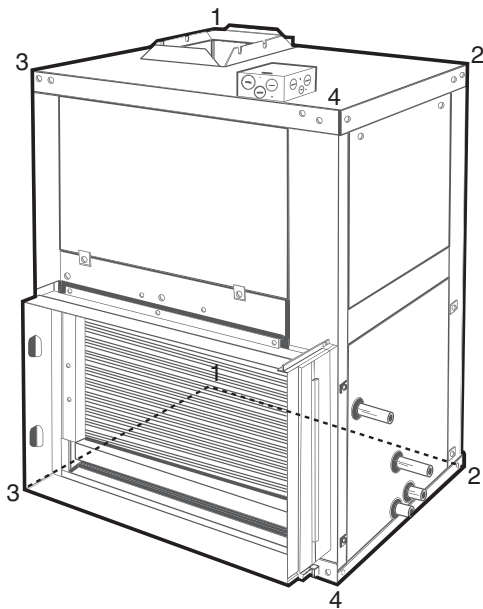


**LEFT HAND UNIT**

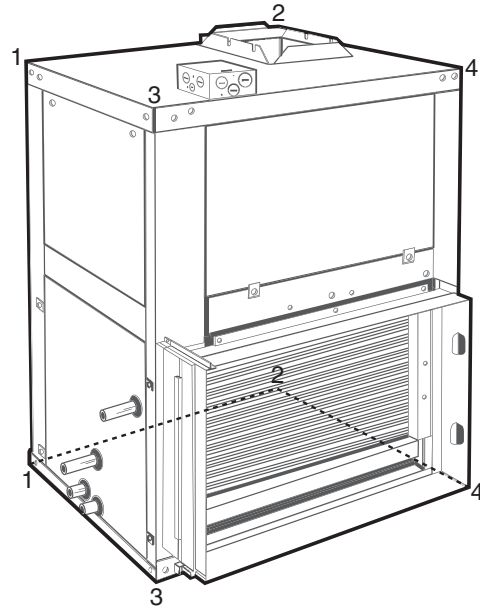
UNIT 42BHC	CONFIGURATION	RIGHT-HAND UNITS				LEFT-HAND UNITS				TOTAL WEIGHT
		1	2	3	4	1	2	3	4	
06	No Heat	50	55	47	51	55	50	51	47	203
	With Heat	50	58	59	67	58	50	67	59	234
08	No Heat	51	55	47	52	55	51	52	47	205
	With Heat	50	59	59	68	59	50	68	59	236
10	No Heat	63	71	55	63	71	63	63	55	253
	With Heat	62	76	68	81	76	62	81	68	287
12	No Heat	64	72	56	64	72	64	64	56	256
	With Heat	63	76	68	82	76	63	82	68	290
16	No Heat	80	87	69	76	87	80	76	69	312
	With Heat	79	91	82	95	91	79	95	82	346
20	No Heat	90	98	74	82	98	90	82	74	344
	With Heat	90	102	88	100	102	90	100	88	380
30	No Heat	118	127	92	100	127	118	100	92	437
	With Heat	118	131	106	119	131	118	119	106	474
40	No Heat	155	162	114	122	162	155	122	114	553
	With Heat	155	166	129	140	166	155	140	129	590

NOTE: Unit weights (shown in pounds)  $\pm 10\%$ , are based on the 8-row coil and 1 Hp motor.

### 42BVC UNIT CORNER WEIGHTS (lb)



RIGHT HAND UNIT



LEFT HAND UNIT

UNIT 42BVC	CONFIGURATION	RIGHT-HAND UNITS				LEFT-HAND UNITS				TOTAL WEIGHT
		1	2	3	4	1	2	3	4	
06	No Heat	52	54	51	43	54	52	43	51	200
	With Heat	58	65	61	47	65	58	47	61	231
08	No Heat	53	55	51	43	55	53	43	51	202
	With Heat	58	66	62	47	66	58	47	62	233
10	No Heat	63	69	61	50	69	63	50	61	243
	With Heat	69	81	72	54	81	69	54	72	277
12	No Heat	64	70	62	51	70	64	51	62	247
	With Heat	70	82	73	55	82	70	55	73	281
16	No Heat	74	85	72	58	85	74	58	72	289
	With Heat	80	98	84	61	98	80	61	84	323
20	No Heat	90	108	86	68	108	90	68	86	351
	With Heat	95	123	99	71	123	95	71	99	387
30	No Heat	110	139	106	81	139	110	81	106	436
	With Heat	115	155	120	83	155	115	83	120	473
40	No Heat	131	172	125	94	172	131	94	125	522
	With Heat	135	190	140	95	190	135	94	140	559

NOTE: Unit weights (shown in pounds)  $\pm 10\%$  are based on the 8-row coil and 1 Hp motor.

### TOTAL WEIGHT UNIT CORRECTION FACTOR (lb)

Corner weights on pages 12 and 13 are for 8-row water filled coils. For a different number of rows, total unit weight can be determined by the following procedure:

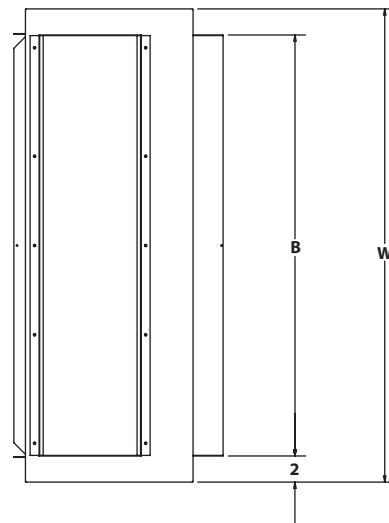
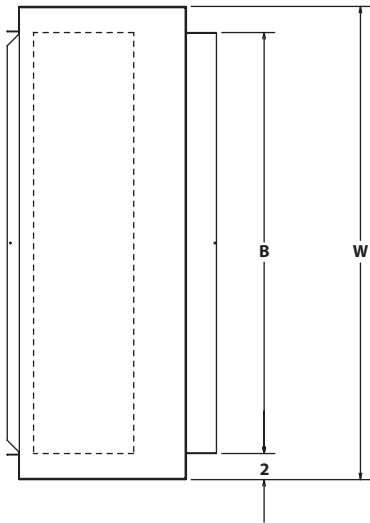
- Identify the number of rows and the size of the unit.
- Determine the total weight of the unit from the Corner Weight tables.
- From the table below, identify the correction factor (for size of unit and number of rows) and subtract this from the total weight.

UNITS 42BHC, BVC	4 ROWS	5 ROWS	6 ROWS	7 ROWS
	Correction Factors (lb)			
06	21	16	11	5
08	21	16	11	5
10	28	21	14	7
12	28	21	14	7
16	39	29	20	10
20	46	35	23	12
30	74	55	37	18
40	98	74	49	25

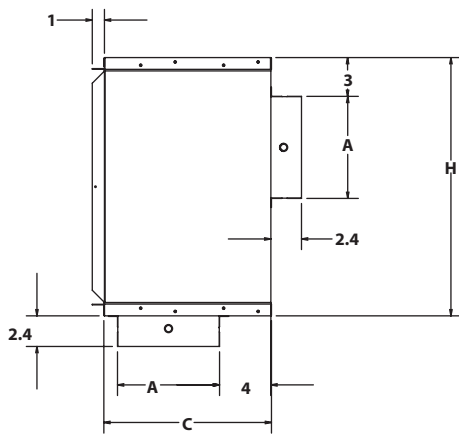
# Accessory dimensions



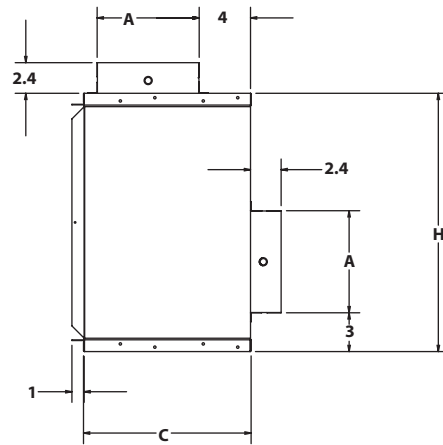
## MIXING BOX



TOP VIEWS



BOTTOM/REAR INLET



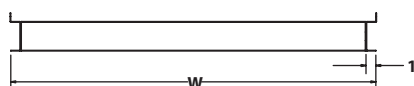
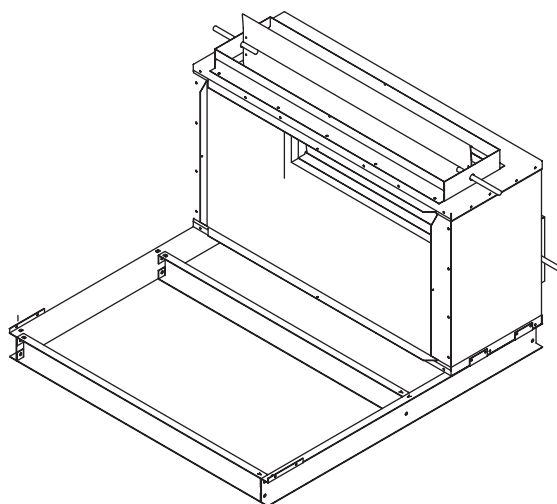
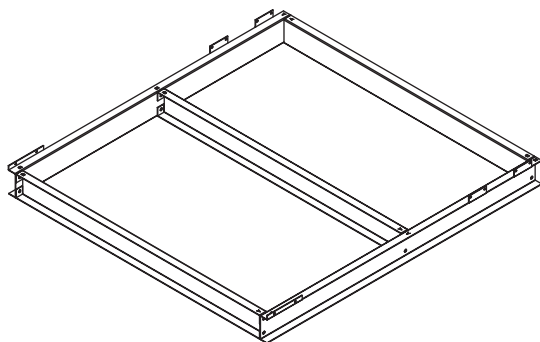
TOP/REAR INLET

## RIGHT HAND SIDE VIEWS

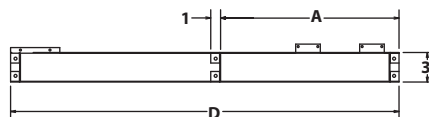
NOTE: All dimensions in inches.

42BHC,BVC UNIT SIZE	DIMENSIONS (in.)				
	H	W	A	B	C
06	18.5	28	6	24	11
08	18.5	28	6	24	11
10	20.25	37	8	33	13
12	20.25	37	8	33	13
16	20.25	47	8	43	13
20	22.75	48	8	44	13
30	31.0	48	10	44	15
40	31.0	48	10	44	15

### MIXING BOX RAILS



**FRONT VIEW**



**SIDE VIEW**

NOTE: All dimensions in inches.

UNIT	DIMENSIONS (in.)		
	W	D	A
42BHC06	28	51.6	16.1
42BHC08	28	51.6	16.1
42BHC10	37	55.2	18.1
42BHC12	37	55.2	18.1
42BHC16	47	55.4	18.1
42BHC20	48	57.8	18.1
42BHC30	48	59.8	20.1
42BHC40	62	63.0	20.1

UNIT	DIMENSIONS (in.)		
	W	D	A
42BVC06	28	35.5	16.1
42BVC08	28	35.5	16.1
42BVC10	37	39.5	18.1
42BVC12	37	39.5	18.1
42BVC16	47	39.5	18.1
42BVC20	48	41.5	18.1
42BVC30	48	47.5	20.1
42BVC40	62	47.5	20.1

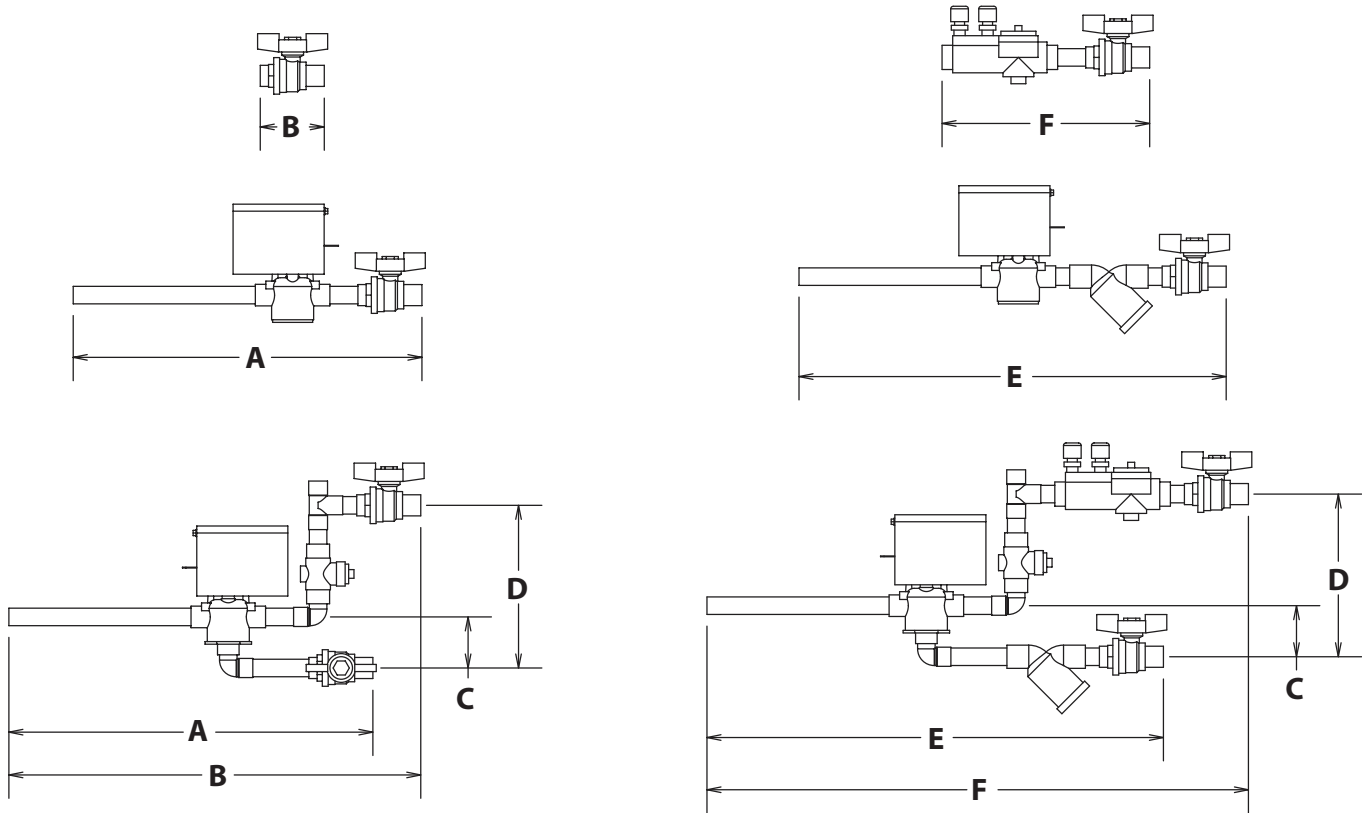
# Accessory dimensions (cont)



## VALVE PACKAGES

**Basic** — Basic valve package includes 2 or 3-way valves with balancing valves and 2 ball valves.

**Deluxe** — Deluxe valve package includes a circuit setter and a strainer in addition to the components listed under basic valve package.

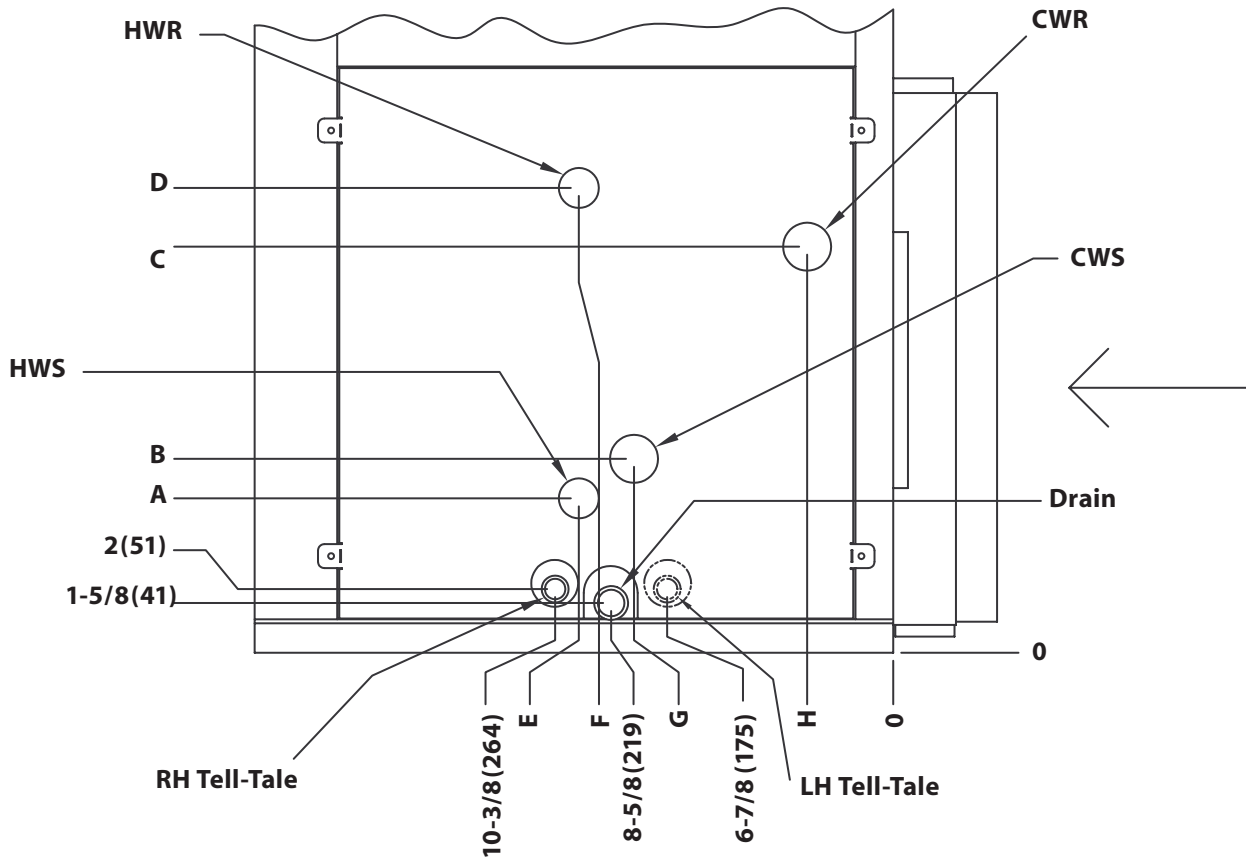


NOTE: All dimensions in inches.

