



Installation, Start-Up and Service Instructions

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SAFETY CONSIDERATIONS

Installation of this unit can be hazardous due to electrical components and equipment location (such as a ceiling or elevated structure). Only trained, qualified installers and service mechanics should install and service this equipment.

When installing this unit, observe precautions in the literature, labels attached to the equipment, and any other safety precautions that apply.

- Follow all safety codes.
- Wear safety glasses and work gloves.
- Use care in handling and installing this accessory.

WARNING

ELECTRIC SHOCK HAZARD To avoid the possibility of electrical shock, open and tag all service switches before installing this equipment.

INTRODUCTION

This document contains general installation instructions for the 42C,D,S,V unit fan coils. Refer to the unit-wiring diagram installed on the blower housing or specific manufacturer literature for any other type of factory-mounted controls.

See drawings for unit configurations, dimensions, clearances, and pipe connections. Refer to unit wiring label for all electrical connections; follow NEC (National Electrical Code) and local codes.

PHYSICAL DATA

Component weight data, shipping weights, and filter data of the 42C,D,S,V units are provided in Tables 1-4.

Table 1 — Physical Data — 42C Series Units

UNIT SIZE 42C	02	03	04	06	08	10	12
NOMINAL AIRFLOW (cfm)	200	300	400	600	800	1000	1200
SHIPPING WEIGHT (lb)*							
42CA	36	39	49	59	64	95	107
42CE	55	60	70	82	95	135	154
42CF	—	—	84	97	110	163	—
42CG	98	118	126	168	176	215	245
42CK	115	120	135	150	155	227	241
COIL WATER WEIGHT (Approx lb per row of coil)							
42CA, CE, CG, CK	0.7	0.8	1.0	1.4	1.7	2.3	2.7
42CF	—	—	1.02	1.42	1.71	2.32	—
COILS							
FPI				10 fins/inch			
Coil Face Area (sq ft)†	0.8	1.1	1.4	1.9	2.3	3.2	3.7
MOTOR (qty)							
42C Series	1	1	1	1	1	2	2
BLOWER (qty)							
42CA, CE, CG, CK	1	1	2	2	2	4	4
42CF	—	—	2	2	2	4	—
FILTERS							
Nominal Size (in.) (1-in. thick)							
42CA**	10 x 24	10 x 28	10 x 32	10 x 42	10 x 42	10 x 54	10 x 64
42CE††	10 x 18	10 x 22	10 x 28	10 x 33	10 x 40	10 x 54	10 x 62
42CF††††	—	—	12 ³ / ₄ x 28	12 ³ / ₄ x 33	12 ³ / ₄ x 40	12 ³ / ₄ x 54	—
42CG							
Bottom Return	10 x 23 ¹ / ₂	10 x 28	10 x 32 ¹ / ₂	10 x 37	10 x 41	10 x 54 ¹ / ₂	10 x 63
Rear Return	8 x 23 ¹ / ₂	8 x 28	8 x 32 ¹ / ₂	8 x 37	8 x 41	8 x 54 ¹ / ₂	8 x 63
42CK							
Bottom Return	10 x 28	10 x 28	10 x 33	10 x 45	10 x 45	10 x 62	10 x 62
Rear Return	7 x 21	7 x 21	7 x 27	7 x 38	7 x 38	7 x 52	7 x 52
Rear Return with Duct Collar	6 x 18 ³ / ₄	6 x 18 ³ / ₄	6 x 24 ³ / ₄	6 x 35 ³ / ₄	6 x 35 ³ / ₄	6 x 49 ³ / ₄	6 x 49 ³ / ₄
Qty	1	1	1	1	1	1	1
SUPPLY DUCT COLLAR	1-in.						
PIPING CONNECTIONS (Sweat) (in.)							
Coil Outlet and Inlet	5/8 OD						
Drain Connection	7/8 OD						
Tell-Tale Drain	5/8 OD						

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

†42CF applies to sizes 04 to 10.

**Filter size for return-air grille location.

††Filter size if located in return-air plenum.

†††With electric heater and bottom return, the 42CF unit filter width increases from 12³/₄ to 16³/₄.

Table 2 — Physical Data — 42V Series Units

UNIT SIZE 42V	01	02	03	04	06	08	10	12
NOMINAL AIRFLOW (cfm)	150	200	300	400	600	800	1000	1200
SHIPPING WEIGHT (lb)*								
42VA	—	65	80	90	112	115	140	170
42VB	—	89	95	116	134	137	169	192
42VC	—	50	60	72	110	—	—	—
42VE	—	72	100	108	154	—	—	—
42VF	—	92	98	122	141	144	178	205
42VG	40	—	74	—	—	—	—	—
COIL WATER WEIGHT (Approx lb per row of coil)								
42VA, VB, VC†, VF	—	0.7	0.8	1.0	1.4	1.7	2.3	2.7
42VE	—	0.9	1.2	1.6	2.3	—	—	—
42VG	0.4	—	1.0	—	—	—	—	—
COILS								
FPI					12 fins/inch			
Coil Face Area (sq ft)	0.8	0.8	1.1	1.4	1.9	2.3	3.2	3.7
MOTOR (qty)								
42VA, VB, VF	—	1	1	1	1	1	2	2
42VC, VE	—	1	1	1	2	—	—	—
42VG	1	—	2	—	—	—	—	—
BLOWER (qty)								
42VA, VB, VF	—	1	1	2	2	2	4	4
42VC, VE	—	2	2	2	4	—	—	—
42VG	1	—	2	—	—	—	—	—
FILTERS								
Nominal Size (in.) (1-in. thick)								
42VA, VB, VF	—	7 ³ / ₄ x 21 ³ / ₄	7 ³ / ₄ x 25 ³ / ₄	7 ³ / ₄ x 31 ³ / ₄	7 ³ / ₄ x 41 ³ / ₄	7 ³ / ₄ x 43 ³ / ₄	7 ³ / ₄ x 57 ³ / ₄	7 ³ / ₄ x 65 ³ / ₄
42VC, VE	—	7 x 21 ³ / ₄	7 x 26 ³ / ₄	7 x 34 ³ / ₄	7 x 48 ³ / ₄	—	—	—
42VG	10 x 14 ¹ / ₂	—	10 x 28	—	—	—	—	—
Qty	1	1	1	1	1	1	1	1
SUPPLY DUCT COLLAR	1-in.							
PIPING CONNECTIONS (Sweat) (in.)								
Coil Outlet and Inlet	5/8 OD							
Drain Connection	3/4 MPT							

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

†Available in sizes 02-06.

Table 3 — Physical Data — 42D Series Units

UNIT SIZE 42D	06	08	10	12	14	16	18	20
NOMINAL AIRFLOW (cfm)	600	800	1000	1200	1400	1600	1800	2000
SHIPPING WEIGHT (lb)*								
42DA	64	79	93	110	119	129	137	155
42DC	94	107	150	169	174	178	195	220
42DD	150	163	176	195	220	235	240	247
42DE	135	155	165	184	199	215	232	243
42DF	157	167	177	199	215	229	249	258
COIL WATER WEIGHT (Approx lb per row of coil)	1.3	1.6	1.9	2.3	2.7	3.0	3.4	3.7
COILS								
FPI	10 fins/inch							
Coil Face Area (sq ft)	1.6	2.1	2.5	3.0	3.5	4.1	4.6	5.0
MOTOR (qty)	1	1	1	2	2	2	2	2
BLOWER (qty)	1	1	1	2	2	2	2	2
FILTERS								
Nominal Size (in.) (1-in. thick)	NA							
42DA	14 x 21	14 x 26	14 x 30	14 x 35	14 x 40	14 x 45	14 x 50	14 x 54
42DC								
42DD								
(Front Return)	12 ³ / ₄ x 21	12 ³ / ₄ x 26	12 ³ / ₄ x 30	12 ³ / ₄ x 35	12 ³ / ₄ x 40	12 ³ / ₄ x 45	12 ³ / ₄ x 50	12 ³ / ₄ x 54
(Bottom Return)	12 ³ / ₄ x 21	12 ³ / ₄ x 25	12 ³ / ₄ x 29	12 ³ / ₄ x 34	12 ³ / ₄ x 39	12 ³ / ₄ x 44	12 ³ / ₄ x 49	12 ³ / ₄ x 53
42DE	14 x 14 ³ / ₄	14 x 19 ³ / ₄	14 x 23 ³ / ₄	14 x 28 ³ / ₄	14 x 33 ³ / ₄	14 x 38 ³ / ₄	14 x 43 ³ / ₄	14 x 47 ³ / ₄
42DF	14 x 14	14 x 20	14 x 24	14 x 28	14 x 34	14 x 38	14 x 44	14 x 48
Qty	1							
SUPPLY DUCT COLLAR	1-in.							
PIPING CONNECTIONS								
(Sweat - 4-Row)								
Inlet (in. OD)	5/8		7/8		1 1/8			
Outlet (in. OD)	5/8		7/8		1 1/8			

*Calculate Operating Weight of unit: Shipping Weight + Coil Water Weight x Number of Coil Rows.

Table 4 — Physical Data — 42S Series Units

UNIT SIZE 42S	03	04	06	08	10	12
NOMINAL AIRFLOW (cfm)	300	400	600	800	1000	1200
SHIPPING WEIGHT (lb)*						
42SG,SU	180	225	240	260	280	305
42SH	202	247	262	286	311	336
42SJ	360	450	480	520	560	610
COIL WATER WEIGHT (Approx lb per row of coil)	1.6	1.6	2.3	2.3	3.1	3.1
COILS						
FPI	14 fins/inch					
MOTOR (qty)						
42SG,SH,SU	1	1	1	1	1	1
42SJ	2	2	2	2	2	2
BLOWER (qty)						
42SG,SH,SU	1	1	1	1	1	1
42SJ	2	2	2	2	2	2
FILTERS						
Nominal Size (in.) (1-in. thick)	12 ¹ / ₂ x 24 ¹ / ₄		16 ¹ / ₄ x 26 ³ / ₄		20 ¹ / ₂ x 29 ¹ / ₄	
Qty	1†					
PIPING CONNECTIONS						
Inlet (in. OD)	1/2					

*Calculate Operating Weight of Unit: Shipping Weight + Coil Water Weight x Number of Coil Rows.

†42SJ units require two filters.

PRE-INSTALLATION

Unpack and Inspect Units — Remove shipping wraps from all units. Check the shipment against shipping order. Make sure that furnished only items, such as thermostat, grilles, etc., are accounted for, whether packaged separately or shipped at a later date. If shipment is damaged or incomplete, file claim with transportation company and advise Carrier immediately.

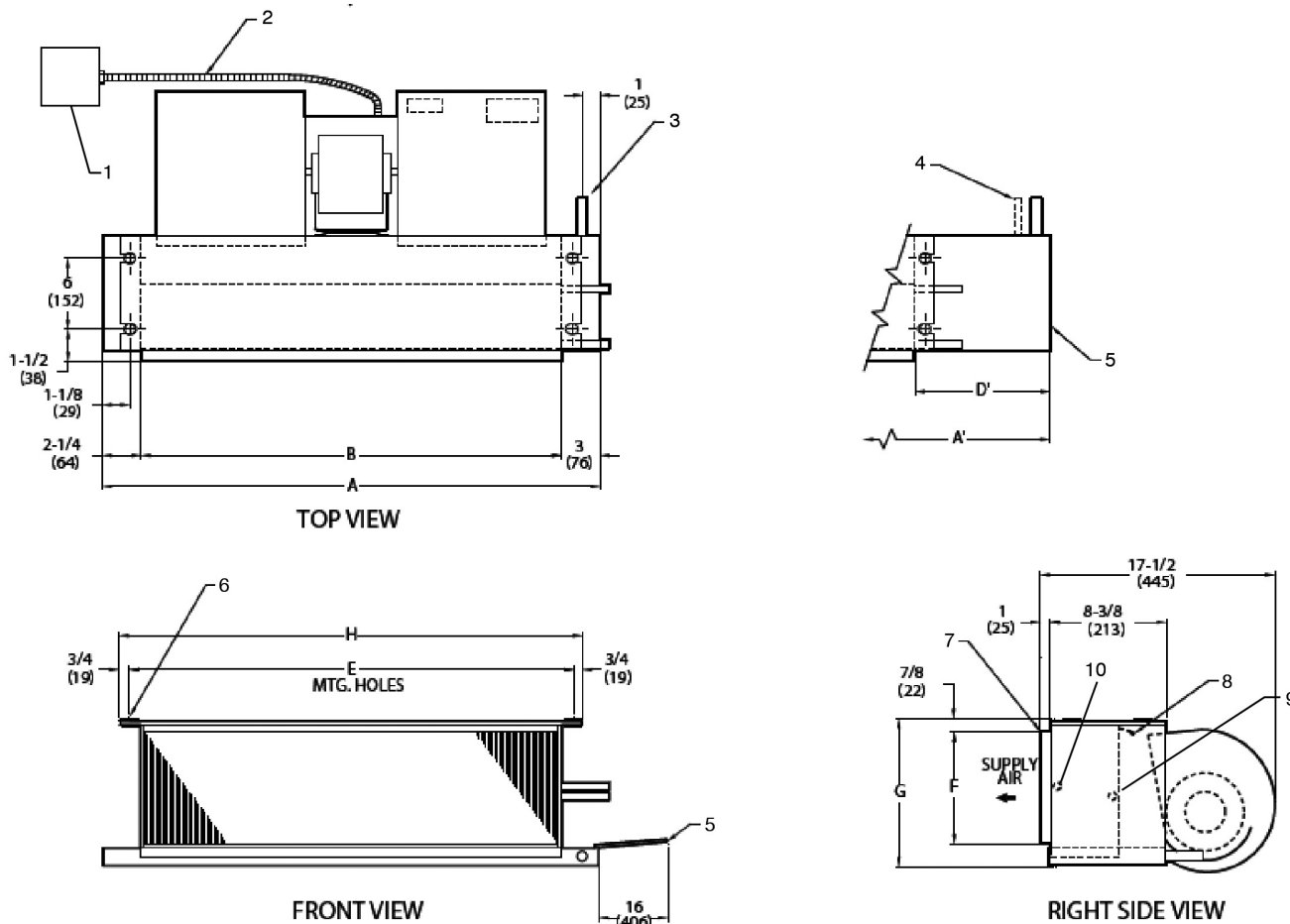
Protect Units from Damage — The equipment must always be properly supported. Temporary supports used during installation or service must be adequate to hold the equipment securely. Equipment should always be stored in the proper orientation as marked on the carton. To maintain warranty, protect units against adverse weather, theft, vandalism, and debris on jobsite. Equipment covered in this manual is not suitable for outdoor installations. Do not allow foreign material to fall into drain pan. Prevent dust and debris from being deposited on motor and fan wheels. Manufacturer's warranty is void if foreign

material is allowed to be deposited on the motor or blower wheels of any unit.

Prepare Jobsite for Unit Installation — To save time and to reduce the possibility of costly errors, set up a complete sample installation in a typical room at jobsite. Check all critical dimensions such as pipe, wire, and duct connection requirements. Refer to job drawings and product dimension drawings as required (see Fig. 1-36). Instruct all trades in their part of the installation.

Identify and Prepare Units — Be sure power requirements match available power source. Refer to unit nameplate and wiring diagram.

1. Check all tags on unit to determine if shipping screws are to be removed. Remove screws as directed.
2. Rotate the fan wheel by hand to ensure that the fan is unrestricted and can rotate freely. Check for shipping damage and fan obstructions.



LEGEND

- 1 — Junction Box (remote mount)
- 2 — Flexible Metal Conduit
- 3 — Drain Conn, 7/8-in. OD
- 4 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 5 — Drip Lip (optional)
- 6 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole
- 7 — Supply Duct Collar, 1-in.
- 8 — Air Vent, 1/8-in. MPT
- 9 — Return Conn, 5/8-in. OD
- 10 — Supply Conn, 5/8-in. OD

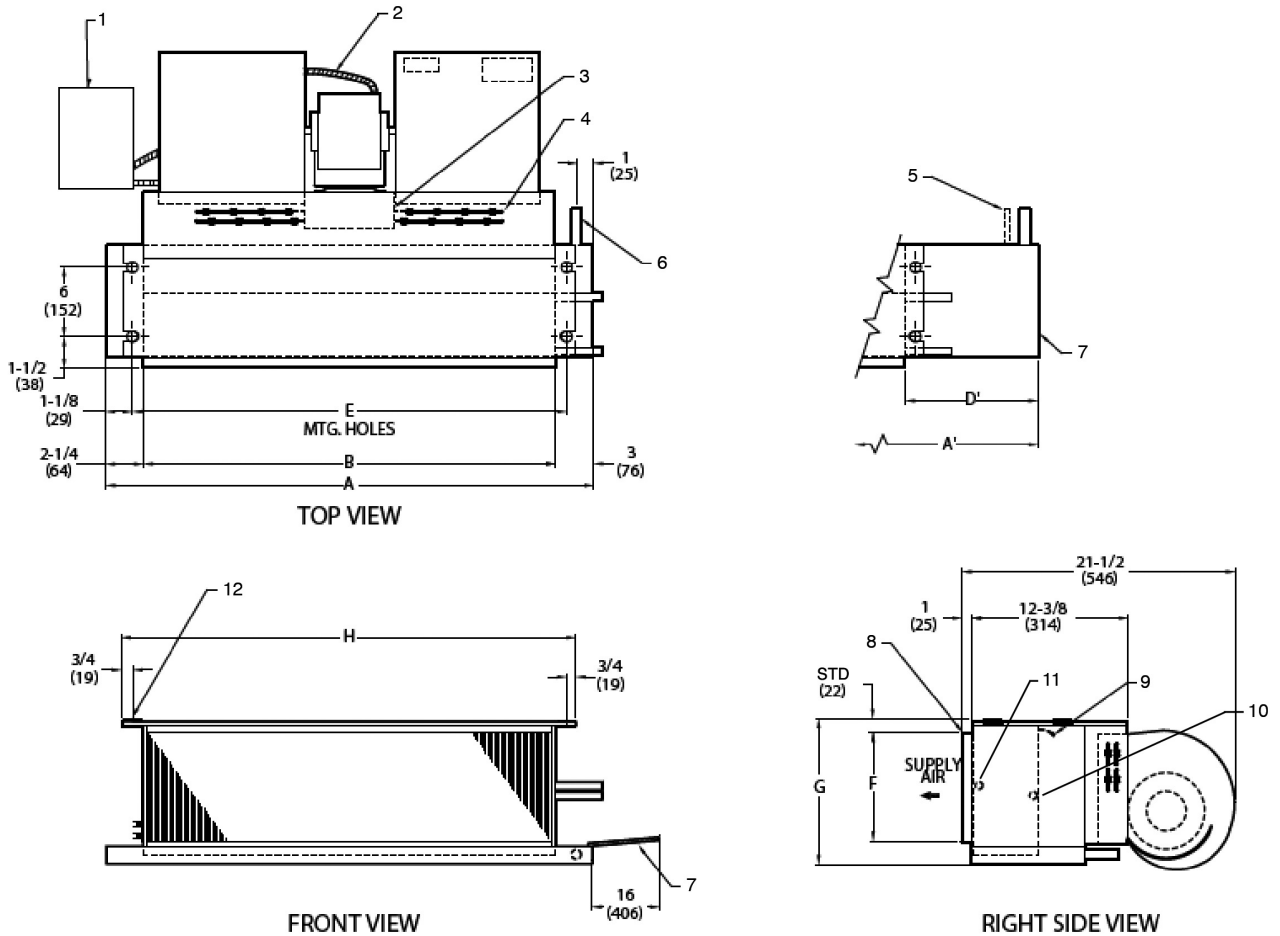
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Overall unit dimension increases by 4 in. with optional electric heat.
- 5. Not shown: 3-speed fan switch; wall plate, closed cell foam on main drain pan.
- 6. Units have galvanized finish.
- 7. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)								QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	D'	E	F	G	H	Blower	Motor		
02	200	21 ¹ / ₄	31 ¹ / ₄	16	13	18 ¹ / ₄	6 ¹ / ₄	8 ³ / ₄	19 ³ / ₄	1	1	0.83	36
03	300	25 ¹ / ₄	36 ¹ / ₄	20	14	22 ¹ / ₄	6 ¹ / ₄	8 ³ / ₄	23 ³ / ₄	1	1	1.08	39
04	400	31 ¹ / ₄	43 ¹ / ₄	26	15	28 ¹ / ₄	6 ¹ / ₄	8 ³ / ₄	29 ³ / ₄	2	1	1.35	49
06	600	36 ¹ / ₄	43 ¹ / ₄	31	10	33 ¹ / ₄	7 ¹ / ₂	10	34 ³ / ₄	2	1	1.88	59
08	800	43 ¹ / ₄	57 ¹ / ₄	38	17	40 ¹ / ₄	7 ¹ / ₂	10	41 ³ / ₄	2	1	2.31	64
10	1000	57 ¹ / ₄	65 ¹ / ₄	52	11	54 ¹ / ₄	7 ¹ / ₂	10	55 ³ / ₄	4	2	3.16	95
12	1200	65 ¹ / ₄	75 ¹ / ₄	60	13	62 ¹ / ₄	7 ¹ / ₂	10	63 ³ / ₄	4	2	3.65	107

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 1 — 42CA Furred-In Horizontal Unit Dimensions



LEGEND

- 1 — Junction Box (remote mount)
- 2 — Flexible Metal Conduit
- 3 — Strip Heater High Limit
- 4 — Electric Strip Heater Element
- 5 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 6 — Drain Conn, 7/8-in. OD
- 7 — Drip Lip (optional)
- 8 — Supply Duct Collar, 1-in.
- 9 — Air Vent, 1/8-in. MPT
- 10 — Return Conn, 5/8-in. OD
- 11 — Supply Conn, 5/8-in. OD
- 12 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole

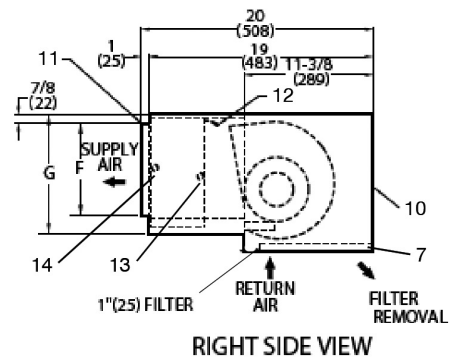
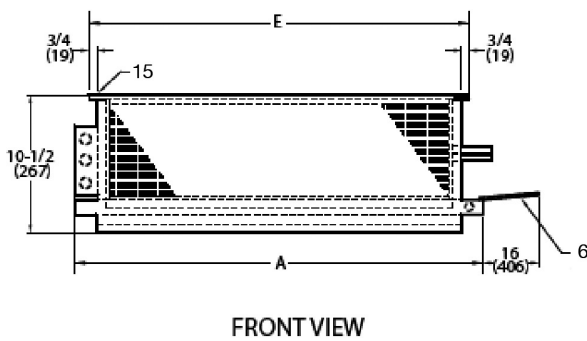
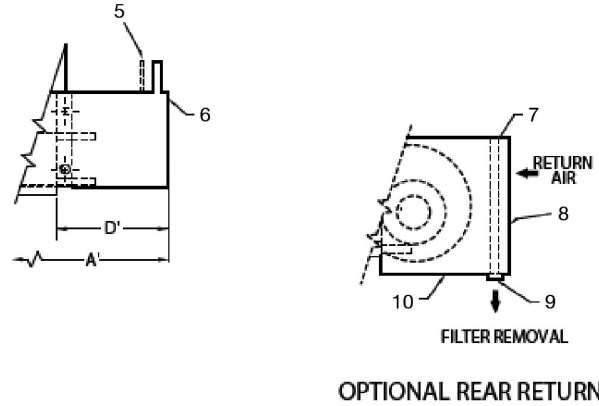
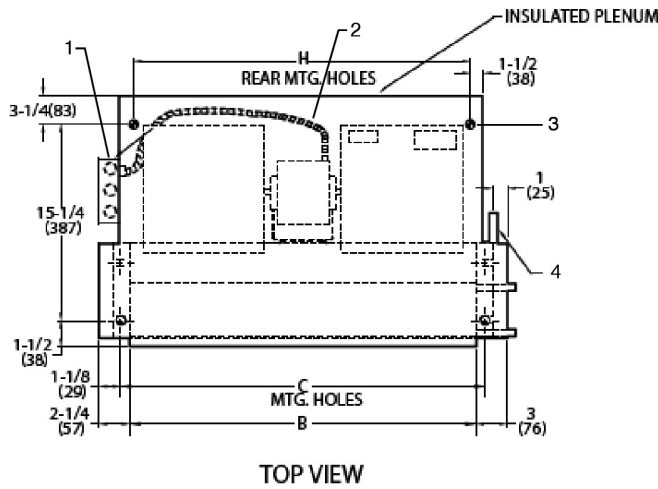
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Overall unit dimension increases by 4 in. with optional electric heat.
- 5. Not shown: 3-speed fan switch; wall plate, closed cell foam on main drain pan.
- 6. Units have galvanized finish.
- 7. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)								QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	D'	E	F	G	H	Blower	Motor		
02	200	21 1/4	31 1/4	16	13	18 1/4	6 1/4	8 3/4	19 3/4	1	1	0.83	38
03	300	25 1/4	36 1/4	20	14	22 1/4	6 1/4	8 3/4	23 3/4	1	1	1.08	41
04	400	31 1/4	43 1/4	26	15	28 1/4	6 1/4	8 3/4	29 3/4	2	1	1.35	51
06	600	36 1/4	43 1/4	31	10	33 1/4	7 1/2	10	34 3/4	2	1	1.88	61
08	800	43 1/4	57 1/4	38	17	40 1/4	7 1/2	10	41 3/4	2	1	2.31	66
10	1000	57 1/4	65 1/4	52	11	54 1/4	7 1/2	10	55 3/4	4	2	3.16	97
12	1200	65 1/4	75 1/4	60	13	62 1/4	7 1/2	10	63 3/4	4	2	3.65	109

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 2 — 42CA Furred-In Horizontal Unit with Electric Heat Dimensions



LEGEND

- 1 — Junction Box, 4 in. x 4 in.
- 2 — Flexible Metal Conduit
- 3 — Mounting Bracket
- 4 — Drain Conn, 7/8-in. OD
- 5 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 6 — Drip Lip (optional, shipped loose)
- 7 — Filter
- 8 — Return Duct Collar, 1-in.
- 9 — Filter Access Panel
- 10 — Access Panel
- 11 — Supply Duct Collar, 1-in.
- 12 — Air Vent, 1/8-in. MPT
- 13 — Return Conn, 5/8-in. OD
- 14 — Supply Conn, 5/8-in. OD
- 15 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole

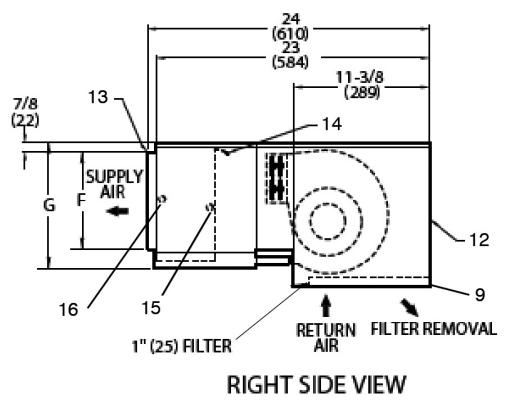
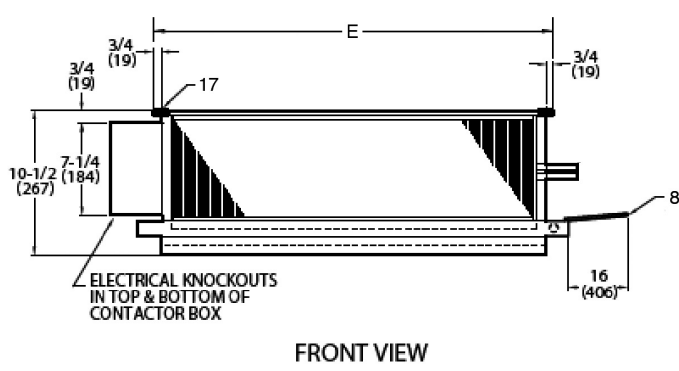
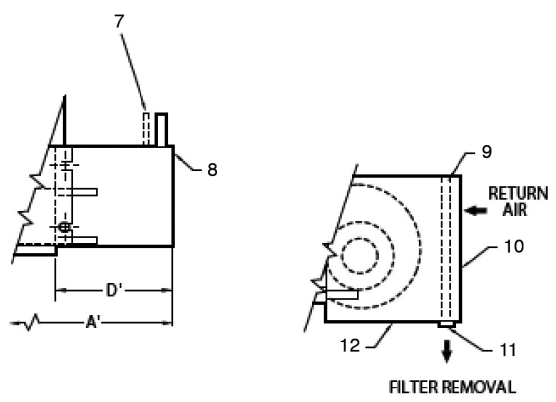
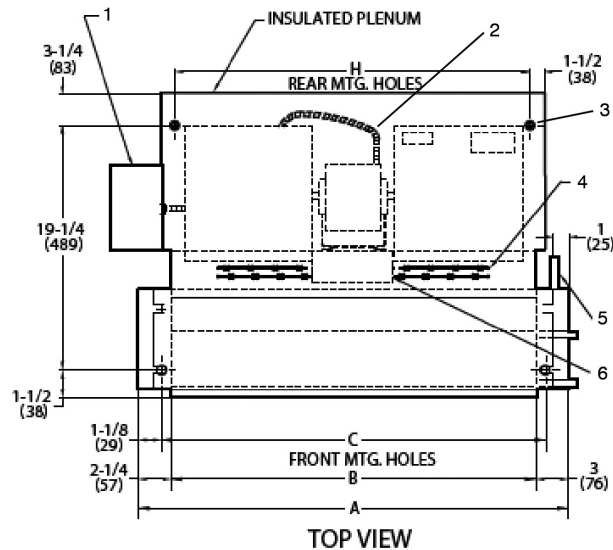
NOTES:

- 1. Right hand unit with standard 3-row coil shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Unit available with bottom or rear return air.
- 5. Dimension increases by 4 in. with optional electric heat.
- 6. Not shown: 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of plenum, closed cell foam on main drain pan.
- 7. Units have galvanized finish.
- 8. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)									QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	C	D'	E	F	G	H	Blower	Motor		
02	200	21 ¹ / ₄	31 ¹ / ₄	16	18 ¹ / ₄	13	19 ³ / ₄	6 ¹ / ₄	8 ³ / ₄	15 ³ / ₈	1	1	0.83	55
03	300	25 ¹ / ₄	36 ¹ / ₄	20	22 ¹ / ₄	14	23 ³ / ₄	6 ¹ / ₄	8 ³ / ₄	19 ³ / ₈	1	1	1.08	60
04	400	31 ¹ / ₄	43 ¹ / ₄	26	28 ¹ / ₄	15	29 ³ / ₄	6 ¹ / ₄	8 ³ / ₄	25 ³ / ₈	2	1	1.35	70
06	600	36 ¹ / ₄	43 ¹ / ₄	31	33 ¹ / ₄	10	34 ³ / ₄	7 ¹ / ₂	10	30 ³ / ₈	2	1	1.88	82
08	800	43 ¹ / ₄	57 ¹ / ₄	38	40 ¹ / ₄	17	41 ³ / ₄	7 ¹ / ₂	10	37 ³ / ₈	2	1	2.31	95
10	1000	57 ¹ / ₄	65 ¹ / ₄	52	54 ¹ / ₄	11	55 ³ / ₄	7 ¹ / ₂	10	51 ³ / ₈	4	2	3.16	135
12	1200	65 ¹ / ₄	75 ¹ / ₄	60	62 ¹ / ₄	13	63 ³ / ₄	7 ¹ / ₂	10	59 ³ / ₈	4	2	3.65	154

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 3 — 42CE Furred-In Horizontal Unit with Plenum Dimensions



LEGEND

- 1 — Junction Box, 4 in. x 4 in.
- 2 — Flexible Metal Conduit
- 3 — Mounting Bracket
- 4 — Electric Strip Heater Element
- 5 — Drain Conn, 7/8-in. OD
- 6 — Strip Heater High Limit
- 7 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 8 — Drip Lip (optional, shipped loose)
- 9 — Filter
- 10 — Return Duct Collar, 1-in.
- 11 — Filter Access Panel
- 12 — Access Panel
- 13 — Supply Duct Collar, 1-in.
- 14 — Air Vent, 1/8-in. MPT
- 15 — Return Conn, 5/8-in. OD
- 16 — Supply Conn, 5/8-in. OD
- 17 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole

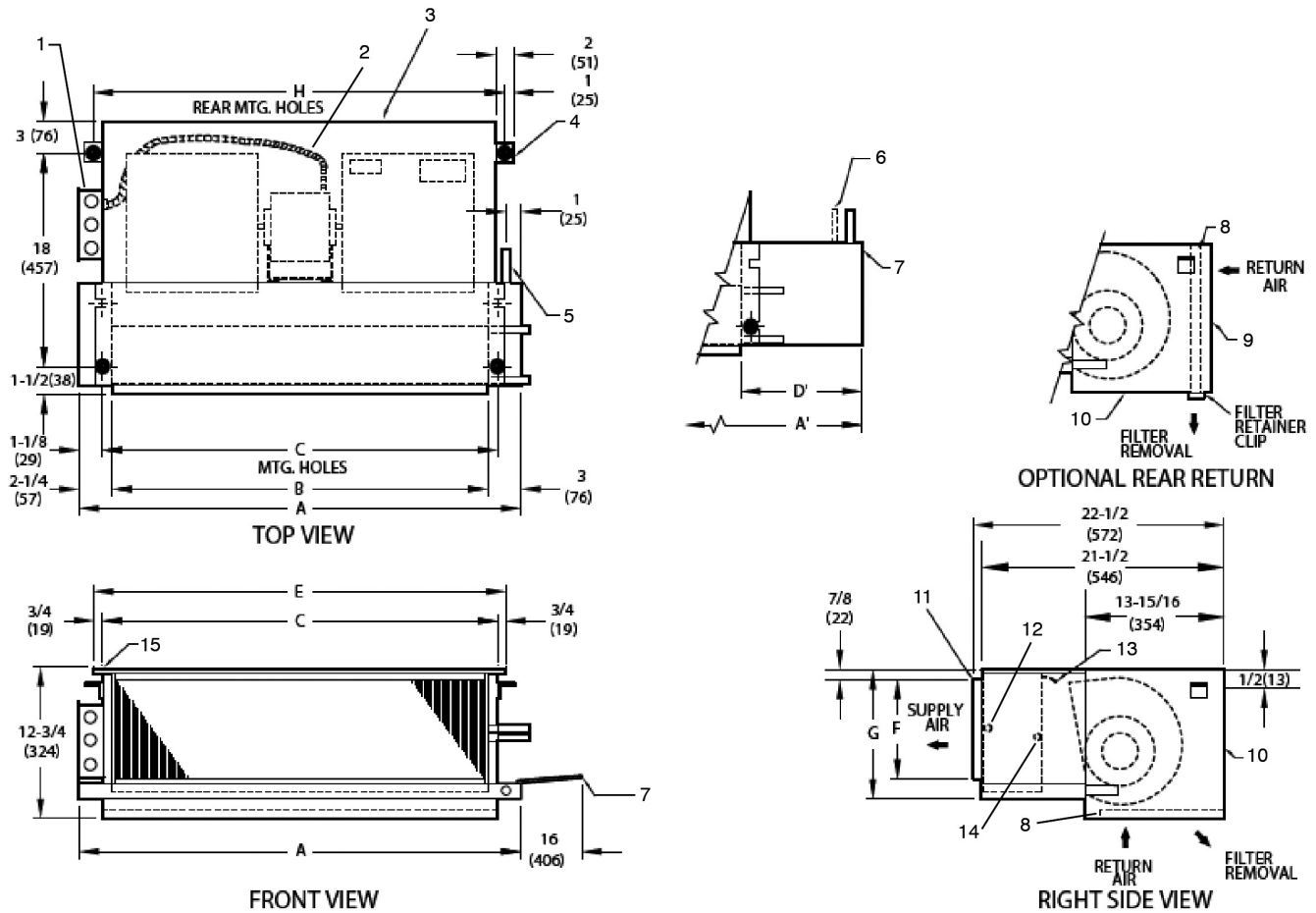
NOTES:

- 1. Right hand unit with standard 3-row coil shown; left hand unit opposite. Coil connection locations are ±5/8-in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Unit available with bottom or rear return air.
- 5. Dimension increases by 4 in. with optional electric heat.
- 6. Not shown: 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of plenum, closed cell foam on main drain pan.
- 7. Units have galvanized finish.
- 8. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)									QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	C	D'	E	F	G	H	Blower	Motor		
02	200	21 1/4	31 1/4	16	18 1/4	13	19 3/4	6 1/4	8 3/4	15 3/8	1	1	0.83	57
03	300	25 1/4	36 1/4	20	22 1/4	14	23 3/4	6 1/4	8 3/4	19 3/8	1	1	1.08	62
04	400	31 1/4	43 1/4	26	28 1/4	15	29 3/4	6 1/4	8 3/4	25 3/8	2	1	1.35	72
06	600	36 1/4	43 1/4	31	33 1/4	10	34 3/4	7 1/2	10	30 3/8	2	1	1.88	84
08	800	43 1/4	57 1/4	38	40 1/4	17	41 3/4	7 1/2	10	37 3/8	2	1	2.31	97
10	1000	57 1/4	65 1/4	52	54 1/4	11	55 3/4	7 1/2	10	51 3/8	4	2	3.16	137
12	1200	65 1/4	75 1/4	60	62 1/4	13	63 3/4	7 1/2	10	59 3/8	4	2	3.65	156

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 4 — 42CE Furred-In Horizontal Unit with Plenum and Electric Heat Dimensions



LEGEND

- 1 — Junction Box, Installed with Plenum
- 2 — Flexible Metal Conduit
- 3 — Insulated Plenum
- 4 — Mounting Bracket
- 5 — Drain Conn, 7/8-in. OD
- 6 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 7 — Drip Lip (optional, shipped loose)
- 8 — Filter
- 9 — Return Duct Collar, 1-in.
- 10 — Access Panel
- 11 — Supply Duct Collar, 1-in.
- 12 — Supply Conn, 5/8-in. OD
- 13 — Air Vent, 1/8-in. MPT
- 14 — Return Conn, 5/8-in. OD
- 15 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole

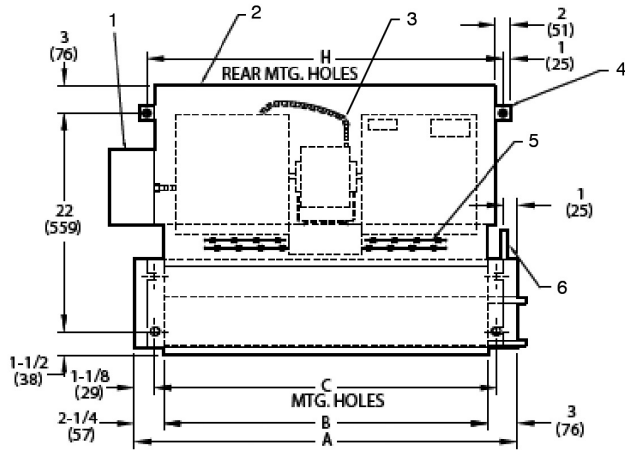
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 04 thru 08 have one motor, 2 blowers; size 10 has 2 motors, 4 blowers.
- 3. Refer to above figure for configuration of filter and track if installed in optional plenum.
- 4. Dimension increases by 4 in. with optional electric heat.
- 5. Not shown: 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of plenum (when installed), closed cell insulation on main drain pan.
- 6. Units have galvanized finish.
- 7. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

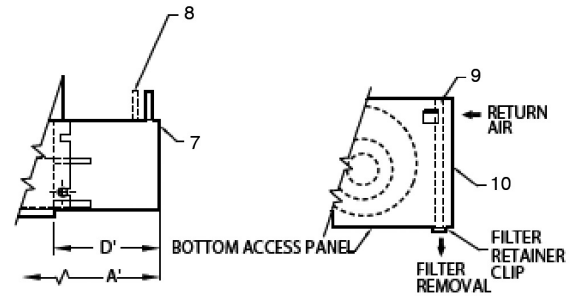
UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)									QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	C	D'	E	F	G	H	Blower	Motor		
04	400	31 1/4	43 1/4	26	28 1/4	15	29 3/4	6 1/4	8 3/4	30 1/4	2	1	1.35	84
06	600	36 1/4	43 1/4	34	33 1/4	10	34 3/4	7 1/2	10	35 1/4	2	1	1.88	97
08	800	43 1/4	57 1/4	38	40 1/4	17	41 3/4	7 1/2	10	42 1/4	2	1	2.31	110
10	1000	57 1/4	65 1/4	52	54 1/4	11	55 3/4	7 1/2	10	56 1/4	4	2	3.16	163

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

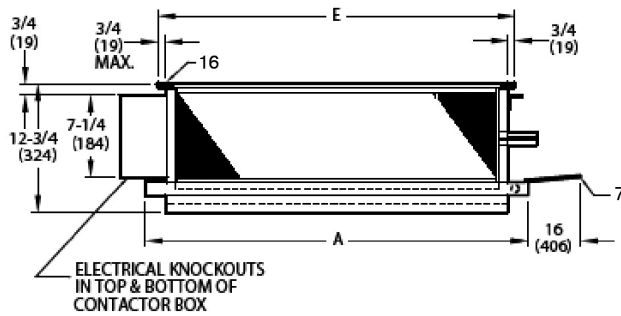
Fig. 5 — 42CF Furred-In High-Static Horizontal Unit with Plenum Dimensions



