Product Data

Fan Coil Air Conditioners

600 to 3000 cfm

DHA

DVA

42DH,DV Series
Direct Drive Blower Coil Air Conditioners

Features/Benefits

The 42DH and 42DV fan coil units design flexibility provides ease of installation for applied systems.

Carrier's 42DH and 42DV Series fan coil units offer:

- Three-sided tool-less filter access
- Variable speed EC (electronically commutated) motors (1/2 HP to 3 HP) with built-in thermal protection
- 18 gauge galvanized steel heavy gauge cabinet construction
- Double-sloped stainless-steel drain pan
- 1 in. duct collar quick field installation
- Filter rack choices are 1 in., 2 in., or 4 in.

Versatility

The units are ideal for installation in motels, apartments, and other multi-room buildings. Many optional control packages are available to facilitate the following modes of operation: 2-pipe cooling only, 2-pipe heating only, 2-pipe heating and cooling (also known as a changeover coil), 2-pipe heating and cooling with auxiliary electric heat, 2-pipe cooling with total electric heat, and 4-pipe heating and cooling.

Condensate drain pans standard construction utilizes stainless steel, along with optional condensate overflow switches complying with the latest building codes.

A variety of insulation types are available for energy savings, sound absorption, and indoor air quality (IAQ) preservation.

Ease of installation

Each unit is designed to occupy a minimum space with a flexible controls offering to meet building requirements. Optional unit mounted controls, service switches, and fusing minimize the electrical work required on site. Piping, drain, and wiring connections are readily accessible and mounting holes and slots are pre-drilled to save installation time and field labor expense.

Quality and safety

Every unit is tested and inspected at the factory for trouble free start-up. Carrier's 42DH and 42DV fan coils are Engineered Testing Laboratory (ETL) and Canadian Engineered Testing Laboratory (CETL) listed. Performance ratings are AHRI (Air-Conditioning, Heating, and Refrigeration Institute) certified. All coils are factory leak tested at 350, 400, or 450 psig. Blower wheels are centrifugal-type, forward curved, double width, and double inlet sized for maximum efficiency.

Comfort control

Economical fans deliver just the right amount of conditioned air for your comfort needs at any load, and each unit can be shut off when not in use. Electronically commutated motors deliver peak operating efficiency. By choosing Carrier units, you can match your application with a wide range of custom-designed options and accessories. Carrier room fan-coil units provide year-round comfort.

Table of contents

Features/Benefits (cont)

42DHA

Horizontal Direct Drive Model (Blower Coil Unit)
(600-3000 cfm)

42DVA

Vertical Direct Drive Model (Blower Coil Unit)
(600-3000 cfm)

Model number nomenclature

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	2	D	H	A	0	6	B	L	C	M	Y	Y	Y	W	Y	Y	A

Unit Heat Type
42 = Fan Coil Unit

Product Type
DH = Horizontal Blower Coil
DV = Vertical Blower Coil

Design Revision
A

Unit Size
06 = 600 cfm
08 = 800 cfm
10 = 1000 cfm
12 = 1200 cfm
16 = 1600 cfm
20 = 2000 cfm
22 = 2200 cfm
30 = 3000 cfm

Coil Configuration
B = 4 Row Hydronic
C = 4/1 Row CW/HW Reheat
D = 4/2 CW/HW Reheat
L = 6 Row Hydronic
M = 6/1 Row CW/HW Reheat
N = 6/2 CW/HW Reheat
8 = 8 Row Hydronic

Coil Connections
L = Left Hand
R = Right Hand

Motor (v-Ph-Hz)
C = 115/1/60
D = 208/1/60
E = 230/1/60
F = 277/1/60
N = 208/3/60
P = 230/3/60
G = 460/3/60

Motor Type
M = EC Motor, 0-10v
N = EC Motor, 3-speed

Heater (v-Ph-Hz)
Y = None
C = 120/1/60
D = 208/1/60
E = 240/1/60
F = 277/1/60
N = 208/3/60
P = 240/3/60
G = 460/3/60

Heater Stages
Y = None
A = 1-Stage, Single-Phase
B = 2-Stage, Single-Phase
C = 1-Stage, 3-Phase
D = 2-Stage, 3-Phase
E = 3-Stage, 3-Phase

Heater Kilowatt
Y = None
A = 1.0
B = 1.5
C = 2.0
D = 2.5
E = 3.0
F = 3.5
G = 4.0
H = 4.5
I = 5.0
J = 6.0
K = 7.0
L = 8.0
M = 9.9
N = 12.0
O = 14.0
P = 15.0
Q = 16.0
R = 18.0
S = 19.9
T = 25.0
U = 30.0

Cabinet Construction
Single Wall:
W= 1 in. Fiberglass
C = 1 in. Closed Cell
G = 1 in. Foil Faced Fiberglass
Double Wall:
A = Solid Liner, Fiberglass
B = Perforated Liner, Fiberglass

Coil Options
Y = None
M = Manual Air Vent
A = Automatic Air Vent

Electrical Options
Y = None
J = 40A Disconnect
R = Heater Fusing
K = Heater Fusing and 40A Disconnect
H = Heater Fusing and 60A Disconnect
L = Heater Fusing and 80A Disconnect

Filter Options
A = 1 in. Throwaway
F = 1 in. Pleated MERV 8
G = 2 in. Pleated MERV 8
M = 2 in. MERV 11 with 2 in. Pleated Pre-Filter
U = 4 in. MERV 11
W = 4 in. MERV 13

AHRI capacity ratings

The 42D Series fan coil units are certified in compliance with the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Industry Standard 440 for room fan coil units. Approved standard ratings are tabulated below.

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

Nominal Capacity Range — 42DHA Units

MODEL[a, b]	SIZE	NOMINAL (CFM)	COIL ROWS	WATER PRESSURE DROP (FT WATER)	COOLING CAPACITY[c] (BTUH)		POWER INPUT (WATTS)
					Total	Sensible	
42DHA	06	600	4	1.8	19,900	13,800	85
			6	3.8	25,000	16,000	120
			8	4.8	26,000	16,000	120
	08	800	4	2.9	24,900	17,800	160
			6	5.5	31,000	20,100	175
			8	8.4	34,800	21,200	205
	10	1000	4	5.7	33,700	23,200	220
			6	10.7	40,500	25,900	240
			8	15.9	45,100	27,500	260
	12	1200	4	7.2	38,400	26,800	335
			6	14.7	47,600	30,700	350
			8	20.5	52,000	31,800	380
	16	1600	4	4.7	49,000	35,300	410
			6	10.0	61,500	39,700	420
			8	14.2	67,100	41,400	520
	20	2000	4	5.5	62,100	45,000	445
			6	11.2	78,000	51,300	465
			8	17.0	87,400	55,400	510
	22	2200	4	8.0	65,000	47,200	575
			6	15.0	83,800	54,900	600
			8	23.0	95,500	59,000	660
	30	3000	4	6.1	98,500	71,100	790
			6	10.7	123,900	80,400	860
			8	18.4	140,000	88,500	890

NOTE(S):

a. For all application ratings, use Carrier's computer selection program, the quick-selection ratings provided in this catalog, or contact your local Carrier representative.
b. For additional information, please consult AHRI's website at www.ahrinet.org.
c. Ratings are based on 80°F (26.7°C) DB and 67°F (19.4°C) WB EAT, 45°F (7.2°C) EWT, 10°F Δ (5.6°CΔ) water temperature rise, high fan speed, motor voltage 115/1/60, and airflow under dry coil conditions.

AHRI capacity ratings (cont)

Nominal Capacity Range — 42DVA Units

MODEL[a,b]	SIZE	NOMINAL (CFM)	COIL ROWS	WATER PRESSURE DROP (FT WATER)	COOLING CAPACITY[c] (BTUH)		POWER INPUT (WATTS)
					Total	Sensible	
42DVA	06	600	4	1.5	14,900	11,400	90
			6	2.8	18,000	12,700	125
			8	4.0	18,600	12,700	125
	08	800	4	2.0	19,300	15,000	170
			6	4.0	23,600	16,800	185
			8	6.0	25,100	17,100	215
	10	1000	4	5.0	29,300	21,900	230
			6	9.0	34,200	24,000	255
			8	13.0	35,600	24,200	275
	12	1200	4	5.8	33,500	25,600	355
			6	11.4	40,000	28,400	370
			8	17.0	42,700	29,200	400
	16	1600	4	3.5	42,200	32,200	435
			6	7.6	52,900	37,200	445
			8	11.8	58,100	39,400	550
	20	2000	4	4.3	54,200	41,000	478
			6	9.2	68,900	48,000	490
			8	15.0	77,800	51,900	540
	22	2200	4	4.8	58,100	44,400	605
			6	10.5	74,600	52,300	630
			8	17.3	85,000	56,900	695
	30	3000	4	4.0	83,000	63,900	830
			6	9.8	111,500	77,900	905
			8	16.8	131,400	86,800	935

NOTE(S):

a. For all application ratings, use Carrier's computer selection program, the quick-selection ratings provided in this catalog, or contact your local Carrier representative.
b. For additional information, please consult AHRI's website at www.ahrinet.org.
c. Ratings are based on 80°F (26.7°C) DB and 67°F (19.4°C) WB EAT, 45°F (7.2°C) EWT, 10°FΔ (5.6°CΔ) water temperature rise, high fan speed, motor voltage 115/1/60, and airflow under dry coil conditions.

Physical data

Physical Data — 42DHA/DVA Units

UNIT SIZE 42DHA/DVA[a]	06	08	10	12	16	20	22	30
Nominal Airflow (cfm)	600	800	1000	1200	1600	2000	2200	3000
Operating Weight (lb) 42DHA (no heat/with heat)	152 / 183	152 / 183	190 / 223	190 / 223	246 / 281	310 / 348	337 / 359	403 / 442
Operating Weight (lb) 42DVA (no heat/with heat)	172 / 199	180 / 215	218 / 256	228 / 282	278 / 318	309 / 349	333 / 382	501 / 541
Filters (2 in. pleated)								
Nominal, Qty...Size (in.)	1...16-1/2 x 24	1...16-1/2 x 24	1...18-1/4 x 33	1...18-1/4 x 33	2...18-1/4 x 21-1/2	2...20-1/2 x 22	2...20-1/2 x 22	2...29 x 22
Face Area (sq ft)	2.8	2.8	4.2	4.2	5.5	6.3	6.3	8.9
Hydronic Coils								
Size (in.)	15 x 20	15 x 20	15 x 29	15 x 29	15 x 39	18 x 40	18 x 40	27 x 40
Face Area (sq ft)	2.1	2.1	3.0	3.0	4.1	4.9	4.9	7.7
Fins Per Inch	10							
Fans								
Qty... Size (in.)	1...9 x 6				1...10 x 7	1...11 x 10		1...12 x 12
Hydronic Coil Conn (in.)								
8 Row (Cooling)	1 Nominal, 1.125 OD							1-1/2 Nominal, 1.625 OD
4 and 6 Row (Cooling)	3/4 Nominal, 0.875 OD				1 Nominal, 1.125 OD			1-1/2 Nominal, 1.625 OD
1 Row (Heating)	1/2 Nominal, 0.625 OD							1-1/2 Nominal, 1.625 OD
2 Row (Heating)	1/2 Nominal, 0.625 OD				1 Nominal, 1.125 OD			1-1/2 Nominal, 1.625 OD
DX Coil Conn. Liquid Line (in.)	1/4 Nominal, 0.375 OD							1/2 Nominal, 0.625 OD
DX Coil Conn. Suction Line (in.)	3/4 Nominal, 0.875 OD				1 Nominal, 1.125 OD			1-1/2 Nominal, 1.625 OD
Drain Conn. Sizes (in.)	3/4 MPT							

NOTE(S):

a. Calculate operating weight of unit: shipping weight + coil water weight x number of coil rows.

LEGEND

DX — Direct Expansion
ETO — Engineered To Order
OD — Outside Dimension

Options

Available Options

OPTIONS OR STANDARD FEATURES[a]	UNIT SERIES — 42DH,DV	
	DUCTED, HORIZONTAL	DUCTED, VERTICAL
	DH	DV
Air Vents		
Manual Air Vent	Std	Std
Automatic Air Vent	X	X
Coils		
4-Row (Cooling/Heating Only)	Std	Std
5-Row (4-Row Cooling,1-Row Heating)	X	X
6-Row (4-Row Cooling, 2-Row Heating)	X	X
6-Row (Cooling/Heating Only)	X	X
7-Row (6-Row Cooling,1-Row Heating)	X	X
8-Row (Cooling/Heating Only)	X	X
8-Row (6-Row Cooling, 2-Row Heating)	X	X
Stainless Steel Coil Wrapper	X	X
Paint Options		
No Paint	Std	Std
Arctic White	X	—
Polar White	X	—
Flat Black	X	—
Ermine Gray	X	—
Champagne Beige	X	—
Toffee Brown	X	—
Outside Air Options		
Mixing Box	X	X
Discharge Options		
Discharge Duct Collar	Std	Std
Drain Pans		
Stainless Steel Standard Drain Pan	Std	Std
Heating Options		
Electric Heater	X	X
Hot Water	X	X
Filters		
1 in. Throwaway Filters	Std	Std
1 in. MERV 8 Pleated	X	X
2 in. MERV 8 Pleated	X	X
2 in. MERV 11 Pleated	X	X
4 in. MERV 11 Pleated	X	X
4 in. MERV 13 Pleated	X	X
Cabinet Construction		
Fiberglass Cabinet Construction	Std	Std
Foil Faced Cabinet Construction	X	X
Closed Cell Cabinet Construction	X	X
Solid Liner, Fiberglass	X	X
Perforated Liner, Fiberglass	X	X
Motors - EC (v-Ph-Hz)		
115-1-60	Std	Std
208-1-60	X	X
230-1-60	X	X
277-1-60	X	X
208-3-60	X	X
230-3-60	X	X
460-3-60	X	X

Available Options (cont)

OPTIONS OR STANDARD FEATURES[a]	UNIT SERIES — 42DH,DV	
	DUCTED, HORIZONTAL	DUCTED, VERTICAL
	DH	DV
Interlocking Disconnect Switch	X	X
Condensate Float Switch	X	X
Integral Thermal Overload Protection	Std	Std
Access Panels	Std	Std
2-Row Heating Only	X	X
DX Coil (2-pipe Only)	X	X
Factory-installed FCU-OPN Controller	X	X
Spare Filters (Shipped Loose)	X	X
SCR for Electric Heater	X	X
Valve Packages (Shipped Loose)	X	X

NOTE(S):

a. All options are factory-installed unless noted as shipped loose.

LEGEND

EC — Electronically Commutated
DX — Direct Expansion
MERV — Minimum Efficiency Reporting Values
SCR — Silicone Controlled Rectifier
Std — Standard
X — Available as Options

Factory-installed options

Coils

Choice of a 2-pipe or 4-pipe system with the following chilled/hot water coil configurations:

Coil Configuration	UNIT
	42DH/DV
3-Row Coil	•
4-Row Coil	•
5-Row Coil	—
6-Row Coil	•
8-Row Coil	•
Opposite End Coil Connections	
3/1	•
3/2	•
4/1	•
4/2	•
6/1	•
6/2	•
Same End Coil Connections	
2/1	—
3/1	•
3/2	•
4/1	•
4/2	•
6/1	•
6/2	•
Cu/Cu Coil Special Option	•

LEGEND

• — Available
— — Not Available
Cu — Copper
ETO — Engineered to Order

Options (cont)

Condensate overflow switch

This switch shuts down the unit when the water level in the drain pan reaches an unsafe level. Building code changes in many locales now require this type of device.

Filters

Each unit includes a non-woven synthetic throwaway filter sized for low velocity and maximum efficiency.

The standard Direct Drive Blower Coils are furnished with a 2 in. pleated MERV 8 filter. The universal filter rack design features:

- Side and bottom filter removal.
- No tools needed for easy filter change and usage of strong magnets in place of hardware.
- Choice of 1 in., 2 in., or 4 in. filters.
- Robust design eliminates unit's sagging.

For optional filters, please refer to available options table on page 8.

Direct Drive Blower Coil Filters

UNIT SIZE 42DH	FILTER QUANTITY	NOMINAL FILTER SIZES in. (mm)
06	1	16-1/2 x 24 (419 x 610)
08	1	16-1/2 x 24 (419 x 610)
10	1	18-1/4 x 33 (464 x 838)
12	1	18-1/4 x 33 (464 x 838)
16	2	18-1/4 x 21-1/2 (464 x 546)
20/22	2	20-1/2 x 22 (521 x 559)
30	2	29 x 22 (737 x 559)

Fusing

All units will come with fuse protection for the motor/control circuit to protect these components as standard. Units with electric heat will also come with electric heater fusing.

Manual air vents

Each standard coil includes a manual air vent to allow venting at the coil if necessary for quick, complete air elimination.

Motors

The 42DH and 42DV units provide the ability to adjust airflow to meet varying load conditions. Eectronically commutated motors (ECM) are standard on 42DH. ECM motors offer soft start performance to prevent inrush current. Three-speed operation allows for low speed during light load conditions. 3 and 5 horsepower motors are available in 3-phase only.

Mixing boxes

Mixing boxes can be used when outside air is required. Mixing boxes come with base rails. Refer to the drawings on pages 13-15 for additional information.

Service switches

Concealed service switches are available for use by maintenance and service personnel to shut off the power while working on the unit.

Single power source connection

Factory-installed junction box allows use of single power source for motor and heater when they are of the same voltage.

Tamperproof fasteners (allen head)

Tamperproof fasteners are installed on the access panels and are available for all cabinet model units.

Electric heat

Strip heaters are used with Model 42DH and 42DV ducted units. These heaters consist of coils of high grade single-phase, nichrome resistance wire, insulated by ceramic insulators in plated steel brackets. High limit thermal cutouts protect the unit in the event of airflow loss. Heater sizes available are shown in the application data section for the respective units.

All electric heaters are positioned on the outgoing (reheat) side of the unit coil.

Options (cont)

Direct Drive Blower Coil (42DH/DV) Electric Heat

Resistance

Electric heat is available from 1.0 kW to 30.0 kW. Refer to the electric heater data table on page 36 for availability per unit with single-stage or multiple-stage, single power source.

Thermal overload protection

All standard motors on Direct Drive units contain internal thermal overload protection. The overload automatically resets when the temperature returns to a safe limit. These thermal overloads replace the need for motor starters.

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 30.0 kW 1-stage only — 3-phase
- 4 to 30.0 kW 1 or 2 stage only — 3-phase
- 12 to 30.0 kW 1, 2, or 3-stage — 3-phase

Automatic air vents

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

Unit weight calculations

Distributed weight

The following operating weight information is based on 8-row water-filled coils and double wall cabinet construction. For a different coil and cabinet options, use the weight correction factor table.

Total weight unit correction factor (lb)

The weights in the table below are for 8-row water-filled coils with double wall construction. For a different number of rows, total unit weight can be determined by following the steps below:

1. Identify the size of unit and number of rows.
2. From the "Weight Correction Factor — DHA/DVA Units" table, identify the total weight of the unit.
3. From the table below, identify the correction factor and deduct this factor from the total weight.

Weight Correction Factor — DHA/DVA Units[a]

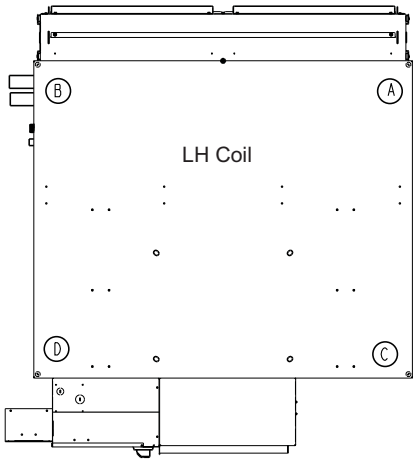
OPTIONS	06	08	10	12	16	20	22	30
4-Row Coil	–21	–21	–28	–28	–39	–46	–46	–98
5-Row Coil	–16	–16	–21	–21	–29	–35	–35	–74
6-Row Coil	–11	–11	–14	–14	–20	–23	–23	–49
7-Row Coil	–5	–5	–7	–7	–10	–12	–12	–25
Single Wall Construction	–31	–31	–40	–40	–47	–58	–58	–67

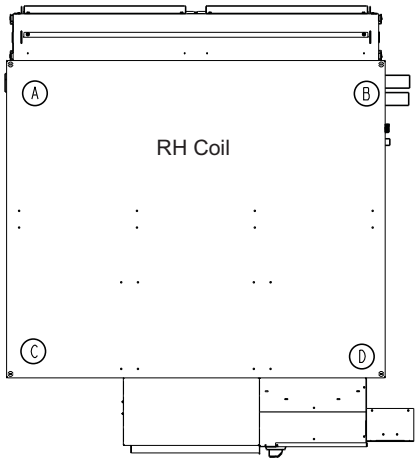
NOTE(S):

a. Unit weights (shown in pounds), ± 10 percent, are based on the largest water-filled coil.