CONTROL VALVE	PIPING PACKAGE	SIZE	A	B	C	D	E	F	Cv	CLOSE OFF
Normal Close Off Spring Return	2-way	1/2 in.	12.45	2.285	—	—	15.25	7.41	3.5	25 psig
		3/4 in.	12.71	3.156	—	—	17.71	7.936	5	20 psig
		1 in.	14.88	3.38	—	—	20.81	9.6	8	17 psig
	3-way	1/2 in.	12.99	14.7	1.823	5.805	16.29	19.32	4	25 psig
		3/4 in.	12.84	16.24	2.318	7.411	17.34	21.02	5	20 psig
		1 in.	14.72	19.38	2.774	8.247	20.65	25.19	8	17 psig
High Close Off Power On/ Power Off	2-way	1/2 in.	13.29	2.285	—	—	16.09	7.41	3.5	60 psig
		3/4 in.	13.59	3.156	—	—	18.59	7.936	4.6	60 psig
		1 in.	14.97	3.38	—	—	20.90	9.6	6.6	60 psig
	3-way	1/2 in.	13.41	15.54	2.031	6.014	16.71	20.16	3.8	60 psig
		3/4 in.	13.03	16.62	2.219	7.313	17.53	21.4	5.9	60 psig
		1 in.	14.77	19.47	2.731	8.248	20.70	25.28	9	60 psig



**PIPING CONNECTION LOCATION DIAGRAM\***



- LEGEND**
- CWR** — Cold Water Return
  - CWS** — Cold Water Supply
  - HWR** — Hot Water Return
  - HWS** — Hot Water Supply
  - LH** — Left Hand
  - RH** — Right Hand
  - SO** — Stub Out

Use the table on the next page to determine the location of the piping connections. For example, on a size 20 unit with 4 rows and a right hand connection, the location of the chilled water supply line is determined by G (6 in.) and B (7<sup>4</sup>/<sub>5</sub> in.).

\*Right-hand unit with re-heat coil shown.

42BHC,BVC UNIT SIZE	HEAD STUB OUT SIZES (in.)			
	8 Row Coil SO Nominal	6 Row Coil SO Nominal	4 Row Coil SO Nominal	Heating 1 or 2 SO Row Coil Nominal
06	1	0.75	0.75	0.5
08	1	0.75	0.75	0.5
10	1	0.75	0.75	0.5
12	1	0.75	0.75	0.5
16	1	1	1	0.5
20	1	1	1	0.5
30	1.5	1.5	1.5	0.5
40	1.5	1.5	1.5	0.5

# Accessory dimensions (cont)



HEAT OPTIONS	42BHC,BVC UNIT SIZE	COIL ROWS		DIMENSIONS (in.)											
		Cool	Heat	A	B	C	D	E	F	G	H				
Re-heat	06/08	4	0	—	6 1/8	12 3/4	—	—	—	5 15/16	2 11/16				
			1	3 1/2			15 1/2	7	7						
			2	3 13/16			15 13/16	7 9/16	7 9/16						
		6	0	—			—	—	—			—			
			1	3 1/2			15 1/2	9 3/16	9 3/16			8 1/8			
			2	3 13/16			15 13/16	9 3/4	9 3/4			—			
	8	0	—	—	—	—	—	10 1/4							
		1	—	—	—	—	—	—							
		2	—	—	—	—	—	—							
	10/12	4	0	—	7 3/4	14 3/8	—	—	—	5 15/16	2 11/16				
			1	5 1/8			17 1/8	7	7						
			2	5 7/16			17 7/16	7 9/16	7 9/16						
		6	0	—			—	—	—			—			
			1	5 1/8			17 1/8	9 3/16	9 3/16			8 1/8			
			2	5 27/61			17 7/16	9 3/4	9 3/4			—			
	8	0	—	—	—	—	—	10 1/4							
		1	—	—	—	—	—	—							
		2	—	—	—	—	—	—							
	16	4	0	—	7 3/4	15 5/8	—	—	—	5 15/16	2 11/16				
			1	LH 10 5/8 RH 13 3/8			12	9 5/8	7						
			2	5 7/16			17 7/16	7 9/16	7 9/16						
		6	0	—			—	—	—			—			
			1	LH 10 5/8 RH 13 3/8			12	11 13/16	9 3/16			8 1/8			
			2	5 7/16			17 7/16	9 3/4	9 3/4			—			
8	0	—	—	—	—	—	10 1/4								
	1	—	—	—	—	—	—								
	2	—	—	—	—	—	—								
20	4	0	—	7 13/16	18 3/16	—	—	—	5 15/16	2 11/16					
		1	LH 11 15/16 RH 14 11/16			13 5/16	9 5/8	7							
		2	5 1/2			20 1/16	7 9/16	7 9/16							
	6	0	—			—	—	—			—				
		1	LH 11 15/16 RH 14 11/16			13 5/16	11 13/16	9 3/16			8 1/8				
		2	5 1/2			20 1/16	9 3/4	9 3/4			—				
8	0	—	—	—	—	—	10 1/4								
	1	—	—	—	—	—	—								
	2	—	—	—	—	—	—								
30/40	4	0	—	5 15/16	26 5/16	—	—	—	5 15/16	2 11/16					
		1	LH 14 1/16 RH 18 13/16			16 7/16	9 5/8	8							
		2	3 5/8			28 1/8	7 9/16	7 9/16							
	6	0	—			—	—	—			—				
		1	LH 14 1/16 RH 18 13/16			16 7/16	11 13/16	10 3/16			8 1/8				
		2	3 5/8			28 1/8	9 3/4	9 3/4			—				
8	0	—	—	—	—	—	10 1/4								
	1	—	—	—	—	—	—								
	2	—	—	—	—	—	—								
Pre-heat*	06/08	4	0	—	6 1/8	12 3/4	—	—	—	5 15/16	2 11/16				
			1	3 1/2			6 3/4	13 3/8	15 1/2			2 11/16	2 11/16	7	3 3/4
			2	3 13/16			6 1/8	12 3/4	15 13/16			3 1/4	3 1/4	8 1/8	4 7/8
		6	0	—			6 1/8	12 3/4	—			—	—	8 1/8	2 11/16
			1	3 1/2			6 3/4	13 3/8	15 1/2			2 11/16	2 11/16	9 3/16	3 3/4
			2	3 13/16			6 1/8	12 3/4	15 13/16			3 1/4	3 1/4	10 1/4	4 7/8
	8	0	—	6 1/8	12 3/4	—	—	—	10 1/4	2 11/16					
		1	—	7 3/4	14 3/8	—	—	—	5 15/16	2 11/16					
		2	—	7 3/4	14 3/8	—	—	—	—	—					
	10/12	4	0	—	7 3/4	14 3/8	—	—	—	5 15/16	2 11/16				
			1	5 1/8			8 3/8	15	17 1/8			2 11/16	2 11/16	7	3 3/4
			2	5 7/16			7 3/4	14 3/8	17 7/16			3 1/4	3 1/4	8 1/8	4 7/8
		6	0	—			7 3/4	14 3/8	—			—	—	8 1/8	2 11/16
			1	5 1/8			8 3/8	15	17 1/8			2 11/16	2 11/16	9 3/16	3 3/4
			2	5 7/16			7 3/4	14 3/8	17 7/16			3 1/4	3 1/4	10 1/4	4 7/8
	8	0	—	7 3/4	14 3/8	—	—	—	10 1/4	2 11/16					
		1	—	7 3/4	15 5/8	—	—	—	5 15/16	2 11/16					
		2	—	7 3/4	15 5/8	—	—	—	—	—					
	16	4	0	—	7 3/4	15 5/8	—	—	—	5 15/16	2 11/16				
			1	5 1/8			8 3/8	16 1/4	17 1/8			2 11/16	2 11/16	7	3 3/4
			2	5 7/16			7 3/4	15 5/8	17 7/16			3 1/4	3 1/4	8 1/8	4 7/8
		6	0	—			7 3/4	15 5/8	—			—	—	8 1/8	2 11/16
			1	5 1/8			8 3/8	16 1/4	17 1/8			2 11/16	2 11/16	9 3/16	3 3/4
			2	5 7/16			7 3/4	15 5/8	17 7/16			3 1/4	3 1/4	10 1/4	4 7/8
8	0	—	7 3/4	15 5/8	—	—	—	10 1/4	2 11/16						
	1	—	7 3/4	15 5/8	—	—	—	—	—						
	2	—	7 3/4	15 5/8	—	—	—	—	—						
20	4	0	—	7 13/16	18 3/16	—	—	—	5 15/16	2 11/16					
		1	5 1/16			8 7/16	18 3/16	19 3/4			2 11/16	2 11/16	7	3 3/4	
		2	5 1/2			7 13/16	18 3/16	20 1/16			3 1/4	3 1/4	8 1/8	4 7/8	
	6	0	—			7 13/16	18 3/16	—			—	—	8 1/8	2 11/16	
		1	5 1/16			8 7/16	18 3/16	19 3/4			2 11/16	2 11/16	9 3/16	3 3/4	
		2	5 1/2			7 13/16	18 3/16	20 1/16			3 1/4	3 1/4	10 1/4	4 7/8	
8	0	—	7 13/16	18 3/16	—	—	—	10 1/4	2 11/16						
	1	—	5 15/16	26 5/16	—	—	—	5 15/16	2 11/16						
	2	—	3 5/8	26 5/16	28 1/8	2 11/16	2 11/16	8 1/8	4 7/8						
30/40	4	0	—	5 15/16	26 5/16	—	—	—	5 15/16	2 11/16					
		1	3 5/16			6 9/16	26 15/16	27 13/16			—	—	7	3 3/4	
		2	3 5/8			5 15/16	26 5/16	28 1/8			2 11/16	2 11/16	8 1/8	4 7/8	
	6	0	—			5 15/16	26 5/16	—			—	—	8 1/8	2 11/16	
		1	3 5/16			6 9/16	26 15/16	27 13/16			—	—	9 3/16	3 3/4	
		2	3 5/8			5 15/16	26 5/16	28 1/8			2 11/16	2 11/16	10 1/4	4 7/8	
8	0	—	5 15/16	26 5/16	—	—	—	10 1/4	2 11/16						
	1	—	5 15/16	26 5/16	—	—	—	—	—						
	2	—	5 15/16	26 5/16	—	—	—	—	—						

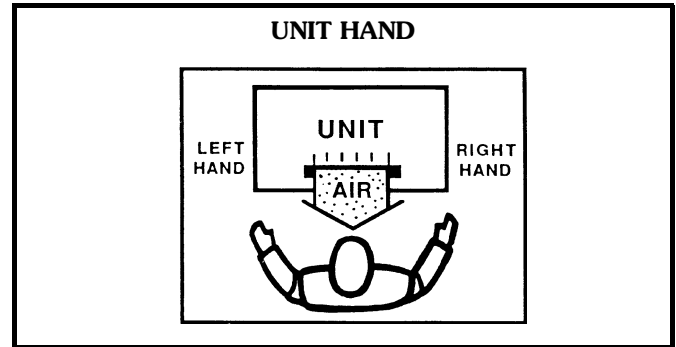
\*Factory-installed option.

# Application data



## Basic definitions

**Unit hand** — When facing the supply air outlet from the front of the unit (air blowing in your face), your right hand will be the right hand side of the unit and your left hand the left hand side of the unit.



## PIPING COMPONENTS

SYMBOL/SKETCH	DESCRIPTION	C <sub>v</sub> FACTOR		RATING*	
		1/2	3/4	PSI	F
	<p><b>MANUAL AIR VENT:</b> Threaded brass needle valve with screwdriver slot for adjustment.</p> <p>Application — Body brazed into high point of heating and cooling coils for bleeding air from coil. Standard item on all hydronic coils (not used on steam or DX coils). Should not be used in lieu of main system air vents.</p>	N/A	N/A	400	100
	<p><b>AUTOMATIC AIR VENT:</b> Nickel plated brass valve, fiber-disc type, with positive shut-off ballcheck and quick vent feature via knurled vent screw.</p> <p>Application — Optional replacement for manual air vent. Automatically passes minute quantities of air through the fiber discs which expand upon contact with water, completely sealing the valve. As air accumulates, the fiber discs dry and shrink, repeating the cycle. Not recommended for removing large quantities of air encountered during initial start-up or subsequent draining and refilling. Should not be used in lieu of main system air vents.</p>	N/A	N/A	125	240
	<p><b>SWAGE:</b> Copper tube end expanded to accept a copper tube of the same size for factory or field brazing.</p> <p>Application — Used where possible for all tubing joints for best joint integrity.</p>	N/A	N/A	300	200
	<p><b>CIRCUIT SETTER:</b> Variable water flow balancing valve with manual adjustment knob, pointer, percent-open scale, memory stop and integral pressure read-out ports.</p> <p>Application — Used for close tolerance water flow balancing. Positive shut-off ball valve feature allows usage as combination balancing and shut-off valve.</p>	2.12	3.9	300	250

### LEGEND

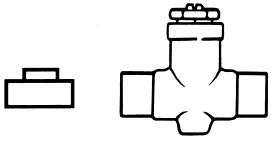
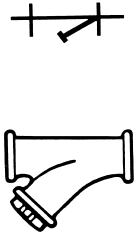
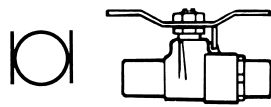
**C<sub>v</sub>** — Coefficient of Velocity  
**DX** — Direct Expansion

\*Check all system component pressure ratings (coils, valves, pumps, etc.) with manufacturer and any applicable local or national piping codes prior to specifying system pressure rating.

# Application data (cont)



## PIPING COMPONENTS (cont)


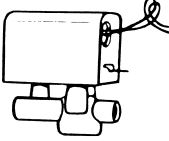

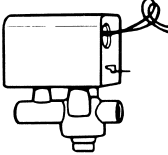
SYMBOL/SKETCH	DESCRIPTION	C <sub>v</sub> FACTOR		RATING*	
		1/2	3/4	PSI	F
	<p><b>BALANCE VALVE:</b> Variable water flow manual balancing valve with screwdriver slot adjustment screw.</p> <p>Application — Often used in conjunction with test port fittings for water flow balancing. Balance by temperature differential or coil pressure drop (check specifications for service fittings required if balancing by pressure drop). May be used in 3-way valve bypass line to permit equal flow balancing.</p>	3.0	8.9	150	200
	<p><b>STRAINER:</b> Y-type body with 50 mesh stainless steel screen.</p> <p>Application — Used for removal of small particles from system water during normal system operation. Should not be used in lieu of main system strainers. Strainer screen may have to be removed during initial high pressure system flushing during start-up. Screen should be removed and cleaned per normal maintenance schedule (provisions for strainer blow-down not provided).</p>	9.0 Clean	19.0 Clean	400	250
	<p><b>BALL VALVE:</b> Manual balance and shut-off valve.</p> <p>Application — Used for unit isolation and water flow balancing. Without memory stop feature water balance point must be marked by installer (if necessary). Check specifications for service fittings required when used for water balancing.</p>	4.0	7.5	400	200

### LEGEND

**C<sub>v</sub>** — Coefficient of Velocity  
**DX** — Direct Expansion

\*Check all system component pressure ratings (coils, valves, pumps, etc.) with manufacturer and any applicable local or national piping codes prior to specifying system pressure rating.

PIPING COMPONENTS (cont)

SYMBOL/SKETCH	DESCRIPTION	C <sub>v</sub> FACTOR			RATING	
		1/2	3/4	1	PSI	F
 	<p><b>2-WAY MOTORIZED VALVE:</b> Electric 2-position flow control valve (open/closed). Normally closed body with manual override lever. Installed in supply line to unit.</p> <p>Application — All standard control and valve packages are based upon normally closed valves (valve electrically powered open and closed by spring return when electric power removed). Manual override lever allows valve to be placed in the open position for secondary (unit) flushing, constant water flow prior to start-up, etc. Manual override is automatically disengaged when valve is electrically activated. <b>Consult factory for normally open valve applications.</b></p>	3.5	5.0	8.0	300	200
		SPRING RETURN				
		3.5	4.6	6.6		
		POWER ON/OFF				
 	<p><b>3-WAY MOTORIZED VALVE:</b> Electric 2-position flow control valve (closed to coil/open to bypass or open to coil/closed to bypass). Normally closed with manual override lever. Installed in supply line to unit.</p> <p>Application — Same comments as 2-way motorized valve except with manual override lever engaged the valve is open to both ports and water flow will take the path of least resistance through the valve package (not necessarily 100% through the coil).</p>	4.0	5.0	8.0	300	200
		SPRING RETURN				
		3.8	5.9	9.0		
		POWER ON/OFF				

LEGEND

**C<sub>v</sub>** — Coefficient of Velocity  
**DX** — Direct Expansion

NOTES:

1. Motorized spring return 2-way valves have a maximum close-off differential of 25 psi.
2. Motorized spring return 3-way valves have a maximum close-off differential of 25 psi.

# Selection procedure



This selection procedure provides a guide to determine unit performance of the 42BHC, BVC units. Capacity tables (in Performance Data) are based on nominal cfm. Correction factors are provided for other operating conditions as explained in the following selection example.

For applications outside the range provided in this catalog, please consult the factory.

## FORMULAS:

$$TC = TCb \times Ct \times Et$$

$$SC = SCb \times Cs \times Es$$

Where:

Cs = Sensible Airflow Correction Factor

Ct = Total Airflow Correction Factor

Es = Sensible Elevation Correction Factor

Et = Total Elevation Correction Factor

SC = Sensible Capacity

SCb = Base Sensible Capacity from Base Cooling Capacities by gpm charts

TC = Total Capacity

TCb = Base Total Capacity from Base Cooling Capacities by gpm charts

## EXAMPLE:

### I Rate unit performance.

To rate the performance at sea level for a 42BHC16 unit with a four-row coil at 80 F/67 F EAT, 45 F EWT, 7 gpm water flow, and 1500 cfm:

a) Enter the Base Cooling Capacities by Gpm, 4-Row Capacity Units table at 80 F/67 F EAT and 45 F EWT.

b) Locate the appropriate row for unit size 16 and 7 gpm.