TOP VIEW



OPTIONAL REAR RETURN



ELECTRICAL KNOCKOUTS IN TOP & BOTTOM OF CONTACTOR BOX

LEGEND

- 1 — Junction Box, Installed with Plenum
- 2 — Plenum
- 3 — Flexible Metal Conduit
- 4 — Mounting Bracket
- 5 — Electric Strip Heater Element
- 6 — Drain Conn, 7/8-in. OD
- 7 — Drip Lip (optional, shipped loose)
- 8 — Tell-Tale Drain Conn, 5/8-in. OD (optional)
- 9 — Filter
- 10 — Return Duct Collar, 1-in.
- 11 — Air Vent, 1/8-in. MPT
- 12 — Access Panel
- 13 — Return Conn, 5/8-in. OD
- 14 — Supply Conn, 5/8-in. OD
- 15 — Supply Duct Collar, 1-in.
- 16 — Hanger Slots (4), Rubber Grommet has 3/8-in. Diameter Hole

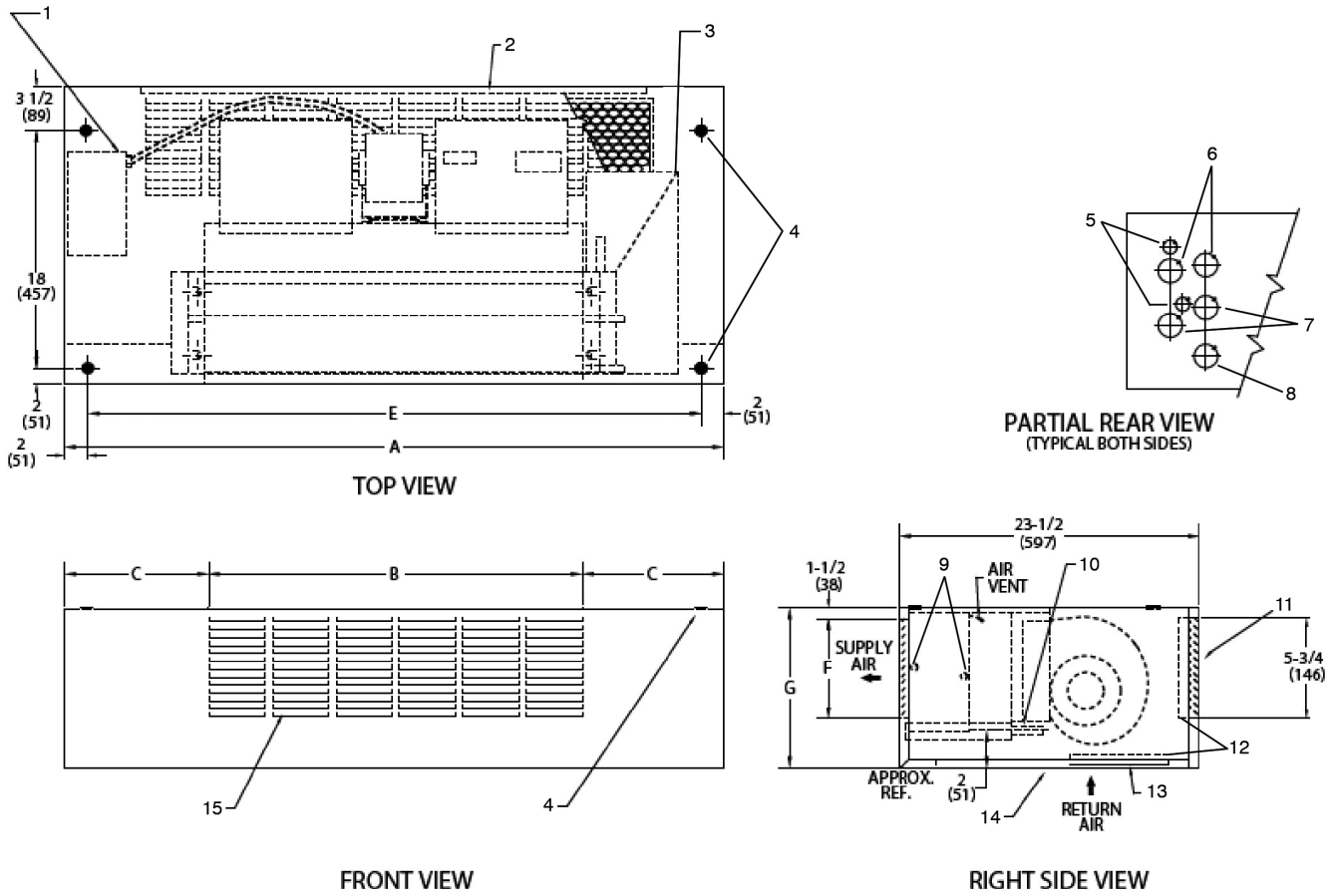
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 04 thru 08 have one motor, 2 blowers; size 10 has 2 motors, 4 blowers.
- 3. Refer to above figure for configuration of filter and track if installed in optional plenum.
- 4. Dimension increases by 4 in. with optional electric heat.
- 5. Not shown: 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of plenum (when installed), closed cell insulation on main drain pan.
- 6. Units have galvanized finish.
- 7. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)									QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	A'	B	C	D'	E	F	G	H	Blower	Motor		
04	400	31 ¹ / ₄	43 ¹ / ₄	26	28 ³ / ₄	15	29 ³ / ₄	6 ¹ / ₄	8 ³ / ₄	30 ¹ / ₄	2	1	1.35	84
06	600	36 ¹ / ₄	43 ¹ / ₄	34	33 ¹ / ₄	10	34 ³ / ₄	7 ¹ / ₂	10	35 ¹ / ₄	2	1	1.88	97
08	800	43 ¹ / ₄	57 ¹ / ₄	38	40 ¹ / ₄	17	41 ³ / ₄	7 ¹ / ₂	10	42 ¹ / ₄	2	1	2.31	110
10	1000	57 ¹ / ₄	65 ¹ / ₄	52	54 ¹ / ₄	11	55 ³ / ₄	7 ¹ / ₂	10	56 ¹ / ₄	4	2	3.16	163

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 6 — 42CF Furred-In Horizontal Unit with Plenum and Electric Heat Dimensions



LEGEND

- 1 — Junction Box, 4 in. x 4 in.
- 2 — Optional Return Air Location
- 3 — Optional Drip Lip, shipped loose
- 4 — Mounting Holes (4), Rubber Grommets have 3/8-in. Diameter Hole
- 5 — Electrical KO, 7/8-in. Diameter
- 6 — Return KO, 1-in. Diameter
- 7 — Supply KO, 1 1/2-in. Diameter
- 8 — Drain KO, 1 1/2-in. Diameter
- 9 — Supply, Return Connections, 5/8-in. OD
- 10 — Drain Connection, 7/8-in. OD
- 11 — Optional Valve Package (inside cabinet)
- 12 — Filter
- 13 — Standard Stamped-Return Air Grille
- 14 — Removable Hinged Access Panel
- 15 — Supply Grille, Stamped, Standard

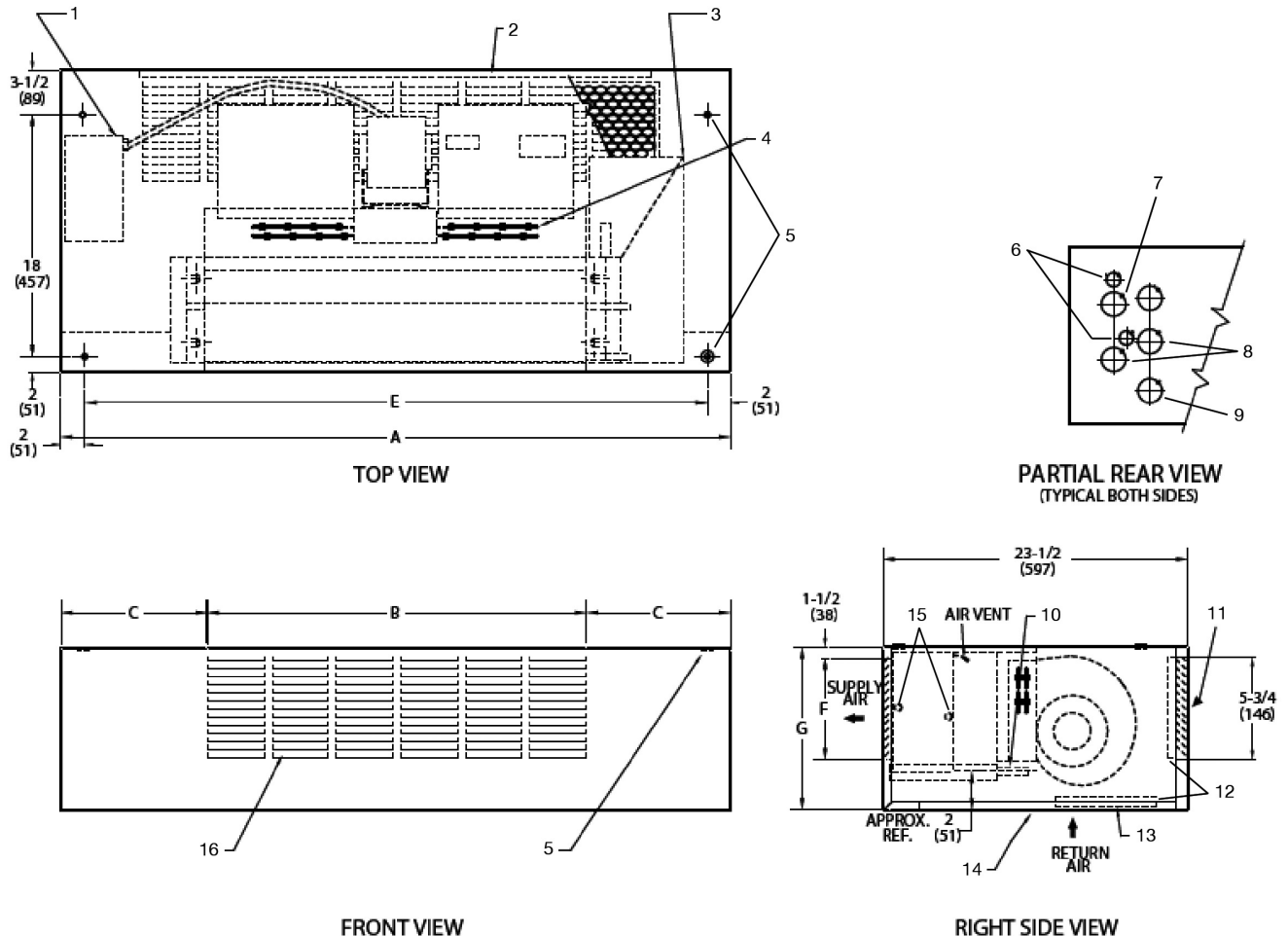
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are ±5/8-in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Cabinet has an Arctic White baked finish.
- 4. Refer to supply and return connections above for coil stub-out locations.
- 5. Not shown: optional drip lip, 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 6. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 7. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	E	F	G	Blower	Motor		
02	200	38	17 1/8	10 7/16	34	5 3/4	11	1	1	0.83	98
03	300	42	21 1/2	10 1/4	38	5 3/4	11	1	1	1.08	118
04	400	48	25 7/8	11 1/16	44	5 3/4	11	2	1	1.35	126
06	600	53	34 5/8	9 3/16	49	6 3/4	12	2	1	1.88	168
08	800	60	39	10 1/2	56	6 3/4	12	2	1	2.31	176
10	1000	74	52 1/8	10 15/16	70	6 3/4	12	4	2	3.16	215
12	1200	82	60 7/8	10 9/16	78	6 3/4	12	4	2	3.65	245

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 7 — 42CG Horizontal Cabinet Unit Dimensions



LEGEND

- 1 — Junction Box, 4 in. x 4 in.
- 2 — Optional Stamped Rear Return Grille
- 3 — Optional Drip Lip, shipped loose
- 4 — Electric Strip Heater Element
- 5 — Mounting Holes (4), Rubber Grommets have 3/8-in. Diameter Hole
- 6 — Electrical KO, 7/8-in. Diameter
- 7 — Return KO, 1-in. Diameter
- 8 — Supply KO, 1 1/2-in. Diameter
- 9 — Drain KO, 1 1/2-in. Diameter
- 10 — Drain Connection, 7/8-in. OD
- 11 — Optional Valve Package (inside cabinet)
- 12 — Filter
- 13 — Standard Stamped-Return Air Grille
- 14 — Removable Hinged Access Panel
- 15 — Supply, Return Connections, 5/8-in. OD
- 16 — Supply Grille, Stamped, Standard

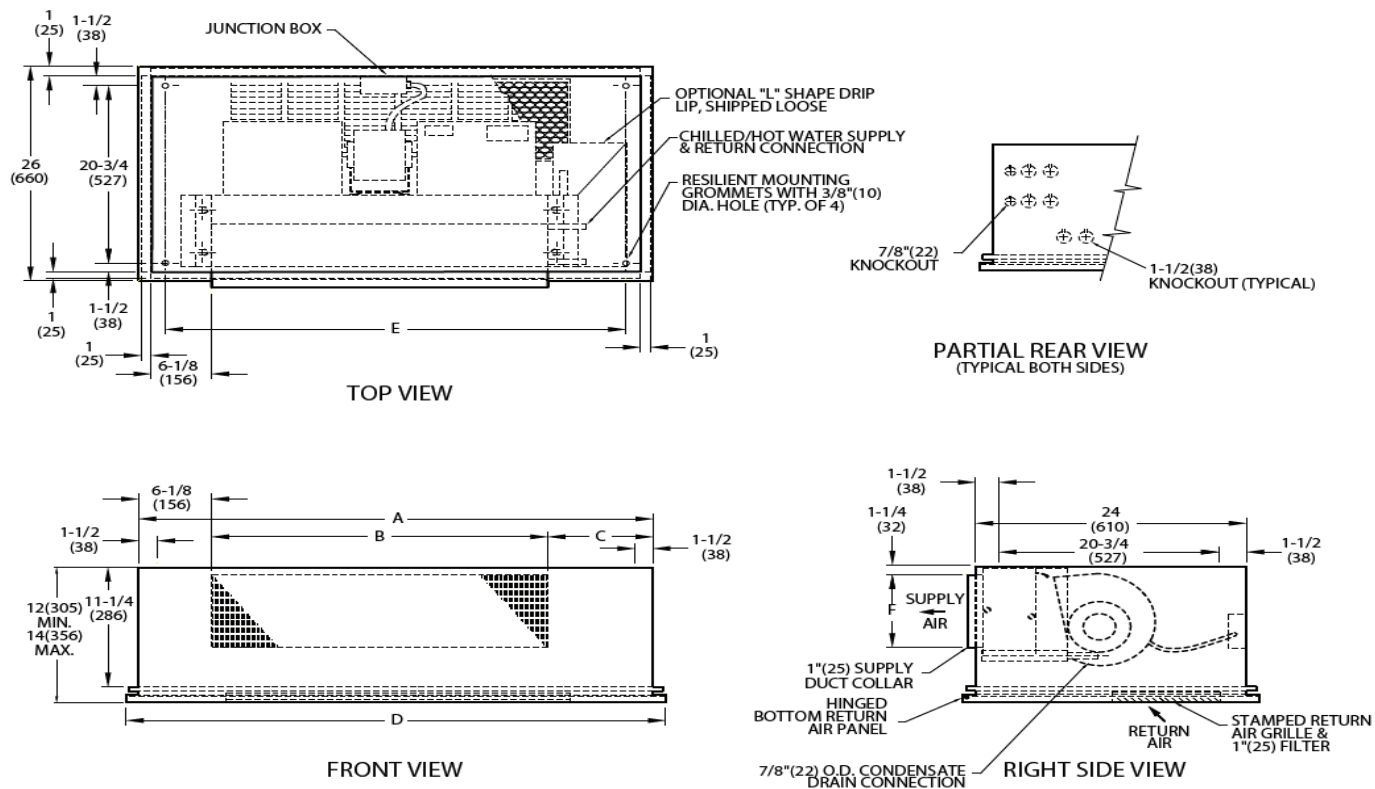
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are ±5/8-in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Cabinet has an Arctic White baked finish.
- 4. Refer to supply and return connections above for coil stub-out locations.
- 5. Not shown: optional drip lip, 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 6. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 7. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	E	F	G	Blower	Motor		
02	200	38	17 1/8	10 7/16	34	5 3/4	11	1	1	0.83	98
03	300	42	21 1/2	10 1/4	38	5 3/4	11	1	1	1.08	118
04	400	48	25 7/8	11 1/16	44	5 3/4	11	2	1	1.35	126
06	600	53	34 5/8	9 3/16	49	6 3/4	12	2	1	1.88	168
08	800	60	39	10 1/2	56	6 3/4	12	2	1	2.31	176
10	1000	74	52 1/8	10 15/16	70	6 3/4	12	4	2	3.16	215
12	1200	82	60 7/8	10 9/16	78	6 3/4	12	4	2	3.65	245

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 8 — 42CG Horizontal Cabinet with Electric Heat Dimensions

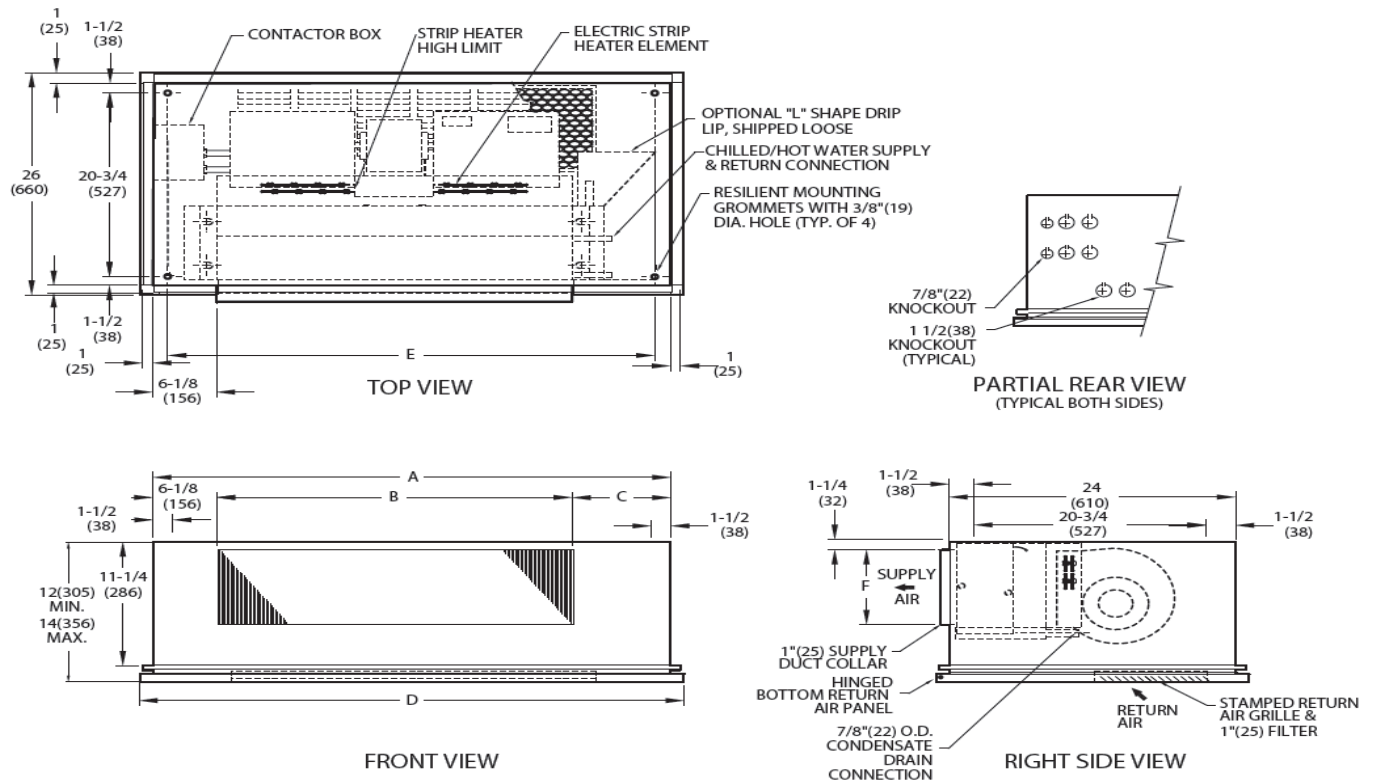


NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Internal factory valve package and drains may not align with cabinet knockouts.
3. Dimensions shown in inches (mm). All dimensions are $\pm 1/4$ in.
4. Bottom panel is Arctic White polyester powder coat paint.

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		BOTTOM RETURN FILTER SIZE, (in.)
		A	B	C	D	E	F	Blower	Motor	
02	200	35	16	12 ^{3/4}	37	32	6	1	1	10 x 28
03	300	35	20	8 ^{3/4}	37	32	6	1	1	10 x 28
04	400	41	26	8 ^{3/4}	43	38	6	2	1	10 x 33
06	600	53	31	15 ^{3/4}	55	50	7	2	1	10 x 45
08	800	53	38	8 ^{3/4}	55	50	7	2	1	10 x 45
10	1000	75	52	16 ^{3/4}	77	72	7	4	2	10 x 62
12	1200	75	60	8 ^{3/4}	77	72	7	4	2	10 x 62

Fig. 9 — 42CK Horizontal Cabinet Unit with Telescopic Access Panel, Front Supply, and Bottom Return Dimensions

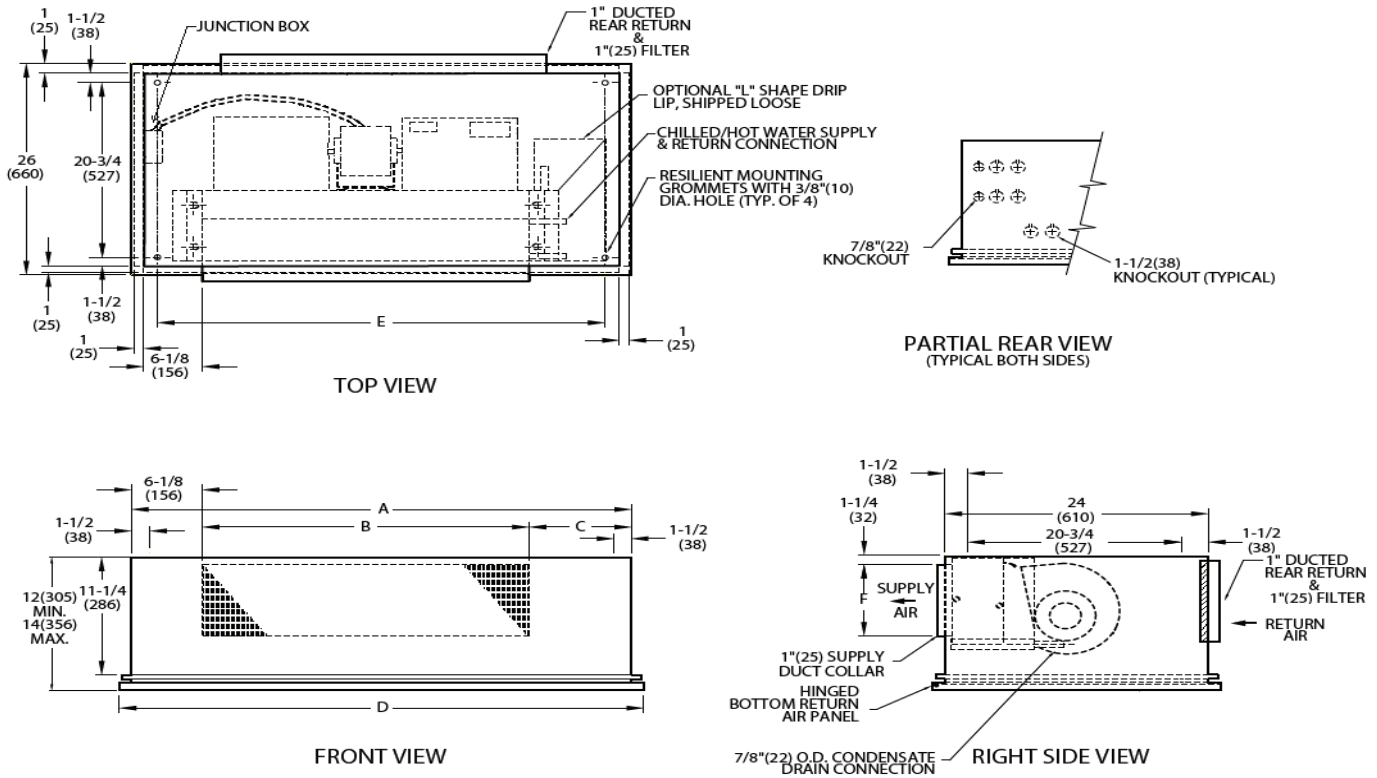


NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Internal factory valve package and drains may not align with cabinet knockouts.
3. Dimensions shown in inches (mm). All dimensions are $\pm 1/4$ in.
4. Bottom panel is Arctic White polyester powder coat paint.

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		BOTTOM RETURN FILTER SIZE, (in.)
		A	B	C	D	E	F	Blower	Motor	
02	200	35	16	12 ^{3/4}	37	32	6	1	1	10 x 28
03	300	35	20	8 ^{3/4}	37	32	6	1	1	10 x 28
04	400	41	26	8 ^{3/4}	43	38	6	2	1	10 x 33
06	600	53	31	15 ^{3/4}	55	50	7	2	1	10 x 45
08	800	53	38	8 ^{3/4}	55	50	7	2	1	10 x 45
10	1000	75	52	16 ^{3/4}	77	72	7	4	2	10 x 62
12	1200	75	60	8 ^{3/4}	77	72	7	4	2	10 x 62

Fig. 10 — 42CK Horizontal Cabinet Unit with Telescopic Access Panel, Front Supply, Bottom Return, and Heater Dimensions

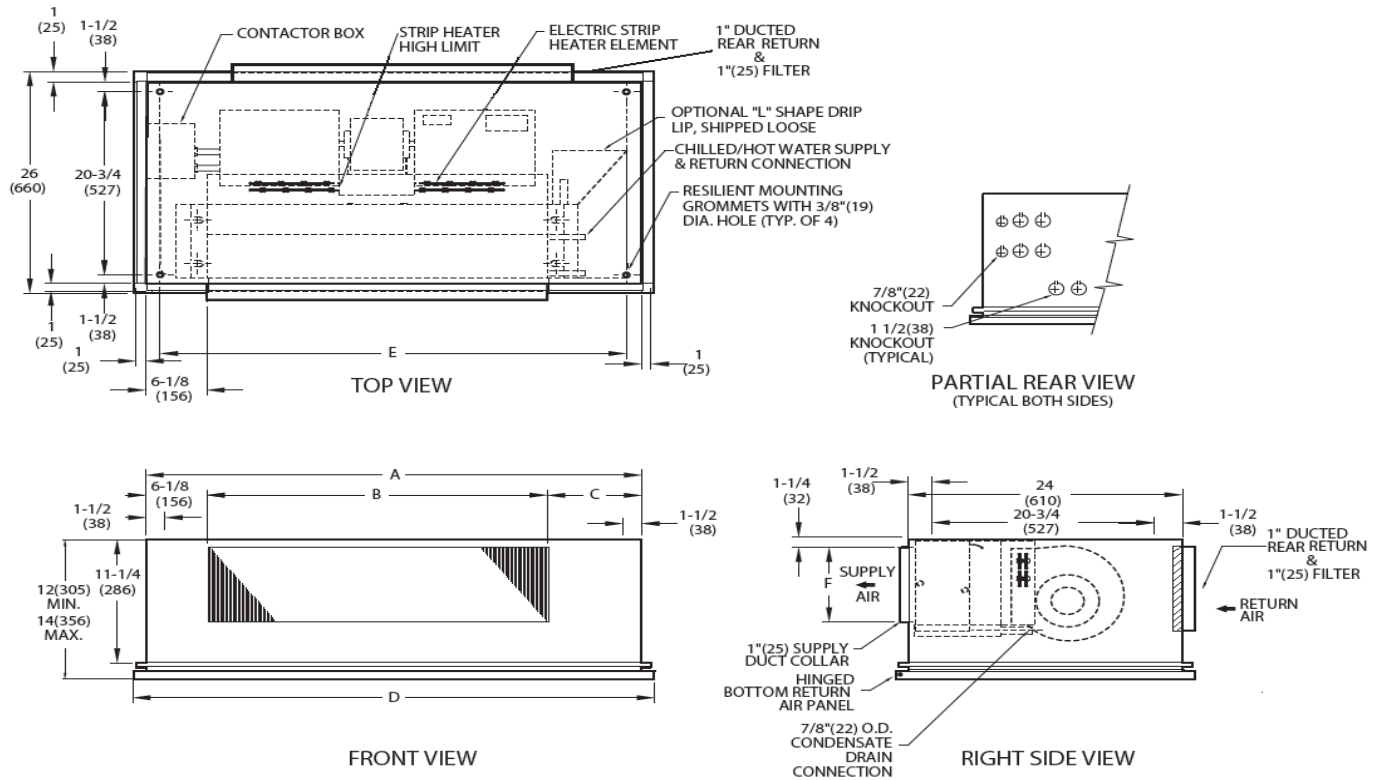


NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Internal factory valve package and drains may not align with cabinet knockouts.
3. Dimensions shown in inches (mm). All dimensions are $\pm 1/4$ in.
4. Bottom panel is Arctic White polyester powder coat paint.

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		REAR RETURN FILTER SIZE, (in.)
		A	B	C	D	E	F	Blower	Motor	
02	200	35	16	12 ³ / ₄	37	32	6	1	1	7 x 21
03	300	35	20	8 ³ / ₄	37	32	6	1	1	7 x 21
04	400	41	26	8 ³ / ₄	43	38	6	2	1	7 x 27
06	600	43	31	15 ³ / ₄	55	50	7	2	1	7 x 38
08	800	43	38	8 ³ / ₄	55	50	7	2	1	7 x 38
10	1000	75	52	16 ³ / ₄	77	72	7	4	2	7 x 52
12	1200	75	60	8 ³ / ₄	77	72	7	4	2	7 x 52

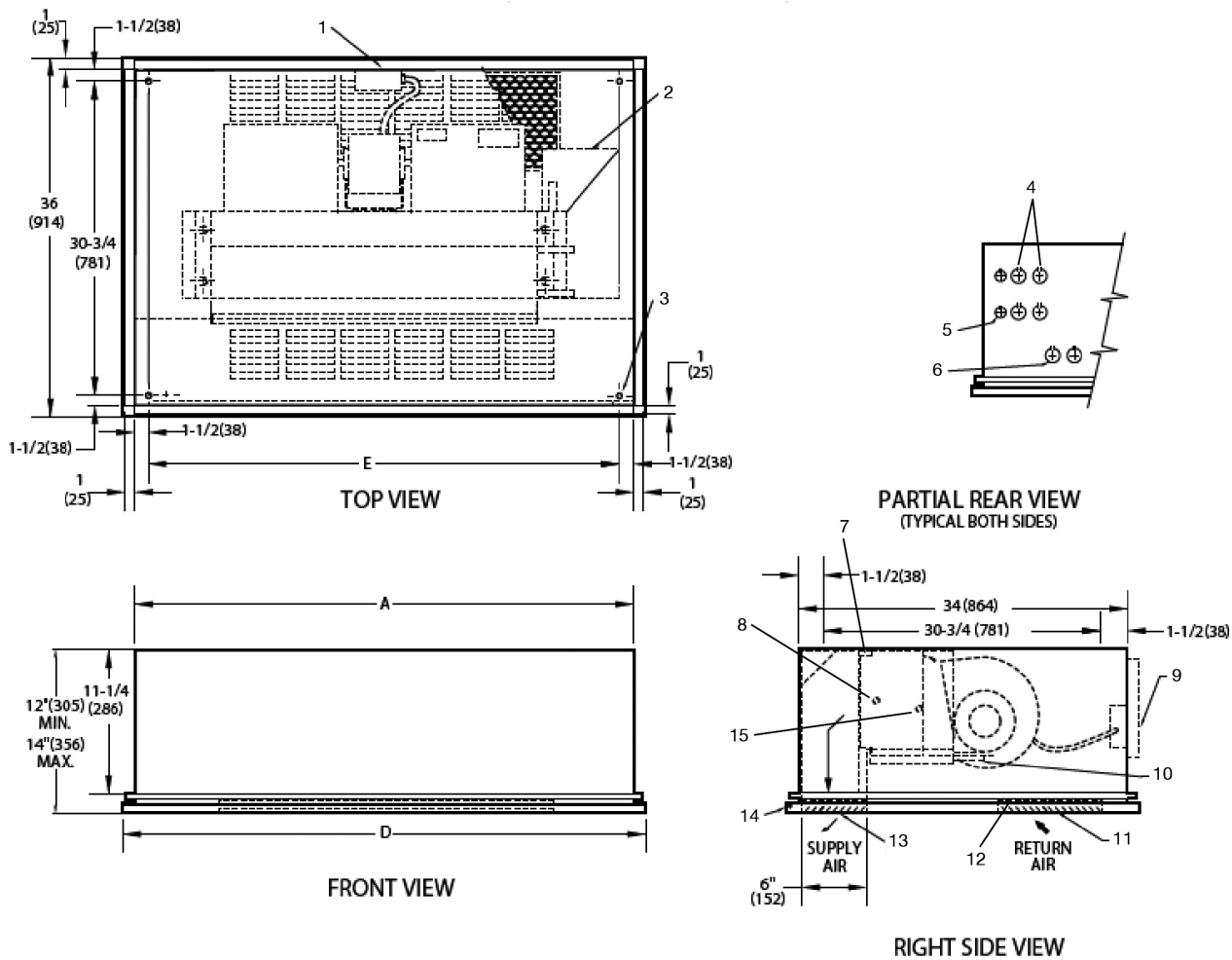
Fig. 11 — 42CK Horizontal Cabinet Unit with Telescopic Access Panel, Front Supply, and Rear Return Dimensions



- NOTES:**
1. Right hand unit shown; left hand unit opposite.
 2. Internal factory valve package and drains may not align with cabinet knockouts.
 3. Dimensions shown in inches (mm). All dimensions are $\pm 1/4$ in.
 4. Bottom panel is Arctic White polyester powder coat paint.

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)						QTY/UNIT		REAR RETURN FILTER SIZE, (in.)
		A	B	C	D	E	F	Blower	Motor	
02	200	35	16	12 ³ / ₄	37	32	6	1	1	7 x 21
03	300	35	20	8 ³ / ₄	37	32	6	1	1	7 x 21
04	400	41	26	8 ³ / ₄	43	38	6	2	1	7 x 27
06	600	43	31	15 ³ / ₄	55	50	7	2	1	7 x 38
08	800	43	38	8 ³ / ₄	55	50	7	2	1	7 x 38
10	1000	75	52	16 ³ / ₄	77	72	7	4	2	7 x 52
12	1200	75	60	8 ³ / ₄	77	72	7	4	2	7 x 52

Fig. 12 — 42CK Horizontal Cabinet Unit with Telescopic Access Panel, Front Supply, Rear Return, and Heater Dimensions



LEGEND

- 1 — Junction Box, 4 in. x 4 in.
- 2 — Optional Drip Lip, shipped loose
- 3 — Mounting Holes (4), Rubber Grommets have 3/8-in. Diameter Hole
- 4 — Piping KO, 1 1/2-in. Diameter
- 5 — Electrical KO, 7/8-in. Diameter
- 6 — Drain KO, 1 1/2-in. Diameter
- 7 — Supply Duct Collar
- 8 — Return Connection, 5/8-in. OD.
- 9 — Optional Rear Return. Consult factory for collar dimensions.
- 10 — Drain, 7/8-in. OD.
- 11 — Stamped Bottom Return Air Grille
- 12 — Filter
- 13 — Stamped Air Supply Grille
- 14 — Hinged Bottom Access Panel
- 15 — Supply Connection, 5/8-in. OD.

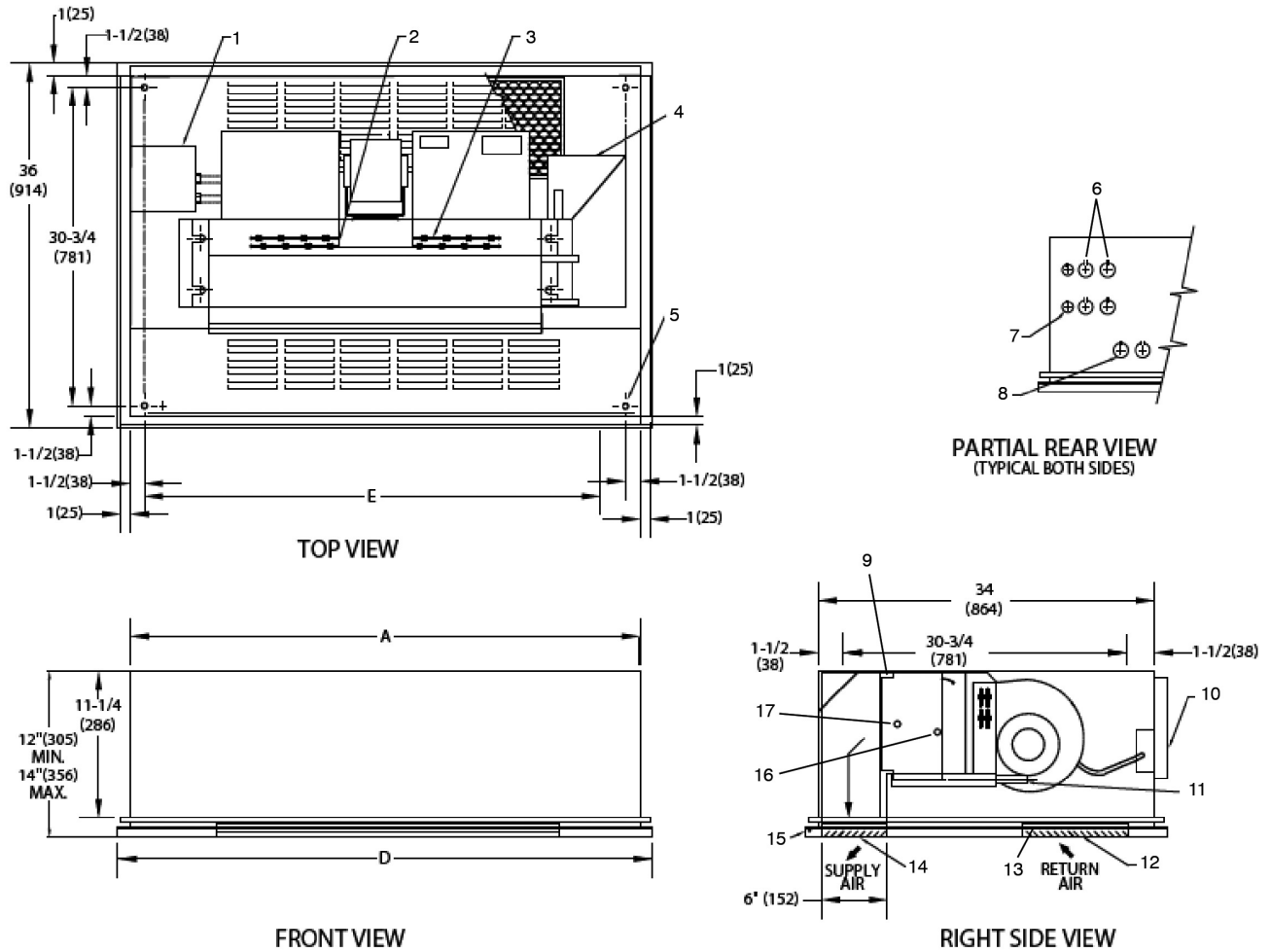
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Bottom access panel has an Arctic White baked finish.
- 4. Refer to supply and return connections above for coil stub-out locations.
- 5. Not shown: optional drip lip, 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 6. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
- 7. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 8. Bottom return or bottom supply is an ETO (engineering to order) request.
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)			QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	D	E	Blower	Motor		
02	200	35	37	32	1	1	0.83	115
03	300	35	37	32	1	1	1.08	120
04	400	41	43	38	2	1	1.35	135
06	600	53	55	50	2	1	1.88	150
08	800	53	55	50	2	1	2.31	155
10	1000	75	77	72	4	2	3.16	227
12	1200	75	77	72	4	2	3.65	241

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 13 — 42CK Horizontal Cabinet Unit with Telescopic Access Panel



- LEGEND**
- 1 — Junction Box, 4 in. x 4 in.
 - 2 — Strip Heater High Limit
 - 3 — Electric Strip Heater Element
 - 4 — Optional Drip Lip, shipped loose
 - 5 — Mounting Holes (4), Rubber Grommets have 3/8-in. Diameter Hole
 - 6 — Piping KO, 1 1/2-in. Diameter
 - 7 — Electrical KO, 7/8-in. Diameter
 - 8 — Drain KO, 1 1/2-in. Diameter
 - 9 — Supply Duct Collar
 - 10 — Optional Rear Return. Consult factory for collar dimensions.
 - 11 — Drain, 7/8-in. OD.
 - 12 — Stamped Bottom Return Air Grille
 - 13 — Filter
 - 14 — Stamped Air Supply Grille
 - 15 — Hinged Bottom Access Panel
 - 16 — Supply Connection, 5/8-in. OD.
 - 17 — Return Connection, 5/8-in. OD.

- NOTES:**
- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
 - 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
 - 3. Bottom access panel has an Arctic White baked finish.
 - 4. Refer to supply and return connections above for coil stub-out locations.
 - 5. Not shown: optional drip lip, 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
 - 6. For optional coil connections, view 42CA-203-1 using the Fan Coil Builder.
 - 7. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
 - 8. Bottom return or bottom supply is an ETO (engineering to order) request.
 - 9. Dimensions shown in inches (mm).