Options (cont)

42DHA Horizontal Units (Top View)

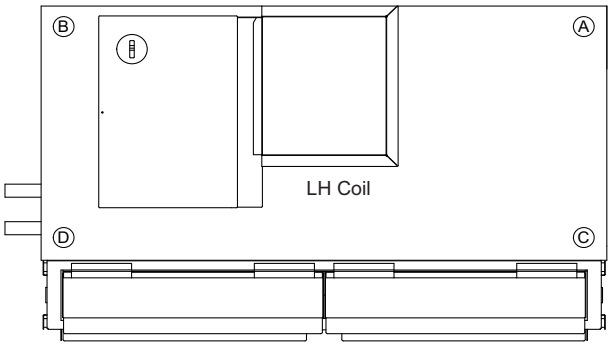


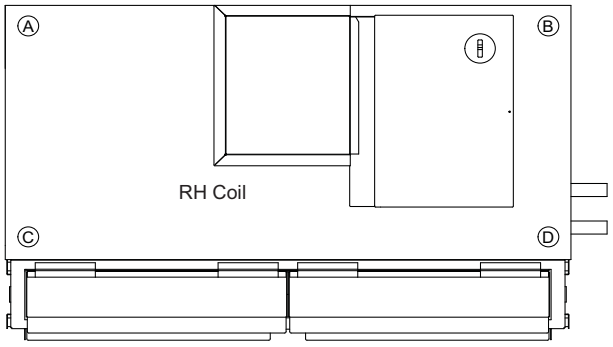


Corner Weights — Horizontal Units (DHA)

UNIT DHA	NO ELECTRIC HEAT (lb)					WITH ELECTRIC HEAT (lb)				
	A	B	C	D	TOTAL	A	B	C	D	TOTAL
06	42	46	36	47	171	42	58	36	66	202
08	41	47	38	45	171	41	58	36	67	202
10	51	53	49	63	217	51	60	56	83	250
12	50	52	51	64	217	50	58	57	85	250
16	65	70	64	75	274	70	69	66	104	309
20	78	90	77	95	340	81	96	77	107	378
22	83	105	80	99	367	86	111	81	111	389
30	103	113	97	117	430	104	120	96	149	469

42DVA Vertical Units (Top View)





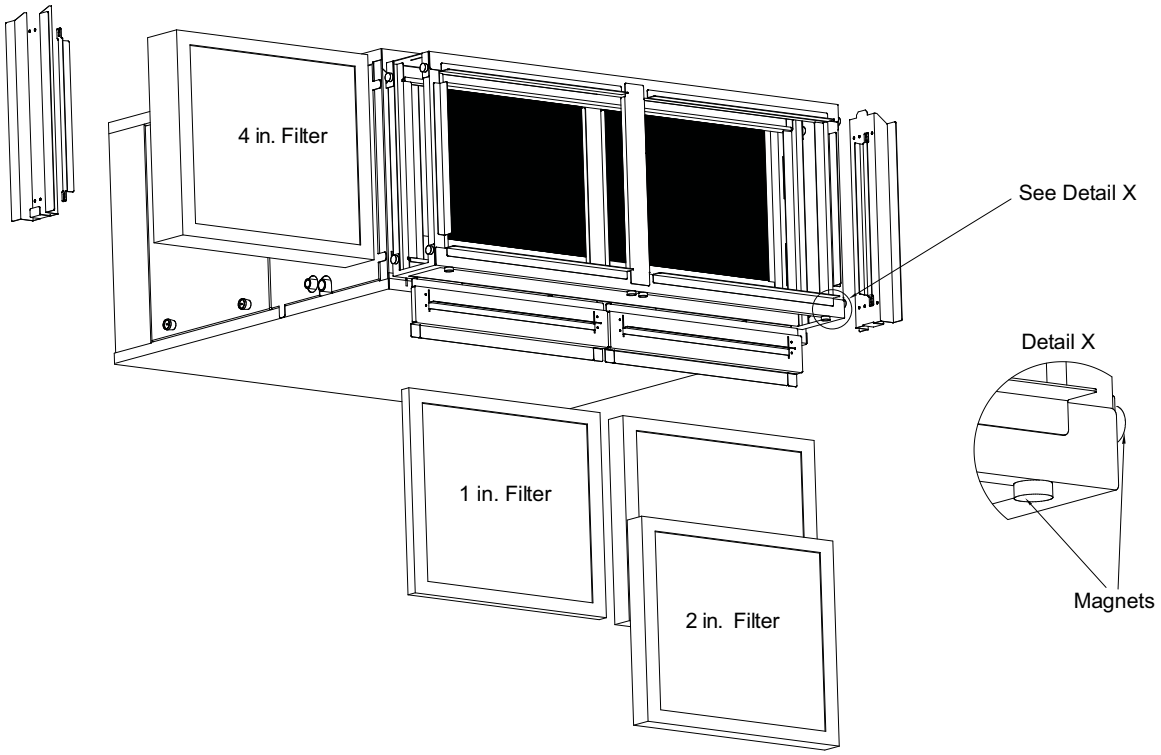
NOTE: Some unit components are removed for clarity.

Corner Weights — Vertical Units (DVA)

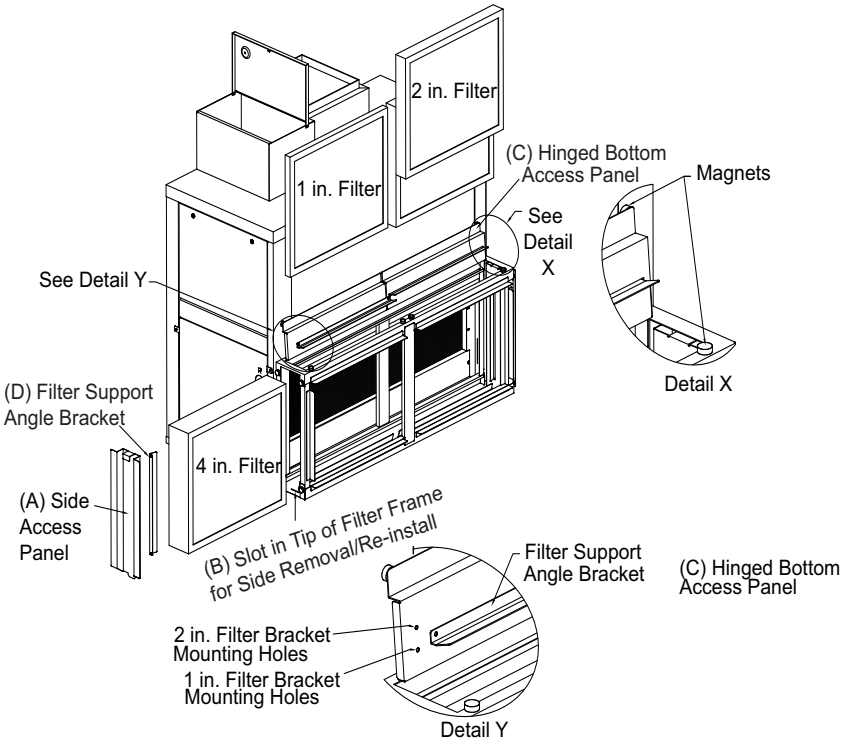
UNIT DVA	NO ELECTRIC HEAT (lb)					WITH ELECTRIC HEAT (lb)				
	A	B	C	D	TOTAL	A	B	C	D	TOTAL
06	76	38	35	42	191	85	40	44	49	218
08	85	39	37	38	199	94	48	44	47	234
10	78	45	44	78	245	86	58	55	84	283
12	84	45	46	80	255	97	62	58	92	309
16	85	74	62	82	306	105	79	70	92	346
20	90	84	77	88	339	111	88	81	99	379
22	110	90	73	90	363	133	88	92	99	412
30	147	140	113	128	528	160	140	131	137	568

Options (cont)

42DHA — Universal Filter Rack Design

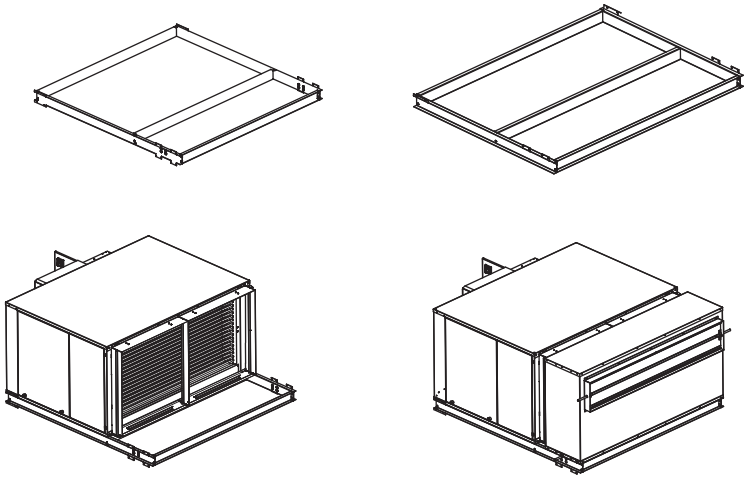


42DVA — Universal Filter Rack Design



42DHA — Mixing Box with Base Rails

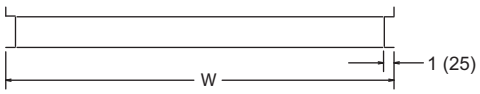
Mixing Boxes and Rails



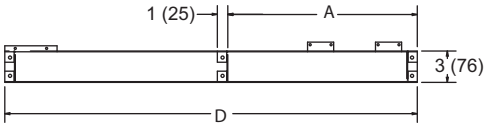
Mixing Box Options Include:

- Knockout base rails for field assembly.
- Pre-assembled mixing box.
- Base rails are letter coded for ease of assembly and all hardware required for assembly is included.

Base Rail Details



Front View



Side View

Linkage Kit Includes:

- 2 crank arms
- 2 swivels
- A 25 in. (sizes 06-16) or a 34 in. (sizes 20-30) length of 5/16 in. rod provided for field installation of actuator.

NOTE: Consult factory for the 24-v damper actuator option. Mixing box option adds 3 in. to the unit height due to the base rails.

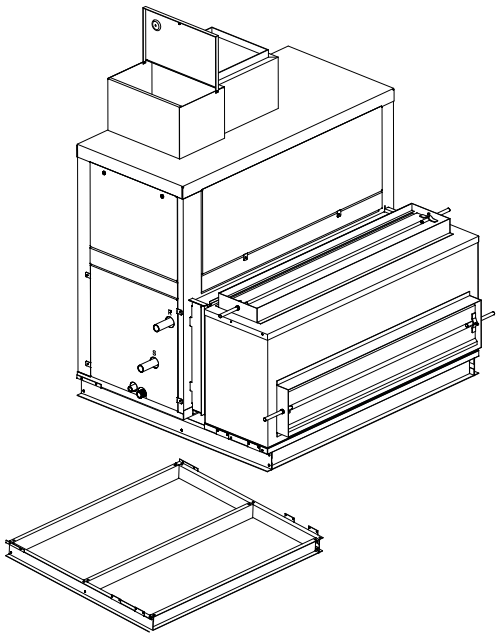
NOTE: Dimensions are in inches (mm).

UNIT SIZE 42DHA	HORIZONTAL UNIT DIMENSIONS – in. (mm)		
	W	D	A
06	28 (711)	51.6 (1311)	16.1 (409)
08	28 (711)	51.6 (1311)	16.1 (409)
10	37 (940)	55.2 (1402)	18.1 (460)
12	37 (940)	55.2 (1402)	18.1 (460)
16	47 (1194)	55.4 (1407)	18.1 (460)
20/22	48 (1219)	57.8 (1468)	18.1 (460)
30	48 (1219)	59.8 (1519)	20.1 (511)

Options (cont)

42DVA — Mixing Box with Base Rails

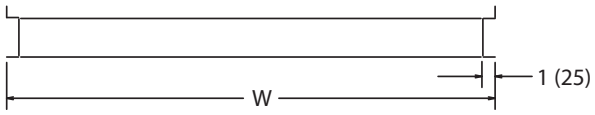
Top/Front Inlet Mixing Box



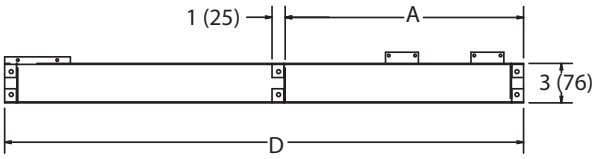
Mixing Box Options Include:

- Knockout base rails for field assembly.
- Pre-assembled mixing box.
- Base rails are letter coded for ease of assembly and all hardware required for assembly is included.

Base Rail Details



Front View



Side View

NOTE: Dimensions are in inches (mm).

Linkage Kit Includes:

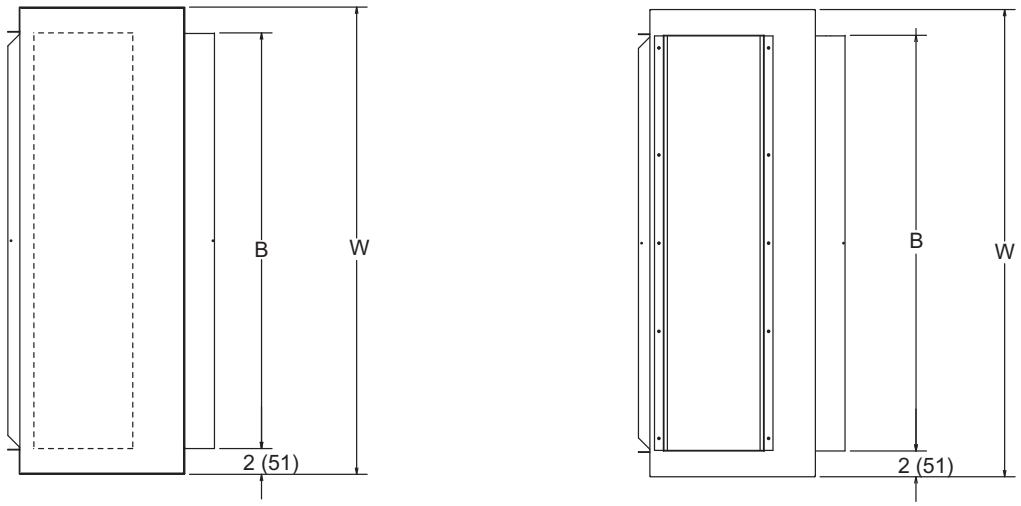
- 2 crank arms
- 2 swivels
- A 25 in. (sizes 06-16) or a 34 in. (sizes 20-30) length of 5/16 in. rod provided for field installation of actuator.

NOTE: Consult factory for the 24-v damper actuator option. Mixing box option adds 3 in. to the unit height due to the base rails.

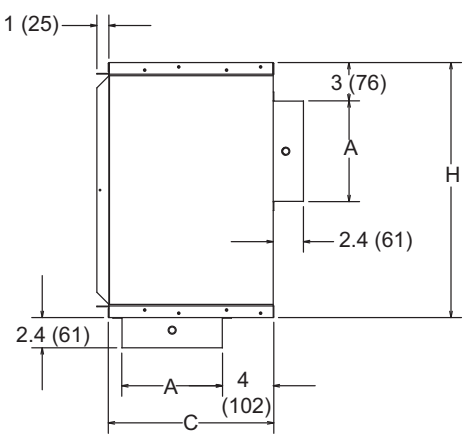
UNIT SIZE 42DVA	VERTICAL UNIT DIMENSIONS – in. (mm)		
	W	D	A
06	28 (711)	35.5 (902)	16.1 (409)
08	28 (711)	35.5 (902)	16.1 (409)
10	37 (940)	39.5 (1003)	18.1 (460)
12	37 (940)	39.5 (1003)	18.1 (460)
16	47 (1194)	39.5 (1003)	18.1 (460)
20/22	48 (1219)	41.5 (1054)	18.1 (460)
30	48 (1219)	47.5 (1207)	20.1 (511)

Options (cont)

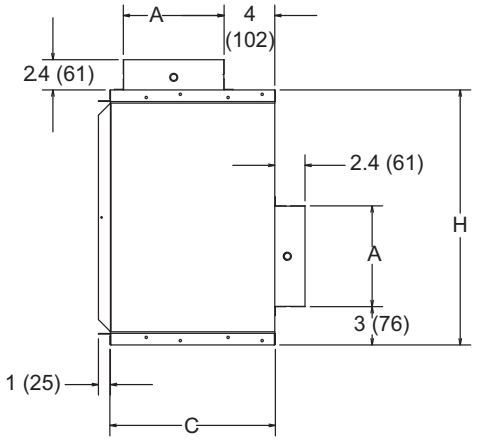
42DHA/DVA — Mixing Box With Base Rails



Top Views



Bottom/Rear Inlet - DHA
Bottom/Front Inlet - DVA



Top/Rear Inlet - DHA
Top/Front Inlet - DVA

UNIT SIZE 42DH	HORIZONTAL/VERTICAL UNIT DIMENSIONS – in. (mm)[a,b]				
	H	W	A	B	C
06	18.5 (470)	28 (711)	6 (152)	24 (610)	11 (279)
08	18.5 (470)	28 (711)	6 (152)	24 (610)	11 (279)
10	20.25 (514)	37 (940)	8 (203)	33 (838)	13 (330)
12	20.25 (514)	37 (940)	8 (203)	33 (838)	13 (330)
16	20.25 (514)	47 (1194)	8 (203)	43 (1092)	13 (330)
20/22	22.75 (578)	48 (1219)	8 (203)	44 (1118)	13 (330)
30	31 (787)	48 (1219)	10 (254)	44 (1118)	151 (381)

NOTE(S):

a. Dimensions are in inches (millimeters).
b. Add 2 in. (51 mm) to total unit length if using 2 in. prefilter or 4 in. filter with mixing box option.