Record the tabulated base performance.

$$TCb = 42.0 \text{ MBtuh}$$

$$SCb = 34.2 \text{ MBtuh}$$

$$\Delta T = 12.0 \text{ F}$$

c) Divide CFM Actual by CFM Nominal to determine Cfm Ratio.

$$\text{Cfm Ratio} = 1500/1600 = .9375$$

### II Select CFM correction factors.

Select the Cfm correction factors, Ct and Cs, from the Airflow Correction Factors table. (Interpolation may be required.)

$$Ct = .9625$$

$$Cs = .96$$

Select the elevation correction factors, Et and Es, from the Elevation Correction Factors table. (No correction necessary in this example, unit is at sea level.)

$$Et = 1.00$$

$$Es = 1.00$$

### III Calculate actual performance.

$$TC = TCb \times Ct \times Et$$

$$= 42.0 \times .9625 \times 1.00$$

$$= 40.42 \text{ MBtuh}$$

$$SC = SCb \times Cs \times Es$$

$$= 34.2 \times .96 \times 1.00$$

$$= 32.83 \text{ MBtuh}$$

a) Calculate water pressure drop (or refer to the Water Pressure Drop for Cv Factor and Water Flow Rate table on page 33). From the Cv Factor by Coil and Unit Size table on page 32, find the Cv value for unit size 16 with four rows.

$$Cv = 7.2$$

$$P = [GPM / (0.658 \times Cv)]^2$$

$$= [7.0 / (0.658 \times 7.2)]^2$$

$$= 2.18 \text{ feet of H}_2\text{O}$$

b) For selections other than those listed here, please contact the factory.

## IV Determine motor.

To determine motor and drive selection requirements and obtain the cfm for a specific application, the total static pressure (TSP) for that application must be determined.

The TSP is the sum of the internal static pressure (ISP) and the external static pressure (ESP) measured in inches of water column. Internal static pressure is the sum of the static resistance of the unit's components — the cabinet, coil and filter. The ESP is the static resistance of the unit's external components, including, but not limited to, ductwork, grilles and additional filtration. For non-ducted applications, the ESP is 0 in. wg.

After the TSP has been calculated (see the following example), use the motor horsepower table on pages 30 and 31 to determine actual horsepower (hp) for the belt drive unit. Horsepower offerings are limited to 1/4, 1/3, 1/2, 3/4, 1, 1 1/2, 2, 3 and 5.

The standard selection is the nearest offering above the actual hp shown in the table.

Using the TSP of the table, match the unit size with the cfm row to determine the correct motor for the specific application. Drive sheaves and the required belt assembly will be provided to meet specific design requirements. Drive sheaves are set at the factory.

Calculate the hp and drive selection required to deliver 1500 cfm on a 42BHC16 unit equipped with a 4-row hydronic cooling coil and a 2-in. pleated filter in a ducted application at .38 in. ESP, including duct and grille losses.

Using the Component Static Resistance table on page 32, the ISP is calculated as follows:

Cabinet	.09-in. wg
4-row Wet Coil	.30-in. wg
2-in. Pleated Filter	.12-in. wg
ISP	.51-in. wg
ESP	.38-in. wg
TSP	.89-in. wg

# Performance data



## 42BHC,BVC AIRFLOW CORRECTION FACTORS

CFM RATIO (Actual/Base)	TOTAL (Ct)	SENSIBLE (Cs)
1.40	1.25	1.26
1.35	1.22	1.23
1.30	1.19	1.20
1.25	1.16	1.17
1.20	1.13	1.14
1.15	1.10	1.11
1.10	1.07	1.08
1.05	1.04	1.04
1.00	1.00	1.00
0.95	0.97	0.97
0.90	0.94	0.93
0.85	0.90	0.89
0.80	0.86	0.85
0.75	0.82	0.81
0.70	0.78	0.77
0.65	0.74	0.72
0.60	0.70	0.67
0.55	0.66	0.62
0.50	0.62	0.57
0.45	0.58	0.52
0.40	0.53	0.47
0.35	0.48	0.42
0.30	0.43	0.38
0.25	0.38	0.33

NOTE: Use Sensible Heat correction factors when calculating heating capacity.

## DIRECT EXPANSION (DX) CORRECTION FACTORS

% OF NOMINAL CFM	CORRECTION FACTOR	
	Total	Sensible
80	0.95	0.93
90	0.97	0.96
100	1.00	1.00
110	1.02	1.04
120	1.05	1.08

Consult factory for values outside of table.  
 DX Total Capacity (MBtuh) = Base Et x Total Correction Factor  
 DX Sensible Capacity (MBtuh) = Base Es x Sensible Correction Factor  
 % of Nominal Cfm = Actual Cfm (from Fan Performance table) ÷ Nominal Cfm

## ALTITUDE COOLING CORRECTION FACTORS

ELEVATION (ft)	TOTAL HEAT (Et)	SENSIBLE HEAT (Es)
1000	0.99	0.96
2000	0.98	0.93
3000	0.97	0.89
4000	0.96	0.86
5000	0.94	0.83
6000	0.93	0.80
7000	0.92	0.77
8000	0.91	0.75
9000	0.90	0.73

## 42BHC,BVC HOT WATER CAPACITY CORRECTION FACTORS

ENTERING AIR TEMPERATURE (F)	ENTERING WATER TEMPERATURE (F)										
	100	110	120	130	140	150	160	170	180	190	200
50	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182	1.273	1.364
55	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136	1.227	1.318
60	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182	1.273
65	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136	1.227
70	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182
75	0.227	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136
80	0.182	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091

NOTES:

1. Leaving air temperature not to exceed 104 F with standard motor.
2. Base capacity ratings based on 180 F entering water temperature and 70 F entering air temperature.
3. Hot Water Heating Capacity (MBtuh) = Rated Heating Capacity x Hot Water Capacity Correction Factor x Sensible Airflow Correction Factor.

# Performance data (cont)



## 42BHC, BVC NOMINAL COOLING CAPACITIES

UNIT SIZE 42BHC,BVC	NOMINAL CFM	COIL ROWS	EWT (F)	COOLING*	
				Total Capacity (MBtuh)	Sensible Capacity (MBtuh)
06	600	4	40	23.3	16.0
			45	17.9	13.8
			50	12.8	12.0
		6	40	31.0	19.8
			45	24.5	17.0
			50	18.0	14.5
		8	40	33.8	21.2
			45	26.7	18.1
			50	19.4	15.2
08	800	4	40	28.4	20.0
			45	21.9	17.5
			50	15.3	15.3
		6	40	38.4	25.1
			45	30.3	21.7
			50	22.5	18.6
		8	40	42.6	27.2
			45	33.7	23.3
			50	24.7	19.8
10	1000	4	40	40.5	27.3
			45	31.6	23.7
			50	23.4	20.6
		6	40	52.2	33.3
			45	41.7	28.7
			50	31.2	24.5
		8	40	57.7	36.0
			45	46.4	31.0
			50	34.6	26.2
12	1200	4	40	45.4	31.2
			45	35.5	27.2
			50	26.5	23.8
		6	40	59.6	38.4
			45	47.4	33.2
			50	35.5	28.5
		8	40	66.6	42.0
			45	53.3	36.1
			50	39.9	30.7
16	1600	4	40	59.7	41.2
			45	46.4	35.9
			50	34.4	31.4
		6	40	78.7	50.9
			45	62.6	44.1
			50	46.8	37.8
		8	40	89.0	56.0
			45	71.3	48.3
			50	53.3	41.0
20	2000	4	40	75.2	51.6
			45	59.0	45.1
			50	44.1	39.5
		6	40	99.0	63.8
			45	78.7	55.2
			50	59.0	47.4
		8	40	111.8	70.3
			45	89.9	60.6
			50	67.6	51.6
30	3000	4	40	112.5	77.6
			45	87.6	67.6
			50	65.0	59.1
		6	40	148.5	95.8
			45	117.8	82.8
			50	88.1	71.1
		8	40	168.0	105.5
			45	135.0	91.0
			50	101.2	77.4
40	4000	4	40	157.7	106.7
			45	123.6	92.9
			50	92.6	81.1
		6	40	204.0	130.5
			45	162.6	112.7
			50	122.3	96.7
		8	40	230.1	143.5
			45	185.6	123.8
			50	140.2	105.2

## 42BHC,BVC NOMINAL HEATING CAPACITIES

UNIT SIZE 42BHC,BVC	NOMINAL CFM	ROWS	HEATING CAPACITY (MBtuh)
06	600	1	27.0
		2	46.9
08	800	1	27.0
		2	46.9
10	1000	1	27.0
		2	46.9
12	1200	1	38.5
		2	68.5
16	1600	1	48.0
		2	87.7
20	2000	1	58.7
		2	104.9
30	3000	1	78.0
		2	149.2
40	4000	1	92.3
		2	182.4

### NOTES:

1. Ratings are based on 180 F Entering Water Temperature (EWT) and 70 F Entering Air Temperature (EAT).
2. Leaving-air temperature is not to exceed 104 F with the standard motor. Consult the factory for higher temperature motor applications.
3. For information on four and six-row heating coil capacities and applications, consult the factory.
4. For all application ratings, use the quick-selection ratings provided in this catalog, or contact the factory.

### LEGEND

EWT — Entering Water Temperature  
 MBtuh — Capacity (Btuh in thousands)

\*Based on entering air temperature of 67 F wb, 80 F db and temperature rise of 10 degrees F.

NOTE: All ratings at sea level. Ratings in accordance with ARI (Air Conditioning & Refrigeration Institute).





### 42BHC,BVC 4-ROW COOLING CAPACITY (by Gpm)

UNIT SIZE 42BHC,BVC	GPM	75 F DB/ 63 F WB									80 F DB/67 F WB									85 F DB/71 F WB										
		40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT				
		ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>
06	3	10.9	16.3	13.2	9.0	13.5	12.1	7.2	10.7	10.7	13.0	19.5	14.5	11.1	16.6	13.4	9.1	13.7	12.3	15.3	22.9	15.7	13.3	19.9	14.6	11.2	16.9	13.5	13.5	13.5
	4	9.1	18.3	14.0	7.5	15.0	12.7	5.7	11.5	11.5	11.0	22.0	15.5	9.3	18.6	14.1	7.6	15.2	12.8	13.1	26.2	16.9	11.3	22.6	15.5	9.5	18.9	14.2	14.2	14.2
	5	7.9	19.7	14.6	6.4	16.1	13.1	5.0	12.5	11.6	9.6	23.9	16.3	8.0	20.1	14.7	6.5	16.2	13.2	11.4	28.5	17.8	9.8	24.5	16.3	8.2	20.4	14.8	14.8	14.8
08	3	12.2	18.3	16.0	10.0	15.0	15.0	8.4	12.7	12.7	14.5	21.7	17.4	12.4	18.7	16.3	10.2	15.2	15.2	16.9	25.4	18.8	14.8	22.2	17.7	12.6	19.0	16.6	16.6	16.6
	4	10.4	20.8	17.0	8.6	17.2	15.6	6.9	13.8	13.8	12.4	24.9	18.6	10.6	21.1	17.2	8.7	17.4	15.8	14.6	29.2	20.2	12.7	25.4	18.8	10.7	21.4	17.4	17.4	17.4
	5	9.0	22.6	17.7	7.4	18.6	16.1	5.8	14.5	14.5	10.8	27.1	19.5	9.2	22.9	17.9	7.5	18.7	16.3	12.9	32.1	21.3	11.1	27.7	19.6	9.3	23.2	18.0	18.0	18.0
10	3	15.4	23.1	20.2	12.7	19.0	19.0	10.6	16.0	16.0	18.2	27.2	22.0	15.6	23.4	20.6	12.8	19.2	19.2	21.1	31.7	23.7	18.5	27.8	22.3	15.8	23.8	21.0	21.0	21.0
	4	13.2	26.4	21.6	11.0	21.9	19.8	8.8	17.5	17.5	15.7	31.5	23.6	13.4	26.8	21.8	11.1	22.1	20.1	18.4	36.9	25.5	16.0	32.0	23.8	13.6	27.1	22.1	22.1	22.1
	5	11.5	28.8	22.6	9.5	23.7	20.5	7.4	18.5	18.5	13.8	34.6	24.9	11.7	29.2	22.8	9.6	23.9	20.8	16.3	40.7	27.0	14.1	35.2	24.9	11.8	29.6	22.9	22.9	22.9
12	3	16.4	24.6	22.8	13.8	20.7	20.7	11.6	17.4	17.4	19.3	28.9	24.7	16.7	25.0	23.3	14.0	20.9	20.9	22.3	33.5	26.5	19.6	29.5	25.1	16.9	25.4	23.8	23.8	23.8
	4	14.2	28.4	24.3	11.9	23.7	22.4	9.7	19.3	19.3	16.8	33.6	26.5	14.4	28.8	24.6	11.6	23.2	23.2	19.6	39.2	28.5	17.1	34.2	26.7	14.5	29.1	25.0	25.0	25.0
	5	12.4	31.1	25.4	10.3	25.8	23.2	8.2	20.5	20.5	14.8	37.1	27.8	12.6	31.5	25.7	10.4	26.0	23.6	17.4	43.6	30.1	15.1	37.8	28.0	12.7	31.9	25.9	25.9	25.9
16	5	14.2	35.4	31.4	11.7	29.3	29.3	9.9	24.7	24.7	16.8	41.9	34.2	14.4	36.1	32.0	11.9	29.7	29.7	19.5	48.8	36.8	17.1	42.8	34.7	14.7	36.6	32.6	32.6	32.6
	7	11.8	41.3	33.8	9.8	34.3	31.0	7.8	27.4	27.4	14.1	49.4	37.1	12.0	42.0	34.2	9.9	34.6	31.5	16.6	58.0	40.1	14.4	50.3	37.3	12.1	42.5	34.6	34.6	34.6
	9	10.1	45.3	35.5	8.3	37.2	32.6	6.4	28.9	28.9	12.1	54.4	39.1	10.2	46.0	35.8	8.3	37.5	32.6	14.3	64.4	42.5	12.3	53.5	39.2	10.3	46.5	36.0	36.0	36.0
20	5	16.5	41.3	37.9	13.8	34.6	34.6	11.6	29.1	29.1	19.4	48.6	41.2	16.8	42.0	38.7	14.0	30.5	30.5	22.5	56.3	44.2	19.8	49.5	41.8	17.0	42.6	39.5	39.5	39.5
	7	13.9	48.5	40.8	11.6	40.5	37.6	9.3	32.7	32.7	16.5	57.6	44.6	14.0	49.2	41.4	11.7	40.8	38.3	19.2	67.4	48.1	16.7	58.6	45.0	14.2	49.7	41.9	41.9	41.9
	9	11.9	53.5	42.9	9.8	44.1	39.1	7.7	34.8	34.8	14.2	64.0	47.1	12.0	54.1	43.3	9.9	44.4	39.6	16.7	75.2	51.0	14.5	65.0	47.3	12.2	54.7	43.6	43.6	43.6
30	7	15.9	55.6	55.6	13.9	48.5	48.5	11.7	41.0	41.0	19.0	66.5	59.7	16.2	56.8	56.8	14.1	49.4	49.4	22.0	77.0	64.0	19.5	68.2	61.0	16.5	57.9	57.9	57.9	57.9
	9	14.6	65.5	58.6	12.1	54.4	54.4	10.2	45.8	45.8	17.2	77.4	63.7	14.8	66.8	59.8	12.2	55.1	55.1	20.0	90.1	68.5	17.6	79.0	64.7	15.1	67.8	60.9	60.9	60.9
	11	13.1	72.3	61.3	11.0	60.5	56.6	8.9	49.1	49.1	15.6	85.9	67.0	13.4	73.5	62.2	11.1	61.1	57.7	18.3	100.5	72.2	15.9	87.6	67.6	13.5	74.5	63.1	63.1	63.1
40	14	11.4	79.9	64.5	9.4	66.1	58.8	7.5	52.3	52.3	13.7	95.6	70.7	11.6	81.1	65.1	9.5	66.6	59.7	16.1	112.5	76.6	13.9	97.4	71.1	11.7	82.1	65.7	65.7	65.7
	17	11.4	85.5	66.8	8.3	70.2	60.5	6.4	54.5	54.5	12.1	102.8	73.6	10.2	86.8	67.3	8.3	70.7	61.2	14.3	121.8	80.1	12.3	104.9	73.8	10.3	87.9	67.7	67.7	67.7
	25	11.4	90.5	79.5	13.5	74.4	74.4	11.4	62.5	62.5	19.4	106.8	86.4	16.7	91.8	80.8	13.7	75.1	75.1	22.6	124.1	92.8	19.7	108.5	87.4	16.9	92.8	82.1	82.1	82.1

LEGEND

- DB — Dry Bulb Temperature
- EWT — Entering Water Temperature
- MBtuh — Btuh in Thousands
- SC<sub>b</sub> — Base Sensible Capacity at Nominal CFM
- TC<sub>b</sub> — Base Total Capacity at Nominal CFM
- WB — Wet Bulb Temperature
- ΔT — Change in Water Temperature (F)

NOTE: All capacities are given in thousands of Btuh (MBtuh).