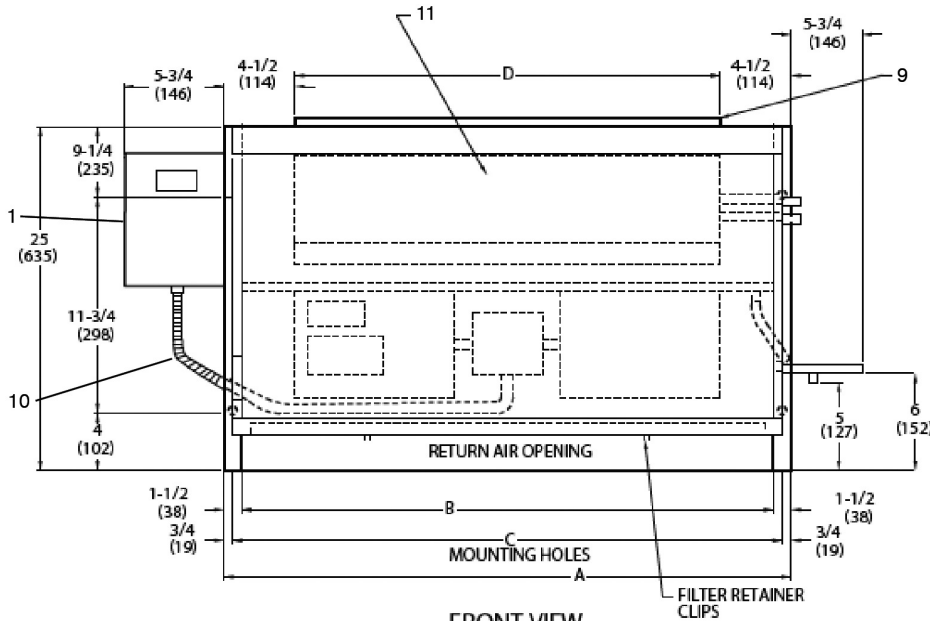
UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)			QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	D	E	Blower	Motor		
02	200	35	37	32	1	1	0.83	117
03	300	35	37	32	1	1	1.08	122
04	400	41	43	38	2	1	1.35	137
06	600	53	55	50	2	1	1.88	152
08	800	53	55	50	2	1	2.31	157
10	1000	75	77	72	4	2	3.16	229
12	1200	75	77	72	4	2	3.65	243

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

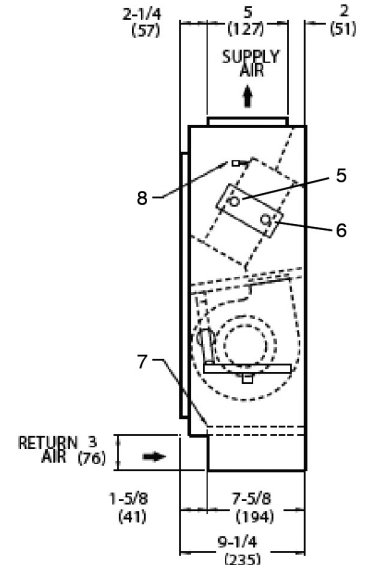
Fig. 14 — 42CK Horizontal Cabinet with Telescopic Access Panel and Electric Heat Dimensions



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

LEGEND

- 1 — Optional Unit Mounted Control Box
- 2 — Wall Mounting Holes (4), 3/4-in. Diameter
- 3 — Drain, 3/4-in. MPT
- 4 — Drain Pan, Auxiliary, Shipped Loose
- 5 — Supply Conn, 5/8-in. OD
- 6 — Return Conn, 5/8-in. OD
- 7 — Filter
- 8 — Air Vent, 1/8-in. MPT
- 9 — Discharge Opening
- 10 — Flexible Conduit
- 11 — Front Access Panel

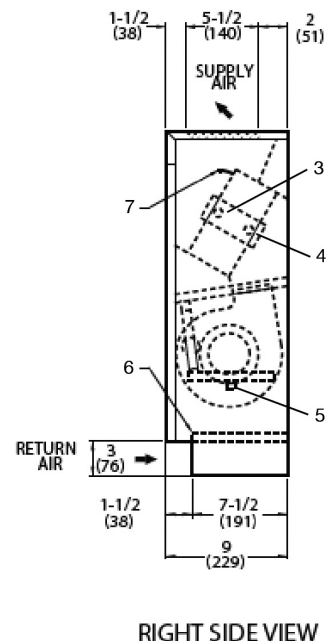
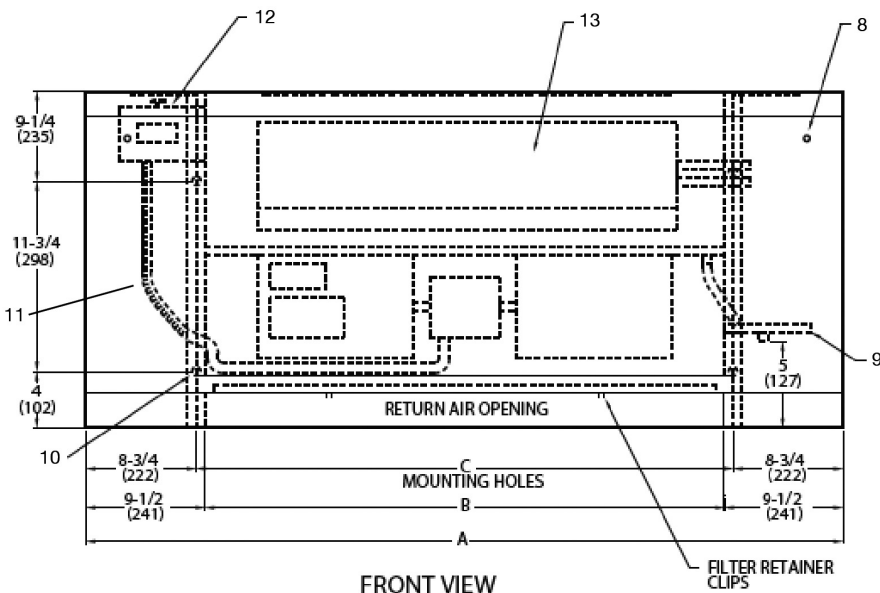
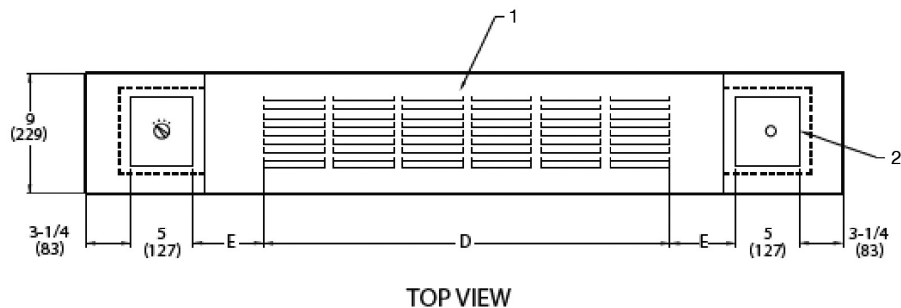
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Optional unit-mounted switch box and controls, when specified, are installed on opposite side from cooling connections.
- 5. Not shown: 3-speed fan switch; wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 6. Units have galvanized finish.
- 7. For optional coil connections, view 42VA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)				QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	D	Blower	Motor		
02	200	25	22	23 ¹ / ₂	16	1	1	0.83	65
03	300	29	26	27 ¹ / ₂	20	1	1	1.08	80
04	400	35	32	33 ¹ / ₂	26	2	1	1.35	90
06	600	45	42	43 ¹ / ₂	36	2	1	1.88	112
08	800	47	44	45 ¹ / ₂	38	2	1	2.31	115
10	1000	61	58	59 ¹ / ₂	52	4	2	3.16	140
12	1200	69	66	67 ¹ / ₂	60	4	2	3.65	170

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 15 — 42VA Furred-In Vertical Unit Dimensions



LEGEND

- 1 — Standard Stamped Supply Grille
- 2 — Access Door, Fan Switch
- 3 — Supply Conn, 5/8-in. OD
- 4 — Return Conn, 5/8-in. OD
- 5 — Drain, 3/4-in. MPT
- 6 — Filter
- 7 — Air Vent, 1/8-in. MPT
- 8 — Front Panel Fastener
- 9 — Drain Pan, Auxiliary, Shipped Loose
- 10 — Wall Mounting Holes (4), 3/4-in. Diameter
- 11 — Flexible Conduit
- 12 — Fan Switch, 3-speed
- 13 — Front Access Panel

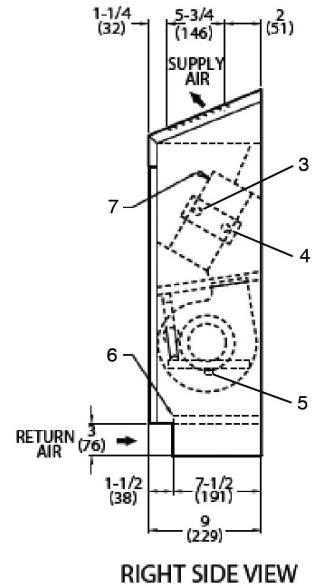
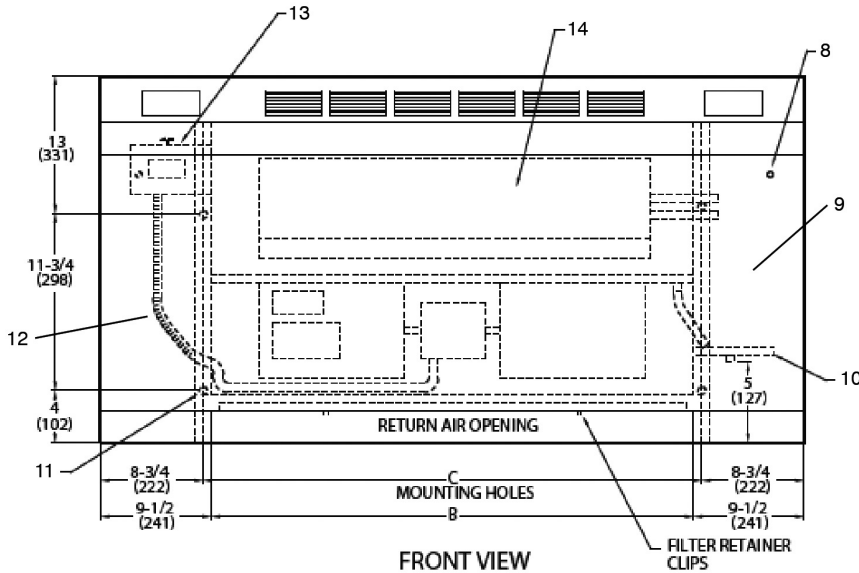
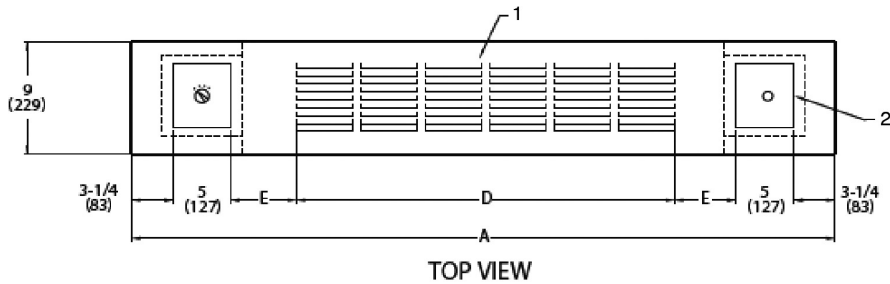
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Cabinet has an Arctic White baked finish.
- 5. Stamped supply grille standard. Optional single or double deflection grilles available.
- 6. Not shown: 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 7. For optional coil connections, view 42VA-203-1 using the Fan Coil Builder.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)					QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	D	E	Blower	Motor		
02	200	41	22	23 ¹ / ₂	17 ¹ / ₄	3 ⁵ / ₈	1	1	0.83	89
03	300	45	26	27 ¹ / ₂	21 ¹ / ₂	3 ¹ / ₂	1	1	1.08	95
04	400	51	32	33 ¹ / ₂	26	4 ¹ / ₄	2	1	1.35	116
06	600	61	42	43 ¹ / ₂	39	2 ³ / ₄	2	1	1.88	134
08	800	63	44	45 ¹ / ₂	39	3 ³ / ₄	2	1	2.31	137
10	1000	77	58	59 ¹ / ₂	52	4 ¹ / ₄	4	2	3.16	169
12	1200	85	66	67 ¹ / ₂	61	3 ³ / ₄	4	2	3.65	192

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 16 — 42VB Vertical Cabinet Unit Dimensions



LEGEND

- 1 — Standard Stamped Supply Grille
- 2 — Access Door, Fan Switch
- 3 — Supply Conn, 5/8-in. OD
- 4 — Return Conn, 5/8-in. OD
- 5 — Drain, 3/4-in. MPT
- 6 — Filter
- 7 — Air Vent, 1/8-in. MPT
- 8 — Front Panel Fastener
- 9 — Optional Valve Package (inside cabinet)
- 10 — Drain Pan, Auxiliary, Shipped Loose
- 11 — Wall Mounting Holes 3/4-in. Diameter
- 12 — Flexible Conduit
- 13 — Fan Switch, 3 speed
- 14 — Access Doors

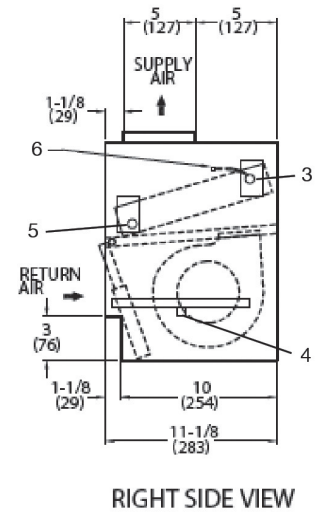
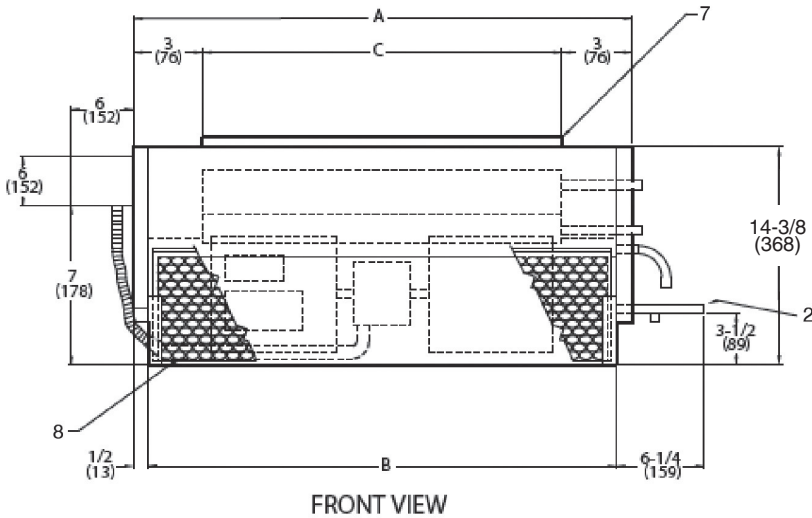
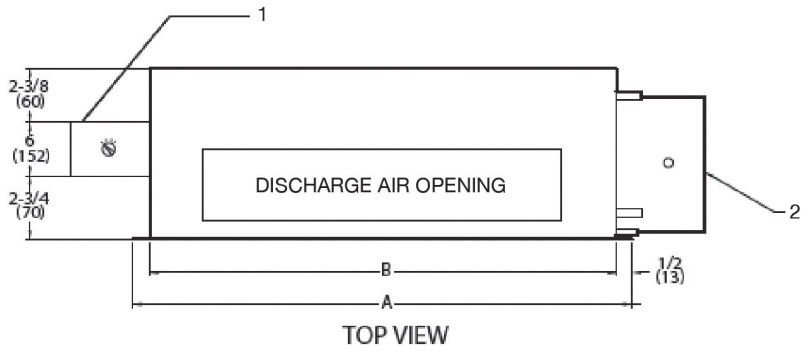
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 and 03 have one motor, one blower; sizes 04 through 08 have one motor, 2 blowers; sizes 10 and 12 have 2 motors, 4 blowers.
- 3. Standard 3-row coil shown.
- 4. Cabinet has an Arctic White baked finish.
- 5. Not shown: 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 6. For optional coil connections, view 42VA-203-1 using the Fan Coil Builder.
- 7. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)					QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	D	E	Blower	Motor		
02	200	41	22	23 ¹ / ₂	17 ¹ / ₄	3 ⁵ / ₈	1	1	0.83	92
03	300	45	26	27 ¹ / ₂	21 ¹ / ₂	3 ¹ / ₂	1	1	1.08	98
04	400	51	32	33 ¹ / ₂	26	4 ¹ / ₄	2	1	1.35	122
06	600	61	42	43 ¹ / ₂	39	2 ³ / ₄	2	1	1.88	141
08	800	63	44	45 ¹ / ₂	39	3 ³ / ₄	2	1	2.31	144
10	1000	77	58	59 ¹ / ₂	52 ¹ / ₈	4 ¹ / ₄	4	2	3.16	178
12	1200	85	66	67 ¹ / ₂	61	3 ³ / ₄	4	2	3.65	205

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 17 — 42VF Vertical Cabinet Unit with Slant Top Dimensions



LEGEND

- 1 — Optional Unit Mounted Control Box
- 2 — Drain Pan, Auxiliary, Shipped Loose
- 3 — Supply Conn, 5/8-in. OD
- 4 — Drain, 3/4-in. MPT
- 5 — Return Conn, 5/8-in. OD
- 6 — Air Vent, 1/8-in. MPT
- 7 — Discharge Opening
- 8 — Filter

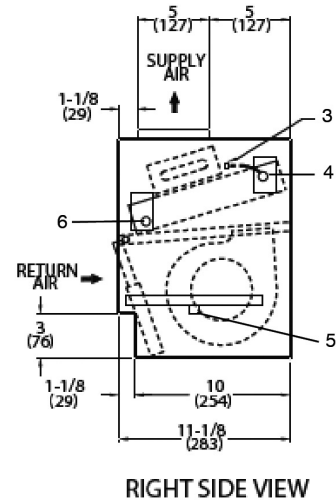
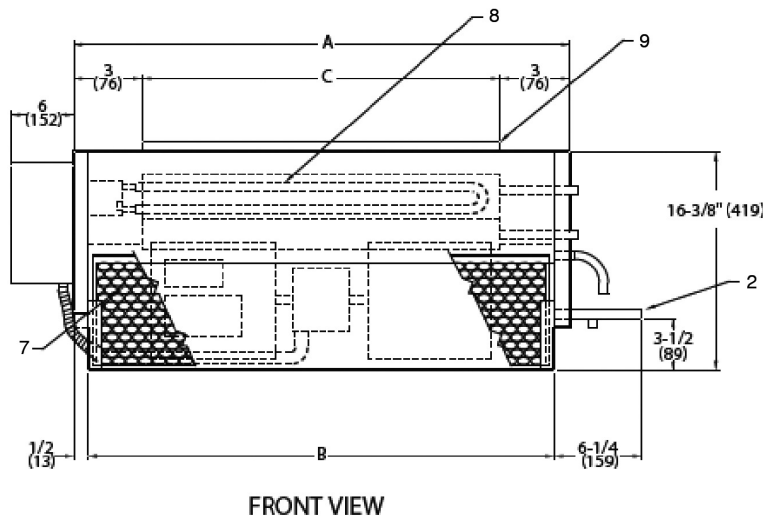
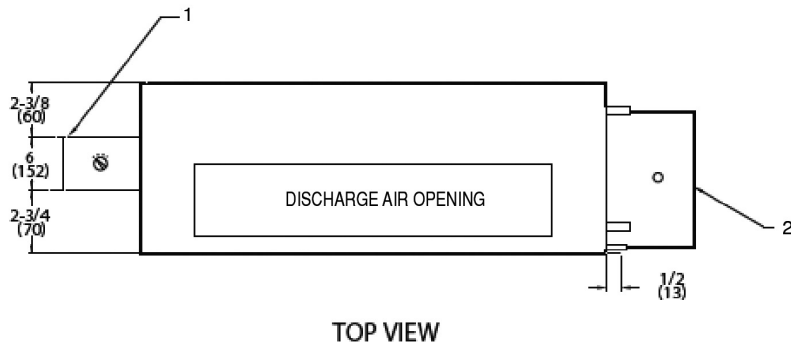
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 through 04 have one motor, 2 blowers; size 06 has 2 motors, 4 blowers.
- 3. Standard 2-row coil shown.
- 4. Optional unit-mounted switch box and controls, when specified, are installed on opposite side from cooling connections.
- 5. Height increases by 2 in. with electric heat.
- 6. Not shown: 3-speed fan switch, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 7. Units have galvanized finish.
- 8. For optional coil connections, view 42VC-203-1 using the Fan Coil Builder.
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)			QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	Blower	Motor		
02	200	23	22	17	2	1	1.18	50
03	300	28	27	22	2	1	1.53	60
04	400	36	35	30	2	1	2.08	72
06	600	50	49	44	4	2	3.06	110

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 18 — 42VC Furred-In Lowboy Unit Dimensions



LEGEND

- 1 — Unit-Mounted Control Box (Optional)
- 2 — Drain Pan, Auxiliary, Shipped Loose
- 3 — Air Vent, 1/8-in. MPT
- 4 — Supply Conn, 5/8-in. OD
- 5 — Drain, 3/4-in. MPT
- 6 — Return Conn, 5/8-in. OD
- 7 — Filter
- 8 — Electrical Sheath Heater Element
- 9 — Discharge Opening

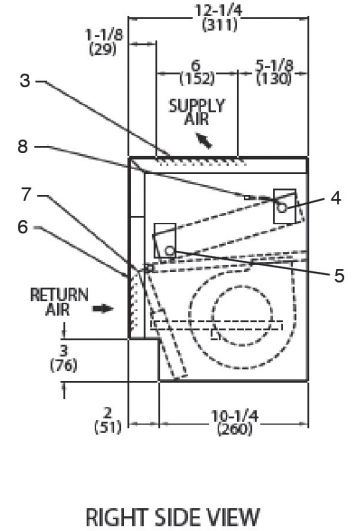
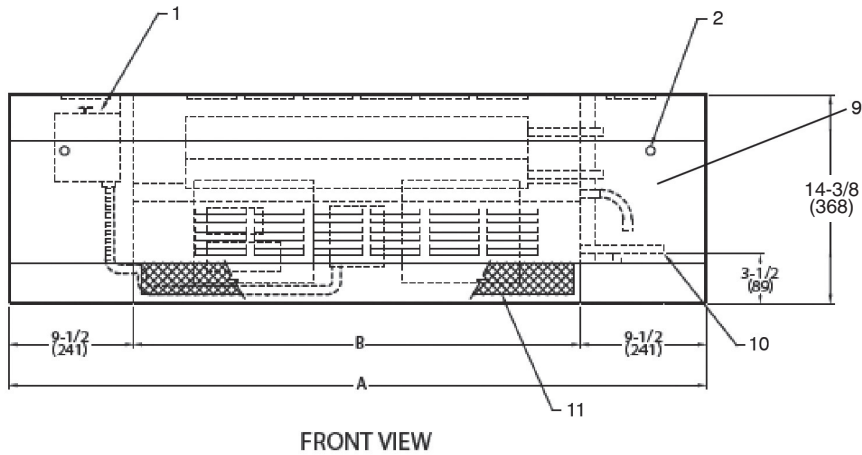
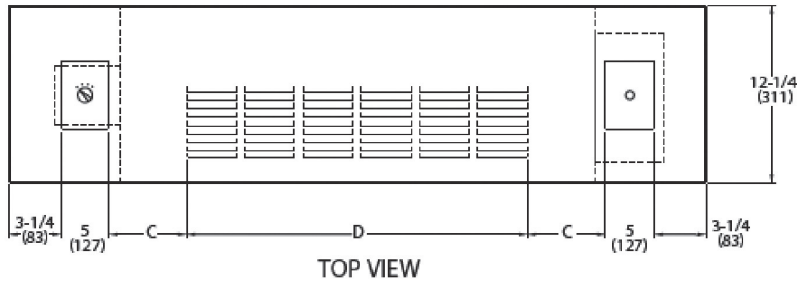
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 through 04 have one motor, 2 blowers; size 06 has 2 motors, 4 blowers.
- 3. Standard 2-row coil shown.
- 4. Optional unit-mounted switch box and controls, when specified, are installed on opposite side from cooling connections.
- 5. Height increases by 2 in. with electric heat.
- 6. Not shown: 3-speed fan switch, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 7. Units have galvanized finish.
- 8. For optional coil connections, view 42VC-203-1 using the Fan Coil Builder.
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)			QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	Blower	Motor		
02	200	23	22	17	2	1	1.18	50
03	300	28	27	22	2	1	1.53	60
04	400	36	35	30	2	1	2.08	72
06	600	50	49	44	4	2	3.06	110

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 19 — 42VC Furred-In Lowboy Unit with Electric Heat Dimensions



LEGEND

- 1 — Fan Switch, 3-Speed, behind Access Door
- 2 — Front Panel Fastener
- 3 — Stamped Supply Grille
- 4 — Supply Conn, 5/8-in. OD
- 5 — Return Conn, 5/8-in. OD
- 6 — Stamped Return Grille
- 7 — Filter
- 8 — Air Vent, 1/8-in. MPT
- 9 — Optional Valve Package (inside cabinet)
- 10 — Drain Pan, Auxiliary, with 3/4-in. MPT Drain Connection
- 11 — Return Air Grille

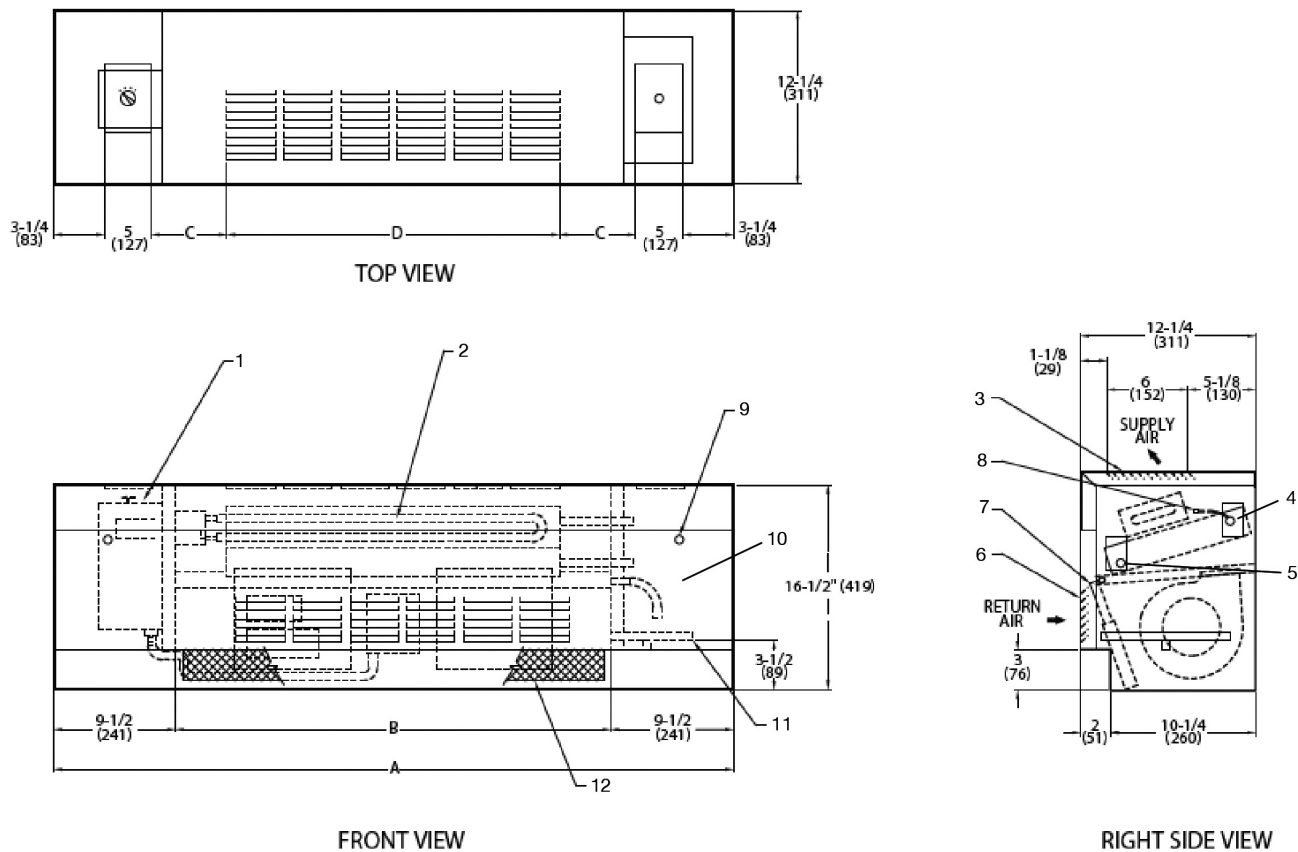
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 through 04 have one motor, 2 blowers; size 06 has 2 motors, 4 blowers.
- 3. Cabinet has an Arctic White baked finish.
- 4. Height increases by 2 in. with electric heat.
- 5. Standard 2-row coil shown.
- 6. Not shown: 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 7. For optional coil connections, view 42VC-203-1 using the Fan Coil Builder.
- 8. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)				QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	D	C	Blower	Motor		
02	200	41	22	3 ³ / ₄	17	2	1	1.18	72
03	300	46	27	4	21 ¹ / ₂	2	1	1.53	100
04	400	54	35	3 ⁵ / ₈	30 ¹ / ₄	2	1	2.08	108
06	600	68	49	4 ¹ / ₁₆	43 ³ / ₈	4	2	3.06	154

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 20 — 42VE Cabinet Lowboy Unit Dimensions



LEGEND

- 1 — Fan Switch, 3-Speed, behind Access Door
- 2 — Electrical Sheath Heater Element
- 3 — Stamped Supply Grille
- 4 — Supply Conn, 5/8-in. OD
- 5 — Return Conn, 5/8-in. OD
- 6 — Stamped Return Grille
- 7 — Filter
- 8 — Air Vent, 1/8-in. MPT
- 9 — Front Panel Fastener
- 10 — Optional Valve Package (inside cabinet)
- 11 — Drain Pan, Auxiliary, with 3/4-in. MPT Drain Connection
- 12 — Return Air Grille

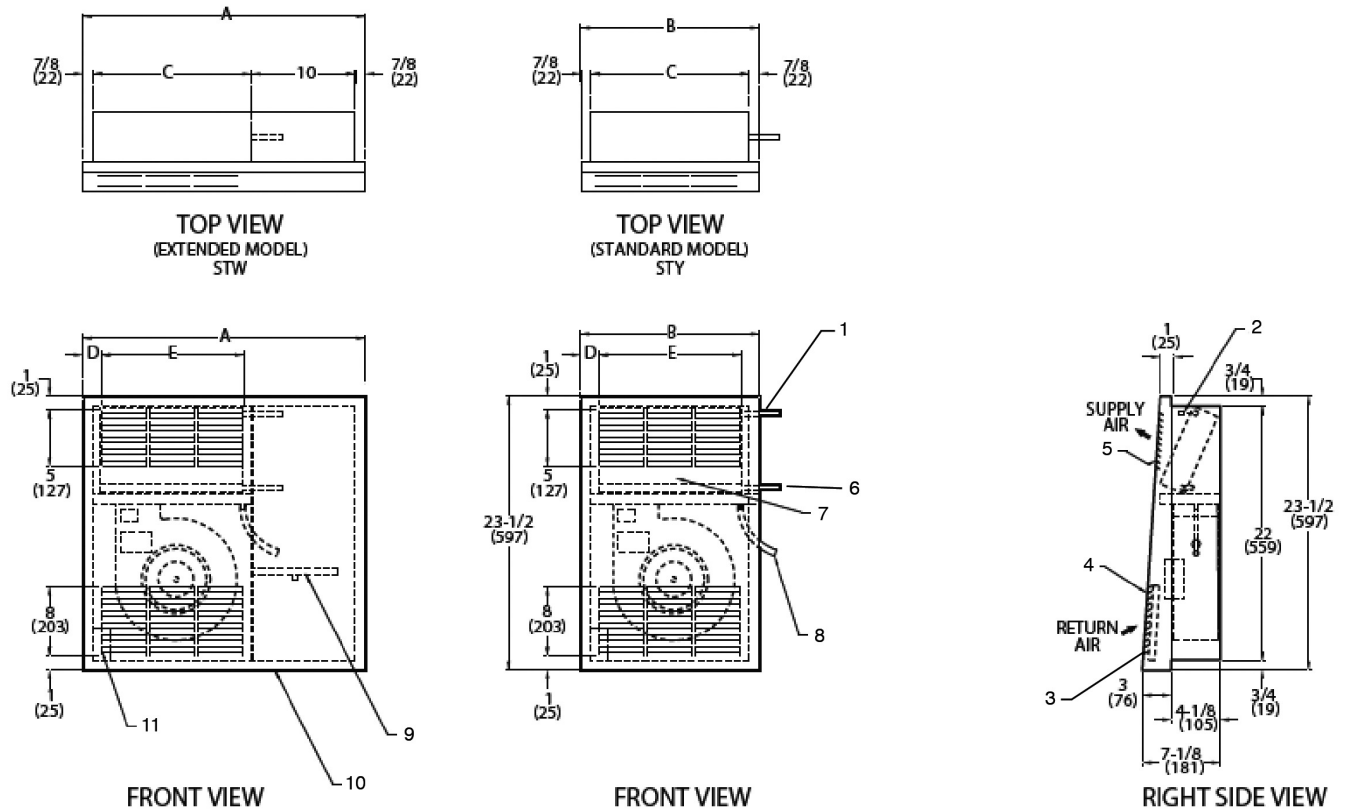
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Unit sizes 02 through 04 have one motor, 2 blowers; size 06 has 2 motors, 4 blowers.
- 3. Cabinet has an Arctic White baked finish.
- 4. Height increases by 2 in. with electric heat.
- 5. Standard 2-row coil shown.
- 6. Not shown: 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 7. For optional coil connections, view 42VC-203-1 using the Fan Coil Builder.
- 8. Valve package is factory-installed inside the cabinet when ordered with the unit (based on component size).
- 9. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)				QTY/UNIT		FACE AREA (sq ft)	UNIT WEIGHT* (lb)
		A	B	C	D	Blower	Motor		
02	200	41	22	3 ³ / ₄	17	2	1	1.18	72
03	300	46	27	4	21 ¹ / ₂	2	1	1.53	100
04	400	54	35	3 ⁵ / ₈	30 ¹ / ₄	2	1	2.08	108
06	600	68	49	4 ¹ / ₁₆	43 ³ / ₈	4	2	3.06	154

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 21 — 42VE Cabinet Lowboy Unit with Electric Heat Dimensions



LEGEND

- 1 — Supply Conn, 5/8-in. OD
- 2 — Air Vent, 1/8-in. MPT
- 3 — Filter
- 4 — Return Air Grille, Stamped
- 5 — Stamped Supply Grille
- 6 — Return Conn, 5/8-in. OD
- 7 — Removable Front Panel
- 8 — Drain Conn, 7/8-in. OD
- 9 — Auxiliary Drain Pan
- 10 — Valve Compartment
- 11 — Junction Box

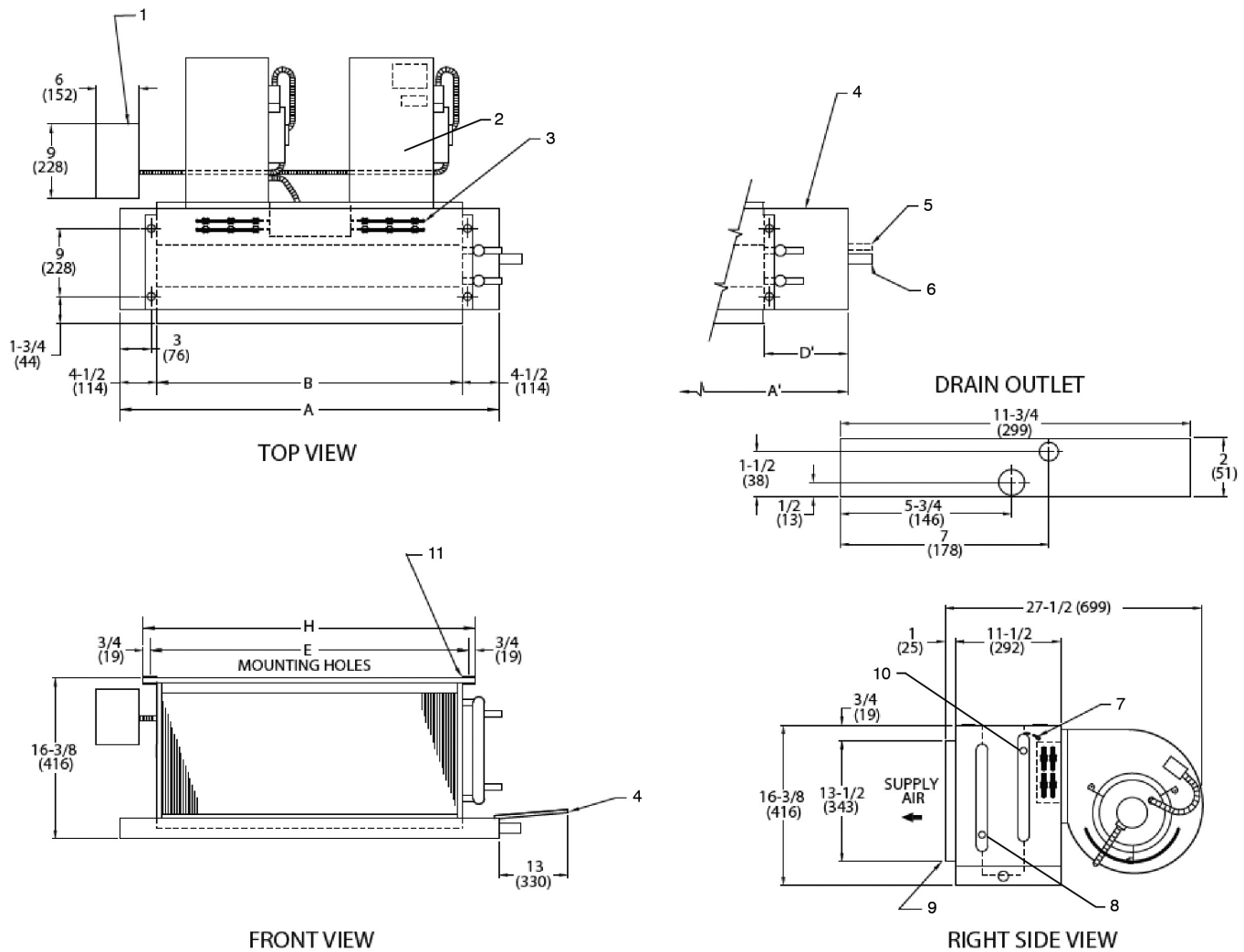
NOTES:

- 1. Right hand unit shown; left hand unit opposite. Coil connection locations are $\pm 5/8$ -in.
- 2. Front panel has an Arctic White baked finish.
- 3. Standard 2-row coil shown.
- 4. Unit size 01 has one motor, one blower; size 03 has 2 motors, 2 blowers.
- 5. Unit has 1/2-in. flanges for mounting to wall surface.
- 6. Front panel hooks at top of unit, swing down and snap in at bottom against a spring clip.
- 7. Not shown: 3-speed fan switch, wall plate, 1/2-in. fiberglass insulation on inside of casing, closed cell foam on main drain pan.
- 8. Dimensions shown in inches (mm).

UNIT SIZE	NOM AIRFLOW (Cfm)	DIMENSIONS (in.)					QTY/UNIT		UNIT WEIGHT* (lb)
		A	B	C	D	E	Blower	Motor	
01	150	25 ³ / ₄	15 ³ / ₄	14	1 ¹ / ₂	12 ³ / ₄	1	1	40
03	300	39 ³ / ₄	29 ³ / ₄	28	1 ¹⁵ / ₁₆	25 ⁷ / ₈	2	2	74

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 22 — 42VG Furred-In Wall Unit Dimensions



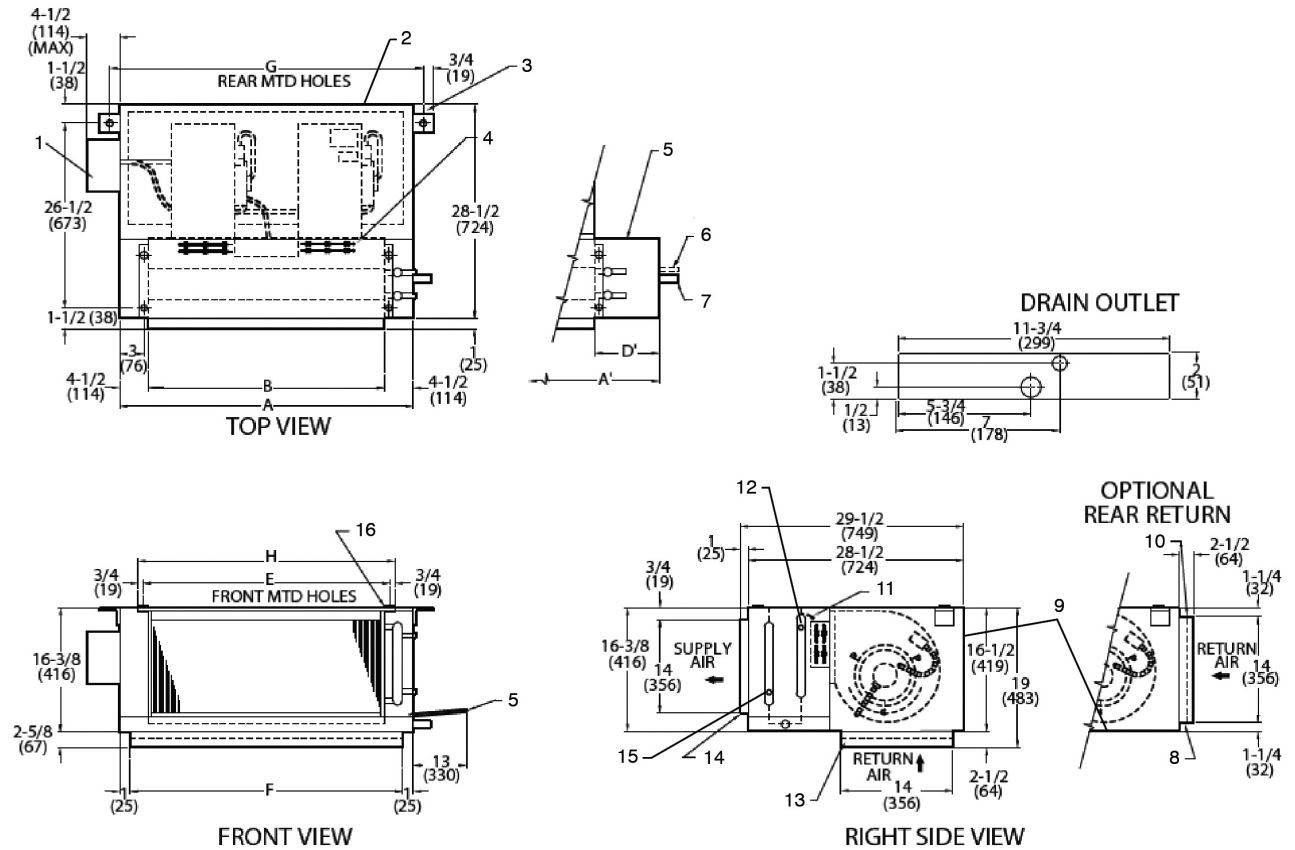
UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in. ± 1/8)						QTY/UNIT		UNIT WEIGHT* (lb)
		A	A'	B	D'	E	H	Blower	Motor	
06	600	23	32	14	13 1/2	17	18 1/2	1	1	64
08	800	28	37	19	13 1/2	22	23 1/2	1	1	79
10	1000	32	42	23	14 1/2	26	27 1/2	1	1	90
12	1200	37	47	28	14 1/2	31	32 1/2	2	2	108
14	1400	42	52	33	14 1/2	36	37 1/2	2	2	119
16	1600	47	56	38	13 1/2	41	42 1/2	2	2	124
18	1800	52	62	43	14 1/2	46	47 1/2	2	2	141
20	2000	56	66	47	14 1/2	50	51 1/2	2	2	151

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

NOTES:

1. Right hand unit shown; left hand unit opposite. Coil connection locations are ± 5/8 inches.
2. Sizes 06, 08 and 10 have one motor, one blower; sizes 12 through 20 have 2 motors, 2 blowers.
3. Standard 4-row coil shown. Other coil option dimensional data available on request.
4. For optional coil connections, view 42DA-203-1 using the Fan Coil Builder.
5. Fan switch, wall plate not shown.
6. Galvanized finish provided as standard.
7. Dimensions are in inches (mm).