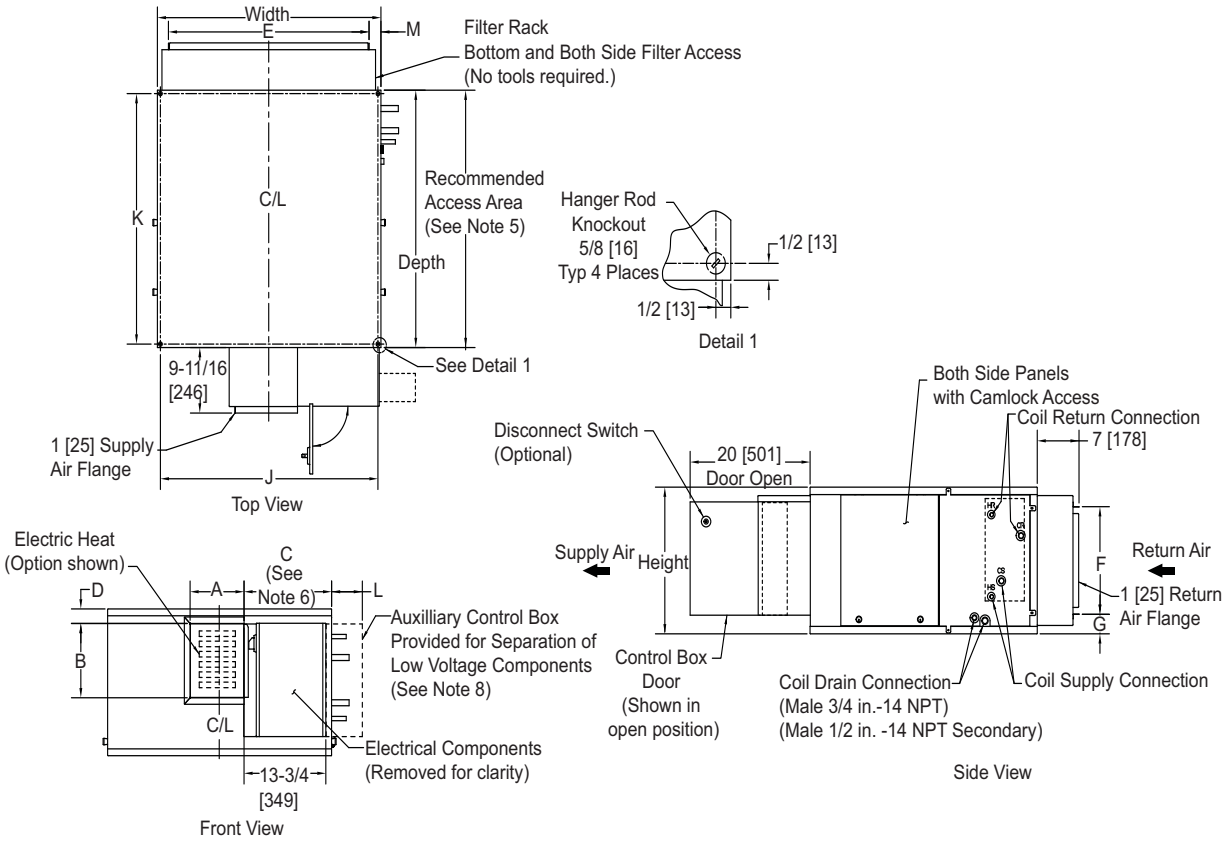
Options (cont)

Direct Drive Blower Component Static Resistance (in. wg)

UNIT SIZE 42DH	NOMINAL (CFM)	DRY COIL (INCLUDES CABINET)					FILTERS						MIXING BOX
		4-Row	5-Row	6-Row	7-Row	8-Row	1 in. MERV 8 Pleated	1 in. Throw-away (Qty 2)	2 in. MERV 8 Pleated	2 in. MERV 11 with Pre-filter	4 in. MERV 11 Pleated	4 in. MERV 13 Pleated	
06	400	0.07	0.08	0.10	0.11	0.12	0.07	0.05	0.04	0.04	0.03	0.04	0.02
	500	0.11	0.13	0.16	0.18	0.19	0.11	0.07	0.05	0.06	0.05	0.06	0.03
	600	0.15	0.19	0.22	0.24	0.27	0.14	0.09	0.06	0.07	0.06	0.08	0.04
	700	0.20	0.24	0.28	0.31	0.34	0.17	0.11	0.08	0.09	0.08	0.10	0.06
	800	0.24	0.29	0.34	0.38	0.42	0.21	0.14	0.09	0.11	0.09	0.12	0.08
08	600	0.15	0.19	0.22	0.24	0.27	0.14	0.09	0.06	0.07	0.06	0.08	0.04
	700	0.20	0.24	0.28	0.31	0.34	0.17	0.11	0.08	0.09	0.08	0.10	0.06
	800	0.24	0.29	0.34	0.38	0.42	0.21	0.14	0.09	0.11	0.09	0.12	0.08
	900	0.28	0.34	0.40	0.45	0.49	0.24	0.16	0.10	0.12	0.10	0.14	0.10
	1000	0.33	0.40	0.46	0.52	0.57	0.27	0.18	0.12	0.14	0.12	0.16	0.12
10	800	0.12	0.14	0.16	0.18	0.21	0.10	0.08	0.06	0.13	0.05	0.05	0.04
	900	0.15	0.18	0.21	0.24	0.26	0.12	0.09	0.07	0.16	0.06	0.06	0.05
	1000	0.19	0.22	0.26	0.29	0.32	0.14	0.11	0.08	0.18	0.07	0.07	0.06
	1100	0.22	0.26	0.30	0.34	0.37	0.16	0.13	0.09	0.21	0.08	0.08	0.08
	1200	0.25	0.30	0.35	0.39	0.43	0.18	0.14	0.10	0.23	0.09	0.09	0.09
12	1000	0.19	0.22	0.26	0.29	0.32	0.14	0.11	0.08	0.18	0.07	0.07	0.06
	1100	0.22	0.26	0.30	0.34	0.37	0.16	0.13	0.09	0.21	0.08	0.08	0.08
	1200	0.25	0.30	0.35	0.39	0.43	0.18	0.14	0.10	0.23	0.09	0.09	0.09
	1300	0.29	0.34	0.40	0.44	0.48	0.19	0.16	0.11	0.25	0.10	0.10	0.11
	1400	0.32	0.38	0.44	0.49	0.54	0.21	0.18	0.12	0.28	0.11	0.11	0.13
16	1400	0.19	0.23	0.28	0.31	0.34	0.14	0.17	0.10	0.21	0.09	0.09	0.07
	1500	0.22	0.26	0.31	0.35	0.38	0.16	0.19	0.10	0.24	0.10	0.10	0.09
	1600	0.24	0.29	0.35	0.38	0.42	0.17	0.21	0.11	0.26	0.11	0.11	0.10
	1700	0.27	0.32	0.38	0.42	0.47	0.19	0.22	0.12	0.28	0.12	0.12	0.11
	1800	0.29	0.35	0.42	0.46	0.51	0.20	0.24	0.13	0.30	0.12	0.13	0.12
20	1800	0.22	0.27	0.32	0.37	0.42	0.18	0.17	0.11	0.24	0.10	0.13	0.07
	1900	0.24	0.30	0.36	0.41	0.46	0.19	0.18	0.12	0.26	0.11	0.14	0.08
	2000	0.27	0.33	0.39	0.45	0.50	0.21	0.20	0.13	0.28	0.12	0.15	0.09
	2100	0.29	0.36	0.42	0.49	0.55	0.22	0.21	0.13	0.30	0.13	0.16	0.10
	2200	0.31	0.39	0.46	0.53	0.59	0.24	0.23	0.14	0.32	0.14	0.17	0.11
	2300	0.34	0.42	0.49	0.57	0.64	0.25	0.25	0.15	0.34	0.15	0.18	0.12
	2400	0.36	0.44	0.53	0.60	0.68	0.27	0.26	0.16	0.36	0.16	0.20	0.13
22	1800	0.22	0.27	0.32	0.37	0.42	0.18	0.17	0.11	0.24	0.10	0.13	0.07
	1900	0.24	0.30	0.36	0.41	0.46	0.19	0.18	0.12	0.26	0.11	0.14	0.08
	2000	0.27	0.33	0.39	0.45	0.50	0.21	0.20	0.13	0.28	0.12	0.15	0.09
	2100	0.29	0.36	0.42	0.49	0.55	0.22	0.21	0.13	0.30	0.13	0.16	0.10
	2200	0.31	0.39	0.46	0.53	0.59	0.24	0.23	0.14	0.32	0.14	0.17	0.11
	2300	0.34	0.42	0.49	0.57	0.64	0.25	0.25	0.15	0.34	0.15	0.18	0.12
	2400	0.36	0.44	0.53	0.60	0.68	0.27	0.26	0.16	0.36	0.16	0.20	0.13
30	2400	0.17	0.21	0.24	0.28	0.33	0.15	0.14	0.10	0.19	0.07	0.11	0.07
	2600	0.20	0.24	0.28	0.33	0.38	0.16	0.16	0.11	0.22	0.08	0.13	0.09
	2800	0.23	0.27	0.32	0.38	0.43	0.18	0.17	0.12	0.24	0.09	0.14	0.10
	3000	0.26	0.31	0.36	0.42	0.49	0.20	0.19	0.14	0.26	0.10	0.16	0.11
	3200	0.29	0.34	0.40	0.47	0.54	0.22	0.21	0.15	0.28	0.12	0.18	0.13
	3400	0.32	0.38	0.44	0.52	0.59	0.24	0.23	0.16	0.31	0.13	0.19	0.15

Base unit dimensions

42DHA Horizontal Direct Drive



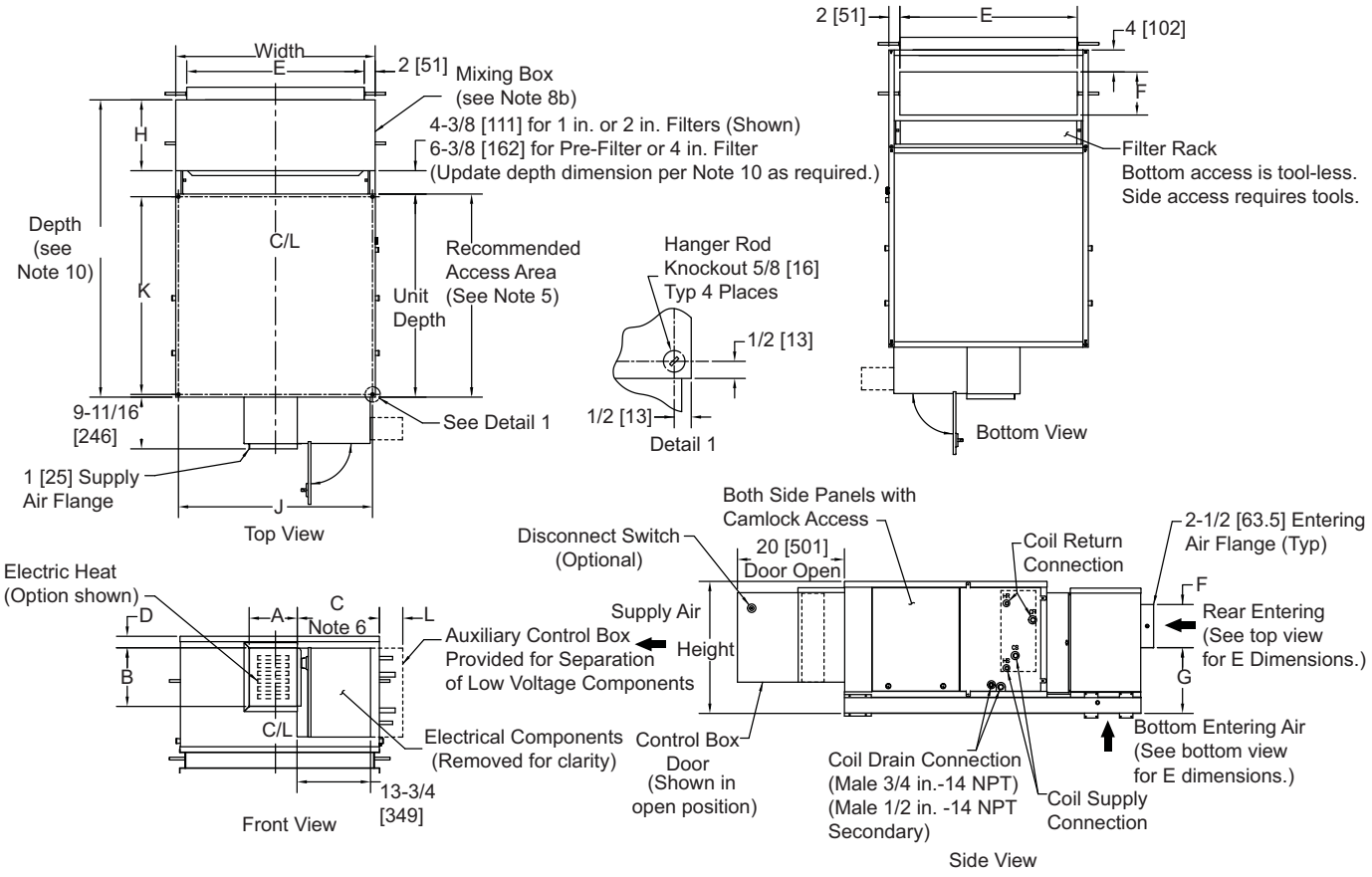
42DHA SIZE	FAN SIZE	DEPTH	WIDTH	HEIGHT	SUPPLY DUCT FLANGES				RETURN DUCT FLANGES			MOUNTING HOLES		AUXILIARY CONTROL BOX	M
					A	B	C	D	E	F	G	J	K	L	
06	9x6	36 [914]	28 [711]	19-3/4 [502]	8-7/8 [225]	10-7/8 [276]	13-3/4 [349]	2-1/4 [57]	24 [610]	16-1/2 [419]	1 [25]	27-1/4 [686]	35-1/4 [895]	5-3/4 [146]	2 [51]
08	9x6	36 [914]	28 [711]	19-3/4 [502]	8-7/8 [225]	10-7/8 [276]	13-3/4 [349]	2-1/4 [57]	24 [610]	16-1/2 [419]	1 [25]	27-1/4 [686]	35-1/4 [895]	5-3/4 [146]	2 [51]
10	9x6	37-1/2 [953]	37 [940]	21-1/2 [546]	10-1/4 [260]	10-7/8 [276]	14-1/2 [368]	2-1/4 [57]	33 [838]	18-1/4 [464]	1 [25]	36-1/4 [921]	37 [940]	5 [124]	2 [51]
12	9x6	37-1/2 [953]	37 [940]	21-1/2 [546]	10-1/4 [260]	10-7/8 [276]	14-1/2 [368]	2-1/4 [57]	33 [838]	18-1/4 [464]	1 [25]	36-1/4 [921]	37 [940]	5 [124]	2 [51]
16	10x7	37-3/4 [959]	47 [1194]	21-1/2 [546]	13 [330]	12 [305]	18-3/8 [467]	2-1/4 [57]	43 [1092]	18-3/4 [527]	1 [25]	46-1/4 [1175]	37 [940]	1-1/4 [32]	1-1/2 [38]
20	11x10	40-1/4 [1022]	48 [1219]	24 [610]	16-1/4 [413]	13 [330]	17-1/4 [438]	2-1/4 [57]	44 [1118]	20-3/4 [527]	1 [25]	47-1/4 [1200]	39-1/2 [1033]	2-3/8 [60]	2 [51]
22															
30	12x12	40-1/4 [1022]	48 [1219]	32-1/4 [819]	16-1/4 [413]	14 [356]	16 [406]	7-1/8 [181]	44 [1118]	29 [737]	1 [25]	47-1/4 [1200]	39-1/2 [1033]	3-3/4 [95]	2 [51]

NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Dimensions are in inches [mm].
3. All dimensions are ± .25 in. [6 mm].
4. Product specifications are subject to changes without notice.
5. Allow adequate spacing or maneuverability around unit to allow service through recommended access area.
6. “C” dimension is measured from coil side of unit.
7. Mixing box option will vary return duct dimensions, refer to mixing box drawing on page 18.
8. Auxiliary control box required with 3-speed EC motors and/or cabinet lighting option, not required with low voltage (0-10v) controls.

Base unit dimensions (cont)

42DHA Horizontal Direct Drive with Optional Mixing Box



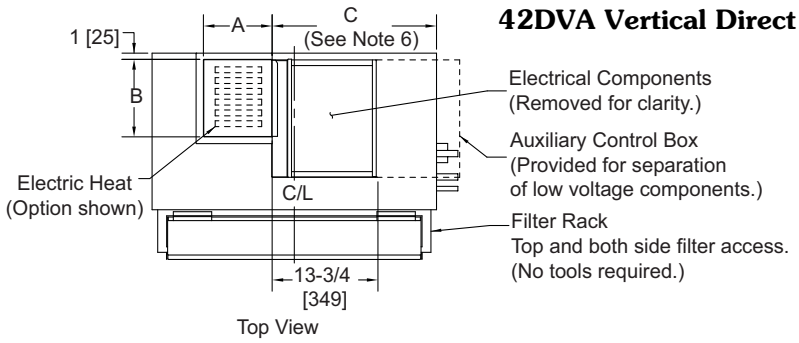
42DHA SIZE	FAN SIZE	DEPTH	UNIT DEPTH	WIDTH	HEIGHT	SUPPLY DUCT				RETURN DUCT			MIX BOX	MOUNTING HOLES		AUXILIARY BOX
						A	B	C	D	E	F	G	H	J	K	L
06	9x6	51-5/8 [1311]	36 [914]	28 [711]	22-3/4 [578]	8-7/8 [225]	10-7/8 [276]	13-3/4 [349]	2-1/4 [57]	24 [610]	6 [152]	12-1/2 [318	11 [279]	27-1/4 [686]	35-1/4 [895]	5-3/4 [146]
08	9x6	51-5/8 [1311]	36 [914]	28 [711]	22-3/4 [578]	8-7/8 [225]	10-7/8 [276]	13-3/4 [349]	2-1/4 [57]	24 [610]	6 [152]	12-1/2 [318]	11 [279]	27-1/4 [686]	35-1/4 [895]	5-3/4 [146]
10	9x6	55-1/8 [1400]	37-1/2 [953]	37 [940]	24-1/2 [622]	10-1/4 [260]	10-7/8 [276]	14-1/2 [368]	2-1/4 [57]	33 [838]	8 [203]	14-1/4 [362]	13 [330]	36-1/4 [921]	37 [940]	5 [124]
12	9x6	55-1/8 [1400]	37-1/2 [953]	37 [940]	24-1/2 [622]	10-1/4 [260]	10-7/8 [276]	14-1/2 [368]	2-1/4 [57]	33 [838]	8 [203]	14-1/4 [362]	13 [330]	36-1/4 [921]	37 [940]	5 [124]
16	10x7	55-3/8 [1407]	37-3/4 [959]	47 [1194]	24-1/2 [622]	13 [330]	12 [305]	18-3/8 [467]	2-1/4 [57]	43 [1092]	8 [203]	14-1/4 [362]	13 [330]	46-1/4 [1175]	37 [940]	1-1/4 [32]
20	11x10	57-3/4 [1467]	40-1/4 [1022]	48 [1219]	27 [686]	16-1/4 [413]	13 [330]	17-1/4 [438]	2-1/4 [57]	44 [1118]	8 [203]	16-3/4 [425]	13 [330]	47-1/4 [1200]	39-1/2 [1033]	2-3/8 [60]
22																
30	12x12	59-3/4 [1518]	40-1/4 [1022]	48 [1219]	35-1/4 [895]	16-1/4 [413]	14 [356]	16 [406]	7-1/8 [181]	44 [1118]	10 [254]	15 [381]	15 [381]	47-1/4 [1200]	39-1/2 [1033]	3-3/4 [95]

NOTES:

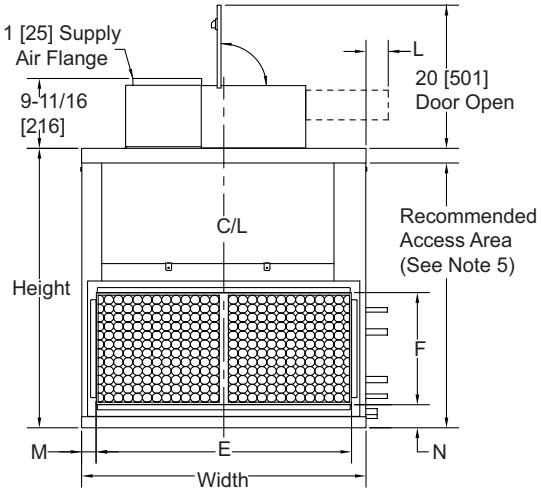
1. Right hand unit shown; left hand unit opposite.
2. All dimensions are ± .25 in. [6 mm].
3. Product specifications are subject to changes without notice.
4. Dimensions are in inches [mm].
5. Allow adequate spacing or maneuverability around unit to allow service through recommended access area.
6. “C” dimension is measured from coil side of unit.
7. Mixing box option will vary return duct dimensions, refer to mixing box drawing.
8. Mixing box option includes: a) knockdown base rails for field assembly; which are letter coded for ease of assembly. All assembly hardware included.
   b) pre-assembled mixing box.
9. Linkage kit supplied with Mixing Box is provided for field installation of actuator, consisting of 2 crank arms, 2 swivels, and either a 25 in. (sizes 06-16) or 34 in. (sizes 20-40) length of 5/16 in. rod.
10. Add 2 in. [51] if using a prefilter or 4 in. [102] filter.