### 42BHC,BVC 6-ROW COOLING CAPACITY (by Gpm)

UNIT SIZE 42BHC,BVC	GPM	75 F DB/63 F WB									80 F DB/67 F WB									85 F DB/71 F WB										
		40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT				
		ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>	SC <sub>b</sub>	ΔT	TC <sub>b</sub>
06	3	13.5	20.2	15.4	11.1	16.7	13.9	8.8	13.2	12.5	16.1	24.2	16.9	13.7	20.6	15.5	11.2	16.8	14.0	19.0	28.4	18.3	16.5	24.7	16.9	13.9	20.8	15.5	15.5	15.5
	4	11.3	22.6	16.4	9.2	18.5	14.6	7.2	14.4	12.9	13.6	27.2	18.2	11.5	23.0	16.4	9.3	18.6	14.7	16.1	32.2	19.8	13.9	27.9	18.1	11.7	23.4	16.4	16.4	16.4
	5	9.7	24.2	17.1	7.9	19.7	15.1	6.1	15.1	13.3	11.7	29.2	19.1	9.9	24.6	17.1	7.9	19.9	15.2	13.9	34.8	20.9	12.0	30.0	19.0	10.0	25.1	17.1	17.1	17.1
08	3	15.3	22.9	18.7	12.8	19.2	17.2	10.2	15.3	15.3	18.1	27.2	20.4	15.5	23.3	18.9	12.9	19.3	17.4	21.2	31.8	22.0	18.5	27.7	20.5	15.7	23.6	19.1	19.1	19.1
	4	13.0	26.0	20.0	10.7	21.4	18.1	8.3	16.5	16.5	15.5	31.1	22.0	13.2	26.4	21.0	10.8	21.6	18.3	18.3	36.5	23.8	15.8	31.7	22.0	13.4	26.7	20.2	20.2	20.2
	5	11.3	28.1	20.9	9.2	23.1	18.7	7.2	18.0	16.7	13.5	33.8	23.1	11.4	28.6	21.0	9.3	23.2	18.9	16.0	40.0	25.2	13.8	34.6	23.1	11.6	29.0	21.0	21.0	21.0
10	4	16.2	32.3	25.0	13.4	26.8	22.7	10.4	20.8	20.8	19.2	38.5	27.4	16.4	32.7	25.1	13.5	26.9	22.9	22.5	45.0	29.6	19.5	39.1	27.4	16.5	33.1	25.2	25.2	25.2
	5	14.1	35.3	26.3	11.6	29.0	23.6	9.1	22.8	21.1	16.9	42.3	29.0	14.3	35.8	26.3	11.7	29.2	23.8	19.9	49.8	31.5	17.2	43.0	28.9	14.5	36.2	26.3	26.3	26.3
	6	12.5	37.5	27.2	10.2	30.6	24.3	7.9	23.8	21.5	15.0	45.1	30.2	12.7	38.1	27.2	10.3	30.8	24.4	17.8	53.3	32.9	15.4	46.1	30.0	12.9	38.6	27.2	27.2	27.2
12	6	13.7	41.0	30.8	11.2	33.6	27.7	8.8	26.5	24.8	16.4	49.1	33.9	13.3	41.5	30.9	11.3	33.8	27.9	19.3	57.8	36.8	16.6	49.9	33.8	14.0	41.9	30.9	30.9	30.9
	8	11.2	44.7	32.4	9.1	36.4	28.9	7.1	28.2	25.5	13.5	53.9	35.9	11.3	45.4	32.4	9.2	36.7	29.0	16.0	63.9	39.3	13.8	55.0	35.8	11.5	46.0	32.4	32.4	32.4
	10	9.4	47.1	33.5	7.7	38.3	29.7	5.9	29.4	26.0	11.5	57.3	37.4	9.6	48.0	33.5	7.7	38.6	29.7	13.6	68.2	41.1	11.7	58.6	37.2	9.8	48.8	33.4	33.4	33.4
16	7	14.6	51.2	39.6	12.1	42.3	35.9	9.4	32.8	32.8	17.5	61.1	43.5	14.8	51.9	39.8	12.2	42.6	36.3	20.5	71.7	47.0	17.8	62.1	43.5	15.0	52.4	40.0	40.0	40.0
	9	12.5	56.1	41.7	10.2	46.0	37.4	8.0	36.0	33.3	15.0	67.4	46.0	12.6	56.9	41.8	10.3	46.2	37.6	17.7	79.5	50.1	15.3	68.7	45.9	12.8	57.6	41.8	41.8	41.8
	11	10.8	59.5	43.2	8.8	48.5	38.5	6.8	37.6	34.0	13.1	71.8	47.9	11.0	60.5	43.2	8.9	48.9	38.6	15.5	85.2	52.4	13.3	73.4	47.7	11.1	61.3	43.2	43.2	43.2
20	7	17.0	59																											





### 42BHC, BVC 6-ROW COOLING CAPACITY (by $\Delta T$ )

UNIT SIZE 42BHC,BVC	$\Delta T$	75 F DB/63 F WB									80 F DB/67 F WB									85 F DB/71 F WB															
		40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT									
		GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM
06	10	4.8	23.8	17.0	3.5	17.7	14.3	2.4	12.0	12.0	6.2	31.0	19.8	4.9	24.5	17.0	3.6	18.0	14.5	7.8	38.8	22.7	6.4	32.2	19.9	5.0	25.1	17.1							
06	12	3.6	21.8	16.1	2.6	15.8	13.5	—	—	—	4.8	28.9	18.9	3.7	22.4	16.2	2.7	16.1	13.8	6.2	37.0	21.9	5.0	30.0	19.0	3.8	23.0	16.3							
06	14	2.8	19.6	15.1	—	—	—	—	—	—	3.8	26.7	18.0	2.9	20.2	15.3	—	—	—	5.0	34.7	20.9	4.0	27.8	18.1	3.0	20.7	15.5							
06	16	—	—	—	—	—	—	—	—	—	3.0	24.3	17.0	2.2	17.8	14.4	—	—	—	4.0	32.3	19.9	3.2	25.3	17.1	2.3	18.4	14.7							
06	18	—	—	—	—	—	—	—	—	—	2.4	21.7	15.9	—	—	—	—	—	—	3.3	29.8	18.9	2.5	22.7	16.2	—	—	—							
08	10	5.9	29.6	21.6	4.4	22.2	18.4	3.1	15.5	15.5	7.7	38.4	25.1	6.1	30.3	21.7	4.5	22.5	18.6	9.7	48.3	28.6	8.0	39.8	25.1	6.2	31.0	21.7							
08	12	4.5	27.2	20.5	3.3	20.0	17.5	2.3	14.0	14.0	6.0	35.8	23.9	4.6	27.9	20.7	3.4	20.3	17.8	7.6	45.6	27.5	6.2	37.1	24.0	4.7	28.5	20.8							
08	14	3.5	24.7	19.4	2.5	17.7	16.6	—	—	—	4.7	33.2	22.8	3.6	25.3	19.7	2.6	18.1	17.0	6.1	42.9	26.3	4.9	34.3	23.0	3.7	25.8	19.9							
08	16	2.7	21.9	18.3	—	—	—	—	—	—	3.8	30.4	21.7	2.8	22.6	18.7	—	—	—	5.0	40.0	25.2	3.9	31.4	21.9	2.9	23.2	19.0							
08	18	—	—	—	—	—	—	—	—	—	3.0	27.4	20.5	2.2	19.9	17.6	—	—	—	4.1	37.0	24.0	3.2	28.4	20.8	2.3	20.5	18.1							
10	10	8.1	40.6	28.7	6.2	30.9	24.4	4.4	22.0	20.7	10.4	52.2	33.3	8.3	41.7	28.7	6.2	31.2	24.5	13.0	65.1	37.9	10.8	54.2	33.3	8.5	42.6	28.7							
10	12	6.4	38.1	27.5	4.7	28.5	23.4	3.3	19.7	19.7	8.3	49.5	32.1	6.5	39.0	27.6	4.8	28.8	23.6	10.4	62.4	36.7	8.5	51.1	32.0	6.6	39.8	27.7							
10	14	5.1	35.4	26.3	3.7	26.0	22.4	2.6	17.9	17.9	6.7	46.7	30.8	5.2	36.2	26.5	3.8	26.3	22.7	8.5	59.4	35.4	6.9	48.1	30.8	5.3	36.9	26.6							
10	16	4.1	32.5	25.1	2.9	23.3	21.3	—	—	—	5.5	43.7	29.6	4.2	33.3	25.3	3.0	23.7	21.7	7.0	56.2	34.1	5.6	45.0	29.6	4.2	33.9	25.5							
10	18	3.3	29.5	23.8	2.2	19.9	19.9	—	—	—	4.5	40.6	28.2	3.4	30.2	23.1	2.3	20.4	20.4	5.9	53.0	32.7	4.6	41.7	28.4	3.4	30.8	24.5							
12	10	9.3	46.3	33.2	7.0	35.2	28.4	4.9	24.4	24.4	11.9	59.6	38.4	9.5	47.4	34.2	7.1	35.5	28.5	14.9	74.3	43.7	12.3	61.7	38.4	9.7	48.4	33.2							
12	12	7.2	43.5	31.9	5.4	32.6	27.3	3.8	22.8	22.8	9.4	56.3	37.0	7.4	44.3	32.0	5.5	32.8	27.5	11.8	71.1	42.3	9.7	58.0	36.9	7.5	45.1	32.1							
12	14	5.8	40.4	30.6	4.3	29.8	26.1	3.0	20.9	20.9	7.6	53.0	35.6	5.9	41.2	30.7	4.3	30.1	26.5	9.7	67.6	40.8	7.8	54.6	35.6	6.0	41.9	30.9							
12	16	4.7	37.2	29.2	3.4	27.0	25.0	2.3	18.4	18.4	6.2	49.7	34.2	4.7	38.0	29.5	3.4	27.4	25.5	8.0	63.7	39.2	6.4	51.1	34.3	4.8	38.6	29.7							
12	18	3.8	33.9	27.8	2.6	23.3	23.3	—	—	—	5.1	46.2	32.7	3.8	34.6	28.2	2.6	23.8	23.8	6.7	60.1	37.8	5.3	47.4	32.9	3.9	35.2	28.6							
16	10	12.2	61.2	44.0	9.3	46.4	37.6	6.4	32.1	32.1	15.7	78.7	50.9	12.5	62.6	44.1	9.4	46.8	37.8	19.7	98.5	58.0	16.3	81.5	50.9	12.8	63.9	44.1							
16	12	9.5	57.0	42.1	7.1	42.5	36.0	4.9	29.7	29.7	12.4	74.2	48.9	9.7	58.3	42.3	7.2	42.9	36.4	15.6	93.9	56.0	12.8	76.5	48.9	9.9	59.4	42.5							
16	14	7.5	52.6	40.2	5.5	38.4	34.3	3.8	26.6	26.6	10.0	69.7	47.0	7.7	53.8	40.5	5.6	39.0	34.9	12.7	89.1	54.0	10.3	71.8	47.1	7.8	54.8	40.8							
16	16	6.0	47.8	38.2	4.1	32.6	32.6	—	—	—	8.1	64.8	45.0	6.1	49.0	38.7	4.2	33.4	33.4	10.5	83.7	51.8	8.3	66.8	45.2	6.3	50.0	39.2							
16	18	4.7	42.7	36.0	—	—	—	—	—	—	6.6	59.6	42.9	4.9	44.0	36.8	3.3	29.8	29.8	8.7	78.6	49.7	6.8	61.5	43.2	5.0	45.1	37.5							
20	10	15.4	76.9	55.1	11.7	58.6	47.1	8.1	40.6	40.6	19.8	99.0	63.8	15.7	78.7	55.2	11.8	59.0	47.4	24.7	123.3	72.5	20.4	102.1	63.6	16.1	80.3	55.2							
20	12	12.0	72.3	53.0	9.1	54.3	45.4	6.3	38.1	38.1	15.6	93.6	61.5	12.3	73.7	53.2	9.1	59.7	45.8	19.7	117.9	70.2	16.0	96.3	61.3	12.5	75.0	53.3							
20	14	9.6	67.4	50.9	7.1	49.9	43.6	5.0	35.0	35.0	12.6	88.2	59.2	9.8	68.7	51.2	7.2	50.4	44.2	16.0	112.0	67.7	13.0	90.7	59.2	10.0	69.7	51.4							
20	16	7.8	62.3	48.7	5.7	45.9	41.7	3.9	31.0	31.0	10.4	82.9	56.9	7.9	63.5	49.1	5.7	45.9	42.6	13.3	106.1	65.3	10.6	85.5	57.0	8.1	64.4	49.5							
20	18	6.3	56.9	46.4	4.3	39.1	39.1	—	—	—	8.6	77.3	54.6	6.5	58.1	47.1	4.4	40.0	40.0	11.1	100.2	62.9	8.8	79.2	54.8	6.6	59.1	47.6							
30	10	23.0	115.1	82.6	17.5	87.3	70.6	12.1	60.5	60.5	29.7	148.5	95.8	23.6	117.8	82.8	17.6	88.1	71.1	37.0	185.2	109.0	30.6	153.2	95.6	24.1	120.3	82.9							
30	12	17.9	107.5	79.3	13.4	80.2	67.6	9.3	56.0	56.0	23.3	139.8	92.1	18.3	109.9	79.6	13.5	81.0	68.4	29.3	176.0	105.0	24.0	144.1	92.0	18.6	111.9	79.8							
30	14	14.2	99.3	75.7	10.4	72.6	64.6	7.2	50.3	50.3	18.8	131.3	88.4	14.5	101.5	76.3	10.5	73.7	65.7	23.9	167.6	101.5	19.3	135.3	88.6	14.8	103.3	76.8							
30	16	11.3	90.6	72.0	7.7	61.8	61.8	—	—	—	15.3	122.4	84.7	11.6	92.8	72.9	7.9	63.2	63.2	19.7	157.8	97.5	15.7	126.0	85.0	11.8	94.5	73.7							
30	18	9.0	81.1	68.0	6.1	54.6	54.6	—	—	—	12.5	112.9	80.8	9.3	83.5	69.4	6.3	56.7	56.7	16.5	148.3	93.6	12.9	116.2	81.4	9.5	85.5	70.6							
40	10	31.8	158.9	112.7	24.3	121.4	96.3	17.4	87.2	82.3	40.8	204.0	130.5	32.5	162.6	112.7	24.5	122.3	96.7	—	—	—	42.2	210.9	130.2	33.2	166.2	112.7							
40	12	25.0	150.0	108.6	18.9	113.1	92.8	13.1	78.8	78.8	32.3	193.6	125.9	25.5	153.0	108.8	19.0	113.9	93.5	40.6	243.4	143.8	33.3	199.6	125.7	26.0	155.7	108.9							
40	14	20.1	140.7	104.6	14.9	104.6	89.3	10.4	73.1	73.1	26.2	183.1	121.4	20.5	143.3	104.9	15.1	105.4	90.4	33.2	232.4	139.1	26.9	188.5	121.3	20.8	145.4	105.1							
40	16	16.4	131.0	100.3	12.0	95.7	85.7	8.2	66.0	66.0	21.6	172.9	117.0	16.7	133.2	100.9	12.1	96.8	82.2	27.6	220.5	134.1	22.2	177.4	117.0	16.9	135.1	101.5							
40	18	13.4	120.7	96.0	9.6	86.3	82.0	6.3	56.3	56.3	18.0	162.2	112.6	13.7	122.9	96.9	9.3	84.1	84.1	23.2	208.8	129.3	18.5	166.1	112.7	13.8	124.6	97.8							

#### LEGEND

NOTE: All capacities are given in thousands of Btuh (MBtuh).

DB — Dry Bulb Temperature      TC<sub>b</sub> — Base Total Capacity at Nominal Cfm  
 EWT — Entering Water Temperature      WB — Wet Bulb Temperature  
 MBtuh — Btuh in Thousands       $\Delta T$  — Change in Water Temperature (F)  
 SC<sub>b</sub> — Base Sensible Capacity at Nominal Cfm

### 42BHC, BVC 8-ROW COOLING CAPACITY (by $\Delta T$ )

UNIT SIZE 42BHC,BVC	$\Delta T$	75 F DB/63 F WB									80 F DB/67 F WB									85 F DB/71 F WB												
		40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT			40 F EWT			45 F EWT			50 F EWT						
		GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM	TC <sub>b</sub>	SC <sub>b</sub>	GPM
06	10	5.2	25.8	18.0	3.8	19.0	15.0	—	—	—	6.8	33.8	21.2	5.3	26.7	18.1	3.9	19.4	15.2	8.5	42.4	24.4	7.1	35.3	21.3	5.5	27.6	18.2				
06	12	3.9	23.3	16.9	—	—	—	—	—	—	5.2	31.4	20.2	4.0	24.2	17.1	—	—	—	6.7	40.2	23.4	5.5	32.8	20.3	4.2	25.0	17.2				
06	14	—	—	—	—	—	—	—	—	—	4.1	28.7	19.0	—	—	—	—	—	—	5.4	37.6	22.3	4.3	30.1	19.2	—	—	—				
06	16																															

