Installation, Start-Up, and Service Instructions

CONTENTS

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguisher available for all brazing operations.

It is important to recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal

injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

⚠WARNING

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

⚠WARNING

No attempt should be made to handle, install, or service any unit without following safe practices regarding mechanical equipment.

⚠CAUTION

Disconnect all power prior to any installation or service (unit may use more than one power source; ensure all are disconnected). Power to remote mounted control devices may not be supplied by unit.

⚠CAUTION

Never wear bulky or loose fitting clothing when working on any mechanical equipment. Gloves should always be worn for protection against sharp sheet metal edges, heat, and other possible injuries. Safety glasses or goggles should always be worn, especially when drilling, cutting, or working with refrigerants, lubricants or cleaning chemicals.

⚠WARNING

Never pressurize any equipment beyond specified test pressures listed on the unit rating plate. 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. Always protect adjacent flammable material when welding or soldering. Use a suitable heat-shield material to contain sparks or drops of solder. Have a fire extinguisher readily available.

⚠CAUTION

Always protect adjacent flammable material when welding or soldering. Use a suitable heat shield material to contain sparks or drops of solder. Have a fire extinguisher readily available.

IMPORTANT: Children should be supervised to ensure that they do not play with the appliance.

See Fig. 1 for Proposition 65 warning label.

IMPORTANT: Never pressurize any equipment beyond specified test pressures. 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. Always protect adjacent flammable material when welding or soldering. Use a suitable heat-shield material to contain sparks or drops of solder. Have a fire extinguisher readily available.

Fig. 1 — Proposition 65 Warning Label

INTRODUCTION

Carrier fan coil units represent a prudent investment offering trouble-free operation and long service with proper installation, operation, and regular maintenance. Your equipment is initially protected under the manufacturer's standard warranty; however, this warranty is provided under the condition that the steps outlined in this manual for initial inspection, proper installation, regular periodic maintenance, and everyday operation of the equipment be followed in detail. This manual should be fully reviewed in advance before initial installation, start-up, and any maintenance. Should any questions arise, please contact your local sales representative or the factory BEFORE proceeding.

This document contains general installation instructions for the 42C,D,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, V units are provided in Tables 1-3.

PRE-INSTALLATION

Unpack and Inspect Units

All units are carefully inspected at the factory throughout the manufacturing process under a strict detailed quality assurance program, and, where possible, ALL major components and sub-assemblies are carefully tested for proper operation and verified for full compliance with factory standards. Operational testing of some customer-furnished components such as electronic control valves and digital controllers may be a possible exception.

Each unit is carefully packaged for shipment to avoid damage during normal transit and handling. Equipment should always be stored in a dry place, and in the proper orientation as marked on the carton. All shipments are made F.O.B. (Free On Board) factory and are the responsibility of the receiving party to inspect the equipment upon arrival. Any obvious damage to the carton and/or its contents should be recorded on the bill of lading, a claim should be filed with the transportation company, and Carrier should be advised. After determining the condition of the carton exterior, carefully remove each unit from the carton and inspect for hidden damage. At this time, check to make sure that "furnished only" items such as thermostats, grilles etc. are accounted for whether packaged separately or shipped at a later date. Any hidden damage should be recorded and immediately reported to the transportation company, a claim should be filed with the transportation company, and Carrier should be notified. In the event a claim for shipping damage is filed, the unit, shipping carton, and all packing must be retained for physical inspection by the transportation company. All equipment should be stored in the factory shipping carton with internal packing in place until installation.

At the time of receipt, the equipment type and arrangement should be verified against the order documents. Should any discrepancy be found, the local sales representative should be notified immediately so that proper action may be taken. Should any questions arise concerning warranty repairs, the factory must be notified BEFORE any corrective action is taken. Where local repairs or alterations can be accomplished, the factory must be fully informed of the extent and expected cost of those repairs before work is begun. Where factory operations are required, the factory must be contacted for authorization to return equipment and a Return Authorization Number will be issued. Unauthorized return shipments of equipment and shipments not marked with an authorization number will be refused. In addition, any claims for unauthorized expenses will not be accepted by the manufacturer.

Unit Protection from Damage

All equipment is designed and fabricated with robust materials and presents a rugged appearance. Still, great care must be taken to assure that no force or pressure is applied to the coil, piping, or drain stub-outs during handling. Depending on the options and accessories, some units may contain delicate components that may be damaged by improper handling. All units shall be handled by the chassis or as close as possible to the unit mounting point locations. In the case of a full cabinet unit, the unit must be handled by the exterior casing. This is acceptable provided the unit is maintained in an upright position, and no force is applied that may damage internal components or painted surfaces.

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 hostile environment (such as rain, snow, or extreme temperatures), 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, fan wheels and cooling/heating coils. Failure to do so may have serious adverse effects on unit operation, and in the case of the motor and blower assembly, may result in immediate or premature failure. Manufacturer's warranty is void if foreign material is allowed to be deposited on the motor or blower wheels of any unit. Some units and/or job conditions may require some form of temporary covering during construction.

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 unit clearances in Fig. 2-4. Refer to job drawings and product dimension drawings as required. Refer to Fig. 5-56 and Fig. I in Appendix A for wiring diagram. 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. Adjust blower motor as required.
3. Perform a "dry fit" of valve assembly that may be shipped unattached to unit coil assembly. Should any questions arise on fit-up, please contact your local representative.
4. Horizontal plenum type 42CE units may be shipped with a bottom return-air inlet. These units may be converted to rear return as outlined in Appendix C on page 89.
5. High-performance plenum-type 42DC units may be shipped with a bottom return-air inlet. These units may be converted to rear return as outlined in Appendix C on page 89-90.

Unit Clearance and Service Access

For specific unit dimensions, refer to the product technical catalog for your model. Provide adequate clearance for the removal of the panel, access to controls or replacement of internal serviceable components including air filters. Allow clearances according to local and national codes.

42C HORIZONTAL CEILING UNIT CLEARANCE AND SERVICE ACCESS CLEARANCE

Units have either right or left hand piping. Reference piping locations by facing the front of the unit (airflow discharges from the front). The control panel is always on the end opposite the piping, unless otherwise specified. See Fig. 2.

42D HI-PERFORMANCE UNIT CLEARANCE AND SERVICE ACCESS CLEARANCE

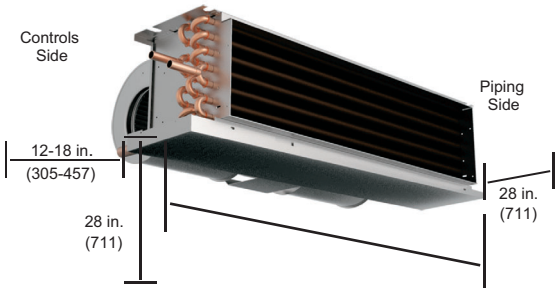
Units have either right or left hand piping. Reference piping locations by facing the front of the unit (airflow discharges from the front). The control panel is always on the end opposite the piping, unless otherwise specified. See Fig. 3.

42V VERTICAL V*D SERVICE AND OPERATING CLEARANCES

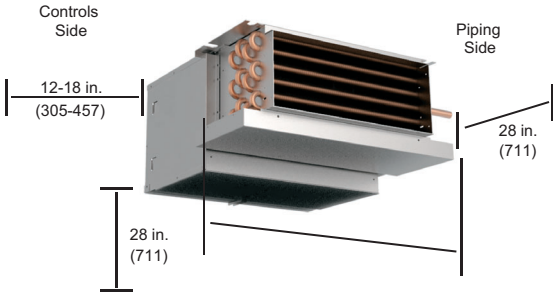
Service access is available from the front on vertical units. Cabinet and recessed units have removable front panels to allow access to the unit.

Units have either right or left hand piping. Reference piping locations by facing the front of the unit (airflow discharges from the front). The control panel is always on the end opposite the piping, unless otherwise specified. See Fig. 4.

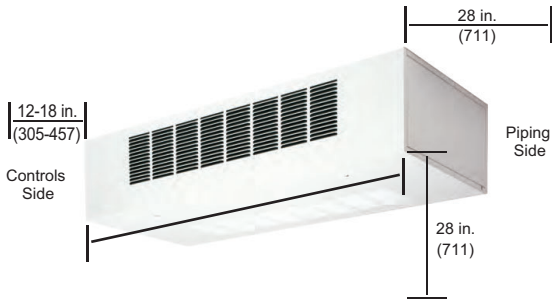
42CA Unit Clearance and Service Access



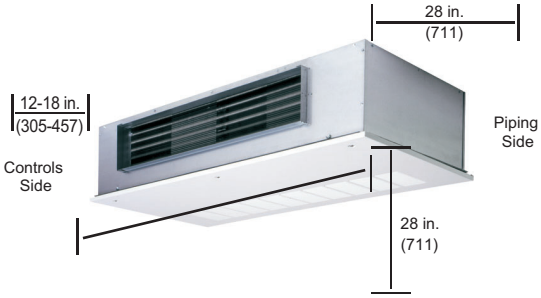
42CE Unit Clearance and Service Access



42CG Unit Clearance and Service Access



42CK Unit Clearance and Service Access

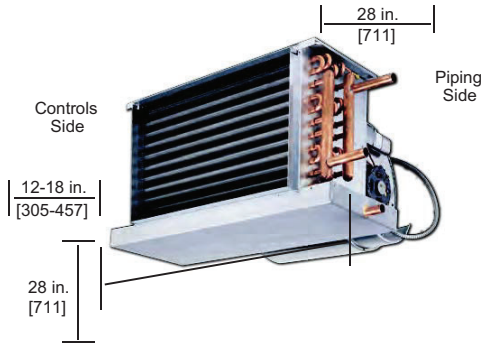


Horizontal Ceiling Drain Pan or Coil Removal Minimum Service Clearance Width

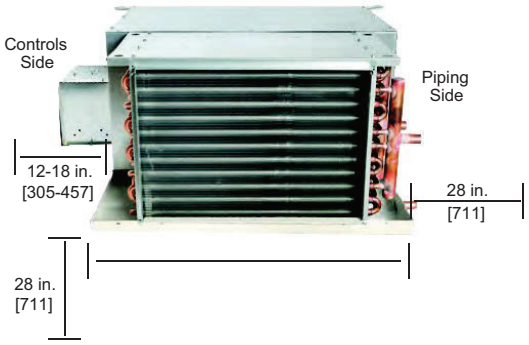
UNIT SIZE 42C	DIMENSIONS - in. [mm]				
	42CA/CE Standard Drain Pan	42CA/CE Extended Drain Pan	42CE Same Side Piping and Controls Extended Drain Pan	42CK	42CG
02	21-1/4 [540]	31-1/4 [794]	34 [864]	37 [940]	38 [965]
03	25-1/4 [641]	35-1/4 [895]	38 [995]	37 [940]	42 [1067]
04	31-1/4 [794]	41-1/4 [1118]	44 [1118]	43 [1092]	48 [1219]]
06	36-1/4 [921]	46-1/4 [1175]	49 [1245]	55 [1397]	53 [1346]
08	43-1/4 [1099]	53-1/4/ [1353]	56 [1422]	55 [1397]	60 [1524]
10	57-1/4 [1454]	67-1/4 [1708]	70 [1778]	77 [1956]	74 [1880]
12	65-1/4 [1657]	75-1/4 [1911]	78 [1981]	77 [1956]	84 [2083]

Fig. 2 — 42C Unit Clearance and Service Access

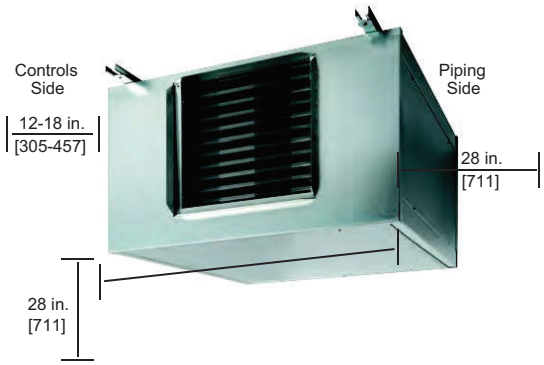
42DA Unit Clearance and Service Access



42DC Unit Clearance and Service Access

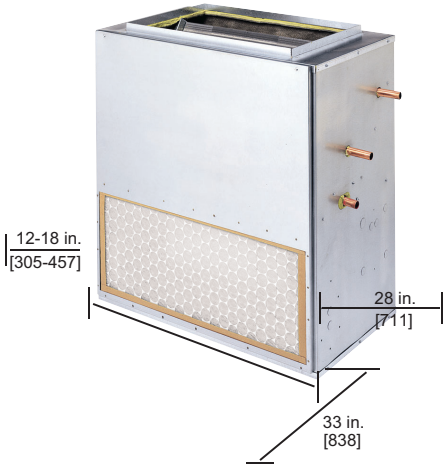


42DE Unit Clearance and Service Access



42DF Unit Clearance and Service Access

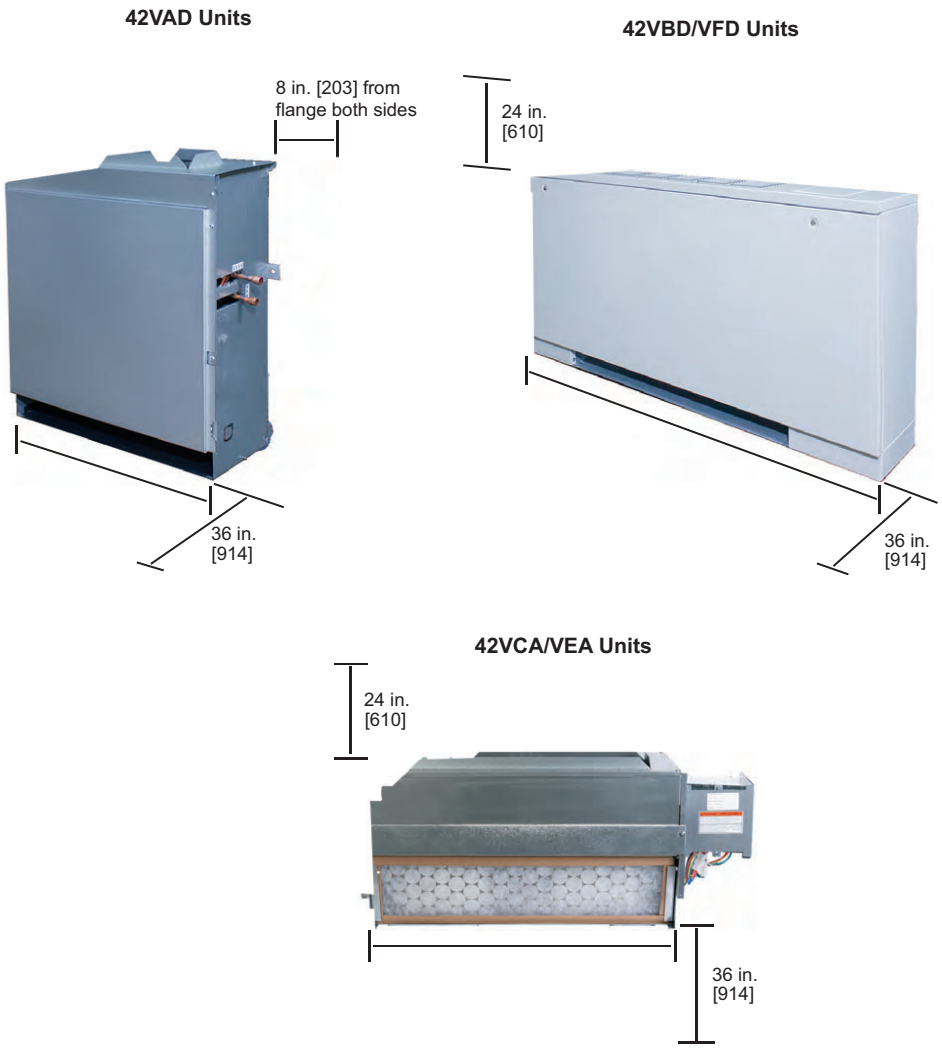
42DD Unit Clearance and Service Access



Hi-Performance Drain Pan or Coil Removal Minimum Service Clearance Width

UNIT SIZE 42D	DIMENSIONS - in. (mm)				
	42DA/DC Standard Drain Pan	42DA/DC Extended Drain Pan	42DF Same Side Piping and Controls Extended Drain Pan	42DE	42DD
06	23 [584]	32 [813]	31 [787]	31 [787]	21 [533]
08	28 [711]	37 [940]	36 [914]	36 [914]	26 [660]
10	32 [813]	42 [1067]	40 [1016]	40 [1016]	30 [762]
12	37 [940]	47 [1194]	45 [1143]	45 [1143]	35 [889]
14	42 [1067]	52 [1321]	50 [1270]	50 [1270]	40 [1016]
16	47 [1194]	56 [1422]	55 [1397]	55 [1397]	45 [1143]
18	52 [1321]	62 [1575]	60 [1524]	60 [1524]	50 [1270]
20	56 [1422]	—	64 [1626]	64 [1626]	54 [1372]

Fig. 3 — 42D Unit Clearance and Service Access



Vertical Floor Dimensions

UNIT SIZE 42V*D	DIMENSIONS - in. (mm)	
	42VAD	42VBD/VFD
02	23-1/2 [597]	41 [1041]
03	27-1/2 [699]	45 [1143]
04	33-1/2 [851]	51 [1295]
06	43-1/2 [1105]	61 [1549]
08	45-1/2 [115])	63 [1600]
10	59-1/2 [1511]	77 [1956]
12	67-1/2 [1715]	85 [2159]

Vertical Lowboy Dimensions

UNIT SIZE 42V*A	DIMENSIONS - in. (mm)	
	42VCA	42VEA
02	23 [584]	41 [1041]
03	28 [711]	46 [1168]
04	36 [914]	54 [1372]
06	50 [1270]	68 [1727]

Fig. 4 — 42V Vertical Unit Clearance and Service Access

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)[a]							
42CA	36	39	49	59	64	95	107
42CE	55	60	70	82	95	135	154
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
COILS							
FPI	10 fins/in.						
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
FILTERS Nominal Size (in.) (1 in. thick)							
42CA	NA	NA	NA	NA	NA	NA	NA
42CE[b]	10 x 18	10 x 22	10 x 28	10 x 33	10 x 40	10 x 54	10 x 62
42CK							
Bottom Return Stamped	10 x 28	10 x 28	10 x 33	10 x 45	10 x 45	10 x 62	10 x 62
Rear Return Ducted	7 x 21	7 x 21	7 x 27	7 x 38	7 x 38	7 x 52	7 x 52
42CG							
Bottom Return Stamped	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 Stamped	8-3/4 x 23-1/2	8-3/4 x 26-1/2	8-3/4 x 32-1/2	8-3/4 x 37	8-3/4 x 41	8-3/4 x 54-1/2	8-3/4 x 63
Rear Return Ducted	8-3/4 x 23-1/2	8-3/4 x 26-1/2	8-3/4 x 32-1/2	8-3/4 x 37	8-3/4 x 41	8-3/4 x 54-1/2	8-3/4 x 63
Qty	1	1	1	1	1	1	1
SUPPLY DUCT COLLAR	1 in.						
PIPING CONNECTIONS (Sweat) (in.)							
Coil Outlet and Inlet[c]	5/8 OD						
Drain Connection	7/8 OD						
Tell-Tale Drain	5/8 OD						

NOTE(S):

a. Calculate operating weight of unit: shipping weight + coil water weight x number of coil rows. Electric heating coils add 2 lb.
b. Filter size if located in return-air plenum.
c. For hydronic coils.

Table 2 — Physical Data — 42D Series

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)[a]								
42DA	64	79	90	108	119	124	141	151
42DC	94	107	150	169	174	178	195	220
42DE	150	160	170	195	205	215	230	235
42DF	157	167	177	202	215	225	240	255
42DD	135	145	155	180	190	200	215	230
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/in.							
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[b,c,d] Nominal Size (in.) (1 in. thick)								
42DA	14 x 21 (356 x 533)	14x 26 (356 x 660)	14 x 30 (356 x 762)	14 x 35 (356 x 889)	14 x 40 (356 x 1016)	14 x 45 (356 x 1143)	14 x 50 (356 x 1270)	14 x 54 (356 x 1372)
42DC	14 x 21 (356 x 533	14 x 26 (356 x 660)	14 x 30 (356 x 762	14 x 35 (356 x 889)	14 x 40 (356 x 1016)	14 x 45 (356 x 1143)	14 x 50 (356 x 1270)	14 x 54 (356 x 1372)
42DE	14 x 14-3/4 (356 x 375)	14 x 19-3/4 (356 x 502)	14 x 23-3/4 (356 x 603	14 x 28-3/4 (356 x 730)	14 x 33-3/4 (356 x 857)	14 x 38-3/4 (356 x 984)	14 x 43-3/4 (356 x 1111)	14 x 47-3/4 (356 x 1213)
42DF	14 x 14 (356 x 356)	14 x 20 (356 x 508)	14 x 24 (356 x 610)	14 x 28 (356 x 711)	14 x 34 (356 x 864)	14 x 38 (356 x 965)	14 x 44 (356 x 1118)	14 x 48 (356 x 1219
42DD[e]								
(Front Return)	21 x 12-3/4 (533 x 324)	26 x 12-3/4 (660 x 324)	30 x 12-3/4 (762 x 324)	35 x 12-3/4 (889 x 324)	40 x 12-3/4 (1016 x 324)	45 x 12-3/4 (1143 x 324)	50 x 12-3/4 (1270 x 324)	54 x 12-3/4 (1372 x 324)
(Bottom Return)	20 x 12-3/4 (508 x 324)	25 x 12-3/4 (635 x 324)	29 x 12-3/4 (737 x 324)	34 x 12-3/4 (864 x 324)	39 x 12-3/4 (991 x 324)	44 x 12-3/4 (1118 x 324)	49 x 12-3/4 (1245 x 324)	53 x 12-3/4 (1346 x 324)
Qty	1							
SUPPLY DUCT COLLAR	1 in.							
PIPING CONNECTIONS Coil Inlet/Outlet (in. OD)								
1 and 2 Row	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
3 Row	5/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8
4 Row	7/8	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8
5 Row	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8
6 Row	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8
8 Row	1-1/8	1-1/8	1-1/8	1-1/8	1-5/8	1-5/8	1-5/8	1-5/8
Tell-Tale Drain	5/8 OD							

NOTE(S):

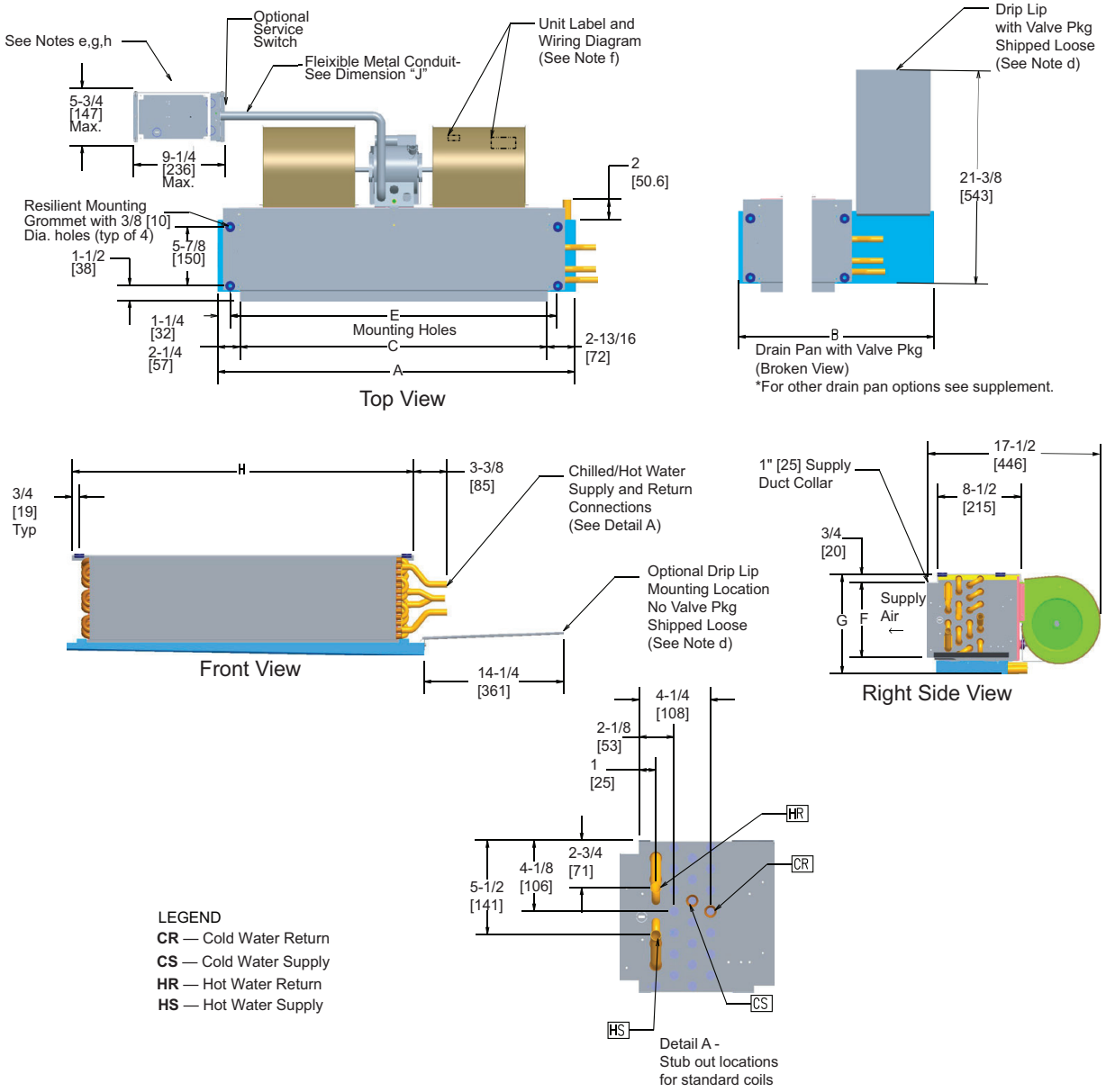
a. Calculate Operating Weight of unit: Shipping Weight + Coil Water Weight x Number of Coil Rows
b. Filter sizes for the DA model are recommended filter sizes only. No filter is factory provided with this model.
c. Sizes shown are nominal ordering sizes.
d. Filter sizes for the DF model are for filter included with standard aluminum filter grille.
e. Use when bottom return and 6 in. legs are supplied.

Table 3 — Physical Data — 42V Series

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)[a]								
42VAD	—	42	47	57	77	79	108	127
42VBD	—	63	68	82	99	101	133	154
42VFD	—	64	69	83	100	102	135	156
42VCA	—	72	100	108	154	—	—	—
42VEA	—	50	60	72	110	—	—	—
42VGA	40	—	74	—	—	—	—	—
COILS								
FPI (42VAD, VBD, VFD)	12 fins/in.							
FPI (42VCA, VEA, VGA)	10 fins/in.							
MOTOR (qty)								
42VCD, VBD, VFD	—	1	1	1	1	1	2	2
42VCA, VEA	—	1	1	1	2	—	—	—
42VGA	1	—	2	—	—	—	—	—
BLOWER (qty)								
42VCD, VBD, VFD	—	1	1	2	2	2	4	4
42VCA, VEA	—	2	2	2	4	—	—	—
42VGA	1	—	2	—	—	—	—	—
FILTERS								
Nominal Size (in.) (1 in. thick)								
42VCD, VBD, VFD	—	7-3/4 x 21-3/4	7-3/4 x 21-3/4	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
42VCA, VEA	—	7 x 21-3/4	7 x 26-3/4	7 x 34-3/4	7 x 48-3/4	—	—	—
42VGA	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							

NOTE(S):

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

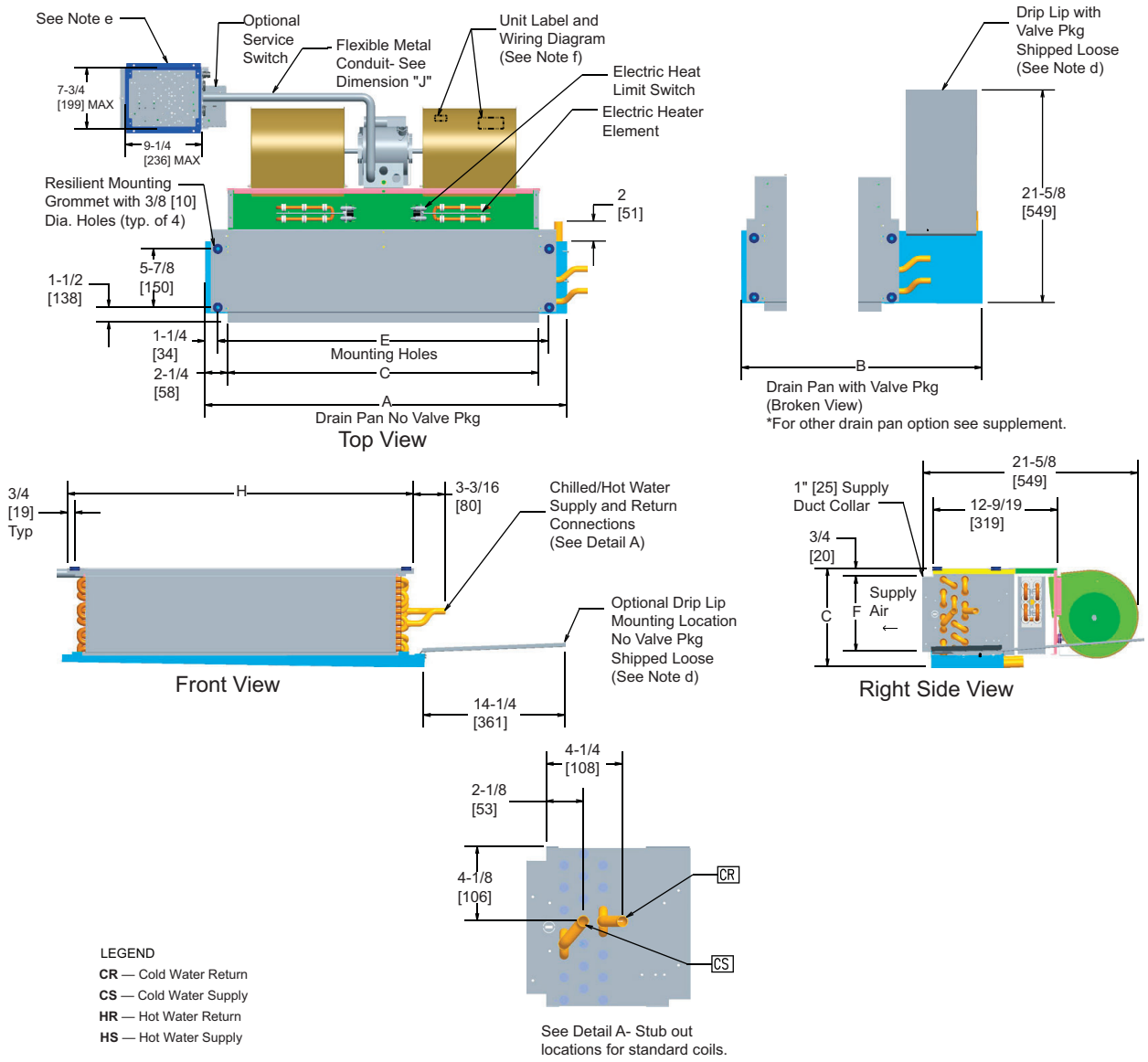


UNIT SIZE 42CA	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]								QTY/UNIT	
	A	B	C	E	F	G	H	J	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	38 [965]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	38 [965]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	38 [965]	2	1
06	36-1/4 [921]	43-1/5 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	38 [965]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	38 [965]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	60 [1524]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	65 [1651]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 5 — 42CA Horizontal Hideaway Unit Dimensions

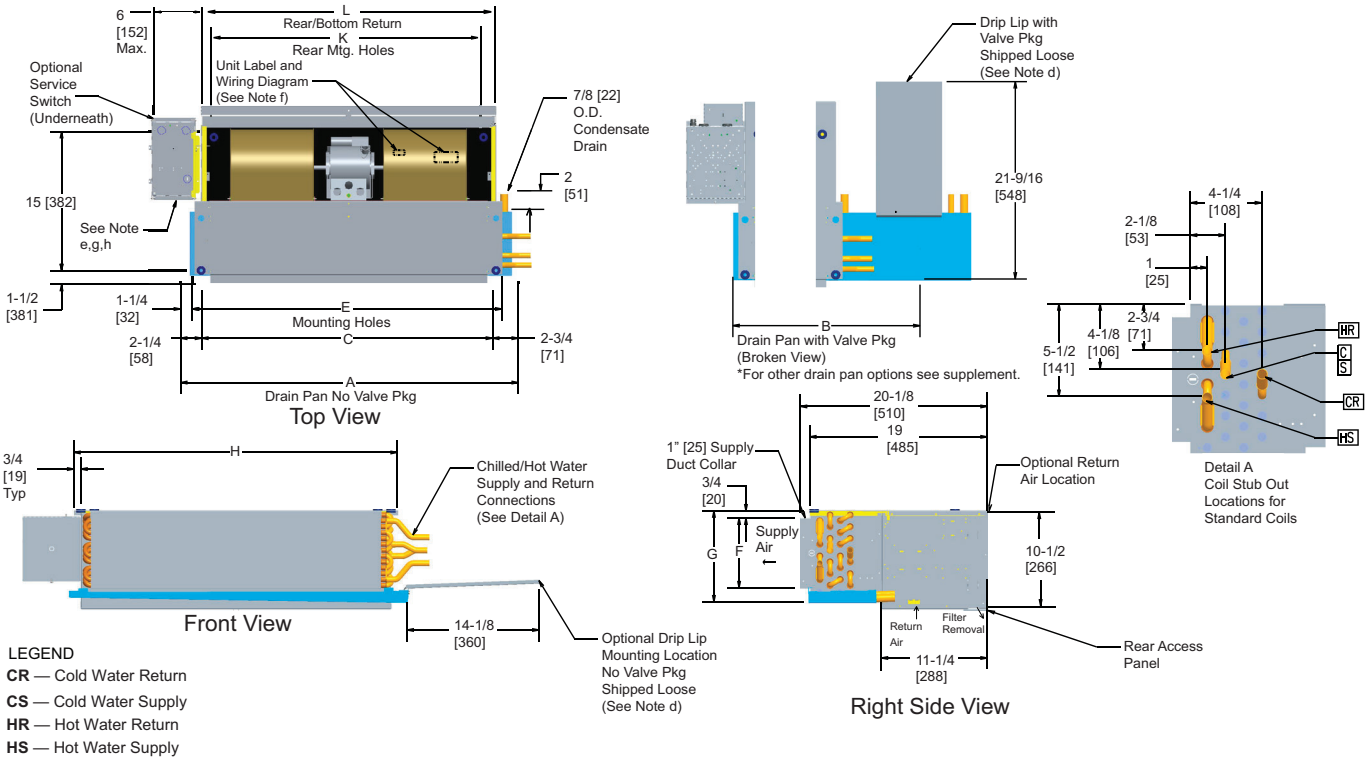


UNIT SIZE 42CA	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]								QTY/UNIT	
	A	B	C	E	F	G	H	J	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	38 [965]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	38 [965]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	38 [965]	2	1
06	36-1/4 [921]	43-1/5 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	38 [965]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	38 [965]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	60 [1524]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	65 [1651]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 6 — 42CA Horizontal Hideaway With Electric Heat Unit Dimensions