Base unit dimensions (cont)

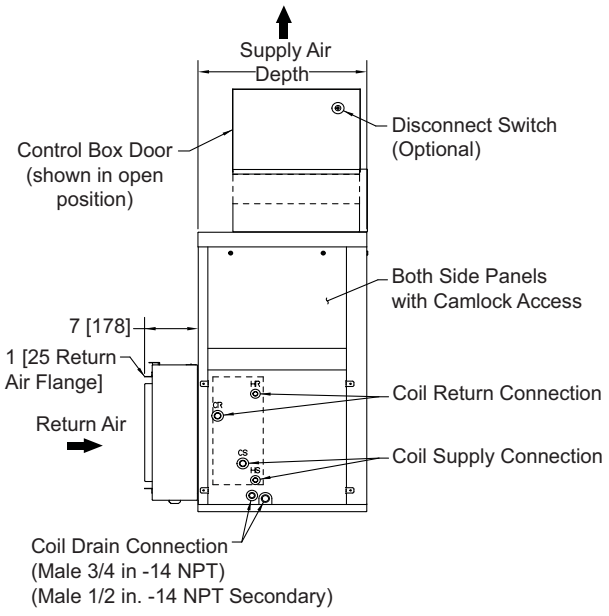
42DVA Vertical Direct Drive



Top View



Front View



Side View

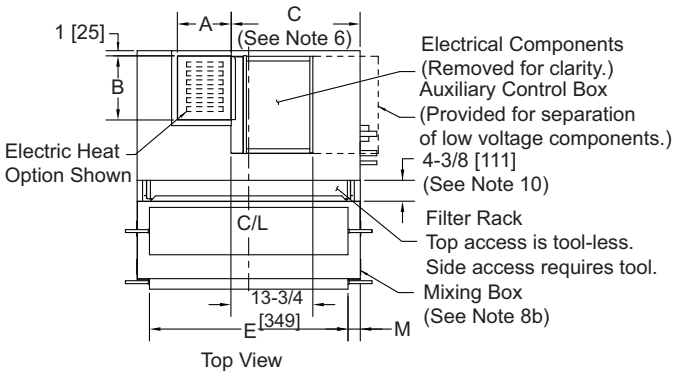
42DVA SIZE	FAN SIZE	DEPTH	WIDTH	HEIGHT	SUPPLY DUCT			RETURN DUCT		AUXILIARY CONTROL BOX	UNIT SIDE TO DUCT FLANGE	UNIT BOTTOM TO DUCT FLANGE
					A	B	C	E	F	L	M	N
06	9x6	20 [508]	28 [711]	36-1/2 [927]	8-7/8 [225]	10-7/8 [276]	15-1/8 [384]	24 [610]	16-1/2 [419]	4-1/2 [114]	1-7/8 [48]	2-7/8 [73]
08	9x6	20 [508]	28 [711]	36-1/2 [927]	8-7/8 [225]	10-7/8 [276]	15-1/8 [384]	24 [610]	16-1/2 [419]	4-1/2 [114]	1-7/8 [48]	2-7/8 [73]
10	9x6	22 [559]	37 [940]	39-3/8 [1000]	10-1/4 [260]	10-7/8 [276]	21-1/2 [546]	33 [838]	18-1/4 [464]	0 [0]	1-7/8 [48]	2-7/8 [73]
12	9x6	22 [559]	37 [940]	39-3/8 [1000]	10-1/4 [260]	10-7/8 [276]	21-1/2 [546]	33-1/4 [838]	18-1/4 [464]	0 [0]	1-7/8 [48]	2-7/8 [73]
16	10x7	22 [559]	47 [1194]	39-3/8 [1000]	13 [330]	12 [305]	16-5/8 [422]	43 [1092]	18-1/4 [464]	3[76]	1-5/8 [48]	2-7/8 [73]
20/22	11x10	24 [610]	48 [1219]	45-1/8 [1146]	16-1/4 [413]	13 [330]	17-1/8 [435]	44 [1118]	20-3/4 [527]	2-1/2 [64]	1-7/8 [48]	3-1/8 [79]
30	12x12	28 [711]	48 [1219]	54-1/4 [1378]	16-1/4 [413]	14 [356]	16 [406]	44 [1118]	29 [737]	3-5/8 [92]	1-7/8 [48]	2-3/4 [70]

NOTES:

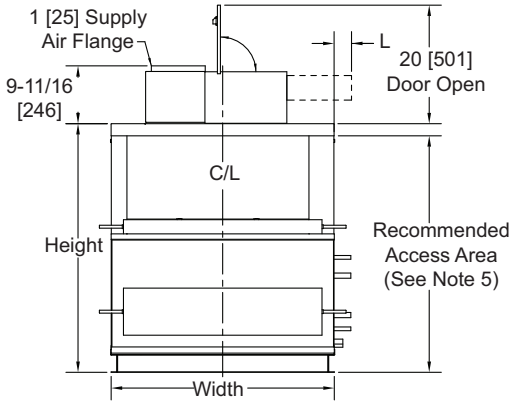
1. Right hand unit shown; left hand unit opposite.
2. Dimensions are in inches [mm].
3. Product specifications are subject to changes without notice.
4. All dimensions are ± .25 in [6 mm].
5. Allow adequate spacing or maneuverability around unit to allow service through recommended access area.
6. “C” dimension is measured from coil side of unit.
7. Mixing box option will vary return duct dimensions, refer to mixing box drawing on page 20.

Base unit dimensions (cont)

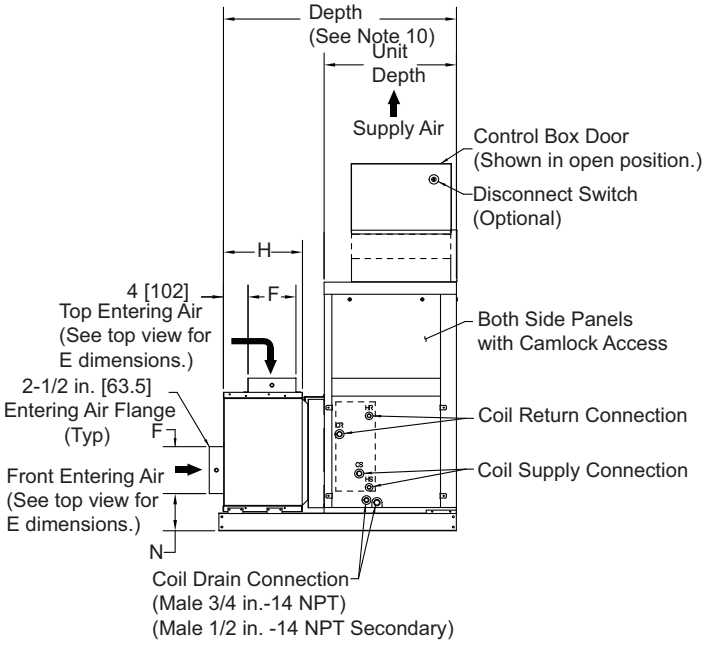
42DVA Vertical Direct Drive with Optional Mixing Box



Top View



Front View



Side View

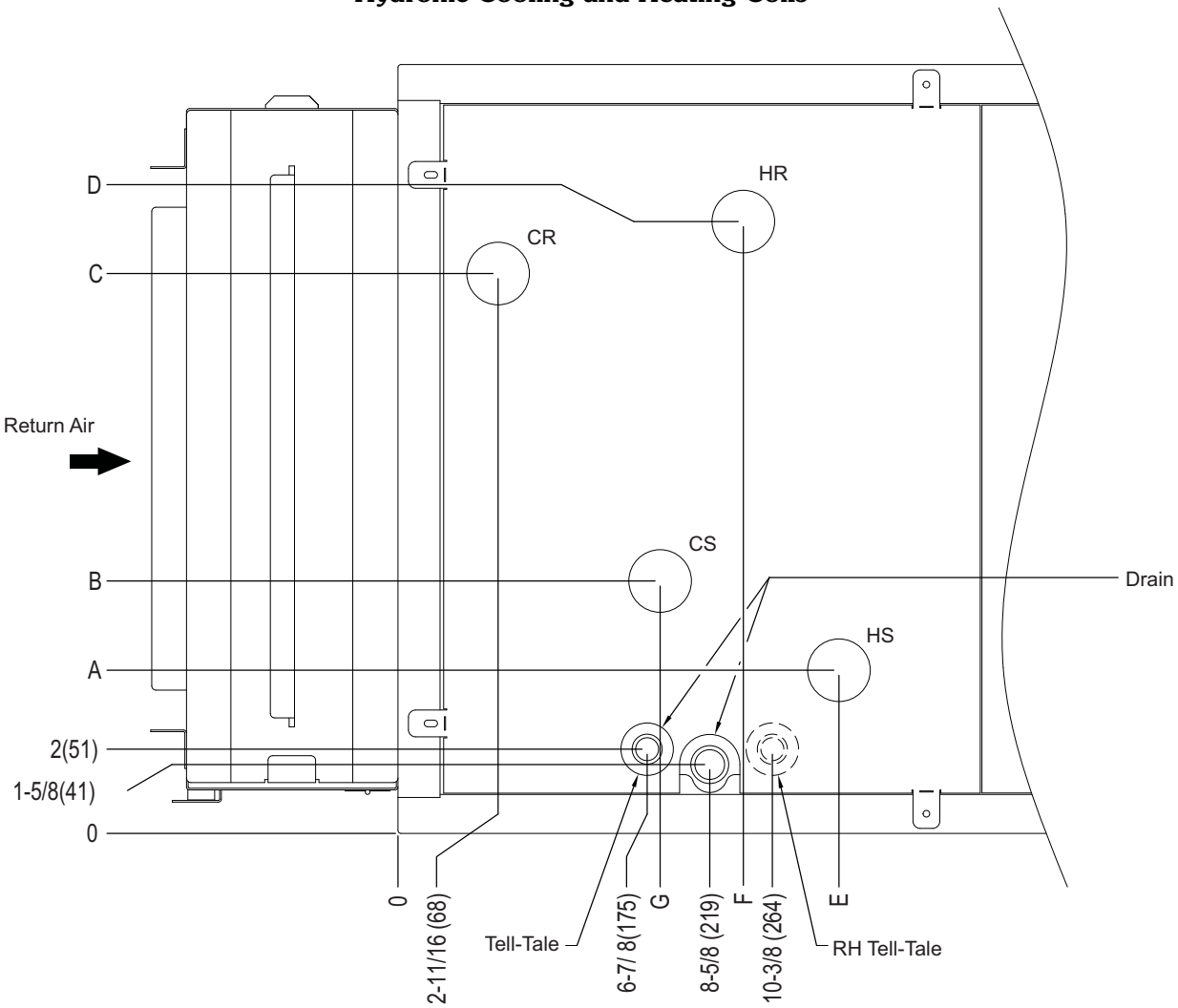
42DVA SIZE	FAN SIZE	DEPTH	UNIT DEPTH	WIDTH	HEIGHT	SUPPLY DUCT			RETURN DUCT		MIX BOX	AUXILIARY BOX	UNIT SIDE TO DUCT FLANGE	UNIT BOTTOM TO DUCT FLANGE
						A	B	C	E	F	H	L	M	N
06	9x6	35-1/2 [902]	20 [508]	28 [711]	36-1/2 [927]	8-7/8 [225]	10-7/8 [276]	15-1/8 [384]	24 [610]	6 [152]	11 [279]	4-1/2 [114]	1-7/8 [48]	2-7/8 [73]
08	9x6	35-1/2 [902]	20 [508]	28 [711]	36-1/2 [927]	8-7/8 [225]	10-7/8 [276]	15-1/8 [384]	24 [610]	6 [152]	11 [279]	4-1/2 [114]	1[25]	2-7/8 [73]
10	9x6	39-1/2 [1003]	22 [559]	37 [940]	39-3/8 [1000]	10-1/4 [260]	10-7/8 [276]	21-1/2 [546]	33 [838]	8 [203]	13 [330]	0 [0]	1-7/8 [48]	2-7/8 [73]
12	9x6	39-1/2 [1003]	22 [559]	37 [940]	39-3/8 [1000]	10-1/4 [260]	10-7/8 [276]	21-1/2 [546]	33 [838]	8 [203]	13 [330]	0 [0]	1-7/8 [48]	2-7/8 [73]
16	10x7	39-1/2 [1003]	22 [559]	47 [1194]	39-3/8 [1000]	13 [330]	12 [305]	16-5/8 [422]	43 [1092]	8 [203]	13 [330]	3 [76]	1-5/8 [41]	2-7/8 [73]
20/22	11x10	41-1/2 [1054]	24 [610]	48 [1219]	45-1/8 [1146]	16-1/4 [413]	13 [330]	17-1/8 [435]	44 [1118]	8 [203]	13 [330]	2-1/2 [64]	1-7/8 [48]	3-1/8 [79]
30	12x12	47-1/2 [1207]	28 [711]	48 [1219]	54-1/4 [1378]	16-1/4 [413]	14 [356]	16 [406]	44 [1118]	10 [254]	15 [381]	3-5/8 [92]	1-7/8 [48]	2-7/8 [73]

NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Dimensions are in inches [mm].
3. Product specifications are subject to changes without notice.
4. All dimensions are ± .25 in. [6 mm].
5. Allow adequate spacing or maneuverability around unit to allow service through recommended access area.
6. “C” dimension is measured from coil side of unit.
7. Mixing box option will vary return duct dimensions, refer to mixing box drawing.
8. Mixing box option includes: a) knockdown base rails which are letter-coded for field assembly, all assembly hardware included; b) pre-assembled mixing box.
9. Linkage kit supplied with mixing box is provided for field installation of actuator. Kit consists of 2 crank arms, 2 swivels, and either a 25 in. (sizes 06-16) or 34 in.(sizes 20-30) length of 5/16 in. rod.
10. Add 2 in. if using a prefilter or 4 in. filter.

Base unit dimensions (cont)

42DH Piping Connection Location (Centerline to Centerline)
Hydronic Cooling and Heating Coils



NOTES: Horizontal, left hand unit with re-heat coil shown. Dimensions in inches (mm).

LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply
LH — Left Hand
RH — Right Hand
OD — Outside Dimensions

42DH UNIT SIZE	COIL HEADER CONNECTION SIZE (in.)[a]									
	8-Row		6-Row		4-Row		2-Row Hw		1-Row Hw	
	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD
06-12	1	1.125	3/4	0.875	3/4	0.875	1/2	0.625	1/2	0.625
16-22	1	1.125	1	1.125	1	1.125	1	1.125	1/2	0.625
30	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625

NOTE(S):
a. See table on page 22 for unit size connection locations.

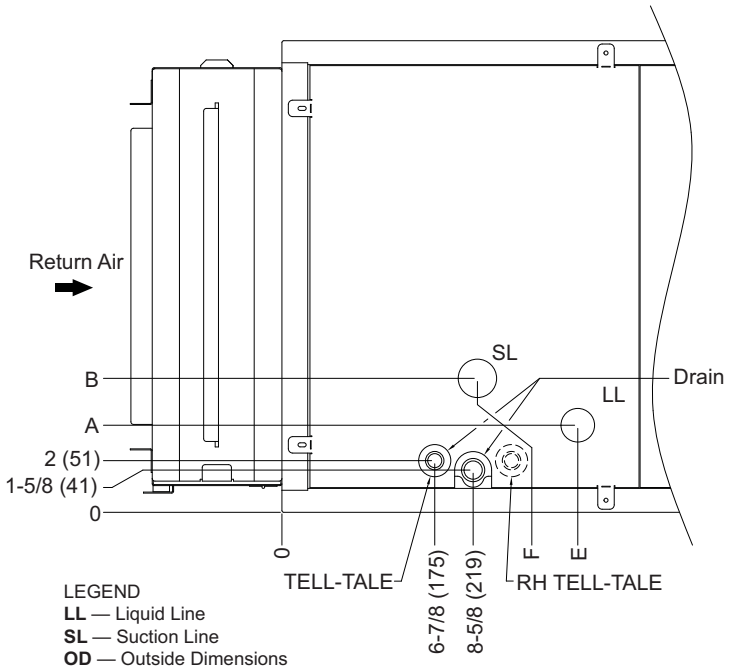
Base unit dimensions (cont)

42DH Hydronic Coil Piping Connections (in.)

UNIT SIZE	COIL ROWS		A	B	C	D	E	F	G
	COOL	HEAT							
06/08	4	—	—	6-1/8	12-3/4	—	—	—	5-15/16
		1	3-1/2			15-1/2	7	7	
		2	3-13/16			15-13/16	7-9/16	7-9/16	
	6	—	—			—	—	—	8-1/8
		1	3-1/2			15-1/2	9-3/16	9-3/16	
		2	3-13/16			15-13/16	9-3/4	9-3/4	
	8	—	—			—	—	—	10-1/4
10/12	4	—	—	7-3/4	14-3/8	—	—	—	5-15/16
		1	5-1/8			17-1/8	7	7	
		2	5-7/16			17-7/16	7-9/16	7-9/16	
	6	—	—			—	—	—	8-1/8
		1	5-1/8			17-1/8	9-3/16	9-3/16	
		2	5-27/61			17-7/16	9-3/4	9-3/4	
	8	—	—			—	—	—	10-1/4
16	4	—	—	7-3/4	15-5/8	—	—	—	5-15/16
		1	LH 10-5/8	7-3/4		12	9-5/8	7	
			RH 13-3/8				9-5/8	7	
		2	12	7	16-3/8	13-5/8	10-3/8	7-9/16	
	6	—	—	7-3/4	15-5/8	—	—	—	8-1/8
		1	LH 10-5/8	7-3/4		12	11-13/16	9-3/16	
			RH 13-3/8				11-13/16	9-3/16	
		2	12	7	16-3/8	13-5/8	12-1/2	9-3/4	
	8	—	—	9-1/2	15-5/8	—	—	—	10-1/4
20/22	4	—	—	7-13/16	18-3/16	—	—	—	5-15/16
		1	LH 11-15/16	7-13/16		13-5/16	9-5/8	7	
			RH 14-11/16						
		2	11-9/16	7-7/8		15-13/16	9-1/16		5
	6	—	—	7-13/16		—	—	—	8-1/8
		1	LH 11-15/16	7-13/16		13-5/16	11-13/16	9-3/16	
			RH 14-11/16						
		2	11-9/16	7-7/8		15-13/16	11-1/4		7-1/8
	8	—	—	7-13/16		—	—	—	10-1/4
30	4	—	—	5-15/16	26-5/16	—	—	—	5-15/16
		1	7-1/16			25-13/16	9	7	4-7/8
		2	10-5/16			23-13/16	9-1/8		
	6	—	—			—	—	—	8-1/8
		1	7-1/16			25-13/16	11-1/8	9-1/8	7-1/16
		2	10-5/16			23-13/16	11-5/16		
	8	—	—			—	—	—	10-1/4

Base unit dimensions (cont)

42DH DX Coil Piping Connection Location (Centerline to Centerline) R-410A Cooling



LEGEND
LL — Liquid Line
SL — Suction Line
OD — Outside Dimensions

NOTE: Dimensions in inches (mm).

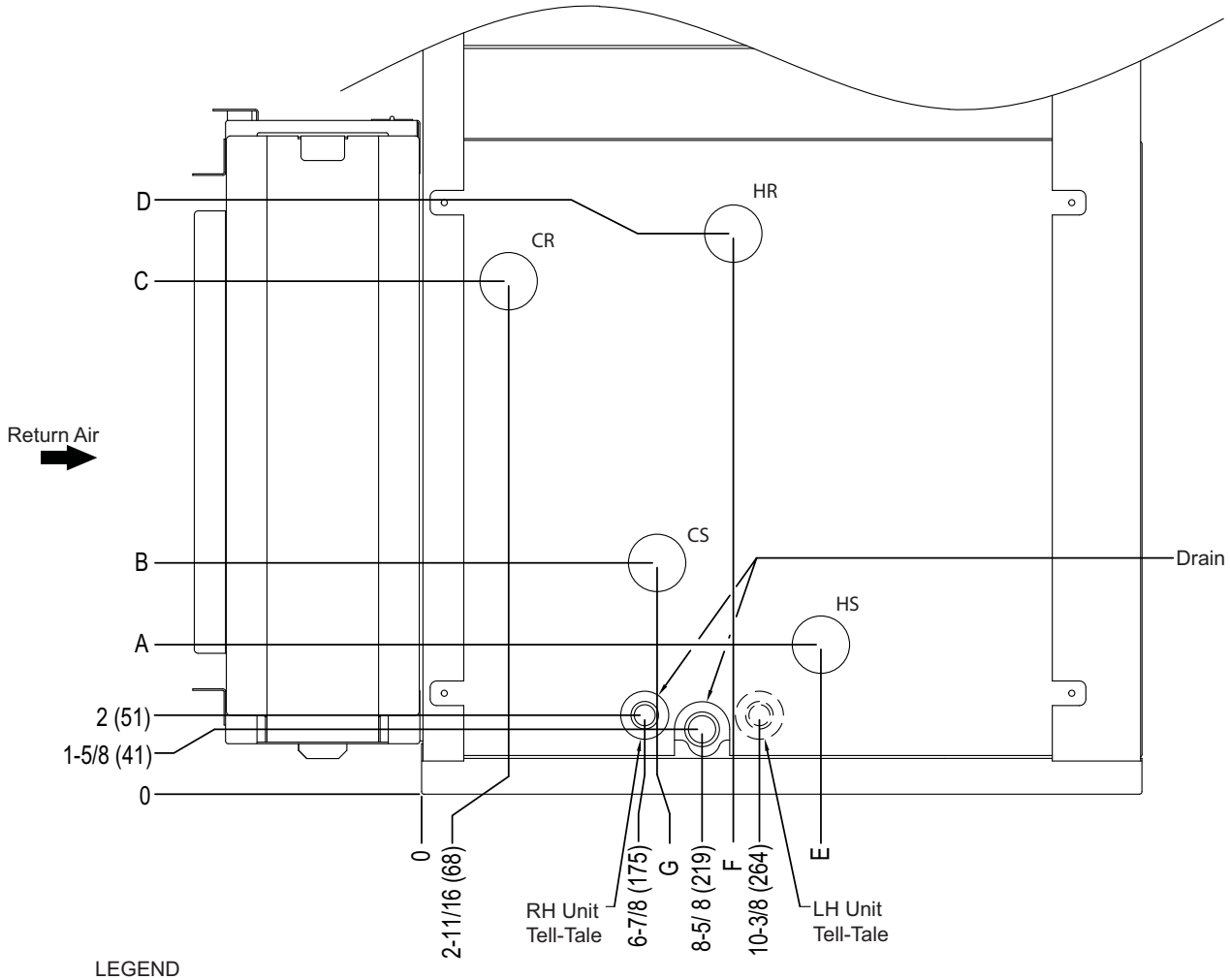
42DH UNIT SIZE	COIL HEADER CONNECTION SIZE (in.)			
	LL		SL	
	Nominal Size	OD	Nominal Size	OD
06-12	1/4	0.375	3/4	0.875
16-22	1/4	0.375	1	1.125
30	1/2	0.625	1-1/2	1.625

DX Coil Piping Connections (in.)