Fig. 23 — 42DA Furred-In Ceiling Unit with Electric Heat Dimensions



UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in. ± 1/8)								QTY/UNIT		UNIT WEIGHT* (lb)
		A	A'	B	D'	E	F	G	H	Blower	Motor	
06	600	23	32	14	13 1/2	17	21	25 1/4	18 1/2	1	1	94
08	800	28	37	19	13 1/2	22	26	30 1/4	23 1/2	1	1	107
10	1000	32	42	23	14 1/2	26	30	34 1/4	27 1/2	1	1	150
12	1200	37	47	28	14 1/2	31	35	39 1/4	32 1/2	2	2	169
14	1400	42	52	33	14 1/2	36	40	44 1/4	37 1/2	2	2	174
16	1600	47	56	38	13 1/2	41	45	49 1/4	42 1/2	2	2	178
18	1800	52	62	43	14 1/2	46	50	54 1/4	47 1/2	2	2	195
20	2000	56	66	47	14 1/2	50	54	58 1/4	51 1/2	2	2	220

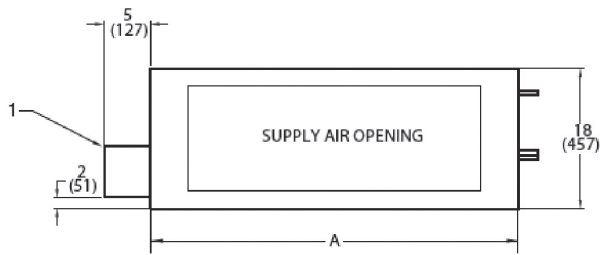
- LEGEND
- 1 — Motor Junction Box Opposite Piping
 - 2 — Insulated Return Air Plenum
 - 3 — Mounting Clips (Shipped Loose)
 - 4 — Electrical Strip Heater Element (optional)
 - 5 — Auxiliary Drip Lip (Shipped Loose) with 3/8-in. Hole
 - 6 — Tell-Tale Drain (optional)
 - 7 — Drain Connection, 7/8-in. OD
 - 8 — Filter Retainer Angle
 - 9 — Access Panel
 - 10 — Return Duct Collar, 2 1/2 inches
 - 11 — Air Vent, 1/8-in. MPT
 - 12 — Return Connection
 - 13 — Filter, 1-in.
 - 14 — Supply Duct Collar, 1 inch
 - 15 — Supply Connection
 - 16 — Mounting Holes (four, 3/4-in. diameter) with Rubber Grommet

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

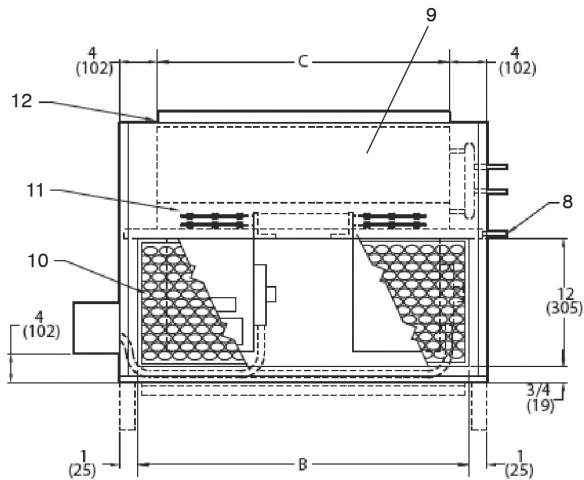
NOTES:

1. Right hand unit shown; left hand unit opposite. Coil connection locations are ± 5/8 inches.
2. Sizes 06, 08 and 10 have one motor, one blower. Sizes 12 through 20 have 2 motors, 2 blowers.
3. Filter and filter rack are standard.
4. Standard 4-row coil shown. Other coil option dimensional data available on request.
5. For optional coil connections, view 42DA-203-1 using the Fan Coil Builder.
6. Fan switch, wall plate not shown.
7. Galvanized finish provided as standard.
8. Dimensions are in inches (mm).

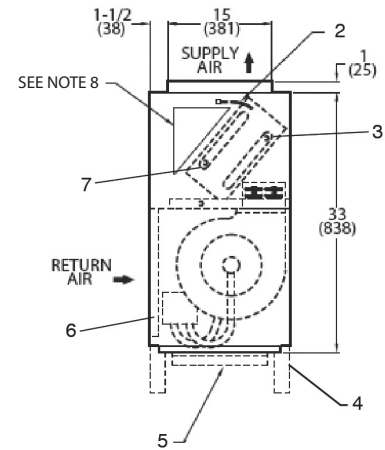
Fig. 24 — 42DC Furred-In Ceiling Unit with Plenum and Electric Heat Dimensions



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in. \pm 1/8)			QTY/UNIT		UNIT WEIGHT* (lb)
		A	B	C	Blower	Motor	
06	600	23	21	15	1	1	135
08	800	28	26	20	1	1	145
10	1000	32	30	24	1	1	155
12	1200	37	35	29	2	2	180
14	1400	42	40	34	2	2	190
16	1600	47	45	39	2	2	200
18	1800	52	50	44	2	2	215
20	2000	56	54	48	2	2	230

LEGEND

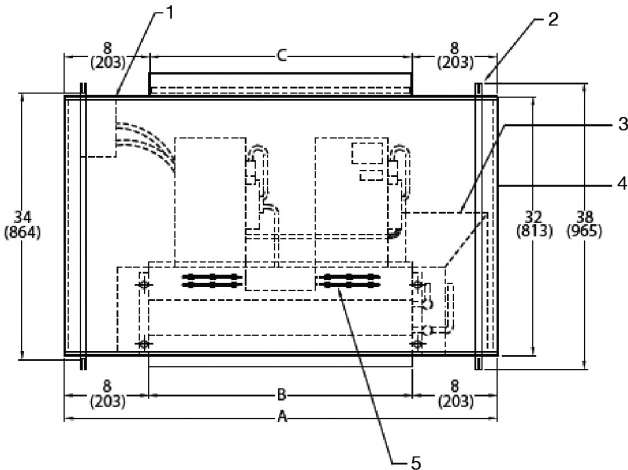
- 1 — Motor Junction Box
- 2 — Air Vent, 1/8-in. MPT
- 3 — Return Connection
- 4 — Optional 6-in. Legs
- 5 — Bottom Return (optional)
- 6 — Return Air Opening
- 7 — Supply Connection
- 8 — Drain Connection, 7/8-in. OD
- 9 — Front Access Panel
- 10 — Filter, Throwaway
- 11 — Electric Strip Heater Element (optional)
- 12 — Supply Duct Connection, 1-in.

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

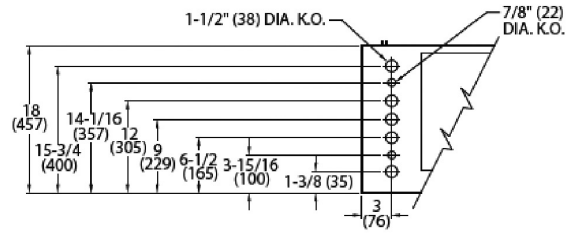
NOTES:

1. Right hand unit shown; left hand unit opposite. Coil connection locations are \pm 5/8 inches.
2. Standard 4-row coil shown. Other coil option dimensional data available on request.
3. Sizes 06, 08 and 10 have one motor, one blower. Sizes 12 through 20 have 2 motors, 2 blowers.
4. Supply and return connections terminate within unit when valves are factory installed.
5. For optional coil connections, view 42DD-203-1 using the Fan Coil Builder.
6. Fan switch and wall plate are not shown.
7. Galvanized finish provided as standard.
8. Units with internal factory valve packages have external connections located in triangular section above coil.
9. Consult Carrier for ducted front return air and external filter rack with 1-in. duct collar and throwaway filters.
10. Units with electric heat require additional access on the side of unit for servicing contactor box.
11. With bottom return, access to filter is through the front access panel.
12. Dimensions are in inches (mm).

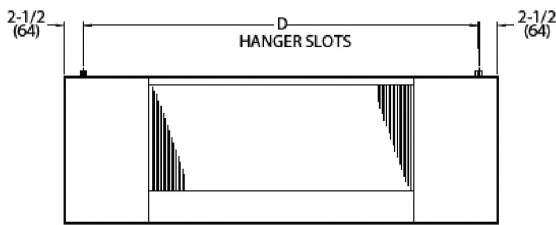
Fig. 25 — 42DD Vertical Unit with Full Casing and Electric Heat Dimensions



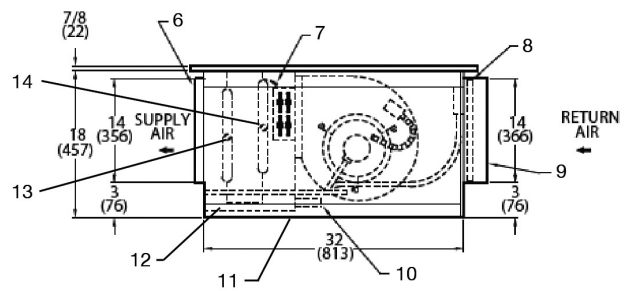
TOP VIEW



PARTIAL REAR VIEW (TYP. BOTH SIDES)



FRONT VIEW



RIGHT SIDE VIEW

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in. ± 1/8)				QTY/UNIT		UNIT WEIGHT* (lb)
		A	B	C	D	Blower	Motor	
06	600	31	15	15	26	1	1	150
08	800	36	20	20	31	1	1	160
10	1000	40	24	24	35	1	1	170
12	1200	45	29	29	40	2	2	195
14	1400	50	34	34	45	2	2	205
16	1600	55	39	39	50	2	2	215
18	1800	60	44	44	55	2	2	230
20	2000	64	48	48	59	2	2	235

LEGEND

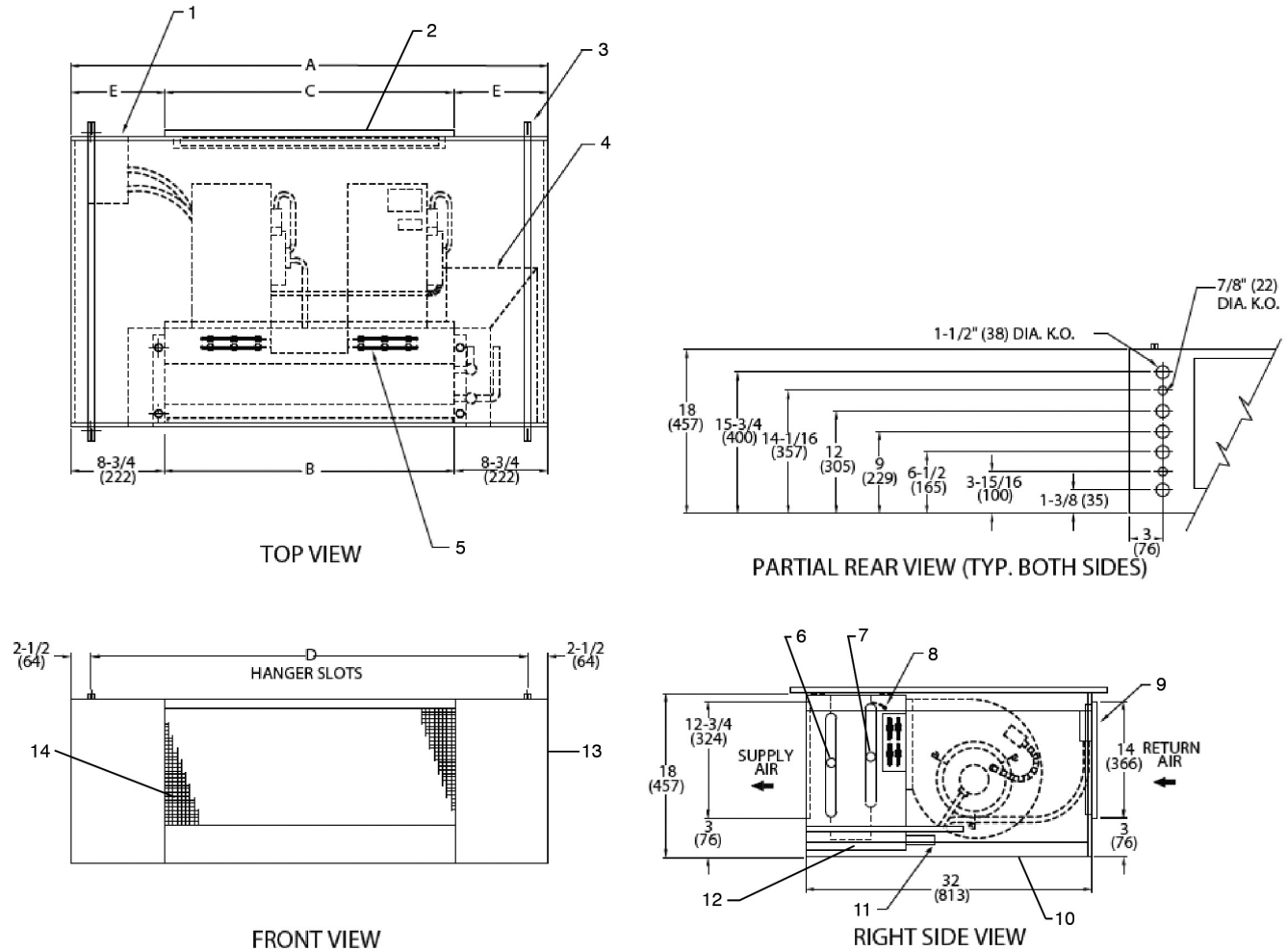
- 1 — Motor Junction Box
- 2 — Unit Mounting Channel (2), 14-gage; 4 Mounting Slots, 1/2-in. x 2-in.
- 3 — Auxiliary Drip Lip (optional, shipped loose)
- 4 — Side Access Panels
- 5 — Electrical Strip Heater Element (optional)
- 6 — Supply Air Duct Connection, 1 in.
- 7 — Manual Air Vent
- 8 — Filter, Throwaway, 1-in.
- 9 — Return Air Duct Connection, 2 1/2 in.
- 10 — Drain, 7/8-in. OD
- 11 — Bottom Access Panel
- 12 — Drain Pan
- 13 — Coil Inlet, Copper Sweat Connection
- 14 — Coil Outlet, Copper Sweat Connection

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

NOTES:

1. Right hand unit shown; left hand unit opposite.
2. Coil stub-out location data available on request.
3. Unit fabricated of galvanized steel.
4. Internal parts fabricated of galvanized steel.
5. Sizes 06, 08 and 10 have one motor, one blower. Sizes 12 through 20 have 2 motors, 2 blowers.
6. Units must have drain line pitched and trapped externally.
7. For optional coil connections, view 42DA-203-1 using the Fan Coil Builder.
8. Fan switch, wall plate not shown.
9. Galvanized finished provided as standard.
10. Dimensions are in inches (mm).

Fig. 26 — 42DE Ceiling Unit with Full Casing and Electric Heat Dimensions



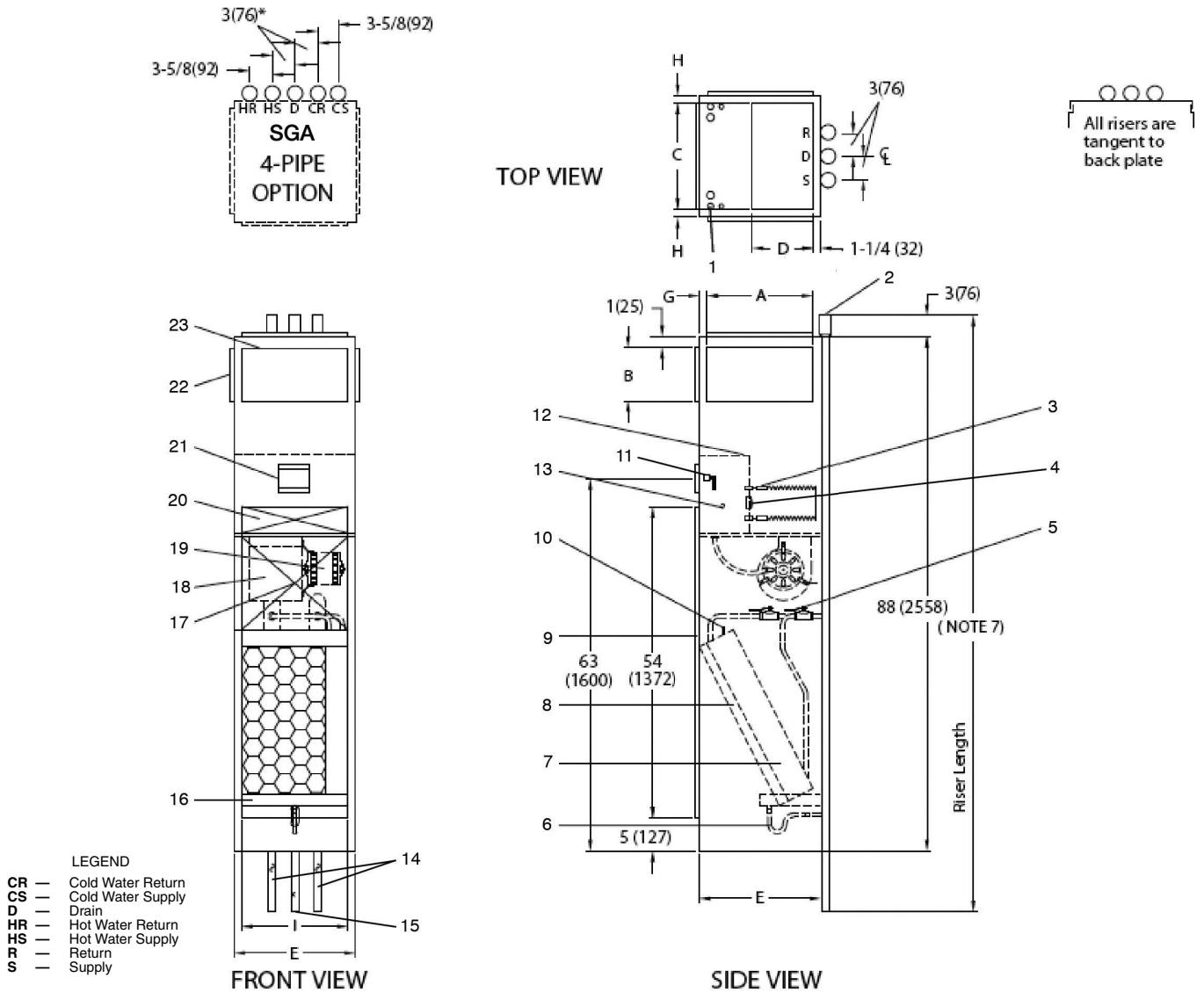
UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in. ± 1/8)					QTY/UNIT		UNIT WEIGHT* (lb)
		A	B	C	D	E	Blower	Motor	
06	600	31	13 1/2	14	26	8 1/2	1	1	150
08	800	36	18 1/2	20	31	8	1	1	160
10	1000	40	22 1/2	24	35	8	1	1	170
12	1200	45	27 1/2	28	40	8 1/2	2	2	195
14	1400	50	32 1/2	34	45	8	2	2	205
16	1600	55	37 1/2	38	50	8 1/2	2	2	215
18	1800	60	42 1/2	44	55	8	2	2	230
20	2000	64	46 1/2	48	59	8	2	2	235

- LEGEND
- 1 — Junction Box
 - 2 — Return Air Grille, Hinged, Bar Type, with Filter Frame (Anodized Aluminum Only)
 - 3 — Unit Mounting Channel (2), 14-gage; 4 Mounting Slots, 1/2 in. x 2-in.
 - 4 — Auxiliary Drip Lip
 - 5 — Electric Strip Heater Element (optional)
 - 6 — Coil Inlet, Copper Sweat Connection
 - 7 — Coil Outlet, Copper Sweat Connection
 - 8 — Manual Air Vent
 - 9 — Filter, Throwaway
 - 10 — Bottom Access Panel
 - 11 — Drain, 7/8-in. OD
 - 12 — Drain Pan Insulated with Styrofoam
 - 13 — Side Access Panel (2)
 - 14 — Supply Air Grille (Double Deflection)

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

- NOTES:
1. Right hand unit shown; left hand unit opposite.
 2. Coil stub-out connection data available on request.
 3. Units fabricated of galvanized steel with an Arctic White baked finish.
 4. Internal parts fabricated of galvanized steel.
 5. Sizes 06, 08 and 10 have one motor, one blower. Sizes 12 through 20 have 2 motors, 2 blowers.
 6. Units must have drain line pitched and trapped externally.
 7. Stamped supply and return grilles are not available.
 8. Bottom return air is not available.
 9. For optional coil connections, view 42DA-203-1 using the Fan Coil Builder.
 10. Fan switch and wall plate are not shown.
 11. Dimensions are in inches (mm).

Fig. 27 — 42DF Exposed Ceiling Unit with Supply and Return Grille and Electric Heat Dimensions



LEGEND
 CR — Cold Water Return
 CS — Cold Water Supply
 D — Drain
 HR — Hot Water Return
 HS — Hot Water Supply
 R — Return
 S — Supply

ITEM	DESCRIPTION	QTY
1	Electrical Knockouts	1
2	3-in. Expanded Section	3/5
3	Strip Heater (Optional)	1
4	Limit Switch**†† (Optional)	1
5	1/2-in. Isolation Ball Valves**	2/4
6	Flexible Drain Tube/P-Trap	1
7	Coil 1/2-in. OD Copper Tube	1
8	Filter, Throwaway, 1-in.**	1
9	Return Air Opening	1
10	Air Vent, Manual	1
11	Molex Connector for Field-Installed Stat	1
12	Control Box	1
13	Knockout (For Optional Remote Mounting)	2
14	Riser, Supply and Return (Copper)	2/4
15	Riser, Drain (Copper)	1
16	Drain Pan	1
17	Return Air Blockoff Panel (Optional)	1
18	Blower	1
19	Motor, 3-Speed, PSC, with Quick Connect	1
20	Access Panel (Control Box)	1
21	Control Opening (Surface Mount Stat)	1
22	Duct Collar, 1/2-in. Extension (Typical)	1/2/3
23	Supply Air Opening(s)	1/2/3

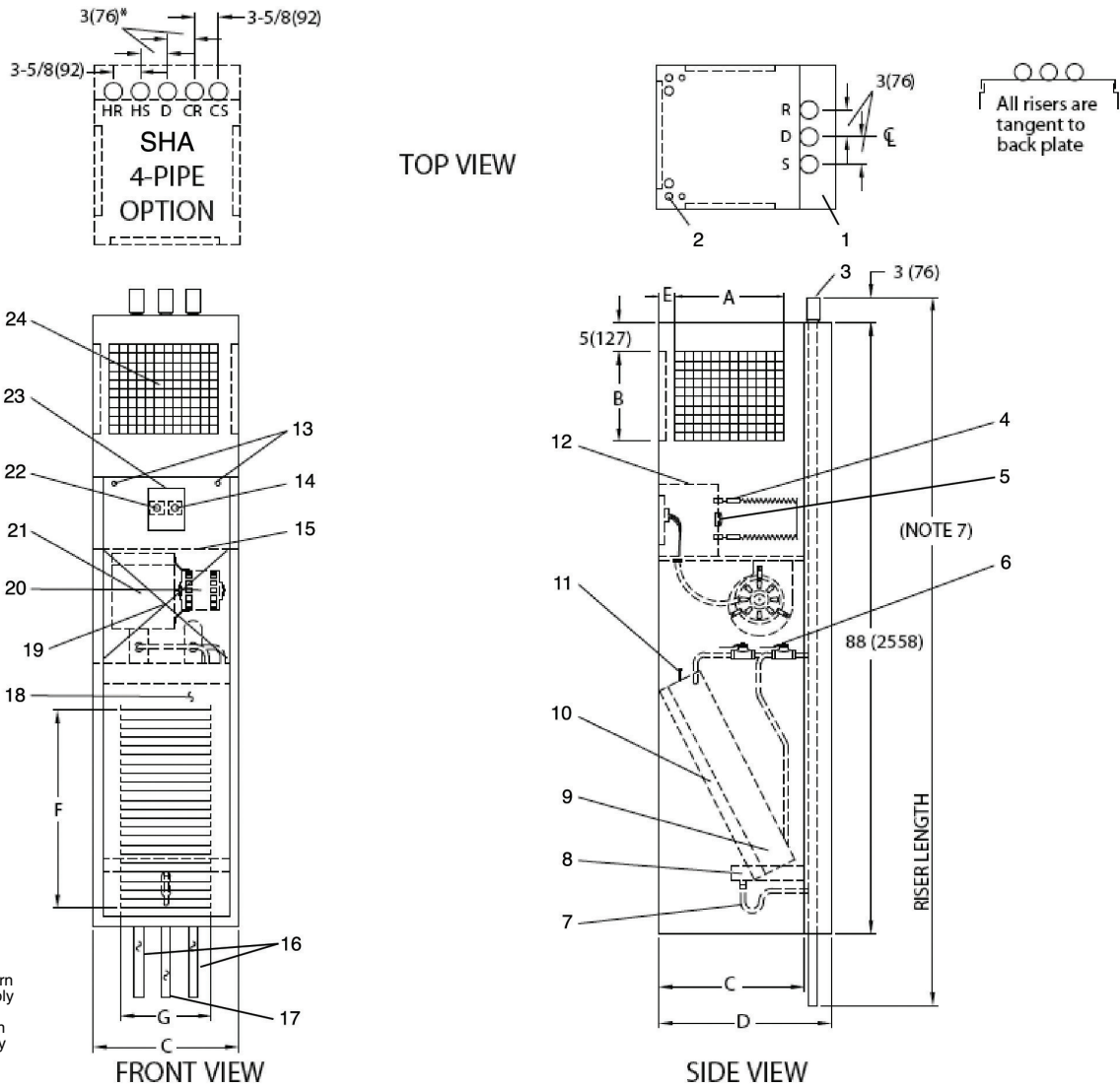
**Factory-Installed.
 ††Field-Installed.

*Drawing provided for reference only. Dimensions may vary with options ordered.
NOTES:
 1. Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
 2. All risers are insulated with 1/2-in. closed cell insulation.
 3. Thermostats shipped loose for field connection.
 4. Risers are piped to coil with valves as specified.
 5. Blower, motor, valves, coil, and filter are accessible through the return air opening.
 6. Unit and control box are insulated with 1/2-in. coated fiberglass insulation.
 7. Riser length = [(floor to floor) + 2 in.], maximum riser length = 115 inches.
 8. Maximum riser size is 2 1/2-in. diameter. If larger sizes are required, please consult the factory.
 9. Expansion loops in hot water heating circuits as required.
 10. A 9-in. x 2 1/4-in. slot is provided in the inside back panel for coil connection penetration to permit expansion and contraction of risers. Care must be taken to position the risers so that coil connection is at center of slot.
 11. Drawing is pictorial (see unit arrangements for actual supply and return air orientation).
 12. All dimensions are in inches.

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in.)								UNIT WEIGHT† (lb)		
		Single Supply		Double Supply		Top Supply		E	G		H	I
		A	B	A	B	C	D					
03	300	14	8	14	6	14	10	17	1 1/2	1 1/2	14	180
04	400	14	12	14	6	14	10	17	1 1/2	1 1/2	14	225
06	600	18	10	18	6	16	12	20	1	2	18	240
08	800	18	12	18	6	16	12	20	1	2	18	260
10	1000	—	—	22	8	18	16	24	1	3	22	280
12	1200	—	—	22	8	18	16	24	1	3	22	305

†Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 28 — 42SG Furred-In Stack Dimensions



- LEGEND**
- CR — Cold Water Return
 - CS — Cold Water Supply
 - D — Drain
 - HR — Hot Water Return
 - HS — Hot Water Supply
 - R — Return
 - S — Supply

ITEM	DESCRIPTION	QTY
1	Full Riser Chase	1
2	Electrical Knockouts	1
3	3-in. Expansion Section	3/5
4	Strip Heater (Optional)	1
5	Limit Switch**†† (Optional)	1
6	1/2-in. Isolation Ball Valves**	2/4
7	Flexible Drain Tube/P-Trap	1
8	Drain Pan	1
9	Coil 1/2-in. OD Tube	1
10	Filter, Throwaway, 1-in.**	1
11	Air Vent, Manual	1
12	Control Box	1
13	Cabinet Camloc® Fasteners	2
14	3-Speed Switch	1
15	Electrical Access Panel	1
16	Riser, Supply and Return (Copper)	2/4
17	Riser, Drain (Copper)	1
18	Return Air Panel	1
19	Return Air Blockoff Panel (Optional)	1
20	Motor, 3-Speed, PSC	1
21	Blower	1
22	Thermostat	1
23	Hinged Control Access Door	1
24	Double Deflection Steel Core Grille Assembly	1

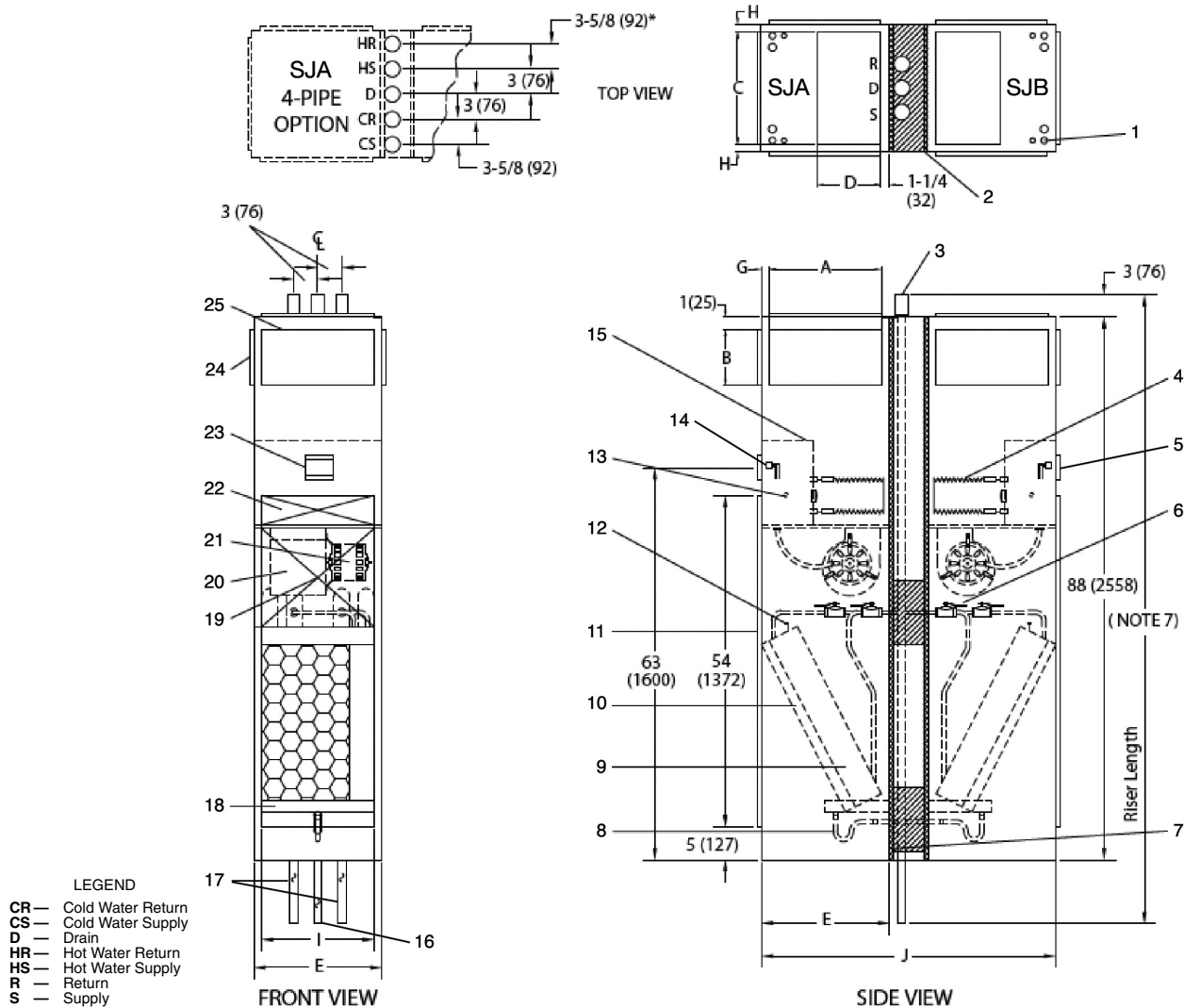
- *Drawing provided for reference only. Dimensions may vary with options ordered.
- NOTES:**
1. Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck, painted with Arctic White.
 2. 3-speed switch and thermostat are unit mounted.
 3. Risers are piped to coil with valves as specified.
 4. Blower, motor, valves, coil, and filter are accessible through the return air opening.
 5. Unit is insulated with coated fiberglass.
 6. Control box is insulated with 1/2-in. insulation for unit mounted controls.
 7. Riser length = [(floor to floor) + 2 in.], maximum riser length = 115 inches.
 8. Maximum riser size is 2 1/2-in. diameter. If larger sizes are required, please consult the factory.
 9. Expansion loops in hot water heating circuits as required.
 10. A 9-in. x 2 1/4-in. slot is provided in the inside back panel for coil connection penetration to permit expansion and contraction of risers. Care must be taken to position the risers so that coil connection is at center of slot.
 11. Drawing is pictorial (see unit arrangements for actual supply and return air orientation).
 12. 42SHA available in front return only.
 13. All dimensions are in inches.

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in.)								UNIT WEIGHT† (lb)	
		Single Supply		Double Supply		C	D	E	F		G
		A	B	A	B						
03	300	14	8	14	6	17	22 3/8	1 1/2	22 1/8	14 3/4	202
04	400	14	12	14	8	17	22 3/8	1 1/2	22 1/8	14 3/4	247
06	600	14	12	14	8	20	25 3/8	2	26 5/8	17 3/4	262
08	800	14	16	14	10	20	25 3/8	2	26 5/8	17 3/4	286
10	1000	18	16	14	12	24	29 3/8	3	31 1/8	17 3/4	311
12	1200	18	16	14	12	24	29 3/8	3	31 1/8	17 3/4	336

†Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

**Factory-Installed.
††Field-Installed.

Fig. 29 — 42SH Cabinet Dimensions



ITEM	DESCRIPTION	QTY
1	Electrical Knockouts	2
2	Gypsum Board, 5/8-in. Type "X"	1
3	3-in. Expanded Section	3/5
4	Strip Heater** (Optional)	2
5	Limit Switch**†† (Optional)	2
6	1/2-in. Isolation Ball Valves**	4/8
7	Thermafiber Insulation	2
8	Flexible Drain Tube/P-Trap	2
9	Coil 1/2-in. OD Copper Tube	2
10	Filter, Throwaway, 1-in.**	2
11	Return Air Opening	2
12	Air Vent, Manual	2
13	Knockout (For Optional Remote Mounting)	2
14	Molex Connector for Field Installed Stat	2
15	Control Box	2
16	Riser, Drain (Copper)	1
17	Riser, Supply and Return (Copper)	2/4
18	Drain Pan	2
19	Return Air Blockoff Panel (Optional)	1
20	Blower	2
21	Motor, 3-Speed, PSC, with Quick Connect	2
22	Access Panel (Control Box)	2
23	Control Opening (Surface Mount Stat)	2
24	Duct Collar, 1/2-in. Extension (Typical)	1/2/3
25	Supply Air Opening(s)	1/2/3

*Drawing provided for reference only. Dimensions may vary with options ordered.

NOTES:

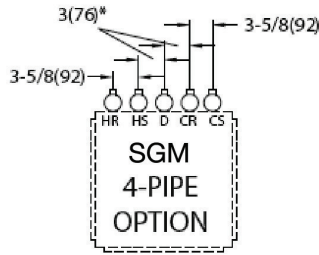
- Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
- All risers are insulated with 1/2-in. closed cell insulation.
- Thermostats shipped loose for field connection.
- Risers are piped to coil with valves as specified.
- Blower, motor, valves, coil, and filter are accessible through the return air opening.
- Unit and control box are insulated with 1/2-in. coated fiberglass insulation.
- Riser length = (floor to floor) + 2 in., maximum riser length = 115 inches.
- Maximum riser size is 2 1/2-in. diameter. If larger sizes are required, please consult the factory.
- Expansion loops in hot water heating circuits as required.
- A 9-in. x 2 1/4-in. slot is provided in the inside back panel for coil connection penetration to permit expansion and contraction of risers. Care must be taken to position the risers so that coil connection is at center of slot.
- Drawing is pictorial (see unit arrangements for actual supply and return air orientation).
- All dimensions are in inches.

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in.)										UNIT WEIGHT† (lb)	
		Single Supply		Double Supply		Top Supply		E	G	H	I		J
		A	B	A	B	C	D						
03	300	14	8	14	6	14	10	17	1 1/2	1 1/2	14	40 1/4	360
04	400	14	12	14	6	14	10	17	1 1/2	1 1/2	14	40 1/4	450
06	600	18	10	18	6	16	12	20	1	2	18	46 1/4	480
08	800	18	12	18	6	16	12	20	1	2	18	46 1/4	520
10	1000	—	—	22	8	18	16	24	1	3	22	54 1/4	560
12	1200	—	—	22	8	18	16	24	1	3	22	54 1/4	610

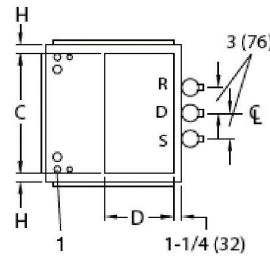
†Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

**Factory-Installed.
††Field-Installed.

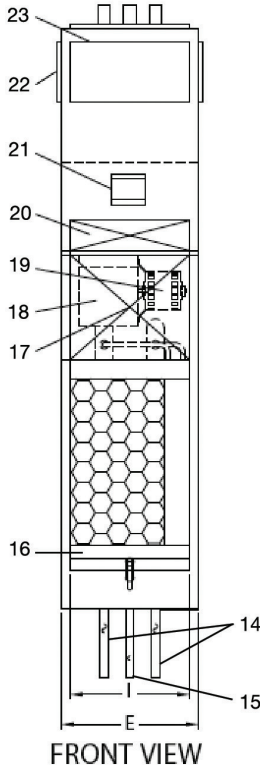
Fig. 30 — 42SJ Back-to-Back Furred-In Stack Dimensions



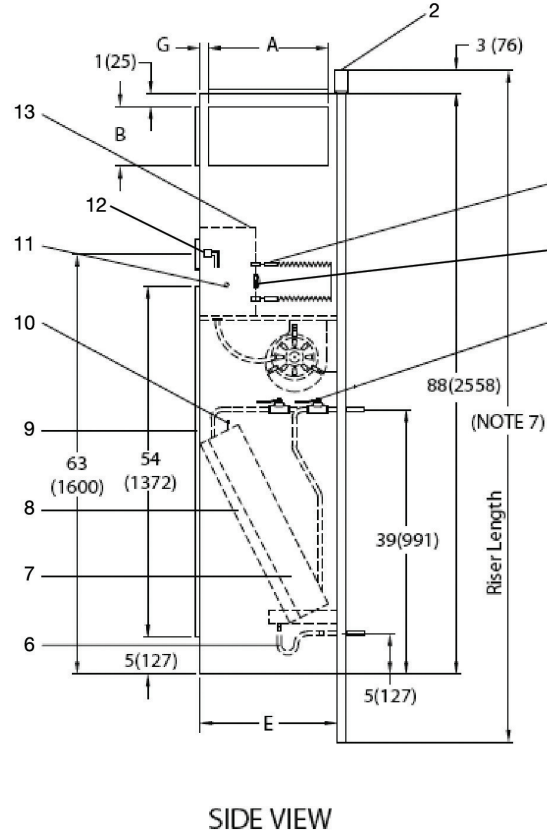
TOP VIEW



All risers are tangent to back plate



LEGEND
 CR — Cold Water Return
 CS — Cold Water Supply
 D — Drain
 HR — Hot Water Return
 HS — Hot Water Supply
 R — Return
 S — Supply



SIDE VIEW

ITEM	DESCRIPTION	QTY
1	Electrical Knockouts	1
2	3-in. Expanded Section	3/5
3	Strip Heater** (Optional)	1
4	Limit Switch**†† (Optional)	1
5	1/2-in. Isolation Ball Valves**	2/4
6	Flexible Drain Tube/P-Trap	1
7	Coil 1/2-in. OD Copper Tube	1
8	Filter, Throwaway, 1-in.**	1
9	Return Air Opening	1
10	Air Vent, Manual	1
11	Knockout (For Optional Remote Mounting)	2
12	Molex Connector for Field-Installed Thermostat	1
13	Control Box	1
14	Riser, Supply and Return (Copper)	2/4
15	Riser, Drain (Copper)	1
16	Drain Pan	1
17	Return Air Blockoff Panel (Optional)	1
18	Blower	1
19	Motor, 3-Speed, PSC, with Quick Connect	1
20	Access Panel (Control Box)	1
21	Control Opening (Surface Mount Thermostat)	1
22	Duct Collar, 1/2-in. Extension (Typical)	1/2/3
23	Supply Air Opening(s)	1/2/3

*Drawing provided for reference only. Dimensions may vary with options ordered.