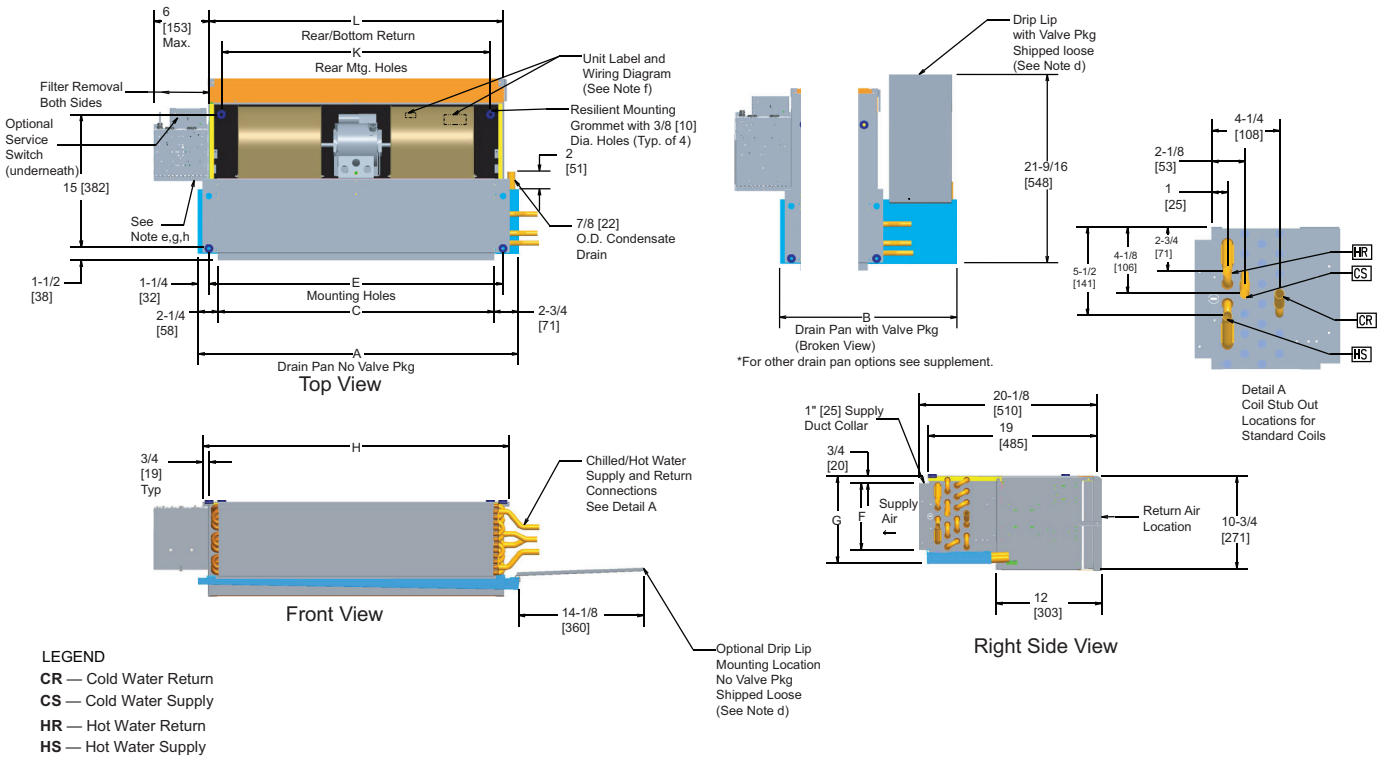


UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]									QTY/UNIT	
	A	B	C	E	F	G	H	K	L	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	36-1/4 [921]	43-1/2 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 7 — 42CE Horizontal Furred-In With Plenum Unit Dimensions

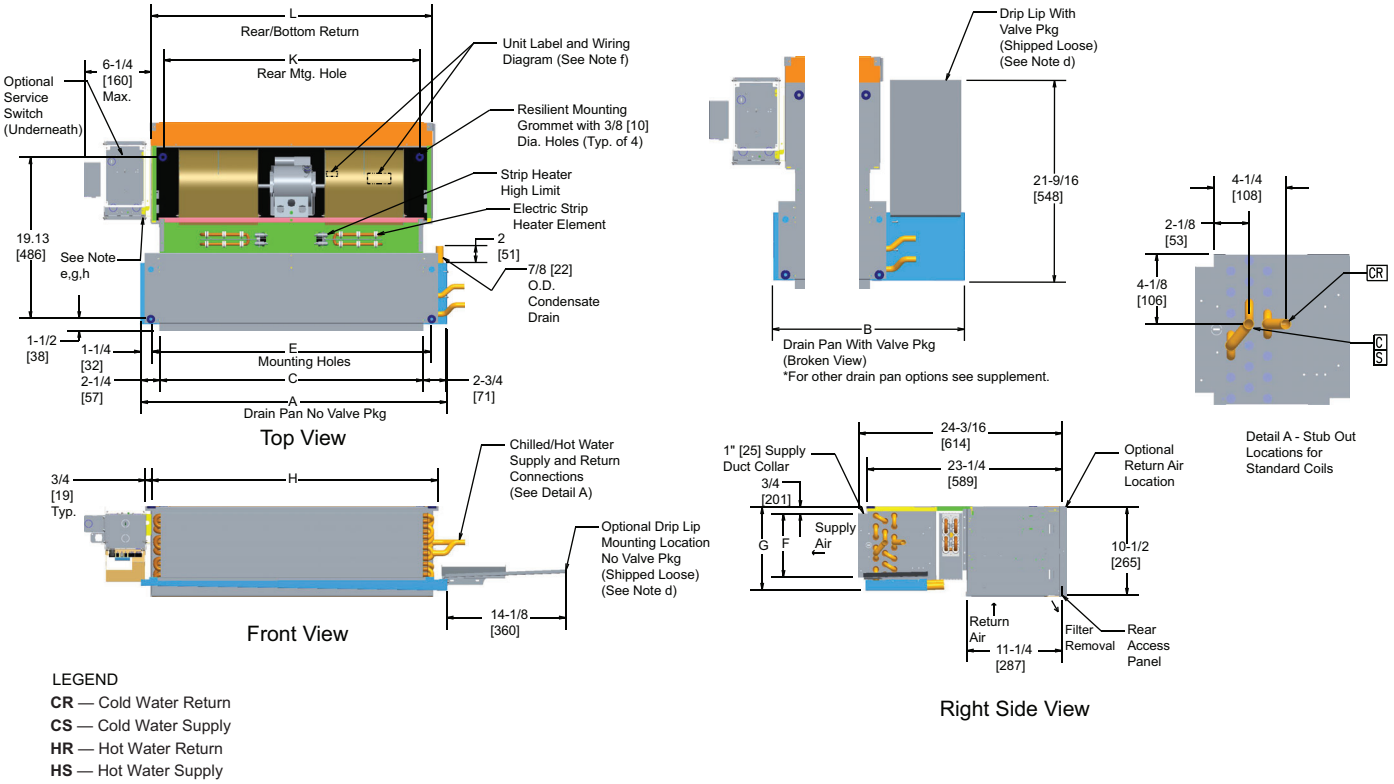


UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]									QTY/UNIT	
	A	B	C	E	F	G	H	K	L	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	36-1/4 [921]	43-1/2 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 8 — 42CE Horizontal Furred-In With Plenum and Side Filter Access Unit Dimensions



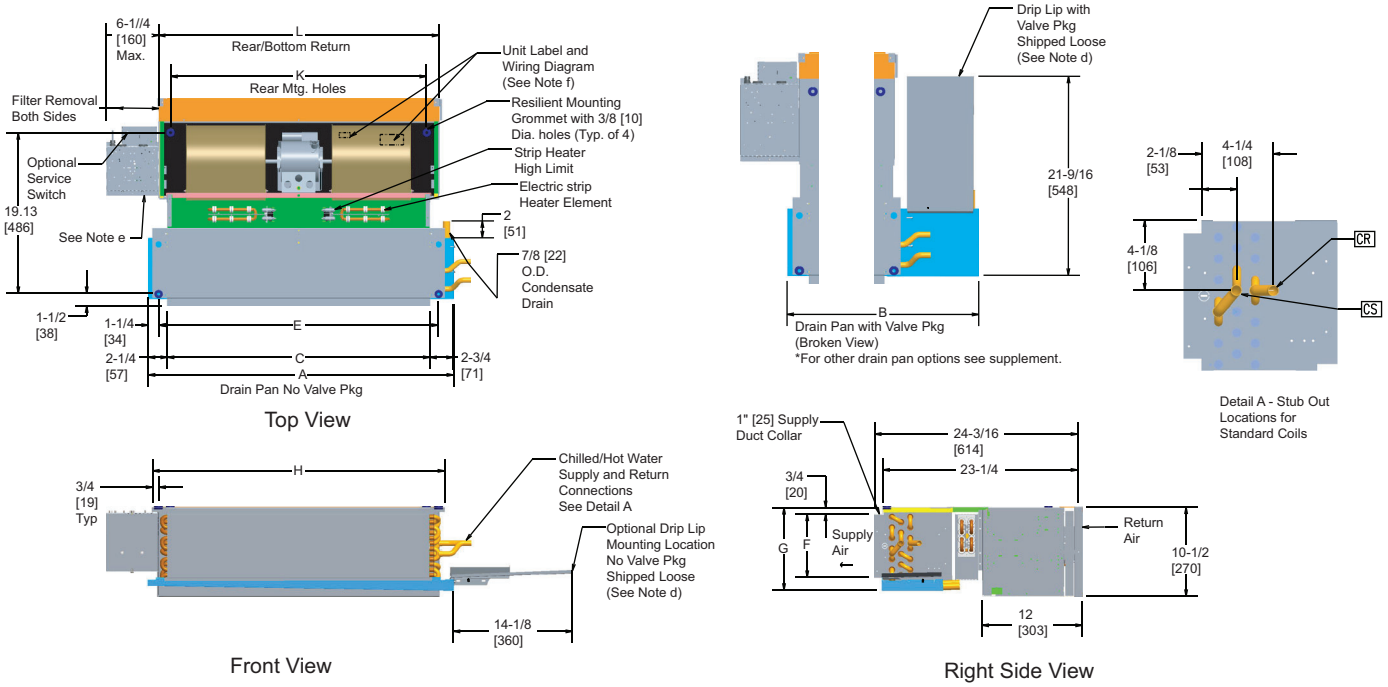
LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]									QTY/UNIT	
	A	B	C	E	F	G	H	K	L	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	36-1/4 [921]	43-1/2 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 9 — 42CE Horizontal Furred-In With Plenum With Electric Heat Unit Dimensions

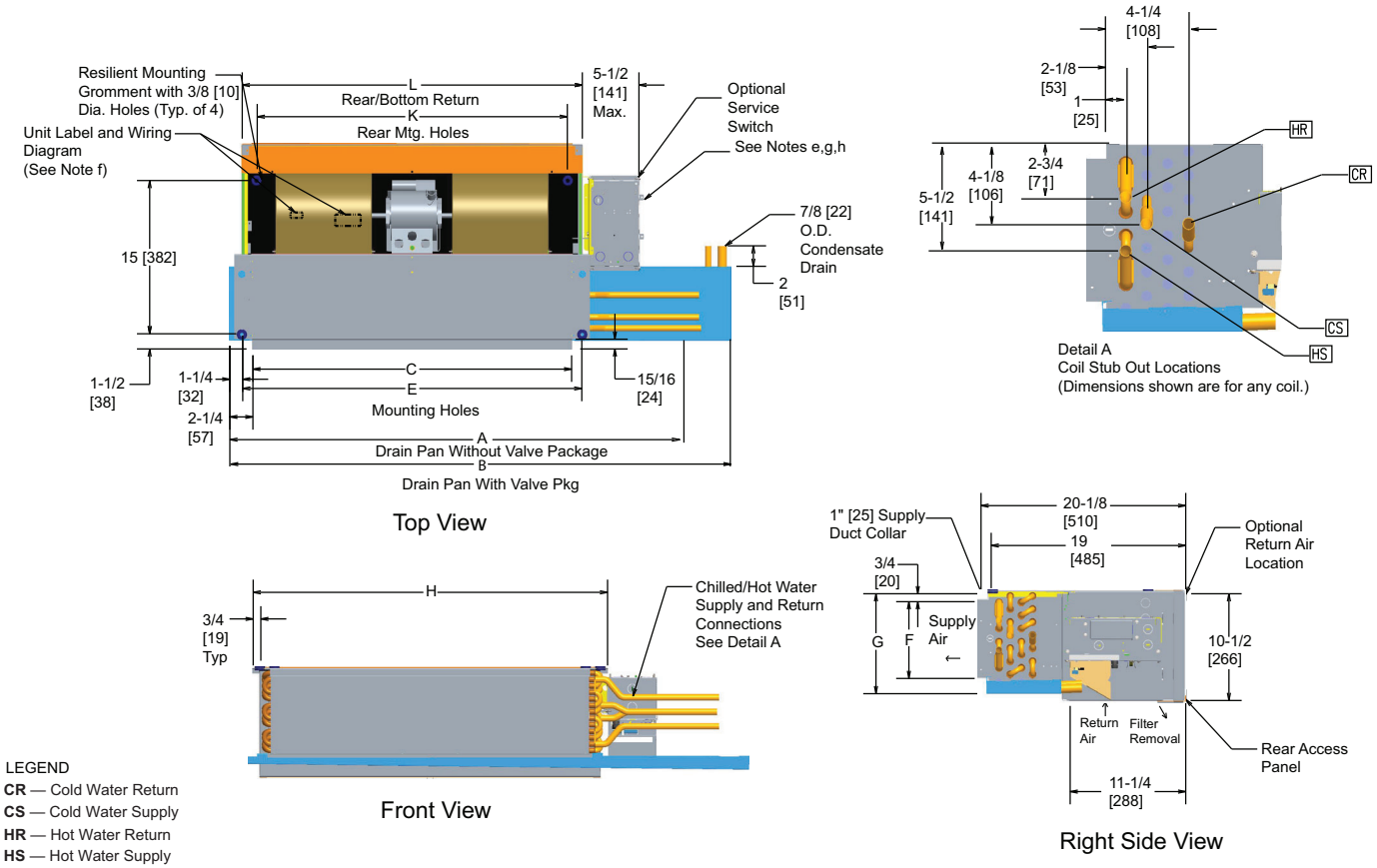


LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]									QTY/UNIT	
	A	B	C	E	F	G	H	K	L	Blower	Motor
02	21-1/4 [540]	28-1/2 [724]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	25-1/4 [641]	32-1/2 [826]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	31-1/4 [794]	38-1/2 [978]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	36-1/4 [921]	43-1/2 [1105]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	43-1/4 [1099]	50-1/2 [1283]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	57-1/4 [1454]	64-1/2 [1638]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	65-1/4 [1657]	72-1/2 [1842]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):
a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 10 — 42CE Horizontal Furred-In With Plenum, Side Filter Access, and Electric Heat Unit Dimensions

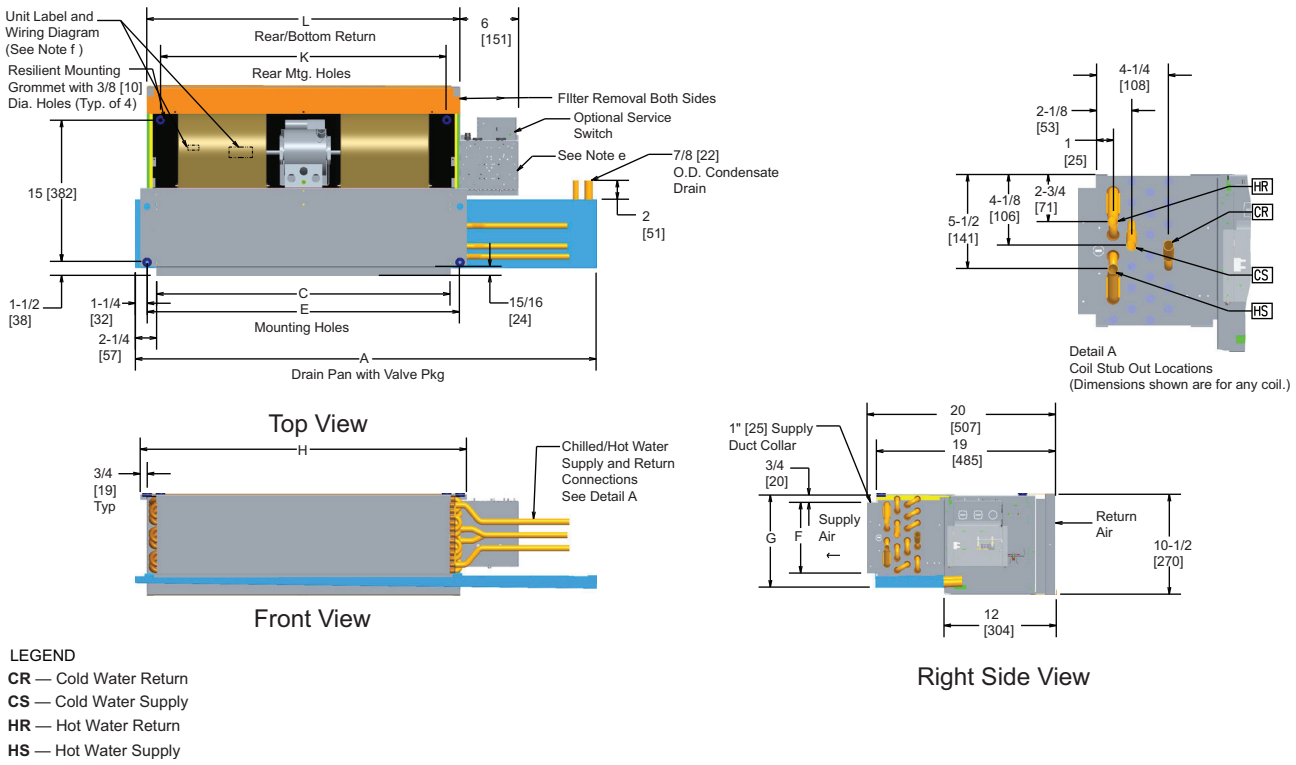


UNIT SIZE 42CE	DIMENSIONS (in.)[a,b,c,d,e,f,g,h,i,j]							QTY/UNIT	
	A	B	C	D	E	F	H	Blower	Motor
02	35 [889]	16 [406]	12-3/4 [324]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
03	35 [889]	20 [508]	8-3/4 [225]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
04	41 [1041]	26 [660]	8-3/4 [225]	43 [1092]	38 [965]	6 [152]	24-3/4 [629]	2	1
06	53 [1346]	31 [787]	15-3/4 [400]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
08	53 [1346]	38 [965]	8-3/4 [225]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
10	75 [1905]	52 [1321]	16-3/4 [425]	77 [1829]	72 [1829]	7 [179]	49-3/4 [1264	4	2
12	75 [1905]	60 [1524]	8-3/4 [225]	77 [1829]	72 [1829]	7 [179]	49-3/4 [1264]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 11 — 42CE Horizontal Furred-In With Plenum, Same Side Piping, and Controls Unit Dimensions



LEGEND

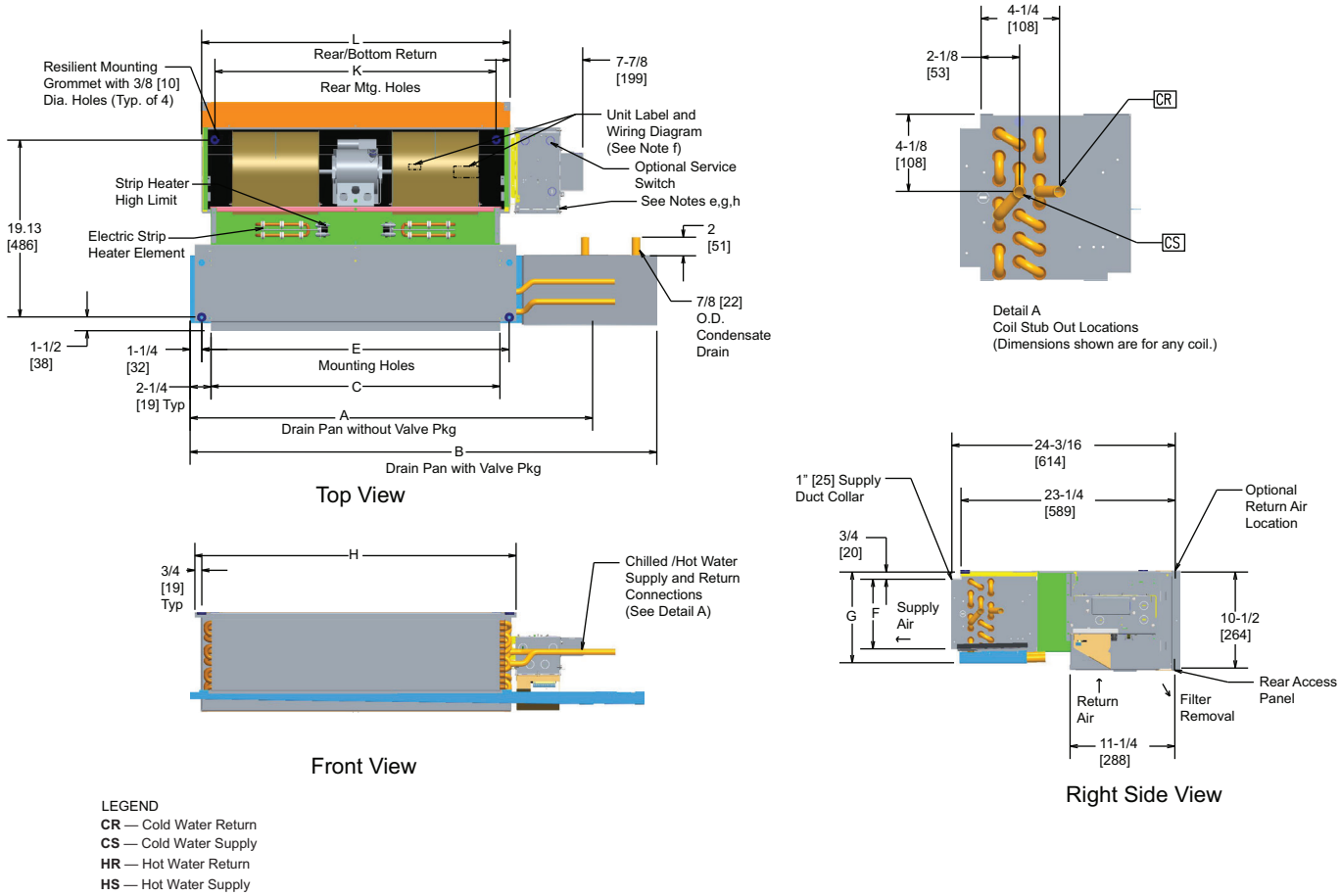
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]								QTY/UNIT	
	A	C	E	F	G	H	K	L	Blower	Motor
02	34 [864]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	38 [965]	20 [508]	22-1/4 [565]	6-1/4 [159[	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	44 [1118]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	49 [1245]	31 [787)	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	56 [1422]	38 (965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	70 [1778]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	78 [1981]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 12 — 42CE Horizontal Furred-In With Plenum and Side Filter Access, With Same Side Piping and Controls Unit Dimensions



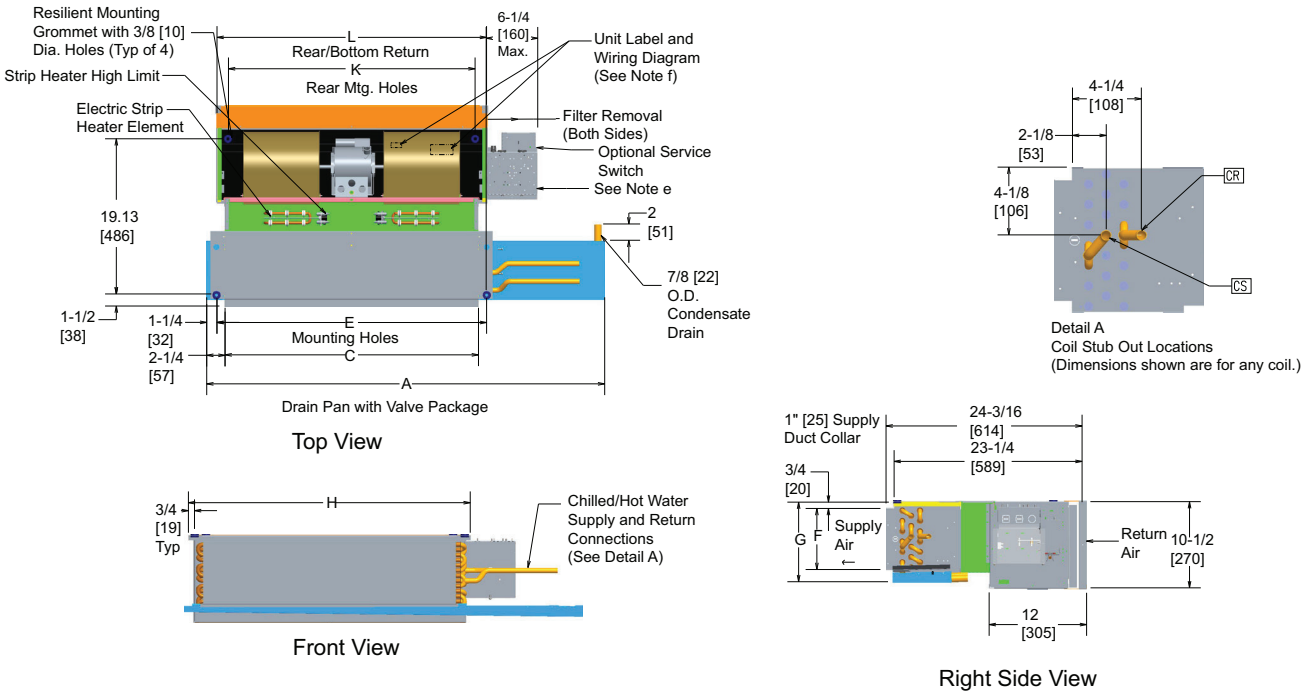
LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CE	DIMENSIONS in. (mm)[a,b,c,d,e,f,g,h,i,j]									QTY/UNIT	
	A	B	C	E	F	G	H	K	L	Blower	Motor
02	28-1/2 [724]	34 [864]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	32-1/2 [826]	38 [965]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	38-1/2 [978]	44 [1118]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	43-1/2 [1105]	49 [1245]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	50-1/2 [1283]	56 [1422]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	64-1/2 [1638]	70 [1778]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	72-1/2 [1842]	78 [1981]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 13 — 42CE Horizontal Furred-In With Plenum With Same Side Piping and Controls With Electric Heat Unit Dimensions



LEGEND

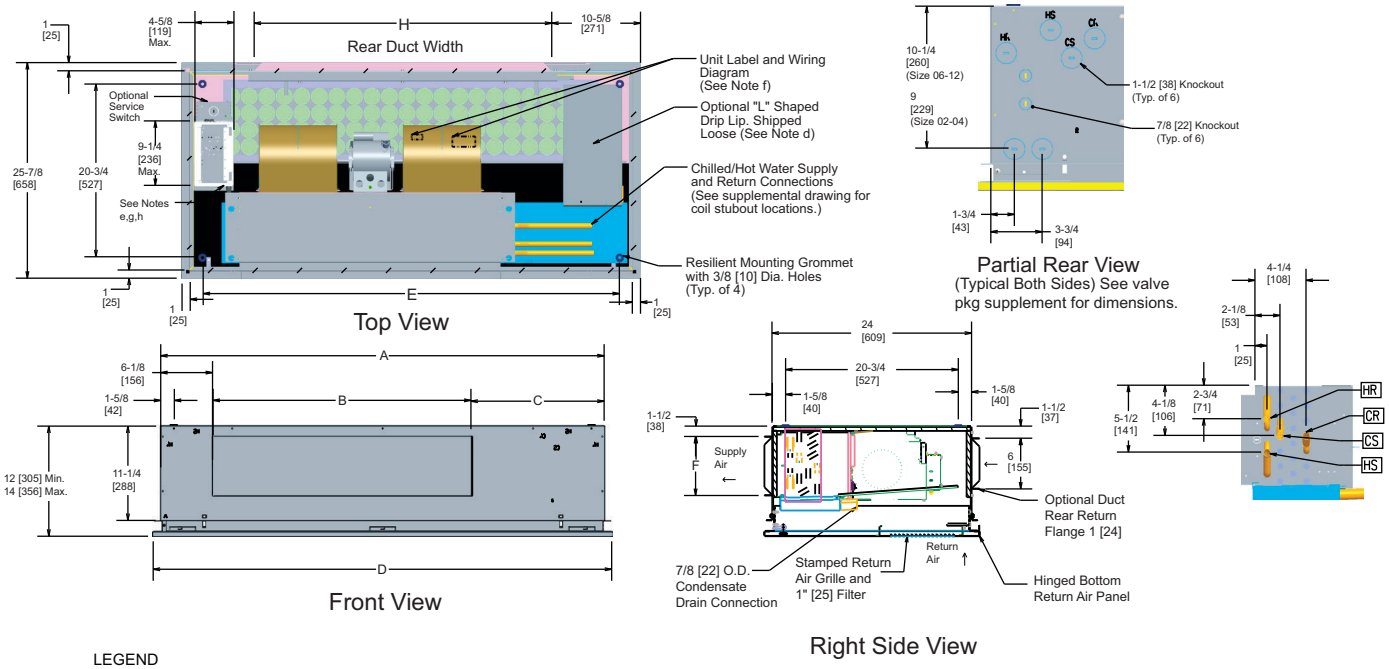
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j]								QTY/UNIT	
	A	C	E	F	G	H	K	L	Blower	Motor
02	34 [864]	16 [406]	18-1/4 [464]	6-1/4 [159]	8-3/4 [222]	19-3/4 [502]	15-3/8 [391]	18-1/4 [464]	1	1
03	38 [965]	20 [508]	22-1/4 [565]	6-1/4 [159]	8-3/4 [222]	23-3/4 [603]	19-3/8 [493]	22-1/4 [565]	1	1
04	44 [1118]	26 [660]	28-1/4 [718]	6-1/4 [159]	8-3/4 [222]	29-3/4 [756]	25-3/8 [654]	28-1/4 [718]	2	1
06	49 [1245]	31 [787]	33-1/4 [845]	7-1/2 [191]	10 [254]	34-3/4 [883]	30-3/8 [772]	33-1/4 [845]	2	1
08	56 [1422]	38 [965]	40-1/4 [1022]	7-1/2 [191]	10 [254]	41-3/4 [1060]	37-3/8 [950]	40-1/4 [1022]	2	1
10	70 [1778]	52 [1321]	54-1/4 [1378]	7-1/2 [191]	10 [254]	55-3/4 [1416]	51-3/8 [1306]	54-1/4 [1378]	4	2
12	78 [1981]	60 [1524]	62-1/4 [1581]	7-1/2 [191]	10 [254]	63-3/4 [1619]	59-3/8 [1509]	62-1/4 [1581]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.