42DH UNIT SIZE	COIL ROWS DX ONLY	A	B	E	F
06/08	4	4-3/4	5-1/2	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4				4-7/8
	6				
10/12	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4				4-7/8
	6				
16	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4		6-3/8		6-6/8
	6				
20/22	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4	6-3/4	7-1/4		6-3/4
	6				
30	4	4-5/8	5-3/8	12-1/2	2-3/4
	6				
	4	4-7/8	6		6-1/8
	6				
	4		5-3/8		6-3/8
	6				

Base unit dimensions (cont)

42DV Piping Connection Location (Centerline to Centerline)
Hydronic Cooling and Heating Coils



LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply
LH — Left Hand
RH — Right Hand
OD — Outside Dimensions
NOTE: Vertical, right hand unit with re-heat coil shown. Dimensions in inches (mm).

COIL HEADER CONNECTION SIZE (in.)[a]										
42DV UNIT SIZE	8-Row		6-Row		4-Row		2-Row Hw		1-Row Hw	
	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD	Nominal Size	OD
06-12	1	1.125	3/4	0.875	3/4	0.875	1/2	0.625	1/2	0.625
16-22	1	1.125	1	1.125	1	1.125	1	1.125	1/2	0.625
30	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625	1-1/2	1.625

NOTE(S):
a. See table on page 25 for unit size connection locations.

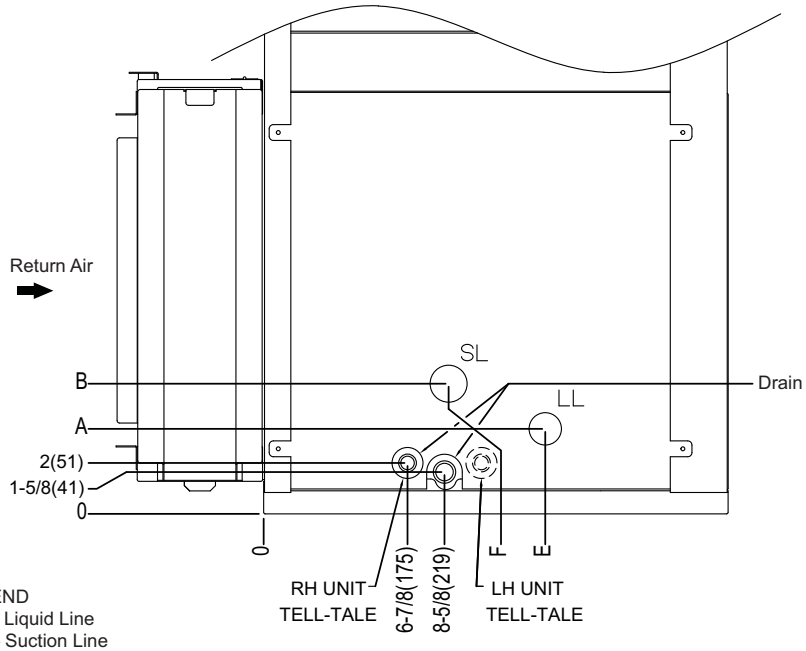
Base unit dimensions (cont)

42DV Hydronic Coil Piping Connections (in.)

UNIT SIZE	COIL ROWS		A	B	C	D	E	F	G
	COOL	HEAT							
06/08	4	—	—	6-1/8	12-3/4	—	—	—	5-15/16
		1	3-1/2			15-1/2	7	7	
		2	3-13/16			15-13/16	7-9/16	7-9/16	
	6	—	—			—	—	—	8-1/8
		1	3-1/2			15-1/2	9-3/16	9-3/16	
		2	3-13/16			15-13/16	9-3/4	9-3/4	
	8	—	—			—	—	—	10-1/4
10/12	4	—	—			—	—	—	5-15/16
		1	5-1/8			17-1/8	7	7	
		2	5-7/16			17-7/16	7-9/16	7-9/16	
	6	—	—	7-3/4	14-3/8	—	—	—	8-1/8
		1	5-1/8			17-1/8	9-3/16	9-3/16	
		2	5-27/61			17-7/16	9-3/4	9-3/4	
	8	—	—			—	—	—	10-1/4
16	4	—	—	7-3/4	15-5/8	—	—	—	5-15/16
			LH 10-5/8				9-5/8	7	
		1	RH 13-3/8	7-3/4		12	9-5/8	7	
		2	12	7	16-3/8	13-5/8	10-3/8	7-9/16	
	6	—	—	7-3/4	15-5/8	—	—	—	8-1/8
			LH 10-5/8			—	11-13/16	9-3/16	
		1	RH 13-3/8	7-3/4		12	11-13/16	9-3/16	
		2	12	7	16-3/8	13-5/8	12-1/2	9-3/4	
	8	—	—	9-1/2	15-5/8	—	—	—	10-1/4
20/22	4	—	—	7-13/16		—	—	—	5-15/16
		1	LH 11-15/16	7-13/16		13-5/16	9-5/8	7	
			RH 14-11/16						
		2	11-9/16	7-7/8		15-13/16	9-1/16		5
	6	—	—	7-13/16	18-3/16	—	—	—	
		1	LH 11-15/16	7-13/16		13-5/16	11-13/16	9-3/16	8-1/8
			RH 14-11/16						
		2	11-9/16	7-7/8		15-13/16	11-1/4		7-1/8
	8	—	—	7-13/16		—	—	—	10-1/4
30	4	—	—	5-15/16	26-5/16	—	—	—	5-15/16
		1	7-1/16			25-13/16	9		
		2	10-5/16			23-13/16	9-1/8	7	4-7/8
	6	—	—			—	—	—	8-1/8
		1	7-1/16			25-13/16	11-1/8	9-1/8	7-1/16
		2	10-5/16			23-13/16	11-5/16		
	8	—	—			—	—	—	10-1/4

Base unit dimensions (cont)

42DV DX Piping Connection Locations (Centerline to Centerline) R-410A Cooling



42DV UNIT SIZE	COIL HEADER CONNECTION SIZE (NOMINAL OD IN INCHES)			
	LL		SL	
	Nominal Size	OD	Nominal Size	OD
06-12	1/4	0.375	3/4	0.875
16-22	1/4	0.375	1	1.125
30	1/2	0.625	1-1/2	1.625

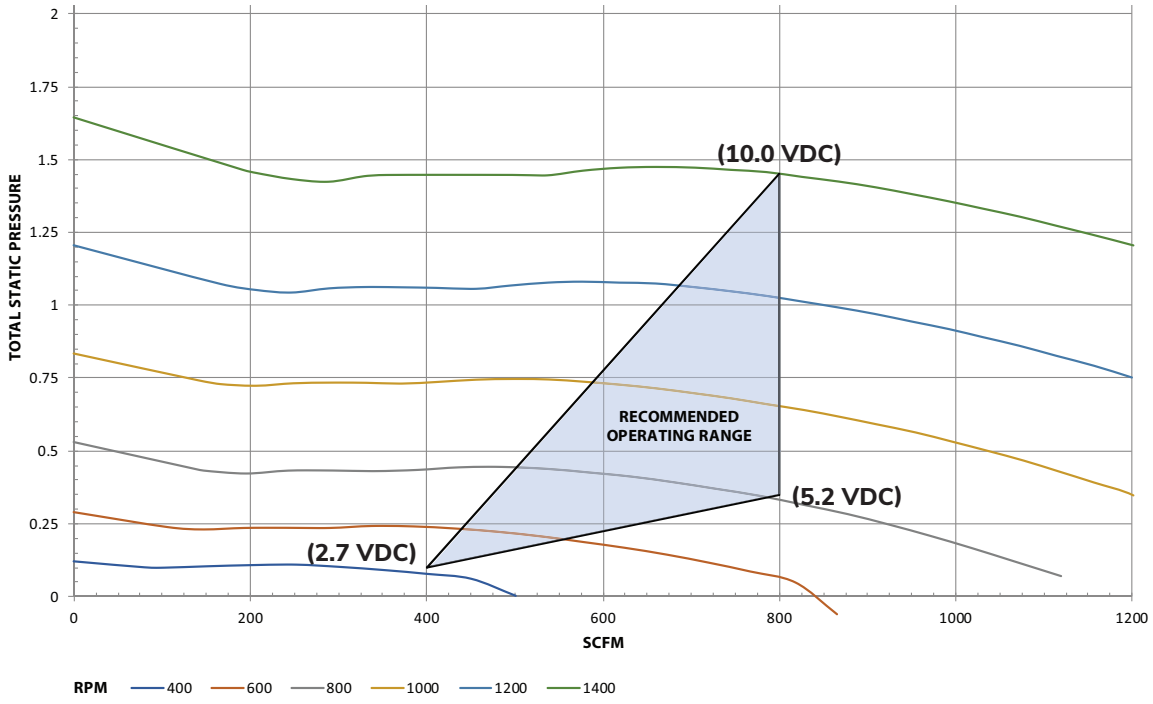
LEGEND
LL — Liquid Line
SL — Suction Line
OD — Outside Dimensions
NOTE: Dimensions in inches (mm).

DX Coil Piping Connections (in.)

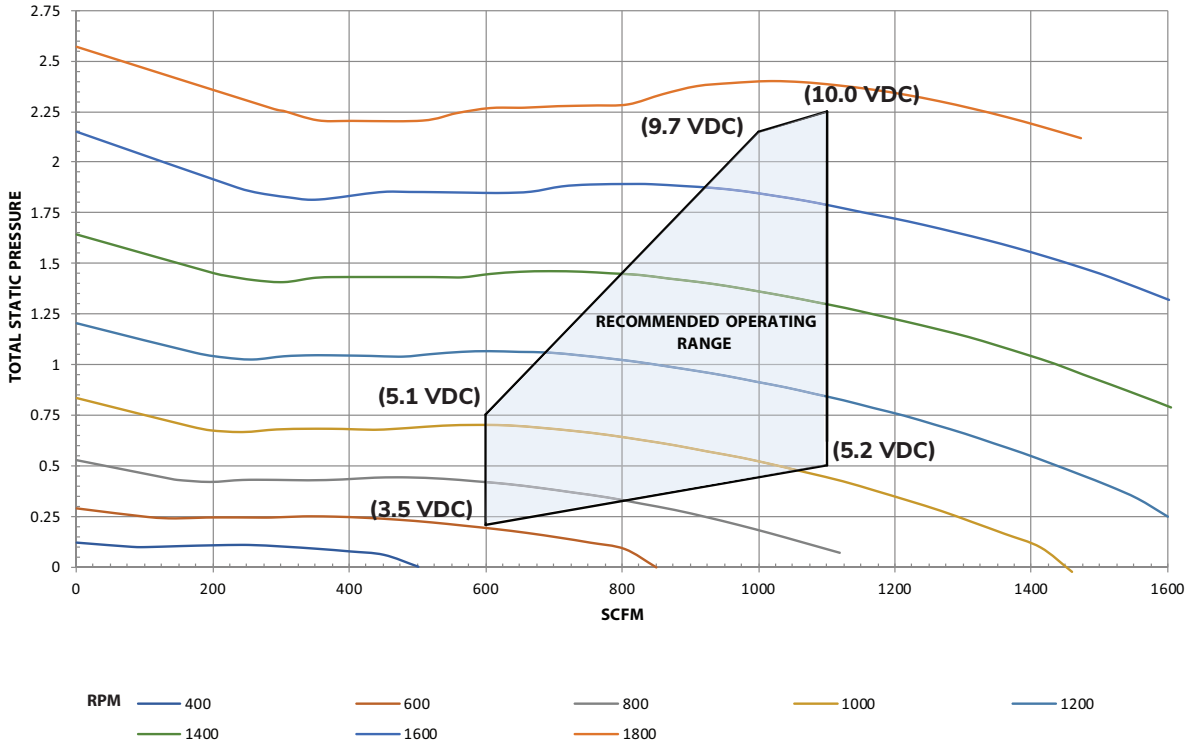
42DV UNIT SIZE	COIL ROWS DX ONLY	A	B	E	F
06/08	4	4-3/4	5-1/2	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4				4-7/8
	6				
10/12	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4				4-7/8
	6				
16	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4		6-3/8		6-6/8
	6				
20/22	4	6-1/2	7-1/8	12-1/2	2-3/4
	6				
	4				3-3/4
	6				
	4	6-3/4	7-1/4		6-3/4
	6				
30	4	4-5/8	5-3/8	12-1/2	2-3/4
	6				
	4	4-7/8	6		6-1/8
	6				
	4		5-3/8		6-3/8
	6				

Fan Curves

42DHA Series — Unit Size 06, 1/2 Hp Motor



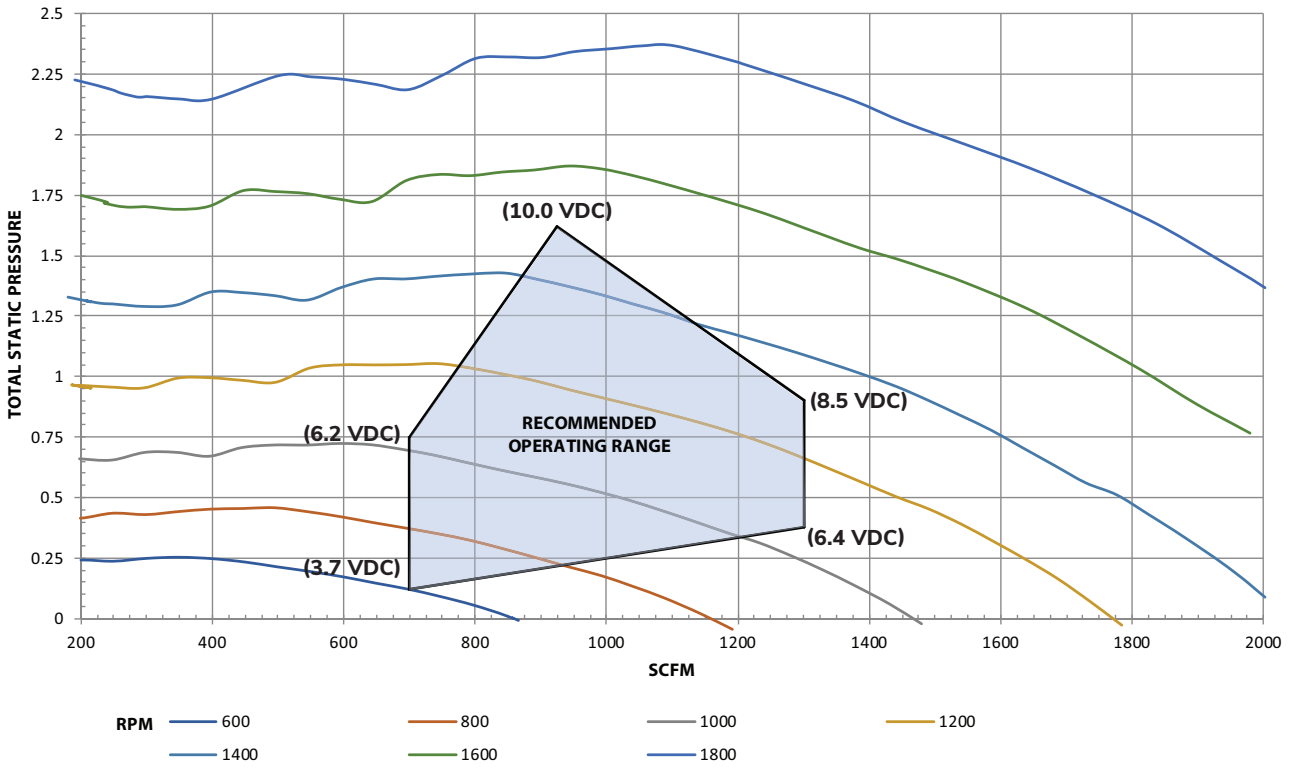
42DHA Series — Unit Size 08, 1 Hp Motor



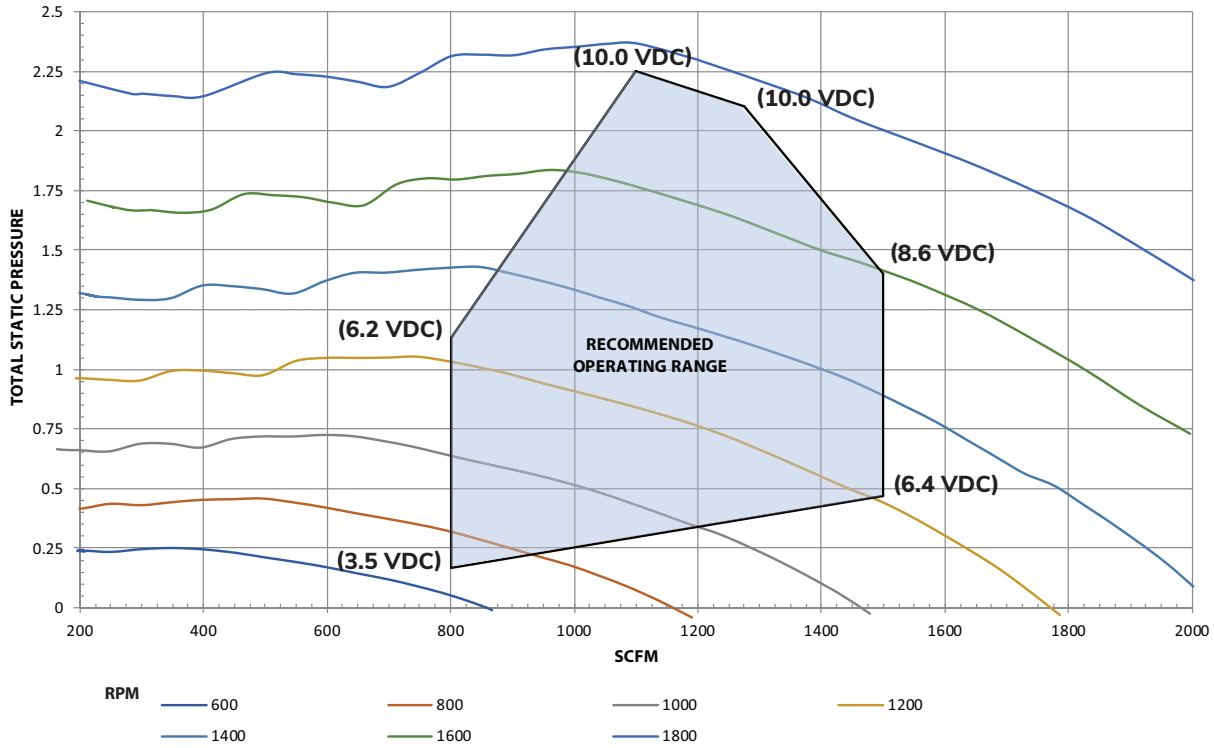
Performance data (cont)

Fan Curves (cont)