NOTES:

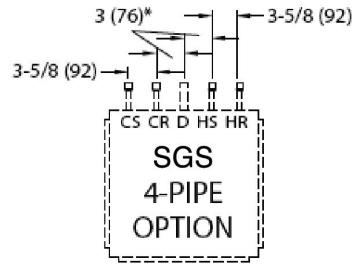
- Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
- All risers are insulated with 1/2-in. closed cell insulation.
- Thermostats shipped loose for field connection.
- Risers are piped to coil with valves as specified.
- Blower, motor, valves, coil, and filter are accessible through the return air opening.
- Unit and control box are insulated with 1/2-in. coated fiberglass insulation.
- Riser length = [(floor to floor) + 2 in.], maximum riser length = 115 inches.
- Maximum riser size is 2 1/2-in. diameter. If larger sizes are required, please consult the factory.
- Expansion loops in hot water heating circuits as required.
- A 9-in. x 2 1/4-in. slot is provided in the inside back panel for coil connection penetration to permit expansion and contraction of risers. Care must be taken to position the risers so that coil connection is at center of slot.
- Drawing is pictorial (see unit arrangements for actual supply and return air orientation).
- All dimensions are in inches.

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in.)								UNIT WEIGHT† (lb)		
		Single Supply		Double Supply		Top Supply		E	G		H	I
		A	B	A	B	C	D					
03	300	14	8	14	6	14	10	17	1 1/2	1 1/2	14	180
04	400	14	12	14	6	14	10	17	1 1/2	1 1/2	14	225
06	600	18	10	18	6	16	12	20	1	2	18	240
08	800	18	12	18	6	16	12	20	1	2	18	260
10	1000	—	—	22	8	18	16	24	1	3	22	280
12	1200	—	—	22	8	18	16	24	1	3	22	305

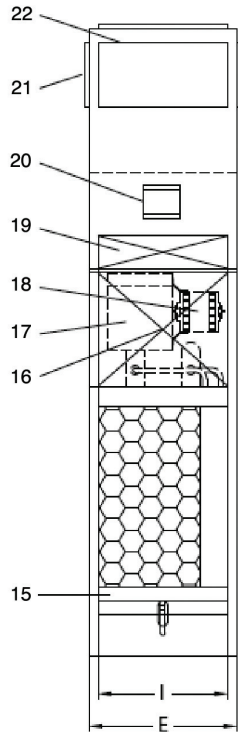
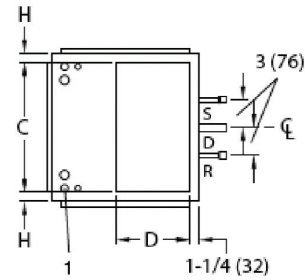
†Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

**Factory-Installed.
 ††Field-Installed.

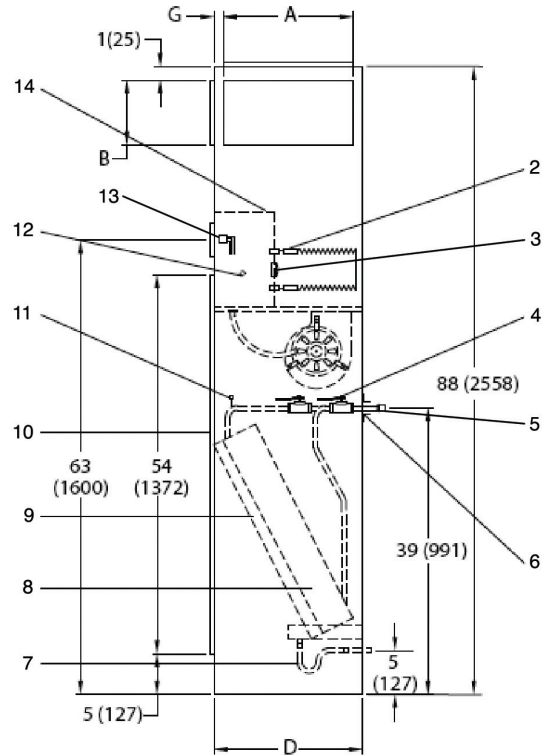
Fig. 31 — 42SGM Furred-In Master Stack Dimensions



TOP VIEW



FRONT VIEW



SIDE VIEW

- LEGEND**
- CR — Cold Water Return
 - CS — Cold Water Supply
 - D — Drain
 - HR — Hot Water Return
 - HS — Hot Water Supply
 - R — Return
 - S — Supply

ITEM	DESCRIPTION	QTY
1	Electrical Knockouts	1
2	Strip Heater** (Optional)	1
3	Limit Switch***†† (Optional)	1
4	1/2-in. Isolation Ball Valves**	2/4
5	Coil Stub Outs	2/4
6	Shipping Brace	2/4
7	Flexible Drain Tube/P-Trap	1
8	Coil 1/2-in. OD Copper Tube	1
9	Filter, Throwaway, 1-in.**	1
10	Return Air Opening	1
11	Air Vent, Manual	1
12	Knockout (For Optional Remote Mounting)	2
13	Molex Connector for Field-Installed Stat	1
14	Control Box	1
15	Drain Pan	1
16	Return Air Blockoff Panel (Optional)	1
17	Blower	1
18	Motor, 3-Speed, PSC, with Quick Connect	1
19	Access Panel (Control Box)	1
20	Control Opening (Surface Mount Thermostat)	1
21	Duct Collar, 1/2-in. Extension (Typical)	1/2/3
22	Supply Air Opening(s)	1/2/3

*Drawing provided for reference only. Dimensions may vary with options ordered.

NOTES:

1. Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
2. All risers are insulated with 1/2-in. closed cell insulation.
3. Thermostats shipped loose for field connection.
4. Risers are piped to coil with valves as specified.
5. Blower, motor, valves, coil, and filter are accessible through the return air opening.
6. Unit and control box are insulated with 1/2-in. coated fiberglass insulation.
7. Riser length = [(floor to floor) + 2 in.], maximum riser length = 115 inches.
8. Maximum riser size is 2 1/2-in. diameter. If larger sizes are required, please consult the factory.
9. Expansion loops in hot water heating circuits as required.
10. A 9-in. x 2 1/4-in. slot is provided in the inside back panel for coil connection penetration to permit expansion and contraction of risers. Care must be taken to position the risers so that coil connection is at center of slot.
11. Drawing is pictorial (see unit arrangements for actual supply and return air orientation).
12. All dimensions are in inches.

UNIT SIZE	NOM AIRFLOW (cfm)	DIMENSIONS (in.)										UNIT WEIGHT† (lb)
		Single Supply		Double Supply		Top Supply		E	G	H	I	
		A	B	A	B	C	D					
03	300	14	8	14	6	14	10	17	1 1/2	1 1/2	14	162
04	400	14	12	14	6	14	10	17	1 1/2	1 1/2	14	203
06	600	18	10	18	6	16	12	20	1	2	18	216
08	800	18	12	18	6	16	12	20	1	2	18	234
10	1000	—	—	22	8	18	16	24	1	3	22	252
12	1200	—	—	22	8	18	16	24	1	3	22	275

†Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

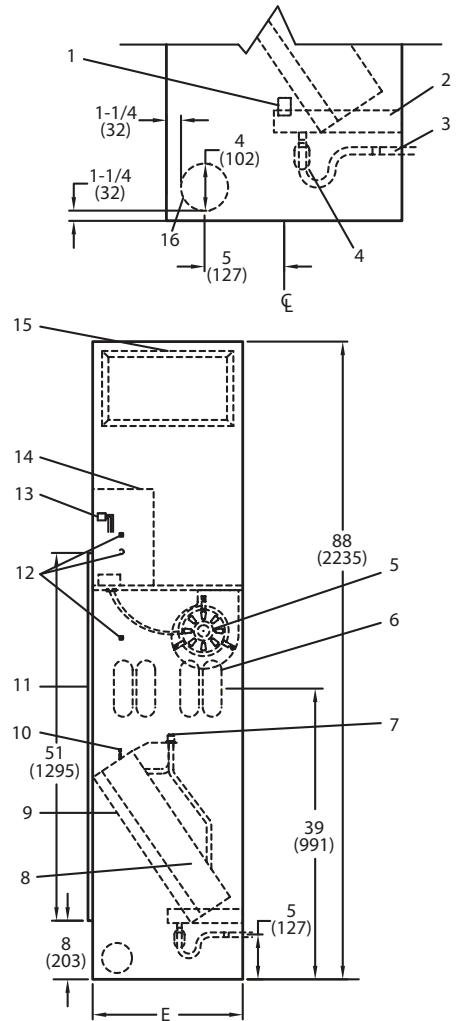
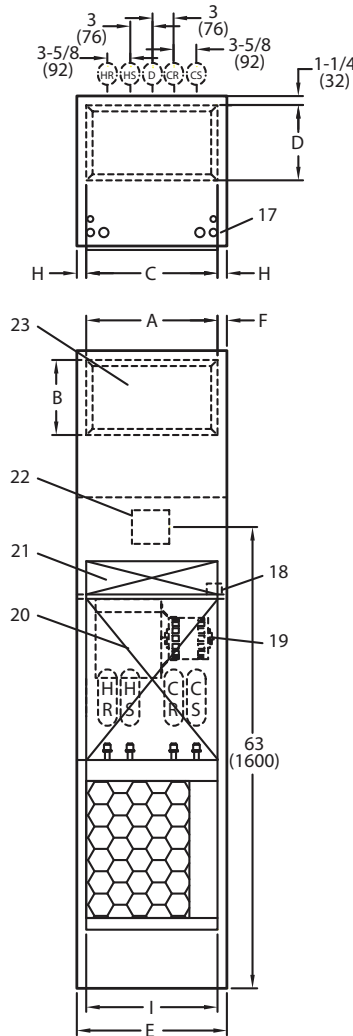
**Factory-Installed.
††Field-Installed.

Fig. 32 — 42SGS Furred-In Slave Stack Dimensions

Item	Description	Qty
1	Float Switch (Optional)	1
2	Drain Pan	1
3	Flexible Drain Tube/P-Trap	1
4	Drain Knockout (3 Sides)	1 each side
5	Blower	1
6	Riser Knockouts (3 Sides)	2/4
7	1/2 in. Flare Adaptor (SWT x 37.5)	2/4
8	Coil, 1/2 in. OD Copper Tube	1
9	1 in. Throwaway Filter (Factory Installed)	1
10	Manual Air Vent	1
11	Return Air Opening	1
12	Knockout (For Optional Thermostat Remote Mounting)	3
13	Molex Connector for Field-Installed Thermostat	1
14	Control Box	1
15	Duct Collar Extension (1/2 in. Side, 1 in. Top)	1/2/3
16	Outside Air Knockout (On Each Side Panel)	1
17	Electrical Knockouts (Near Each Side)	1
18	Service Switch (Optional)	1
19	Motor, 3-Speed, PSC, with Quick Connect	1
20	Coil Blockoff Plate	1
21	Access Panel (Control Box)	1
22	Control Opening Knockout (Surface Mount Thermostat)	1
23	Supply Air Openings (4 Sides and Top, Stitch Cut)	1/2/3

LEGEND

CR — Cold Water Return
CS — Cold Water Supply
D — Drain
HR — Hot Water Return
HS — Hot Water Supply
PSC — Permanent Split Capacitor
SWT — Sweat

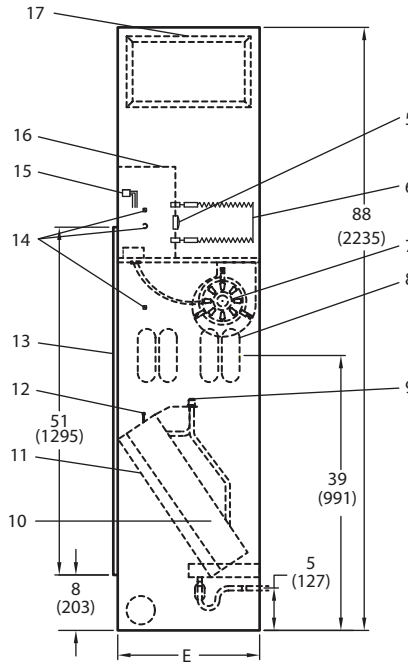
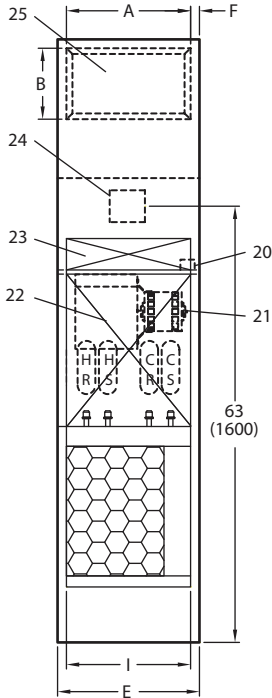
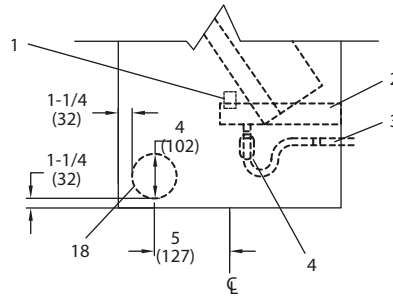
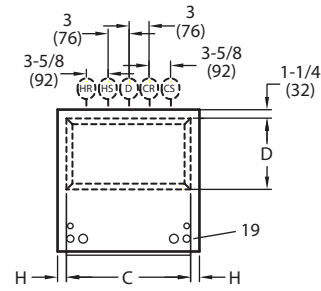


- NOTES:**
- Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
 - Thermostats shipped loose for field connection.
 - Blower, motor, valves, coil, and filter are accessible through the return air opening.
 - Unit and control box are insulated with 1/2-in. (13 mm) coated fiberglass insulation.
 - All risers will ship separately from units. Riser dimensions are measured from centerline of knockout.
 - Drain knockouts on three sides of cabinet.
 - Flex hoses ship with unit.
 - Thread fittings on both ends of flex hoses must be field tightened and leak tested.
 - Return air panel not shown.
 - All dimensions are in inches (mm).

UNIT SIZE	UNIT WEIGHT* lb (kg)	DIMENSIONS, in. (mm)										FILTER SIZE in. (mm)
		Side Supply			Top Supply							
		A	B	Size	C	D	Size	E	F	H	I	
03	360 (163)	14 (356)	12 (305)	14 x 12 (356 x 305)	14 (356)	10 (254)	14 x 10 (356 x 254)	17 (432)	3 (76)	1 1/2 (38)	14 (356)	12 1/2 x 24 1/4 x 1 (318 x 616 x 25)
04	450 (204)	18 (457)	12 (305)	18 x 12 (457 x 305)	16 (406)	12 (305)	16 x 12 (406 x 305)	20 (508)	1 (25)	2 (51)	18 (457)	16 1/4 x 26 3/4 x 1 (413 x 679 x 25)
06	480 (218)	22 (559)	16 (406)	22 x 16 (559 x 406)	18 (457)	16 (406)	18 x 16 (457 x 406)	24 (610)	1 (25)	3 (76)	22 (559)	20 1/2 x 29 1/4 x 1 (521 x 743 x 25)
08	520 (236)											
10	560 (254)											
12	610 (277)											

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 33 — 42SU Universal Furred-In Stack Dimensions



Item	Description	Qty
1	Float Switch (Optional)	1
2	Drain Pan	1
3	Flexible Drain Tube/P-Trap	1
4	Drain Knockout (3 Sides)	1 each side
5	Limit Switch (Factory Installed)	1
6	Strip Heater	1
7	Blower	1
8	Riser Knockouts (3 Sides)	2/4
9	1/2 in. Flare Adaptor (SWT x 37.5)	2/4
10	Coil, 1/2 in. OD Copper Tube	1
11	1 in. Throwing Filter (Factory Installed)	1
12	Manual Air Vent	1
13	Return Air Opening	1
14	Knockout (For Optional Thermostat Remote Mounting)	3
15	Molex Connector for Field-Installed Thermostat	1
16	Control Box	1
17	Duct Collar Extension (1/2 in. Side, 1 in. Top)	1/2/3
18	Outside Air Knockout (On Each Side Panel)	1
19	Electrical Knockouts (Near Each Side)	1
20	Service Switch (Optional)	1
21	Motor, 3-Speed, PSC, with Quick Connect	1
22	Coil Blockoff Plate	1
23	Access Panel (Control Box)	1
24	Control Opening Knockout (Surface Mount Thermostat)	1
25	Supply Air Openings (4 Sides and Top, Stitch Cut)	1/2/3

LEGEND

- CR — Cold Water Return
- CS — Cold Water Supply
- D — Drain
- HR — Hot Water Return
- HS — Hot Water Supply
- PSC — Permanent Split Capacitor
- SWT — Sweat

NOTES:

1. Units are fabricated of 18-gage galvanized steel with a 16-gage galvanized fan deck.
2. Thermostats shipped loose for field connection.
3. Blower, motor, valves, coil, and filter are accessible through the return air opening.
4. Unit and control box are insulated with 1/2-in. (13 mm) coated fiberglass insulation.
5. All risers will ship separately from units. Riser dimensions are measured from centerline of knockout.
6. Drain knockouts on three sides of cabinet.
7. Flex hoses ship with unit.
8. Thread fittings on both ends of flex hoses must be field tightened and leak tested.
9. Return air panel not shown.
10. All dimensions are in inches (mm).

UNIT SIZE	UNIT WEIGHT* lb (kg)	DIMENSIONS, in. (mm)										FILTER SIZE in. (mm)
		Side Supply					Top Supply					
		A	B	Size	C	D	Size	E	F	H	I	
03	360 (163)	14 (356)	12 (305)	14 x 12 (356 x 305)	14 (356)	10 (254)	14 x 10 (356 x 254)	17 (432)	3 (76)	1 1/2 (38)	14 (356)	12 1/2 x 24 1/4 x 1 (318 x 616 x 25)
04	450 (204)			18 x 12 (457 x 305)			16 x 12 (406 x 305)					
06	480 (218)	18 (457)	12 (305)	18 x 12 (457 x 305)	16 (406)	12 (305)	16 x 12 (406 x 305)	20 (508)	1 (25)	2 (51)	18 (457)	16 1/4 x 26 3/4 x 1 (413 x 679 x 25)
08	520 (236)			22 x 16 (559 x 406)			18 x 16 (457 x 406)					
10	560 (254)	22 (559)	16 (406)	22 x 16 (559 x 406)	18 (457)	16 (406)	18 x 16 (457 x 406)	24 (610)	1 (25)	3 (76)	22 (559)	20 1/2 x 29 1/4 x 1 (521 x 743 x 25)
12	610 (277)											

*Unit weights are based on dry coils and minimum rows. Weights exclude packaging, valves, and other components.

Fig. 34 — 42SU Universal Furred-In Stack with Heater Dimensions

PANEL DIMENSIONS (in.)

PANEL NO.	UNIT SIZE	A
1	03, 04	15.5
	06, 08	19.5
	10, 12	23.5
2	03, 04	15.5
	06, 08	19.5
	10, 12	23.5
3	03, 04	15.2
	06, 08	19.2
	10, 12	23.2
6	03, 04	15.5
	06, 08	19.5
	10, 12	23.5
7	03, 04	15.1
	06, 08	19.1
	10, 12	23.1
8	03, 04	15.5
	06, 08	19.5
	10, 12	23.5
10	03, 04	15.2
	06, 08	19.2
	10, 12	23.2

NOTE: Dimensions in inches.

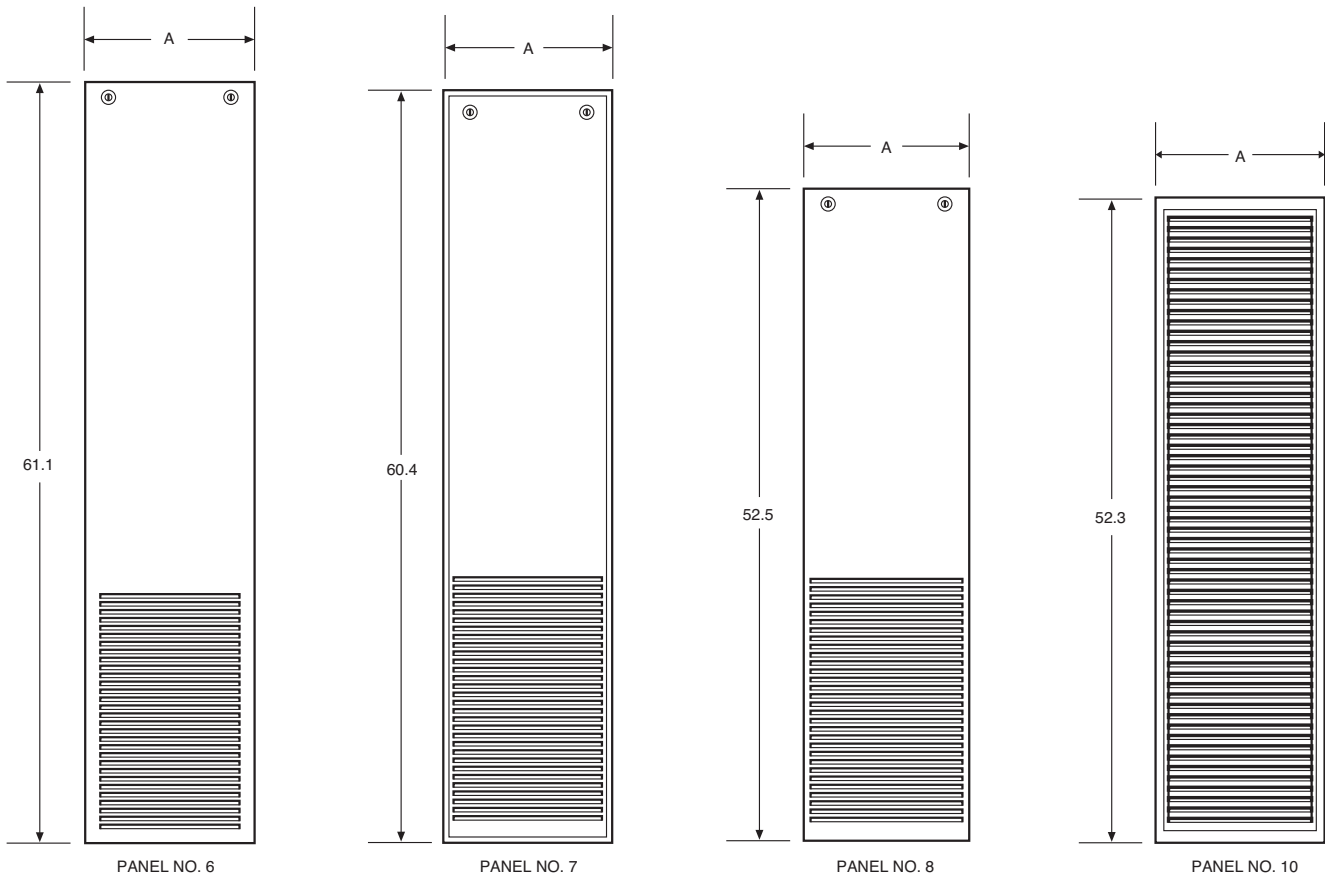
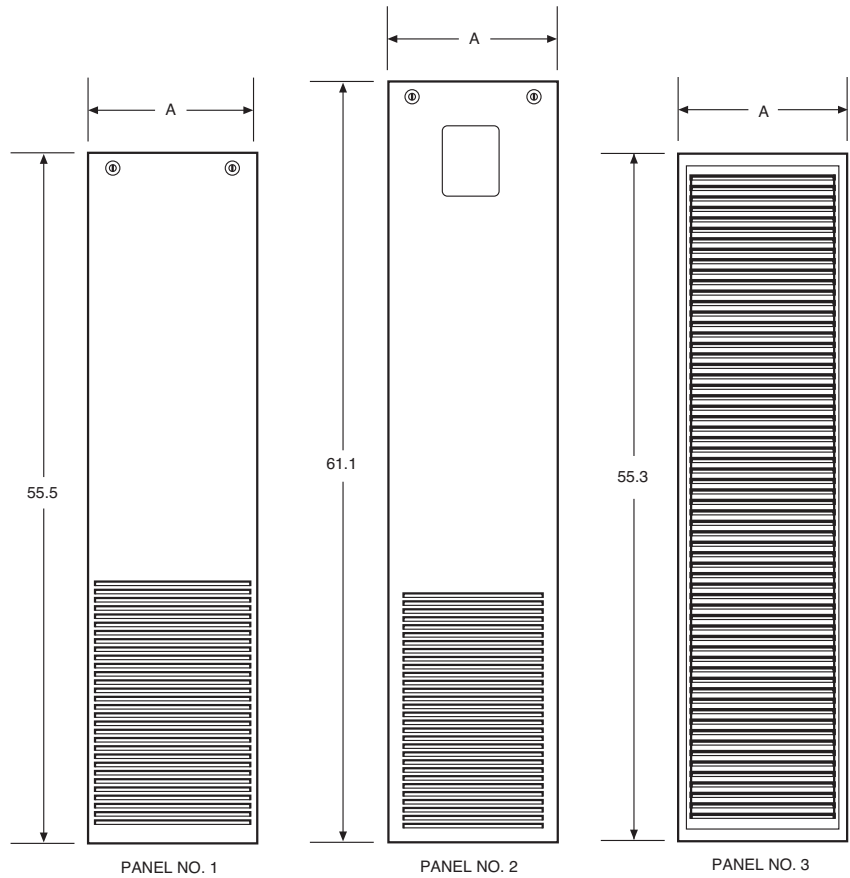


Fig. 35 — Return-Air Wall Panels for Furred-In Units — Panels with No Frame

PANEL AND FRAME DIMENSIONS (in.)

PANEL NO.	UNIT SIZE	A
4	03, 04	15.1
	06, 08	19.1
	10, 12	23.1
5	03, 04	15.1
	06, 08	19.1
	10, 12	23.1
9	03, 04	15.1
	06, 08	19.1
	10, 12	23.1

NOTE: Dimensions in inches.

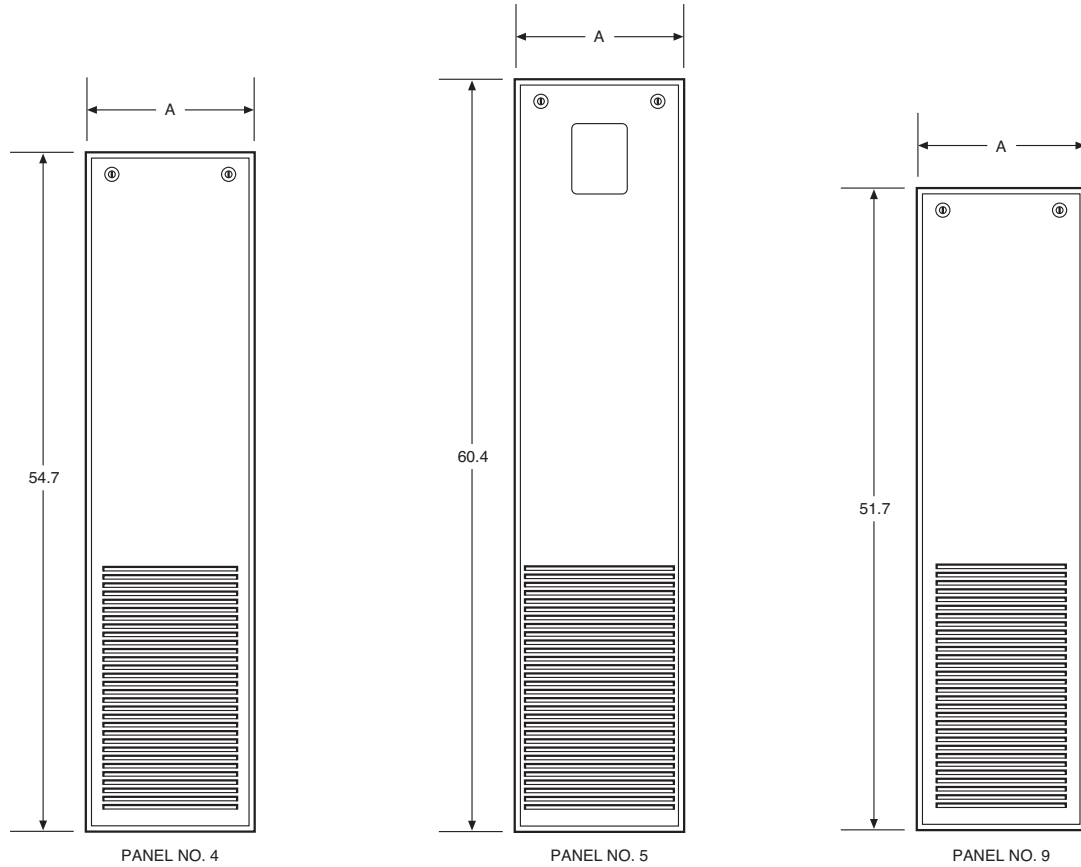


Fig. 36 — Return-Air Wall Panels for Furred-In Units — Panels with Frame

INSTALLATION

Step 1 — Place Units in Position

42C UNITS

1. Select the unit location. Allow adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork. For specific unit dimensions, refer to Fig. 1-14. Allow clearances according to local and national electric codes.
2. Make sure ceiling is able to support the weight of the unit. See Table 1 for nominal unit weight.
3. Ensure bottom panel has been removed from 42CG, CK units with mounting holes. When unit is lifted, access to the 0.375-in. mounting holes is through the bottom of the unit. Hanger rods and fasteners and other required hardware must be field-supplied.
4. Move unit into position. Ensure unit is level or pitched towards drain to ensure proper drainage and operation. Pitch of suspended unit can change after coil is filled; recheck after filling coil.
5. Mounting unit:
 - a. Use rods and fasteners to suspend the unit at the factory-provided mounting holes with rubber grommets on the top of the unit on 42CG, CK units. Reach into unit and attach unit to the ceiling using the 0.375-in. mounting holes (4) in top panel; do not use any other locations.
 - b. Use rods and fasteners to suspend the unit at the factory-provided 0.375-in. hanger slots (4) with rubber grommets on the top of the unit on the 42CA, CE, and CF units.

NOTE: The four mounting holes and hanger slots with rubber grommets are NOT for balancing unit.

6. 42CA and 42CF units without plenums and 42CE and CF with bottom inlet may be installed in noncombustible areas only.

NOTE: The installation of horizontal concealed units must meet the requirements of the National Fire Protection Association (NFPA) Standard 90A or 90B concerning the use of concealed ceiling space as return-air plenums.

42V UNITS

1. Select the unit location. Allow adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork. For specific unit dimensions, refer to the submittals. Allow clearances according to local and national electric codes.
2. Make sure the floor is able to support the weight of the unit. See Table 2 for nominal unit weight.
3. Ensure wall behind unit is smooth and plumb; if necessary, install furring strips on walls with irregular surfaces or mullions. Furring strips must be positioned behind mounting holes in unit (42VA, VB, VF units). Fasteners, furring strips, and other seals (if required) must be field-supplied.
4. Remove all wall and floor moldings from behind the unit.
5. Ensure 42VA top panel (under window application) and 42VB, VF front panel has been removed from unit to obtain access to the four 0.75-in. mounting holes. Hanger rods and fasteners and other required hardware must be field-supplied.
6. Move unit into position. Ensure unit is level or pitched towards drain to ensure proper drainage and operation. Pitch of suspended unit can change after coil is filled; recheck after filling coil.

7. Adjust 42VA, VB, VC, VE, VF units leveling legs so unit is level. Unit must be level for proper operation and condensate drainage.

8. Mounting unit:

- a. Use rods and fasteners to suspend the unit at the factory-provided mounting holes with rubber grommets on the top of the unit on 42VA, VB, VF units. Reach into unit and attach unit to the wall using the 0.375-in. mounting holes (4) in top panel; do not use any other locations. The four mounting holes and hanger slots with rubber grommets are NOT for balancing unit.
- b. On 42VG unit ensure unit is placed snug within the wall.
- c. On 42VC, VE unit ensure unit is flushed against the wall.

NOTE: For any unit without a return-air duct connection, applicable installation codes may limit unit to installation in single story residence only.

42D UNITS

1. Select the unit location. Allow adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork. For specific unit dimensions, refer to the submittal drawings. Allow clearances according to the local and national electrical codes.
2. Be sure either the ceiling (42DA, DC, DE, and DF units) or floor (42DD unit) is able to support the weight of the unit. See Table 3 for nominal unit weight.
3. Move unit into position. Ensure unit is level or pitched towards drain to ensure proper drainage and operation. See Fig. 23-27. Pitch of suspended unit can change after coil is filled; recheck after filling coil.
4. Mounting units to the ceiling:
 - a. When unit is lifted, access to the 0.375-in. mounting holes is on the top panel of the unit. Hanger rods and fasteners and other required hardware must be field-supplied.
 - b. Use rods and fasteners to suspend the unit at the factory-provided mounting holes with rubber grommets on the top of the unit. Attach unit to the ceiling using the 0.375-in mounting holes (4) in top panel; do not use any other locations.
 - c. Use the rods and fasteners to suspend the unit at the factory-provided 0.375-in. hanger slots (4) with the rubber grommets on the top of the unit on the 42DA, DC, DE, and DF units.

NOTE: The four mounting holes and hanger slots with rubber grommets are NOT for balancing unit.
 - d. Models 42DA and 42DC with bottom inlet may be installed in noncombustible return spaces only.
5. Mounting units on the floor:
 - a. Ensure wall behind the unit is smooth and plumb; if necessary, install furring strips on walls with irregular surfaces or mullions. Furring strips must be positioned behind mounting holes on 42DD units. Fasteners, furring strips, and other seals (if required) must be field-supplied.
 - b. If the unit has leveling legs, adjust them correctly to level the unit.
6. Protect units from damage caused by jobsite debris. Do not allow foreign material to fall in unit drain pan. Prevent dust and debris from being deposited on motor or fan wheels.

42S UNITS — A factory tag is on top of each unit. Tag states riser tier number, floor, room number if furnished and supply-air arrangement. Check unit for any other labels that apply to installation. Remove unit from pallet and take directly to assigned space for installation. Great care must be taken to assure that no force or pressure be applied to the coil, risers or piping during handling. Never use the riser to lift the unit. To maintain the straight and square cabinet alignment, avoid lifting or supporting the cabinet only at the top and bottom.

1. Begin on lowest floor and progress upward, floor by floor, to top.
2. Examine drain line (Fig. 28-34). Be sure both ends are in place and that it forms a trap. Avoid pinching drain line.
3. Tip unit over riser hole in building floor. As unit is righted, align riser with unit below.

NOTE: The unit must be lowered into the space taking care to properly align the risers to engage the riser swaged section on the unit below. The riser should never be bent or pushed together to be passed through the floor slot and should never be lifted up or pulled down to meet the riser on the floor below or above.

4. Install isolator pads beneath the four corners of unit if applicable.
5. Before anchoring the equipment in place, the unit must be leveled and the cabinet must be squared and brought into line with any adjacent or included walls. The unit may be anchored in place by bolting directly through the unit floor or attaching to the cabinet in some location that will not interfere with drywall or other items such as the supply grille, thermostat, or return access panel. When attaching to the unit cabinet, care must be taken to not penetrate the cabinet in locations that may damage internal components or wiring. The mounting technique is a matter of choice; however, the unit should always be anchored securely to prevent movement during construction and riser expansion and contraction. On certain units, shipping screws or braces must be removed after the unit is installed. Be sure to check all tags on the unit to determine which, if any, of these devices need to be removed.
6. If installing a 42SJ unit, follow Steps a-h. For all other 42S units, continue to Step 7.

NOTE: The 42SJ back-to-back fan coils have been designed to serve two separate rooms. These products are classified by Underwriters Laboratories Inc. for use in penetration firestop systems, control number 27WL when ordered with 1-hr rated chase. See UL Fire Resistance Directory for more information. Figure 37 shows the 42SJ unit with standard risers and with Siamese risers.

- a. Lay out the control lines for the drywall track and studs in the floor and ceiling (see Fig. 38).

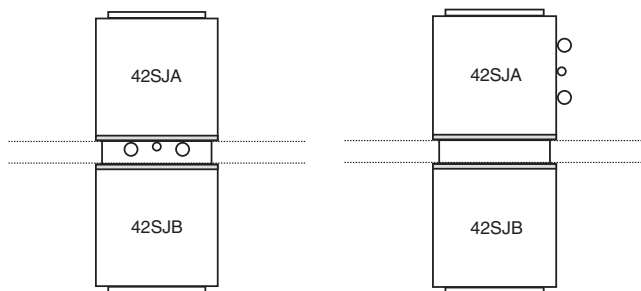


Fig. 37 — 42SJ Unit with Standard and Siamese Risers

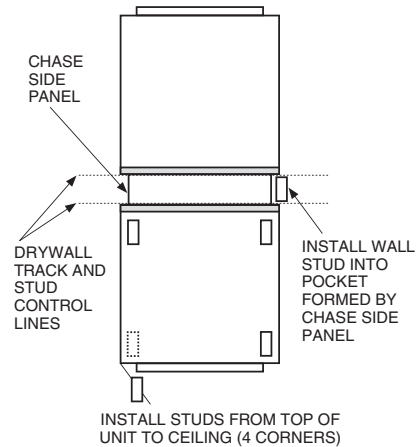


Fig. 38 — 42SJ Unit as Shipped

NOTE: Tracking may be installed now or after the unit is set.

- b. Position the 42SJ fan coil assembly between two rooms with the unit drywall separation spotted over the wall control lines.
- c. If not already installed, install the floor and ceiling tracks up to and over the 42SJ fan coil unit.
- d. Position the vertical studs and fasten into each of the stud pockets formed into the chase side panels (see Fig. 38).

NOTE: The studs may be mechanically fastened to the 42SJ fan coil. Care should be taken, however, not to penetrate the supply or return water risers or internal piping. Given the levelness of the floor and/or the fan coil assembly, some shimming may be necessary.

- e. Assemble the specified wall construction up to and over the top of the fan coil unit (see Fig. 39).
- f. With the fire-wall separation being complete, the drywall skin on the surface of the individual fan coils can be applied. Drywall can be applied directly to the surface, or, if necessary, studding may be installed on the corners for vertical control (see Fig. 39).
- g. For ease of installation of the access panel, apply drywall on the return air side directly to the surface of the unit (see Fig. 39). When applying the wall board directly to the unit cabinet, it may be necessary to shim the wall board in some areas to achieve the desired finished wall surface.

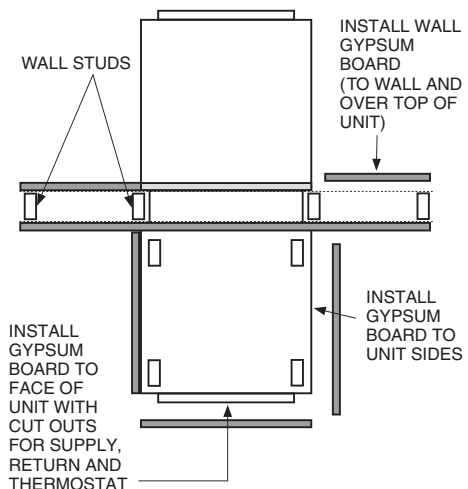


Fig. 39 — 42SJ Unit Installation

- h. After all drywalling and painting is complete, install thermostats, supply air grilles and return air panels.
7. Attach unit risers:

CAUTION

Toxic residues and loose particles resulting from manufacturing and field piping techniques such as joint compounds, soldering flux, and metal shavings may be present in the unit and the piping system. Special consideration must be given to system cleanliness when connecting to solar, domestic or portable water systems. Failure to heed this warning could result in equipment damage.

NOTE: The supply and return connections are marked on the coil stub-outs and the valve package with an “S” meaning supply or inlet and “R” meaning return or outlet indicating flow direction to and from the coil. Blue letters mark the chilled water connections and red letters mark the hot water connections.

- a. Each riser has a 3-in. swaged portion at top and sufficient extension at bottom for an inserted length of approximately 2-in. This unit-to-unit joint is NOT intended for full bottoming in the joint, but allows for variations in floor-to-floor dimensions and for correct riser positioning.
- If job requires that unit risers be supplemented with between-the-floor extensions pieces may be field-supplied or factory-supplied. If factory-supplied, insulation is also provided.
- b. Level unit to ensure proper coil operation and condensate drainage. Proper riser installation and vertical positioning in the unit provides for a unit piping run-out to the service valves which are centered in the access slots and level or sloping down slightly away from the riser. This prevents condensation from running back to the riser and possible damage from dripping at the bottom of a riser column. After units are positioned and riser centered in pipe chase, make unit plumb in two directions, using unit frame as a reference.
- c. Anchor unit to building. Use bolts or lag screws through holes provided in unit frame.
- d. After all units in a stack are anchored, make unit-to-unit riser joints. First, center each coil-to-riser line within the expansion slot in the unit back panel. Each riser joint must be in vertical alignment with at least 1-in. penetration into the swaged joint. This condition is met if floor-to-floor dimension is as specified and coil-to-riser lines are properly centered. Wide variations in floor-to-floor dimensions may necessitate cutting off or extending individual risers. Such modifications are the full responsibility of the installing contractor.
- e. Before making the riser joints, the riser insulation must be pulled back away from the joint and protected from heat during the soldering process. Solder riser joints with phos-copper, silfos, or other high temperature alloy. The riser joint filler material must be selected to withstand the total operating pressure (both static and pumping head) to which the system will be subjected. Soft solder (50-50, 60-40, or 85-15) or other low temperature lead alloy is not suitable for this application.