Fig. 14 — 42CE Horizontal Furred-In With Plenum and Side Filter Access, With Same Side Piping and Controls With Electric Heat Unit Dimensions



LEGEND

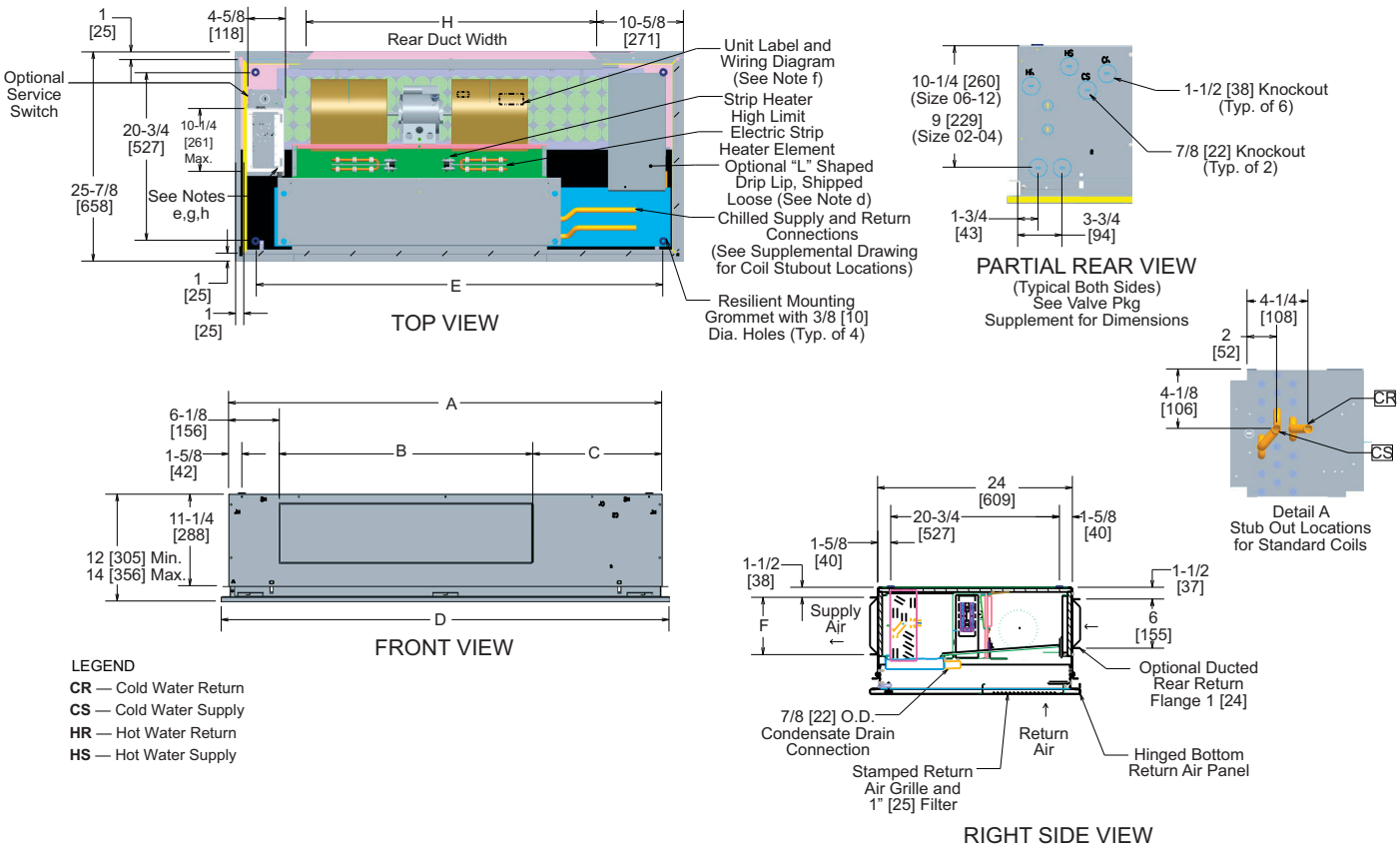
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CK	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]							QTY/UNIT	
	A	B	C	D	E	F	H	Blower	Motor
02	35 [889]	16 [406]	12-3/4 [324]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
03	35 [889]	20 [508]	8-3/4 [225]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
04	41 [1041]	26 [660]	8-3/4 [225]	43 [1092]	38 [965]	6 [152]	24-3/4 [629]	2	1
06	53 [1346]	31 [787]	15-3/4 [400]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
08	53 [1346]	38 [965]	8-3/4 [225]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
10	75 [1905]	52 [1321]	16-3/4 [425]	77 [1956]	72 [1829]	7 [179]	49-3/4 [1264]	4	2
12	75 [1905]	60 [1524]	8-3/4 [225]	77 [1956]	72 [1829]	7 [179]	49-3/4 [1264]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 15 — 42CK Horizontal Telescoping Hideaway

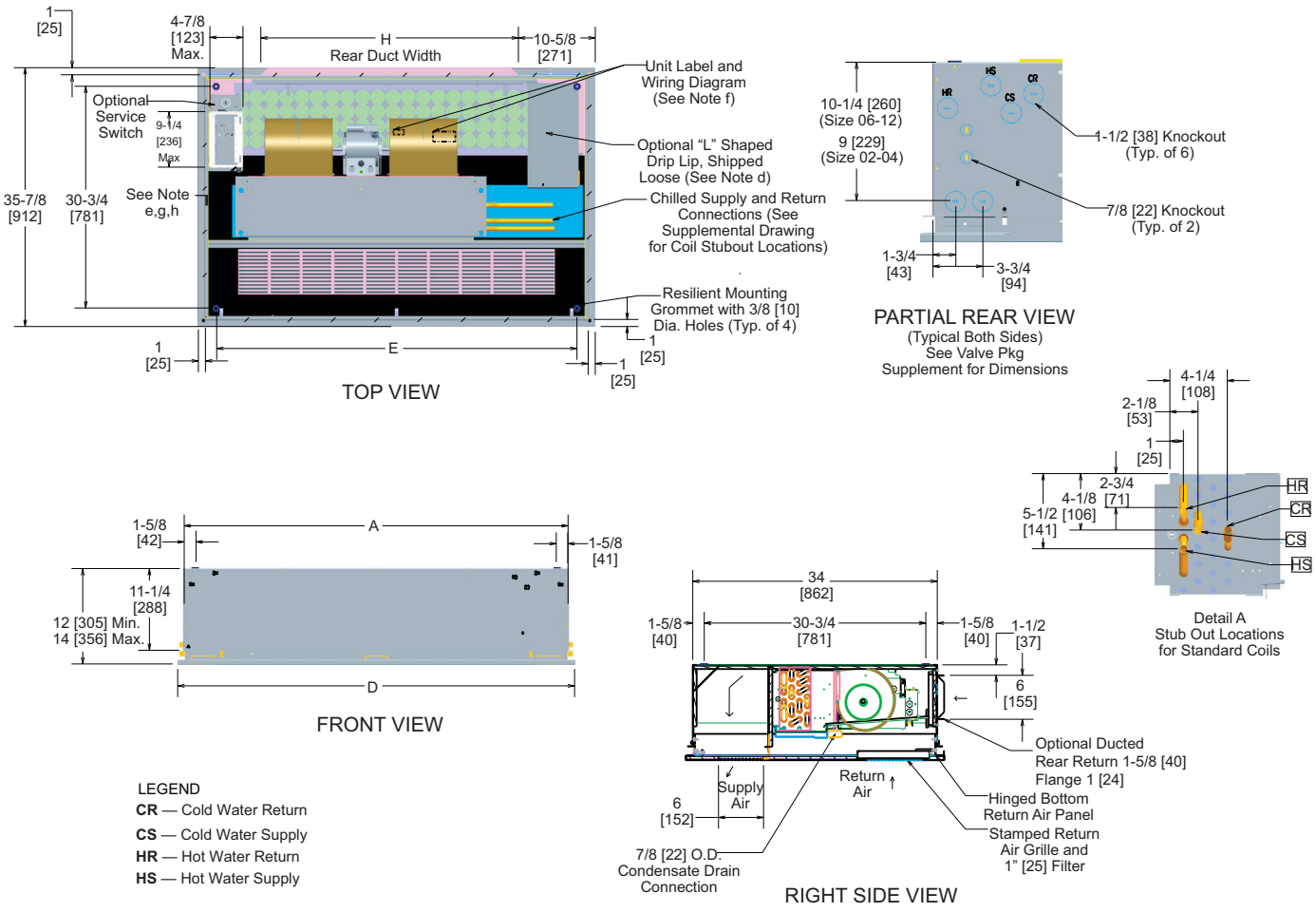


UNIT SIZE 42CK	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]							QTY/UNIT	
	A	B	C	D	E	F	H	Blower	Motor
02	35 [889]	16 [406]	12-3/4 [324]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
03	35 [889]	20 [508]	8-3/4 [225]	37 [940]	32 [813]	6 [152]	18-3/4 [476]	1	1
04	41 [1041]	26 [660]	8-3/4 [225]	43 [1092]	38 [965]	6 [152]	24-3/4 [629]	2	1
06	53 [1346]	31 [787]	15-3/4 [400]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
08	53 [1346]	38 [965]	8-3/4 [225]	55 [1397]	50 [1270]	7 [179]	35-3/4 [908]	2	1
10	75 [1905]	52 [1321]	16-3/4 [425]	77 [1956]	72 [1829]	7 [179]	49-3/4 [1264]	4	2
12	75 [1905]	60 [1524]	8-3/4 [225]	77 [1956]	72 [1829]	7 [179]	49-3/4 [1264]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 16 — 42CK – Horizontal Telescoping Hideaway With Electric Heat

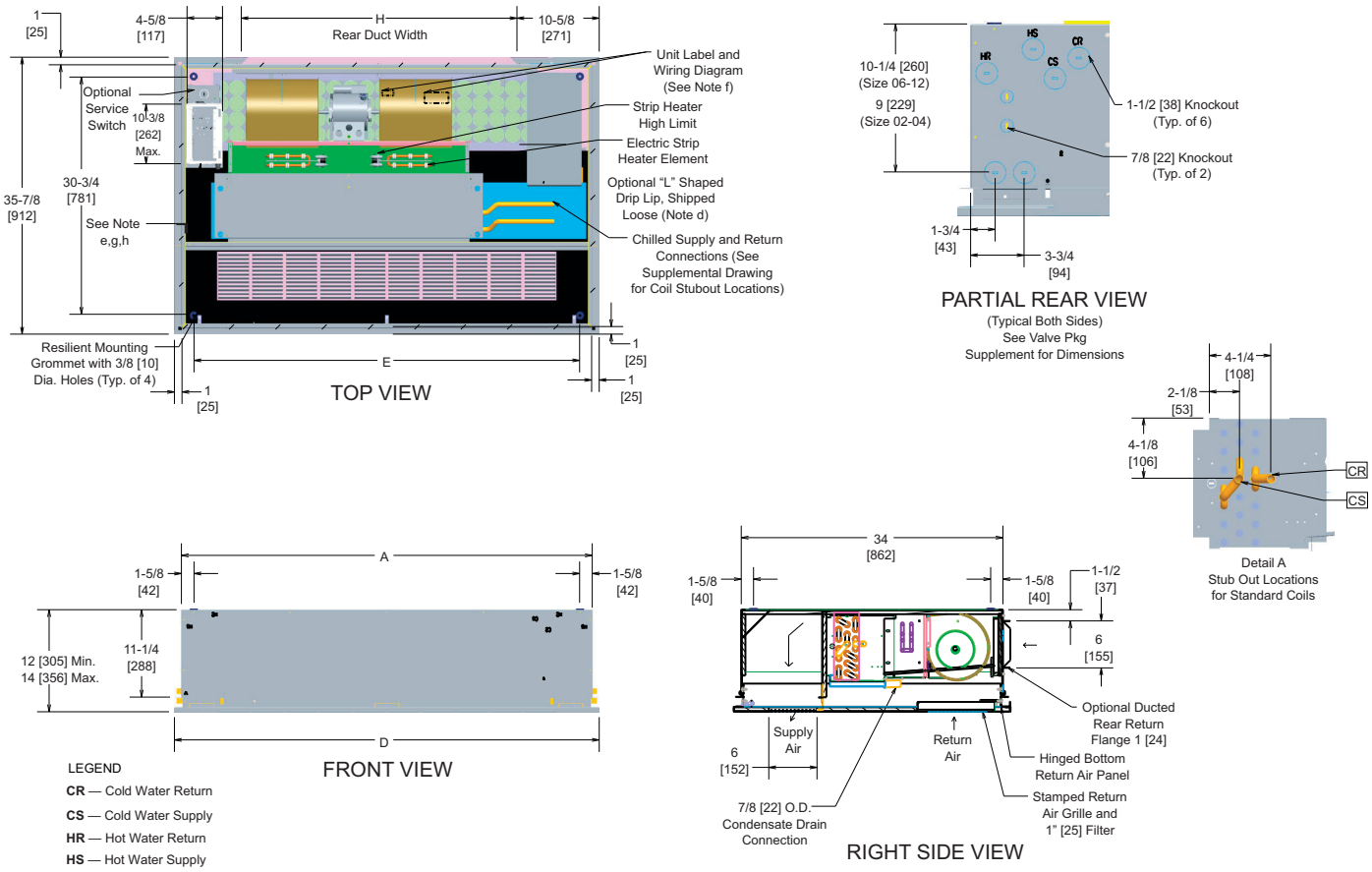


UNIT SIZE 42CK	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]				QTY/UNIT	
	A	D	E	H	Blower	Motor
02	35 [889]	37 [940]	32 [813]	18-3/4 [476]	1	1
03	35 [889]	37 [940]	32 [813]	18-3/4 [476]	1	1
04	41 [1041]	43 [1092]	32 [813]	24-3/4 [629]	2	1
06	53 [1346]	55 [1397]	50 [1270]	35-3/4 [908]	2	1
08	53 [1346]	55 [1397]	50 [1270]	35-3/4 [908]	2	1
10	75 [1905]	77 [1956]	72 [1829]	49-3/4 [1264]	4	2
12	75 [1905]	77 [1956]	72 [1829]	49-3/4 [1264]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 17 — 42CK – Horizontal Telescoping Hideaway With Bottom Supply

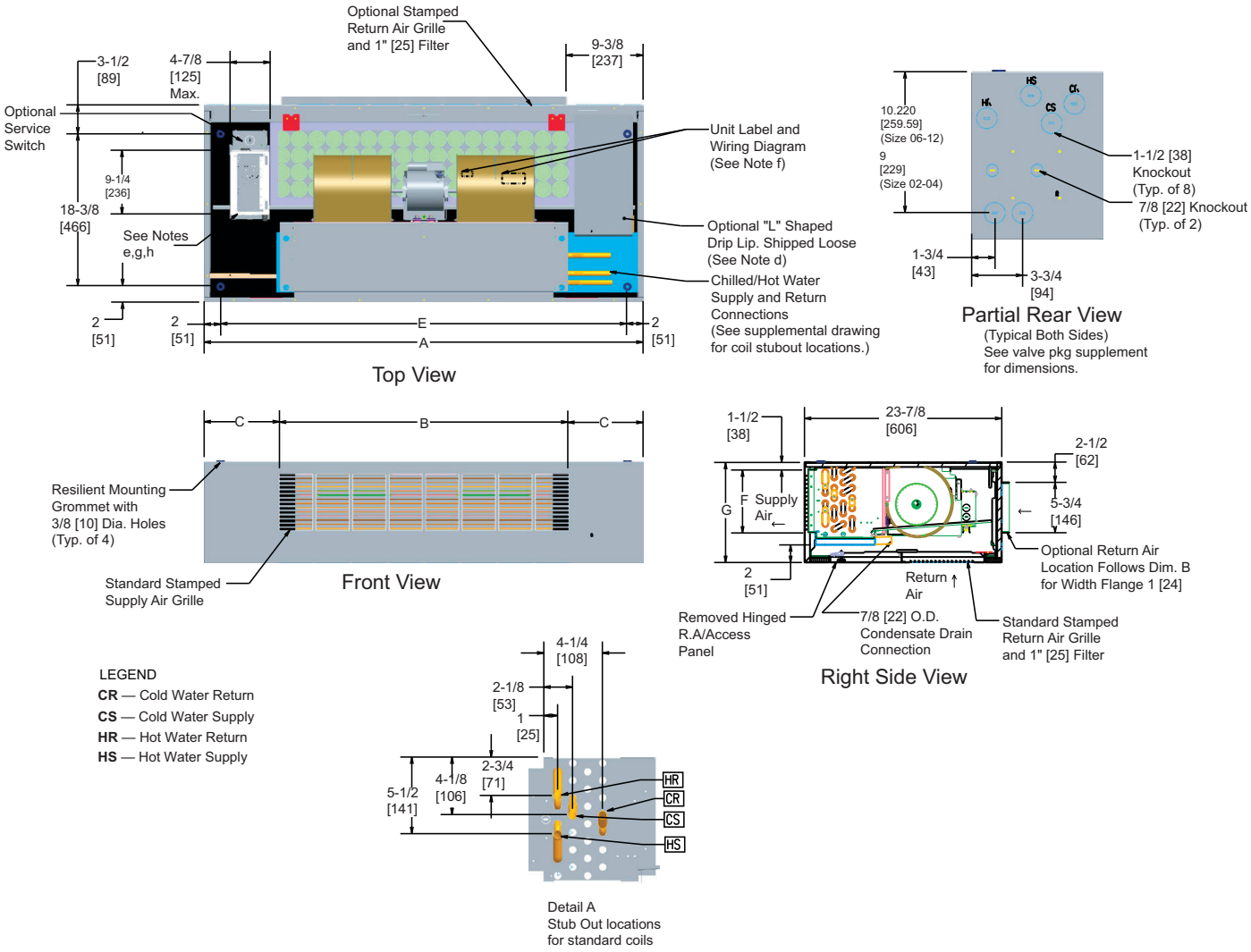


UNIT SIZE 42CK	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]				QTY/UNIT	
	A	D	E	H	Blower	Motor
02	35 [889]	37 [940]	32 [813]	18-3/4 [476]	1	1
03	35 [889]	37 [940]	32 [813]	18-3/4 [476]	1	1
04	41 [1041]	43 [1092]	32 [813]	24-3/4 [629]	2	1
06	53 [1346]	55 [1397]	50 [1270]	35-3/4 [908]	2	1
08	53 [1346]	55 [1397]	50 [1270]	35-3/4 [908]	2	1
10	75 [1905]	77 [1956]	72 [1829]	49-3/4 [1264]	4	2
12	75 [1905]	77 [1956]	72 [1829]	49-3/4 [1264]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 18 — 42CK – Horizontal Telescoping Hideaway With Bottom Supply With Electric Heat

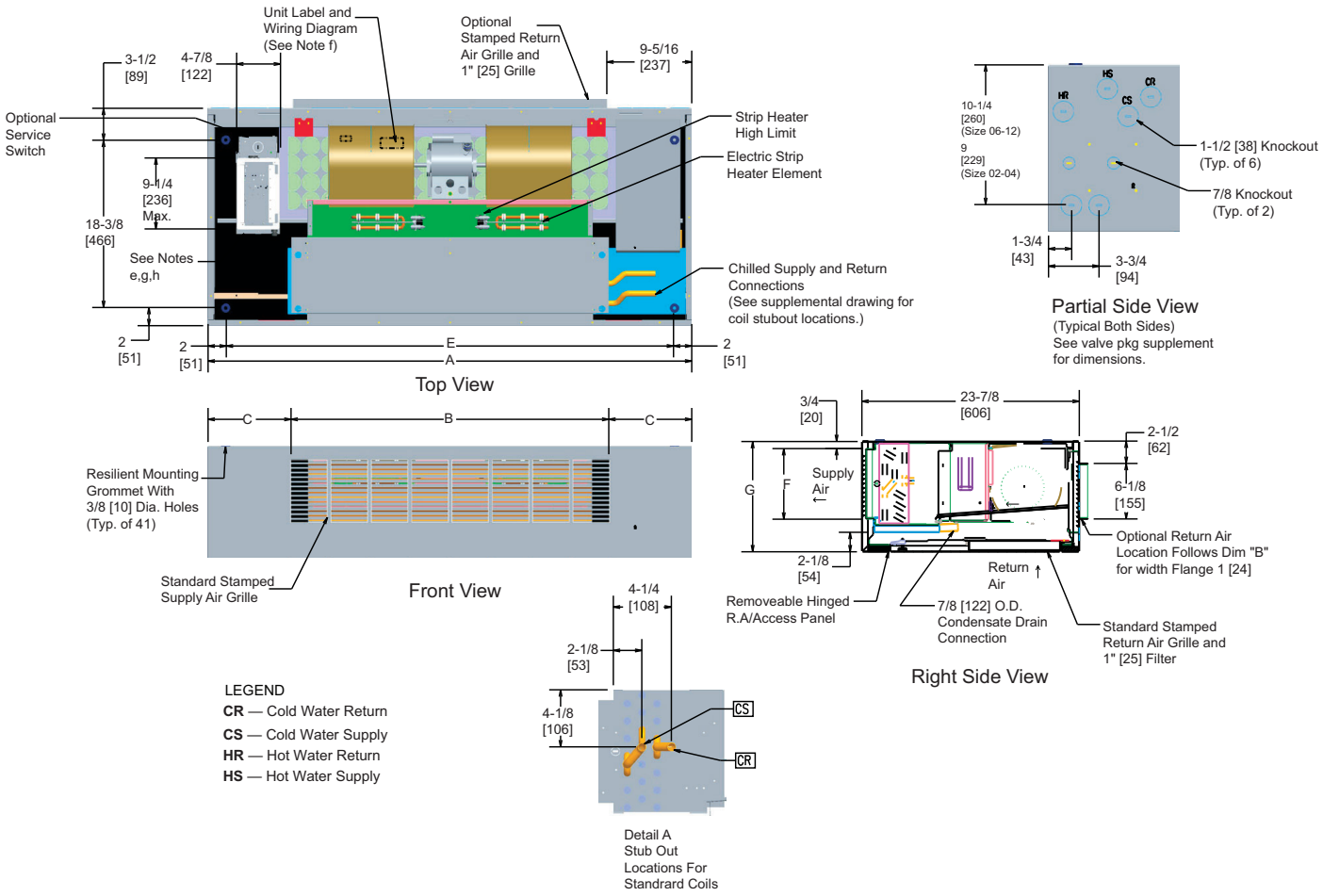


UNIT SIZE 42CG	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]						QTY/UNIT	
	A	B	C	E	F	G	Blower	Motor
02	38 [965]	17-1/8 [435]	10-7/16 [265]	34 [864]	5-3/4 [146]	11 [279]	1	1
03	42 [1067]	21-1/2 [546]	10-1/4 [260]	38 [965]	5-3/4 [146]	11 [279]	1	1
04	48 [1219]	25-7/8 [657]	11-1/16 [281]	44 [1118]	5-3/4 [146]	11 [279]	2	1
06	53 [1346]	34-5/8 [879]	9-3/16 [233]	49 [1245]	6-3/4 [171]	12 [305]	2	1
08	60 [1524]	39 [991]	10-1/2 [267]	56 [1422]	6-3/4 [171]	12 [305]	2	1
10	74 [1880]	52-1/8 [1324]	10-15/16 [262]	70 [1778]	6-3/4 [171]	12 [305]	4	2
12	82 [2083]	60-7/8 [1546]	10-9/16 [268]	78 [1981]	6-3/4 [171]	12 [305]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 19 — 42CG Horizontal Cabinet

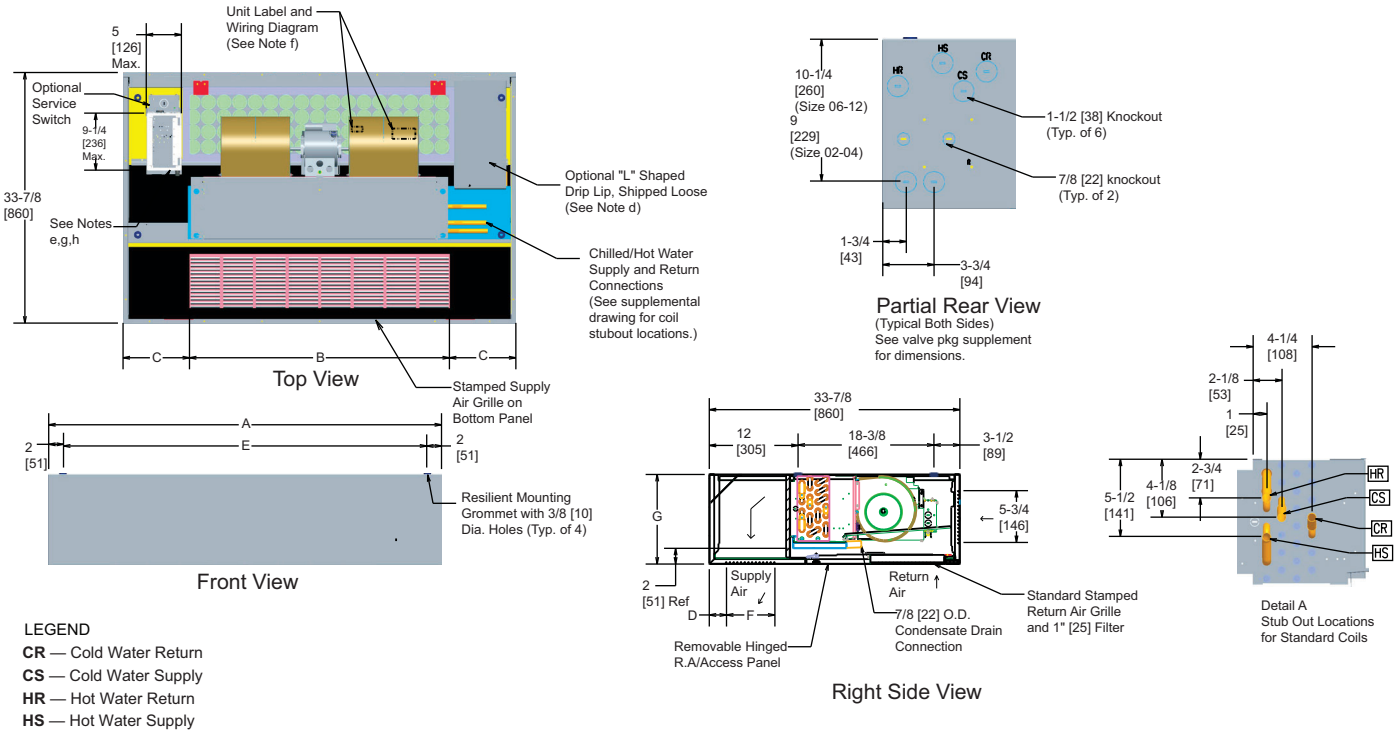


UNIT SIZE 42CG	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]						QTY/UNIT	
	A	B	C	E	F	G	Blower	Motor
02	38 [965]	17-1/8 [435]	10-7/16 [265]	34 [864]	5-3/4 [146]	11 [279]	1	1
03	42 [1067]	21-1/2 [546]	10-1/4 [260]	38 [965]	5-3/4 [146]	11 [279]	1	1
04	48 [1219]	25-7/8 [657]	11-1/16 [281]	44 [1118]	5-3/4 [146]	11 [279]	2	1
06	53 [1346]	34-5/8 [879]	9-3/16 [233]	49 [1245]	6-3/4 [171]	12 [305]	2	1
08	60 [1524]	39 [991]	10-1/2 [267]	56 [1422]	6-3/4 [171]	12 [305]	2	1
10	74 [1880]	52-1/8 [1324]	10-15/16 [262]	70 [1778]	6-3/4 [171]	12 [305]	4	2
12	82 [2083]	60-7/8 [1546]	10-9/16 [268]	78 [1981]	6-3/4 [171]	12 [305]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 20 — 42CG Horizontal Cabinet With Electric Heat



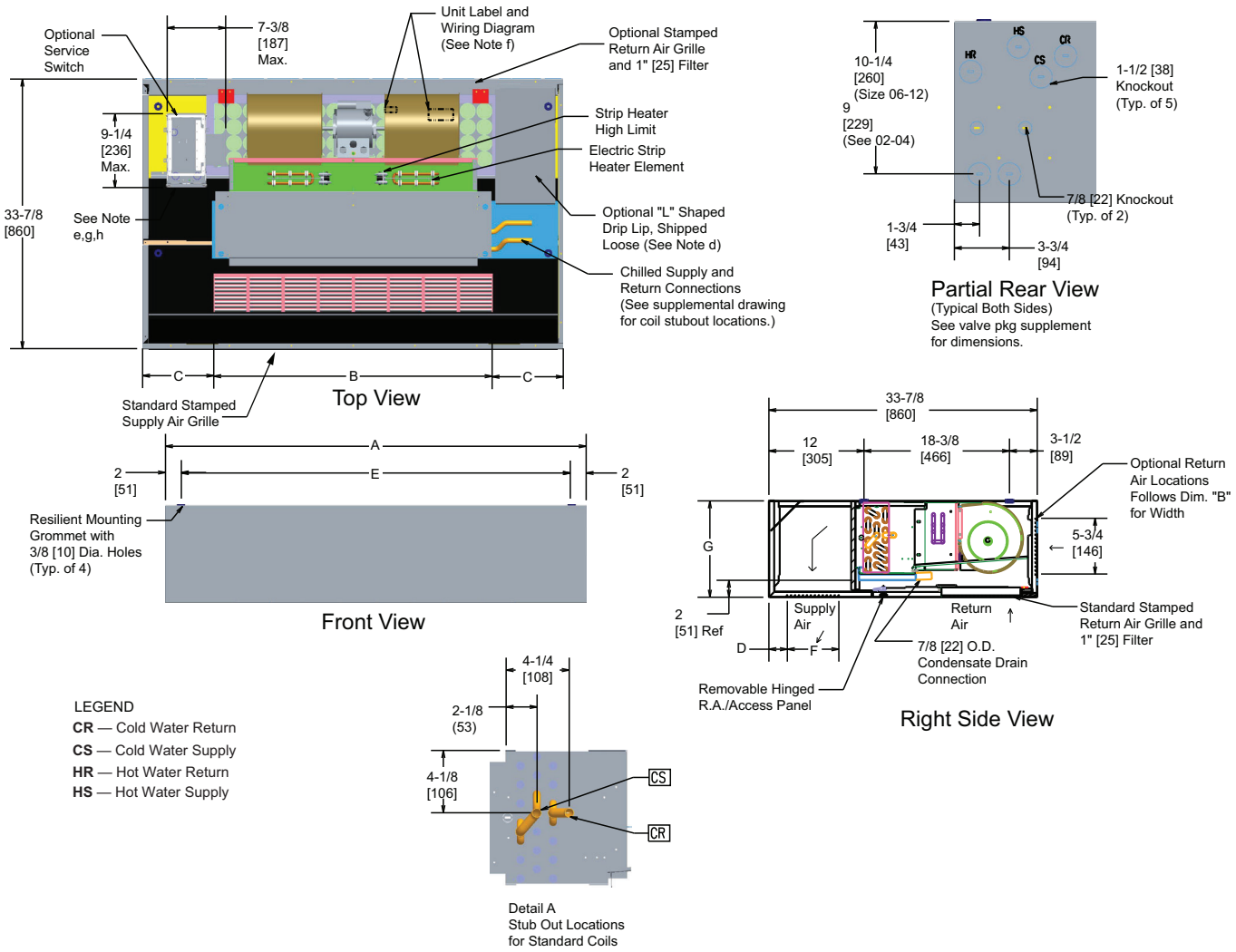
LEGEND
CR — Cold Water Return
CS — Cold Water Supply
HR — Hot Water Return
HS — Hot Water Supply

UNIT SIZE 42CG	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]							QTY/UNIT	
	A	B	C	D	E	F	G	Blower	Motor
02	38 [965]	17-1/8 [435]	10-7/16 [265]	3-1/4 [83]	34 [864]	5-3/4 [146]	11 [279]	1	1
03	42 [1067]	21-1/2 [546]	10-1/4 [260]	3-1/4 [83]	38 [965]	5-3/4 [146]	11 [279]	1	1
04	48 [1219]	25-7/8 [657]	11-1/16 [281]	3-1/2 [89]	44 [1118]	5-3/4 [146]	11 [279]	2	1
06	53 [1346]	34-5/8 [879]	9-3/16 [233]	2-1/4 [57]	49 [1245]	6-3/4 [171]	12 [305]	2	1
08	60 [1524]	39 [991]	10-1/2 [267]	2-1/4 [57]	56 [1422]	6-3/4 [171]	12 [305]	2	1
10	74 [1880]	52-1/8 [1324]	10-15/16 [267]	2-1/2 [64]	70 [1778]	6-3/4 [171]	12 [305]	4	2
12	82 [2083]	60-7/8 [1546]	10-9/16 [268]	2-1/2 [64]	78 [1981]	6-3/4 [171]	12 [305]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 21 — 42CG Horizontal Cabinet With Bottom Supply



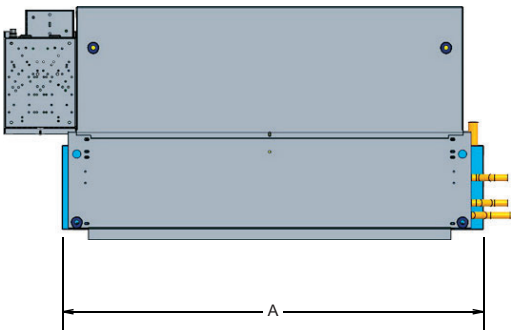
UNIT SIZE 42CG	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h,i,j,k]							QTY/UNIT	
	A	B	C	D	E	F	G	Blower	Motor
02	38 [965]	17-1/8 [435]	10-7/16 [265]	3-1/4 [83]	34 [864]	5-3/4 [146]	11 [279]	1	1
03	42 [1067]	21-1/2 [546]	10-1/4 [260]	3-1/4 [83]	38 [965]	5-3/4 [146]	11 [279]	1	1
04	48 [1219]	25-7/8 [657]	11-1/16 [281]	3-1/2 [89]	44 [1118]	5-3/4 [146]	11 [279]	2	1
06	53 [1346]	34-5/8 [879]	9-3/16 [233]	2-1/4 [57]	49 [1245]	6-3/4 [171]	12 [305]	2	1
08	60 [1524]	39 [991]	10-1/2 [267]	2-1/4 [57]	56 [1422]	6-3/4 [171]	12 [305]	2	1
10	74 [1880]	52-1/8 [1324]	10-15/16 [267]	2-1/2 [64]	70 [1778]	6-3/4 [171]	12 [305]	4	2
12	82 [2083]	60-7/8 [1546]	10-9/16 [268]	2-1/2 [64]	78 [1981]	6-3/4 [171]	12 [305]	4	2

NOTE(S):

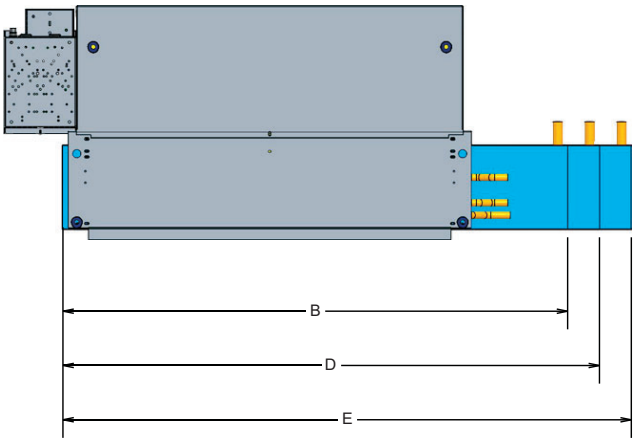
a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service entrance is located on the rear of the control box with knockouts.
h. Units without service switch use the knockouts on the rear side of the control box.
i. Typical size 06 unit shown with 1-Motor and 2-Blower. Refer to table for variation.
j. See valve package supplemental for piping termination.
k. Field connection pipes will be shipped loose with valve packages.

Fig. 22 — 42CG Horizontal Cabinet With Bottom Supply With Electric Heat

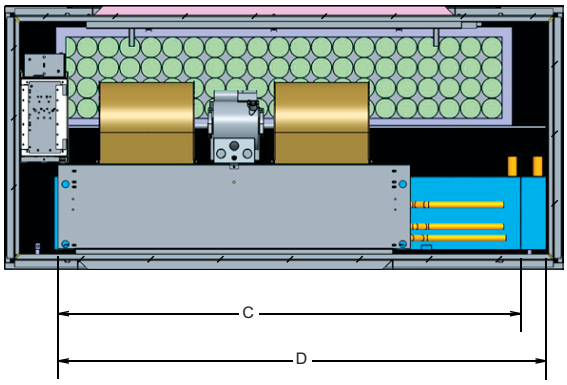
Standard 42CA/42CE

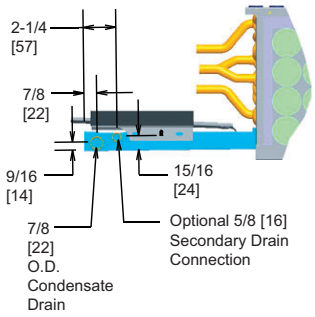


Extended 42CA/42CE (B)
42CE with Valve Package (D)
42CE with Same Side Piping and Controls with Valve Package (E)



Standard 42CK/42CG



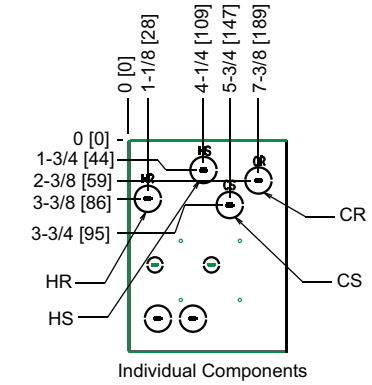


NOTE: Drain and optional secondary drain location are on drain pan.

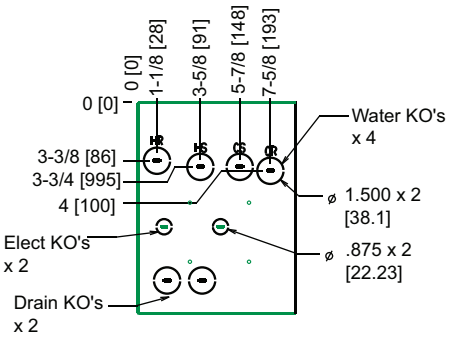
UNIT SIZE 42C**	DIMENSIONS in. [mm]				
	Standard 42CAA/42CEA	Extended 42CAA/42CEA (+7.25 in.)	Standard 42CKA	Standard 42CGB (+10 in.) Standard 42CE With Valve Package	42CEA Same Side Piping/ Control With Valve Package (+12.75 in.)
	A	B	C	D	E
02	21-1/4 [540]	28-1/2 [724]	30-1/2 [775]	31-1/4 [794]	34 [864]
03	25-1/4 [641]	32-1/2 [826]	30-1/2 [775]	35-1/4 [895]	38 [965]
04	31-1/4 [794]	38-1/2 [978]	36-1/2 [927]	41-1/4 [1048]	44 [1118]
06	36-1/4 [921]	43-1/2 [1105]	48-1/2 [1232]	46-1/4 [1175]	49 [1245]
08	43-1/4 [1099]	50-1/2 [1283]	48-1/2 [1232]	53-1/4 [1353]	56 [1422]
10	57-1/4 [1454]	64-1/2 [1638]	70-1/2 [1790]	67-1/4 [1708]	70 [1778]
12	65-1/4 [1657]	72-1/2 [1842]	70-1/2 [1790]	75-1/4 [1911]	78 [1981]

Fig. 23 — 42C Drain Pan Supplement

PARTIAL REAR VIEW OF 42CK/CG UNITS



Individual Components



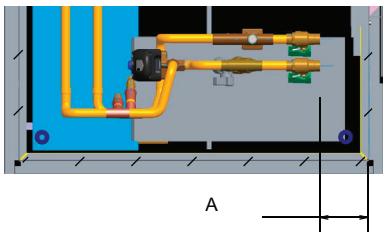
With Combo Valve

NOTE: Left hand side shown. Right hand opposite.