# Performance data (cont)



## DIRECT EXPANSION (DX) BASE COOLING CAPACITIES\* (MBtuh) — 4-ROW COIL

UNIT SIZE 42BHC,BVC	CONNECTION SIZE(in.)		CFM	R-22 SUCTION TEMP(F)	ENTERING-AIR TEMPERATURE (F)—DRY BULB/WET BULB											
	Liquid	Suction			75/63		80/63		75/67		80/67		80/71		85/71	
					TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
06	3/8	5/8	400	40	8.6	7.8	9.9	9.9	13.5	7.8	13.5	9.8	18.7	9.8	18.8	11.7
				45	5.4	5.4	7.8	7.8	7.2	5.5	8.4	7.9	13.5	7.8	13.6	9.8
				50	2.3	2.3	5.4	5.4	2.3	2.3	5.4	5.4	6.6	5.5	7.8	7.8
			600	40	13.3	12.0	15.4	15.4	19.5	11.5	19.5	14.5	26.9	14.2	26.6	17.1
				45	9.0	9.0	12.3	12.3	11.5	8.5	13.2	12.1	19.4	11.4	19.7	14.5
				50	5.0	5.0	8.9	8.9	5.0	5.0	8.9	8.9	11.0	8.6	13.0	12.2
			700	40	15.3	13.8	17.7	17.7	21.9	13.1	22.0	16.5	30.1	16.1	29.8	19.4
				45	10.4	10.4	14.2	14.2	13.3	9.9	15.1	13.9	21.9	13.0	22.2	16.6
				50	6.1	6.1	10.4	10.4	6.1	6.1	10.4	10.4	12.7	9.9	15.0	14.1
08	3/8	5/8	600	40	13.3	12.0	15.4	15.4	19.5	11.5	19.5	14.5	26.9	14.2	26.6	17.1
				45	9.0	9.0	12.3	12.3	11.5	8.5	13.2	12.1	19.4	11.4	19.7	14.5
				50	5.0	5.0	8.9	8.9	5.0	5.0	8.9	8.9	11.0	8.6	13.0	12.2
			800	40	17.0	15.4	19.8	19.8	24.3	14.6	24.2	18.4	33.0	17.7	32.4	21.4
				45	11.8	11.8	15.9	15.9	14.9	11.1	16.8	15.6	24.1	14.5	24.4	18.4
				50	7.1	7.1	11.7	11.7	7.1	7.1	11.7	11.7	14.2	11.2	16.7	15.8
			900	40	18.4	16.9	21.5	21.5	26.3	15.9	26.2	20.1	35.5	19.2	35.3	23.4
				45	12.9	12.9	17.3	17.3	16.2	12.1	18.3	17.1	26.4	15.9	26.3	20.1
				50	7.9	7.9	12.9	12.9	7.9	7.9	12.9	12.9	15.6	12.3	17.3	17.3
10	1/2	7/8	800	40	24.7	18.9	23.9	23.9	33.2	18.3	32.9	22.2	42.0	21.5	41.4	25.2
				45	17.2	15.8	20.0	20.0	24.9	14.9	24.9	18.9	33.9	18.2	33.6	22.1
				50	11.9	11.9	16.0	16.0	15.1	11.3	17.0	15.9	24.6	14.8	24.9	18.9
			1000	40	29.1	22.7	29.1	29.1	38.8	21.7	38.6	26.5	48.8	25.3	48.4	30.0
				45	20.8	19.3	24.4	24.4	29.2	17.9	29.3	22.8	39.5	21.6	39.1	26.4
				50	14.8	14.8	19.7	19.7	18.1	13.8	19.7	19.7	29.0	17.8	29.3	22.8
			1100	40	31.0	24.5	31.4	31.4	41.2	23.2	40.8	28.4	51.7	26.9	51.0	32.0
				45	22.3	20.9	26.4	26.4	31.1	19.2	31.2	24.6	41.9	23.1	41.6	28.4
				50	16.0	16.0	21.2	21.2	19.4	14.9	21.2	21.2	30.8	19.2	31.2	24.6
12	1/2	7/8	1000	40	29.1	22.7	29.1	29.1	38.8	21.7	38.6	26.5	48.8	25.3	48.4	30.0
				45	20.8	19.3	24.4	24.4	29.2	17.9	29.3	22.8	39.5	21.6	39.1	26.4
				50	14.8	14.8	19.7	19.7	18.1	13.8	19.7	19.7	29.0	17.8	29.3	22.8
			1200	40	32.8	26.1	33.5	33.5	43.4	24.6	42.8	30.1	54.3	28.5	54.2	34.2
				45	23.7	22.4	28.1	28.1	32.7	20.4	32.9	26.2	44.0	24.5	43.5	30.1
				50	17.1	17.1	22.7	22.7	20.6	16.0	22.7	22.7	32.5	20.4	32.9	26.3
			1300	40	34.4	27.6	35.3	35.3	45.4	25.9	45.1	31.9	56.7	29.9	56.6	36.0
				45	24.0	24.0	29.7	29.7	34.3	21.5	34.5	27.7	45.9	25.8	45.6	31.8
				50	18.1	18.1	24.0	24.0	21.8	16.9	24.0	24.0	34.0	21.5	34.4	27.8
16	5/8	7/8	1400	40	38.2	30.7	39.4	39.4	52.0	29.4	51.8	36.2	66.5	34.6	65.9	41.2
				45	26.0	26.0	32.8	32.8	37.9	23.8	38.3	30.8	53.0	29.4	52.6	36.1
				50	18.9	18.9	25.9	25.9	21.8	18.0	25.9	25.9	37.2	23.7	38.3	31.0
			1600	40	41.9	34.1	43.7	43.7	56.7	32.3	56.0	39.7	72.3	37.9	71.8	45.4
				45	28.9	28.9	36.4	36.4	41.5	26.4	42.0	34.2	57.6	32.3	57.2	39.8
				50	21.1	21.1	28.9	28.9	24.2	20.1	28.9	28.9	40.5	26.3	41.8	34.4
			1800	40	45.1	37.1	47.3	47.3	60.8	34.9	60.1	43.1	77.3	40.8	77.0	49.2
				45	31.4	31.4	39.5	39.5	44.6	28.6	45.1	37.3	61.6	34.9	61.2	43.2
				50	23.0	23.0	31.4	31.4	26.3	22.0	31.4	31.4	44.0	28.7	44.9	37.5
20	5/8	7/8	1800	40	48.8	39.2	50.3	50.3	65.9	37.3	65.4	45.8	83.7	43.7	83.2	52.2
				45	33.4	33.4	41.9	41.9	48.5	30.5	48.9	39.3	67.0	37.2	66.5	45.8
				50	24.5	24.5	33.4	33.4	28.8	23.3	33.4	33.4	47.5	30.3	48.8	39.5
			2000	40	52.2	42.4	54.3	54.3	70.3	40.1	69.7	49.4	89.1	46.8	88.5	56.1
				45	36.2	36.2	45.3	45.3	51.9	32.9	52.4	42.6	71.3	40.0	70.6	49.3
				50	26.6	26.6	36.1	36.1	31.0	25.3	36.1	36.1	51.2	32.9	52.2	42.8
			2200	40	55.3	45.3	57.8	57.8	74.2	42.6	73.6	52.6	93.9	49.6	93.2	59.6
				45	38.6	38.6	48.3	48.3	54.9	35.1	55.4	45.5	75.1	42.5	74.3	52.5
				50	28.5	28.5	38.5	38.5	33.0	27.2	38.5	38.5	54.1	35.1	55.2	45.8
30	5/8	1 1/8	2600	40	72.3	57.6	73.9	73.9	98.0	55.2	96.5	67.3	124.8	64.8	122.5	76.6
				45	49.0	49.0	61.6	61.6	72.0	44.9	72.6	57.8	99.7	55.1	98.6	67.3
				50	35.9	35.9	49.0	49.0	42.3	34.1	49.0	49.0	71.0	44.8	72.5	58.0
			2800	40	76.1	61.1	78.4	78.4	102.8	58.2	102.0	71.5	130.8	68.2	129.8	81.4
				45	52.1	52.1	65.4	65.4	75.8	47.5	76.4	61.3	104.6	58.1	103.8	71.4
				50	38.2	38.2	52.0	52.0	44.8	36.3	52.0	52.0	74.0	47.2	76.2	61.6
			3000	40	79.7	64.4	82.5	82.5	107.4	61.1	106.0	74.9	136.3	71.4	134.3	85.0
				45	54.9	54.9	68.9	68.9	79.2	50.0	79.9	64.7	109.0	60.9	107.7	74.9
				50	40.4	40.4	54.9	54.9	47.2	38.4	54.9	54.9	77.7	49.8	79.7	64.9
3200	40	83.0	67.5	86.3	86.3	111.6	63.7	110.9	78.7	141.5	74.4	141.0	89.4			
	45	57.6	57.6	72.1	72.1	82.4	52.3	83.2	67.8	113.2	63.6	112.3	78.5			
	50	42.4	42.4	57.5	57.5	49.2	40.3	57.5	57.5	81.3	52.4	83.0	68.1			
40	7/8	1 1/8	3600	40	110.1	84.0	107.6	107.6	141.6	78.8	141.1	96.2	173.7	90.0	173.3	107.4
				45	82.1	72.3	91.7	91.7	111.1	66.5	110.8	84.0	143.8	78.3	143.3	95.7
				50	58.8	58.8	75.4	75.4	76.7	53.6	81.4	72.8	110.8	66.3	111.1	84.0
			3800	40	113.6	87.3	112.1	112.1	145.9	81.6	144.1	99.3	178.8	93.0	178.3	111.3
				45	85.1	75.4	95.5	95.5	114.6	69.0	114.5	87.4	148.0	81.1	146.2	98.8
				50	61.3	61.3	78.5	78.5	79.2	55.8	84.4	76.0	114.2	68.8	114.7	87.4
			4000	40	117.1	90.5	116.2	116.2	150.0	84.3	148.7	103.0	183.5	95.9	183.0	115.0
				45	87.9	78.4	99.0	99.0	117.8	71.4	117.8	90.6	151.9	83.7	150.5	102.4
				50	63.7	63.7	81.5	81.5	81.7	57.9	87.1	79.1	117.3	71.2	118.0	90.7
4200	40	120.4	93.6	120.1	120.1	153.8	86.8	153.0	106.5	187.9	98.6	187.4	118.5			
	45	90.5	81.3	102.4	102.4	120.9	73.6	121.0	93.7	155.6	86.2	154.5	105.9			
	50	66.0	66.0	84.3	84.3	83.9	59.9	89.8	82.0	120.2	73.5	121.1	93.8			

LEGEND

MBtuh — Capacity (Btuh in thousands)  
 SH — Sensible Heat  
 TH — Total Heat

\*Capacity based on R-22 refrigerant at 105 F liquid temperature and 10 F superheat.



**DIRECT EXPANSION (DX) BASE COOLING CAPACITIES\* (MBtuh) — 6-ROW COIL**

UNIT SIZE 42BHC,BVC	CONNECTION SIZE (in.)		CFM	R-22 SUCTION TEMP (F)	ENTERING AIR TEMPERATURE (F) — DRY BULB/WET BULB																																												
	Liquid	Suction			75/63		80/63		75/67		80/67		80/71		85/71																																		
					TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH																																	
06	3/8	5/8	400	40	15.4	11.1	13.6	13.6	20.8	11.1	20.8	13.2	26.4	13.2	26.3	15.3	45	9.1	9.1	11.4	11.4	15.6	8.9	15.6	11.0	21.3	11.0	21.3	13.1	50	6.7	6.7	9.1	9.1	9.3	6.5	10.2	8.9	15.7	8.9	15.7	11.0							
				600	40	22.1	16.2	20.6	20.6	29.3	15.9	29.4	19.1	37.2	18.7	37.0	21.9	45	14.0	14.0	17.3	17.3	22.3	12.9	22.4	16.2	30.2	15.8	30.2	19.0	50	10.5	10.5	14.0	14.0	14.0	9.8	15.4	13.5	22.3	12.9	22.6	16.2						
					700	40	25.1	18.6	23.7	23.7	33.0	18.0	33.0	21.7	41.8	21.1	41.5	24.8	45	17.8	15.5	20.0	20.0	25.1	14.7	25.3	18.5	33.6	17.8	33.8	21.6	50	12.1	12.1	16.1	16.1	15.9	11.3	17.6	15.6	25.1	14.6	25.5	18.5					
			08			3/8	5/8	600	40	22.1	16.2	20.6	20.6	29.3	15.9	29.4	19.1	37.2	18.7	37.0	21.9	45	14.0	14.0	17.3	17.3	22.3	12.9	22.4	16.2	30.2	15.8	30.2	19.0	50	10.5	10.5	14.0	14.0	14.0	9.8	15.4	13.5	22.3	12.9	22.6	16.2		
				800					40	27.7	20.7	26.6	26.6	36.5	20.0	36.3	24.1	45.8	23.3	45.5	27.4	45	19.8	17.4	22.4	22.4	27.5	16.3	27.9	20.7	37.0	19.7	37.1	24.0	50	13.7	13.7	18.1	18.1	17.7	12.6	19.6	17.5	27.7	16.3	28.1	20.7		
					900				40	30.0	22.7	29.1	29.1	39.5	21.8	39.3	26.4	49.4	25.3	49.0	29.8	45	21.6	19.2	24.6	24.6	30.0	17.9	30.3	22.7	40.2	21.6	40.0	26.2	50	15.0	15.0	19.9	19.9	19.3	13.9	21.4	19.4	29.8	17.8	30.4	22.7		
			10					1/2	7/8	800	40	33.3	23.3	29.3	29.3	42.4	22.6	42.2	26.9	51.8	25.9	51.5	30.1	45	25.1	19.7	25.1	25.1	34.0	19.0	33.8	23.2	43.5	22.4	43.1	26.5	50	16.6	16.6	20.9	20.9	24.5	15.2	25.1	19.7	34.0	18.7	34.3	23.1
				1000							40	39.1	28.0	35.7	35.7	49.4	26.7	49.0	31.8	59.9	30.3	59.6	35.5	45	29.8	23.9	30.7	30.7	39.6	22.5	39.6	27.9	50.3	26.3	49.9	31.5	50	20.3	20.3	25.5	25.5	28.7	18.2	29.7	24.0	39.5	22.2	39.9	27.7
					1100						40	41.6	30.1	38.7	38.7	52.3	28.4	52.0	34.2	63.3	32.2	62.6	37.8	45	31.9	25.9	33.2	33.2	42.0	24.1	42.1	30.0	53.1	28.1	52.9	33.8	50	22.0	22.0	27.6	27.6	30.4	19.6	31.7	25.9	41.9	23.8	42.3	29.8
12	1/2	7/8								1000	40	39.1	28.0	35.7	35.7	49.4	26.7	49.0	31.8	59.9	30.3	59.6	35.5	45	29.8	23.9	30.7	30.7	39.6	22.5	39.6	27.9	50.3	26.3	49.9	31.5	50	20.3	20.3	25.5	25.5	28.7	18.2	29.7	24.0	39.5	22.2	39.9	27.7
				1200							40	43.9	32.1	41.4	41.4	54.9	30.1	54.7	36.3	66.3	33.9	65.8	40.1	45	33.7	27.7	35.5	35.5	44.1	25.6	44.3	32.0	55.6	29.7	55.5	36.0	50	23.6	23.6	29.6	29.6	32.0	20.9	33.5	27.8	44.0	25.3	44.5	31.8
					1300						40	46.0	34.0	43.8	43.8	57.3	31.6	57.1	38.3	68.9	35.5	68.8	42.3	45	35.4	29.5	37.7	37.7	46.0	26.9	46.3	33.9	57.9	31.2	57.8	37.9	50	25.1	25.1	31.4	31.4	33.5	22.1	35.2	29.6	45.8	26.7	46.4	33.7
						16	5/8			7/8	1400	40	53.9	38.8	49.4	49.4	69.0	37.3	68.6	44.6	84.6	42.7	83.7	49.8	45	40.4	32.9	42.2	42.2	54.6	31.2	54.6	38.6	70.6	36.9	70.1	44.2	50	27.5	27.5	34.9	34.9	38.6	24.9	40.2	33.0	54.7	30.9	55.2
				1600								40	59.0	43.0	55.1	55.1	75.1	40.9	74.5	49.1	91.8	46.7	91.5	55.0	45	44.4	36.8	47.1	47.1	59.6	34.4	59.7	42.9	76.5	40.5	76.1	48.8	50	30.7	30.7	39.0	39.0	42.1	27.7	44.2	36.9	59.4	34.0	60.1
					1800							40	63.5	46.9	60.2	60.2	80.4	44.1	80.0	53.3	97.9	50.2	97.5	59.4	45	48.0	40.3	51.5	51.5	63.8	37.3	64.1	46.8	81.7	43.7	81.2	52.9	50	33.6	33.6	42.6	42.6	45.3	30.2	47.7	40.5	63.4	36.9	64.3
			20					5/8	7/8		1800	40	68.0	49.2	62.9	62.9	86.5	46.9	85.9	56.2	105.6	53.6	105.3	63.0	45	51.3	42.0	53.8	53.8	68.8	39.5	68.8	49.0	88.2	46.4	87.9	55.9	50	35.3	35.3	44.6	44.6	48.8	31.7	51.1	42.1	68.7	39.0	69.4
				2000								40	72.7	53.2	68.3	68.3	92.1	50.3	91.8	60.7	112.2	57.2	111.5	67.5	45	55.1	45.7	58.5	58.5	73.3	42.5	73.5	53.1	93.7	49.8	93.4	60.2	50	38.4	38.4	48.5	48.5	52.2	34.4	54.8	45.8	72.9	42.0	73.9
					2200							40	77.0	57.0	73.2	73.2	97.1	53.4	96.4	64.5	117.9	60.6	116.8	71.6	45	58.5	49.1	62.7	62.7	77.4	45.3	77.7	56.9	98.5	52.8	98.1	64.1	50	41.2	41.2	52.0	52.0	55.2	36.8	58.1	49.3	77.2	45.0	77.9
30	5/8	1 1/8									2600	40	100.8	72.3	92.2	92.2	128.7	69.5	127.6	82.8	157.6	79.5	156.4	92.9	45	75.9	61.5	78.9	78.9	102.3	58.3	102.2	72.1	131.6	68.8	131.1	82.5	50	51.6	51.6	65.3	65.3	72.7	46.7	75.5	61.6	102.8	57.8	103.2
				2800								40	106.1	76.7	98.0	98.0	135.0	73.2	134.1	87.6	165.0	83.6	164.4	98.2	45	80.1	65.5	83.9	83.9	107.4	61.6	107.4	76.4	137.7	72.4	137.3	87.1	50	54.9	54.9	69.5	69.5	76.4	49.5	79.7	65.6	107.2	60.9	108.3
					3000							40	111.0	80.8	103.6	103.6	140.9	76.7	140.2	92.2	171.8	87.4	170.2	102.6	45	84.0	69.2	88.7	88.7	112.1	64.7	112.3	80.6	143.4	75.9	143.0	91.5	50	58.1	58.1	73.5	73.5	79.7	52.2	83.5	69.4	112.2	64.1	113.0
						40	7/8			1 1/8	3200	40	115.6	84.7	108.8	108.8	146.3	80.0	145.8	96.6	178.0	90.9	177.2	107.4	45	87.6	72.8	93.1	93.1	116.5	67.6	116.8	84.5	148.6	79.1	148.1	95.7	50	61.1	61.1	77.2	77.2	82.9	54.7	87.1	73.0	115.8	66.9	117.4
				3600								40	137.6	99.2	128.3	128.3	168.6	92.0	168.3	111.0	200.7	102.8	200.3	121.7	45	107.9	86.4	110.9	110.9	137.6	79.1	138.7	98.6	170.2	90.5	170.6	109.8	50	78.5	74.4	93.2	93.2	103.5	65.7	107.5	86.3	137.1	78.1	139.1
					3800							40	141.9	103.1	133.7	133.7	173.1	95.0	173.2	115.1	205.7	105.9	205.3	125.9	45	111.6	90.0	115.6	115.6	141.4	81.8	142.9	102.5	174.4	93.4	175.2	113.9	50	78.8	78.8	97.2	97.2	106.5	68.3	111.0	90.1	140.6	80.8	143.2
			4000			40		145.9	106.9		138.9	138.9	177.3	97.8	177.7	119.1	210.2	108.8	210.2	129.9	45	115.1	93.6	120.1	120.1	144.9	84.4	146.8	106.3	178.3	96.2	179.5	117.8	50	81.9	81.9	101.0	101.0	109.4	70.7	114.4	93.7	143.8	83.4	146.9	105.7			
				4200		40		149.7	110.5		143.8	143.8	181.1	100.4	181.9	122.8	214.3	111.5	214.7	133.8	45	118.3	97.1	124.4	124.4	148.1	86.9	150.4	110.0	181.8	98.9	183.5	121.6	50	84.9	84.9	104.7	104.7	112.1	73.1	117.5	97.2	146.6	85.9	150.4	109.3			

**LEGEND**  
**MBtuh** — Capacity (Btuh in thousands)  
**SH** — Sensible Heat  
**TH** — Total Heat

\*Capacity based on R-22 refrigerant at 105 F liquid temperature and 10 F superheat.