IMPORTANT: Chilled water and hot water risers should never be piped to drain down into the condensate riser. Extensive water damage can occur due to drain overflow. Drain chilled and hot water risers to a remote location away from the unit such as sink, room and floor drains.

8. Anchor risers as required:
- a. Do not fasten risers rigidly within each unit. Risers must be free to move within pipe chase in response to normal vertical expansion and contraction.
- b. Built in risers must be anchored at some point to building structure. Unit design accommodates up to 1 $\frac{1}{2}$ -in. expansion and contraction in riser assemblies when positioned properly at the job site. Risers must be anchored to the building structure to limit expansion and contraction movement to a maximum of 1 $\frac{1}{2}$ -inches. Riser anchoring and expansion compensation is not included in the factory-supplied unit and must be provided.
9. Test the system for leaks after the connections are completed. When testing with air or some other gas, it might be necessary to tighten stem packing nuts on some valves to maintain air pressure in the riser. Pressure testing risers with water should be done with the unit service valves closed to prevent flushing debris into the unit valve packages. This will also allow risers to be drained down after testing in the winter to avoid freeze-up problems.
10. After system integrity has been established, pull the riser insulation back into place over the joint and glue or seal to prevent sweating and heat loss or gain. Internal chilled water piping and valves are located over the drain pan and need not be insulated.
11. If required, fireproof were necessary. Any fireproofing requirements where risers or piping penetrate floors or walls are the responsibility of the installer. This work should be done only after all pressure testing is completed. The fireproofing method used must accommodate pipe expansion and contraction and the piping must be protected from abrasion and chemical attack. The pipe insulation also must be maintained to prevent sweating and must be protected from wear or erosion at the joint between the insulation and the fireproofing material.

Step 2 — Make Piping Connections — Access to piping is available through the access panels at the side of the units or front of the unit. Qualified personnel in accordance with local and national codes must perform all piping connections. Refer to Tables 1-4 for piping connections.

NOTE: It is important to have a common understanding of which side of the unit is the right hand side and which is the left hand side.

When facing the supply air outlet from the front of the unit (air blowing in your face), your right hand will be on the right side of the unit and your left hand will be on the left side of the unit. See Fig. 40. Refer to Fig. 41 and 42 for typical piping connections.

The supply and return piping connections of the factory-provided valve package are either swaged for field brazing (standard) or union fitted (optional) for field connection to the coil.

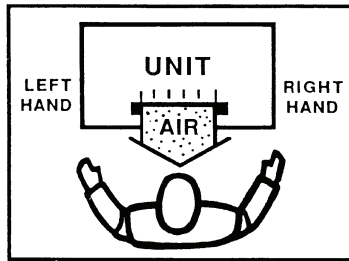


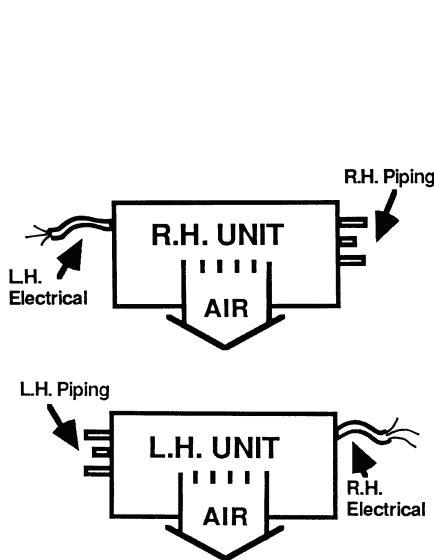
Fig. 40 — Unit End Reference

VALVE PACKAGES — There are limitations on physical size of pneumatic valves, quantity and type of matching components, and required control interface. See Fig. 43.

Consult factory before ordering any special valve package components that are not covered in this book.

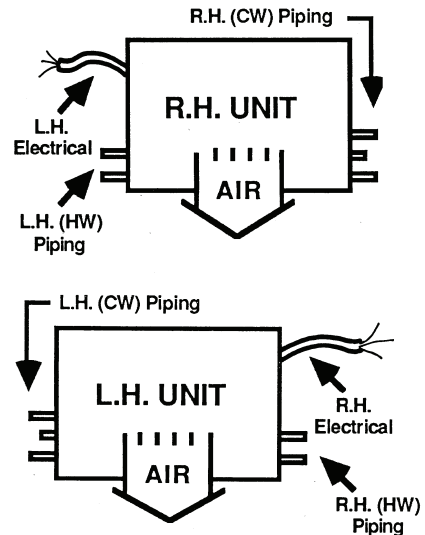
Valve packages are shipped with the units or in unit cartons. Valve packages include belled ends for field soldering to coil connections.

All factory-furnished cooling valve packages are arranged to position as much of the package as possible over an auxiliary drain pan or drip lip. This helps minimize field piping insulation requirements. Refer to Fig. 44-47 for pipe connection configurations. See Table 5 for descriptions of common piping components.



NOTE: Chilled water piping determines the hand of the unit.

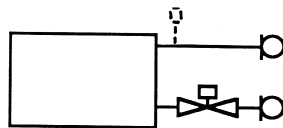
SAME END CONNECTION



NOTE: Chilled water piping determines the hand of the unit.

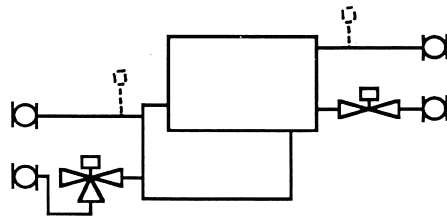
OPPOSITE END CONNECTION

Valve Packages For 2-Pipe Systems — Valve packages for standard 2-pipe units are piped for same end connection (L.H. or R.H.).

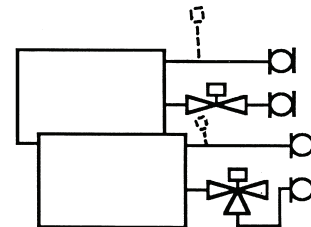


Valve Packages for 4-Pipe Systems — Select 2 valve packages per unit.

NOTE: Hot water valve package requirements may not be the same as chilled water valve package!



OPPOSITE END CONNECTION

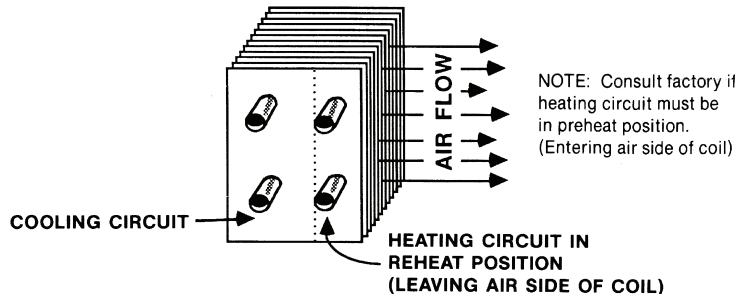


SAME END CONNECTION

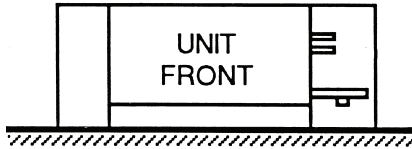
- LEGEND**
- CW — Chilled Water
 - HW — Hot Water
 - LH — Left Hand
 - RH — Right Hand

Fig. 41 — Pipe Connection Configurations

Hydronic Coil Arrangement

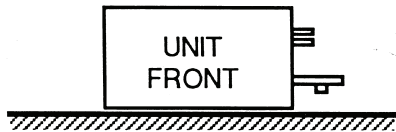


Field Piping Connections*



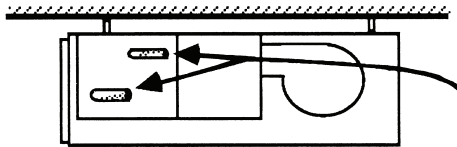
VERTICAL FLOOR UNITS — 42VB, VE, VF

Pipe into cabinet end compartment (opening in bottom and back).



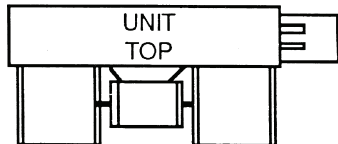
VERTICAL FLOOR UNITS — 42VA, VC

Pipe to external connections (no cabinet).



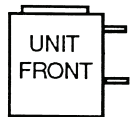
CEILING UNITS (EXPOSED) — 42CG, CK, DE, DF

Pipe through knock-outs in rear of cabinet to coil and valve package connections.



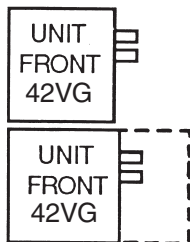
CEILING UNITS (CONCEALED) — 42CA, CE, CF, DA, DC

Pipe to connections extending from end of unit.



VERTICAL UNITS — 42DD

Pipe to stub connections extending from side of unit.



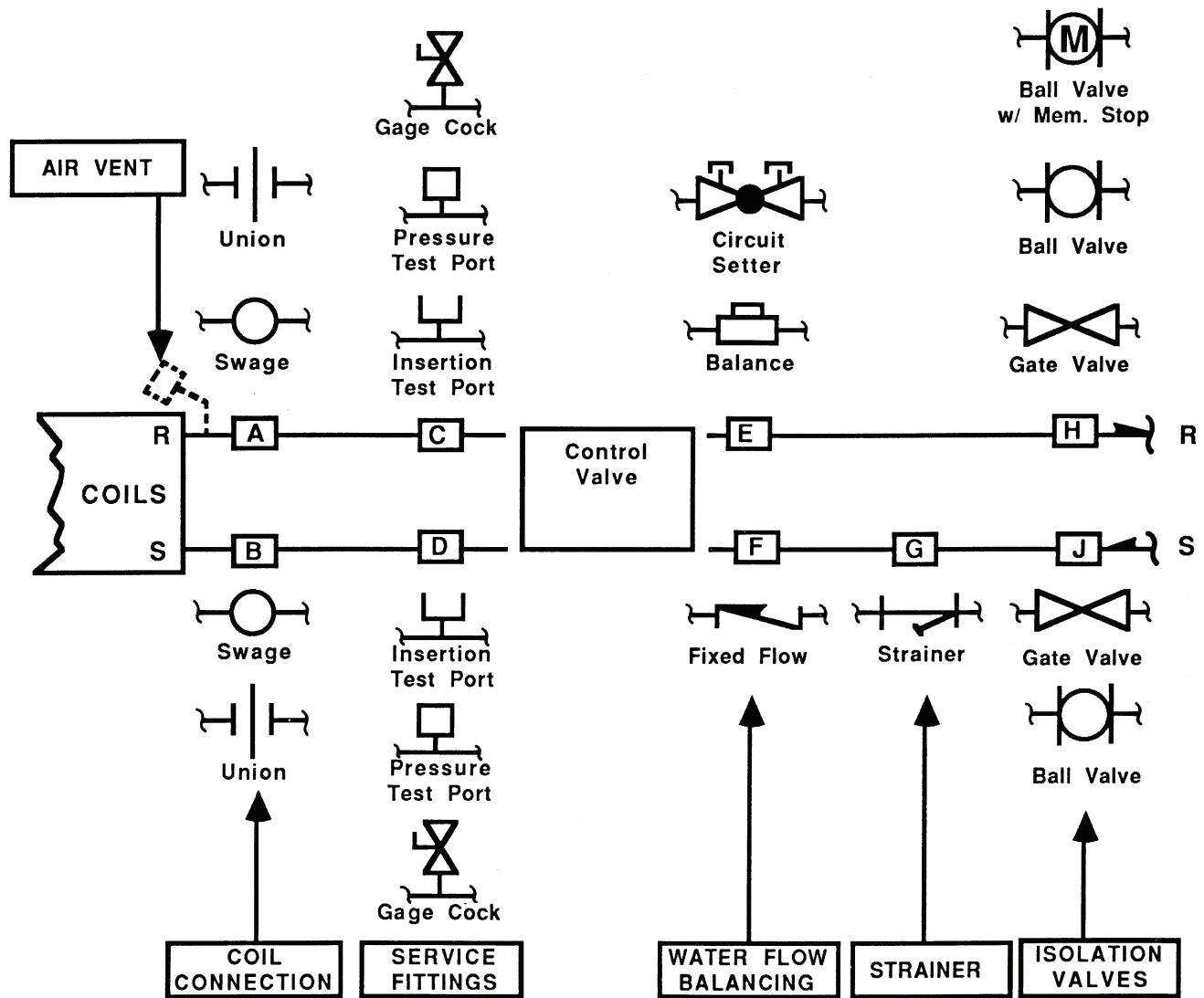
WALL UNITS, FURRED-IN

Pipe to stub connections at the side of unit.

or into optional piping compartment. Optional piping compartment is required if valves are factory installed. Factory-installed valve package is limited to one 2-way or 3-way motorized valve and 2 hand valves.

*Location of field piping connections will vary depending on number of coil rows on factory-supplied coil or arrangement of factory-supplied valves.

Fig. 42 — Piping Connection Positions



Coil Connections (Positions A & B) — When isolation valve only is added to supply or return line, the isolation valve will be factory brazed to the coil stub-out. Addition of any other component or connection to the supply or return line will change the respective coil connection(s).

Service Fittings (Positions C & D) — Optional fittings for attaching pressure/temperature sensing devices to obtain pressure drop or temperature differential across coil. Used with ball valve or balance valve where extremely accurate water flow balancing is required.

Water Flow Balancing (Positions E, F, & H) — Only one device per total valve package to be used for balancing water flow through the coil. When isolation valve (ball valve or ball valve with memory stop at position H) is used for water flow balancing, do not specify additional balancing device at position E or F. When balancing device is specified at position E or F, isolation valve does not require balancing feature at position H (with a 3-way motorized valve, a bypass balancing valve may be specified in the bypass line to permit equal flow balancing).

Strainer (Position G) — Does not include blow down fitting and should not be used in lieu of main piping strainers.

Isolation Valves (Positions H & J) — Normally requires one each on supply and return line (see exception under circuit setter). When position H is used for balancing (ball valve or ball valve with memory stop), check specifications for service valve requirements.

Fig. 43 — Symbols and Placement of Valves

The 2-way motorized valve motor drives valve open and a spring returns valve to normally closed position (no water flow with unit OFF).

Supply connection at coil will be swage fit for field braze (standard) or union (option). Return connection at coil will be factory brazed if isolation valve only. Addition of any other component will require swage fit for field braze or optional union connection.

Check job specifications for system pressure, pressure drop limitations and flow rate prior to selecting valve package components or valve package size (1/2 in., 3/4 in., etc.).

2-PIPE SYSTEM (One Valve Package) or 4-PIPE SYSTEM (Two Valve Packages) Application:

- 2 Pipe — Hydronic Heating Only
- 2 Pipe — Hydronic Cooling Only
- 2 Pipe — Hydronic Cooling with Total Electric Heat
- 4 Pipe — Hydronic Cooling and Heating

NOTE: A 1/4-in. bypass line is included in the piping package when a 2-way valve is specified with a control package containing an automatic changeover device.

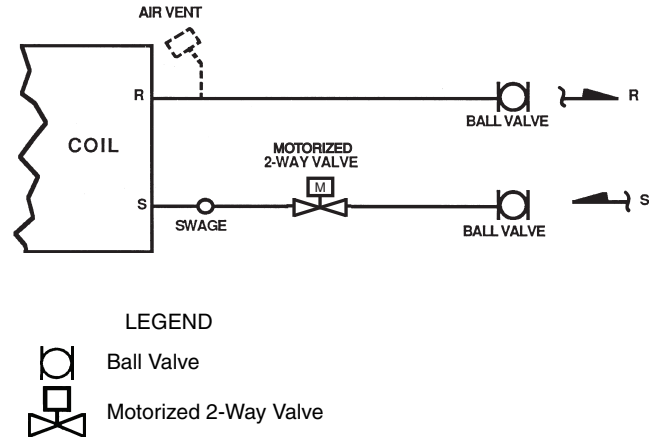


Fig. 44 — Two-Way Motorized Control Valve Package

The 2-way motorized valve motor drives valve open and a spring returns valve to normally closed position (no water flow through coil with unit OFF).

The aquastat bleed bypass bleeds a small amount of water from supply to return when control valve is closed (required for system water temperature sensing by aquastat). Aquastat (A) clips on supply line upstream from aquastat bleed bypass (as shown at right). It senses system water temperature to prevent cooling operation with hot water in system piping or heating operation with chilled water in system piping. Additional aquastat required to lock out the optional auxiliary electric heat when hot water in system.

Supply and return connections at coil will be swage fit for field braze (standard) or unions (option).

Check job specifications for system pressure, pressure drop limitations and flow rate prior to selecting valve package components or valve package size (1/2 in., 3/4 in., etc.).

2-PIPE SYSTEM (One Valve Package) Application:

- 2 Pipe — Hydronic Cooling and Heating
- 2 Pipe — Hydronic Cooling and Heating with Auxiliary Electric Heat

NOTES: Additional aquastat required as noted above.

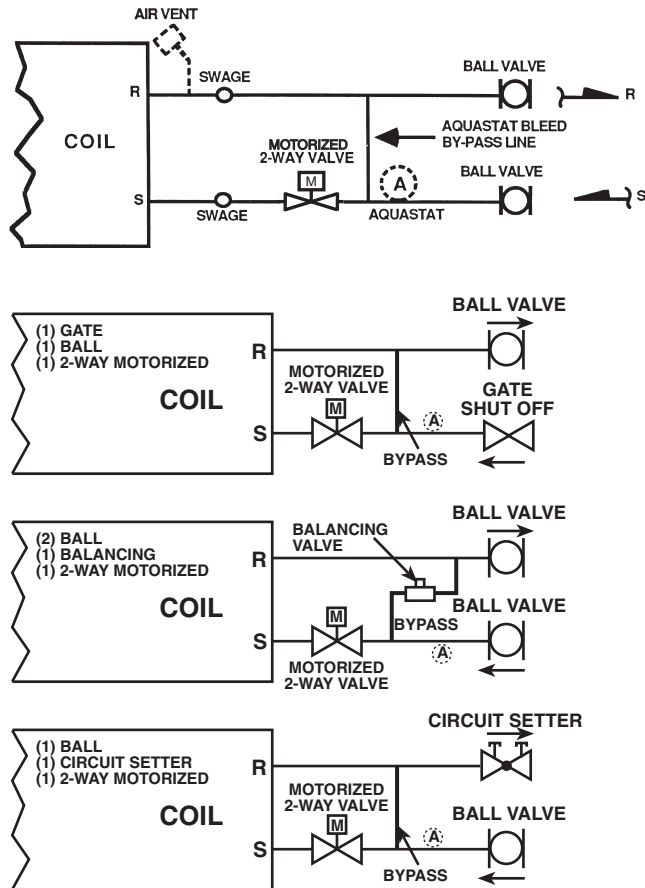


Fig. 45 — Two-Way Motorized Control Valve Package with Aquastat Bleed Bypass Line

On the 3-way motorized valve flow is normally closed to coil and open to system return. Motor closes bypass flow to system return while opening flow through coil. Water bypasses coil and flows directly to system return when unit is OFF.

The aquastat (A) clips on supply line upstream from 3-way valve (as shown above). It senses system water temperature to prevent cooling operation with hot water in system piping or heating operation with chilled water in system piping. Aquastat(s) required for 2-pipe cooling and heating with automatic changeover control and/or auxiliary electric heat.

A bypass balancing valve may be specified in the bypass line to permit equal flow balancing.







Supply and return connections at coil will be swage fit for field braze (standard) or unions (option).

Check job specifications for system pressure, pressure drop limitations and flow rate prior to selecting valve package components or valve package size (1/2 in., 3/4 in., etc.).

2-PIPE SYSTEM (One Valve Package) or 4-PIPE SYSTEM (Two Valve Packages) Application:

- 2 Pipe — Hydronic Heating Only
- 2 Pipe — Hydronic Cooling Only
- 2 Pipe — Hydronic Cooling with Total Electric Heat
- 2 Pipe — Hydronic Cooling and Heating
- 2 Pipe — Hydronic Cooling and Heating with Auxiliary Electric Heat
- 4 Pipe — Hydronic Cooling and Heating

LEGEND

-  Balancing Valve
-  Ball Valve
-  Ball Valve with Memory Stop
-  Circuit Setter
-  Gate Shut Off Valve
-  Motorized 3-Way Valve

*When aquastat is used for automatic changeover, bypass is required as indicated by dashed line.

NOTES:

1. Packages factory furnished and installed.
2. Valves are 5/8-in. ODS unless otherwise specified.
3. If an automatic flow control valve is added, it will be located on supply line between shutoff valve and coil (or motorized control valve, if supplied).

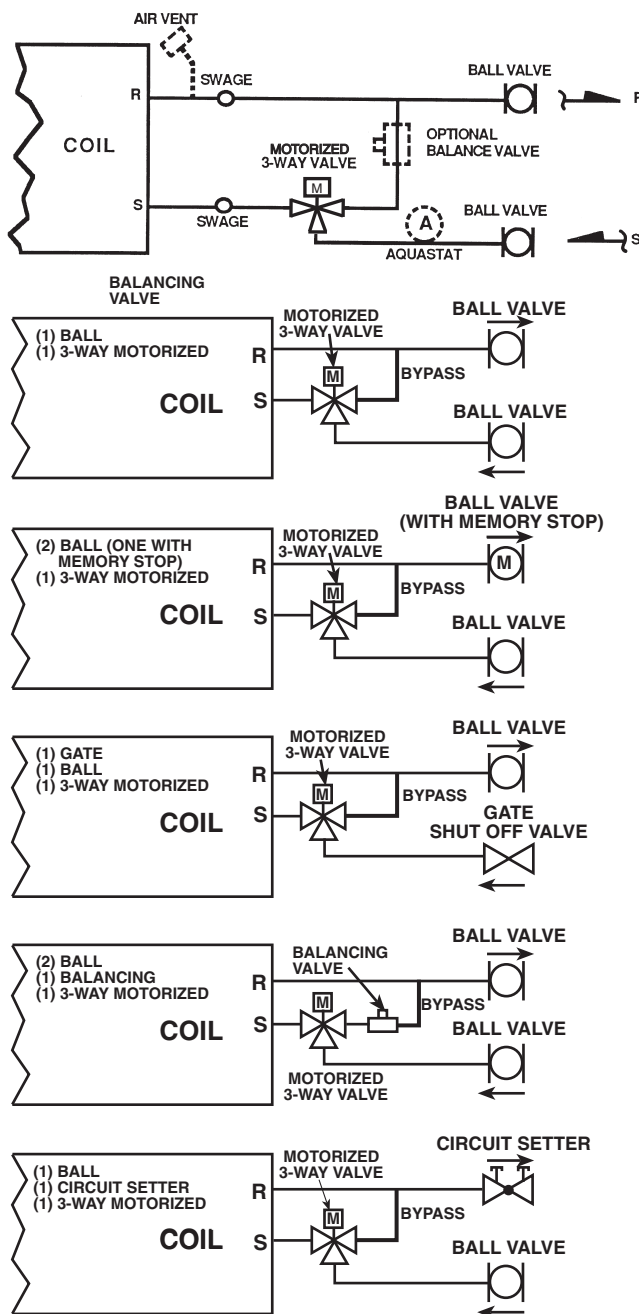


Fig. 46 — Three-Way Motorized Control Valve Package

When isolation valves only are specified, they will be brazed to the coil stub-outs.

Check job specifications for system pressure, pressure drop limitations and flow rate prior to selecting specific components or valve package size (1/2 in., 3/4 in., etc.).

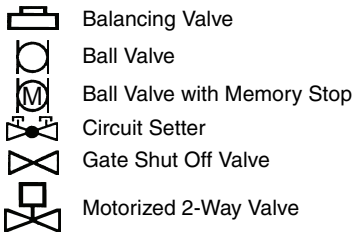
2-PIPE SYSTEM ONLY (One Valve Package) Application:

- 2 Pipe - Hydronic Heating Only
- 2 Pipe - Hydronic Cooling Only

NOTES:

1. Continuous water flow, chilled water or hot water.
2. Not recommended for high humidity applications.
3. Not recommended with unit-mounted thermostat on vertical units (except package R).
4. The addition of any other component(s) will require swage fitting for field braze or optional union connection.

LEGEND



*When aquastat is used for automatic changeover, bypass is required as indicated by dashed line.

NOTES:

1. Packages factory furnished and installed.
2. Valves are 5/8-in. ODS unless otherwise specified.
3. If an automatic flow control valve is added, it will be located on supply line between shutoff valve and coil (or motorized control valve, if supplied).

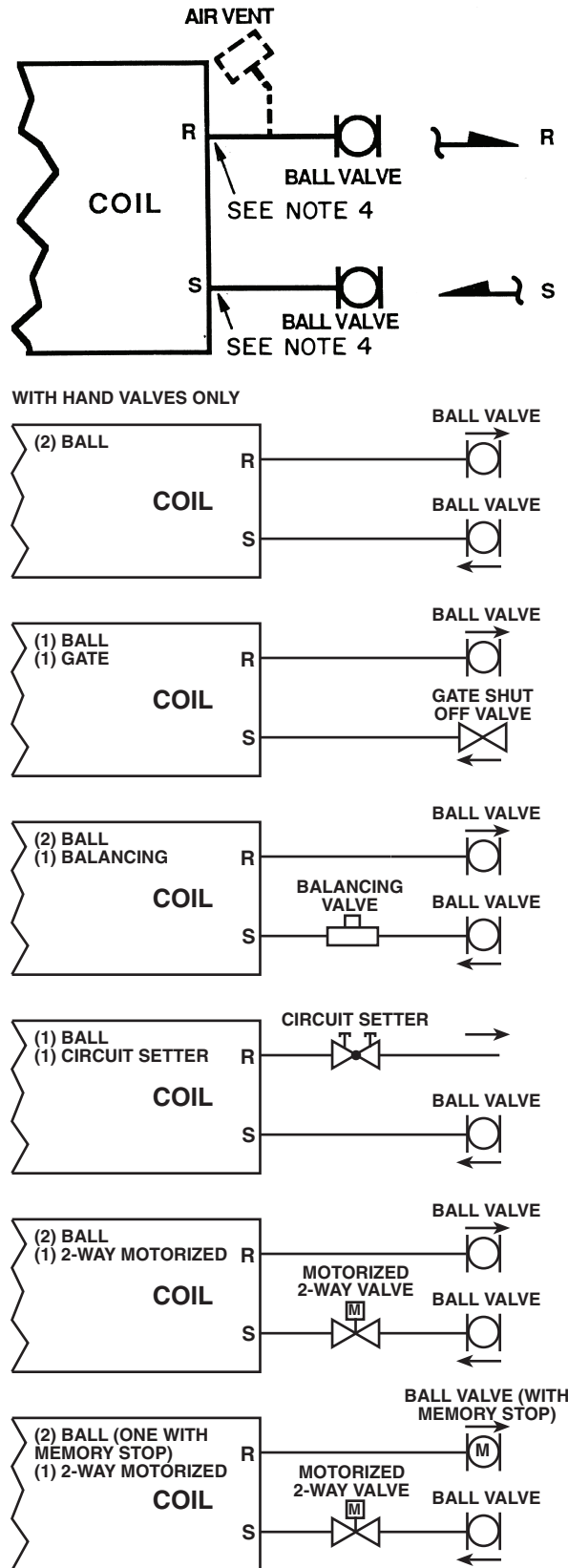


Fig. 47 — Valve Package without Motorized Control

42C,D,V DRAIN CONNECTIONS — Install drain line in accordance with all applicable codes. A continuous pitch of 1 in. per 10 ft of condensate drain line run is necessary for adequate condensate drainage. Insulate the drain line to prevent sweating. Extend the drain line straight from the drain pan before making any turns. The installer must provide proper support for the drain line to prevent undue stress on the auxiliary drain pan.

Install trapped drain line in accordance with all applicable codes (see Fig. 48). A drain trap may be required by local codes and is recommended for odor control. The differential height inlet to outlet must be at least 1-in. wg greater than the total static pressure of the unit. The differential height of the outlet to the bottom of the trap must not be less than the total static pressure of the unit.

Provide a trap of at least 2-in. near the end of the drain line to prevent odors from entering the rooms.

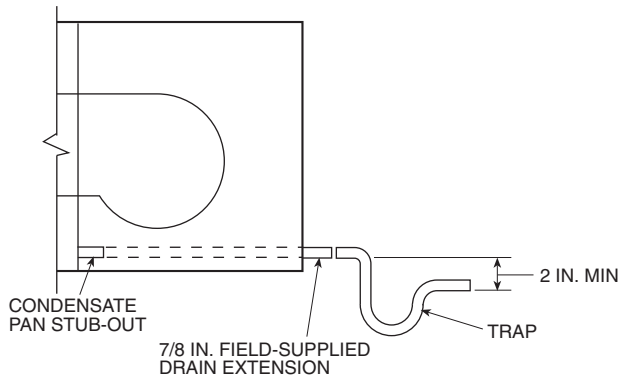


Fig. 48 — Typical Drain Line Details (42D Unit Shown)

42C,D,V WATER SUPPLY/RETURN CONNECTIONS — Install piping in accordance with all applicable codes. Position valves over the drain pan. Be sure valves are in proper operating position and are easily accessible for adjustment. See Fig. 44-47. Refer to Fig. 49 for copper water tube and joint material pressure ratings.

If coil and valve package connections will be made with a solder joint, care should be taken to ensure that the components in the valve package are not subjected to high temperatures, which may damage seals or other materials. Many 2-position electric control valves are provided with a manual operating lever. This lever should be in the OPEN position during all soldering operations.

If coil connection is made with a union, the coil side of the union must be prevented from turning (it must be backed up) during tightening. See Fig. 44-47 for common valve packages.

CAUTION

DO NOT OVERTIGHTEN! Overtightening will distort (egg shape) the union seal surface and destroy the union.

NOTE: The project specifications for system pressure, pressure drop limitations, and flow rate should be checked prior to selection of specific components or the valve package size.

42C,D,V STEAM CONNECTIONS — On units with steam heating coils, the maximum steam pressure applied to the unit should never exceed 10 psig. However, when steam is used on a 4-pipe application system with 1-row and 2-row coils the maximum steam pressure should never exceed 5 psig (suitable for only low pressure steam).

Do not drain the steam mains or take-off through the coils. Drain the mains ahead of the coils through a steam trap to the return line. Overhead returns require 1 psig of pressure at the steam trap discharge for each 2 ft elevation to ensure continuous condensate removal.

Proper steam trap selection and installation is necessary. As a guideline in creating a steam trap locate the steam trap discharge at least 12 in. below the condensate return connection. This provides sufficient hydrostatic head pressure to overcome trap losses and ensure complete condensate removal.

42C,D,V DIRECT EXPANSION (DX) REFRIGERANT PIPING — Use the condensing unit manufacturer's recommended line sizes and requirements. Suction line must be insulated for correct operation. Use refrigerant-grade copper lines only. The unit is not applied as a heat pump.

Thermostatic expansion valve (TXV) and sensing bulb are factory-installed on units when DX coil option is chosen with distributor and TXV.

NOTE: If a hot water coil is used in the reheat position, a field-supplied freeze-stat must be installed to protect the coil.

TEST AND INSULATE — When all joints are complete, perform hydrostatic test for leaks. Vent all coils at this time. Check interior unit piping for signs of leakage from shipping damage or mishandling. If leaks are found, notify a Carrier representative before initiating any repairs. Release trapped air from system (refer to Make Final Preparations section).

Never pressurize any equipment beyond specific test pressure. Always pressure test with an inert fluid or gas, such as clear water or dry nitrogen to avoid possible damage or injury in the event of a leak or component failure during testing.

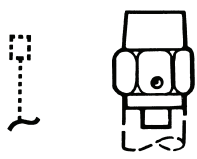
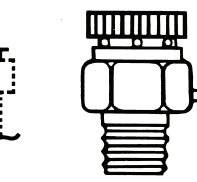

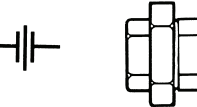
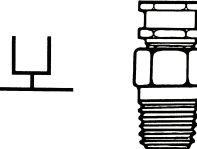
CAUTION

All water coils must be protected from freezing after initial filling with water. Even if system is drained, unit coils may still have enough water to cause damage when exposed to temperatures below freezing.

Following the hydrostatic test, insulate all piping to prevent sweating.

To ensure compliance with building codes, restore the structure's original fire resistance rating by sealing all holes with material carrying the same fire rating as the structure.

Table 5 — Piping Components

SYMBOL/SKETCH	DESCRIPTION	C _v FACTOR		RATING*		STEAM USE
		1/2 in.	3/4 in.	PSI	F	
	<p>MANUAL AIR VENT: 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	NO
	<p>AUTOMATIC AIR VENT: Nickel plated brass valve, fiber-disc type, with positive shut-off ball-check 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	NO
	<p>SWAGE: 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	YES
	<p>UNION: Combination wrought copper/cast brass union assembly, solder by solder.</p> <p>Application — Used for quick connect (and disconnect) of valve package components to minimize field labor and facilitate servicing of unit.</p>	N/A	N/A	300	200	YES
	<p>INSERTION TEST PORT: Brass body valve for acceptance of test probe (up to 1/8 in. diameter).</p> <p>Application — Installed on one (or both) sides of the coil to allow for temperature or pressure sensing. Used for close tolerance water balancing and service analysis.</p>	N/A	N/A	250	250	NO

LEGEND

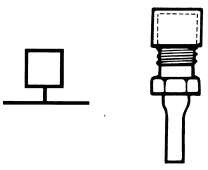
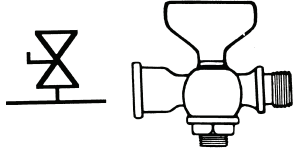
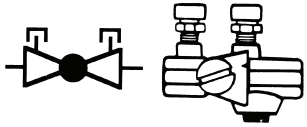
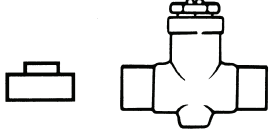
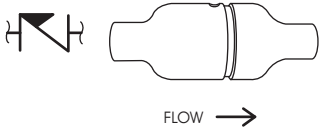
C_v — Coefficient of Velocity
DX — Direct Expansion

*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.

NOTES:

1. Motorized 2-way valves have a maximum close-off differential of 25 psi.
2. Motorized 3-way valves have a maximum close-off differential of 10 psi.

Table 5 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C _V FACTOR		RATING*		STEAM USE
		1/2 in.	3/4 in.	PSI	F	
	<p>PRESSURE TEST PORT: Brass body 1/4 in. service access fitting with removable depressor type core.</p> <p>Application — Installed on both sides of the coil to allow for pressure sensing. Attach pressure gages to facilitate close tolerance water balancing.</p>	N/A	N/A	400	210	NO
	<p>GAGE COCK: Brass shut-off valve with 1/4 in. FPT fitting for attachment of pressure gages.</p> <p>Application — Installed on both sides of the coil to allow for pressure sensing. Attach pressure gages to facilitate close tolerance water balancing. May be used in bleed bypass line to regulate water flow.</p>	N/A	N/A	200	250	N/A
	<p>CIRCUIT SETTER: 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	NO
	<p>BALANCE VALVE: 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	NO
	<p>FIXED FLOW VALVE: Flexible orifice type (non-adjustable).</p> <p>Application — Used for water flow balancing. Valve automatically adjusts the flow to within 10% of set point. Requires 15 psi (35 ft) of additional pump head for proper operation.</p>			150	160	NO

LEGEND


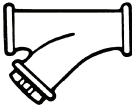



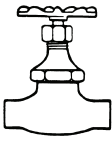

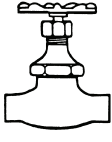



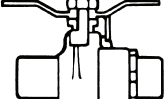
- C_v** — Coefficient of Velocity
- DX** — Direct Expansion

*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.

NOTES:

1. Motorized 2-way valves have a maximum close-off differential of 25 psi.
2. Motorized 3-way valves have a maximum close-off differential of 10 psi.

Table 5 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C _v FACTOR		RATING*		STEAM USE
		1/2 in.	3/4 in.	PSI	F	
 	<p>STRAINER: 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	N/A
 	<p>GATE VALVE: Manual shut-off valve.</p> <p>Application — Used for unit isolation during system flushing, servicing, etc. Do not use for water balancing.</p>	19.8	36.0	200	200	NO
 	<p>GLOBE VALVE: Standard pattern, manual shut-off and throttling valve.</p> <p>Application — Used for unit isolation. Not recommended for high flow rates due to relatively high pressure drop.</p>	1.8	3.9	200	200	NO
 	<p>COMPRESSION STOP VALVE: Manual shut-off valve.</p> <p>Application — Used for unit isolation during system flushing, servicing, etc. Not recommended for high flow rates due to relatively high pressure drop.</p>	2.3	5.4	150	200	NO
 	<p>BALL VALVE: 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	YES
 	<p>BALL VALVE WITH MEMORY STOP: Manual balance and shut-off valve.</p> <p>Application — Used for unit isolation and water flow balancing. The adjustable memory stop feature allows return to the balance point after shut-off. Check specifications for service fittings required when used for water balancing.</p>	4.0	7.5	400	200	N/A

LEGEND


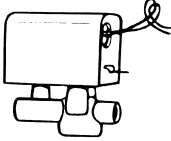

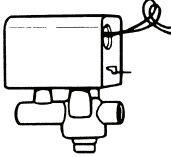
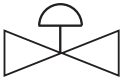
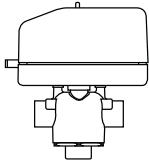
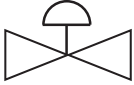
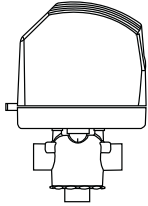

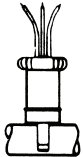
C_v — Coefficient of Velocity
DX — Direct Expansion

*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.

NOTES:

1. Motorized 2-way valves have a maximum close-off differential of 25 psi.
2. Motorized 3-way valves have a maximum close-off differential of 10 psi.

Table 5 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C _v FACTOR		RATING*		STEAM USE
		1/2 in.	3/4 in.	PSI	F	
 	<p>2-WAY MOTORIZED VALVE: 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. Consult factory for normally open valve applications.</p>	2.3	2.3	300	200	YES 15 PSI MAX.
 	<p>3-WAY MOTORIZED VALVE: 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>	5.0 SERVICE	5.0	300	200	N/A
2.8 BYPASS						
 	<p>MODULATING VALVE (Optional) (Non-Spring Return, Floating Point Actuator): Modulating valves are designed to control the flow in the circuit by making incremental adjustments to the flow path within the valve.</p> <p>Application — To control fluid flow in fan coil units. On the 42DD,SG,SJ,SH commercial fan coil units, the factory-provided modulating valve has application restrictions. In these models, the valve packages are located in the air stream, downstream of the coil. Due to the ambient temperature limitations of the modulating valves, the valves can be used in the units listed above only with a 2-pipe cooling system.</p>	4.0		300	200	N/A
 	<p>MODULATING VALVE (Requires ETO [Engineering to Order]) (Spring Return): Modulating valves are designed to control the flow in the circuit by making incremental adjustments to the flow path within the valve.</p> <p>Application — Same comments as non-spring return except when powered, the actuator moves to the desired position, at the same time tensing the spring return system. When power is removed for more than two minutes the spring returns the actuator to the normal position.</p>	4.0		300	200	N/A
 	<p>AQUASTAT: Water temperature sensing electrical switch.</p> <p>Application — Clips directly on nominal size 1/2 in. or 3/4 in. copper tubing for water temperature sensing. Must be correctly located for proper control operation.</p>					

LEGEND

C_v — Coefficient of Velocity
 DX — Direct Expansion

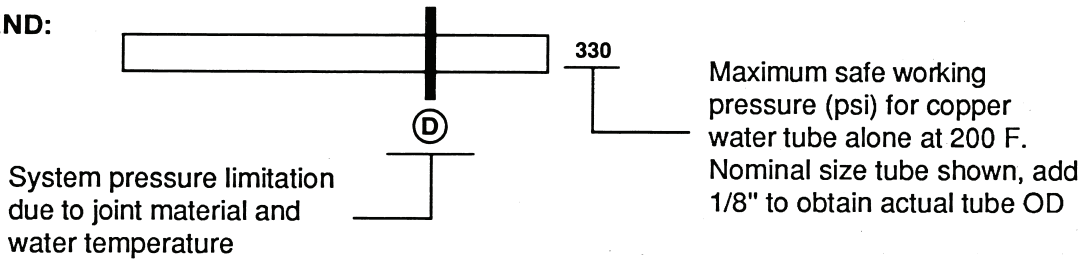
*Check all system component pressure ratings (coils, valves, pumps, etc.) with manufacturer and any applicable local or national piping codes prior to specifying system pressure rating.

NOTES:

1. Motorized 2-way valves have a maximum close-off differential of 25 psi.
2. Motorized 3-way valves have a maximum close-off differential of 10 psi.