42DHA Series — Unit Size 10, 1/2 Hp Motor



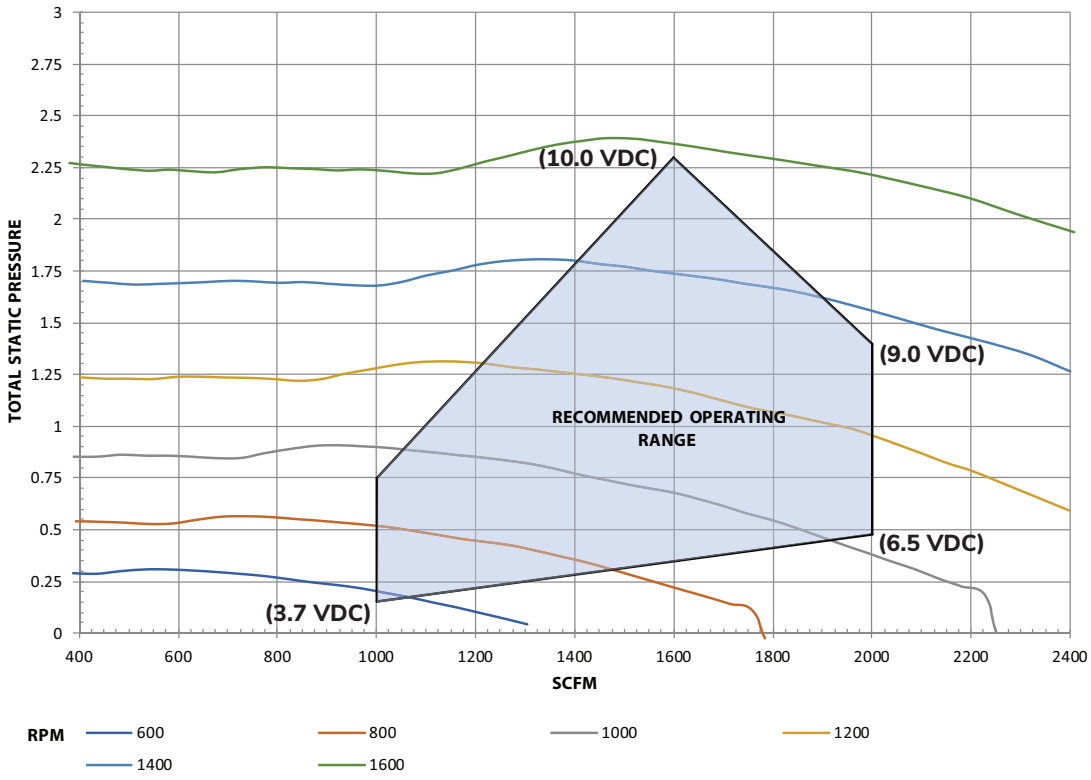
42DHA Series — Unit Size 12, 1 Hp Motor



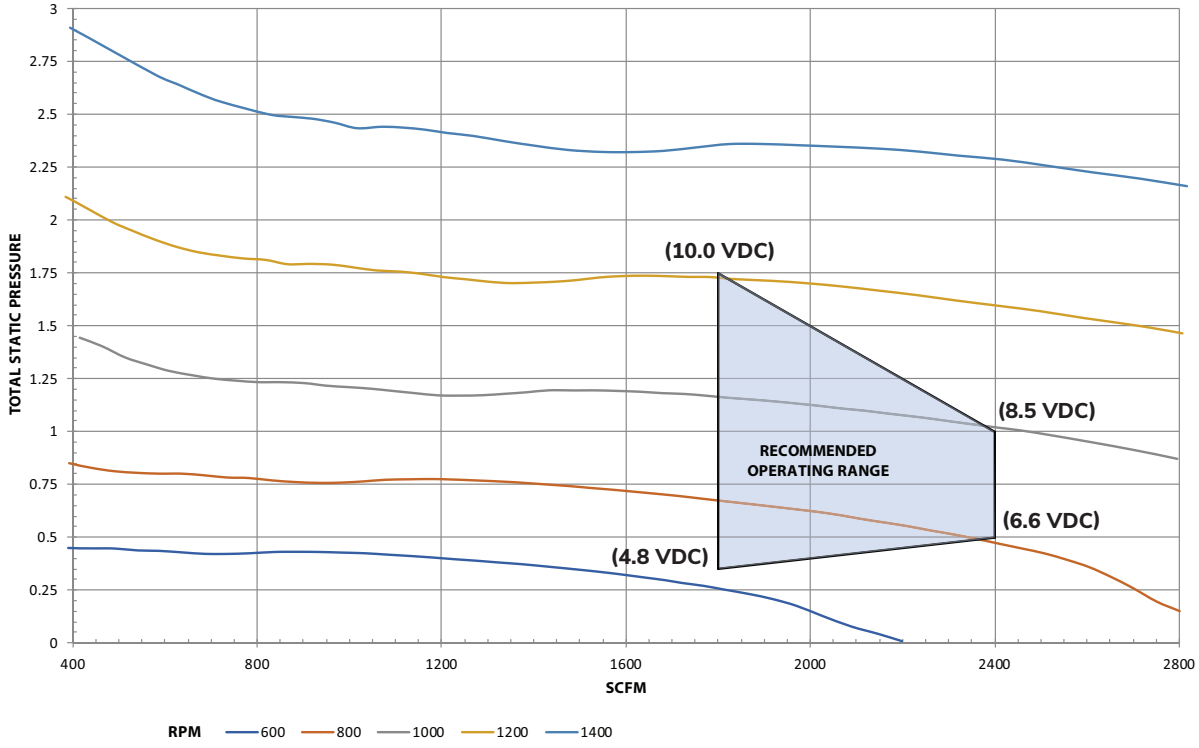
Performance data (cont)

Fan Curves (cont)

42DHA Series — Unit Size 16, 1 Hp Motor



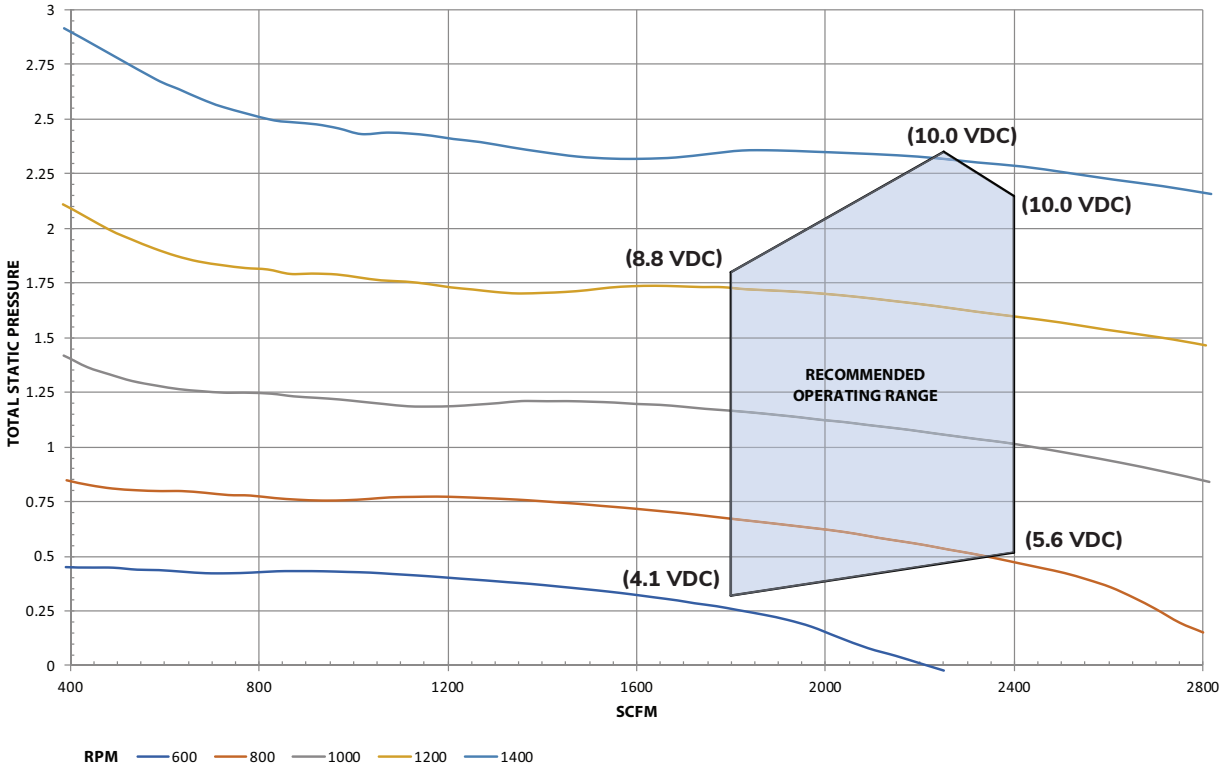
42DHA Series — Unit Size 20, 1 Hp Motor



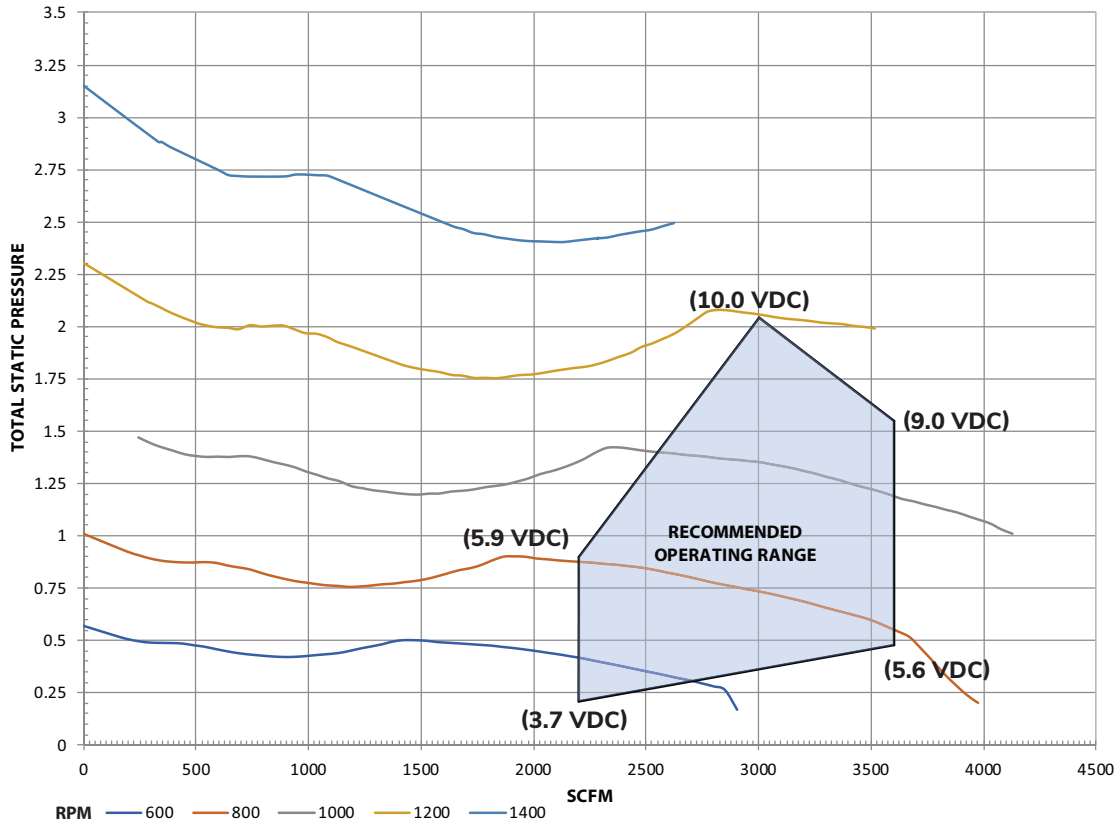
Performance data (cont)

Fan Curves (cont)

42DHA Series — Unit Size 22, 1-1/2 Hp Motor



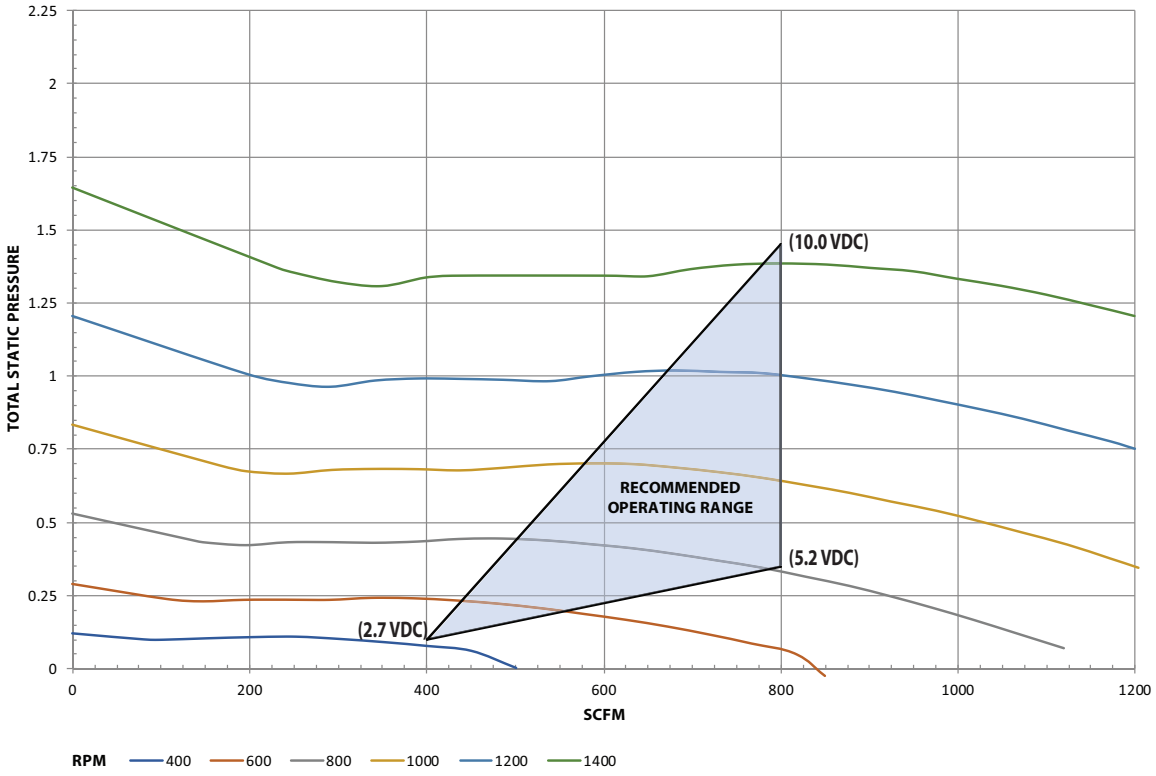
42DHA Series — Unit Size 30, 3 Hp Motor



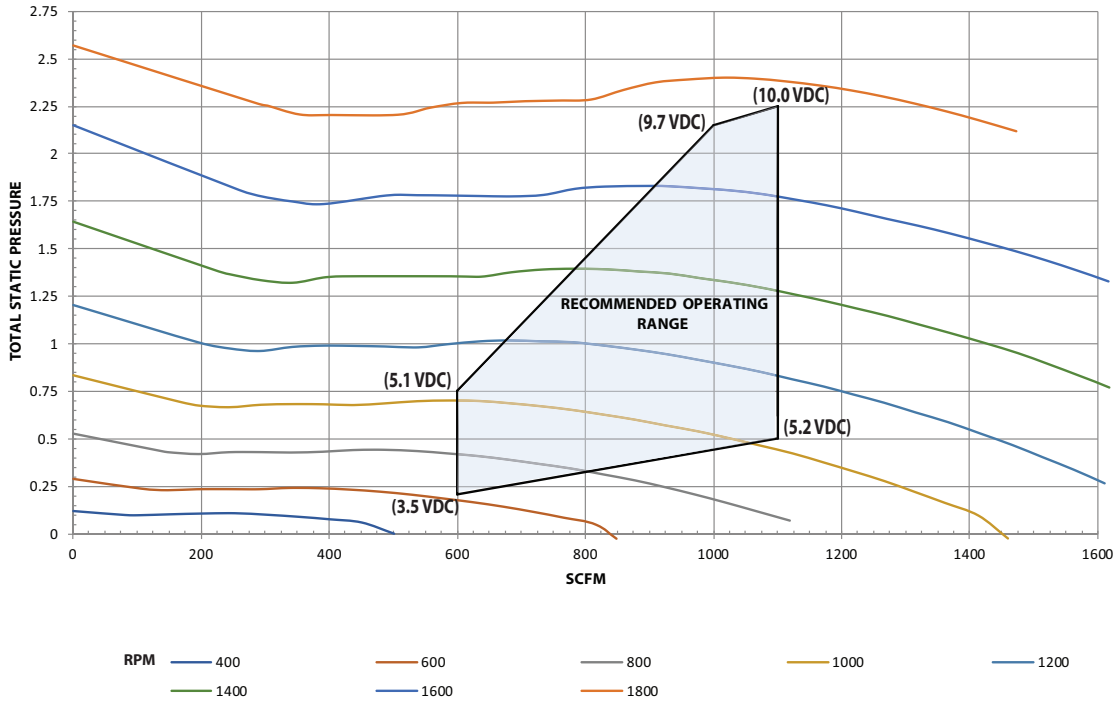
Performance data (cont)

Fan Curves (cont)

42DVA Series — Unit Size 06, 1/2 Hp Motor



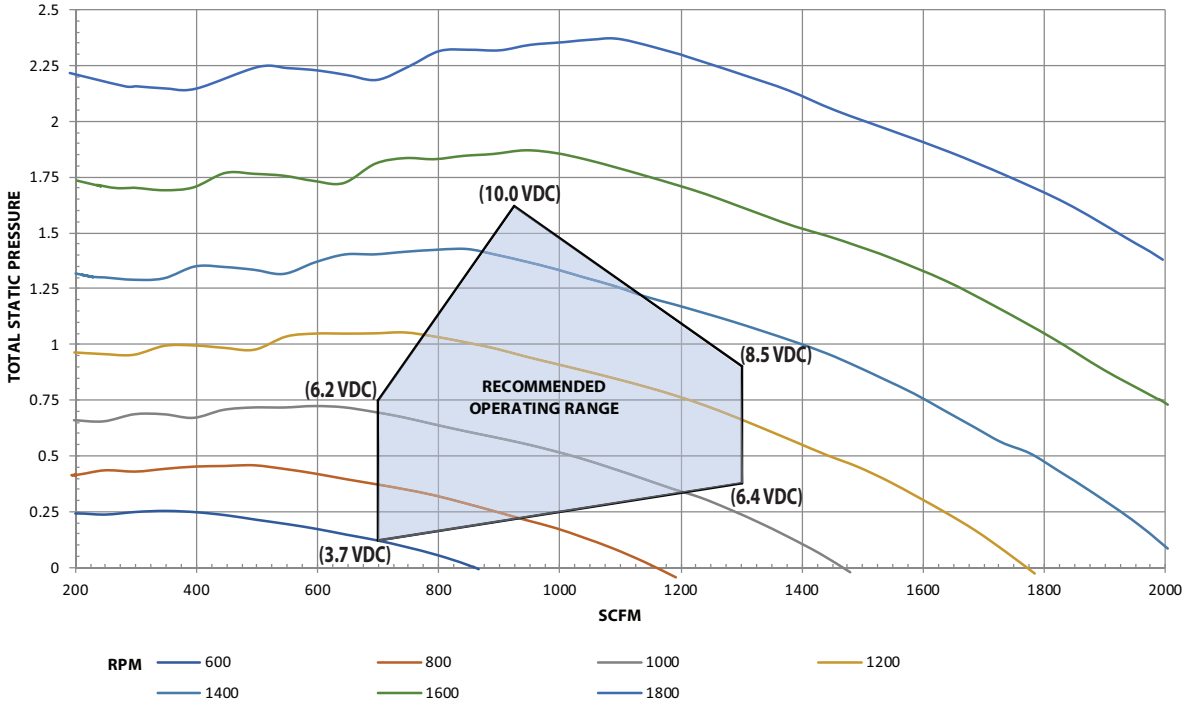
42DVA Series — Unit Size 08, 1 Hp Motor



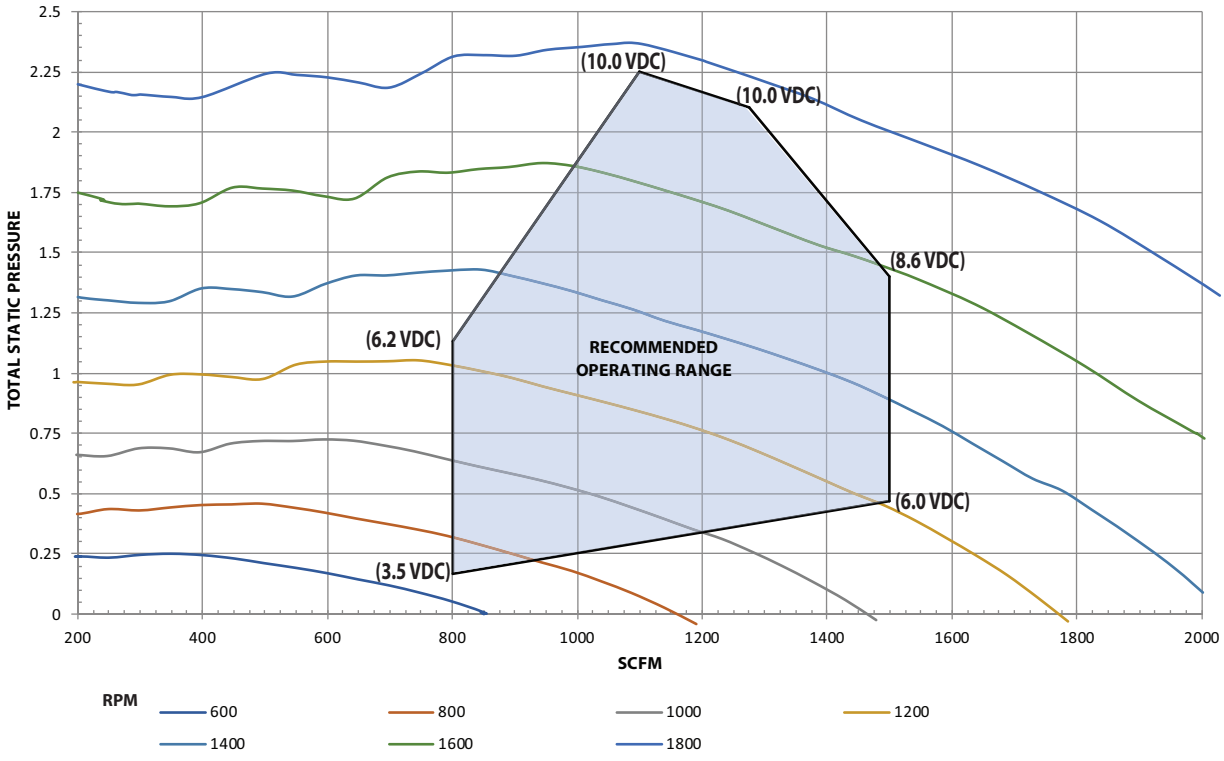
Performance data (cont)