# Performance data (cont)



## UNIT HORSEPOWER DATA TABLE

UNIT SIZE 42BHC,BVC	BLOWER	CFM	TOTAL STATIC PRESSURE (in. wg)																	
			0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1	
			Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
06	9 in. x 4 in.	400	677	0.05	770	0.07	857	0.09	937	0.11	1009	0.13	1077	0.14	1140	0.16	1200	0.18	1257	0.20
		500	729	0.07	798	0.09	873	0.33	947	0.13	1019	0.16	1086	0.18	1150	0.20	1210	0.23	1267	0.25
		600	809	0.11	856	0.12	909	0.14	968	0.16	1031	0.18	1093	0.21	1154	0.24	1214	0.26	1271	0.29
		700	906	0.15	939	0.17	977	0.18	1020	0.20	1067	0.22	1118	0.25	1171	0.28	1225	0.31	1278	0.34
		800	1012	0.22	1038	0.23	1068	0.25	1100	0.27	1135	0.29	1174	0.31	1215	0.33	1259	0.36	1305	0.39
08	9 in. x 6 in.	600	670	0.07	745	0.09	815	0.11	880	0.12	942	0.14	1000	0.16	1055	0.18	1108	0.20	1159	0.22
		700	706	0.10	776	0.11	842	0.13	903	0.15	962	0.17	1018	0.19	1071	0.21	1123	0.24	1172	0.26
		800	748	0.12	812	0.14	874	0.17	932	0.19	988	0.21	1041	0.23	1092	0.25	1142	0.28	1190	0.30
		900	794	0.16	853	0.18	910	0.20	965	0.23	1018	0.25	1069	0.28	1118	0.30	1165	0.33	1211	0.35
		1000	—	—	—	—	—	—	—	—	—	—	—	1103	0.34	1149	0.36	1193	0.39	1236
10	10 in. x 4 in.	800	817	0.17	854	0.19	896	0.21	943	0.23	992	0.25	1042	0.28	1091	0.31	1139	0.34	1185	0.36
		900	897	0.23	926	0.25	959	0.27	996	0.29	1036	0.31	1079	0.34	1123	0.37	1168	0.40	1212	0.43
		1000	982	0.31	1006	0.33	1033	0.35	1062	0.37	1095	0.39	1130	0.41	1167	0.44	1206	0.47	1246	0.50
		1100	1068	0.41	1088	0.42	1111	0.44	1135	0.46	1161	0.48	1190	0.50	1221	0.53	1254	0.56	1288	0.59
		1200	1143	0.51	1172	0.53	1192	0.55	1212	0.57	1234	0.59	1258	0.62	1284	0.64	1311	0.67	1340	0.70
12	10 in. x 7 in.	1000	629	0.13	688	0.15	744	0.18	789	0.20	849	0.22	898	0.24	946	0.26	991	0.29	1035	0.31
		1100	656	0.16	712	0.19	765	0.21	816	0.23	865	0.26	912	0.28	958	0.30	1002	0.33	1044	0.35
		1200	686	0.20	738	0.22	789	0.25	837	0.27	884	0.30	929	0.32	973	0.35	1015	0.38	1056	0.40
		1300	717	0.24	767	0.27	814	0.29	861	0.32	905	0.35	948	0.37	990	0.40	1031	0.43	1071	0.46
		1400	—	—	—	—	—	—	—	—	—	—	—	968	0.43	1008	0.46	1048	0.49	1086
16	11 in. x 10 in.	1400	—	—	648	0.20	699	0.23	747	0.26	792	0.29	834	0.31	875	0.34	913	0.37	949	0.40
		1500	611	0.20	664	0.23	714	0.26	761	0.29	805	0.32	847	0.35	887	0.38	925	0.41	961	0.44
		1600	631	0.24	682	0.27	730	0.30	776	0.33	819	0.36	860	0.39	899	0.42	937	0.45	973	0.48
		1700	651	0.27	700	0.30	747	0.34	791	0.37	834	0.40	874	0.43	913	0.47	950	0.50	986	0.53
		1800	—	—	—	—	—	—	—	—	—	—	—	890	0.49	928	0.52	965	0.56	1000
20	12 in. x 9 in.	1800	—	—	629	0.32	672	0.36	712	0.39	751	0.43	788	0.46	824	0.50	860	0.54	894	0.57
		1900	603	0.32	646	0.36	686	0.40	726	0.43	763	0.47	800	0.51	835	0.55	869	0.59	903	0.62
		2000	621	0.36	662	0.40	702	0.44	740	0.48	777	0.52	812	0.56	846	0.60	880	0.64	913	0.68
		2100	639	0.41	679	0.45	718	0.49	755	0.53	790	0.57	825	0.61	859	0.66	891	0.70	923	0.74
		2200	658	0.46	697	0.50	734	0.54	770	0.59	805	0.63	839	0.67	871	0.71	903	0.76	935	0.80
		2300	—	—	—	—	—	—	—	—	—	—	—	—	887	0.78	918	0.83	947	0.87
		2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	932	0.90	961	0.95
30	12 in. x 12 in.	2400	604	0.43	647	0.47	688	0.52	728	0.57	766	0.62	803	0.66	840	0.71	875	0.76	909	0.82
		2600	633	0.52	674	0.57	713	0.62	750	0.67	787	0.72	823	0.77	857	0.82	891	0.88	924	0.93
		2800	660	0.62	701	0.67	739	0.73	775	0.78	810	0.84	844	0.89	877	0.95	909	1.01	941	1.06
		3000	694	0.74	730	0.79	766	0.85	800	0.91	834	0.97	866	1.03	898	1.09	929	1.15	960	1.21
		3200	726	0.87	760	0.93	794	0.99	827	1.05	859	1.12	890	1.18	921	1.24	951	1.30	980	1.37
		3400	—	—	—	—	—	—	—	—	—	—	—	—	—	944	1.42	972	1.48	1000
40	15 in. x 12 in.	3400	—	—	—	—	609	0.79	639	0.85	668	0.91	697	0.97	724	1.04	752	1.10	778	1.16
		3600	—	—	—	—	627	0.90	656	0.96	684	1.03	712	1.09	738	1.16	765	1.22	791	1.29
		3800	—	—	616	0.95	646	1.02	674	1.09	701	1.16	727	1.22	753	1.29	779	1.36	804	1.43
		4000	607	1.01	637	1.08	665	1.15	692	1.22	718	1.29	744	1.37	769	1.44	794	1.51	818	1.58
		4200	629	1.14	657	1.22	684	1.30	711	1.37	736	1.45	761	1.52	786	1.59	809	1.67	833	1.74
		4400	—	—	—	—	—	—	—	—	—	—	—	—	—	806	1.79	829	1.87	852

### LEGEND

— — Application not available  
**Bhp** — Horsepower

### NOTES:

- Contact factory if higher horsepower selection is required for a given cfm and total static pressure.
- The variable pitch motor sheave provided will allow  $\pm 15\%$  rpm adjustment. Unit sizes 06, 08, 10 and 12 have  $\frac{3}{4}$  in. bore fan sheaves. Unit sizes 16, 20, 30 and 40 have 1-in. bore fan sheaves.
- Consult factory for motor selections when outlet air temperature exceeds 104 F on hot water coil applications.
- Single-phase motors are only available to 2 hp. Three-phase motors are available from  $\frac{1}{2}$  to 3 hp.



**UNIT HORSEPOWER DATA TABLE (cont)**

UNIT SIZE 42BHC,BVC	BLOWER	CFM	TOTAL STATIC PRESSURE (in. wg)																	
			1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
			Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
06	9 in. x 4 in.	400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		500	1321	0.27	1374	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		600	1326	0.32	1378	0.35	1429	0.38	1478	0.40	—	—	—	—	—	—	—	—	—	—
		700	1331	0.37	1383	0.40	1433	0.43	1482	0.46	1529	0.50	1575	0.53	1619	0.56	1662	0.59	1705	0.63
		800	1352	0.42	1399	0.46	1446	0.49	1492	0.52	1538	0.56	1583	0.60	1627	0.63	1670	0.67	1712	0.71
08	9 in. x 6 in.	600	1208	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		700	1220	0.28	1266	0.30	1310	0.33	1353	0.35	1395	0.37	—	—	—	—	—	—	—	
		800	1236	0.33	1280	0.35	1324	0.38	1366	0.40	1407	0.43	1447	0.45	1486	0.48	1524	0.51	1562	0.53
		900	1256	0.38	1299	0.40	1341	0.43	1382	0.46	1423	0.49	1462	0.52	1500	0.54	1537	0.57	1574	0.60
		1000	1278	0.44	1319	0.47	1359	0.49	1398	0.52	1436	0.55	1474	0.57	1510	0.60	1546	0.63	1582	0.65
10	10 in. x 4 in.	800	1229	0.39	1271	0.42	1311	0.44	1350	0.47	1388	0.50	1425	0.52	1461	0.55	1496	0.58	1530	0.60
		900	1254	0.46	1296	0.49	1336	0.52	1375	0.55	1413	0.58	1450	0.61	1486	0.64	1520	0.67	1554	0.70
		1000	1286	0.53	1326	0.57	1365	0.60	1403	0.64	1441	0.67	1477	0.70	1513	0.74	1547	0.77	1581	0.81
		1100	1324	0.62	1360	0.66	1396	0.69	1433	0.73	1469	0.77	1504	0.80	1539	0.84	1573	0.88	1606	0.92
		1200	1370	0.73	1402	0.76	1434	0.80	1467	0.84	1501	0.87	1534	0.91	1567	0.95	1600	0.99	1633	1.03
12	10 in. x 7 in.	1000	1078	0.33	1120	0.36	1160	0.38	1200	0.40	1239	0.43	1276	0.45	1313	0.47	1349	0.50	1385	0.52
		1100	1086	0.38	1126	0.40	1166	0.43	1222	0.48	1242	0.48	1279	0.51	1315	0.53	1350	0.56	1396	0.61
		1200	1097	0.43	1136	0.46	1174	0.48	1211	0.51	1248	0.54	1284	0.57	1319	0.59	1353	0.62	1387	0.65
		1300	1110	0.49	1148	0.51	1185	0.54	1221	0.57	1257	0.60	1292	0.63	1326	0.66	1359	0.69	1392	0.72
		1400	1124	0.55	1162	0.58	1198	0.61	1234	0.64	1269	0.67	1304	0.70	1338	0.73	1371	0.77	1404	0.80
16	11 in. x 10 in.	1400	985	0.42	1018	0.45	1051	0.48	1083	0.51	1113	0.54	1143	0.57	1172	0.59	1200	0.62	1227	0.65
		1500	996	0.47	1030	0.50	1062	0.53	1094	0.56	1124	0.59	1154	0.62	1182	0.65	1210	0.68	1238	0.71
		1600	1008	0.52	1041	0.55	1074	0.58	1105	0.61	1135	0.64	1165	0.67	1193	0.71	1221	0.74	1248	0.77
		1700	1020	0.57	1053	0.60	1085	0.63	1116	0.67	1146	0.70	1176	0.73	1204	0.77	1232	0.80	1259	0.84
		1800	1033	0.63	1065	0.66	1097	0.70	1128	0.73	1157	0.77	1186	0.80	1215	0.84	1242	0.87	1268	0.90
20	12 in. x 9 in.	1800	927	0.61	959	0.65	991	0.69	1022	0.73	1052	0.77	—	—	—	—	—	—	—	
		1900	935	0.66	967	0.70	998	0.74	1028	0.78	1058	0.83	1087	0.87	1115	0.91	—	—	—	
		2000	944	0.72	975	0.76	1006	0.80	1035	0.85	1065	0.89	1093	0.93	1121	0.97	1149	1.02	1176	1.06
		2100	954	0.78	985	0.82	1014	0.87	1043	0.91	1072	0.96	1100	1.00	1128	1.04	1155	1.09	1181	1.14
		2200	965	0.85	995	0.89	1024	0.94	1052	0.98	1080	1.03	1108	1.07	1135	1.12	1162	1.17	1188	1.21
		2300	976	0.92	1004	0.96	1032	1.01	1060	1.05	1087	1.10	1114	1.14	1141	1.19	1167	1.24	1193	1.28
		2400	989	0.99	1016	1.04	1044	1.09	1071	1.13	1097	1.18	1124	1.23	1150	1.28	1175	1.32	1200	1.37
		2600	943	0.87	976	0.92	1008	0.97	1039	1.03	1070	1.08	1101	1.14	1130	1.20	1160	1.26	1189	1.32
30	12 in. x 12 in.	2600	956	0.99	988	1.04	1019	1.10	1049	1.16	1079	1.21	1108	1.27	1137	1.33	1166	1.39	1194	1.45
		2800	972	1.12	1002	1.18	1032	1.24	1062	1.30	1090	1.36	1119	1.42	1147	1.48	1174	1.54	1201	1.61
		3000	990	1.27	1019	1.33	1048	1.39	1076	1.45	1104	1.52	1131	1.58	1158	1.65	1185	1.71	1211	1.78
		3200	1009	1.43	1037	1.50	1065	1.56	1093	1.63	1120	1.69	1146	1.76	1172	1.83	1198	1.90	1224	1.97
		3400	1027	1.61	1055	1.68	1082	1.75	1108	1.82	1135	1.89	1161	1.96	1186	2.03	1212	2.10	1237	2.17
		3400	805	1.23	830	1.30	856	1.36	881	1.43	905	1.51	930	1.58	954	1.65	978	1.73	1001	1.81
		3600	816	1.36	841	1.43	865	1.50	889	1.57	913	1.64	937	1.72	960	1.79	983	1.87	1006	1.95
40	15 in. x 12 in.	3800	828	1.50	852	1.57	876	1.64	899	1.72	923	1.79	945	1.87	968	1.95	990	2.02	1012	2.10
		4000	842	1.65	865	1.73	888	1.80	911	1.88	933	1.95	955	2.03	977	2.11	999	2.19	1020	2.27
		4200	856	1.82	879	1.90	901	1.97	923	2.05	945	2.13	966	2.21	987	2.29	1008	2.37	1029	2.46
		4400	874	2.03	896	2.11	917	2.19	938	2.27	959	2.35	980	2.43	1000	2.51	1020	2.60	1040	2.68

**LEGEND**

— Application not available  
**Bhp** — Horsepower

**NOTES:**

- Contact factory if higher horsepower selection is required for a given cfm and total static pressure.
- The variable pitch motor sheave provided will allow  $\pm 15\%$  rpm adjustment. Unit sizes 06, 08, 10 and 12 have  $\frac{3}{4}$  in. bore fan sheaves. Unit sizes 16, 20, 30 and 40 have 1-in. bore fan sheaves.
- Consult factory for motor selections when outlet air temperature exceeds 104 F on hot water coil applications.
- Single-phase motors are only available to 2 hp. Three-phase motors are available from  $\frac{1}{2}$  to 3 hp.

# Performance data (cont)



## 42BHC,BVC COMPONENT STATIC RESISTANCE (in. wg)

UNIT SIZE 42BHC,BVC	NOMINAL CFM	CABINET	WET COIL			DRY COIL					ONE-INCH PLEATED FILTER	TWO-INCH THROWAWAY FILTER	TWO-INCH PLEATED FILTER	TWO-INCH PLEATED MERV 11 FILTER
			4 Row	6 Row	8 Row	1 Row	2 Row	4 Row	6 Row	8 Row				
06	400	0.02	0.08	0.12	0.16	0.01	0.02	0.04	0.06	0.08	0.03	0.02	0.03	0.06
	500	0.03	0.13	0.19	0.25	0.01	0.03	0.06	0.09	0.12	0.05	0.03	0.04	0.09
	600	0.04	0.18	0.27	0.36	0.02	0.04	0.08	0.13	0.17	0.08	0.04	0.06	0.12
	700	0.06	0.25	0.37	0.50	0.03	0.06	0.12	0.17	0.23	0.10	0.06	0.08	0.17
	800	0.08	0.32	0.49	0.65	0.04	0.08	0.15	0.23	0.30	0.14	0.08	0.11	0.22
08	600	0.04	0.18	0.27	0.36	0.02	0.04	0.08	0.13	0.17	0.08	0.04	0.06	0.12
	700	0.06	0.25	0.37	0.50	0.03	0.06	0.12	0.17	0.23	0.10	0.06	0.08	0.17
	800	0.08	0.32	0.49	0.65	0.04	0.08	0.15	0.23	0.30	0.14	0.08	0.11	0.22
	900	0.10	0.41	0.61	0.82	0.05	0.10	0.19	0.29	0.38	0.17	0.10	0.14	0.28
	1000	0.12	0.51	0.76	1.01	0.06	0.12	0.24	0.35	0.47	0.21	0.12	0.17	0.34
10	800	0.04	0.15	0.23	0.31	0.02	0.04	0.07	0.11	0.14	0.07	0.04	0.06	0.12
	900	0.05	0.19	0.29	0.39	0.02	0.05	0.09	0.14	0.18	0.09	0.05	0.07	0.15
	1000	0.06	0.24	0.36	0.48	0.03	0.06	0.11	0.17	0.22	0.11	0.06	0.09	0.18
	1100	0.08	0.29	0.44	0.58	0.03	0.07	0.14	0.20	0.27	0.14	0.08	0.11	0.22
	1200	0.09	0.35	0.52	0.69	0.04	0.08	0.16	0.24	0.32	0.16	0.09	0.13	0.26
12	1000	0.06	0.24	0.36	0.48	0.03	0.06	0.11	0.17	0.22	0.11	0.06	0.09	0.18
	1100	0.08	0.29	0.44	0.58	0.03	0.07	0.14	0.20	0.27	0.14	0.08	0.11	0.22
	1200	0.09	0.35	0.52	0.69	0.04	0.08	0.16	0.24	0.32	0.16	0.09	0.13	0.26
	1300	0.11	0.41	0.61	0.81	0.05	0.09	0.19	0.28	0.38	0.19	0.11	0.15	0.31
	1400	0.13	0.47	0.71	0.94	0.05	0.11	0.22	0.33	0.44	0.22	0.13	0.17	0.36
16	1400	0.07	0.26	0.39	0.52	0.03	0.06	0.12	0.18	0.24	0.13	0.07	0.10	0.21
	1500	0.09	0.30	0.45	0.60	0.03	0.07	0.14	0.21	0.28	0.15	0.09	0.12	0.24
	1600	0.10	0.34	0.51	0.68	0.04	0.08	0.16	0.24	0.32	0.17	0.10	0.13	0.27
	1700	0.11	0.38	0.58	0.77	0.04	0.09	0.18	0.27	0.36	0.19	0.11	0.15	0.31
	1800	0.12	0.43	0.65	0.86	0.05	0.10	0.20	0.30	0.40	0.21	0.12	0.17	0.35
20	1800	0.12	0.30	0.45	0.60	0.03	0.07	0.14	0.21	0.28	0.13	0.08	0.10	0.21
	1900	0.13	0.34	0.50	0.67	0.04	0.08	0.16	0.23	0.31	0.14	0.08	0.12	0.24
	2000	0.14	0.37	0.56	0.74	0.04	0.09	0.17	0.26	0.35	0.16	0.09	0.13	0.26
	2100	0.16	0.41	0.61	0.82	0.05	0.10	0.19	0.29	0.38	0.18	0.10	0.14	0.29
	2200	0.17	0.45	0.67	0.90	0.05	0.10	0.21	0.31	0.42	0.19	0.11	0.16	0.32
	2300	0.19	0.49	0.74	0.98	0.06	0.11	0.23	0.34	0.46	0.21	0.12	0.17	0.35
2400	0.21	0.54	0.80	1.07	0.06	0.12	0.25	0.37	0.50	0.23	0.13	0.19	0.38	
30	2400	0.11	0.22	0.33	0.43	0.03	0.05	0.10	0.15	0.20	0.13	0.07	0.10	0.21
	2600	0.13	0.25	0.38	0.51	0.03	0.06	0.12	0.18	0.24	0.15	0.09	0.12	0.24
	2800	0.15	0.29	0.44	0.59	0.03	0.07	0.14	0.21	0.27	0.17	0.10	0.14	0.28
	3000	0.18	0.34	0.51	0.68	0.04	0.08	0.16	0.24	0.31	0.20	0.12	0.16	0.32
	3200	0.20	0.39	0.58	0.77	0.04	0.09	0.18	0.27	0.36	0.23	0.13	0.18	0.37
	3400	0.23	0.43	0.65	0.87	0.05	0.10	0.20	0.30	0.40	0.25	0.15	0.20	0.42
40	3400	0.13	0.24	0.36	0.48	0.03	0.06	0.11	0.17	0.22	0.15	0.09	0.12	0.24
	3600	0.15	0.27	0.40	0.54	0.03	0.06	0.12	0.19	0.25	0.16	0.10	0.13	0.27
	3800	0.16	0.30	0.45	0.60	0.03	0.07	0.14	0.21	0.28	0.18	0.11	0.15	0.30
	4000	0.18	0.33	0.50	0.66	0.04	0.08	0.15	0.23	0.31	0.20	0.12	0.16	0.33
	4200	0.20	0.36	0.55	0.73	0.04	0.08	0.17	0.25	0.34	0.22	0.13	0.18	0.37
	4400	0.22	0.40	0.60	0.80	0.05	0.09	0.19	0.28	0.37	0.25	0.14	0.20	0.40