COPPER TUBE			SAFE WORKING PRESSURE (PSI)					
NOM. SIZE	WALL	TYPE	100	200	300	400	500	600
			3/4	.065	K			
	.045	L						570
	.032	M				400		
1	.065	K						660
	.055	L					490	
	.035	M			330			
1 1/4	.065	K					530	
	.055	L				440		
	.042	M			330			
1 1/2	.072	K					500	
	.060	L	(A)	(B)	(C)	(D)	(E)	(F) 410
	.049	M				330		
2	.083	K					420	
	.070	L				370		
	.058	M			290			
2 1/2	.095	K					400	
	.080	L				340		
	.065	M			270			
3	.109	K					390	
	.090	L				320		
	.072	M			250			
4	.134	K					360	
	.110	L				290		
	.095	M			250			

LEGEND:



IMPORTANT: THE ABOVE CHART IS FOR REFERENCE ONLY. Check all system component pressure ratings (coils, valves, pumps, etc.) and any applicable local or national piping codes prior to specifying system pressure rating.

JOINT MATERIALS					
A	50-50 Lead-Tin at 200 F	<i>Note 1</i>	D	95-5 Tin-Antimony at 200 F	<i>Note 2</i>
B	50-50 Lead-Tin at 150 F		E	95-5 Tin-Antimony at 150 F	
C	50-50 Lead-Tin at 100 F		F	95-5 Tin-Antimony at 100 F	

- NOTES:
1. Not recommended for high system water pressures.
 2. Standard factory joint material.

Fig. 49 — Copper Water Tube and Joint Material Pressure Ratings

Step 3 — Make Electrical Connections — Refer to unit nameplate for required supply voltage, fan and heater amperage and required circuit ampacity. Refer to unit wire diagram for unit and field wiring. Make sure all electrical connections are in accordance with unit wiring diagram and all applicable codes.

The fan motor(s) should never be controlled by any wiring or device other than the factory-supplied switch or thermostat/switch combination unless prior factory authorization is obtained. Fan motor(s) may be temporarily wired for use during construction only with prior factory approval and only in strict accordance with the instructions issued at that time.

Floor cabinet type units have factory-wired integral fan switches. Connect power wires to leads in unit junction box per unit wiring diagram. On the other units, install remote fan switch according to job drawings. Hook up switch and power wiring per unit wiring diagram.

Install optional, wall-mounted thermostat per instructions shipped with thermostat. Connect as shown on unit wiring diagram.

Units with factory-supplied and factory-installed aquastats may be shipped with the aquastats mounted on a coil stub-out. If this is the case, remove the aquastat before installing valve package. When reinstalling aquastats, consult the factory-piping diagram in the submittal for proper location. If the valve package is field-supplied, the aquastat must be installed in a location where it will sense the water temperature regardless of the control valve position. A bleed bypass may be required to guarantee proper aquastat operation. The aquastat bypass line allows a small amount of water to flow from the supply to the return piping when the control valve is closed.

NOTE: The aquastat must be able to sense whether the flowing water is being chilled or heated and switches a contact closed to provide automatic summer or winter changeover for the system. When a two-pipe cooling/heating system with optional auxiliary electric heat is desired, an additional aquastat is required.

All field wiring must be in accordance with governing codes and ordinances. Any modification of unit wiring without factory authorization will invalidate all factory warranties and nullify any agency listings.

IMPORTANT: Wiring diagrams shown depict typical control functions. Refer to unit wiring label for specific functions.

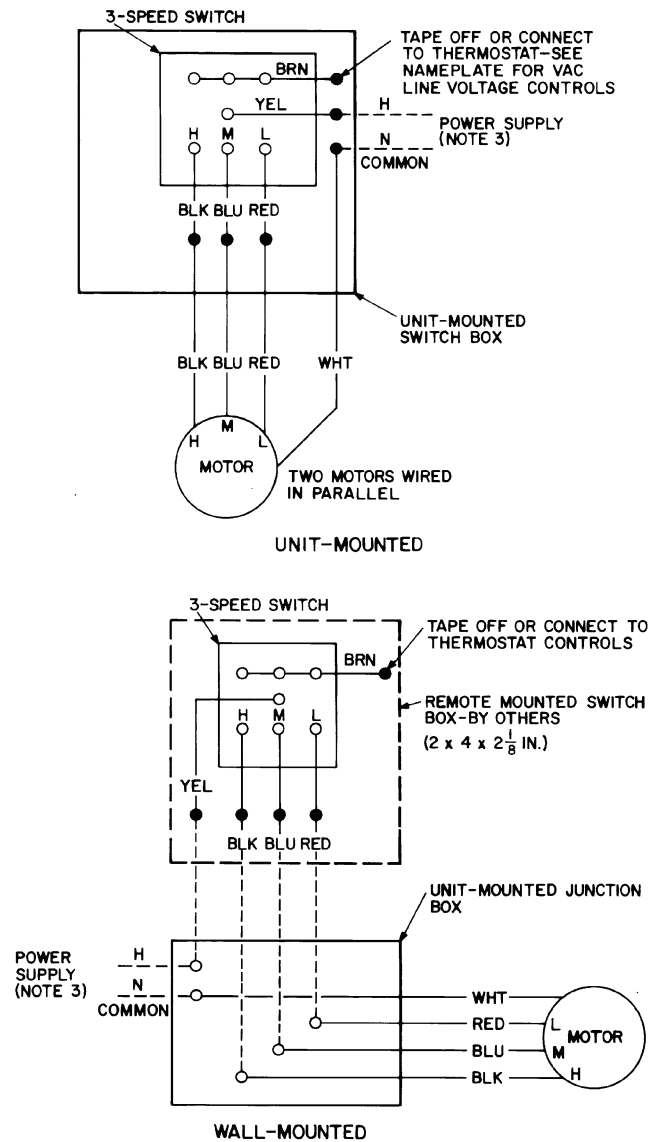
Units may be equipped with line voltage controls or 24 VAC control systems. The following descriptions are for line voltage controls only. For 24 v control operating sequence, refer to thermostat operating instructions.

STANDARD WIRING PACKAGES

Manual Fan Control — On all vertical cabinet units, the standard fan-speed switch is furnished unit-mounted and wired. See Fig. 50. On all vertical furred-in units and all horizontal units, the switch is shipped separately on a decorative wall plate for field mounting and wiring.

The standard switch has LOW, MEDIUM, HIGH and OFF positions plus an auxiliary contact to energize thermostats, valves, dampers, etc.

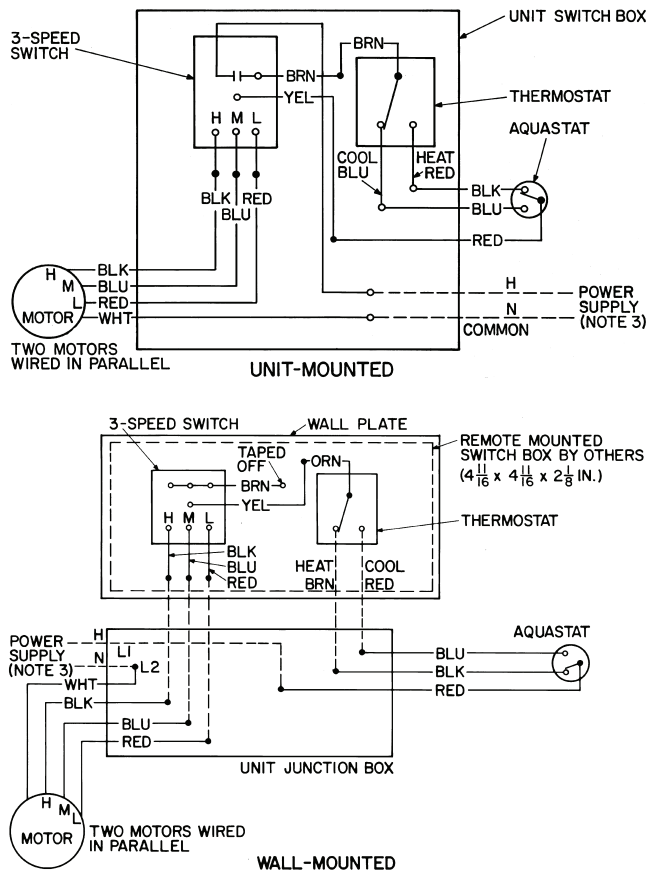
NOTE: Wiring diagrams are for 120-v power supply. If other voltages for heaters or controls are specified, wiring may differ from that shown.



- NOTES:
1. Motors are thermally protected.
 2. Use copper conductors only.
 3. See unit nameplate for power supply. Provided disconnect means and overload protection as required.
 4. Unit-mounted thermostats are not recommended for fan control because of poor temperature sensing. Fan control not available on 42VC,VE lowboy units.

Fig. 50 — Manual Fan Control

Thermostatic Fan Control, 2-Pipe Systems — The thermostat cycles the fan on and off from any selected speed setting to maintain selected room temperature. Controls can be wired for heating-only, cooling-only or for heating/cooling by the addition of an automatic changeover device that senses water temperature and changes the action of the thermostat as required. See Fig. 51.

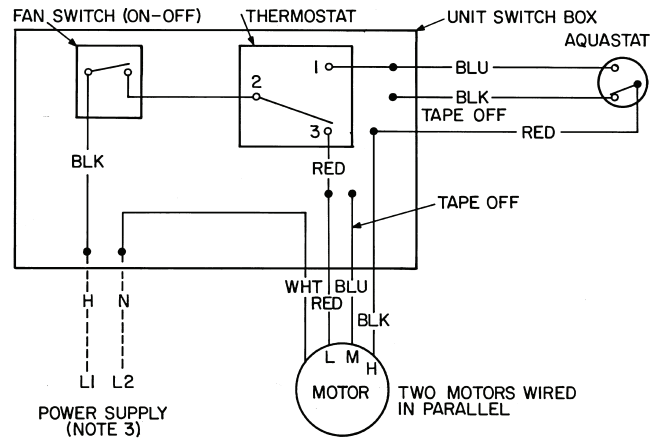


- NOTES:
1. Motors are thermally protected.
 2. Use copper conductors only.
 3. See unit nameplate for power supply. Provide disconnect means and overload protection as required.
 4. Unit-mounted thermostats are not recommended for fan control because of poor temperature sensing. Fan control not available on 42VC,VE lowboy units.

Fig. 51 — Thermostatic Fan Control (2-Pipe System)

Thermostatic Fan Control, 2-Pipe System with Safety Cycle — This control is used for high humidity situations in which condensate problems can occur if fan is turned off while chilled water is still running through the coil.

The wiring provides fan cycling from HIGH to LOW on the cooling cycle and from LOW to OFF on the heating cycle. An ON-OFF toggle switch replaces the standard 3-speed fan switch. The toggle switch can be concealed to ensure that the unit runs on low speed when cooling. This action greatly reduces the chance of condensation problems that exist with other standard fan cycling controls. See Fig. 52.



- NOTES:
1. Motors are thermally protected.
 2. Use copper conductors only.
 3. See unit nameplate for power supply. Provide disconnect means and overload protection as required.

Fig. 52 — Thermostatic Fan Control (2-Pipe System with Safety Cycle)

Thermostatic Electric Valve Control, 2-Pipe — A thermostatically controlled 2-position valve provides superior control to fan cycling. With this control, the fan runs continuously unless it is manually switched to the OFF position. The fan must be on before the valve can be opened to supply water to the coil.

This system can be used for normal 2-pipe changeover systems and can also be furnished for cooling-only or heating-only applications by omitting the changeover and specifying which application is intended. See Fig. 53 and 54 for line voltage control. See Fig. 55 and 56 for 24-v control.

Δ 120-V WHT ALL OTHERS BLK

NEC CLASS 1 WIRING

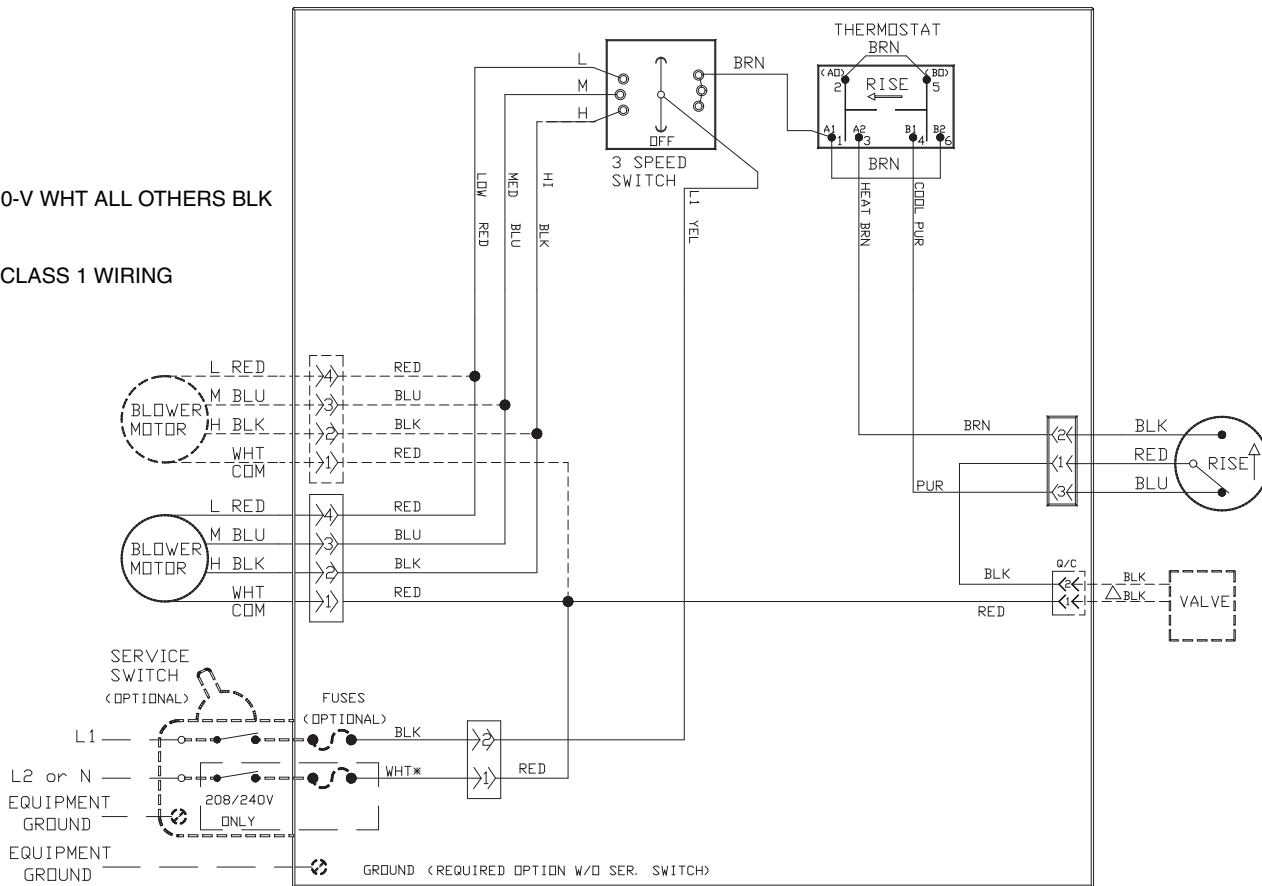
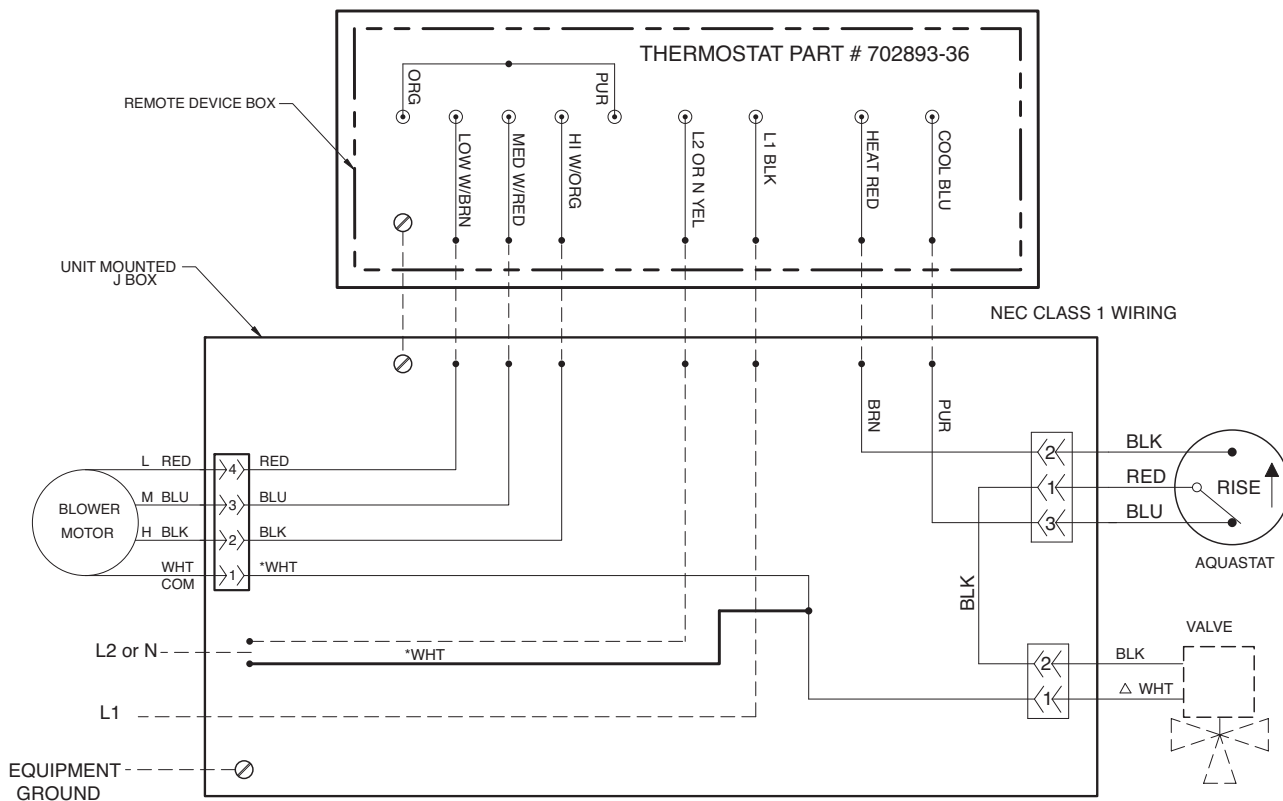


Fig. 53 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Heating and Cooling with Automatic Changeover — Unit-Mounted Thermostat (Line Voltage)



Δ ONLY 120V WHT/ALL OTHERS BLK

Fig. 54 — 42C,S,V and 42D (600-1000) 2-Pipe Heating and Cooling with Automatic Changeover — Remote/Wall-Mounted Thermostat (Line Voltage)

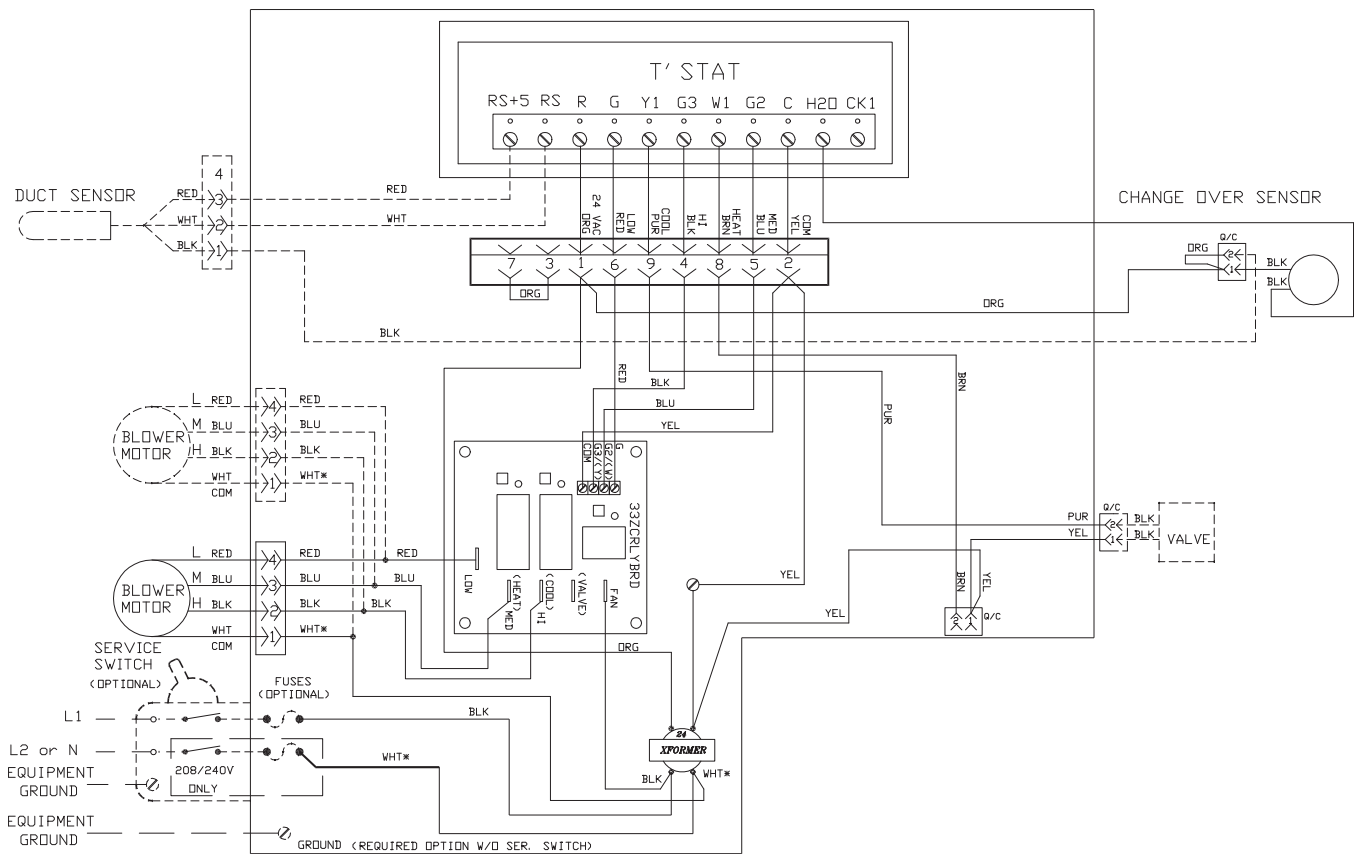


Fig. 55 — 42SG,SH,SJ,VA,VB,VF 2-Pipe Heating and Cooling with Automatic Changeover — Unit-Mounted Debonair® Thermostat (24-v), Duct Sensor

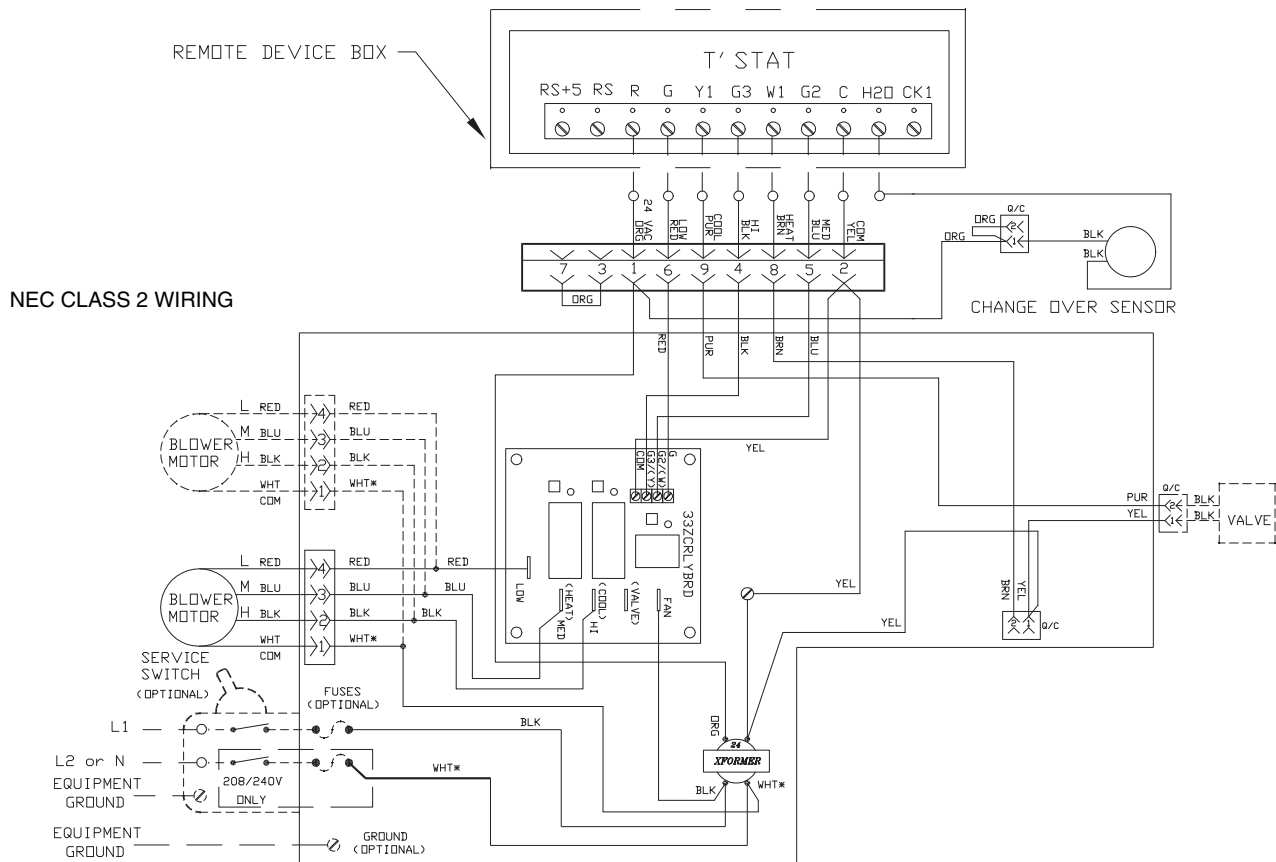


Fig. 56 — 42C,S,V (except VG), and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Automatic Changeover — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Thermostatic 2-Pipe Auxiliary Electric Heat with Valve Control — This system, also called twilight or intermediate season electric heat, goes a long way towards solving the spring and fall control problems of 2-pipe systems.

Chilled water can be run late into the fall, turned on early in the spring and heat will still be available to all units whenever required.

In winter the system is switched over to hot water. Two changeover devices are required for this. One device switches the action of the thermostat and the other locks out the electric heat when hot water is in the coil.

With this system, the fan runs continuously unless manually switched to OFF position. Fan must be on before thermostat can send signal to open chilled water valve or turn on electric heater.

Two control methods are available:

1. Use the standard automatic changeover thermostat with a dead band between heating and cooling.
2. Use a manual changeover thermostat. With this method only one changeover is required.

Be sure to include a 2-way or 3-way electric valve with this system.

NOTE: Wiring diagrams are for 120-v power supply. If other voltages for heaters or controls are specified, wiring may differ from that shown. See Fig. 57 and 58 for line voltage control. See Fig. 59 and 60 for 24-v control.

RELAY COIL LETTER REFERS TO RELAY P/N 706654-XX

VOLTS	A	B
24	01	06
120	02	07
208	03	08
240	04	09
277	05	10

Δ 120-V WHT ALL OTHERS BLK

NEC CLASS 1 WIRING

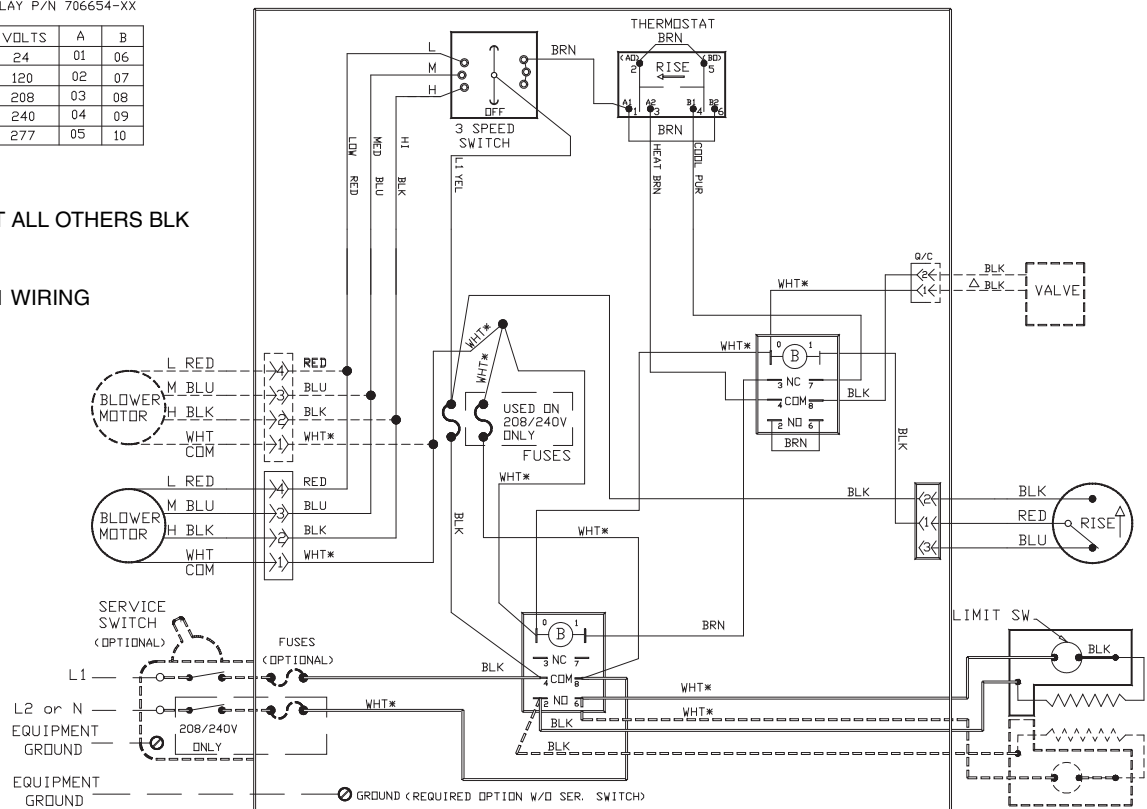


Fig. 57 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Heating and Cooling with Auxiliary Heat — Unit-Mounted Thermostat (Line Voltage)

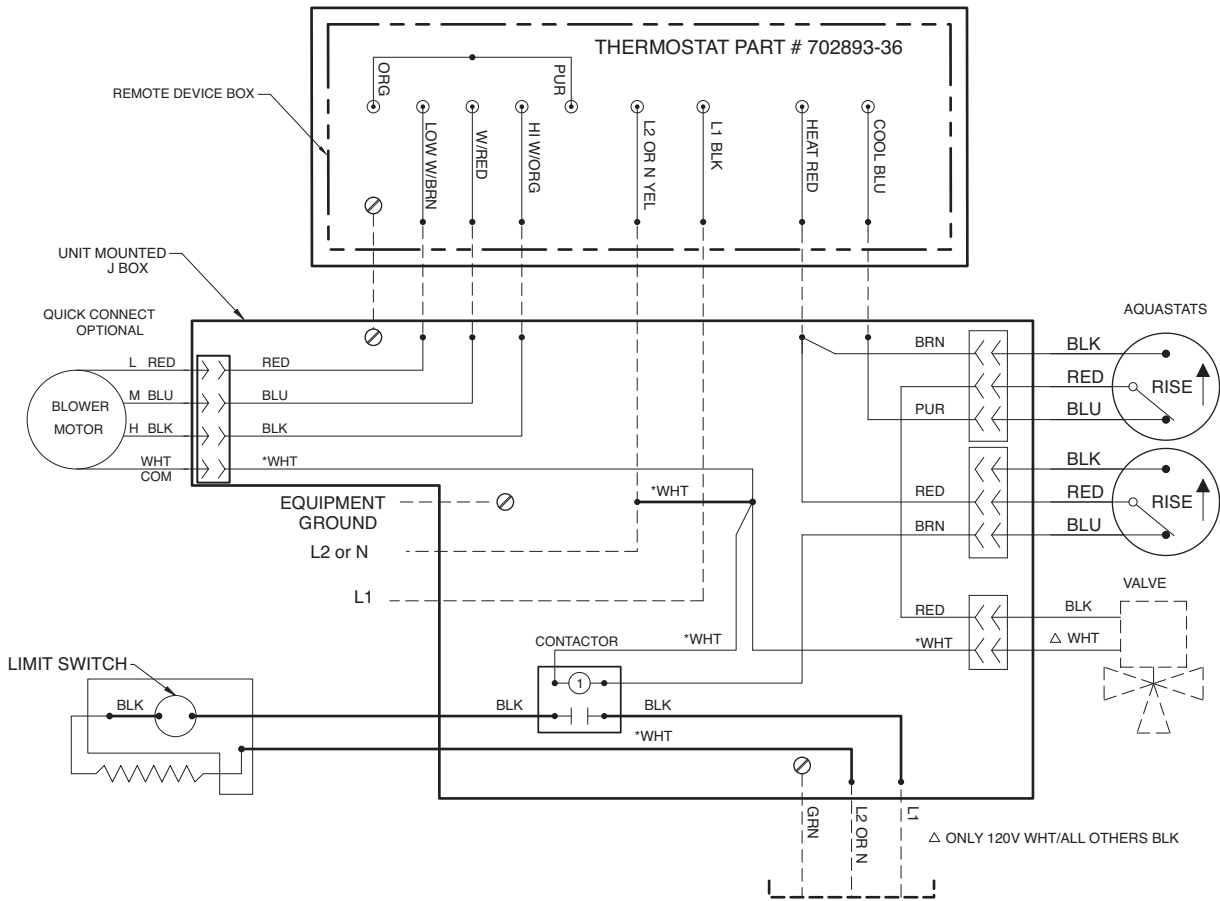


Fig. 58 — 42C,S,V (except VG), and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Thermostat (Line Voltage) and Dual Power Source

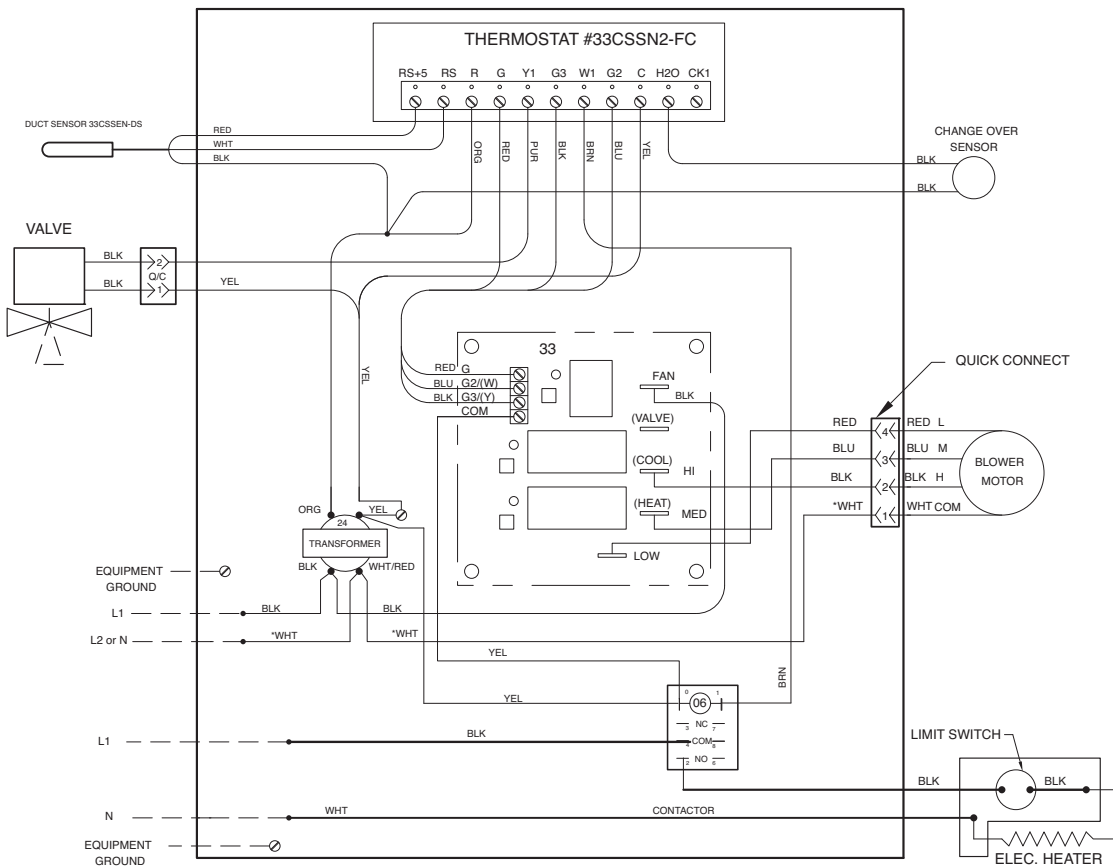


Fig. 59 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Heating and Cooling with Auxiliary Heat — Unit-Mounted Debonair® Thermostat (24-v), Duct Sensor and Dual Power Source

NEC CLASS 2 WIRING

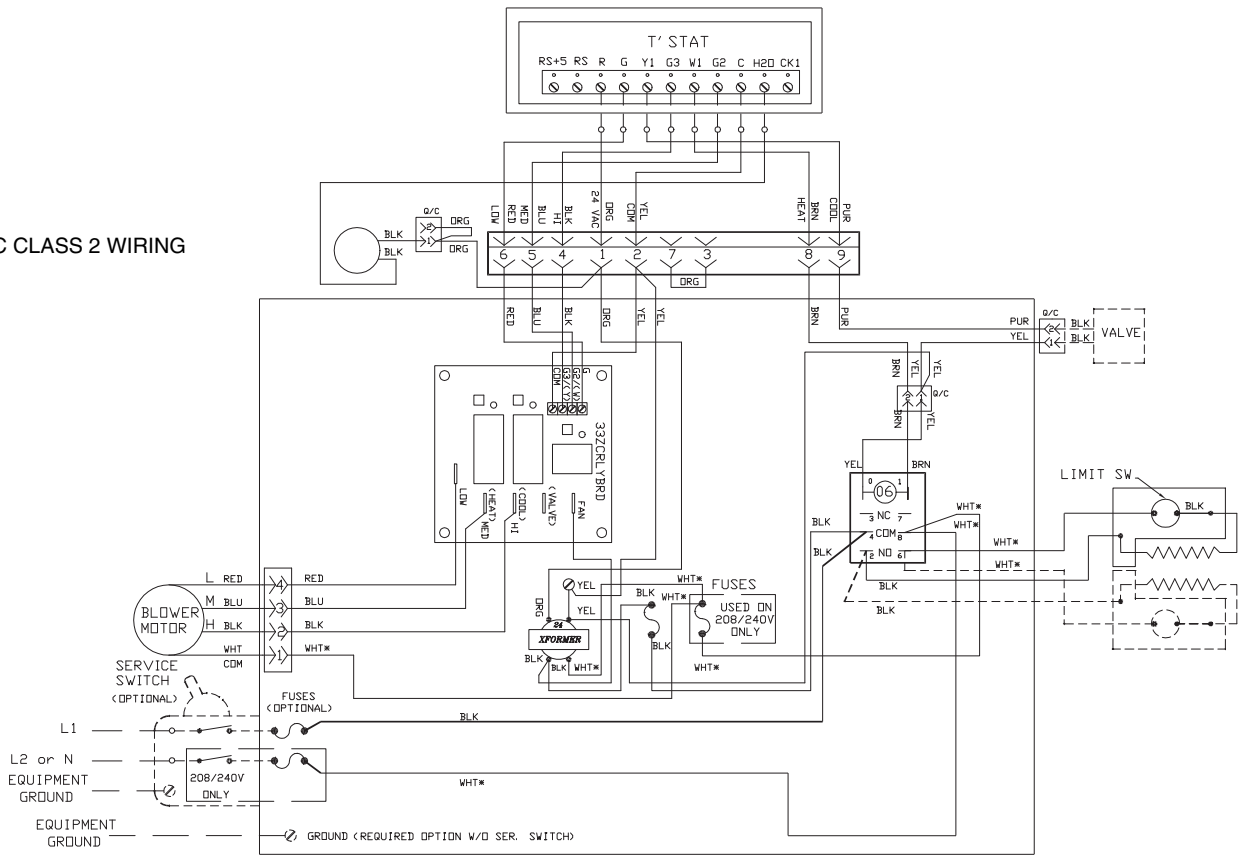


Fig. 60 — 42C,S,V (except VG), and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Thermostat 2-Pipe Total Electric Heat with Valve Control — With this system, the complete heating requirement for the space is provided by the electric heater; the water system is never changed over for heating. It is therefore possible, just as with 4-pipe systems, to have heating or cooling at any time of the year.

The fan runs continuously unless it is manually switched to OFF position. Fan must be on before thermostat can send signal to open chilled water valve or turn on electric heater.

Normally, an automatic changeover thermostat with a dead band between heating and cooling is used, but a manual changeover thermostat is also suitable. A 2-way or 3-way valve must also be used so that the chilled water is off whenever the heater is on. No changeover device to sense water temperature is necessary.

NOTE: Wiring diagrams are for 120-v power supply. If other voltages for heaters or controls are specified, wiring may differ from that shown. See Fig. 61 and 62 for line voltage control. See Fig. 63 and 64 for 24-v control.