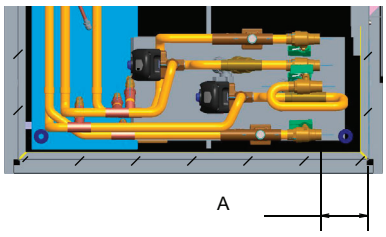
Top View

Without Combo Valve

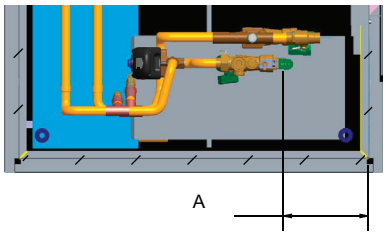
2 Pipe Heating/Cooling

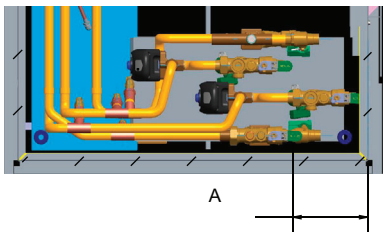


4 Pipe Heating/Cooling



With Combo Valve





DIMENSIONS in. [mm]		
	A	
NO COMBO VALVES	**SUPPLY**	**RETURN**
3-Way 2-Position Cool	3-5/16 [84]	3-5/16 [84]
3-Way 2-Position Heat	3-3/16 [81]	3-3/16 [81]
3-Way Modulating Cool	3-5/16 [84]	3-5/16 [84]
3-Way Modulating Heat	3-1/8 [79]	1-5/8 [41]
2-Way 2-Position Cool	3-1/4 [83]	3-1/4 [83]
2-Way 2-Position Heat	3-1/4 [83]	3-1/4 [83]
2-Way Modulating Cool	3-3/8 [86]	3-3/8 [86]
2-Way Modulating Heat	3-3/16 [81]	1-1/4 [32]
COMBO VALVES		
3-Way 2-Position Cool	5-1/8 [130]	6-1/4 [159]
3-Way 2-Position Heat	1-1/2 [38]	3-3/16 [81]
3-Way Modulating Cool	3-1/4 [83]	4-7/16 [113]
3-Way Modulating Heat	1-9/16 [40]	1-9/16 [40]
2-Way 2-position Cool	4-1/8 [105]	5-3/4 [146]
2-Way 2-position Heat	13/16 [21]	5-1/8 [130]
2-Way Modulating Cool	4-3/8 [111]	3-1/4 [83]
2-Way Modulating Heat	6 [152]	3-5/8 [92]

NOTE: All dimensions are ± 1/4 in. (6.3 mm).

Fig. 24 — 42CK/CG Valve Package Components (Top View)

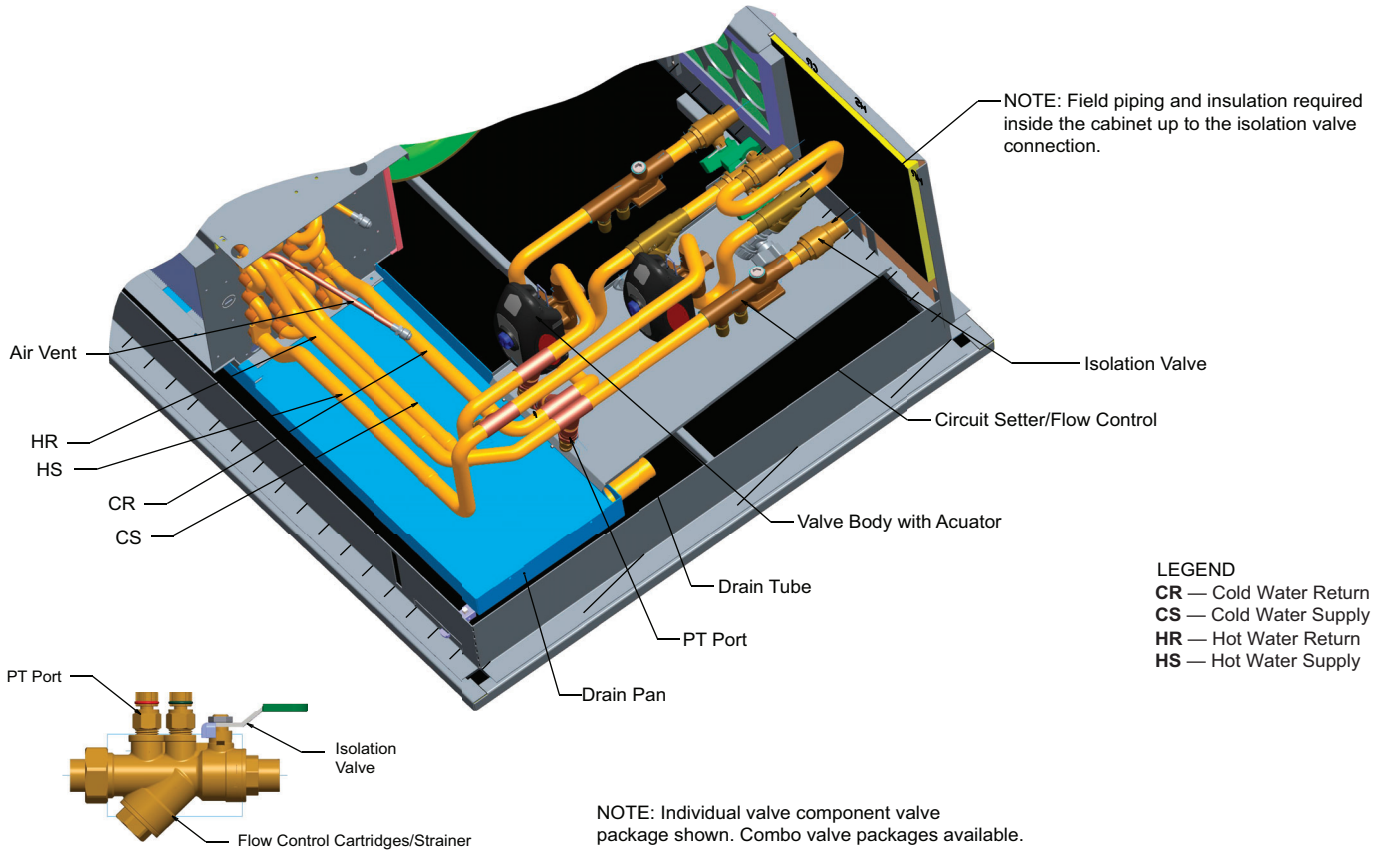
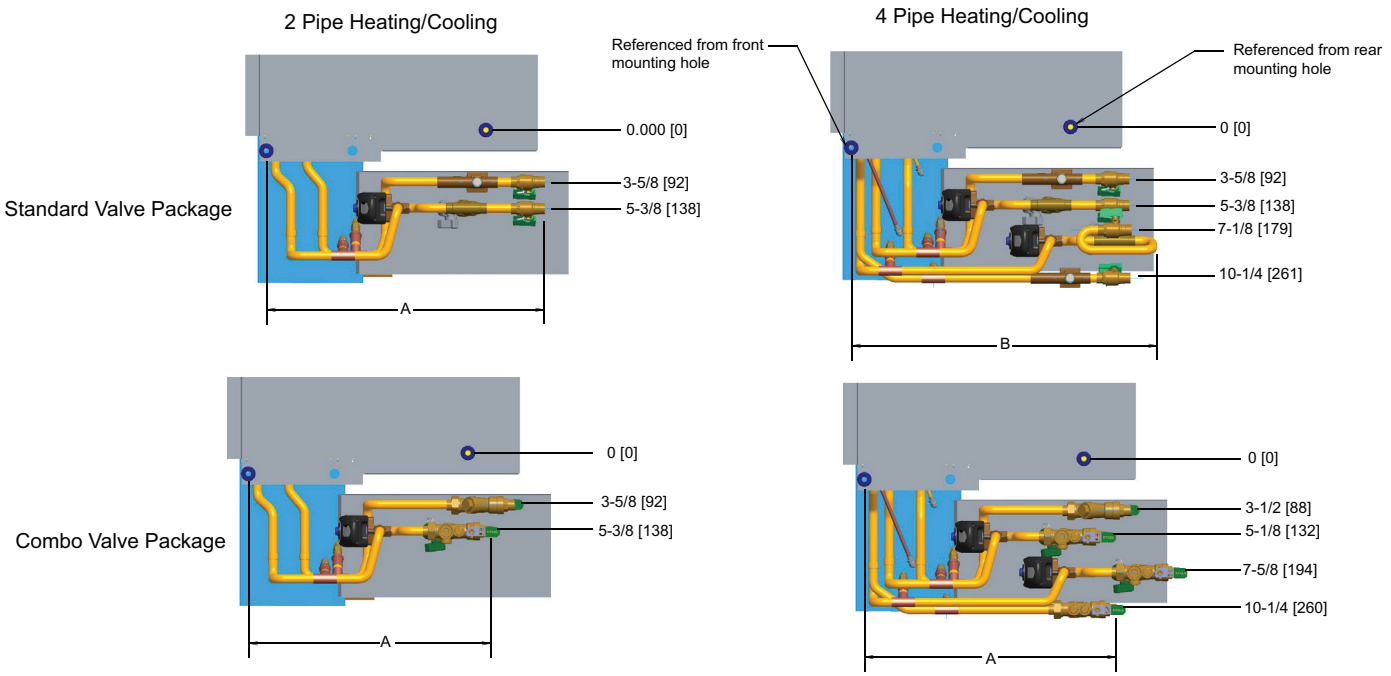


Fig. 24 — 42CK/CG Valve Package Components

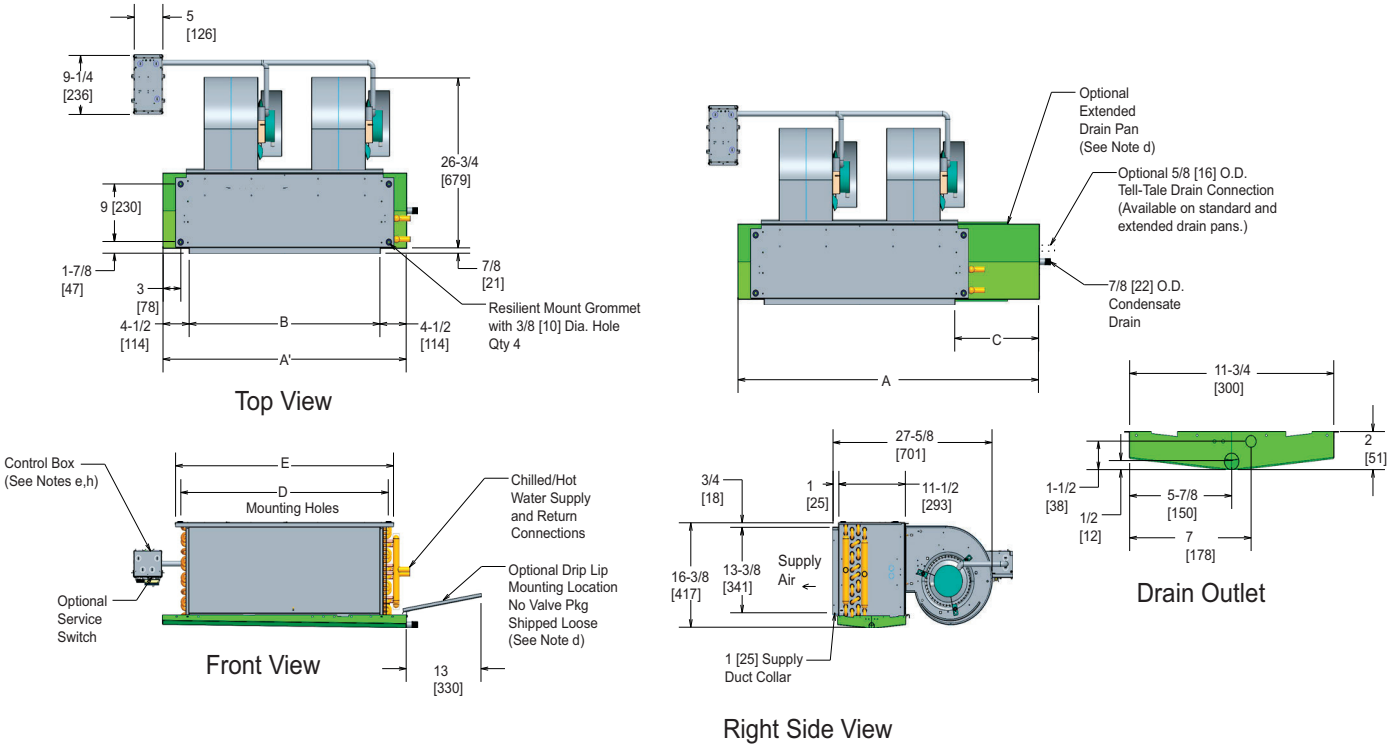


Partial Top View of 42CA/CE Units

DIMENSIONS in. [mm]		
	A	**B**
NO COMBO VALVES		
3-Way 2-Position Cool	19-1/8 [486]	—
3-Way 2-Position Heat	19-1/4 [489]	21-1/8 [537]
3-Way Modulating Cool	19-1/8 [486]	—
3-Way Modulating Heat	19-1/4 [489]	21-9/16 (548)
2-Way 2-Position Cool	19-1/8 [486]	—
2-Way 2-Position Heat	19-1/4 [489]	21-1/8 [537]
2-Way Modulating Cool	19-1/8 [486]	—
2-Way Modulating Heat	21-1/8 [537]	21-9/16 [548]
COMBO VALVES	**SUPPLY/RETURN**	
3-Way 2-Position Cool	17-5/15 [440] / 19-1/4 [489]	N/A combo valve connection does not exceed distance “A”.
3-Way 2-Position Heat	20-7/8 [530] / 19-1/4 [489]	
3-Way Modulating Cool	19-1/8 [486] / 18-1/6 [459]	
3-Way Modulating Heat	20-7/8 [530] / 20-7/8 [530]	
2-Way 2-Position Cool	18-1/4 [464] / 16-5/8 [422]	
2-Way 2-Position Heat	21-5/8 [549] / 17-3/8 [441]	
2-Way Modulating Cool	19-3/16 [487] / 16-5/8 [422]	
2-Way Modulating Heat	19-7/16 [494] / 18-13/16 [477]	

NOTE: All dimensions are ± 1/4 in. [6.3 mm].

Fig. 25 — 42CA/CE Valve Package Supplement

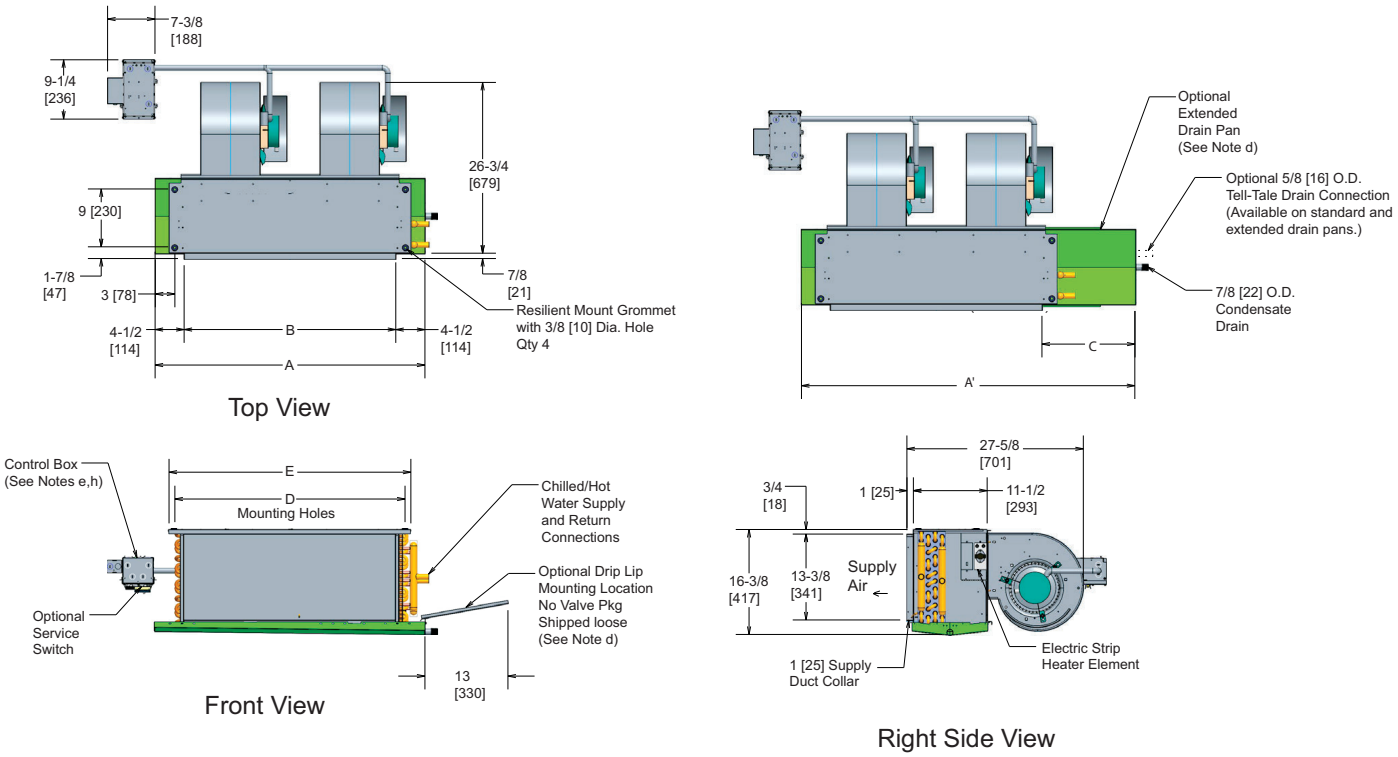


UNIT SIZE 42DA	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]						QUANTITY/UNIT	
	A	A'	B	C	D	E	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	18-3/4 [476]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	23-3/4 [603]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	27-3/4 [705]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	32-3/4 [832]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	37-3/4 [959]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	42-3/4 [1086]	2	2
18	52 [1321]	52 [1321]	43 [1092]	14-1/2 [368]	46 [1168]	47-3/4 [1213]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	51-3/4 [1314]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 26 — 42DA Hi-Performance Hideaway, Rear Return

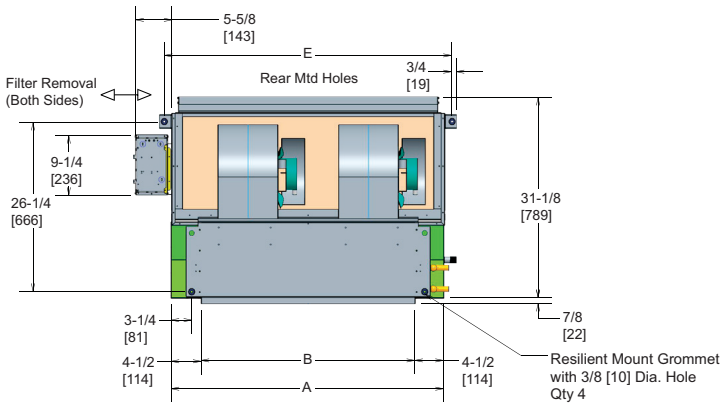


UNIT SIZE 42DA	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]						QUANTITY/UNIT	
	A	A'	B	C	D	E	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	18-3/4 [476]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	23-3/4 [603]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	27-3/4 [705]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	32-3/4 [832]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	37-3/4 [959]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	42-3/4 [1086]	2	2
18	52 [1321]	62 [1575]	43 [1092]	14-1/2 [368]	46 [1168]	47-3/4 [1213]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	51-3/4 [1314]	2	2

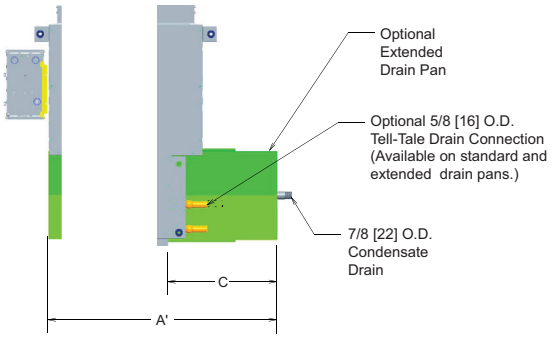
NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

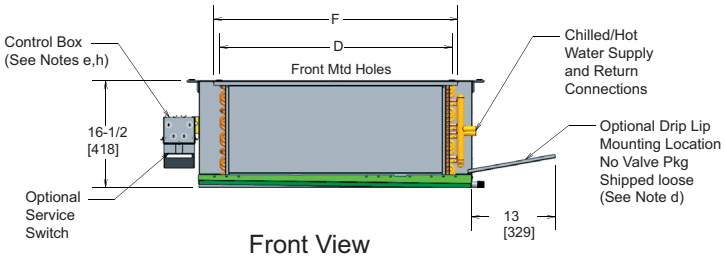
Fig. 27 — 42DA Hi-Performance Hideaway, Rear Return, With Optional Electric Heat



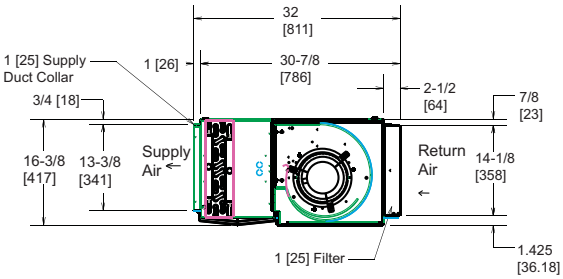
Top View



Drain Pan (Abbreviated View)



Front View



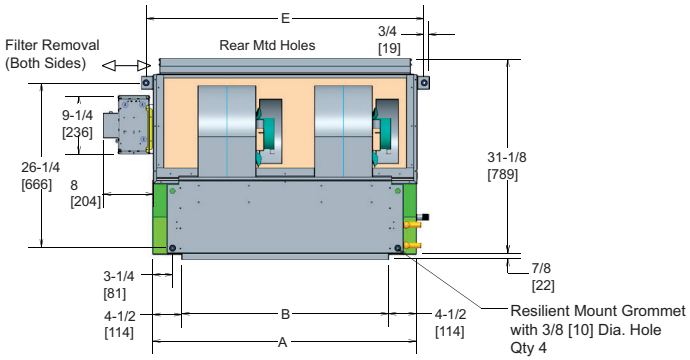
Right Side View

UNIT SIZE 42DC	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]							QUANTITY/UNIT	
	A	A'	B	C	D	E	F	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	25-1/2 [648]	21 [533]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	30-1/2 [775]	26 [660]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	34-1/2 [877]	30 [762]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	39-1/2 [1004]	35 [890]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	44-1/2 [1131]	40 [1016]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	49-1/2 [1258]	45 [1143]	2	2
18	52 [1321]	52 [1321]	43 [1092]	14-1/2 [368]	46 [1168]	54-1/2 [1385]	50 [1270]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	58-1/2 [1487]	54 [1372]	2	2

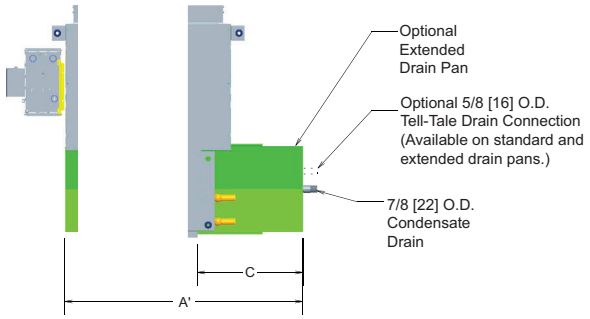
NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

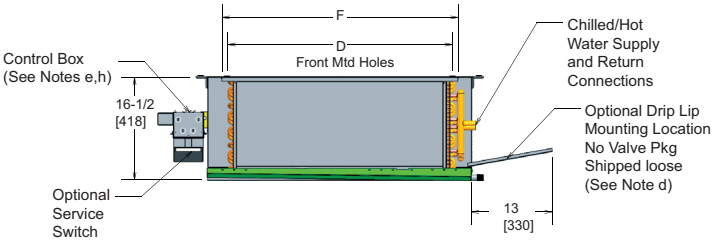
Fig. 28 — 42DC Hi-Performance Hideaway With Plenum, Rear Return



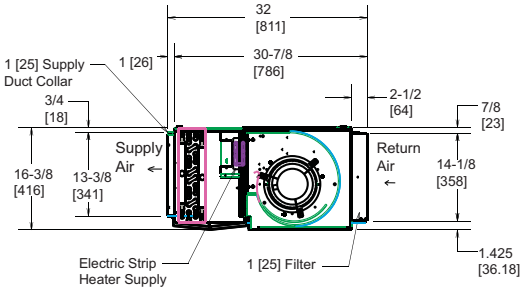
Top View



Drain Pan (Abbreviated View)



Front View



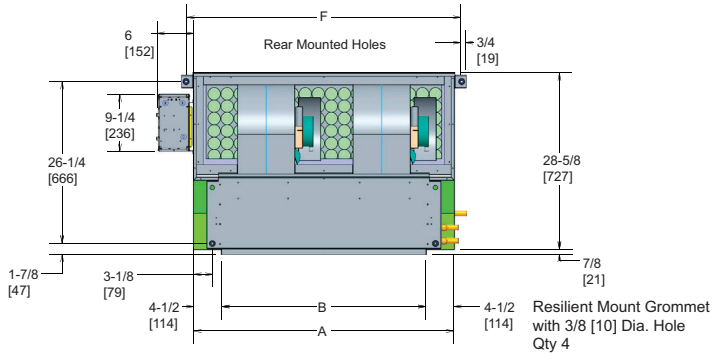
Right Side View

UNIT SIZE 42DC	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]							QUANTITY/UNIT	
	A	A'	B	C	D	E	F	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	25-1/2 [648]	21 [533]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	30-1/2 [775]	26 [660]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	34-1/2 [877]	30 [762]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	39-1/2 [1004]	35 [889]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	44-1/2 [1131]	40 [1016]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	49-1/2 [1258]	45 [1143]	2	2
18	52 [1321]	52 [1321]	43 [1092]	14-1/2 [368]	46 [1168]	54-1/2 [1385]	50 [1270]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	58-1/2 [1487]	54 [1372]	2	2

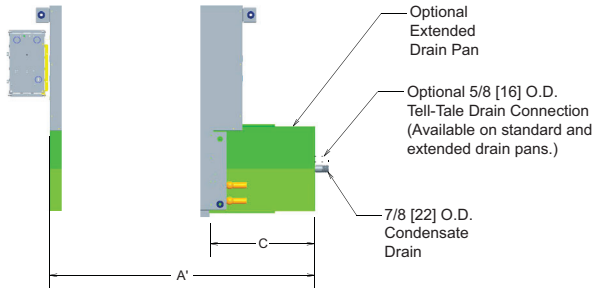
NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

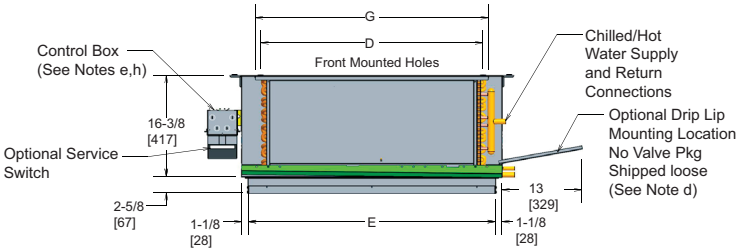
Fig. 29 — 42DC Hi-Performance Hideaway With Plenum and Optional Electric Heat, Rear Return



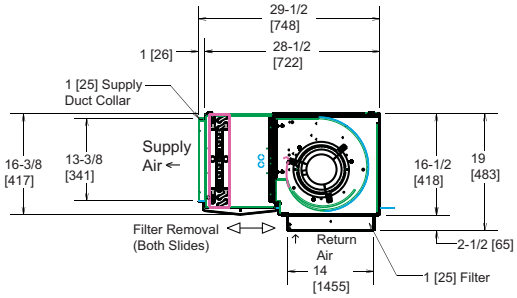
Top View



Drain Pan (Abbreviated View)



Front View



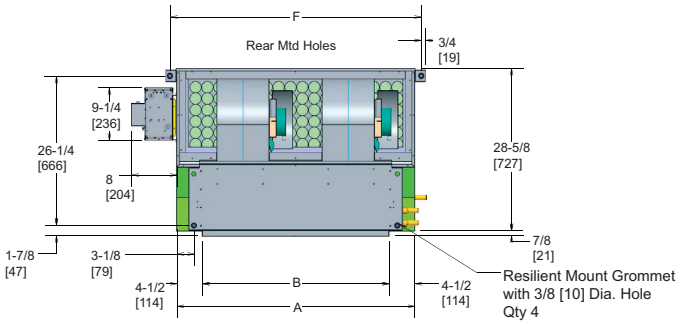
Right Side View

UNIT SIZE 42DC	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]								QUANTITY/UNIT	
	A	A'	B	C	D	E	F	G	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	21 [533]	25-1/2 [648]	18-3/4 [476]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	26 [660]	30-1/2 [775]	23-3/4 [603]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	30 [762]	34-1/2 [877]	27-3/4 [705]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	35 [889]	39-1/2 [1004]	32-3/4 [832]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	40 [1016]	44-1/2 [1131]	37-3/4 [959]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	45 [1143]	49-1/2 [1258]	42-3/4 [1086]	2	2
18	52 [1321]	52 [1321]	43 [1092]	14-1/2 [368]	46 [1168]	50 [1270]	54-1/2 [1385]	47-3/4 [1213]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	54 [1372]	58-1/2 [1487]	51-3/4 [1314]	2	2

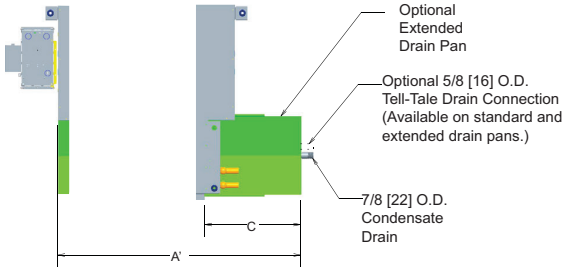
NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

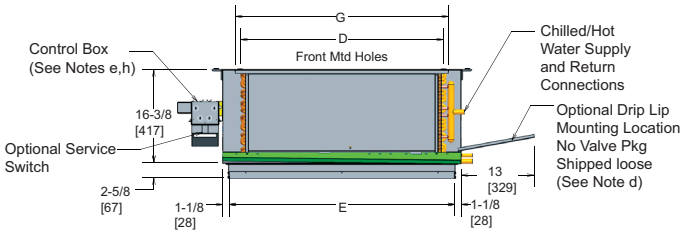
Fig. 30 — 42DC Hi-Performance Hideaway With Plenum, Bottom Return



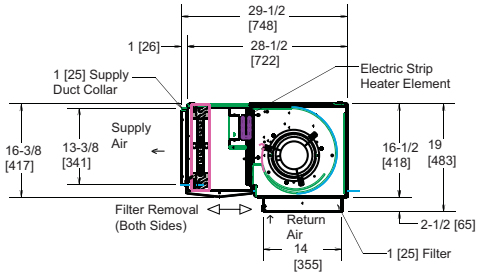
Top View



Drain Pan (Abbreviated View)



Front View



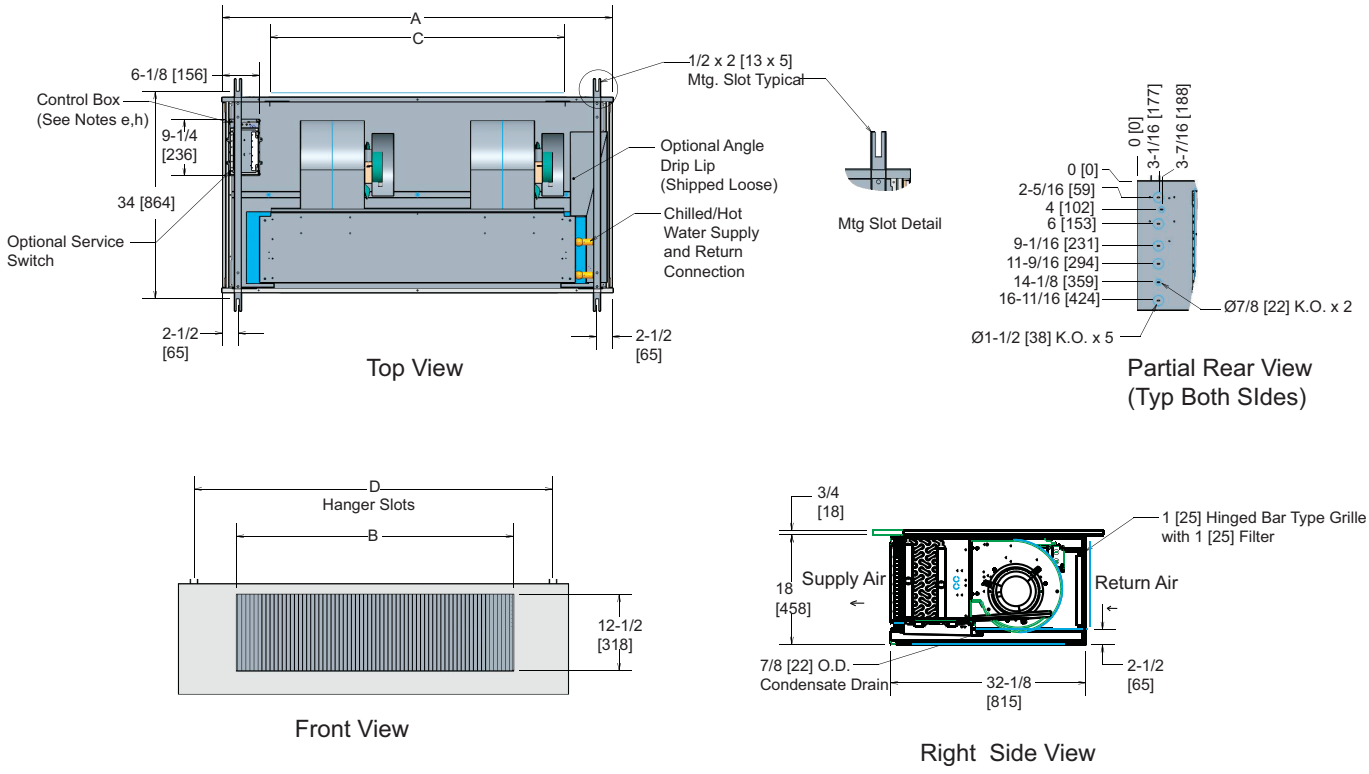
Right Side View

UNIT SIZE 42DC	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]								QUANTITY/UNIT	
	A	A'	B	C	D	E	F	G	Blower	Motor
06	23 [584]	32 [813]	14 [356]	13-1/2 [343]	17 [432]	21 [533]	25-1/2 [648]	18-3/4 [476]	1	1
08	28 [711]	37 [940]	19 [483]	13-1/2 [343]	22 [559]	26 [660]	30-1/2 [775]	23-3/4 [603]	1	1
10	32 [813]	42 [1067]	23 [584]	14-1/2 [368]	26 [660]	30 [762]	34-1/2 [877]	27-3/4 [705]	1	1
12	37 [940]	47 [1194]	28 [711]	14-1/2 [368]	31 [787]	35 [889]	39-1/2 [1004]	32-3/4 [832]	2	2
14	42 [1067]	52 [1321]	33 [838]	14-1/2 [368]	36 [914]	40 [1016]	44-1/2 [1131]	37-3/4 [959]	2	2
16	47 [1194]	56 [1422]	38 [965]	13-1/2 [343]	41 [1041]	45 [1143]	49-1/2 [1258]	42-3/4 [1086]	2	2
18	52 [1321]	52 [1321]	43 [1092]	14-1/2 [368]	46 [1168]	50 [1270]	54-1/2 [1385]	47-3/4 [1213]	2	2
20	56 [1422]	66 [1676]	47 [1194]	14-1/2 [368]	50 [1270]	54 [1372]	58-1/2 [1487]	51-3/4 [1314]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 31 — 42DC Hi-Performance Hideaway With Plenum With Optional Electric Heat, Bottom Return