**Hydronic coil pressure drop** — All of the factory's hydronic coils have a coefficient of velocity (Cv) resistance factor assigned to assist in a more accurate determination of water pressure drop (see Cv Factor by Coil and Unit Size table below).

Calculating pressure drop:

The Cv factor is equal to the flow rate of water in gpm through a piping component when the pressure drop through the component is 1.0 pounds per square inch (psi), or 2.31 ft wg.

$$\Delta P \text{ (ft wg)} = \Delta P \text{ (psi)} \times 2.31$$

Use the Cv factor from the Cv Factor by Coil and Unit Size table to determine the water coil pressure drop.

Coil pressure drop (ft wg):

$$\Delta P = (\text{GPM}^2 / \text{Cv}^2) \times 2.31$$

or

$$\Delta P = [\text{GPM} / (0.658 \times \text{Cv})]^2$$

or

Refer to the Water Pressure Drop for Cv Factor and Water Flow Rate table. See example on page 22.

### Cv FACTOR BY COIL AND UNIT SIZE

COIL TYPE	42BHC,BVC UNIT SIZE							
	06	08	10	12	16	20	30	40
1 Row Heat Only	1.4	1.4	1.3	1.3	1.2	1.2	0.8	0.7
2 Row Heat Only	2.4	2.4	2.2	2.2	2.0	1.9	1.6	1.4
4 Row Heat/Cool	4.7	4.7	4.4	4.4	7.2	6.8	13.2	12.4
6 Row Heat/Cool	4.0	4.0	3.7	3.7	6.1	5.8	11.4	10.5
8 Row Heat/Cool	3.6	3.6	3.3	3.3	5.3	5.1	9.8	9.0





42BHC,BVC WATER PRESSURE DROP (ft. wg) FOR CV FACTOR AND WATER FLOW RATE (GPM)

Table with Cv FACTORS on the y-axis and WATER FLOW RATE (GPM) on the x-axis. Values represent water pressure drop in ft. wg for various Cv factors (0.8 to 20.0) and flow rates (0.5 to 20.0 GPM).

NOTE: Table interpolation is permissible, and extrapolation is not recommended.

SOUND POWER DATA
DISCHARGE SOUND RATINGS - A-WEIGHTED SOUND POWER LEVEL RATINGS\* (dB)

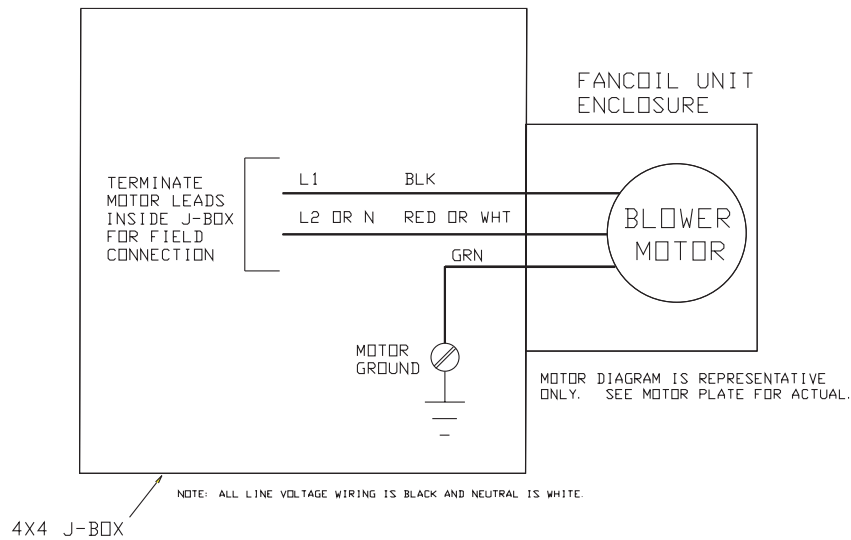
Table with 42BHC,BVC UNIT SIZE and NOMINAL CFM on the y-axis, and CENTER FREQUENCY (Hz) on the x-axis. Values represent A-weighted sound power level ratings in dB for unit sizes 06 to 40 and frequencies 125, 250, 500, 1000, 2000, 4000, and 8000 Hz.

\*These noise ratings are calculated values, not actual test values, and apply only to the discharge of the unit, not the radiated sound levels. Sound power is in decibels re 10e-12 w.

# Typical wiring schematics



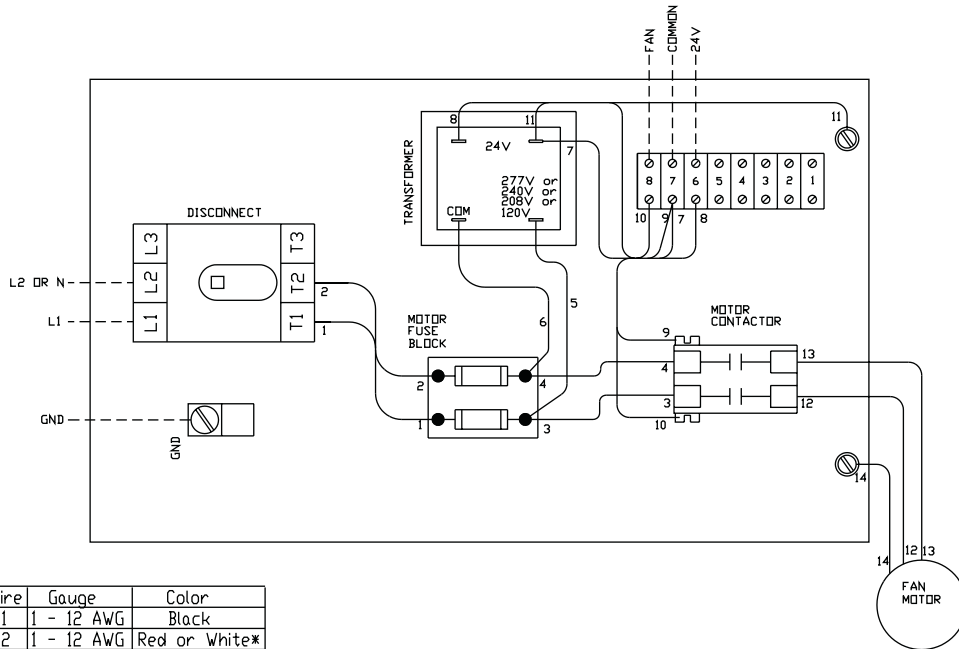
## BASE UNIT, SINGLE-PHASE POWER



- NOTES:
- 1) CAUTION : DISCONNECT POWER BEFORE SERVICING.
  - 2) SEE NAME PLATE FOR CORRECT VOLTAGE, USE 75°C MIN. COPPER CONDUCTORS ONLY. UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT ANY OTHER WIRING.
  - 3) BLOWER MOTOR(S) THERMALLY PROTECTED.
  - 4) PROVIDE DISCONNECT MEANS & OVERCURRENT PROTECTION AS REQUIRED.
  - 5) ALL CONTRACTOR WIRING MUST CONFORM TO ELECTRICAL CODES, NATIONAL AND LOCAL.

- WIRE CONNECTION
- WIRE TAPED
- FACTORY WIRING
- FIELD WIRING

## MOTOR CONTROL/DISCONNECT OPTION SINGLE-PHASE POWER

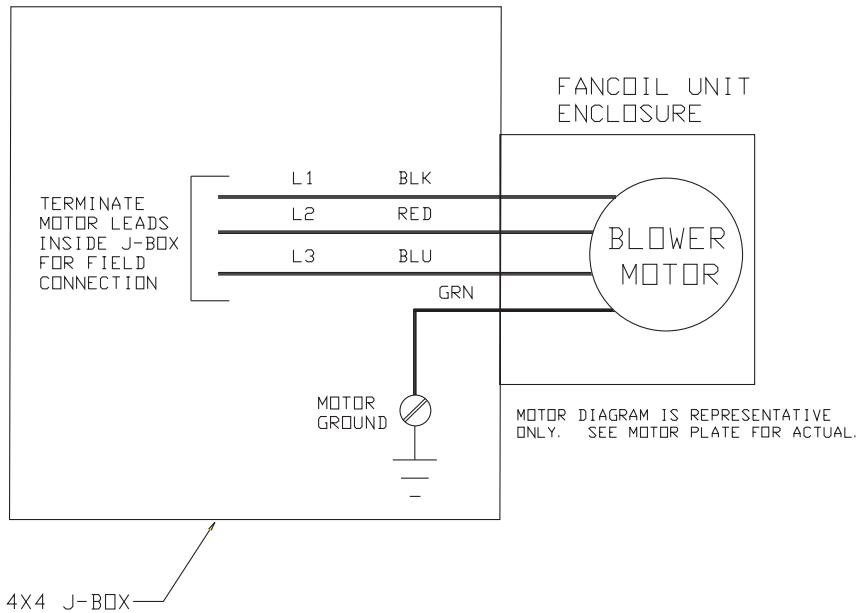


Wire	Gauge	Color
1	1 - 12 AWG	Black
2	1 - 12 AWG	Red or White*
3	1 - 12 AWG	Black
4	1 - 12 AWG	Red or White*
5	1 - 18 AWG	Black
6	1 - 18 AWG	Red or White*
7	1 - 18 AWG	Yellow
8	1 - 18 AWG	Orange
9	1 - 18 AWG	Yellow
10	1 - 18 AWG	Gray
11	1 - 18 AWG	Yellow
12	1 - 12 AWG	Black
13	1 - 12 AWG	Red or White*
14	1 - 18 AWG	Green

\*Red for 208/240, White for 120/277

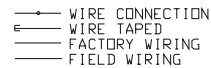
- NOTES:
- 1) THIS IS A POINT TO POINT ELECTRICAL DIAGRAM
  - 2) CAUTION : DISCONNECT POWER BEFORE SERVICING.
  - 3) SEE NAME PLATE FOR CORRECT VOLTAGE, USE 75°C MIN. COPPER CONDUCTORS ONLY. UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT ANY OTHER WIRING.
  - 4) BLOWER MOTOR(S) THERMALLY PROTECTED.
  - 5) TO ENSURE PROPER FAN INTERLOCK & SEQUENCING, EXTERNAL CONTROLLER MUST ENERGIZE HEATER STAGES IN NUMERICAL ORDER SHOWN AND DEENERGIZE STAGES IN REVERSE ORDER (FIRST ON, LAST OFF).
  - 6) ALL CONTRACTOR WIRING MUST CONFORM TO ELECTRICAL CODES, NATIONAL AND LOCAL.

### BASE UNIT, THREE-PHASE POWER

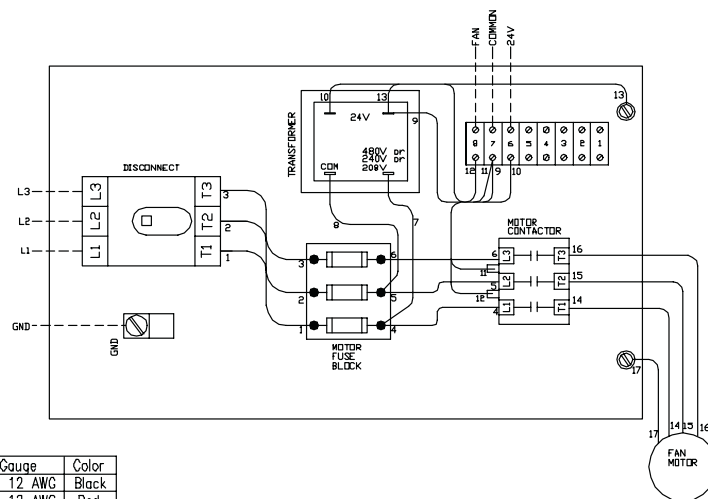


**NOTES:**

- 1) CAUTION : DISCONNECT POWER BEFORE SERVICING.
- 2) SEE NAME PLATE FOR CORRECT VOLTAGE, USE 75°C MIN. COPPER CONDUCTORS ONLY.  
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT ANY OTHER WIRING.
- 3) BLOWER MOTOR(S) THERMALLY PROTECTED.
- 4) PROVIDE DISCONNECT MEANS & OVERCURRENT PROTECTION AS REQUIRED.
- 5) ALL CONTRACTOR WIRING MUST CONFORM TO ELECTRICAL CODES, NATIONAL AND LOCAL.



### MOTOR CONTROL/DISCONNECT OPTION THREE-PHASE POWER



Wire	Gauge	Color
1	1 - 12 AWG	Black
2	1 - 12 AWG	Red
3	1 - 12 AWG	Blue
4	1 - 12 AWG	Black
5	1 - 12 AWG	Red
6	1 - 12 AWG	Blue
7	1 - 18 AWG	Black
8	1 - 18 AWG	Red
9	1 - 18 AWG	Yellow
10	1 - 18 AWG	Orange
11	1 - 18 AWG	Yellow
12	1 - 18 AWG	Gray
13	1 - 18 AWG	Yellow
14	1 - 12 AWG	Black
15	1 - 12 AWG	Red
16	1 - 12 AWG	Blue
17	1 - 18 AWG	Green

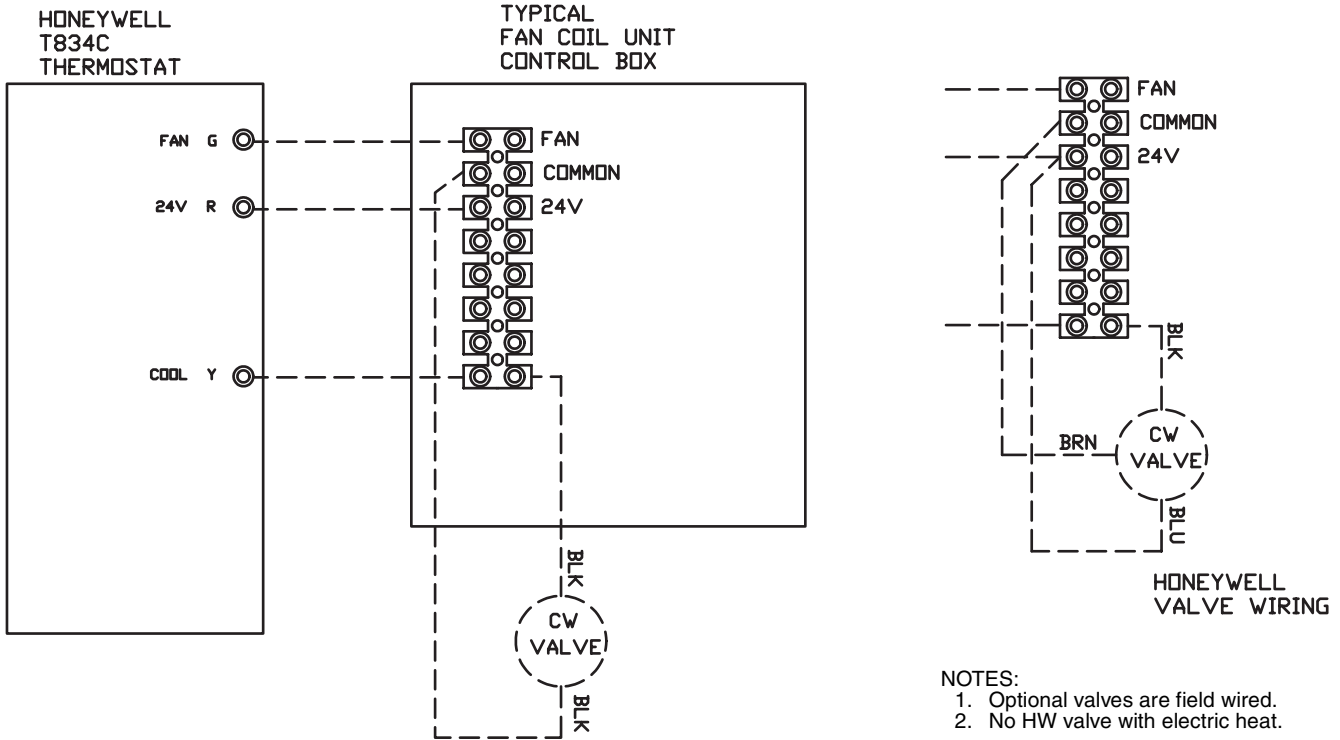
**NOTES:**

- 1) THIS IS A POINT TO POINT ELECTRICAL DIAGRAM
- 2) CAUTION : DISCONNECT POWER BEFORE SERVICING.
- 3) SEE NAME PLATE FOR CORRECT VOLTAGE, USE 75°C MIN. COPPER CONDUCTORS ONLY.  
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT ANY OTHER WIRING.
- 4) BLOWER MOTOR(S) THERMALLY PROTECTED.
- 5) TO ENSURE PROPER FAN INTERLOCK & SEQUENCING, EXTERNAL CONTROLLER MUST ENERGIZE HEATER STAGES IN NUMERICAL ORDER SHOWN AND DEENERGIZE STAGES IN REVERSE ORDER (FIRST ON, LAST OFF).
- 6) ALL CONTRACTOR WIRING MUST CONFORM TO ELECTRICAL CODES, NATIONAL AND LOCAL.