Fan Curves (cont)

42DVA Series — Unit Size 10, 1/2 Hp Motor



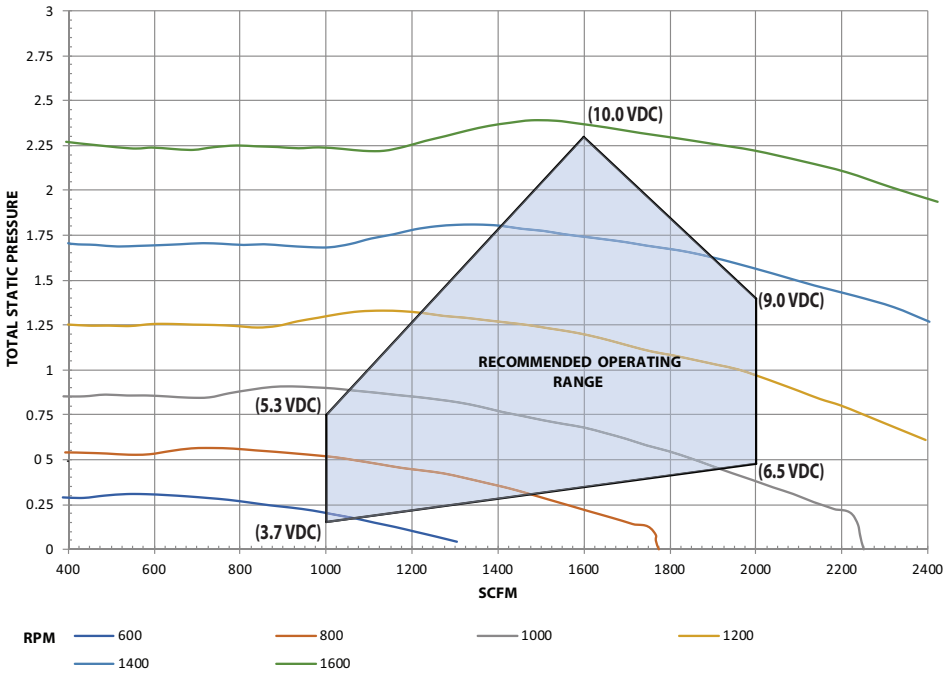
42DVA Series — Unit Size 12, 1 Hp Motor



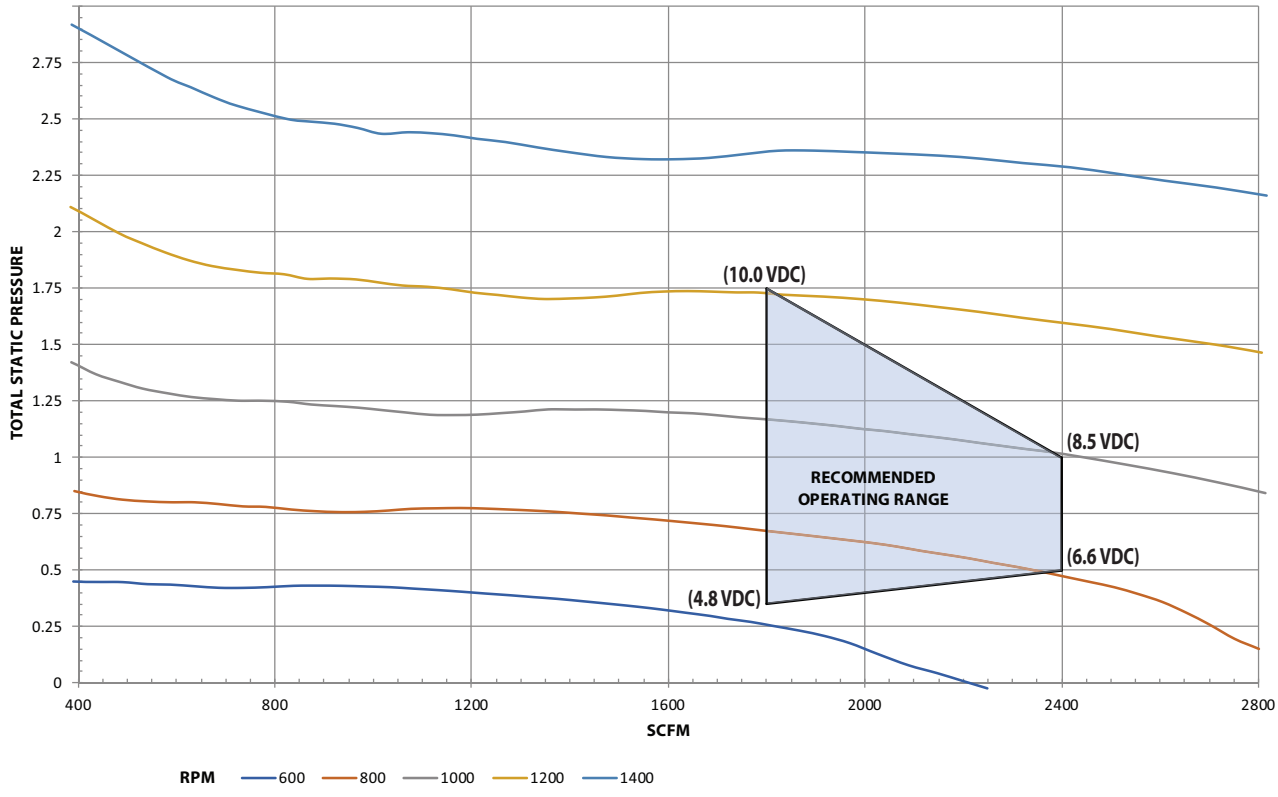
Performance data (cont)

Fan Curves (cont)

42DVA Series — Unit Size 16, 1 Hp Motor



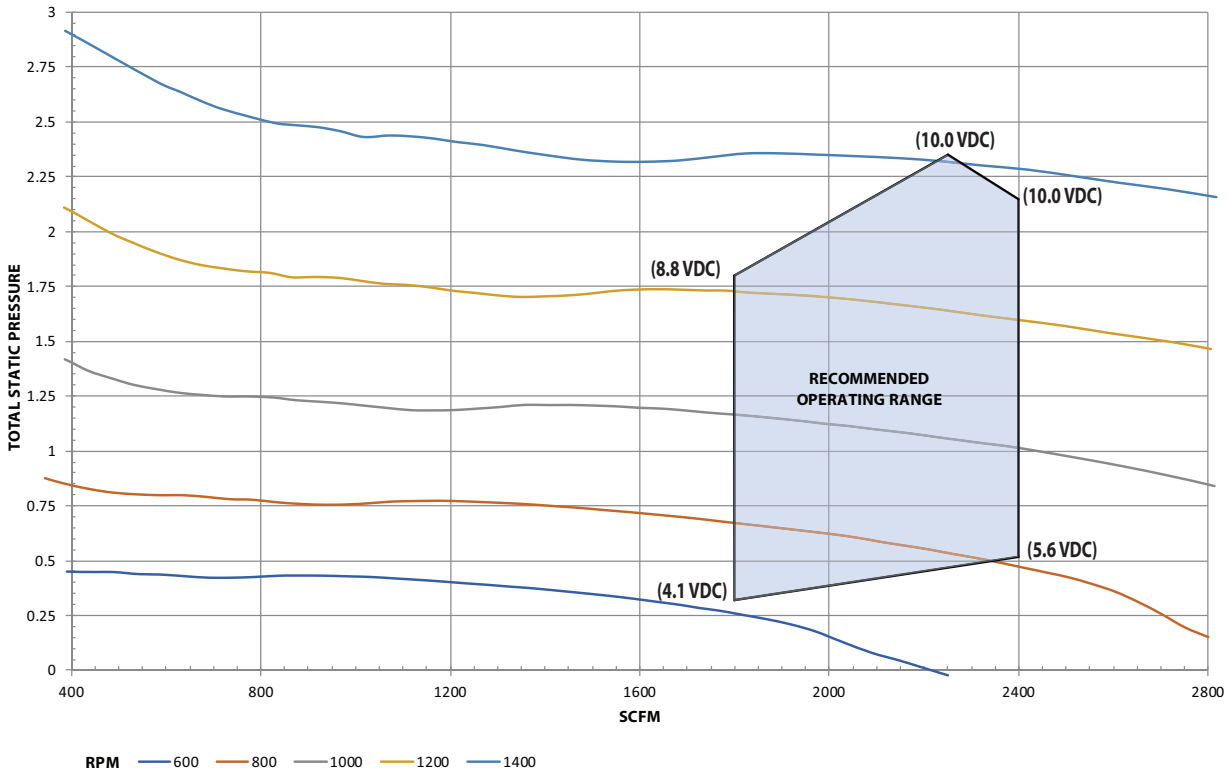
42DVA Series — Unit Size 20, 1 Hp Motor



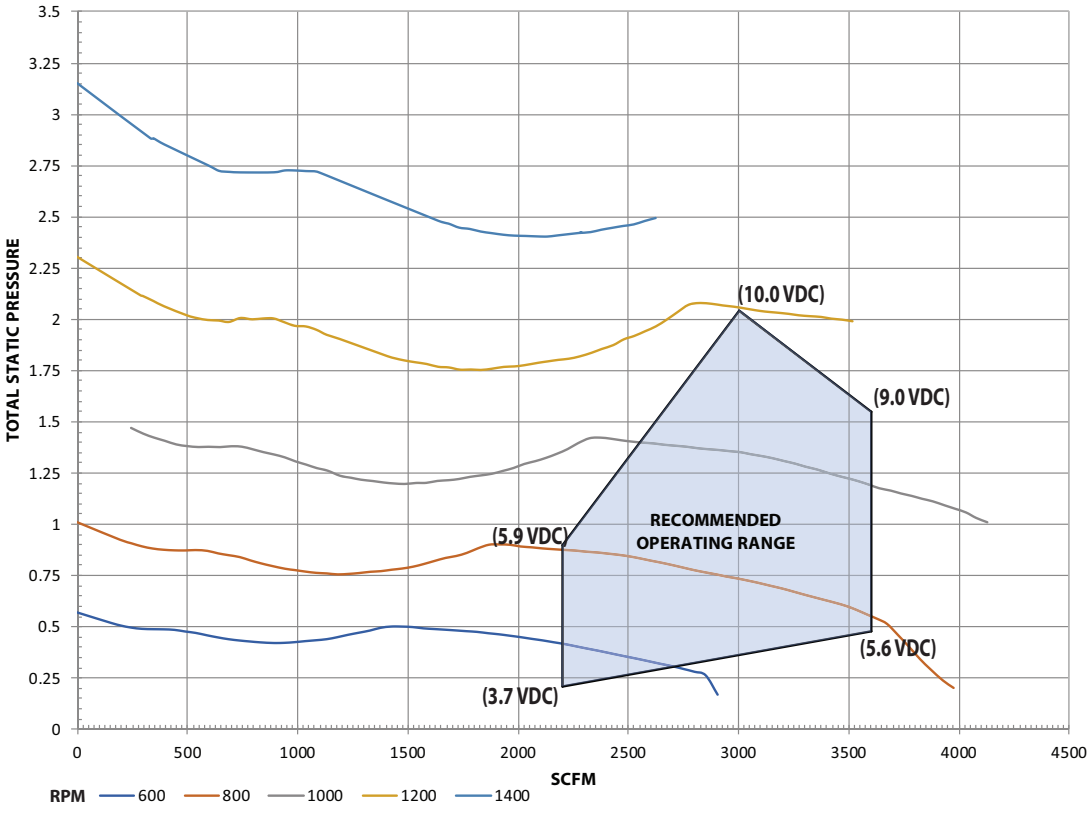
Performance data (cont)

Fan Curves (cont)

42DVA Series — Unit Size 22, 1-1/2 Hp Motor



42DVA Series — Unit Size 30, 3 Hp Motor



Electrical data

42DH Sound Power Data[a,b]

UNIT SIZE	RATING	FAN SPEED (rpm)	cfm	SOUND POWER LEVEL, LW (DB REFERENCE ONE PICOWATT)							A-wgt (dBA)	MOTOR HP
				125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz		
06	Casing Radiated[c]	975	600 at .50 in. ESP	64	59	55	51	46	40	35	57	1/2
	Ducted Discharge[d]			63	53	53	51	50	45	37	57	
08	Casing Radiated[c]	1075	800 at .50 in. ESP	64	60	60	58	56	54	45	64	1
	Ducted Discharge[d]			64	61	58	56	50	43	36	60	
10	Casing Radiated[c]	1140	1000 at .50 in. ESP	70	65	59	59	55	49	41	64	1/2
	Ducted Discharge[d]			68	63	65	64	61	60	53	68	
12	Casing Radiated[c]	1235	1200 at .50 in. ESP	73	69	61	62	57	51	44	67	1
	Ducted Discharge[d]			72	67	67	67	64	63	57	72	
16	Casing Radiated[c]	1066	1600 at .50 in. ESP	73	69	62	64	60	55	48	68	1
	Ducted Discharge[d]			72	68	69	70	68	68	63	75	
20	Casing Radiated[c]	910	2000 at .50 in. ESP	74	69	60	59	56	51	42	66	1
	Ducted Discharge[d]			71	67	66	66	64	63	57	71	
22[e]	Casing Radiated[c]	950	2200 at .50 in. ESP	73	69	60	60	58	53	45	66	1-1/2
	Ducted Discharge[d]			73	68	65	67	64	63	57	72	
30[e]	Casing Radiated[c]	860	3000 at .50 in. ESP	74	70	65	63	61	57	49	69	3
	Ducted Discharge[d]			71	73	75	72	70	70	64	78	

NOTE(S):

a. Unit Test Configuration: Rear Return/Front Supply, 4 Row, 10 FPI Coil, 115/1 PH/ 60 Hz VAC Motor, 2 in. Fiberglass Filter, 1 in. dual density fiberglass insulation.
b. Sound power data is expressed in decibels, dB RE: 1 x 10^{-12} w (picowatts).
c. Testing per AHRI 260-2001: 4.2.2.3 Casing radiated with free inlet, Sound Rating of Ducted Air Moving and Conditioning Equipment.
d. Testing per AHRI 260-2001: 4.2.2.1 Ducted discharge, Sound Rating of Ducted Air Moving and Conditioning Equipment.
e. Size 22 and 30 Unit Test Configuration: Rear Return/Front Supply, 4 Row, 10 FPI Coil, 460/3 PH/ 60 Hz VAC Motor, 2 in. Fiberglass Filter, 1 in. dual density fiberglass insulation.

42DV Sound Power Data[a,b]

UNIT SIZE	RATING	FAN SPEED (rpm)	cfm	SOUND POWER LEVEL, Lw (dB REFERENCE ONE PICOWATT)							A-wgt (dBA)	MOTOR HP
				125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz		
06	Casing Radiated[c]	960	600 at .50 in, ESP	68	62	59	56	50	42	38	58	1/2
	Ducted Discharge[d]			64	58	52	56	51	45	39	55	
08	Casing Radiated[c]	1065	800 at .50 in. ESP	69	64	62	62	54	47	40	61	1
	Ducted Discharge[d]			67	62	59	63	58	54	46	61	
10[e]	Casing Radiated[c]	1095	1000 at .50 in. ESP	70	63	61	62	55	49	42	61	1/2
	Ducted Discharge[d]			67	66	63	65	60	55	49	63	
12[e]	Casing Radiated[c]	1220	1200 at .50 in. ESP	70	73	64	66	59	52	45	65	1
	Ducted Discharge[d]			69	70	65	68	64	60	54	67	
16[f]	Casing Radiated[c]	1160	1600 at .50 in. ESP	75	68	65	67	61	54	46	65	1
	Ducted Discharge[d]			72	69	67	72	67	63	57	69	
20[f]	Casing Radiated[c]	1020	2000 at .50 in. ESP	76	67	67	65	58	51	42	65	1
	Ducted Discharge[d]			72	67	69	70	63	61	53	68	
22[f]	Casing Radiated[c]	1085	2200 at .50 in. ESP	79	73	72	69	62	57	48	69	1-1/2
	Ducted Discharge[d]			75	71	74	76	68	66	61	73	
30[f]	Casing Radiated[c]	915	3000 at .50 in. ESP	77	67	71	67	61	57	48	67	3
	Ducted Discharge[d]			71	72	77	74	68	67	59	72	

NOTE(S):

a. Unit Test Configuration: Rear Return/Front Supply, 4 Row, 10 FPI Coil, 115/1 PH/ 60 Hz VAC Motor, 2 in. Fiberglass Filter, 1 in. dual density fiberglass insulation.
b. Sound power data is expressed in decibels, dB RE: 1 x 10^{-12} w (picowatts).
c. Testing per AHRI 260-2001: 4.2.2.3 Casing radiated with free inlet, Sound Rating of Ducted Air Moving and Conditioning Equipment.
d. Testing per AHRI 260-2001: 4.2.2.1 Ducted discharge, Sound Rating of Ducted Air Moving and Conditioning Equipment.
e. Unit Test Configuration: Front Return/Top Supply, 4 Row, 10 FPI Coil, 230/1 PH/ 60 Hz VAC Motor, 2 in. Fiberglass Filter, 1 in. dual density fiberglass insulation.
f. Unit Test Configuration: Front Return/Top Supply, 4 Row, 10 FPI Coil, 230/3 PH/ 60 Hz VAC Motor, 2 in. Fiberglass Filter, 1 in. dual density fiberglass insulation.