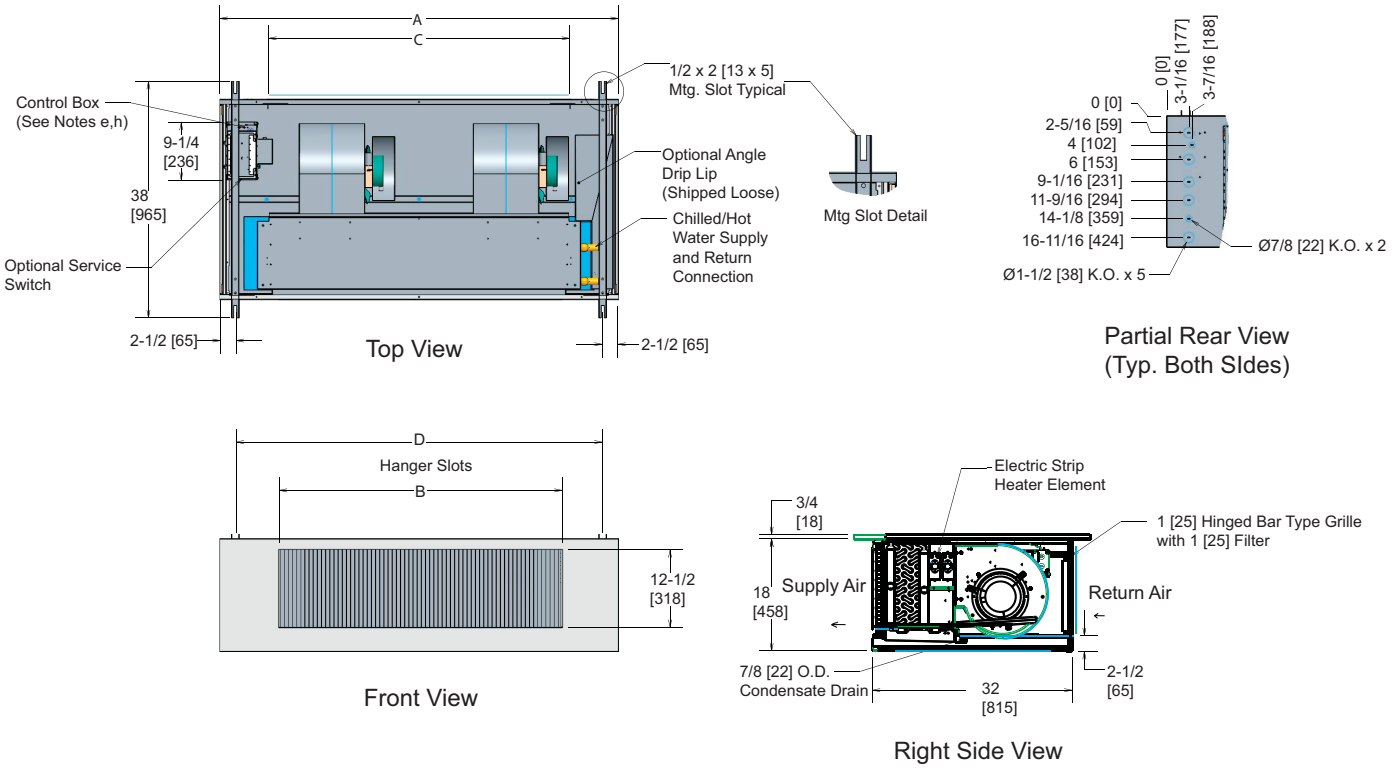


UNIT SIZE 42DF	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
06	31 [787]	13 [330]	14 [356]	26 [660]	1	1
08	36 [914]	18 [457]	20 [508]	31 [787]	1	1
10	40 [1016]	22 [558]	24 [610]	35 [889]	1	1
12	45 [1143]	27 [686]	28 [711]	40 [1016]	2	2
14	50 [1270]	32 [813]	34 [864]	45 [1143]	2	2
16	55 [1397]	37 [940]	38 [965]	50 [1270]	2	2
18	60 [1524]	42 [1067]	44 [1118]	55 [1397]	2	2
20	64 [1626]	46 [1168]	48 [1219]	59 [1499]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 32 — 42DF Hi-Performance Cabinet

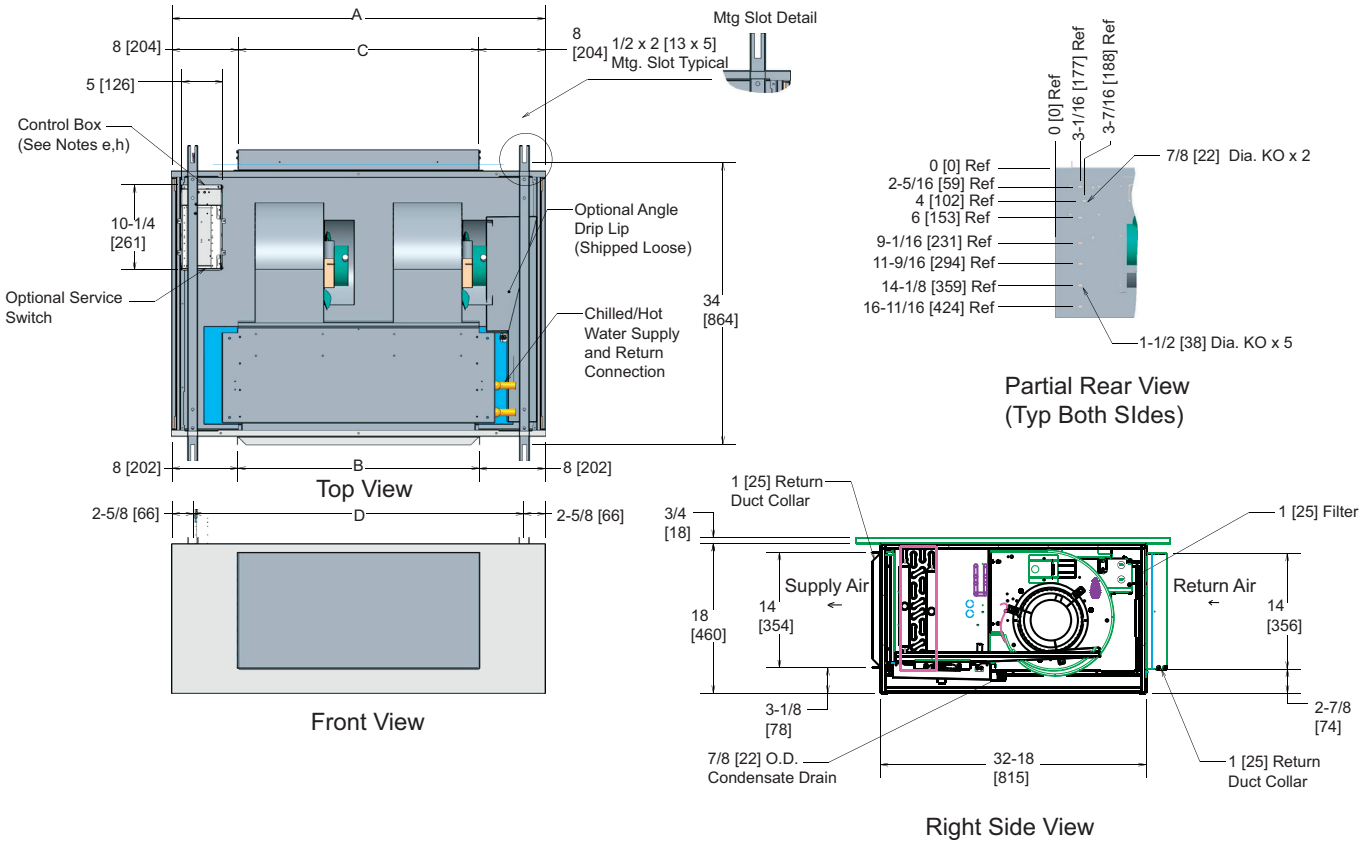


UNIT SIZE 42DF	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
06	31 [787]	13 [330]	14 [356]	26 [660]	1	1
08	36 [914]	18 [457]	20 [508]	31 [787]	1	1
10	40 [1016]	22 [558]	24 [610]	35 [889]	1	1
12	45 [1143]	27 [686]	28 [711]	40 [1016]	2	2
14	50 [1270]	32 [813]	34 [864]	45 [1143]	2	2
16	55 [1397]	37 [940]	38 [965]	50 [1270]	2	2
18	60 [1524]	42 [1067]	44 [1118]	55 [1397]	2	2
20	64 [1626]	46 [1168]	48 [1219]	59 [1499]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 33 — 42DF-Hi Performance Cabinet With Optional Electric Heat

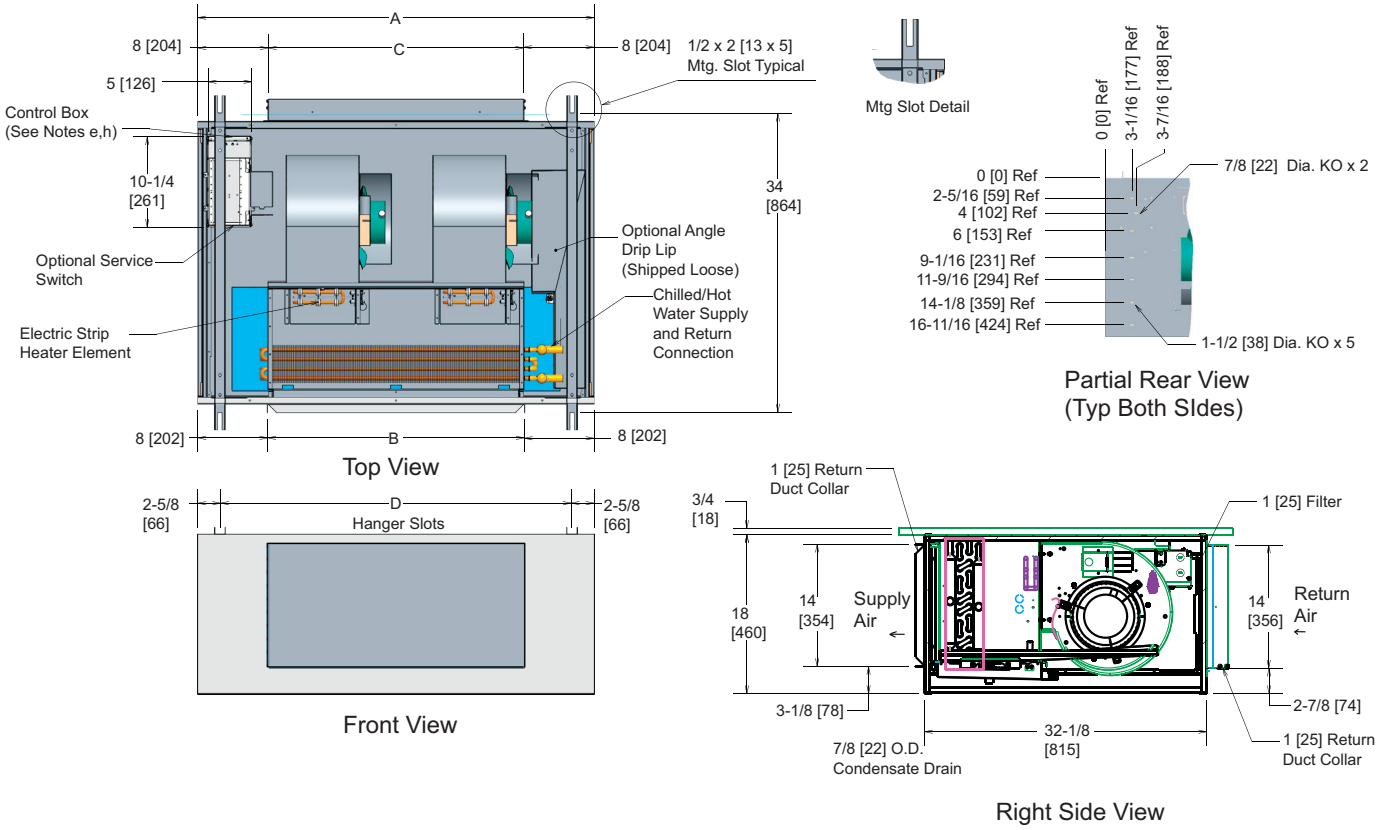


UNIT SIZE 42DE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
06	31 [787]	15 [381]	15 [381]	26 [660]	1	1
08	36 [914]	20 [508]	20 [508]	31 [787]	1	1
10	40 [1016]	24 [610]	24 [610]	35 [889]	1	1
12	45 [1143]	29 [737]	29 [737]	40 [1016]	2	2
14	50 [1270]	34 [864]	34 [864]	45 [1143]	2	2
16	55 [1397]	39 [991]	39 [991]	50 [1270]	2	2
18	60 [1524]	44 [1118]	44 [1118]	55 [1397]	2	2
20	64 [1626]	48 [1219]	48 [1219]	59 [1499]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 34 — 42DE Hi-Performance Horizontal Cased

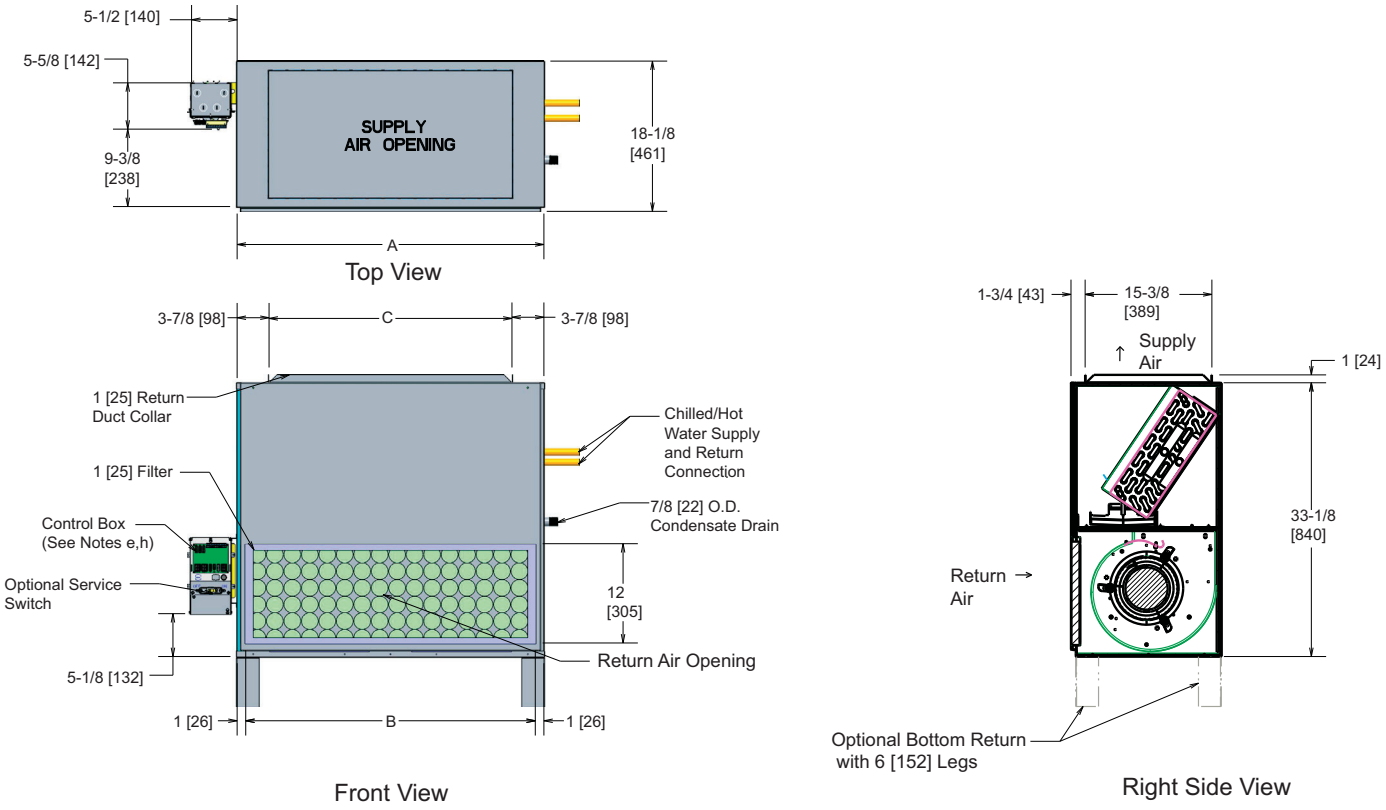


UNIT SIZE 42DE	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
06	31 [787]	15 [381]	15 [381]	26 [660]	1	1
08	36 [914]	20 [508]	20 [508]	31 [787]	1	1
10	40 [1016]	24 [610]	24 [610]	35 [889]	1	1
12	45 [1143]	29 [737]	29 [737]	40 [1016]	2	2
14	50 [1270]	34 [864]	34 [864]	45 [1143]	2	2
16	55 [1397]	39 [991]	39 [991]	50 [1270]	2	2
18	60 [1524]	44 [1118]	44 [1118]	55 [1397]	2	2
20	64 [1626]	48 [1219]	48 [1219]	59 [1499]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 35 — 42DE Hi-Performance Horizontal Cased With Optional Electric Heat

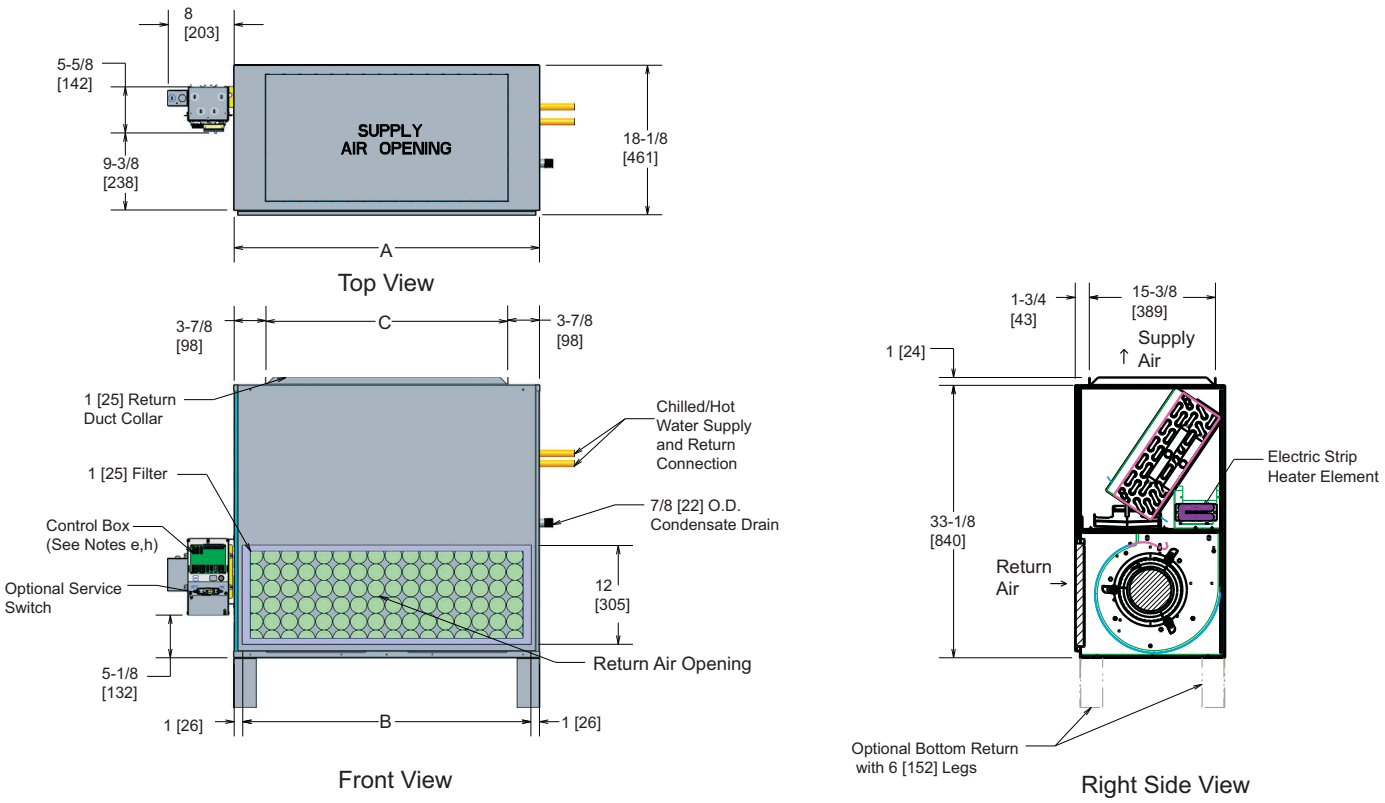


UNIT SIZE 42DD	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
06	23 [584]	21 [533]	15 [381]	1	1
08	28 [711]	26 [660]	20 [508]	1	1
10	32 [813]	30 [762]	24 [610]	1	1
12	37 [940]	35 [889]	29 [737]	2	2
14	42 [1067]	40 [1016]	34 [864]	2	2
16	47 [1194]	45 [1143]	39 [991]	2	2
18	52 [1321]	50 [1270]	44 [1118]	2	2
20	56 [1422]	54 [1372]	48 [1220]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 36 — 42DD Hi-Performance Vertical Cased

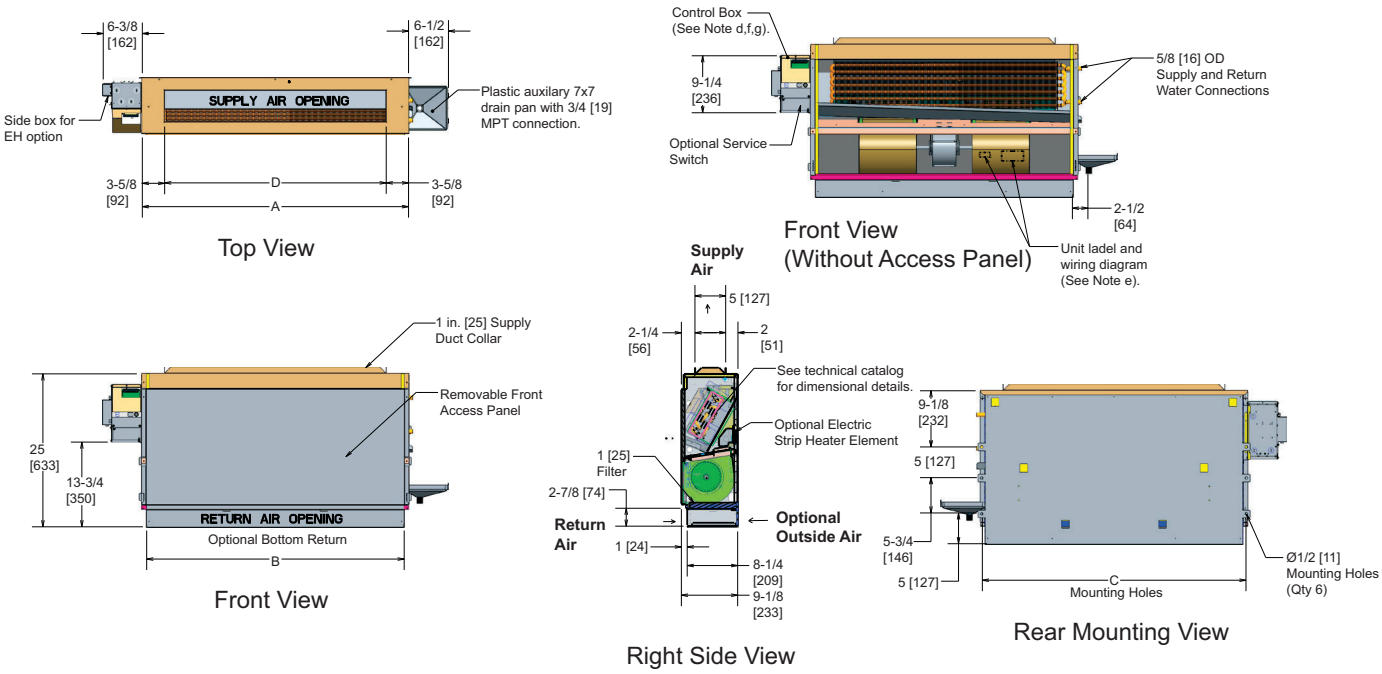


UNIT SIZE 42DD	DIMENSIONS in. [mm][a,b,c,d,e,f,g,h]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
06	23 [584]	21 [533]	15 [381]	1	1
08	28 [711]	26 [660]	20 [508]	1	1
10	32 [813]	30 [762]	24 [610]	1	1
12	37 [940]	35 [889]	29 [737]	2	2
14	42 [1067]	40 [1016]	34 [864]	2	2
16	47 [1194]	45 [1143]	39 [991]	2	2
18	52 [1321]	50 [1270]	44 [1118]	2	2
20	56 [1422]	54 [1372]	48 [1220]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Drip lip recommended. Provided when valve package is ordered.
e. Control box size and position may vary. Consult factory.
f. Position may vary.
g. Service access is located on the front of the control box.
h. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 37 — 42DD Hi-Performance Vertical Cased With Optional Electric Heat



UNIT SIZE 42VAD	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	23-1/2 [597]	22 [559]	23 [584]	16 [406]	1	1
03	27-1/2 [699]	26 [660]	27 [686]	20 [508]	1	1
04	33-1/2 [851]	32 [813]	33 [838]	26 [660]	2	1
06	43-1/2 [1105]	42 [1067]	43 [1092]	36 [914]	2	1
08	45-1/2 [1156]	44 [1118]	45 [1143]	38 [965]	2	1
10	59-1/2 [1511]	58 [1473]	59 [1499]	52 [1321]	4	2
12	67-1/2 [1715]	66 [1676]	67 [1702]	60 [1524]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 38 — 42VAD Vertical Floor Top Supply With Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Control Box Bracket
4	Guard
5	Control Package
6	Top Coil Baffle Assembly
7	Top Panel Assembly Ducted
8	Base Plate
9	Front Panel Assembly
10	Heater Assembly
11	Filter Channel
12	Filter
13	Auxiliary Drain Pan
14	Chassis Assembly
15	Motor Blower Deck Assembly

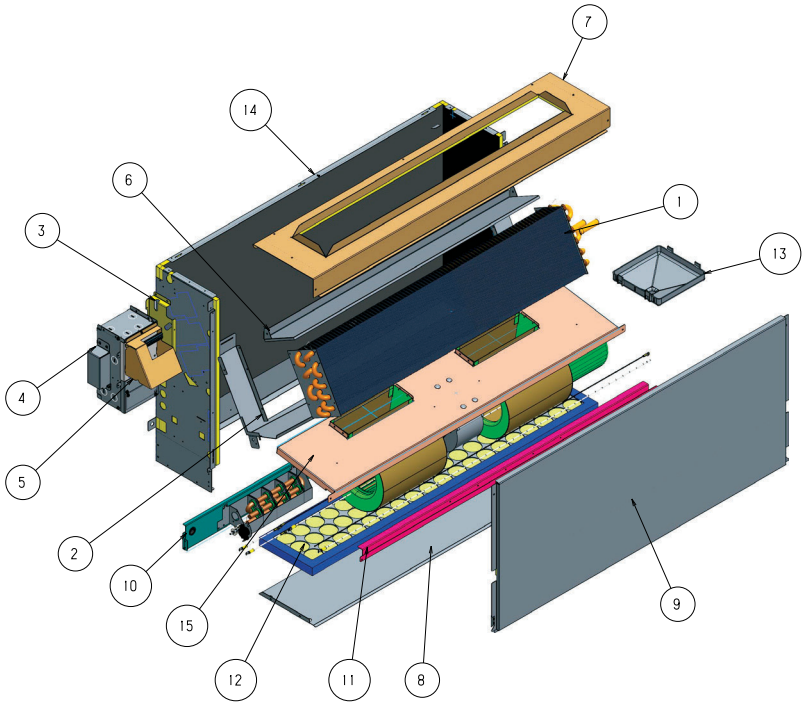
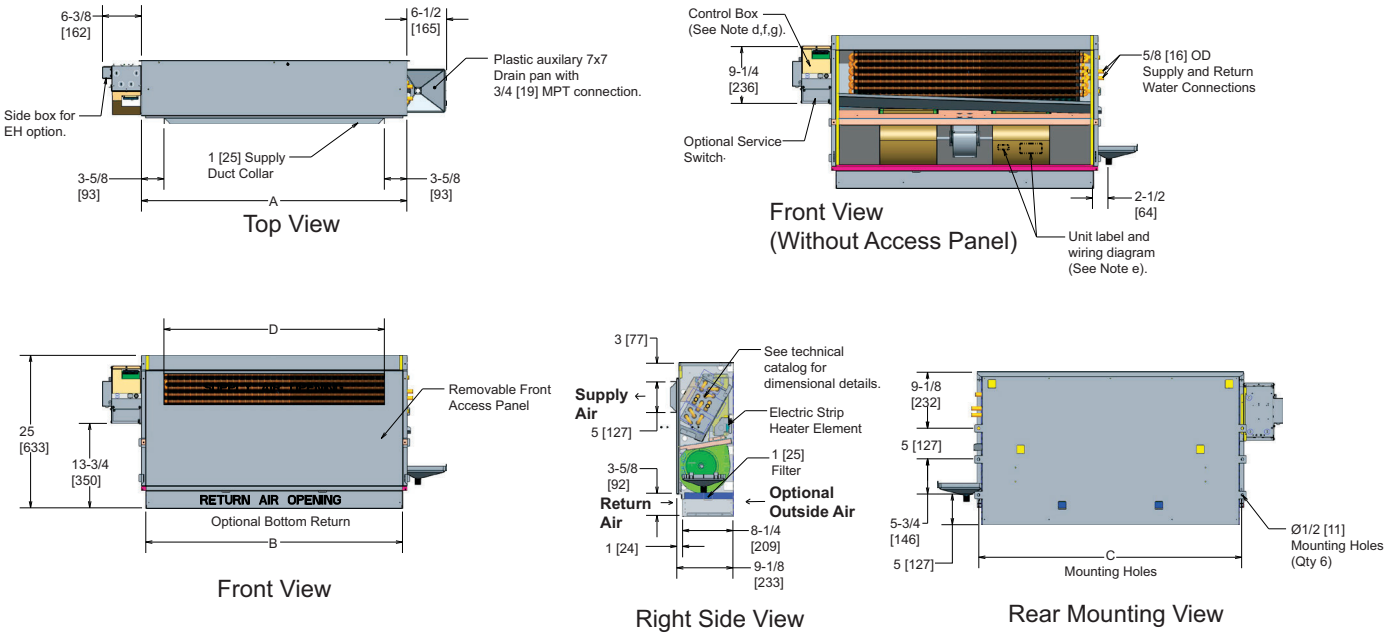


Fig. 39 — 42VAD Vertical Floor Top Supply With Optional Electric Heat (Exploded View)



UNIT SIZE 42VAD	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	23-1/2 [597]	22 [559]	23 [584]	16 [406]	1	1
03	27-1/2 [699]	26 [660]	27 [686]	20 [508]	1	1
04	33-1/2 [851]	32 [813]	33 [838]	26 [660]	2	1
06	43-1/2 [1105]	42 [1067]	43 [1092]	36 [914]	2	1
08	45-1/2 [1156]	44 [1118]	45 [1143]	38 [965]	2	1
10	59-1/2 [1511]	58 [1473]	59 [1499]	52 [1321]	4	2
12	67-1/2 [1715]	66 [1676]	67 [1702]	60 [1524]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 40 — 42VAD Vertical Hideaway Front Supply With Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Control Box Bracket
4	Guard
5	Control Package
6	Top Coil Baffle Assembly
7	Top Panel Assembly Ducted
8	Base Plate
9	Front Panel Assembly
10	Heater Assembly
11	Filter Channel
12	Filter
13	Auxiliary Drain Pan
14	Chassis Assembly
15	Motor Blower Deck Assembly

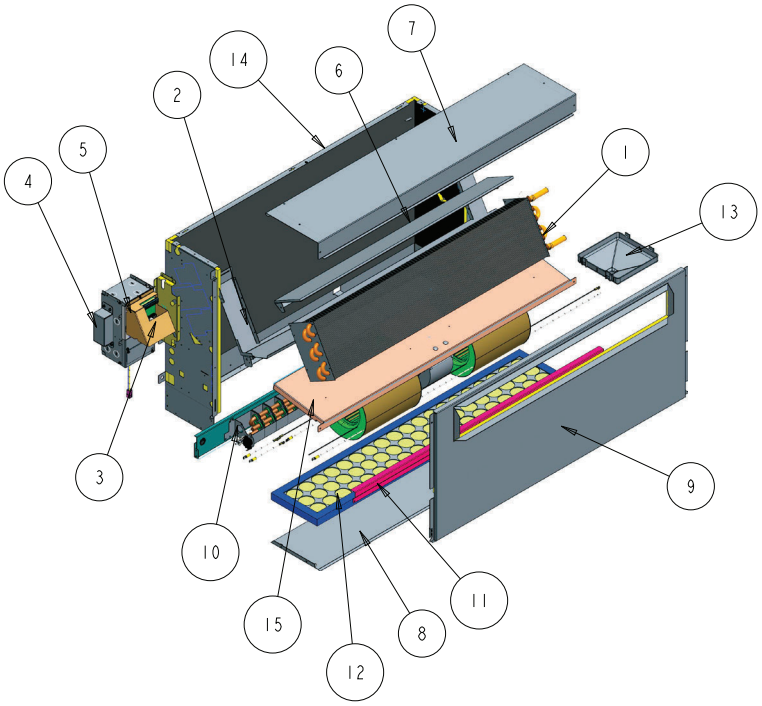
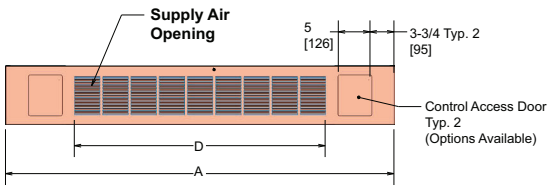
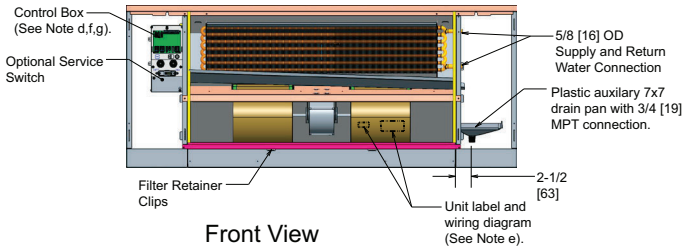


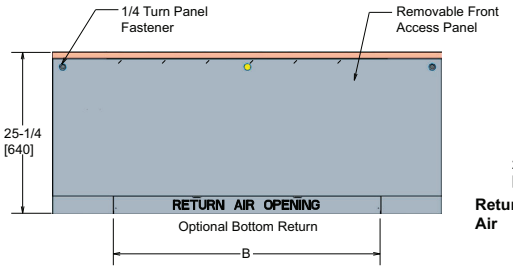
Fig. 41 — 42VAD Vertical Hideaway Front Supply With Optional Electric Heat (Exploded View)



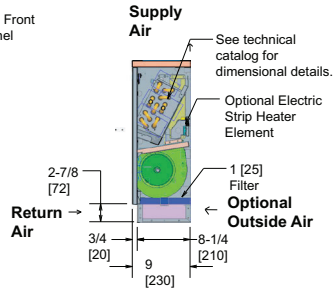
Top View



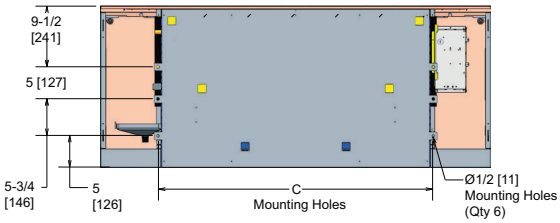
Front View
(Without Access Panel)