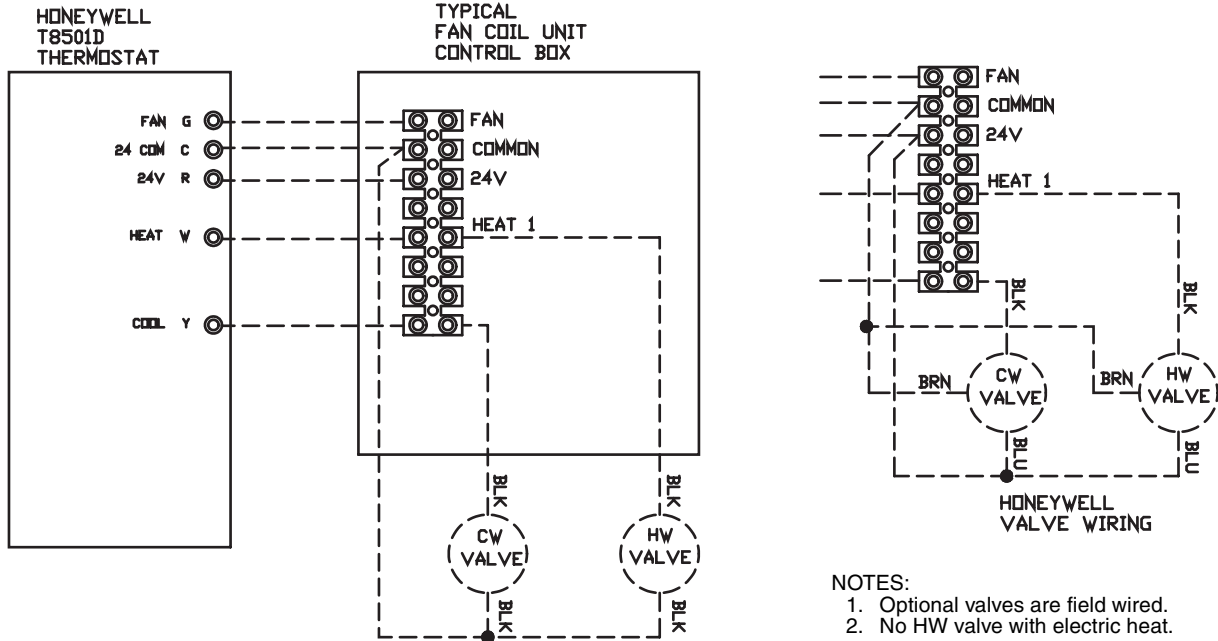
# Typical wiring schematics (cont)



## 2-PIPE COOLING ONLY WITH SINGLE-SPEED FAN OPERATION AND HONEYWELL THERMOSTAT



## 2-PIPE OR 4-PIPE HEATING/COOLING WITH SINGLE-SPEED FAN OPERATION AND HONEYWELL DIGITAL THERMOSTAT



# Electrical data



## 42BHC,BVC ELECTRIC HEATER DATA AVAILABILITY

kW	42BHC UNIT SIZE							
	06	08	10	12	16	20	30	40
1	●	●	●	—	—	—	—	—
1.5	●	●	●	●	—	—	—	—
2	●	●	●	●	—	—	—	—
2.5	●	●	●	●	●	—	—	—
3	●	●	●	●	●	—	—	—
3.5	●	●	●	●	●	●	—	—
4	●	●	●	●	●	●	—	—
4.5	●	●	●	●	●	●	—	—
5	●	●	●	●	●	●	—	—
6	●	●	●	●	●	●	●	—
7	—	●	●	●	●	●	●	●
8	—	●	●	●	●	●	●	●
10	—	—	●	●	●	●	●	●
12	—	—	—	●	●	●	●	●
15	—	—	—	—	●	●	●	●
16	—	—	—	—	●	●	●	●
20	—	—	—	—	—	●	●	●
25	—	—	—	—	—	—	●	●
30	—	—	—	—	—	—	●	●
35	—	—	—	—	—	—	—	●
40	—	—	—	—	—	—	—	●

### LEGEND

● — Standard Offering

### NOTES:

- Stages available:  
Single phase: 1-12 kW, 1 stage only  
3-12 kW, 1 stage or 2 stage  
Three phase: 1-40 kW, 1 stage only  
4-40 kW, 1 or 2 stage  
12-40 kW, 1, 2 or 3 stage
- Electric Heating Capacities (Btuh) = Heater kW x 3413
- Electric Heater Amperage for Single-phase Power  
= (Heater kW x 1000)/(Applied Voltage Electric Heater Amp. for 3-phase Power  
= (Heater kW x 1000)/(Applied Voltage x 1.73).

## MOTOR PERFORMANCE DATA (AMPS)

VOLTAGE V-Ph-Hz	Nominal HP								
	1/4	1/3	1/2	3/4	1	1 1/2	2	3	5
115-1-60	5.2	6.0	8.6	13.3	14.4	—	—	—	—
208-1-60	3.0	3.6	4.8	6.5	7.4	9.4	11.0	—	—
230-1-60	2.5	3.0	4.2	6.6	6.0	9.0	10.9	—	—
277-1-60	2.1	2.5	3.6	5.1	5.4	8.5	8.0	—	—
208-3-60	—	—	2.4	3.6	3.8	6.0	6.5	8.2	—
230-3-60	—	—	2.2	3.0	3.2	4.8	6.2	8.0	14.0
460-3-60	—	—	1.1	1.5	1.9	2.8	3.1	4.0	7.0

### NOTES:

- Motor Full Load Amps refer to National Electric Code (NEC) Amps; actual motor nameplate amps may vary.
- NEC data extrapolated for 277 v.
- Motors are open drip proof, ball bearing, single speed, 1750 rpm rated at continuous duty, 140 F ambient with reversible rotation.

## 42BHC,BVC ELECTRIC HEATER DATA

kW	FULL LOAD AMPS						
	Single-Phase				Three-Phase		
	120 V	208 V	240 V	277 V	208 V	240 V	480 V
1	8.3	4.8	4.2	3.6	2.8	2.4	1.2
1.5	12.5	7.2	6.3	5.4	4.2	2.4	1.2
2	16.7	9.6	8.3	7.2	5.6	4.8	2.4
2.5	20.8	12.0	10.4	9.0	6.9	6.0	3.0
3	25.0	14.4	12.5	10.8	8.3	7.2	3.6
3.5	29.2	16.8	14.6	12.6	9.7	8.4	4.2
4	33.3	19.2	16.7	14.4	11.1	9.6	4.8
4.5	37.5	21.6	18.8	16.2	12.5	10.8	5.4
5	41.7	24.0	20.8	18.1	13.9	12.0	6.0
6	—	28.8	25.0	21.7	16.7	14.4	7.2
7	—	23.7	29.2	25.3	19.4	16.8	8.4
8	—	38.5	33.3	28.9	22.2	19.2	9.6
10	—	47.6	41.3	35.7	27.5	23.8	11.9
12	—	—	—	43.3	33.3	28.9	14.4
15	—	—	—	—	41.6	36.1	18.0
16	—	—	—	—	44.4	38.5	19.2
20	—	—	—	—	—	47.9	23.9
25	—	—	—	—	—	—	30.1
30	—	—	—	—	—	—	36.1
35	—	—	—	—	—	—	42.1
40	—	—	—	—	—	—	48.0

## Service Switches:

The service switch is an On/Off switch on incoming power supply to unit. Proper amperage load must be determined before switch can be selected. The range of the fused or non-fused service switch is 0 to 40 amps.

Amp Load = [Motor amps + Heater amps (if required)]\* 1.20.

The UL listing signifies that Carrier's fan coil units have been examined by UL and comply with the organization's applicable standards of U.S. and Canadian national product safety standard, UL 1995/CSA C22.2 No. 236.



# Controls



## Standard control features

- 4 in. x 4 in. junction box

NOTE: Motor leads are wired to the 4 in. x 4 in. junction box, mounted on the external panel. Field verification of the motor rotation is required on 3-phase applications.

## Motor control options

- Interlocking disconnect switch\*
- 24-v class 2 transformer (40 va)†
- 8-pole control terminal strip
- Motor power fusing\*
- Motor control contactor\*\*

## Motor and electric heat control options

NOTE: Electric heat option requires same voltage as motor and must include the control option. These control features are standard with electric heat options and control option.

- Interlocking disconnect switch\*
- Heater power fusing\*
- 24-v class 2 transformer (40 va)†

- 8-pole control terminal strip
- Auto reset temperature limit switch
- Manual reset backup temperature limit switch
- 80/20 heater element wire
- Motor power fusing\*
- Motor control contactor\*\*
- Agency listed for 0-in. clearance

## Electric heat options:

- Single-phase, 1 or 2 stage heat
- Three-phase, 1, 2 or 3 stage heat

\*Complies with NEC's requirement, Article 430 for disconnect, branch circuit protection motor controller and motor overload protection.

†No control fusing necessary.

\*\*Complies with NEC's requirement for a motor starter with internal heating elements when used with the factory's standard motors with integral thermal overload protection.

# Guide specifications



## System Fan Coil Unit

### HVAC Guide Specifications — 42B

Size Range: **600 to 4000 Nominal Cfm**

Carrier Model Number:

**42BHC (Horizontal Fan Coil Unit)**

**42BVC (Vertical Fan Coil Unit)**

#### Part 1 — General

##### 1.01 SYSTEM DESCRIPTION

Horizontal and vertical, 2-pipe or 4-pipe, belt-driven, galvanized casing model fan coil unit for ducted installation above the ceiling or within floor mounted cabinet, with full access to internal components.

##### 1.02 QUALITY ASSURANCE

- A. Unit performance shall be rated in accordance with ARI Standard 440-2005.
- B. Unit construction shall comply with ASHRAE (latest edition) Safety Code and NEC.
- C. Unit shall be constructed in accordance with ETL and ETL, Canada standards. Factory-installed motors and electric heaters shall be UL approved.
- D. Each coil shall be factory tested for leakage at 350-psig air pressure with coil submerged in water. Insulation and adhesive shall meet NFPA-90A requirements for flame spread and smoke generation.
- E. Each coil shall be factory tested for leakage at 350 psig air pressure with coil submerged in water. Insulation and adhesive shall meet NFPA-90A requirements for flame spread and smoke generation. Factory-installed motors shall be UL approved.

##### 1.03 DELIVERY, STORAGE AND HANDLING

Unit shall be handled and stored in accordance with the manufacturer's instructions.

#### Part 2 — Products

##### 2.01 EQUIPMENT

###### A. General:

Factory-assembled, horizontal and vertical, draw-thru type fan coil unit for ducted installation above the ceiling or floor mounting. Unit shall be complete with water coils, fan(s), motor, belt drive, drain pan, and filter.

###### B. Casing:

Construction shall be heavy-gage galvanized steel, lined with one-in. thick fiberglass Tuf-Skin™ II thermal/acoustical insulation. Knockouts shall be provided for hanging the horizontal unit, that will accept 3/8-in. threaded rod at the top, and bottom of all unit corners. Supply and return duct connection shall be 1 in. long. Removable side panels shall be provided for access to the fan/motor assembly. A double-sloped drain pan shall be constructed of stainless steel, extending under the full length and width of the coil(s) with a 3/4-in. male nominal pipe thread stainless steel drain connection and 1/2-in.

male MPT stainless secondary drain connection (capped when not required). The outside surface of the drain pan shall be insulated with 1/8-in. closed cell insulation.

###### C. Fans:

Belt-driven, double-width fan wheels shall have forward-curved blades and be statically and dynamically balanced. Fan drive shall consist of variable-pitch motor pulley, fixed-pitch fan pulley and V-belt. Fans and scrolls shall be of galvanized steel.

###### D. Coils:

Standard unit shall be equipped with a 4-row coil for installation in a 2-pipe system and additional rows of coil shall be provided for installation in a 4-pipe system as described in the Options and Accessories section. Coils shall have 1/2-in. copper tubes, aluminum fins bonded to the tubes by mechanical expansion and have a working pressure of 250 psig at 200 F. Each coil shall have a manual air vent and sweat connections for copper tubes.

###### E. Operating Characteristics:

A single-circuit coil unit installed in a 2-pipe system shall be capable of providing heating or cooling as determined by the operating mode of the central water supply system. A double-circuit coil unit installed in a 4-pipe system shall be capable of providing sequenced heating and cooling.

###### F. Motor(s):

Fan motors shall be open, drip-proof, single-speed, 60 Hz, 1750 rpm 1 or 3 phase, suitable for continuous duty at 104 F (40 C). Single phase motors are capacitor start, include automatic reset thermal overload protection and are available in 115, 208, 230, or 277 volts (60 Hz). Three-phase motors are available in 208, 230, or 460 volts (60 Hz). Motors are resilient base mounted (except 3 and 5 hp motors, which are rigid base mounted).

###### G. Options and Accessories:

###### 1. Factory-Installed Options:

###### a. Coils:

- 1) Unit coil(s) shall be equipped with automatic air vent(s).
- 2) Unit shall be equipped with a high-capacity 6-row or 8-row coil for installation in a 2-pipe system.
- 3) For installation in a 4-pipe system, unit shall be equipped with either a 4-row cooling/1-row hot water heating split-circuit coil, or a 4/2, 6/1, or 6/2 split-circuit coil as required.
- 4) Unit shall be equipped with either a 4-row DX (direct expansion) cooling coil or a 6-row DX cooling coil as required.
- 5) Unit coil(s) shall be copper fin, copper tube with stainless steel tube and sheets.

###### b. Filters:

- 1) A two-in. pleated filter shall be installed in the unit (standard).

# Guide specifications (cont)



- 2) One-in. pleated, (2) 1-in. throwaway or 2-in pleated MERV 11 filters with 2-in. pre-filter shall be installed as indicated on the equipment schedule.

## c. Insulation:

- 1) Units shall be equipped with 1-in. thick Tuf-Skin™ II insulation (standard).
- 2) Units are available with 3/4-in. closed cell, 1-in. Tuf-Skin Rx™ edge sealed, or 1-in. foil-faced insulation.

## d. Controls:

- 1) Unit shall be equipped with 24-v transformer, motor contactor and terminal strip for connection to field or factory provided controller.
- 2) Unit shall be equipped with interlocking door-disconnect switch, touch-type fusing, 24-v transformer, motor contactor and terminal strip for connection to field provided controller.
- 3) Unit shall be equipped with interlocking door-disconnect switch, separate motor and electric heater touch-type fusing, 24-v transformer, motor contactor and terminal strip for connection to field-provided or factory-provided controller.

## e. Motor(s):

Single-phase motors are capacitor start and shall include automatic reset thermal overload protection and shall be available in 115, 208, 230, or 277 volts (60 Hz). Three-phase motors shall be available in 208, 230, or 460 volts (60 Hz).

## f. Electric Heat:

- 1) Electric heaters shall be constructed of high-grade resistance wire supported by ceramic insulators on plated steel brackets. The heat elements shall be suspended in front of the outlet, after the blower and coil. High-limit thermal cutouts shall protect the heat elements in the event of an air failure.
- 2) Single-phase heaters shall be available in 115, 208, 230, or 277 volts (60 Hz). Three-phase electric heat shall be available in 208, 230, or 460 volts (60 Hz).

## 2. Field-Installed Accessories:

### a. Mixing Boxes:

- 1) Mixing boxes shall be preassembled at the factory and shipped separately with base rails.

- 2) Mixing boxes shall include a linkage kit, which consists of two crank arms, 2 swivels and a rod, 25 in. long (for unit sizes 06-16) or 84 in. long (for unit sizes 20-40), for the field installation of the actuator.

### b. Thermostats:

Three thermostats shall be available for field installation:

- 1) The single stage heat thermostat shall feature manual changeover, off-cool-heat system switch, on-auto fan mode switch, single-stage electric heat, and outside air signal.
- 2) The 2-stage heat thermostat shall feature automatic/manual changeover, digital display of temperatures and all functions, off-cool-heat-auto system mode buttons, single speed fan operation, on-auto fan mode button, single or two stage electric heat signal, outside air signal and optional remote temperature sensor.
- 3) The single-stage heat, 2-pipe heat/cool thermostat shall feature digital display of ambient temperature and operating mode, single fan speed operation, power and operating mode buttons, continuous fan operation, cycling water control valve, 4-pipe automatic changeover/manual changeover with "on-auto" fan mode button, optional one or 2-stage electric heat signal, and purge cycle, temperature sensor for 2-pipe cold water/hot water systems, and programmable operating range, dead band, digital display, temperature set-back.

### c. Valve Packages:

- 1) Valve packages shall be factory-assembled for field installation.
- 2) Basic valve packages shall include 2-way or 3-way valves with balancing valves and 2 ball valves.
- 3) Deluxe valve packages shall include a circuit setting and a strainer in addition to the features included in the basic valve package.