RELAY COIL LETTER REFERS TO
RELAY P/N 706654-XX

VOLTS	A	B
24	01	06
120	02	07
208	03	08
240	04	09
277	05	10

Δ 120-V WHT ALL
OTHERS BLK

NEC CLASS 1 WIRING

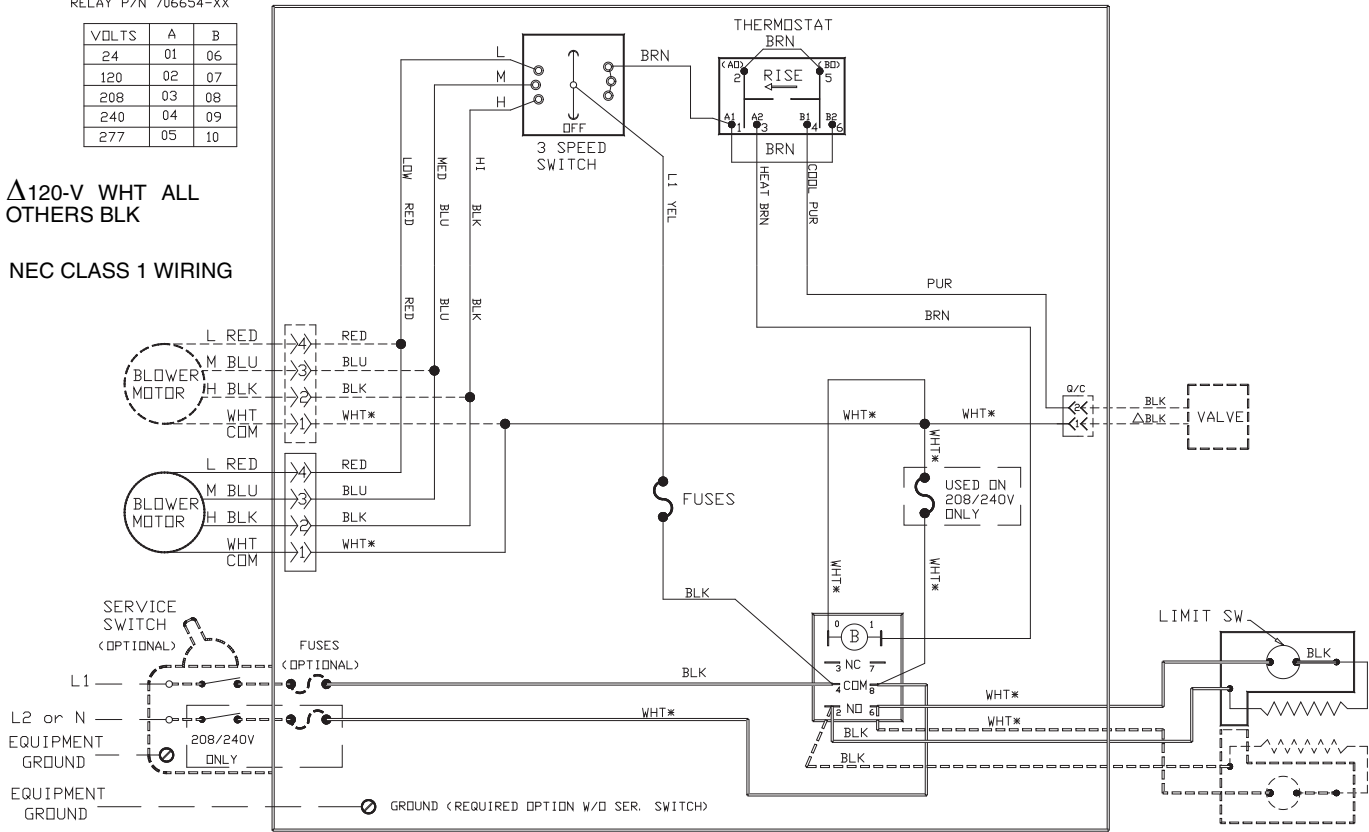


Fig. 61 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Cooling with Total Electric Heat — Unit-Mounted Thermostat (Line Voltage)

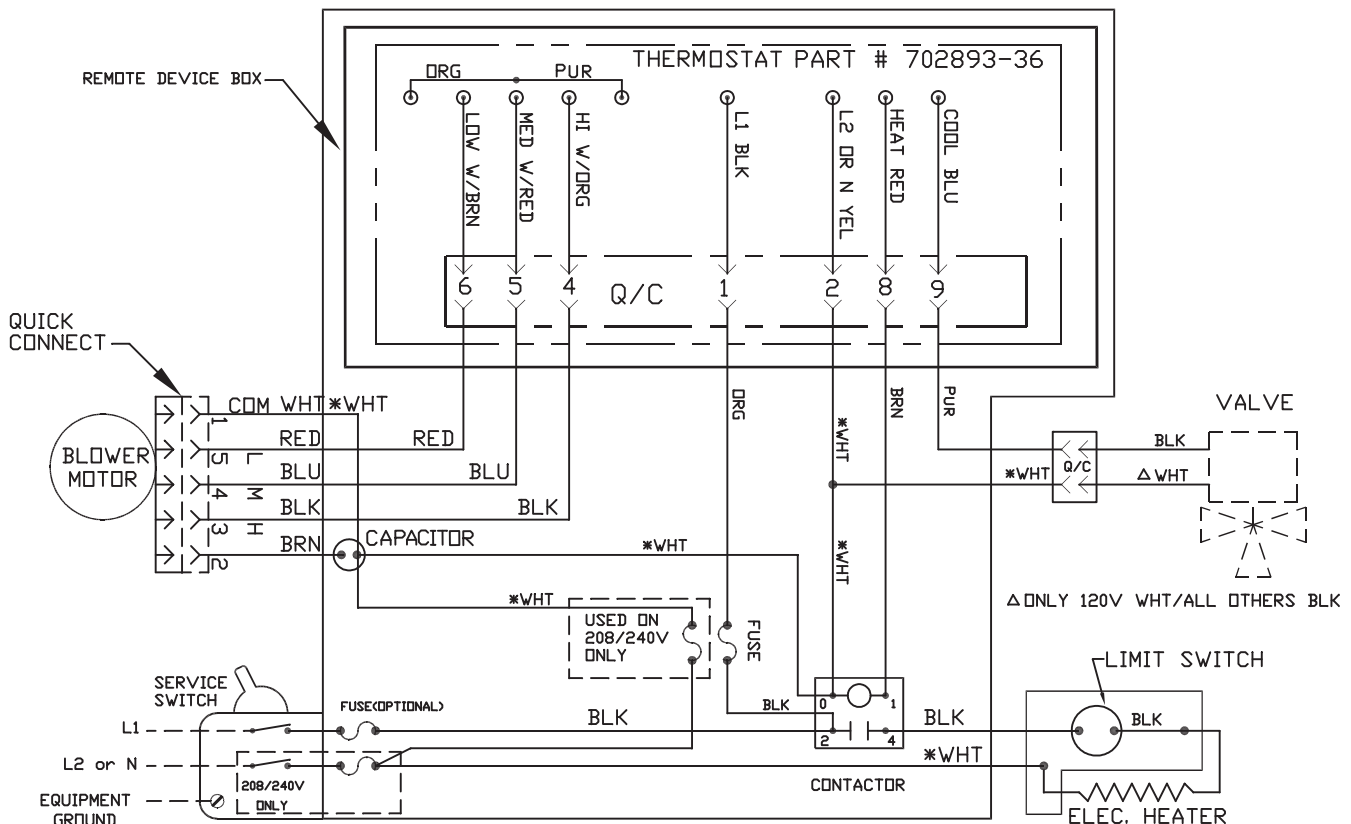


Fig. 62 — 42C,S,V (except VG), and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Thermostat (Line Voltage)

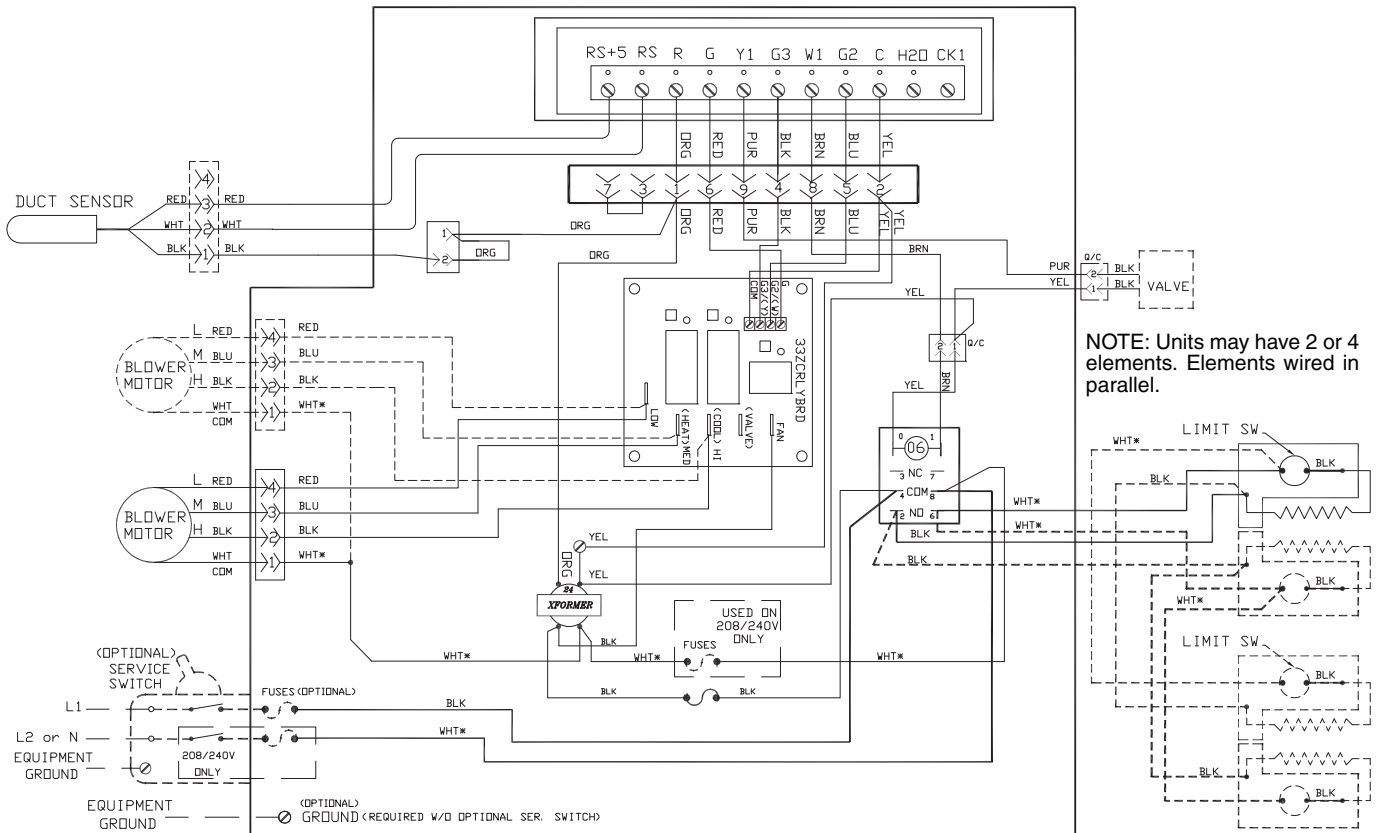


Fig. 63 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Cooling with Total Electric Heat — Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

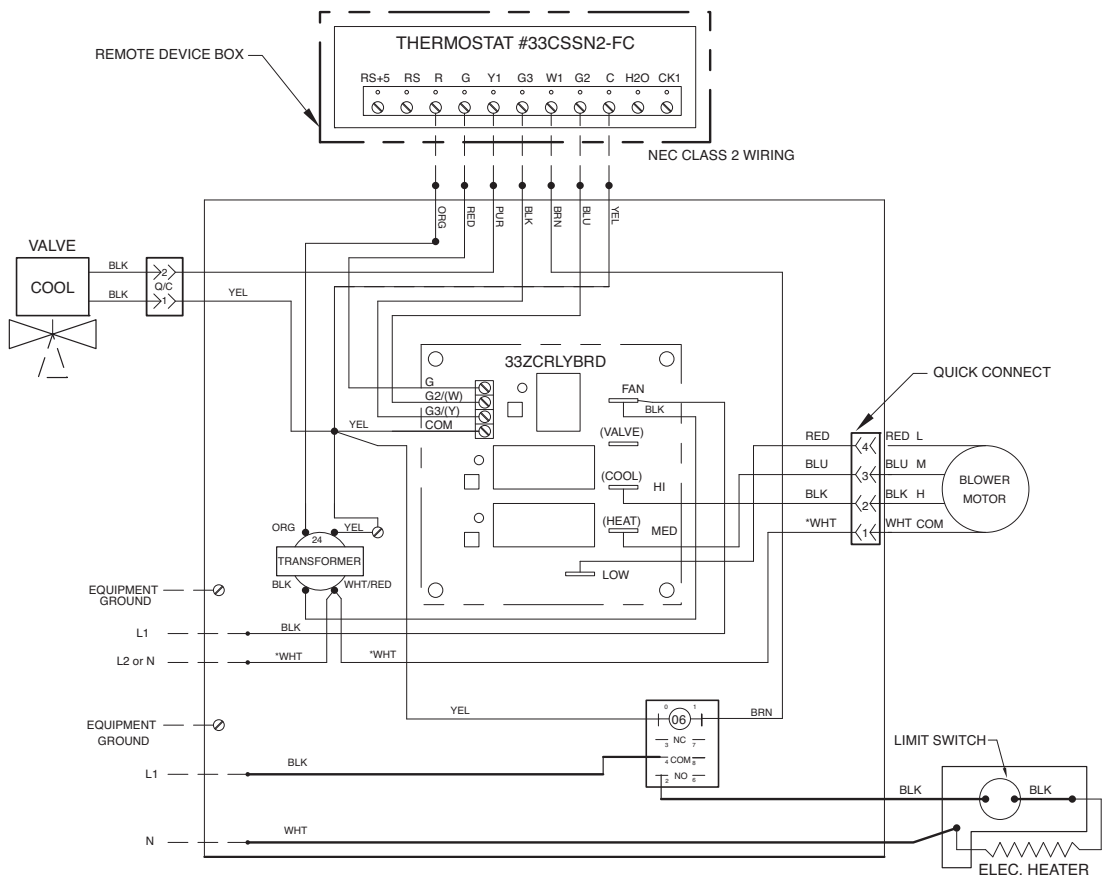


Fig. 64 — 42C,S,V (except VG), and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v) and Dual Power Source

Thermostatic Valve Control, 4-Pipe — The 4-pipe system provides the ultimate in economy and room temperature control. Both hot water and chilled water are available at any time.

Normally an automatic changeover thermostat is used, but a manual changeover thermostat is also suitable. Two 2-way valves, two 3-way valves, or one 2-way plus one 3-way valve must be selected. An automatic changeover device to sense water temperature is not required.

With this system, the fan runs continuously unless it is manually switched to OFF position. Fan must be on before thermostat can send signal to open the chilled water or hot water valve.

NOTE: Wiring diagrams are for 120-v power supply. If other voltages for heaters or controls are specified, wiring may differ from that shown. See Fig. 65 and 66 for line voltage control. See Fig. 67 and 68 for 24-v control.

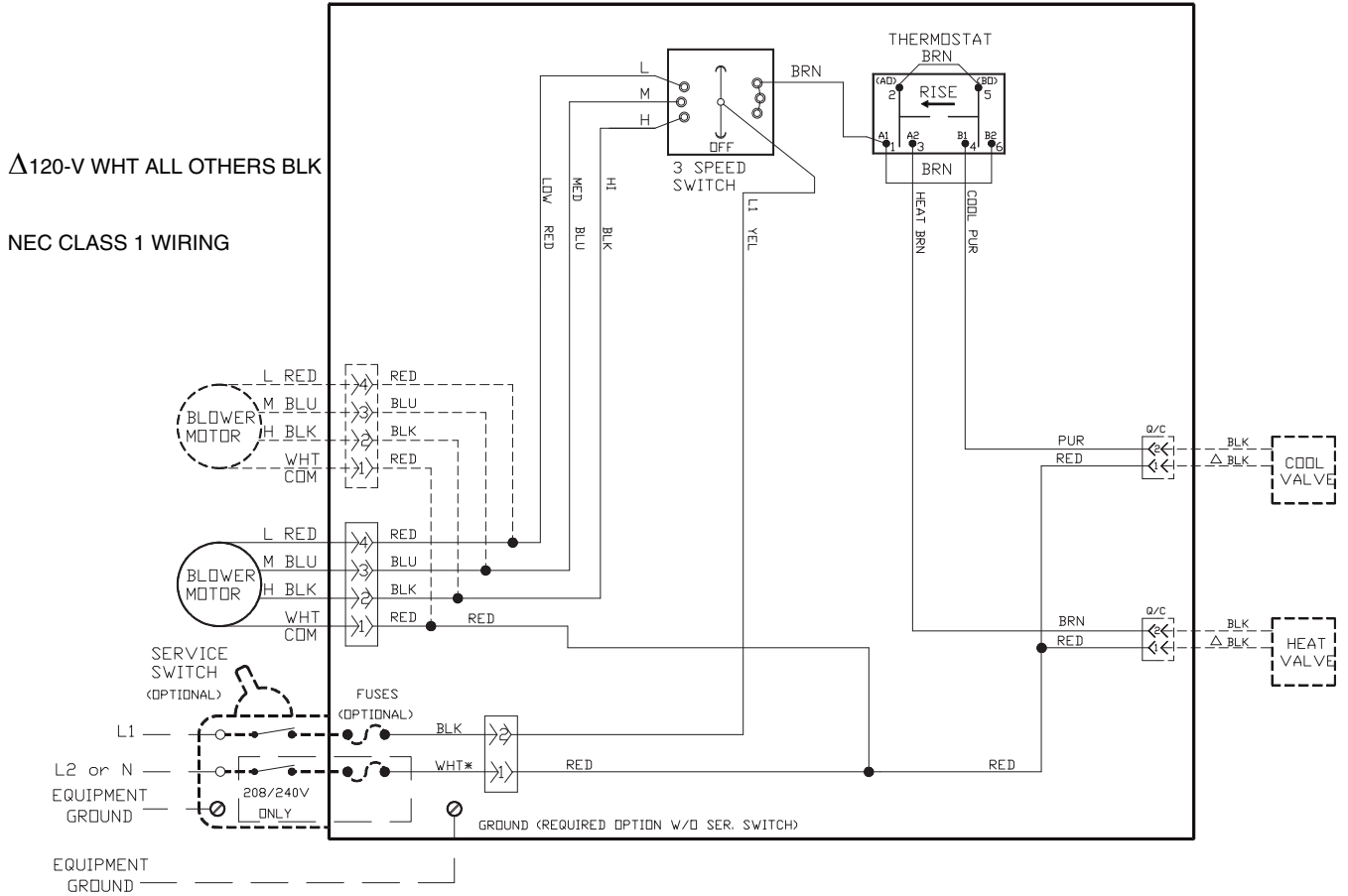


Fig. 65 — 42SG,SH,SJ,VA,VB,VC,VE,VF 4-Pipe Heating and Cooling — Unit-Mounted Thermostat (Line Voltage)

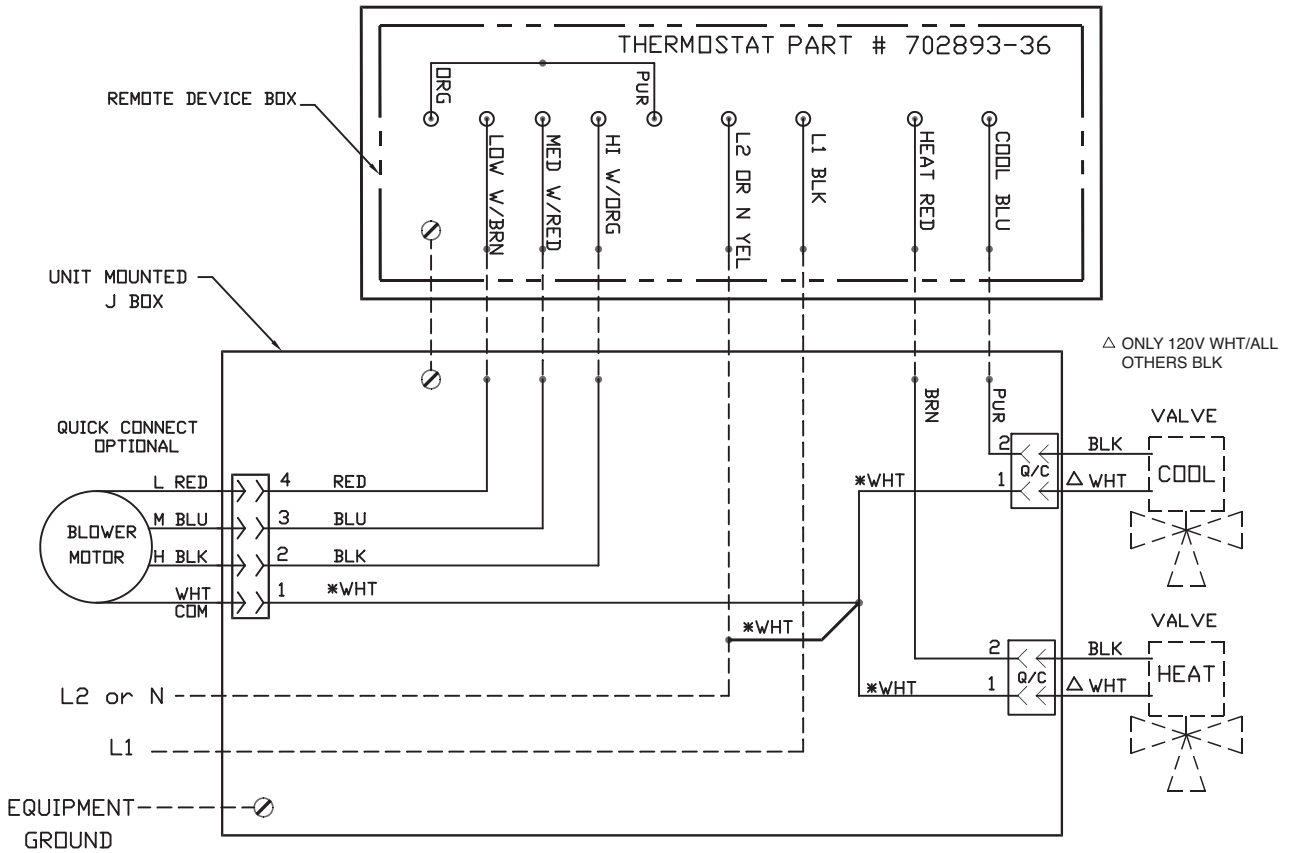


Fig. 66 — 42C,S,V (except VG), and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Remote/Wall-Mounted Thermostat (Line Voltage)

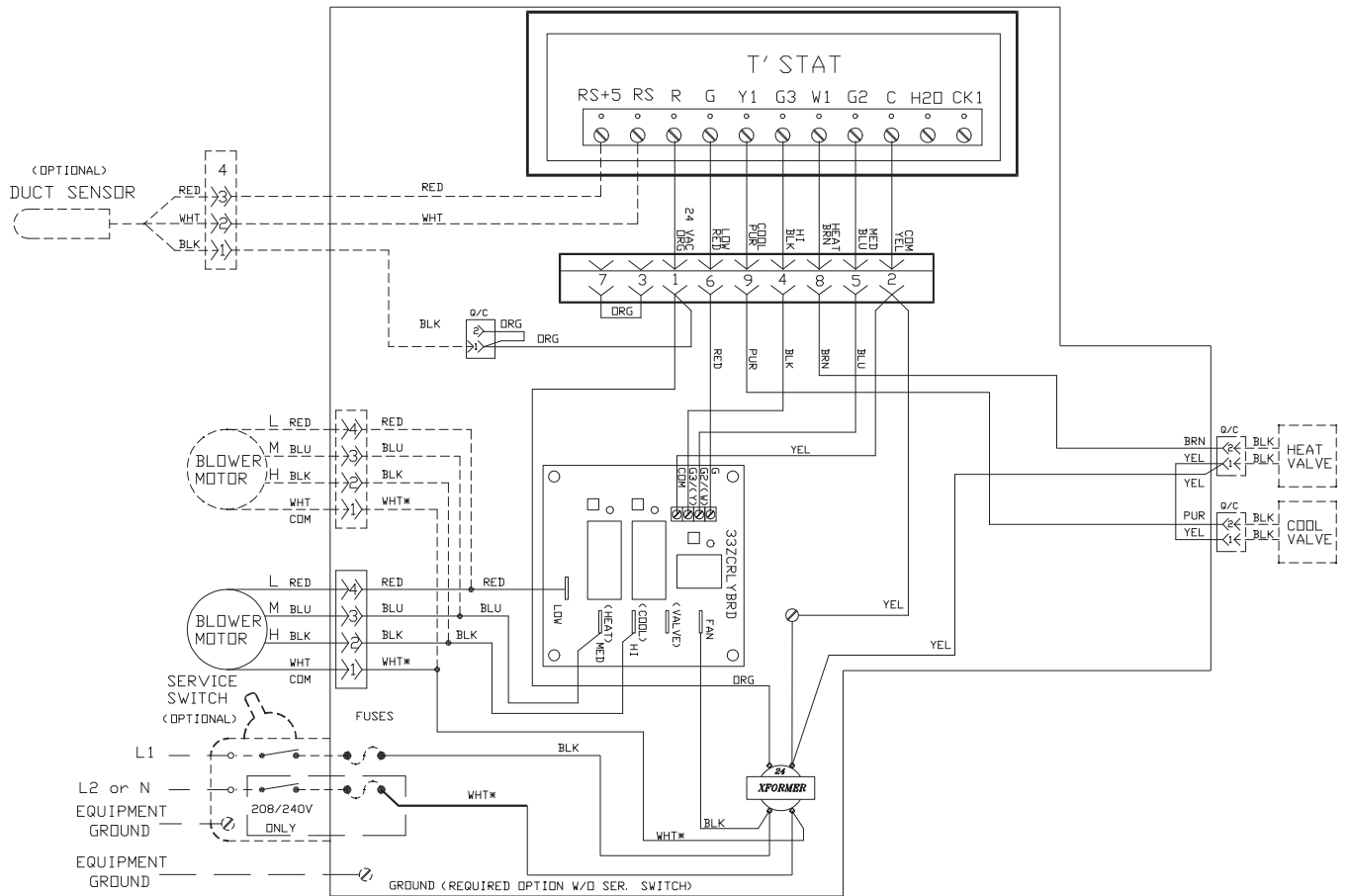


Fig. 67 — 42SG,SH,SJ,VA,VB,VC,VE,VF 4-Pipe Heating and Cooling — Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

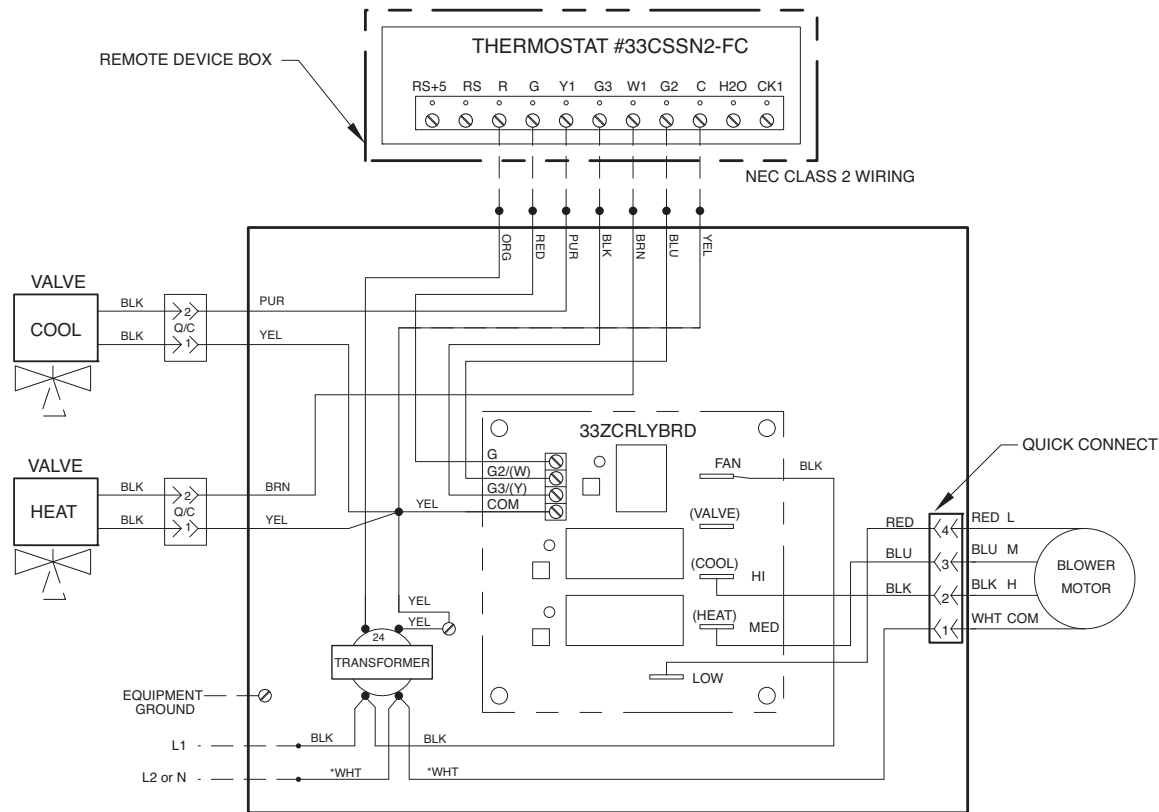


Fig. 68 — 42C,S,V (except VG), and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Step 4 — Make Duct Connections — Install all ductwork to and from unit in accordance with all applicable codes. Duct construction must allow unit to operate within duct external static pressure limits as shown on job submittals. Units designed to operate with ductwork may be damaged if operated without intended ductwork attached.

Units provided with outside air should have some method of low-temperature protection to prevent freeze-up.

Insulate ductwork as required. Use flexible connections to minimize duct-to-unit alignment problems and noise transmission where specified.

Set unit markings for minimum clearance to combustible materials and first 3 ft of ductwork. Install ductwork, accessory grilles and plenums so that they do not restrict access to filter. Cut openings for supply-air and return-air grilles, thermostats and switch plates where specified on job drawings. Be careful not to cut wires, piping or structural supports. Use a steel thermostat shield ring to protect drywall from thermostat wiring where applicable.

CAUTION

Prevent dust and debris from settling in unit. If wall finish or color is to be spray applied, cover all openings to prevent spray from entering unit. Failure to do so could result in the reduction of unit efficiency.

Step 5 — Frame and Finish Unit — Models 42SG, SH and SJ have factory enclosures and may be finished with normally accepted wall covering. However, drywall secured with adhesive bonding alone is *not* recommended.

Use low-profile sheet metal panhead screws to secure wallboard to unit frame.

Do not apply sheet metal screw or nails where they can penetrate coil, riser pipes, or electrical junction box and raceways.

Do not secure wallboard to drain pan edges or to control box enclosure. Condensate leaks or electrical shorts may result.

An alternate method of enclosing the unit is to frame one or more sides with studding and apply the wall board to this framing. This method requires specific unit features and return access panels when used on the return-air side of a unit. Units not properly equipped will exhibit poor cooling and/or heating performance and could experience excessive or premature component failures.

Prevent sheetrock dust or other debris from settling on coil fins, motor-blower assembly or other unit interior surfaces.

Return access and exposed cabinet units may be furnished with a baked enamel finish. Small scratches in this finish may be repaired with touch-up paint available from the factory. Some colors of touch-up paint are available in aerosol containers and all touch-up paint is available in pint, quart, and gallon cans.

To repaint the factory-baked enamel, the finish should be prepared by light sanding with no. 280 grit sand paper or no. 000 or no. 0000 fine steel wool. The surface may also be wiped with a liquid surface etch cleaning product such as “No Sand” or “Pasceo.” These items should be available at most paint product stores. It should be noted that the more conscientiously this preparation is done, the more effective it will be.

After this preparation is accomplished, the factory finish should provide excellent adhesion for a variety of air-dried top coats. Enamel will give a more durable, higher gloss finish, while latex will not adhere as well and will give a dull, softer finish. Top coats involving an exothermic chemical process between two components, such as epoxies and urethanes, should be avoided.

Factory aerosol touch-up paint may require a number of light “dust coats” to isolate the factory-baked enamel finish from the quick drying touch-up paint.

Step 6 — Cut out Openings for Grilles and Thermostats

— On all units with optional supply-air or return-air grilles, dampers, thermostats, and switch plates, cut out openings where specified on the job plans. Be careful not to cut wires, piping or structural supports.

For remote-mounted thermostats use a steel thermostat shield ring to protect drywall from thermostat wiring where applicable.

Prevent dirt, dust, and debris from settling in unit. If wall finish or color is to be spray applied, cover all openings to prevent overspray entering unit.

Step 7 — Make Final Preparations

1. Turn off power to the unit (open unit electrical disconnect).
2. Install thermostats and perform any other final wiring as applicable.
3. Clean dirt, dust, and other construction debris from unit interior. Be sure to check fan wheel and housing.
4. Rotate fan wheel by hand to be sure it is free and does not rub housing. Check that wing nuts securing fan assembly to fan deck are tight.
5. Ensure all panels and filters are installed before checking fan operation. Turn on power to the unit.
6. Install filter in frame at front of coil. If field-supplied filters are used, be sure size is as specified in Tables 1-4.

IMPORTANT: Do not start up or operate unit without filter. Be sure filter and unit interior are clean.

7. Check the fan and motor operation. The fan switch is located in a switch box behind spring-loaded access door on unit cabinet or is wall-mounted. Speeds are marked on switch plate as follows:

OFF

H - High Speed

M - Medium Speed

L - Low Speed

Rotate knob clockwise to desired speed. To turn off, rotate knob counterclockwise to OFF.

8. Be sure drain line is properly and securely positioned and that the line is clear. Pour water into drain to check operation.
9. Vent all air from unit coil and related piping. If air vent is manual, release air from system by turning air vent screw $1\frac{1}{2}$ turns counterclockwise with screwdriver. When steady steam of water begins to escape, close valve. If air vent is automatic, trapped air will be vented automatically. Vent release air slowly, usually dripping water into drain pan in the process.

Make sure all service valves are open and that the motorized control valves, if supplied, are set for automatic operation.

10. Check all control valves in the system for proper operation in accordance with valve manufacturer's instructions.
11. For units with factory-installed balancing valves, adjust as follows:
 - a. Butterfly Valves — Turn valve gate by inserting screwdriver into slot in valve top and rotating up to 90 degrees. Valve is fully open when slot is parallel with valve body. When slot is perpendicular to body, flow through valve is at minimum. Valve does not seal against flow.
 - a. Ball Valves with Lever Handles — Valve gate action is similar to butterfly valves above except that when handle is perpendicular to valve body,

there is no flow through valve. Ball valves may be used as shutoff valves.

START-UP

Start-up procedures vary depending on time of year (summer or winter) and building characteristics (new building/old building, occupied/unoccupied, etc.)

Start-up in the cooling mode requires that proper care be given to avoid condensation problems. Condensation forms on surfaces that are colder than the dew point of the surrounding air. If a unit is started and is piped with low-temperature chilled water in a hot, humid atmosphere, condensation will form on many parts of the unit. In order to avoid excessive condensation, higher temperature water should initially be used (approximately 65 to 70 F) and set the fan coil control at low or medium fan speed. Be sure the fan current does not exceed motor nameplate values. Also, the building should be as completely closed as possible and outside air supply fans, and bathroom and kitchen exhaust fans should be off.

As the building temperature drops, the chilled water temperature can be gradually reduced until it reaches 50 F. At this point the outside air fans can be turned on. When the chilled water temperature is reduced to its design point, the exhaust fans can be turned on.

SERVICE

Excessive Condensation on Unit — Running chilled water through a fan coil unit with the unit fan off can cause excessive condensation. If fan cycling is used, a water flow control valve should be installed to shutoff the water when the fan stops.

Other methods of control, which avoids condensation problems, are as follows:

1. Continuous fan operation with motorized chilled water valve controlled by a thermostat.
2. Continuous fan operation with thermostat control to switch fan from high to low speed (instead of off).

To Clean Coil

1. Be sure electrical service switch is open, locked, and tagged while working on unit.
2. Remove return-air grille access panel and brush between coil fins with stiff wire brush. Follow-up by cleaning with vacuum cleaner. If coil is cleaned with air hose and nozzle, take care not to drive dirt and dust into other components.
3. Install clean filter. Refer to Clean or Replace Air Filters section.

Coil Air Vent (Manual or Automatic) — Turn vent cap clockwise (closed) while filling system; turn counterclockwise (open) to vent air. Tighten clockwise after venting. Turn automatic vent cap slightly counterclockwise until water leaks at about 10 drops per minute. Leak will stop within one-half minute.

Check Drain — Lock open and tag unit electrical service switch.

Check drain pan, drain line and trap at start of each cooling season. A standard type pipe cleaner for $\frac{3}{4}$ -in. ID pipe can be used to ensure that pipe is clear of obstruction so that condensate is carried away. Check the drain line at filter cleaning time during the cooling season. Be sure that debris has not fallen into unit through supply-air grille.

Fan Motor Bearings — Lock open and tag unit electrical service switch.

Standard motors are permanently sealed and lubricated. No lubrication is required unless special motors have been supplied or unusual operating conditions exist.

Clean Fan Wheel — Lock open and tag unit electrical service switch.

For access to fan assembly, remove front or bottom panel. Fan assembly may be removed from its tracks if unit has a long conduit lead. Use a stiff brush or vacuum to remove dirt and debris from scroll. Wipe all fan surfaces with a damp cloth.

Clean Electric Heater — Lock open and tag unit electrical service switch.

1. Remove dust, dirt, or foreign material before start-up. Do not block normal airflow to and from units; blockage may damage electric heaters.
2. Clean heater elements with soft brush or vacuum cleaner as necessary.
3. To replace blown fusible links (nichrome heaters only):
 - a. Remove fan deck (horizontal units only) for access to heater.
 - b. Remove nut securing link at each end; install new link; reinstall nuts.
 - c. Reinstall fan deck (if removed).

Electric resistance heaters typically require no normal periodic maintenance when unit air filters are changed properly. The operation and service life may be affected by other conditions and equipment in the system. The two most important operating conditions for an electric heater are proper airflow and proper supply voltage. High supply voltage and/or poorly distributed or insufficient airflow over the element will result in element overheating. This condition may result in the heater cycling on the high-limit thermal cutout. The high-limit thermal cutout device is a safety device only and is not intended for continuous operation. With proper unit application and operation, the high-limit thermal cutout will not operate. This device only operates when a problem exists, and ANY condition that causes high-limit cutout MUST be corrected immediately. High supply voltage also causes excessive amperage draw and may trip the circuit breaker or blow the fuses on the incoming power supply.

After proper airflow and supply power are assured, regular filter maintenance is important to provide clean air over the heater. Dirt that is allowed to deposit on the heating element will cause hot spots and eventual element burn through. These hot spots will normally not be enough to trip the high-limit thermal cutout device and may not be evident until actual heater element failure.

Clean or Replace Air Filters — Lock open and tag unit electrical service switch.

At the start of each cooling season and after each month of operation (more or less depending on operating conditions) replace throwaway filter or clean permanent filter.

THROWAWAY FILTER — Replace filter with a good quality filter of the size shown in Tables 1-4. Do not attempt to clean and reuse disposable filters.

PERMANENT FILTER (FIBERGLASS TYPE)

1. Tap on solid surface to dislodge heavy particles.
2. Wash in hot water. If needed, use mild solution of commercial solvent such as sal soda or trisodium phosphate.
3. Set filter on end so that water drains out through slots in frame. Allow filter to dry thoroughly.
4. Recharge filter with Film-Cor or similar recharging oil. Three ounces is sufficient for medium size filter. Oil may be applied by insect spray gun. For easier spraying, the oil can be warmed.

If the filter is dipped in the recharging oil, remove it immediately and allow draining through slots in frame.
5. Replace filter in unit.

If another type of filter is used, follow the filter manufacturer's instructions.

Warranty — All equipment and components sold through the Parts Department are warranted under the same conditions as the standard manufacturer's warranty with the exception that the warranty period is thirty (30) days unless the component is furnished as a warranty replacement. Parts furnished as warranty replacements are warranted for the remaining term of the original unit warranty or not less than thirty (30) days.

START-UP CHECKLIST FOR 42C,D,S,V SERIES FAN COIL AIR CONDITIONERS

I. Project Information

Job Name _____

Address _____

City _____ State _____ Zip _____

Installing Contractor _____

Sales Office _____

Start-up Performed By _____

INSPECTION, INSTALLATION, AND START-UP CHECKLIST

ITEM	COMPLETE	ITEM	COMPLETE
Receiving & Inspection		Electrical Connections	
1. Unit received undamaged		33. Refer to unit wiring diagram	
2. Unit received complete as ordered		34. Connection incoming power service(s)	
3. "Furnish only" parts accounted for		35. Install and connection "furnish only" parts	
4. Unit arrangement/hand correct		36. All field wiring in code compliance	
5. Unit structural support complete and correct		Unit Start-Up	
Handling & Installation		37. General visual unit and system inspection	
6. Mounting grommets/isolators used		38. Check for proper fan rotation	
7. Unit mounted level and square		39. Record electrical supply voltage	
8. Proper access provided for unit and accessories		40. Record ambient temperatures	
9. Proper electrical service provided		41. Check all wiring for secure connections	
10. Proper overcurrent protection provided		42. Close all unit isolation valves	
11. Proper service switch/disconnect provided		43. Flush water systems	
12. Proper chilled water line size to unit		44. Fill systems with water/refrigerant	
13. Proper hot water line size to unit		45. Vent water systems as required	
14. Proper refrigerant line sizes to unit		46. All ductwork and grilles in place	
15. Proper steam line sizes to unit		47. All unit panels and filters in place	
16. Proper steam condensate trap on return line		48. Start fans, pumps, chillers, etc.	
17. Proper steam supply pressure to unit (10 psi max)		49. Check for overload condition of all units	
18. All service to unit in code compliance		50. Check all ductwork and units for air leaks	
19. All shipping screws and braces removed		51. Balance air systems as required	
20. Unit protected from direct & foreign matter		52. Record all final settings for future use	
Cooling/Heating Connections		53. Check piping and ductwork for vibration	
21. Protect valve package components from heat		54. Check all dampers for proper operation	
22. Mount valve packages		55. Verify proper cooling operation	
23. Connect field piping to unit		56. Verify proper heating operation	
24. Pressure test all piping for leaks		57. Reinstall all covers and access panels	
25. Install drain line and traps as required			
26. Insulate all piping as required			
27. Install drip lip under piping as required			
Ductwork Connections			
28. Install ductwork, fittings, and grilles as required			
29. Flexible duct connections at unit			
30. Proper supply and return grille type and size used			
31. Control outside air for freeze protection			
32. Insulate all ductwork as required			