Front View



Right Side View



Rear Mounting View

UNIT SIZE 42VBD	DIMENSIONS – in.[mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	41 [1041]	22 [559]	23 [584]	17-1/4 [438]	1	1
03	45 [1043]	26 [660]	27 [686]	21-1/2 [546]	1	1
04	51 [1295]	32 [813]	33 [838]	26 [660]	2	1
06	61 [1549]	42 [1067]	43 [1092]	39-1/4 [997]	2	1
08	63 [1600]	44 [1118]	45 [1143]	39-1/4 [997]	2	1
10	77 [1956]	58 [1473]	59 [1499]	52-1/2 [1334]	4	2
12	85 [2159]	66 [1676]	67 [1702]	61-1/4 [1556]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 42 — 42VBD Vertical Cabinet Top Supply With Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Outer Case Leg
4	Top Panel Assembly
5	Subbase Right Hand
6	Subbase Left Hand
7	Control Box Bracket
8	Top Coil Baffle Assembly
9	Base Plate
10	Front Panel Assembly Solid
11	Heater Assembly
12	Filter Channel
13	Filter
14	Auxiliary Drain Pan
15	Chassis Assembly
16	Motor Blower Deck Assembly
17	Control Package

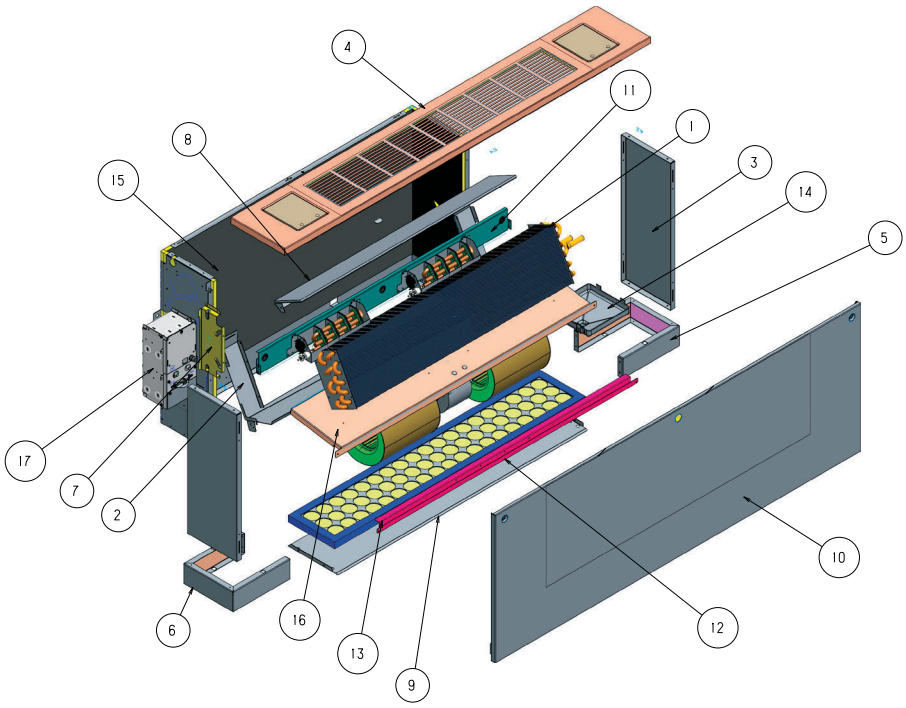
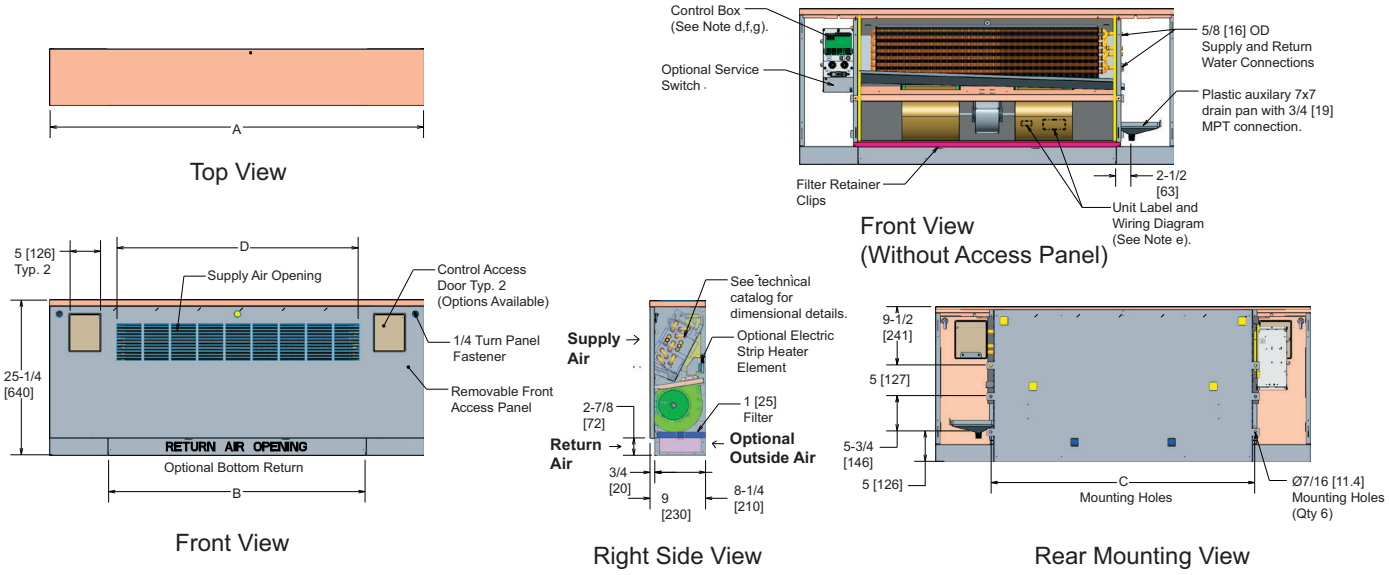


Fig. 43 — 42VBD Vertical Cabinet Top Supply With Optional Electric Heat (Exploded View)



UNIT SIZE 42VBD	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	41 [1041]	22 [559]	23 [584]	17-1/4 [438]	1	1
03	45 [1043]	26 [660]	27 [686]	21-1/2 [546]	1	1
04	51 [1295]	32 [813]	33 [838]	26 [660]	2	1
06	61 [1549]	42 [1067]	43 [1092]	39-1/4 [997]	2	1
08	63 [1600]	44 [1118]	45 [1143]	39-1/4 [997]	2	1
10	77 [1956]	58 [1473]	59 [1499]	52-1/2 [1334]	4	2
12	85 [2159]	66 [1676]	67 [1702]	61-1/4 [1556]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 44 — 42VBD — Vertical Cabinet Front Supply With Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Outer Case Leg
4	Top Panel Assembly
5	Subbase Right Hand
6	Subbase Left Hand
7	Control Box Bracket
8	Top Coil Baffle Assembly
9	Base Plate
10	Front Panel Assembly Solid
11	Heater Assembly
12	Filter Channel
13	Filter
14	Auxiliary Drain Pan
15	Chassis Assembly
16	Motor Blower Deck Assembly
17	Control Package

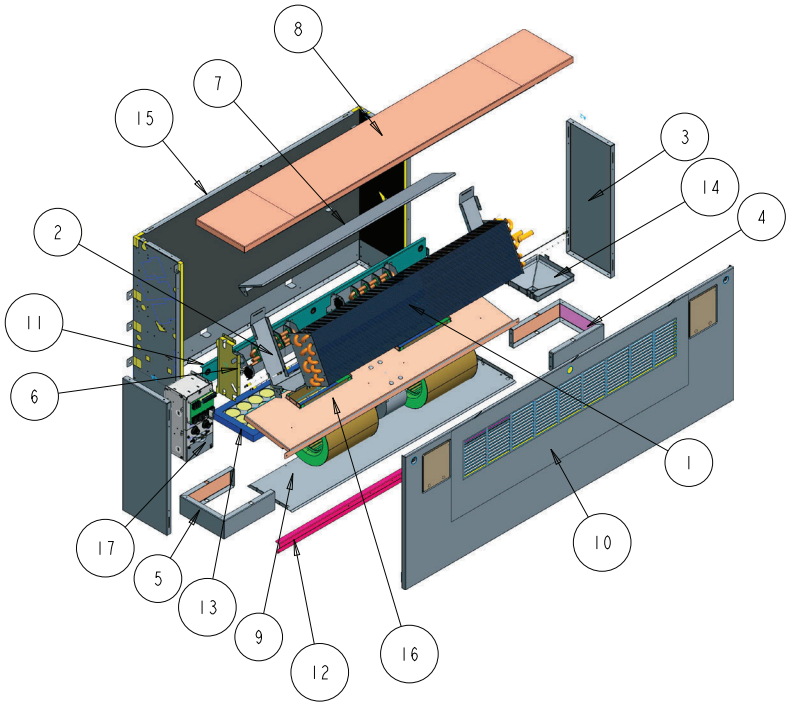
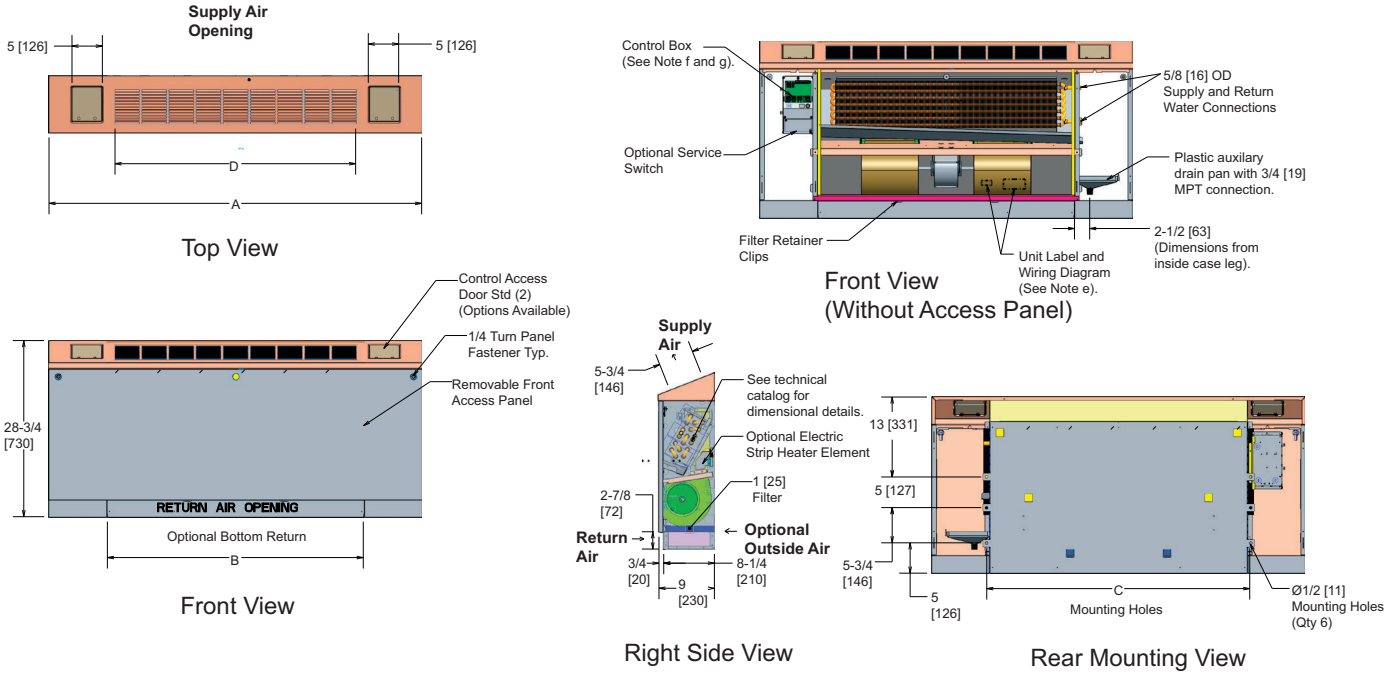


Fig. 45 — 42VBD — Vertical Cabinet Front Supply With Optional Electric Heat (Exploded View)



UNIT SIZE 42VFD	DIMENSIONS–in. [mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	41 [1041]	22 [559]	23 [584]	17-1/4 [438]	1	1
03	45 [1043]	26 [660]	27 [686]	21-1/2 [546]	1	1
04	51 [1295]	32 [813]	33 [838]	26 [660]	2	1
06	61 [1549]	42 [1067]	43 [1092]	39-1/4 [997]	2	1
08	63 [1600]	44 [1118]	45 [1143]	39-1/4 [997]	2	1
10	77 [1956]	58 [1473]	59 [1499]	52-1/2 [1334]	4	2
12	85 [2159]	66 [1676]	67 [1702]	61-1/4 [1556]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 46 — 42VFD—Vertical Sloped Cabinet Top Supply and Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Outer Case Leg
4	Top Panel Assembly
5	Subbase Right Hand
6	Subbase Left Hand
7	Control Package Bracket
8	Control Package
9	Top Coil Baffle Assembly
10	Wrapper Extension Assembly
11	Base Plate
12	Front Panel Assembly
13	Heater Assembly
14	Filter Channel
15	Filter
16	Auxiliary Drain Pan
17	Chassis Assembly
18	Motor Blower Deck Assembly

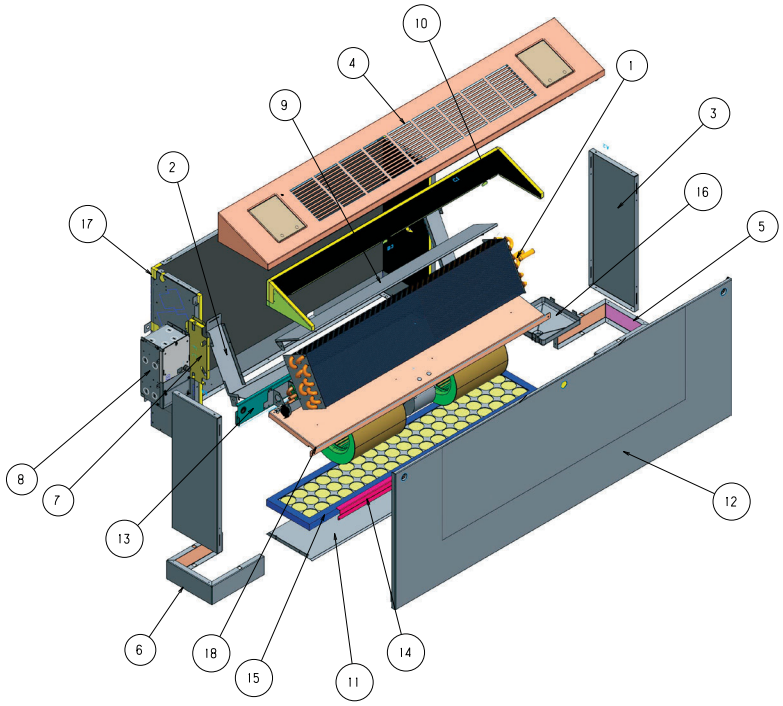
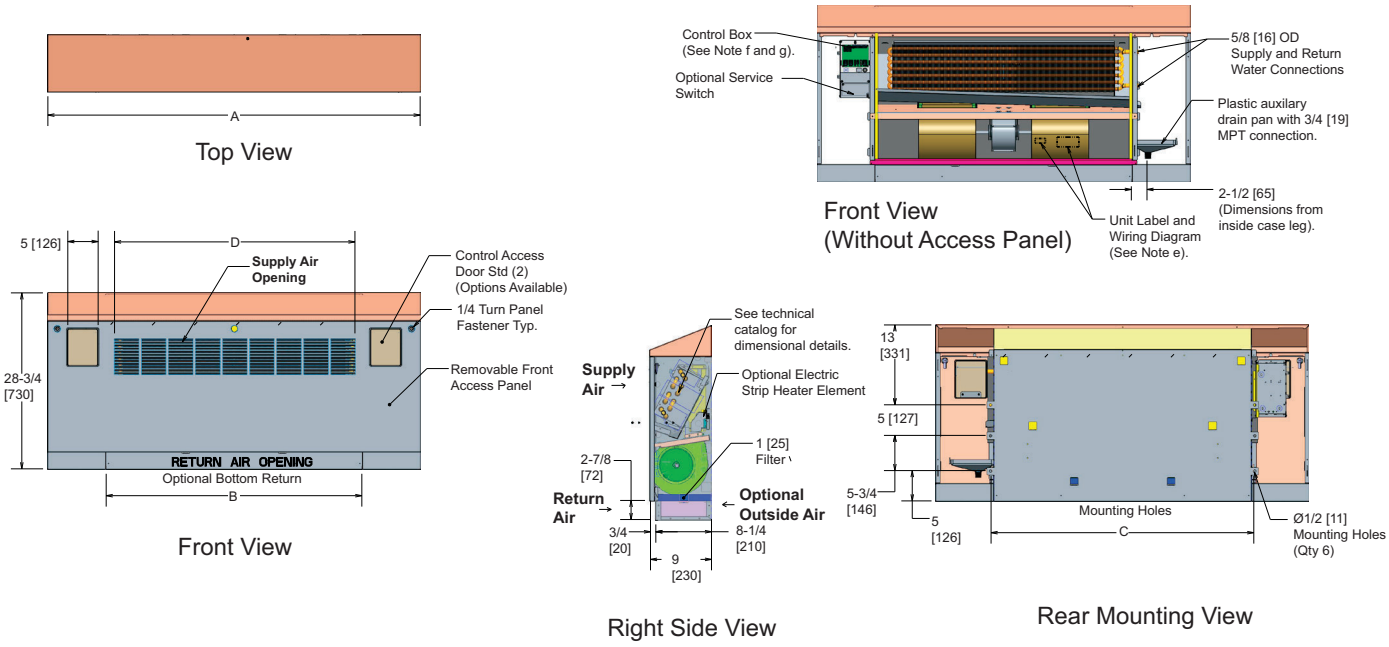


Fig. 47 — 42VFD—Vertical Sloped Cabinet Top Supply and Optional Electric Heat (Exploded View)



UNIT SIZE 42VFD	DIMENSIONS – in.[mm][a,b,c,d,e,f,g]				QUANTITY/UNIT	
	A	B	C	D	Blower	Motor
02	41 [1041]	22 [559]	23 [584]	17-1/4 [438]	1	1
03	45 [1043]	26 [660]	27 [686]	21-1/2 [546]	1	1
04	51 [1295]	32 [813]	33 [838]	26 [660]	2	1
06	61 [1549]	42 [1067]	43 [1092]	39-1/4 [997]	2	1
08	63 [1600]	44 [1118]	45 [1143]	39-1/4 [997]	2	1
10	77 [1956]	58 [1473]	59 [1499]	52-1/2 [1334]	4	2
12	85 [2159]	66 [1676]	67 [1702]	61-1/4 [1556]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 48 — 42VFD—Vertical Sloped Cabinet Front Supply With Optional Electric Heat

ITEM	DESCRIPTION
1	Coil Assembly
2	Drain Trough Assembly
3	Outer Case Leg
4	Top Panel Assembly
5	Subbase Right Hand
6	Subbase Left Hand
7	Control Package Bracket
8	Control Package
9	Top Coil Baffle Assembly
10	Wrapper Extension Assembly
11	Base Plate
12	Front Panel Assembly
13	Heater Assembly
14	Filter Channel
15	Filter
16	Auxiliary Drain Pan
17	Chassis Assembly
18	Motor Blower Deck Assembly

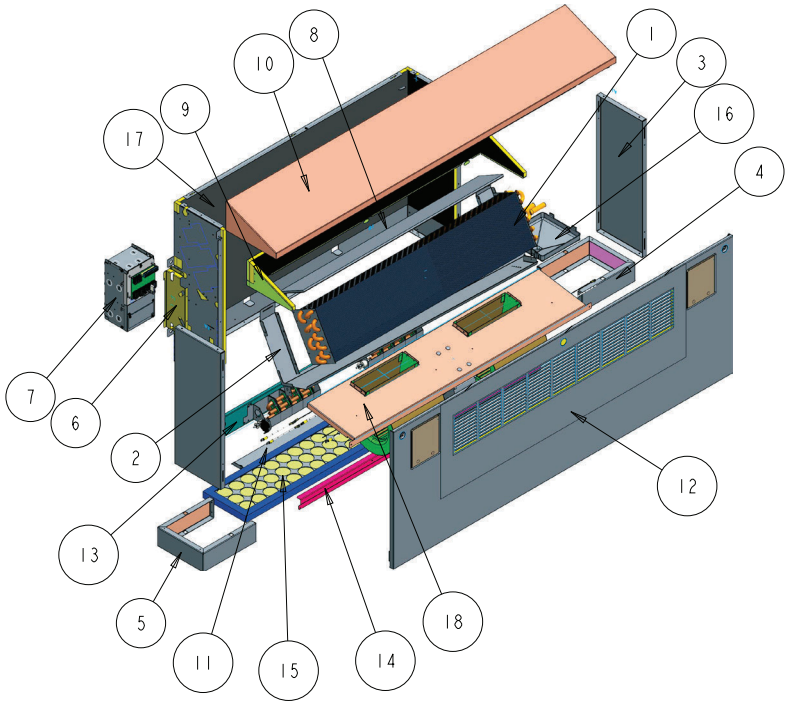
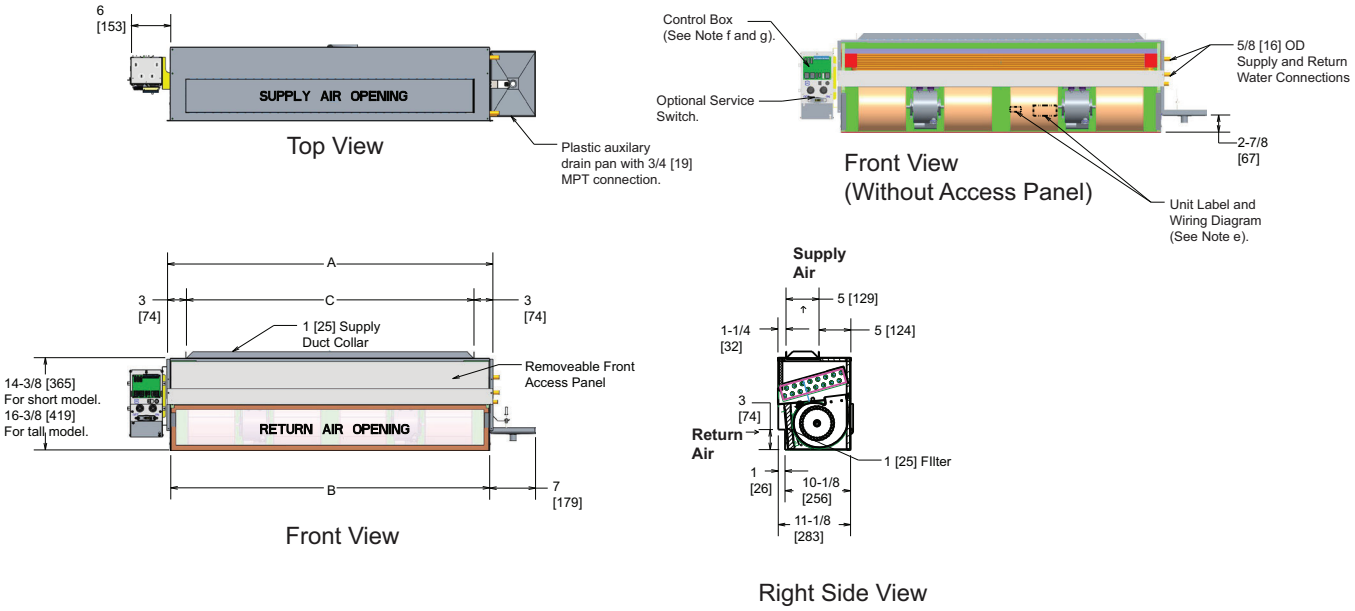


Fig. 49 — 42VFD—Vertical Sloped Cabinet Front Supply With Optional Electric Heat (Exploded View)

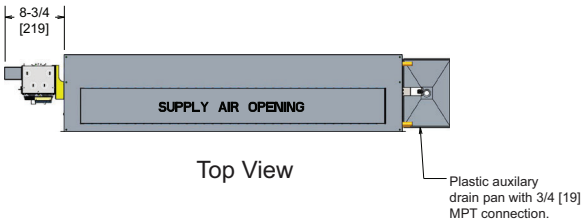


UNIT SIZE 42VCA	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
02	23 [584]	22 [559]	17 [432]	2	1
03	28 [711]	27 [686]	22 [559]	2	1
04	36 [914]	365 [889]	30 [762]	2	1
06	50 [1270]	49 [1245]	44 [1118]	4	2

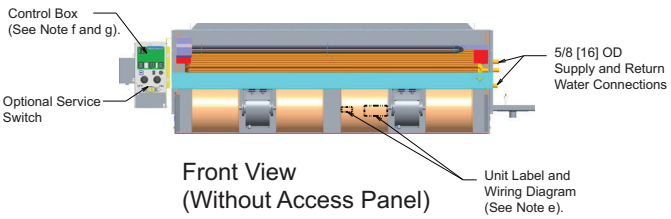
NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

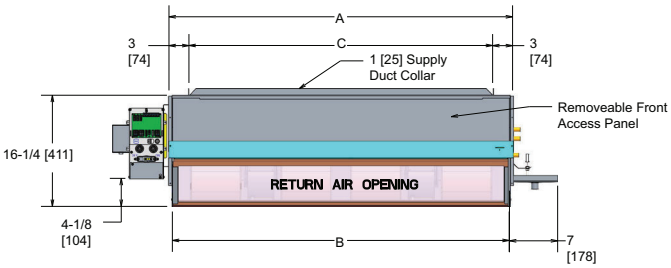
Fig. 50 — 42VCA —Vertical Lowboy Hideaway



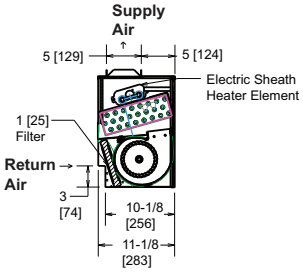
Top View



Front View
(Without Access Panel)



Front View



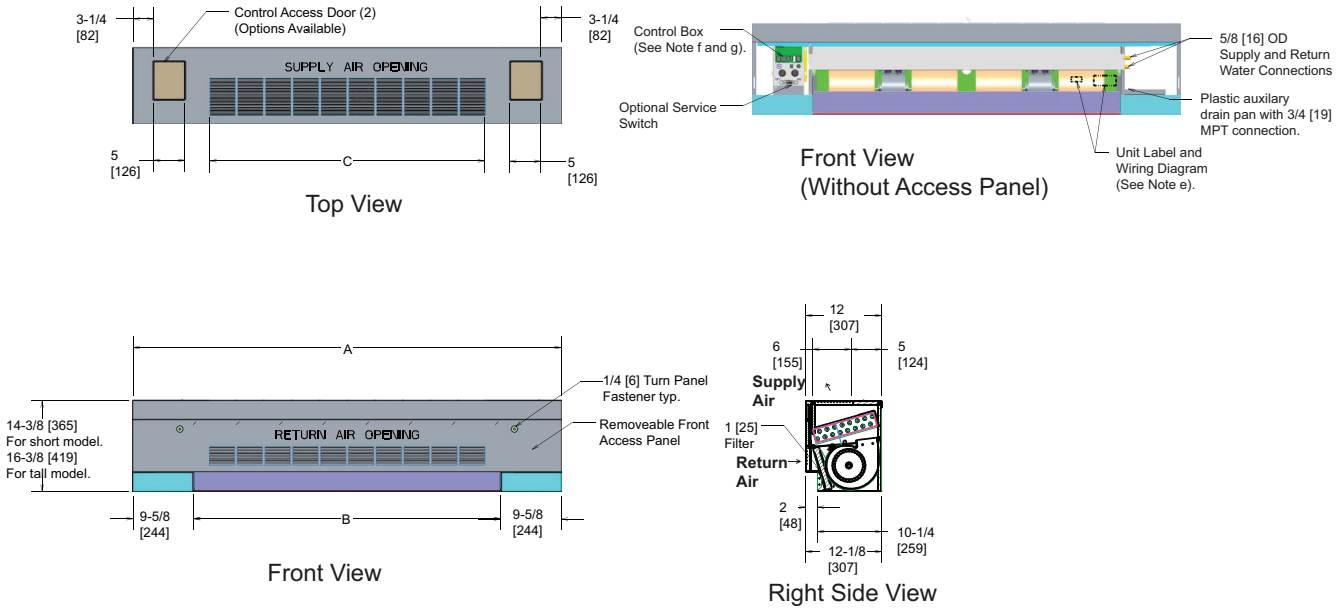
Right Side View

UNIT SIZE 42VCA	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
02	23 [584]	22 [559]	17 [432]	2	1
03	28 [711]	27 [686]	22 [559]	2	1
04	36 [914]	365 [889]	30 [762]	2	1
06	50 [1270]	49 [1245]	44 [1118]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 51 — 42VCA—Vertical Lowboy Hideaway With Electric Heat

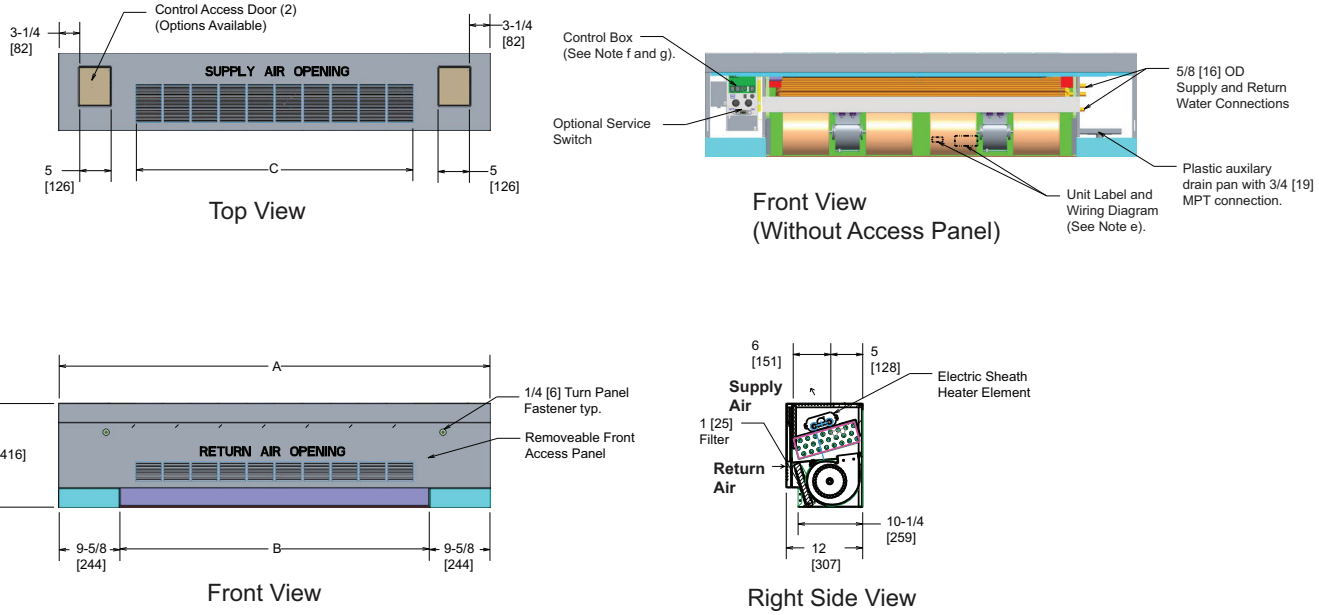


UNIT SIZE 42VEA	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
02	41 [1041]	22 [559]	17 [432]	2	1
03	46 [1168]	27 [686]	21-1/2 [546]	2	1
04	54 [1372]	35 [889]	30-1/4 [768]	2	1
06	68 [1727]	49 [1245]	43-3/8 [1102]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 52 — 42VEA—Vertical Lowboy and Vertical Lowboy Tall Cabinet

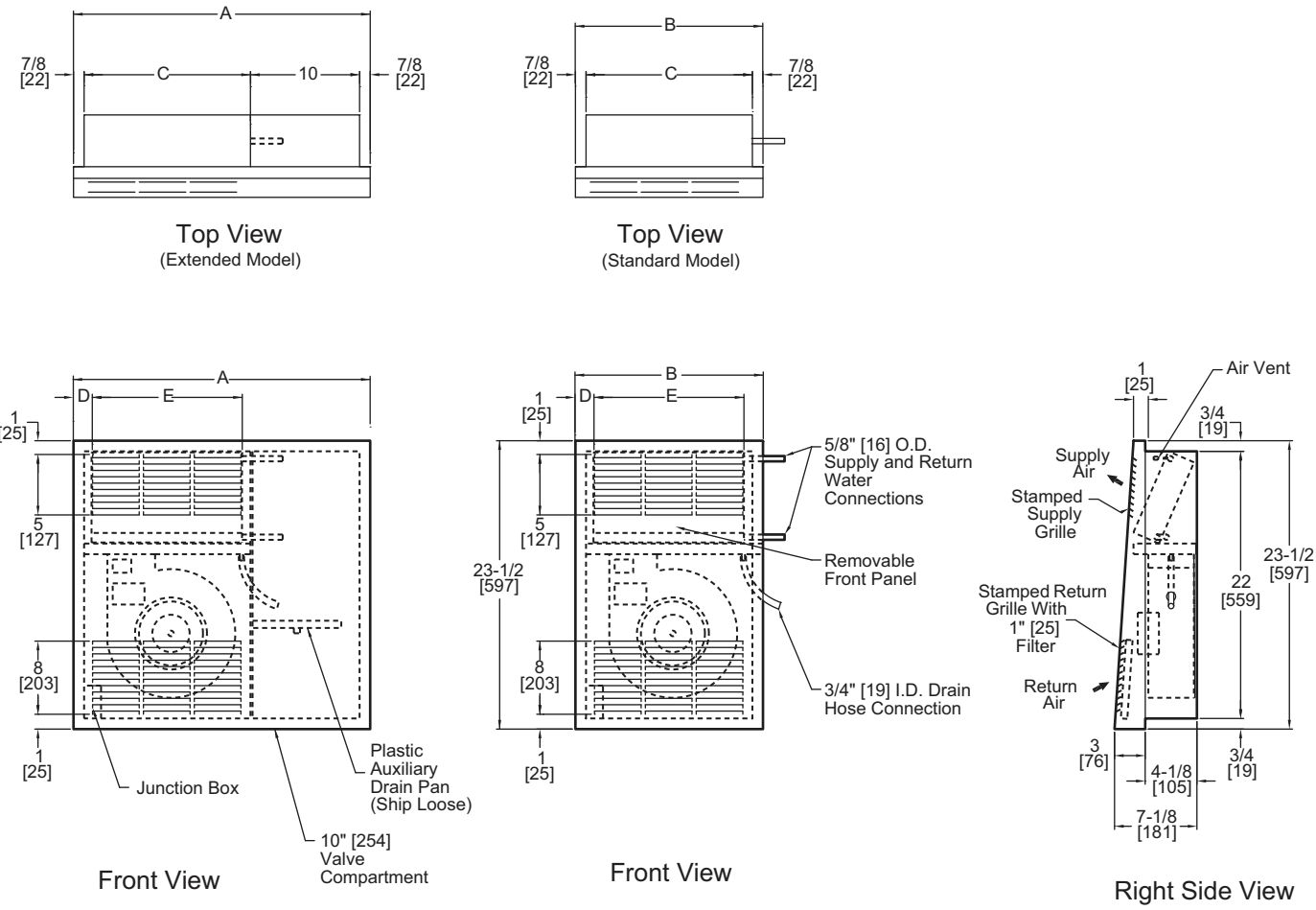


UNIT SIZE 42VEA	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]			QUANTITY/UNIT	
	A	B	C	Blower	Motor
02	41 [1041]	22 [559]	17 [432]	2	1
03	46 [1168]	27 [686]	21-1/2 [546]	2	1
04	54 [1372]	35 [889]	30-1/4 [768]	2	1
06	68 [1727]	49 [1245]	43-3/8 [1102]	4	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 53 — 42VEA—Vertical Lowboy Tall Cabinet With Electric Heat

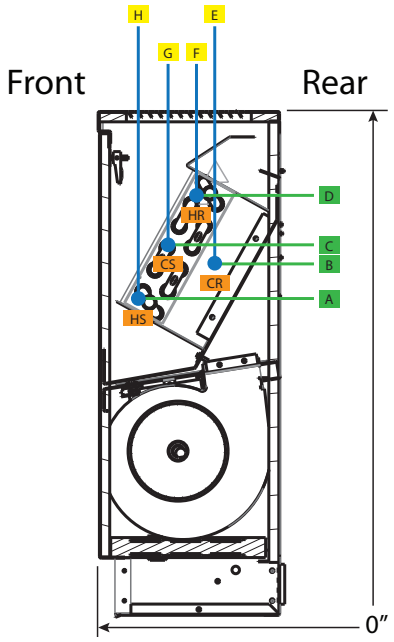


UNIT SIZE 42VGA	DIMENSIONS – in. [mm][a,b,c,d,e,f,g]					QUANTITY/UNIT	
	A	B	C	D	E	Blower	Motor
01	25-3/4 [654]	15-3/4 [400]	14 [356]	1-1 /2 [38]	12-3/4 [324]	1	1
03	39-3/4 [1010]	29-3/4 [756]	28 [711]	1-15/16 [49]	25-7/8 [657]	2	2

NOTE(S):

a. Right-hand units shown, left-hand opposite.
b. All dimensions are ± .25 [6]. Drawing not to scale.
c. Product specifications are subject to change without notice.
d. Control box size and position may vary. Consult factory.
e. Position may vary.
f. Service access is located on the front of the service box.
g. Knockouts on the bottom and side of the control box for incoming connections.