Electrical data (cont)

42DHA/DVA Single-Phase Electric Heater Data[a,b,c]

kW	ELECTRIC HEAT AMPS				UNIT SIZE HEATER STAGES											
	SINGLE PHASE (1 OR 2 STAGE)				6		8		10		12		16		20	
	120-v	208-v	240-v	277-v	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg
1.0	8.3	4.8	4.2	3.6	X	—	X	—	—	—	—	—	—	—	—	—
1.5	12.5	7.2	6.3	5.4	X	—	X	—	X	—	X	—	—	—	—	—
2.0	16.7	9.6	8.3	7.2	X	—	X	—	X	—	X	—	—	—	—	—
2.5	20.8	12.0	10.4	9.0	X	—	X	—	X	—	X	—	X	—	—	—
3.0	25.0	14.4	12.5	10.8	X	X	X	X	X	X	X	X	X	X	—	—
3.5	29.2	16.8	14.6	12.6	X	X	X	X	X	X	X	X	X	X	X	X
4.0	33.3	19.2	16.7	14.4	X	X	X	X	X	X	X	X	X	X	X	X
4.5	37.5	21.6	18.8	16.2	X	X	X	X	X	X	X	X	X	X	X	X
5.0	—	24.0	20.8	18.1	X	X	X	X	X	X	X	X	X	X	X	X
6.0	—	28.8	25.0	21.7	X	X	X	X	X	X	X	X	X	X	X	X
7.0	—	33.7	29.2	25.3	—	—	X	X	X	X	X	X	X	X	X	X
8.0	—	38.5	33.3	28.9	—	—	X	X	X	X	X	X	X	X	X	X
9.9	—	—	—	35.7	—	—	—	—	X	X	X	X	X	X	X	X
12.0	—	—	—	43.3	—	—	—	—	—	—	X	X	X	X	X	X

NOTE(S):

a. Electric Heating Capacities (BTUH) = Heater kW x 3413.
b. Electric Heater Amperage for Single-phase Power = (Heater kW x 1000)/Applied Voltage.
c. Electric Heat is available for single source power only. Motor and heater voltage will not change.

LEGEND

X — Available Option
— — Not Available Option

Intertek

42DHA/DVA Three-Phase Electric Heater Data[a,b,c]

kW	ELECTRIC HEAT AMPS			UNIT SIZE HEATER STAGES																	
	THREE PHASE (1, 2 OR 3 STAGE)			6		8		10		12			16			20/22			30		
	208-v	240-v	480-v	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg	1 stg	2 stg	3 stg	1 stg	2 stg	3 stg	1 stg	2 stg	3 stg	1 stg	2 stg	3 stg
1.0	2.8	2.4	1.2	X	—	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.5	4.2	3.6	1.8	X	—	X	—	X	—	X	—	—	—	—	—	—	—	—	—	—	—
2.0	5.6	4.8	2.4	X	—	X	—	X	—	X	—	—	—	—	—	—	—	—	—	—	—
2.5	6.9	6.0	3.0	X	—	X	—	X	—	X	—	—	X	—	—	—	—	—	—	—	—
3.0	8.3	7.2	3.6	X	—	X	—	X	—	X	—	—	X	—	—	—	—	—	—	—	—
3.5	9.7	8.4	4.2	X	—	X	—	X	—	X	—	—	X	—	—	X	—	—	—	—	—
4.0	11.1	9.6	4.8	X	X	X	X	X	X	X	X	—	X	X	—	X	X	—	—	—	—
4.5	12.5	10.8	5.4	X	X	X	X	X	X	X	X	—	X	X	—	X	X	—	—	—	—
5.0	13.9	12.0	6.0	X	X	X	X	X	X	X	X	—	X	X	—	X	X	—	—	—	—
6.0	16.7	14.4	7.2	X	X	X	X	X	X	X	X	—	X	X	—	X	X	—	X	X	—
7.0	19.4	16.8	8.4	—	—	X	X	X	X	X	X	—	X	X	—	X	X	—	X	X	—
8.0	22.2	19.2	9.6	—	—	X	X	X	X	X	X	—	X	X	—	X	X	—	X	X	—
9.9	27.5	23.8	11.9	—	—	—	—	X	X	X	X	—	X	X	—	X	X	—	X	X	—
12.0	33.3	28.9	14.4	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X	X	X	X
14.0	38.9	33.7	16.8	—	—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X
15.0	41.6	36.1	18.0	—	—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X
16.0	—	38.5	19.2	—	—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X
18.0	—	—	21.7	—	—	—	—	—	—	—	—	—	—	—	—	X	X	X	X	X	X
19.9	—	—	23.9	—	—	—	—	—	—	—	—	—	—	—	—	X	X	X	X	X	X
25.0	—	—	30.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	X	X	X
30.0	—	—	36.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	X	X	X

NOTE(S):

a. Electric Heating Capacities (BTUH) = Heater kW x 3413.
b. Electric Heater Amperage for Single-phase Power = (Heater kW x 1000)/Applied Voltage.
c. Electric heat is available only for single source power. Motor and heater voltage will not change.

LEGEND

X — Available Option
— — Not Available Option

Electrical data (cont)

42DHA/DVA ECM Motor Data — Full Load Amps

V-Ph-Hz	UNIT SIZE			
	06, 10	08, 12, 16, 20	22	30
	MOTOR Hp			
	1/2	1	1-1/2	3
115-1-60	6.4	10.7	N/A	N/A
208-1-60	3.8	6.3	N/A	N/A
230-1-60	3.6	5.8	N/A	N/A
277-1-60	3.2	5.1	N/A	N/A
280-3-60	2.0	3.7	4.4	8.9
230-3-60	1.85	3.3	4.4	8.9
460-3-60	1.0	1.75	2.2	4.4

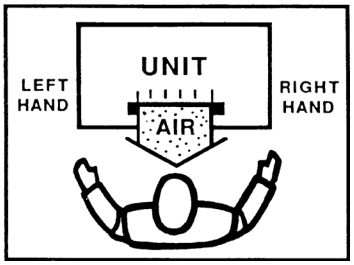
Application data

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.

Unit Hand



Same end connection (2-pipe or 4-pipe)

All piping connections are on the same end (side) of the unit. Standard 2-pipe units will be the same end connection.

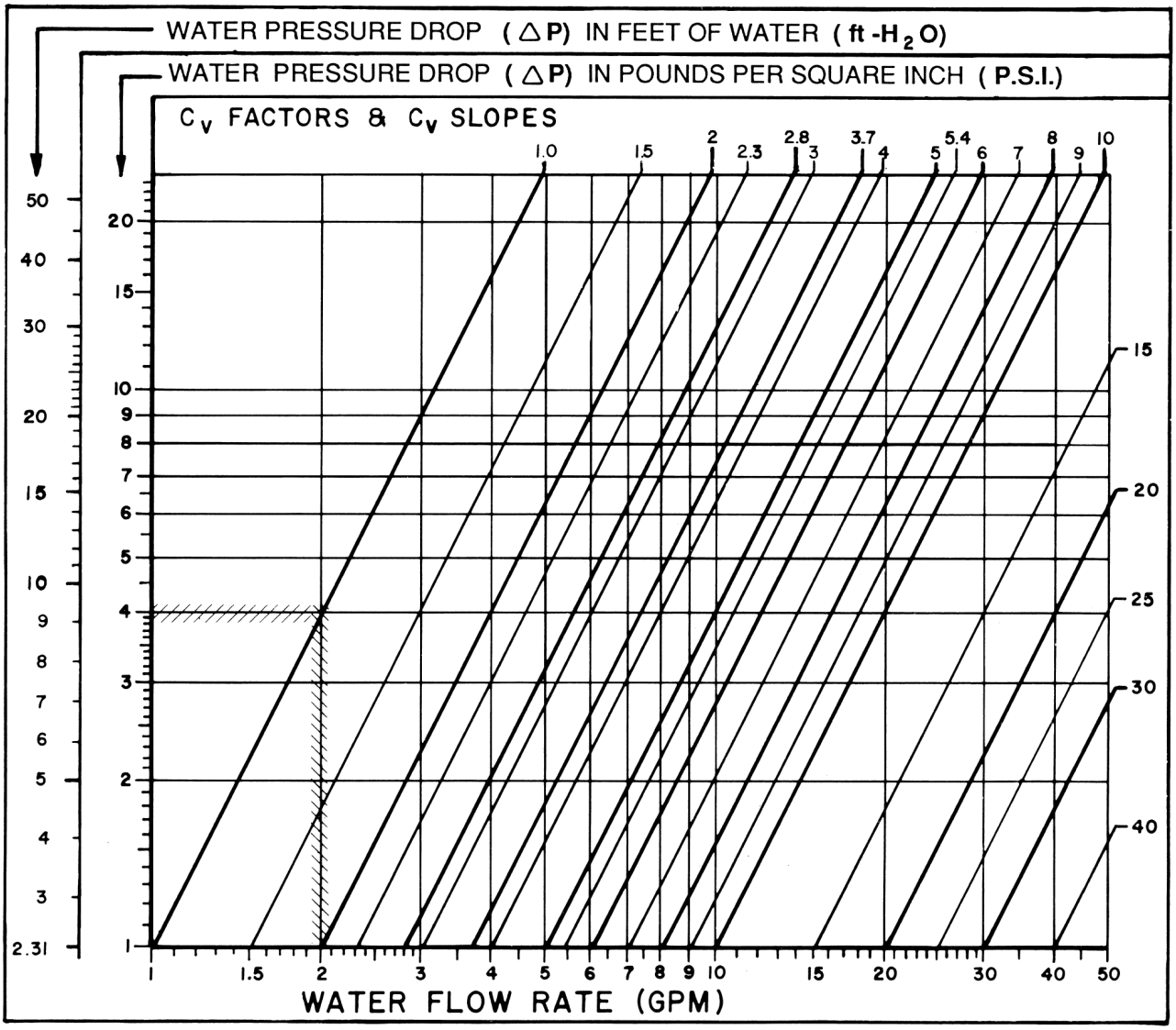
Models 42DH/DV and will have the control box on the same side as the piping.

4-pipe coil arrangement

For 4-pipe coil combination chilled water/hot water coils, the hot water coil is in the reheat position. When 4-pipe is ordered, hand of unit is determined by the hand of the cooling coil section. The 42 series fan coil units are not recommended for dehumidification applications.

Application data (cont)

C_v Factor Vs Water Pressure Drop



C_V FACTOR:

The flow rate in gallons per minute (gpm) through a piping component when the pressure drop (ΔP) in pounds per square inch (psi) across the component is 1.0 (psi).

Pressure drop (ft-H_2O) = 2.31 x psi (pressure drop)

GRAPH EXAMPLE:

ΔP for 2.0 gpm through a component with a C_V of 1.0 is 4.0 psi x 2.31 = 9.24 ft-H_2O

FORMULA EXAMPLE:

$$\Delta P \text{ (ft-}H_2O) = \frac{(gpm)^2}{(C_v)^2} \times 2.31 = \frac{(2.0)^2}{(1.0)^2} \times 2.31 = 9.24 \text{ ft-}H_2O$$

TOTAL PRESSURE DROP is the **Sum** of the pressure drop of all piping and components in the water flow path.

Application data (cont)

Enthalpy At Saturation

TEMPERATURE(°F)	ENTHALPY AT SATURATION (Btu per lb of dry air)
40	15.230
41	15.697
42	16.172
43	16.657
44	17.149
45	17.650
46	18.161
47	18.680
48	19.211
49	19.751
50	20.301
51	20.862
52	21.436
53	22.020
54	22.615
55	23.220
56	23.840
57	24.480
58	25.120
59	25.780
60	26.46
61	27.15
62	27.85
63	28.57
64	29.31
65	30.06
66	30.83
67	31.62
68	32.42
69	33.25
70	34.09
71	34.95
72	35.83
73	36.74
74	37.66
75	38.61
76	39.57
77	40.57
78	41.58
79	42.62
80	43.69

Altitude Cooling Correction Factors

ELEVATION (ft)	TOTAL HEAT	SENSIBLE HEAT
Sea Level	1.00	1.00
1000	.990	.960
2000	.980	.930
3000	.970	.896
4000	.960	.864
5000	.940	.830
6000	.930	.800
7000	.920	.770
8000	.910	.750
9000	.900	.730

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

LEGEND

cfm — Cubic Feet per Minute
Cs — Sensible Airflow Correction Factor
Ct — Total Airflow Correction Factor

NOTE: When thermostatic fan control is selected or when unit outside-air dampers are used, unit-mounted thermostats are not recommended as their use will result in poor room temperature sensing.

ECM motor control methods

There are 2 main control methods to control the speed of the electronically commutated motor (ECM) for desirable air-flow for a given application.

3-discrete speed input, potentiometer field speed adjustment

This method uses the ECM with potentiometer field adjustment. The relay board will have main circuits for HI, MEDIUM, and LOW speed. Each of these speeds can be adjusted by potentiometer to any value in the motor's operating range. This will allow the customization of air flow on each speed of the fan coil unit to better suit any requirements.

ECM variable speed (only with 24-v controls by other option)

This method requires 0 to 10-v signal for fan speed. It has no predetermined fan speeds and will ramp the motor fan speed according to the controller used on the fan coil unit. All ECM motor packages use a constant torque operating mode. An ETO request is required for pricing and availability of constant airflow operation.

Control packages

24-v control by others

Unit supplied with factory-installed 24-v transformer, and aquastat (as required) for use with field-installed low voltage controls.

Remote-mounted 24-v thermostat

24-V Debonair® Thermostat

24-v debonair thermostat

Features large backlit display, power loss protected memory, dynamic fan speed control, 4-pipe, or 2-pipe automatic changeover applications with adjustable dead band. Programmable and non-programmable models available. Compatible with 2-way or 3-way field provided motorized 2-position control valves.

Not selectable if unit is equipped with the following:

- Variable speed ECM
- 2-pipe heating and cooling change over systems

Fan Coil Unit — Direct Drive Blower Coil Models

HVAC Guide Specifications

Size Range: **600 to 3000 Nominal cfm**

Carrier Model Numbers:

42DHA Horizontal Direct Drive Blower Coil

42DVA Vertical Direct Drive Blower Coil

Part 1 — General

1.01 SYSTEM DESCRIPTION

Direct Drive Blower Coil Units, 2-pipe cooling only, 2-pipe heating only, 2-pipe heat/cool, 2-pipe heat/cool auxiliary electric heat, 2-pipe cool total electric heat, 4-pipe heat/cool, horizontal/vertical cabinets.

1.02 QUALITY ASSURANCE

Coils shall be tested in accordance with AHRI Standard 440-2019. Each hydronic coil shall be factory tested for leakage at [350] [400], [450] psig air pressure with coil submerged in water. Base or "standard" units shall be ETL listed. IEC certified as an ISO 9001:2015 quality management system and ISO 14001:2015 environmental management system organization.

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. Configuration:

1. Factory assembled direct drive blower coil units complete with coil, fan, motor, drain pan, and all required wiring, piping and controls.
2. Cabinet shall be made of heavy 18 gauge galvanized steel.
3. The interior surfaces shall be lined with: 1 in. thick standard fiberglass, 1 in. foil faced, 1 in. closed cell, 1 in. standard fiberglass with solid double wall, 1 in. standard fiberglass with perforated double wall insulation. Insulation and adhesive shall meet NFPA-90A requirements for flame spread and smoke generation.
4. Adhesive shall be certified according to the GREENGUARD Indoor Air Quality (IAQ) Certification for Low Emitting Products. Reference Standard: GGPS.001 GREENGUARD IAQ Standard for Building Materials, Finishes, and Furnishings. Reference Standard: GGPS.002 GREENGUARD Children and Schools Standard[1].
5. Units shall have a removable, double-sloped stainless steel drain pan extending the entire width of the coil, with "tell-tale" second drain connection. Primary drain connection shall be 3/4 in. male NPT and "tell-tale" connection shall be 1/2 in. male NPT stainless steel fittings. Primary and secondary drain connections shall be located on the same end as coil connections.
6. Stainless steel pans shall be externally coated with 2-part closed cell foam insulation.
7. Units shall have 2 in. pleated MERV 8, 1 in. pleated MERV 8, two sets of 1 in. non-woven synthetic throwaway, 2 in. pleated MERV 11 with 2 in. pleated pre-filter, 4 in. pleated MERV 11, 4 in. pleated MERV 13 filter.
8. DH Horizontal Direct Drive Units:
   a. Units shall be supplied with a duct collar for supply duct connection.
   b. Access panels on both sides of the cabinet shall be removable without tools.
   c. Filter shall be removable from either side of the filter rack. Additional access shall be bottom filter access.
   d. Units shall have holes for through-hanger rods located at top and bottom four corners of the cabinet.
   e. Interior LED lighting with rechargeable battery, integral charger and door switch for DH units only.
   f. Cabinet shall be painted with an Arctic White, Polar White, Flat Black, Champagne Beige, Ermine Gray, or Toffee Brown (color determined by architect), powder-coat finish.
9. DV Vertical Direct Drive Units:
   a. Units shall be supplied with a duct collar for supply duct connection.
   b. Access panels on both sides of the cabinets shall be removable with tool.
   c. Filter shall be removable from either side of the filter rack. Additional access shall be top filter access. NOTE: The electrical junction box is always on the opposite side of the cooling coil section.

B. Certification:

1. Units shall be listed by ETL indicating the units comply with the minimum requirements of the U.S. and Canadian national product safety standard, ANSI/UL Standard 60335-2-40, and with CAN/CSA C22.2 No. 236.
2. Blower coil capacities are certified and listed under AHRI Standard 440-2019.

C. Materials:

1. Coils:
   a. All coils shall have 1/2 in. copper tubes, manual, automatic air vent(s), and aluminum fins, galvanized end sheets, aluminum fins, stainless steel end sheets, copper fins, stainless steel end sheets, 10 fins per inch spacing. Coil fins shall be mechanically bonded to copper tubes.

1. Third-party trademarks and logos are property of their respective owners.

b. Copper tubes must comply with ASTM B-75.
c. Fin thickness shall be 0.0045 in.
d. Tube thickness shall be 0.016 in.
e. Coil rows shall be indicated on the drawings.

2. Blowers:
a. Blowers shall be direct-driven with centrifugal forward-curved wheel.
b. Blower wheels shall be statically and dynamically balanced.
c. Blower housing shall be isolated from the cabinet and motor.
d. Bearings shall be ball bearing type (no sleeve bearings allowed), permanently lubricated and sealed for life.

3. Valves:
a. Valve package field furnished.

4. Motors:
a. Motors shall be three speed, single-phase, [115] [208] [240] [277] volts, [three-phase [208] [240] [277] volts], 60 Hz electronically communicated type, open drip proof, NEMA frame motor. Motor size 1/2 HP and 1 HP shall have integrated control module with thermal overload protection. Motor size 1-1/2 HP and 3 HP shall have remote mounted control with thermal overload protection. Motor control module is mounted in cabinet interior.
b. Motors shall be factory wired to unit control box with quick connect electrical plugs.
c. Motors shall be RPM controlled, UL Recognized or equivalent, continuous duty rated.
d. Motor service access shall be on same side as coil connections.

D. Controls:
1. With 24 vac 3 discrete speed control option, unit shall be furnished with unit-mounted, factory-installed relay board for single-phase or three-phase motors and configured to adjust RPM/cfm for high, medium and low speed control. 0-10 vdc option does not include control board. Unit shall be furnished with proportional fan control wired directly to motor and configured to adjust RPM/cfm based on 0-10 vdc signal from controller.
2. Control Package shall be equipped with specialty devices listed below:
a. 24-v condensate overflow switch or no condensate overflow switch.
b. Thermostat
1) 24 vac digital thermostat, Non-programmable, and programmable options.

E. Special Features:
1. A 2-pipe system shall be capable of providing heating or cooling as determined by the operating mode of the central water supply system. Field-supplied and installed pipe temperature sensor shall control the sequence of the thermostat, as indicated on the drawings. A 2-pipe electric heat system shall be capable of providing heating and cooling on demand. A 4-pipe system and 2-pipe electric heat unit shall be capable of providing heating and cooling on demand.
2. Standard unit shall operate on [115] [208] [230] [277] [240] [480] volts, single-phase, three-phase, 60 Hz electrical power.
3. Unit shall be equipped with nichrome wire strip electric heaters for total or auxiliary electric heat as specified on the equipment schedule.
a. Heaters shall be protected by an automatic reset safety cutout switch and a manual reset backup. Single power source fusing shall be factory installed.
b. Heater capacity, voltage and stages shall be as specified on the equipment schedule.
c. Units with electric heat shall include electric heat contactor(s) and fuse(s). Heat controls shall include transformer and terminal strip for thermostat connection.
4. Interlocking disconnect switch. No interlocking disconnect switch.
5. Outside air mixing box. No outside air mixing box supplied.

Pg 44 Catalog No. 04-52420037-01 Printed in U.S.A. Form 42DHV-2PD
Replaces: 42DHV-1PD