Fig. 54 — 42VGA—Vertical Recessed Cabinet



LEGEND

HR	—	Hot Water Return
HS	—	Hot Water Supply
CR	—	Cold Water Return
CS	—	Cold Water Supply
RH	—	Right Hand
LH	—	Left Hand

42V*D Hydronic Cooling and Heating Coil Dimensions[a,b,c,d]

UNIT SIZE	COIL ROW		CIRCUITS		A	B	C	D	E	F	G	H	NOTES
	COOL	HEAT	COOL	HEAT									
02	2	—	1	—	—	21-6/7	15-1/3	—	4-1/2	—	6-7/8	—	
	3	—	1	—	—	17-1/2	18-4/7	—	4-3/7	—	6-1/3	—	
	3	—	2	—	—	18	19-1/8	—	4-1/9	—	6	—	
	4	—	1	—	—	17-5/9	18-4/7	—	3-1/6	—	6-1/3	—	
	3	1	1	1	16-2/5	17-5/9	18-3/5	21-6/7	3-1/6	4-1/2	5	7-1/2	
	3	1	1	1	12-1/6	17-5/9	18-3/5	12	3-1/6	5	5	7	OE
	3	2	1	1	15-4/7	16-3/4	17-4/5	22-1/8	3	5	4-8/9	7-1/3	
	3	2	1	1	11-1/3	16-3/4	17-4/5	12-1/4	3	5-1/2	4-8/9	7	OE
	4	1	1	1	16-2/3	16-3/4	18-6/7	22-1/8	3	5	5-1/2	8	
	4	1	1	1	12-3/7	16-3/4	18-6/7	12-1/4	3	5-1/2	5-1/2	7-1/2	OE
03	2	—	1	—	—	21-6/7	15-1/3	—	4-1/2	—	6-7/8	—	
	3	—	1	—	—	17-1/2	18-4/7	—	4-3/7	—	6-1/3	—	
	4	—	1	—	—	17-5/9	18-4/7	—	3-1/6	—	6-1/3	—	
	3	1	1	1	16-2/5	17-5/9	18-3/5	21-6/7	3-1/6	4-1/2	5	7-1/2	
	3	1	1	1	12-1/6	17-5/9	18-3/5	12	3-1/6	5	5	7	OE
	3	2	1	1	15	16-7/9	17-5/9	21-5/6	3	5-3/5	5	7	
	3	2	1	1	11	16-7/9	17-5/9	12	3	4-3/4	5	6	OE
	4	1	1	1	16	16-7/9	18-1/2	21-5/6	3	5-3/5	5-5/7	7-6/7	
	4	1	1	1	11-7/8	16-7/9	18-1/2	12	3	4-3/4	5-5/7	6-5/6	OE
04	2	—	1	—	—	21-6/7	15-1/3	—	4-1/2	—	6-7/8	—	
	3	—	1	—	—	17-1/2	18-4/7	—	4-3/7	—	6-1/3	—	
	4	—	2	—	—	17-5/9	18-4/7	—	3-1/6	—	6-1/3	—	
	3	—	1	—	—	17-5/9	18-3/5	—	3-1/6	—	5	—	
	3	1	1	1	16-2/5	17-5/9	18-3/5	21-6/7	3-1/6	4-1/2	5	7-1/2	
	3	1	1	1	12-1/6	17-5/9	18-3/5	12	3-1/6	5	5	7	OE
	3	2	1	1	15	16-7/9	17-5/9	21-5/6	3	5-3/5	5	7	
	3	2	1	1	11	16-7/9	17-5/9	12	3	4-3/4	5	6	OE
	4	1	1	1	16	16-7/9	18-1/2	21-5/6	3	5-3/5	5-5/7	7-6/7	
	4	1	1	1	11-7/8	16-7/9	18-1/2	12	3	4-3/4	5-5/7	6-5/6	OE

NOTE(S):

a. Piping connection dimensions are consistent for either right hand or left hand connections.
b. Horizontal dimensions measured from rear panel. Vertical dimensions measured from bottom panel.
c. Measurements do not apply to same side piping and controls.
d. OE designates opposite end connection.

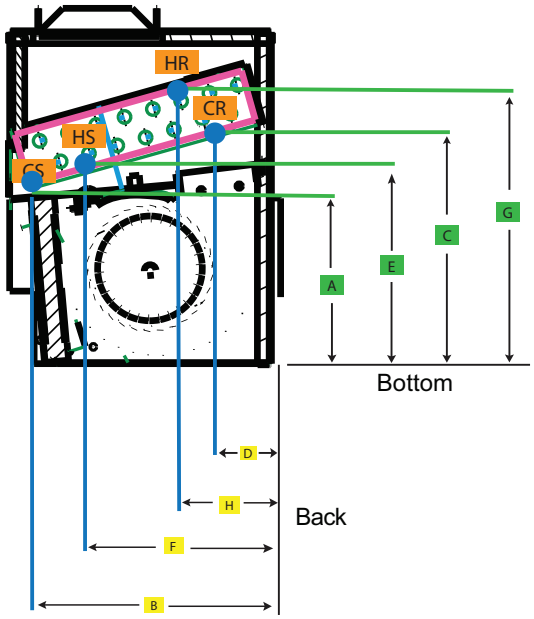
Fig. 55 — 42V*D Piping Connection Location - Hydronic Cooling and Heating Coils (Right Hand Unit With Re-Heat Coil Shown)

42V*D Hydronic Cooling and Heating Coil Dimensions (cont)[a,b,c,d]

UNIT SIZE	COIL ROW		CIRCUITS		A	B	C	D	E	F	G	H	NOTES
	COOL	HEAT	COOL	HEAT									
	2	—	2	—	—	21-1/3	15-6/7	—	4-1/6	—	7-1/5	—	
	3	—	2	—	—	18	19-1/8	—	4-1/9	—	6	—	
	4	—	2	—	—	17	19-1/8	—	3-1/2	—	6	—	
	3	1	2	1	16-2/5	17	18	21-6/7	3-1/2	4-1/2	5-3/8	7-1/2	
06	3	1	2	1	12-1/6	17	18	12	3-1/2	5	5-3/8	7	OE
	3	2	2	1	15-1/2	17-3/8	18-1/7	21-1/3	2-2/3	5-2/9	4-5/7	7-1/2	
	3	2	2	1	11-2/5	17-3/8	18-1/7	11	2-2/3	4-1/3	4-5/7	6-3/7	OE
	4	1	2	1	16	17-3/8	18	21-5/6	2-2/3	5-3/5	6	7-6/7	
	4	1	2	1	11-7/8	17-3/8	18	12	2-2/3	4-3/4	6	6-5/6	OE
	2	—	2	—	—	22-2/5	15-6/7	—	—	—	—	—	
	3	—	2	—	—	19-1/6	19-1/8	—	—	—	—	—	
	4	—	2	—	—	17	19-1/8	—	—	—	—	—	
	3	1	2	1	16-2/5	18-1/9	18	21-6/7	2-6/7	4-1/2	5-1/3	7-1/2	
08	3	1	2	1	12-1/6	18-1/9	18	12	2-6/7	5	5-1/3	7	OE
	3	2	2	2	15-1/2	18-1/2	18-1/7	12	2-1/4	5-2/5	4-5/7	7-1/2	
	3	2	2	2	11-2/5	18-1/2	18-1/7	12	2-1/4	4-1/2	4-5/7	6-3/7	OE
	4	1	2	1	16	17-1/3	18	21-5/6	2-2/3	5-3/5	6	7-6/7	
	4	1	2	1	11-7/8	17-1/3	18	12	2-2/3	4-3/4	6	6-5/6	OE
	2	—	2	—	—	22-2/5	15-6/7	—	4-1/5	—	7-1/5	—	
	3	—	4	—	—	19-1/6	19-1/8	—	3-1/2	—	6	—	
	4	—	4	—	—	18-1/9	19-1/8	—	2-6/7	—	6	—	
	3	1	4	1	16-2/5	18-1/9	18-1/9	21-6/7	2-6/7	4-1/2	5-1/3	7-1/2	
10	3	1	4	1	12-1/6	18-1/9	18	12	2-6/7	5	5-1/3	7	OE
	3	2	4	2	15-1/2	18-1/2	18-1/7	22-3/7	2-1/4	5-2/5	4-5/7	7-1/2	
	3	2	4	2	11-2/5	18-1/2	18-1/7	12	2-1/4	4-1/2	4-5/7	6-3/7	OE
	4	1	4	1	16	17-3/8	19-1/9	21-5/6	2-2/3	5-3/5	5-1/2	7-6/7	
	4	1	4	1	11-7/8	17-3/8	19-1/9	12	2-2/3	4-3/4	5-1/2	6-5/6	OE
	2	—	2	—	—	22-2/5	15-6/7	—	4-1/5	—	7-1/5	—	
	3	—	4	—	—	19-1/6	19-1/8	—	3-1/2	—	6	—	
	4	—	4	—	—	18-1/9	19-1/8	—	2-6/7	—	6	—	
	3	1	4	1	16-2/5	18-1/9	18	21-6/7	2-6/7	4-1/2	5-1/3	7-1/2	
12	3	1	4	1	12-1/6	18-1/9	18	12	2-6/7	5	5-1/3	7	OE
	3	2	4	2	15-1/2	18-1/2	18-1/7	22-3/7	2-1/4	5-2/5	4-5/7	7-1/2	
	3	2	4	2	11-2/5	18-1/2	18-1/7	12	2-1/4	4-1/2	4-5/7	6-3/7	OE
	4	1	4	1	16	17-3/8	19-1/9	21-5/6	2-2/3	5-3/5	5-1/2	7-6/7	
	4	1	4	1	11-7/8	17-3/8	19-1/9	12	2-2/3	4-3/4	5-1/2	6-5/6	OE

NOTE(S):

a. Piping connection dimensions are consistent for either right hand or left hand connections.
b. Horizontal dimensions measured from rear panel. Vertical dimensions measured from bottom panel.
c. Measurements do not apply to same side piping and controls.
d. OE designates opposite end connection.



LEGEND

HR — Hot Water Return
HS — Hot Water Supply
CR — Cold Water Return
CS — Cold Water Supply
RH — Right Hand
LH — Left Hand

42VCA/VEA Hydronic Cooling and Heating Coil Dimensions[a,b,c,d]

UNIT SIZE	COIL ROWS		CIRCUITS		VCA, VEA (1-3 ROWS)								NOTES
					CS		CR		HS		HR		
	COOL	HEAT	COOL	HEAT	A	B	C	D	E	F	G	H	
VEA02	2	—	1	—	9-1/2	9-6/7	10-2/3	1-3/4	—	—	—	—	—
	3	—	1	—	10-3/5	9-4/5	10-8/9	4/5	—	—	—	—	—
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-3/5	9-4/5	13	1-2/5	
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-8/9	4/5	13	1-2/5	OE
VEA03	2	—	1	—	9-1/2	9-7/9	10-2/3	1-2/3	—	—	—	—	—
	3	—	1	—	10-3/5	9-4/5	10-8/9	4/5	—	—	—	—	—
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-3/5	9-4/5	13	1-2/5	
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-8/9	4/5	13	1-2/5	OE
VEA04	2	—	1	—	9-1/2	9-7/9	10-2/3	1-2/3	—	—	—	—	—
	3	—	2	—	10	10	11-1/3	1-1/4	—	—	—	—	—
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-3/5	9-4/5	13	1-2/5	
	2	1	1	1	9-2/5	10-1/8	10-8/9	4/5	10-8/9	4/5	13	1-2/5	OE
VEA06	2	—	2	—	8-8/9	9-8/9	11-2/7	1-1/2	—	—	—	—	—
	3	—	2	—	10	10	11-1/3	1-1/4	—	—	—	—	—
	2	1	2	1	9	9-2/3	11-1/3	1-1/4	10-3/5	9-4/5	13	1-2/5	
	2	1	2	1	9	9-2/3	11-1/3	1-1/4	10-8/9	4/5	13	1-2/5	OE
VCA02	3	1	1	1	11	10-2/7	10-1/2	1-2/7	12-1/7	9-8/9	13 -5/6	1-2/7	—
VCA03	3	1	1	1	11	10-2/7	10-1/2	1-2/7	12-1/7	9-8/9	13- 5/6	1-2/7	—
	2	2	1	1	8-5/6	9-8/9	11-5/7	8/9	11	10-2/7	13 -5/6	1-2/7	—
VCA04	3	1	2	1	10-1/2	9-8/9	11	1	12-1/7	9-8/9	13 -5/6	1-2/7	—
	2	2	1	1	10	9-1/2	10-1/2	1-2/7	12-1/7	9-8/9	12- 5/8	1-5/7	—
VCA06	3	1	2	1	10-1/2	9-8/9	11	1	12-1/7	9-8/9	13 -5/6	1-2/7	—
	2	2	2	2	9-3/7	9-2/3	11	1	11-5/9	10	13 -2/9	1-1/2	—

NOTE(S):

a. Piping connection dimensions are consistent for either right hand or left hand connections.
b. Horizontal dimensions measured from rear panel. Vertical dimensions measured from bottom panel.
c. Measurements do not apply to same side piping and controls.
d. OE designates opposite end connection.

Fig. 56 — 42V*A Piping Connection Location - Hydronic Cooling and Heating Coils (Right Hand Unit With Re-Heat Coil Shown)

INSTALLATION

Step 1 — Horizontal Ceiling and Hi-Performance Ceiling Unit Installation

Anchoring the equipment in place is accomplished by using the mounting points provided with 3/8 in. allthread rod and other hardware (not supplied with unit). The unit must be positioned so that the coil is on a LEVEL PLANE. Care must be taken to ensure that the drain pan does not slope away from the outlet connection.

Other field-furnished mounting devices such as rubber in-shear or spring-type vibration isolators selected by the contractor or engineer may be substituted for the factory grommets and should be used where factory grommets are not provided. Refer to the device manufacturer for installation instructions.

IMPORTANT: It should be noted that unacceptable system operating characteristics and/or performance may result from improper or inadequate unit structural support. Adequate clearance must be provided for service and removal of the equipment and any accessory components.

Step 2 — Place Units in Position

42C UNITS

Threaded Rod Installation

Refer to the unit product drawings for mounting hole locations and sizes. 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. Refer to Table 4 and Fig. 57-58.

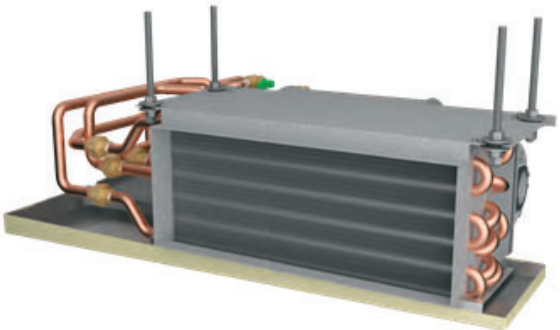
Drip lip installation

1. Locate where the Drip Lip will be installed. The supplied Drip Lip should be installed on the drain tube side of the coil assembly for 42CA/CE/CK/CG units with factory supplied valve packages. (See Fig. 63.) The optional drain pan side mounting location may be used for 42CA/CE units that do not have factory supplied valve packages.

NOTE: The mounting holes on the drain pan may be partially concealed by insulating spray foam. Either the round or slotted through-holes in the Drip Lip can be used for installation.

2. Secure the Drip Lip to the Drain pan using (2) of the included No. 8 x 3/8 in. (9.5 mm) screws. Refer to Fig. 59-62 of unit matching your unit drip lip.

Horizontal open coil unit model 42CA may be mounted using the neoprene grommets provided.



NOTE: Unit 42CA shown. Threaded rods and hardware are provides by others.

Fig. 57 — Thread Rod Suspension (42CA/CE Units)

SUSPENSION MOUNTING

Channel Mount Suspension

Cabinet unit models 42CK and 42CG may be mounted using four neoprene grommets provided in the four hanger holes in the case top. See Fig. 58.

NOTE: Hanger rails and hardware are provided by others. 42CK unit shown.

Fig. 58 — Channel Mount Suspension (42CK Units)

Table 4 — Threaded Rod Sizing Recommendation[a]

MODEL	ROD DIAMETER in. (mm)	ROD QTY
42C* 02-12	3/8 (9.5)	4
42D* 06-20		
42DC 06-20		6

NOTE(S):

a. Threaded rods and hardware are provided by others.

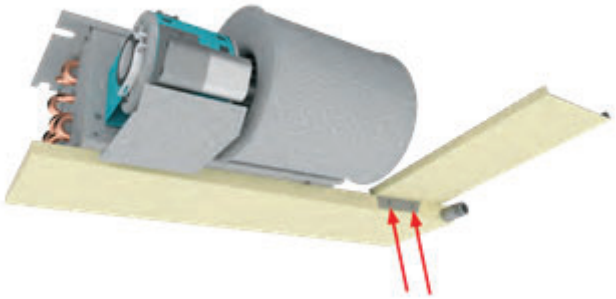


Fig. 59 — Left-Hand Extension Drip Lip

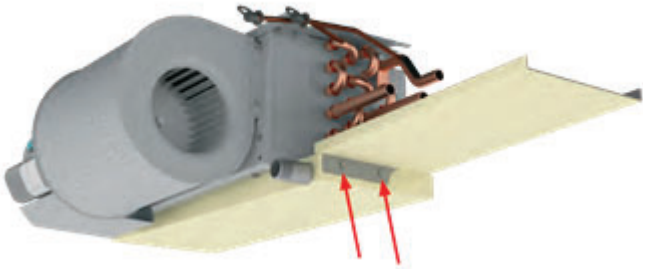


Fig. 60 — Left-Hand Side Drip Lip (Without Valve Package)

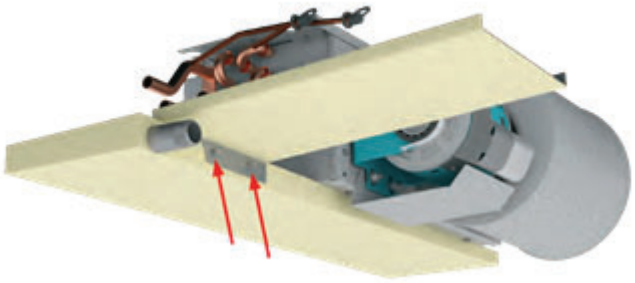


Fig. 61 — Right-Hand Extension Drip Lip

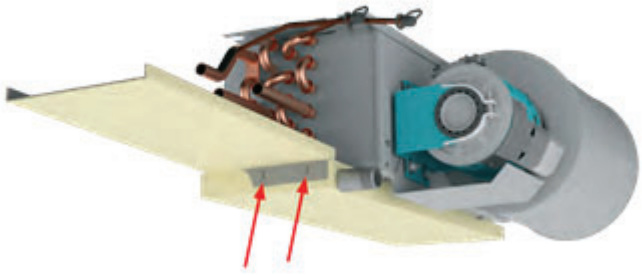


Fig. 62 — Right-hand Side Drip Lip (Without Valve Package)

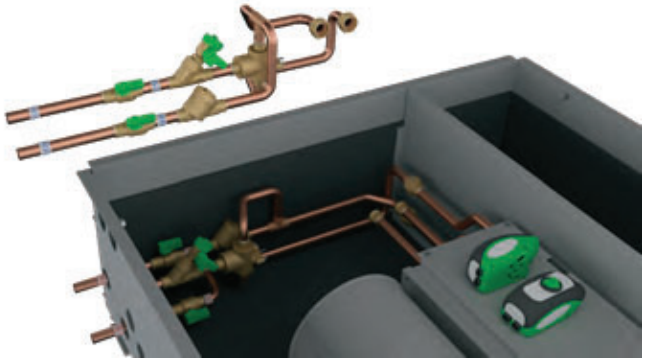


Fig. 63 — General Valve Package Assembly (CG Unit Shown)

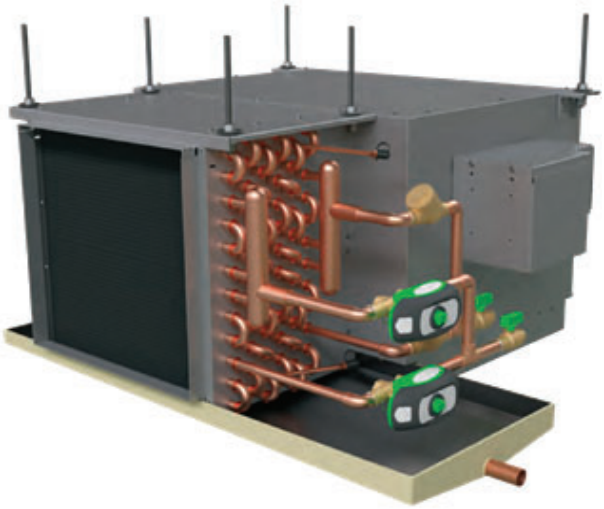
42D UNITS

Threaded Rod Installation

Refer to the unit product drawings for mounting hole locations and sizes. 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. Refer to Table 4 and Fig. 64.

Horizontal open coil unit models 42DA may be mounted using the neoprene grommets provided.

Plenum-type unit model 42DC should be mounted using the four hanger points on the coil and two hanger points on the plenum.



NOTE: Threaded rods and hardware are provided by others. DC unit shown.

Fig. 64 — Thread Rod Suspension (42DC/DE Units)

SUSPENSION MOUNTING

Hanger Rails Mount

Cabinet unit models 42DE and 42DF may be suspended using the neoprene grommets provided. See Fig. 65.

NOTE: Threaded rods and hardware are provided by others. 42DE unit shown.

Fig. 65 — Hanger Rails Mount (42DE/DF Units)

FLOOR/WALL MOUNT INSTALLATION

Hi-Performance Unit Installation (42DD)

Hi-Performance vertical closet units 42DD are designed to be floor mounted or otherwise supported from below and may be anchored directly through the cabinet floor or the optional 6 in. legs.

1. Select the unit location. Allow for adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork.
2. Make sure the floor is able to support the weight of the unit. See submittal drawings for nominal unit weight.

42V UNITS

Vertical Series Unit Installation (42VAD)

Vertical unit models are designed to be floor mounted or otherwise supported from below and bolted to the wall or floor structure through the mounting holes provided in the chassis. These units may be wall hung only when originally ordered from the factory for wall-mount applications.

The type of mounting device is a matter of choice; however, the mounting point shall always be that provided in the chassis or cabinet. Fasteners and other required hardware must be field-supplied. Refer to the unit product drawings for hole mounting locations and sizes.

FLOOR/WALL MOUNT INSTALLATION

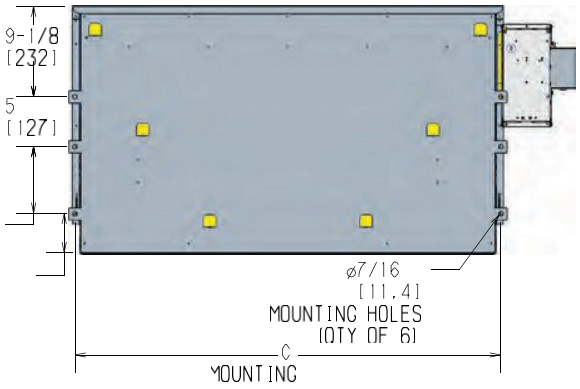
Floor Mount Units

1. Select the unit location. Allow for adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork.
2. Make sure the floor is able to support the weight of the unit. See submittal drawings 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. Fasteners, furring strips, and other seals (if required) must be field-supplied.
4. Remove all wall and floor moldings from behind the unit.
5. Adjust optional unit leveling legs so unit is level. Unit must be level for proper operation and condensate drainage.

CABINET FRONT PANEL INSTALLATION AND REMOVAL

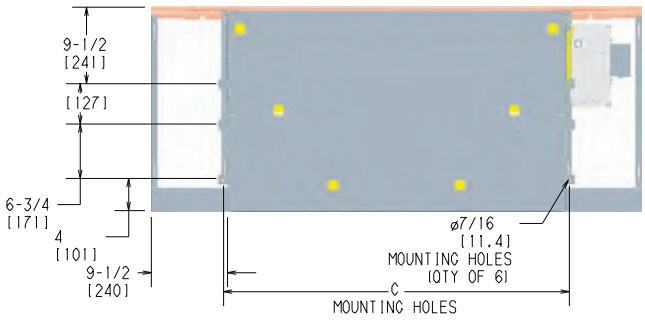
For 42VBD/VFD cabinet units, replace the front panel by aligning the bottom tabs on the unit with the respective slots on the panel bottom. Align the top edge of the unit with the panel. Refer to Table 5 for hole locations and see Fig. 66 and 67 for unit mounting dimensions.

Wall Mount Units



NOTE: Dimensions are in inches [mm].

Fig. 66 — Wall Mount Hanger Hole Locations – 42VAD



NOTE: Dimensions are in inches [mm].

Fig. 67 — Wall Mount Hanger Hole Locations – 42VBD/VFD

Table 5 — C Dimension for Wall Mount Hanger Hole Locations

UNIT MODEL	C DIMENSION – MOUNTING HOLES in. [mm]
02	23 [584]
03	27 [686]
04	33 [838]
03	43 [1092]
08	45 [1143]
10	59 [1499]
12	67 [1702]

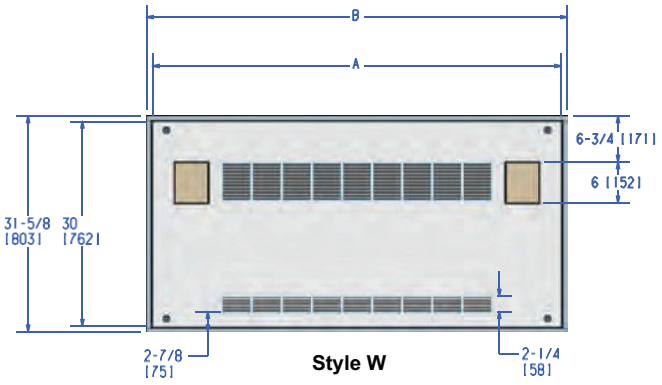
1. Prepare wall openings for recessed units. Reference submittal drawings for unit size dimensions.
2. Mark the position of the hanger holes on the wall according to the dimensions. See Fig. 66 or 67 and Table 5. Align the hole locations evenly.
3. Prepare the field-provided installation hardware before setting the unit in place.
4. For Cabinet Units, remove the front panel before installation.
5. Mount the unit on the hanger hardware. Test to verify the unit is properly supported.
6. Complete piping and wiring connections, in addition to any necessary ductwork to the unit as instructed in the following sections. Ensure that the auxiliary drain pan is in position for coil drain, when applicable.
7. Reinstall the front panel (cabinet units) before start-up.

Decorative Wall Panels Installation (42VAD)

The 42VAD model is a fully recessed and built into the wall of the conditioned areas. They cover the recess opening on all sides and are easily removed for access to the unit.

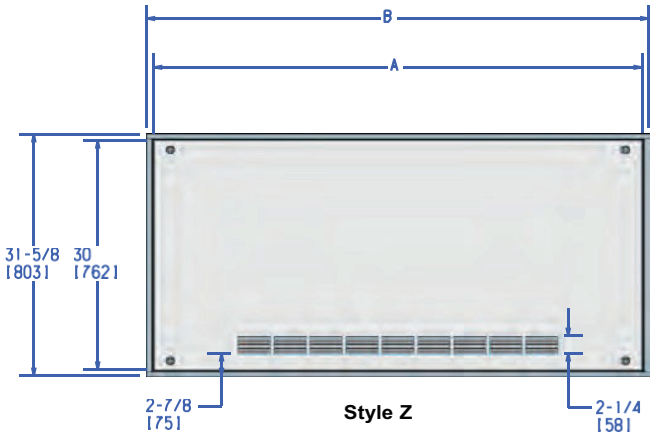
NOTE: For Style W and Z wall panels, once the wall panel frame is secured to the wall, install the panel and secure to the frame with the factory provided quarter turn camlocks. See Fig. 68-71 and Table 6.

A top, bottom, and side framing studs are required to properly secure the wall panel to the dry wall. Refer to Fig. 70 and 71 for install diagram requirements. Secure the wall panel to the framing studs with field supplied mounting hardware.



NOTE: Dimensions are in inches [mm].

Fig. 68 — Style W Framed Wall Panel



NOTE: Dimensions are in inches [mm].

Fig. 69 — Style Z Framed Wall Panel

Table 6 — Style W and Z Framed Wall Panel Dimensions

NOMINAL cfm	PANEL WIDTH (A) in. [mm]	FRAME WIDTH (B) in. [mm]	WALL OPENING in. [mm]	
			WIDTH	HEIGHT
200	40 [1016]	41-3/4 [1061]	40-3/8 [1626]	30-1/4 [768]
300	40 [1016]	41-3/4 [1061]	40-3/8 [1626]	
400	50 [1270]	51-3/4 [1315]	50-3/8 [1280]	
300	60 [1524]	61-3/4 [1569]	60-3/8 [1534]	
800	62 [1575]	63-3/4 [1619]	62-3/8 [1585]	
1000	76 [1930]	77-3/4 [1975]	76-3/8 [1940]	
1200	84 [2134]	85-3/4 [2178]	84-3/8 [2143]	

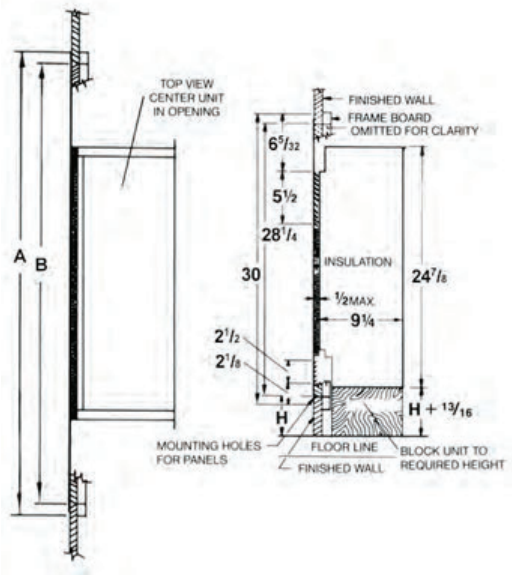


Fig. 70 — Style W Framed Wall Panel Install Diagram

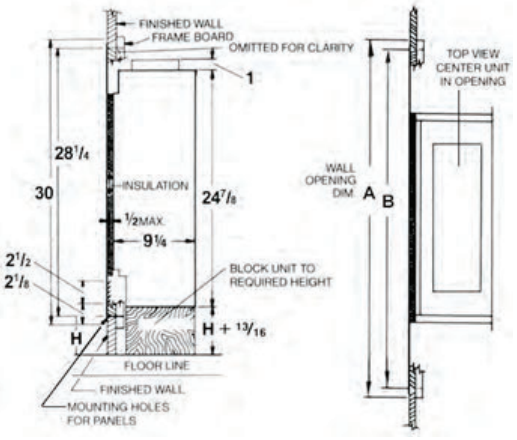


Fig. 71 — Style Z Framed Wall Panel Install Diagram

Optional Trim Kit Installation (42VBD/VFD Units)

An optional trim kit can be applied to partially recessed 42VBD, VFD units in the wall. The trim kit can also be applied to cover rough opening to eliminate the need for finish work such as carpentry, drywall, painting, etc.

Reference unit submittal drawings for unit sizes. Trim kits have 1 in. flanges.

There are 3 mounting brackets (two sides, one top) provided in the trim kit for floor mount units. There are 4 mounting brackets (two sides, top, bottom) in the trim kit for wall mount units. There are no mounting holes provided on the unit so the brackets can be positioned at whatever depths is required for recess. Use self tapping screws to secure the brackets to the unit. See Fig. 72.

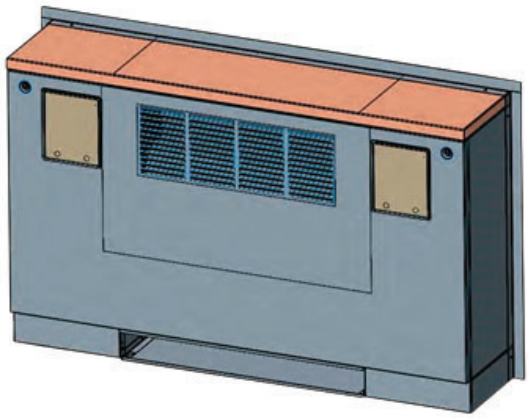


Fig. 72 — Trim Kit Around Floor Mount Unit (Vertical Floor)

An option to install a rear cabinet extension is available on 42VBD and 42VFD vertical floor mounted units. The cabinet extensions ship loose and are field installed.

The extension pieces should be assembled to align with the dimensions of the back of the floor unit, utilizing field-provided screws. See Fig. 73.

Once the extension has been assembled, survey the back of the floor unit to ensure there is no loose debris or obstructions. Secure the rear extension, flush to the back of the floor unit, utilizing the pre-cut screw holes on the flange of the rear extension and field-provided screws. See Fig. 74.

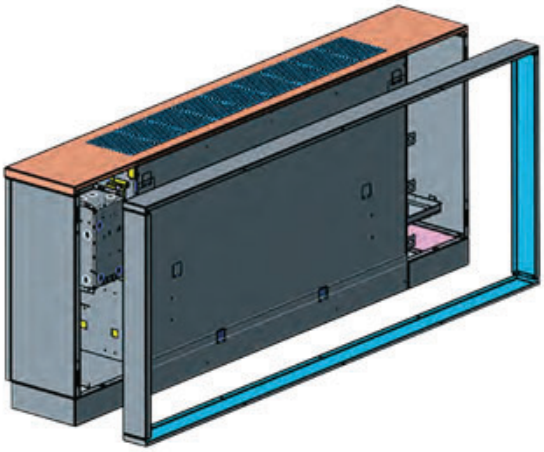


Fig. 73 — Rear Cabinet Extension Assembly

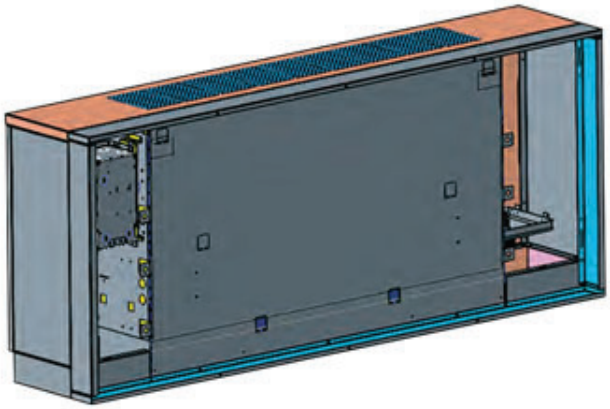


Fig. 74 — Rear Cabinet Extension Installation

Step 3 — 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 1-3 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. 75. Refer to Fig. 76 and 77 for typical piping connections. Refer to Appendix D on page 91 for Valve and Piping connection packages.

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.

Cooling and Heating Connections

HORIZONTAL CEILING DRAIN PAN REMOVAL (42C UNITS)

After mounting the unit, it is then ready for the various service connections such as water, drain and electrical. At this time, it should be verified that the proper types of services are actually provided to the unit. On those units requiring chilled water and/or hot water, the proper line size and water temperature should be available to the unit. In the case of refrigerant cooling, the proper line size and refrigerant type should be available to the unit. On units with steam-heating coils, the proper line sizing and routing should be verified, and the maximum steam pressure applied to the unit should never exceed 10 psig (69 KPa). The drain piping and steam trap should be sized and routed to allow for proper condensate flow.

⚠ 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 potable water systems.

NOTE: Submittals and product literature detailing unit operation, controls, and connections should be thoroughly reviewed BEFORE beginning the connection of the various cooling and/or heating mediums to the unit.

42CA, CE, CK and CG Horizontal models come with a removable drain pan. The drain pan should be removed before installing or servicing the valve package. An extended drill bit may be necessary to access the screws to remove the drain pan.

NOTE: Exact location of screws to remove drain pan may vary based on horizontal model.

CONDENSATE DRAIN PAN (ALL UNITS)

The drain should always be connected and piped to an acceptable disposal point. For proper moisture carry-off, the drain piping should be sloped away from the unit at least 1/8 inch per foot. A drain trap may be required by local codes and it is strongly recommended for odor containment. When furnished, the optional 5/8 in. secondary or "tell-tale" connection must be piped to some location where an indication of drain flow restriction may be readily observed. Units furnished with a "tell-tale" connection should be sloped very slightly towards the drain outlets. The differential height of the trap inlet to outlet must be at least one inch greater than the total static pressure on the unit. The height from the drain outlet to the bottom of the trap must not be less than the total static pressure. The condensate drain hose should be secured with a clamp after installing.

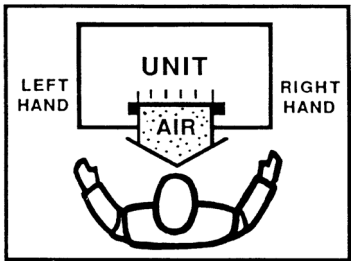


Fig. 75 — Unit End Reference

VALVE PACKAGES

There are limitations on physical size of control valves, quantity and type of matching components, and required control interface. See figure "Symbols and Placement of Valves" on page 93 for valve placement.

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 Appendix D "Piping and VALVE CONNECTIONS" on page 91 for pipe connection configurations.

AUXILIARY DRAIN PAN

On some units (42V*D, 42V*A), an auxiliary drain pan is included to collect condensate from the primary drain pan and then to direct this condensate to a drain by way of a sloped pipe, recommended to include a p-trap or other air-trap device. The auxiliary drain pan is also to collect any condensate coming from a valve package or other piping connected to the coil. Included with each unit is a feature for connecting the auxiliary drain pan, found on the lower section of the inner-case leg, a part of the metal casing supporting the coil and fan, and to the same side as where piping connects to the coil and where any valve package is located.

The auxiliary drain pan is shipped loose from the factory and must be installed directly below the drain tube leading from the primary drain pan and a condensate overflow switch where applicable.

The auxiliary drain pan is situated to the inner-case leg by way of either supporting tabs extending from the case leg or by way of slots in the case leg. The drain pipe or a drain trap is then connected to the stub-out off the bottom side of this pan. Finally, confirm that the pan is secure and positively situated so that condensate coming from the primary drain pan is collected. See Fig. 77.

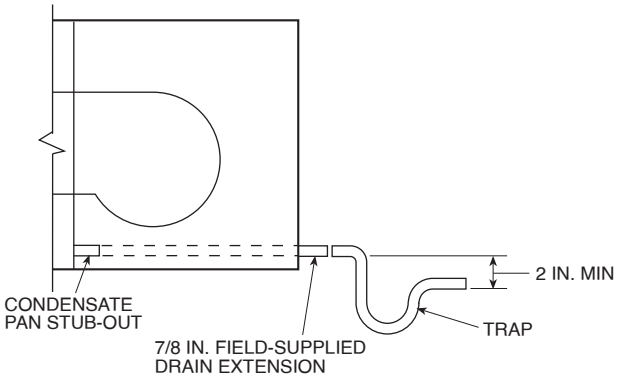


Fig. 76 — Typical Drain Line Details (42D Unit Shown)

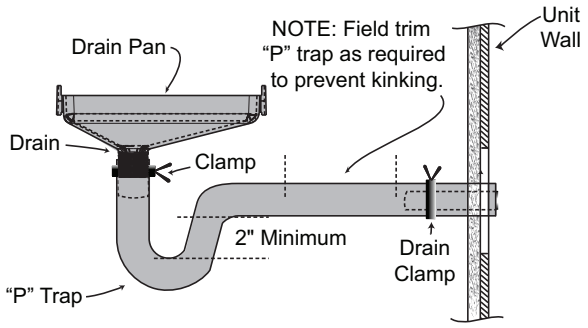


Fig. 77 — "P" Trap Minimum Configuration

VALVE PACKAGE INSTALLATION
(WHEN APPLICABLE)

NOTE: Always protect chilled and hot water valve bodies, strainers, ball valves, and other flow control related devices from heat caused by soldering or brazing processes by wrapping these devices in cold or damp rags.

NOTE: Zone valves recommended to prevent excessive condensate (from running wild coil).

All accessory valve packages should be installed as required, and all service valves should be checked for proper operation.

If coil and valve package connections are to be made with a "sweat" or solder joint, care should be taken to assure that no components in the valve package are subjected to a high temperature which may damage seals or other materials. Many two-position electric control valves, depending on valve operation, are provided with a manual opening lever. This lever should be placed in the "open" position during all soldering or brazing operations.

Ground-Joint seal preparation for copper unions (recommended by manufacturer):

1. Make sure the ground-joint area is free of nicks and scratches.
2. Spray the ground-joint area with silicone spray for beeswax to enhance seating.
3. Recommended torques for ground-joint seal:
   1/2 in. (12.7 mm) (nominal) unions – 35 ft/lb
   (23, 519 mm/kg) (minimum)
   3/4 in. (19 mm) (nominal) unions – 60 ft/lb
   (40,318 mm/kg) (minimum)
4. Make sure alignment of line does not put lateral stress on the ground-joint seal.
5. Make sure that excess solder droplets do not reach the ground-joint area.

If the valve package connection at the coil is made with a union, the coil side of the union must be prevented from twisting ("backed up") during tightening to prevent damage to the coil tubing. Over-tightening must be avoided to prevent distorting ("egg shaping") the union seal surface and destroying the union.

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 or steam connections.

In the case of field-installed valves and piping, the chilled water valve cluster (or expansion valve on DX units) should be installed in such a way that any dripping or sweating is contained in the drain pan or other device such as an optional extended drain pan or factory drip lip. Factory drip lips are field installed and may be packaged separately from the unit.

Factory supplied cooling coil valve packages will be arranged to locate as much of the package as possible over a standard drip lip.

General Assembly

1. For 42CG and 42CK units, factory provides tube extensions to penetrate the rear of the fan coil cabinet. Chilled and hot extension tubes must be properly insulated. See Fig. 78.
2. Remove valve actuators temporarily during valve installation. Protect unit wiring from damage.
3. Install valve packages and connect to the coil in sequence, first heating, then cooling.
4. Torque unions tight using backup wrench to prevent damage to coil tubes. Align exiting tubes to the center of the pipe openings.
5. If desired, apply split bushings or grommets (provided by others) to the pipes for mechanical support and protection. Do not allow copper tube to contact steel cabinet.
6. Now is a good time to leak test the unions and fittings, using air pressure and soap. The coil air vent(s) may be used for this purpose.

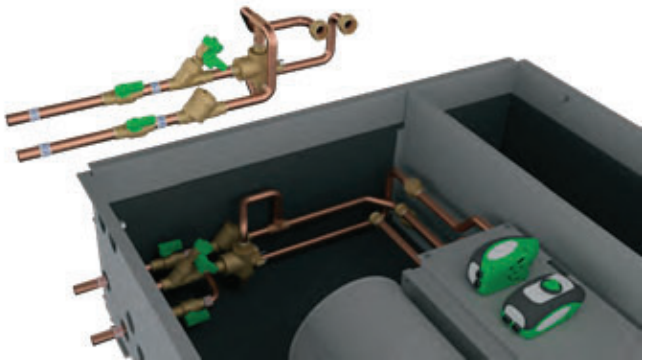


Fig. 78 — General Valve Package Assembly (CG Unit Shown)

If none of the above factory accessories have been provided with the units, a drip lip (available from the factory) may still be required to direct piping condensate into the unit drain pan.

After the connections are completed, the system should then be tested for leaks. Since some components are not designed to hold pressure with a gas, hydronic systems should be tested with water.

Pressure testing should be completed prior to sheet rocking or painting.

Refrigerant systems should be tested with dry nitrogen rather than air to prevent the introduction of moisture into the system. In the event that leaking or defective components are discovered, the Sales Representative must be notified BEFORE any repairs are attempted. All leaks should be repaired before proceeding with the installation.

After system integrity has been established, insulate the piping in accordance with the project specifications. This is the responsibility of the installing or insulation contractor. All chilled water piping and valves or refrigerant suction piping not located over drain pans or drip lips must be insulated to prevent damage from sweating. This includes factory and field piping inside the unit cabinet.

⚠CAUTION

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

⚠CAUTION

DO NOT OVERTIGHTEN! Over-tightening 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.

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 of 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.

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. The TXV is equipped with an external equalizer connection to allow pressures to equalize when the compressor is shut off. The equalizer piping connection must be made in the field.

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

General Assembly

1. For 42CG and 42CK units, factory provides tube extensions to penetrate the rear of the fan coil cabinet. Chilled and hot extension tubes must be properly insulated. See Fig. 79.
2. Remove valve actuators temporarily during valve installation. Protect unit wiring from damage.
3. Install valve packages and connect to the coil in sequence, first heating, then cooling.
4. Torque unions tight using backup wrench to prevent damage to coil tubes. Align exiting tubes to the center of the pipe openings.
5. If desired, apply split bushings or grommets (provided by others) to the pipes for mechanical support and protection. Do not allow copper tube to contact steel cabinet.
6. Now is a good time to leak test the unions and fittings, using air pressure and soap. The coil air vent(s) may be used for this purpose.

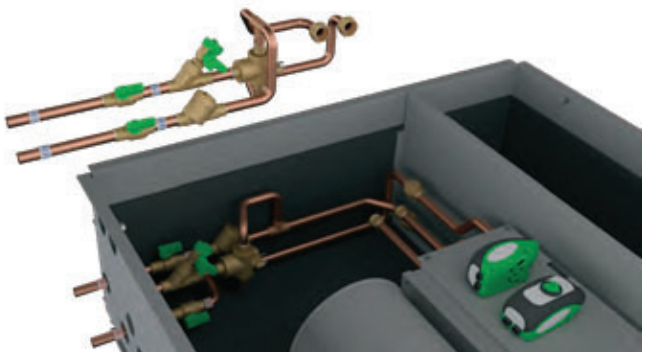


Fig. 79 — General Valve Package Assembly (CG Unit Shown)

If none of the above factory accessories have been provided with the units, a drip lip (available from the factory) may still be required to direct piping condensate into the unit drain pan.

After the connections are completed, the system should then be tested for leaks. Since some components are not designed to hold pressure with a gas, hydronic systems should be tested with water. Pressure testing should be completed prior to sheet rocking or painting.

Refrigerant systems should be tested with dry nitrogen rather than air to prevent the introduction of moisture into the system. In the event that leaking or defective components are discovered, the Sales Representative must be notified BEFORE any repairs are attempted. All leaks should be repaired before proceeding with the installation.

After system integrity has been established, insulate the piping in accordance with the project specifications. This is the responsibility of the installing or insulation contractor. All chilled water piping and valves or refrigerant suction piping not located over drain pans or drip lips must be insulated to prevent damage from sweating. This includes factory and field piping inside the unit cabinet.

⚠ CAUTION

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

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 your Carrier representative before initiating any repairs. Release trapped air from system.

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. See Fig. 80 and Table 7.

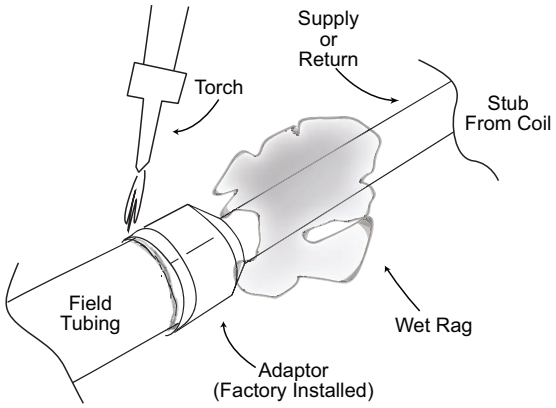
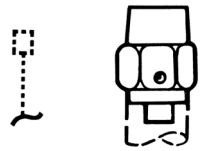
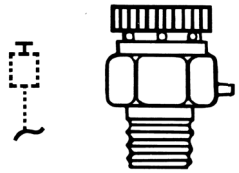
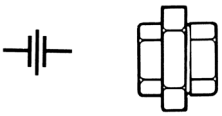
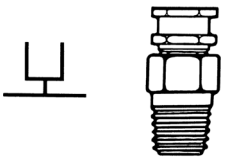
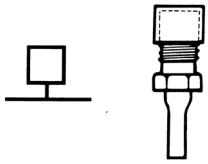
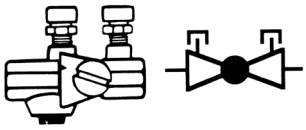


Fig. 80 — Field Piping Connections

Table 7 — Piping Components

SYMBOL/SKETCH	DESCRIPTION	C_V FACTOR		RATING[a]		STEAM USE
		1/2	3/4	psi	F	
	**MANUAL AIR VENT:** Threaded brass needle valve with screwdriver slot for adjustment. Application — Body brazed into high point of heating and cooling coils for bleeding air from coil. Standard item on all hydronic coils. Should not be used in lieu of main system air vents.	N/A	N/A	400	100	NO
	**AUTOMATIC AIR VENT:** Nickel plated brass valve, fiber-disc type, with positive shut-off ballcheck and quick vent feature via knurled vent screw. 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. NOTE: Not recommended for use in systems with glycol.	N/A	N/A	125	240	NO
	**SWAGE:** Copper tube end expanded to accept a copper tube of the same size for factory or field brazing. Application — Used where possible for all tubing joints for best joint integrity.	N/A	N/A	300	200	YES
	**UNION:** Combination wrought copper/cast brass union assembly, solder by solder. Application — Used for quick connect (and disconnect) of valve package components to minimize field labor and facilitate servicing of unit.	N/A	N/A	300	200	YES
	**INSERTION TEST PORT:** Brass body valve for acceptance of test probe (up to 1/8 in. diameter). 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.	N/A	N/A	250	250	NO
	**PRESSURE TEST PORT:** Brass body 1/4 service access fitting with removable depressor type core. Application — Installed on both sides of the coil to allow for pressure sensing. Attach pressure gages to facilitate close tolerance water balancing.	N/A	N/A	400	210	NO
	**CIRCUIT SETTER:** Variable water flow balancing valve with manual adjustment knob, pointer, percent-open scale, memory stop and integral pressure readout ports. Application — Used for close tolerance water flow balancing. Positive shut-off ball valve feature allows usage as combination balancing and shut-off valve.	With Pressure Ports Only				
		2.12	3.9	300	250	NO
		With Pressure And Temperature Ports				
		1.6	3.4	200	250	NO

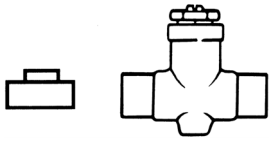
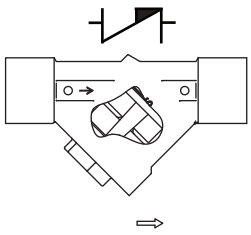
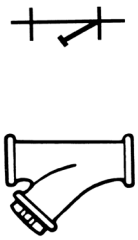
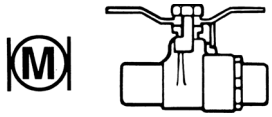
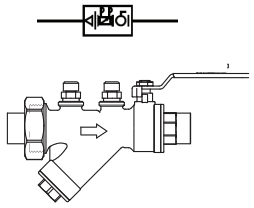
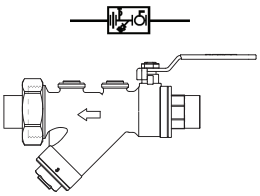
NOTE(S):

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

LEGEND

Cv — Coefficient of Velocity
ETO — Engineered to Order

Table 7 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C_V FACTOR		RATING[a]		STEAM USE
		1/2	3/4	psi	F	
	**BALANCE VALVE:** Variable water flow manual balancing valve with screwdriver slot adjustment screw. Application — May be used in 3-way valve bypass line to permit equal flow balancing.	3	8.9	150	200	NO
	**FIXED FLOW VALVE:** Flexible orifice type (non-adjustable). Application — Used for water flow balancing. Valve automatically adjusts the flow to within 10% of set point. Operating Range: 2-80 psid	Valve orifice size determines C_V factor. The orifice of these fixed flow valves changes as flow is regulated. As the water pressure increases, the orifice size decreases, thereby automatically limiting the flow rate to the specified gpm (±10%).		600	220	NO
	**STRAINER:** Y-type body (optional with blowdown) with 20 mesh stainless steel screen. 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).	5.5 Clean	9.0 Clean	600	325	N/A
	**BALL VALVE WITH MEMORY STOP:** Manual balance and shut-off valve. 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.	Full Port	Full Port	600	325	N/A
	**RETURN COMBO VALVE:** A combination automatic flow control valve, ball valve, and union end. Valve comes standard with two pressure and temperature test plugs. Application — Instead of adding individual components, utilize the combination valve to save cost. Fixed flow used for water flow balancing.	Valve orifice size determines C_v factor. The orifices of these fixed flow valves changes as flow is regulated. As the water pressure increases, the orifice size decreases, thereby automatically limiting the flow rate to the specified GPM (± 10%).		600	220	N/A
	**SUPPLY COMBO VALVE:** Includes union, ball valve, y-strainer with blowdown, and P-T port. Application — Instead of adding individual components, utilize the combination supply valve to save cost. Y-strainer with blowdown 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 the initial high pressure system flushing during start-up. Screen should be removed and cleaned per normal maintenance schedule.	5.5 Clean	9.0 Clean	600	325	N/A

NOTE(S):

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

LEGEND

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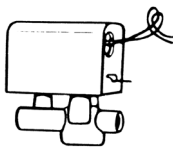
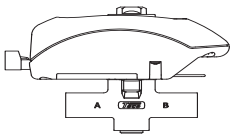
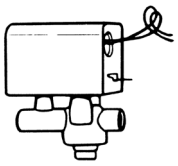
ETO — Engineered to Order

Table 7 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C_V FACTOR		RATING[a]		STEAM USE
		1/2	3/4	psi	F	
 	**2-WAY MOTORIZED VALVE (25 psi close off differential pressure):** Electric 2-position flow control valve (open/closed). Normally closed body with manual override lever. Installed in supply line to unit. 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.**	3.5	3.5	300	200	YES 15 psi MAX.
 	**2-WAY MOTORIZED VALVE (150 psi close off differential pressure):** Electric 2-position flow control valve (open/closed). Normally closed or normally open body with manual override lever. Installed in supply line to unit.	4.9	10.3	300	220	NO
 	**3-WAY MOTORIZED VALVE (25 psi close off differential pressure):** 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. 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).	4.0	4.0	300	200	N/A
 	**3-WAY MOTORIZED VALVE (150 psi close off differential pressure):** Electric 2-position flow control valve (closed to coil/open to bypass for normally closed operation.) Normally closed with manual override lever. Installed in supply line to unit. 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). Consult factory for normally open valves.	4.9	3.3	300	220	N/A

NOTE(S):

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

LEGEND

Cv — Coefficient of Velocity
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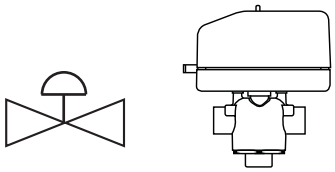
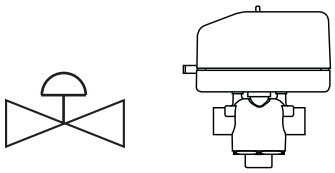
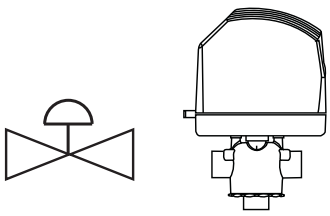
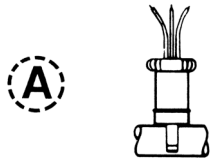
Table 7 — Piping Components (cont)

SYMBOL/SKETCH	DESCRIPTION	C_V FACTOR		RATING[a]		STEAM USE
		1/2	3/4	psi	F	
	**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. Application — To control fluid flow in fan coil units.	4.0		300	200	N/A
	**MODULATING VALVE (Optional) (Non-Spring Return, Proportional Type Actuator):** Modulating valves are designed to control the flow in the circuit by making incremental adjustments to the flow path within the valve. Application — To control fluid flow in fan coil units.	4.0		300	200	N/A
	**MODULATING VALVE (Requires ETO) (Spring Return):** Modulating valves are designed to control the flow in the circuit by making incremental adjustments to the flow path within the valve. 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.	4.0		300	200	N/A
	**AQUASTAT:** Water temperature sensing electrical switch. (Line Voltage Controls) 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.	N/A				
	**CHANGEOVER SENSOR:** Water temperature sensor thermistor. Application — Sensor shall clamp on the outside diameter of the pipe. Sensor plate shall bend to allow its radius to be adjusted to fit the pipe. Sensor shall be secured to the pipe with mounting clamp. Insulate the mounting location of sensor on the pipe.	N/A				

NOTE(S):

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

LEGEND

Cv — Coefficient of Velocity
ETO — Engineered to Order

Step 4 — Make Electrical Connections

The electrical service to the unit should be compared to the unit nameplate to verify compatibility. The routing and sizing of all piping, and the type and sizing of all wiring and other electrical components such as circuit breakers, disconnect switches, etc. should be determined by the individual job requirements. Verify the electrical conductor size is suitable for the distance to the equipment connection and will support the equipment electrical load. All installations should be made in compliance with all governing codes and ordinances. Compliance with all codes is the responsibility of the installing contractor.

The unit serial plate lists the unit electrical characteristics such as the required supply voltage, fan and heater amperage and required circuit ampacities. The unit wiring diagram shows all unit and field wiring. Since each project is different and each unit on a project may be different, the installer must be familiar with the wiring diagram and serial plate on the unit BEFORE beginning any wiring.

All components furnished for field installation by either the factory or the controls contractor should be located and checked for proper function and compatibility. All internal components should be checked for shipping damage, and any loose connections should be tightened to minimize problems during start-up.

Any devices such as fan switches or thermostats that have been furnished from the factory for field installation must be wired in strict accordance with the wiring diagram that appears on the unit. Failure to do so could result in personal injury or damage to components and will void all manufacturer's warranties.

The fan motor(s) should never be controlled by any wiring or device other than the 3-speed switch or thermostat/ switch combination without factory authorization. Fan motor(s) may be temporarily wired for use during construction only with prior factory approval in strict accordance with the instructions issued at that time.

Units with optional factory-furnished and installed aquastats may be shipped with the aquastats mounted on a coil stub-out. Remove the aquastat before installation of a valve package. Consult the factory piping diagram in the approved submittals for proper location when reinstalling the aquastats. If the valve package is field-furnished, the aquastat must be installed in a location where it will sense the water temperature regardless of control valve position. A bleed bypass may be required to guarantee proper aquastat operation.

All field wiring should be done in accordance with governing codes and ordinances. Any modification of the unit wiring without factory authorization will void all of the factory warranties, and will nullify any agency listings.

The manufacturer assumes no responsibility for any damages and/ or injuries resulting from improper field installation and/or wiring.

1. After planning for and bringing incoming power to the unit, locate the control box and cover plate (incoming electrical power wiring compartment). Refer to Fig. 81.
2. Determine appropriate knock out to feed incoming power wiring into box.
3. Loosen screws to rotate cover plate to access wiring. Refer to Fig. 82.
4. Secure incoming power wiring with proper service entrance connector and/or appropriate strain relief. Use wire nuts connections that meet wire gauge requirements. See Fig. 83-85.
5. Replace cover plate and secure screws.

Fig. 81 — Control Box with Cover Plate

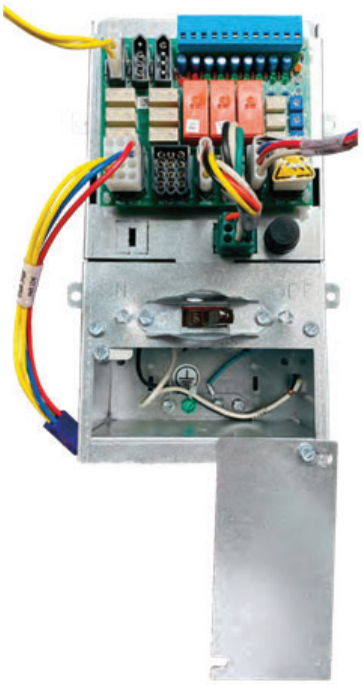
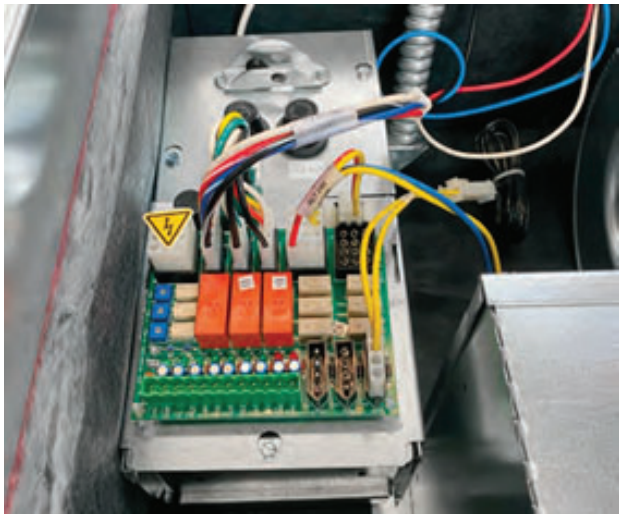
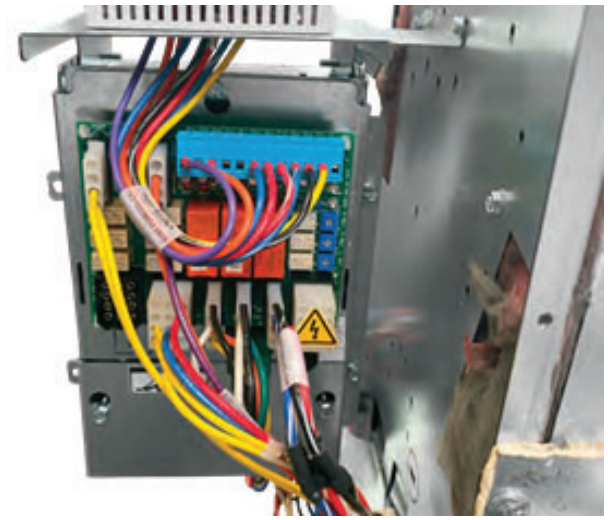


Fig. 82 — Loosened Covered Plate



NOTE: Image depicts control box mounted in 42CK unit.

Fig. 83 — Unit-mounted Control Box Access



NOTE: Image depicts control box mounted on 42VCA unit.

Fig. 84 — External Unit-mount Control Box Access

NOTE: Image depicts control box with thermostat mounted on 42VCA unit.

Fig. 85 — Thermostat Unit-Mount

Step 5 — Make Ductwork Connections

All ductwork and/or supply and return grilles should be installed in accordance with the project plans and specifications. If not included on the unit or furnished from the factory, supply and return grilles should be provided as recommended in the product catalog. For units with no return-air ductwork, check local code requirements for possible application restrictions. All units must be installed in areas that are non-combustible.

Some models are designed to be connected to ductwork with a MINIMUM amount of external static pressure. These units may be damaged by operation without the proper ductwork connected. Consult the approved submittals and the product catalog for unit external static pressure limitations.

Units provided with outside air for ventilation should have some form of low-temperature protection to prevent coil freeze-up. This protection may be any of several methods such as a low-temperature thermostat to close the outside air damper or a preheat coil to temper the outside air before it reaches the unit.

It should be noted that none of these methods will adequately protect a coil in the event of power failure. The safest method of freeze protection is to use glycol in the proper percent solution for the coldest expected air temperature.

HORIZONTAL PLENUM TYPE

42CE units may be shipped with a bottom return-air inlet. These units may be converted to rear return by removing the bottom inlet filter retainer clips and filter, then removing the plenum rear panel. The rear panel must then be moved to the bottom of the unit and reversed so that the top edge (when rear mounted) is toward the supply end of the unit and reinstalled on the bottom

of the plenum. The panel should be positioned towards the drain pan to expose the one-inch wide filter slot for unit-mounted filters. The panel should be positioned against the rear bottom brace completely covering the bottom of the plenum on units with remote filters.

HI-PERFORMANCE PLENUM TYPE

42DC units may be shipped with a bottom return- air inlet. These units may be converted to rear return by simply exchanging the bottom and rear plenum panels.

IMPORTANT: Flexible duct connections should be used on all air handling equipment to minimize vibration transmissions. All ductwork and insulation should be installed to allow proper access to all components for service and repair such as filters, motor/blower assemblies, etc.

The manufacturer assumes no responsibility for undesirable system operation due to improper design, equipment or component selection, and/or installation of base unit, ductwork, grilles, and other related components.

⚠ 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 damage to the unit and/or the reduction of unit efficiency.

Step 6 — Frame and Finish Unit

EXPOSED UNIT FINISH, TOUCH-UP AND REPAINT

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.

⚠ CAUTION

Proper safety procedures should be followed regarding ventilation and safety equipment during touch-up and repainting since materials may pose a health hazard. The manufacturer's directions should be followed for the products being used.

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 7 — 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.

If not included on the unit or furnished from the factory, supply and return grilles should be provided as recommended in the product catalog.

Step 8 — Make Final Preparations

1. Turn off power to the unit (open unit electrical disconnect) and install lockout tags on all power supplies to unit.
2. Install thermostats and perform any other final wiring as applicable. Ensure all electrical connections are tight.
3. Perform a final visual inspection. All equipment, plenums, ductwork, and piping should be inspected to verify that all systems are complete and properly installed and mounted, and that no debris or foreign articles such as paper or drink cans are left in the units or other areas. Clean dirt, dust, and other construction debris from unit interior. Be sure to check fan wheel and housing and clean, if necessary.
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. Adjust if necessary.
5. Install filter in frame at front of coil. If field-supplied filters are used, be sure size is as specified in Table 4.
6. Ensure all panels and filters are installed before checking fan operation. Turn on power to the unit.
7. Check the fan and motor operation.
8. Verify drain line is properly and securely positioned and that the line is clear. Pour water into drain to check operation.

START-UP

General

Before beginning any start-up operation, the start-up personnel should familiarize themselves with the unit, options and accessories, and control sequence to understand the proper system operation. All personnel should have a good working knowledge of general start-up procedures and have the appropriate start-up and balancing guides available for consultation.

The building must be completely finished including doors, windows, and insulation. All internal walls and doors should be in place and in the normal position. In some cases the interior decorations and furniture may influence overall system performance. The entire building should be as complete as possible before beginning any system balancing.

The building breaker will be used as the disconnect switch. An additional service switch may be installed on the unit.

The initial step in any start-up operation should be a final visual inspection. All equipment, plenums, duct-work, and piping should be inspected to verify that all systems are complete and properly installed and mounted, and that no debris or foreign articles such as paper or drink cans are left in the units or other areas.

Each unit should be checked for:

- Free blower wheel operation
- Loose wires
- Loose or missing access panels or doors
- Clean filter of the proper size and type

Except as required during start-up and balancing operations, no fan coil units should be operated without all the proper ductwork attached, supply and return grilles in place, and all access doors and panels in place and secure. Failure to do so could result in damage to the equipment or building and furnishings, and/or void all manufacturer's warranties.

Maximum operating altitude for units is 13,400 ft (4 km). All units are IPXO rated.

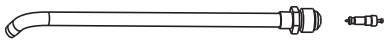
Cooling/Heating System

Prior to the water system start-up and balancing, the chilled/hot water systems should be flushed to clean out dirt and debris which may have collected in the piping during construction. During this procedure, all unit service valves must be in the closed position. This prevents foreign matter from entering the unit and clogging the valves and metering devices. Strainers should be installed in the piping mains to prevent this material from entering the units during normal operation.

During system filling, air venting from the unit is accomplished by the use of the standard, manual air vent fitting, or the optional, automatic air vent fitting installed on the coil. Manual air vents are basically Schrader valves. To vent the air from the coil, depress the valve until the air has vented the coil. When water begins to escape through the valve, release the valve. Automatic air vents may be unscrewed one turn counterclockwise to speed initial venting, but should be screwed in for automatic venting after start-up operations. Refer to Fig. 86-87.

⚠ CAUTION

The air vent provided on the unit is not intended to replace the main system air vents and may not release air trapped in other parts of the system. Inspect the entire system for potential air traps and vent those areas as required, independently. In addition, some systems may require repeated venting over a period of time to properly eliminate air from the system.



Manual Air Vent

Fig. 86 — Manual Air Vent

Automatic Air Vent

Fig. 87 — Automatic Air Vent

Direct Expansion (DX) Systems

NOTE: Operation of DX equipped fan coils at any fan speed other than high fan speed is not approved and will void the manufacturer's limited warranty.

IMPORTANT: Do not operate fan coils with a DX evaporator coil plus contiguous hydronic coil without use of a suitable glycol solution that is approved for use by the manufacturer. Failure to follow this instruction will void the manufacturer's limited warranty.

IMPORTANT: Should the evaporator freeze due to inadequate airflow for any reason, damage may occur to adjacent water or steam coil tubing. This type of issue is due to product misapplication and voids the manufacturer's limited warranty

Air System Balancing

All ductwork must be complete and connected. All grilles, filters, and access doors and panels must be properly installed to establish actual system operating conditions BEFORE beginning air balancing operations.

Each individual unit and the attached ductwork is a unique system with its own operating characteristics. For this reason, air balancing is normally done by balance specialists who are familiar with all procedures required to properly establish air distribution and fan-system operating conditions. These procedures should not be attempted by unqualified personnel.

Exposed units without ductwork do not require air balancing other than selecting the desired fan speed.

After proper system operation is established, the actual unit air delivery and the actual fan motor amperage draw for each unit should be recorded in a convenient place for future reference. Refer to Tables 8-11.

Maximum External Static Pressures

Table 8 — 42D* Hi-Performance

External Static Pressure	
Max at High Speed	0.70
Max at Medium Speed	0.61
Max at Low Speed	0.50

Table 9 — 42C* Horizontal Ceiling

External Static Pressure	
Max at High Speed	0.50
Max at Medium Speed	0.40
Max at Low Speed	0.20

Table 10 — 42V*D Vertical Floor

External Static Pressure	
Max at High Speed	0.40
Max at Medium Speed	0.29
Max at Low Speed	0.12

Table 11 — 42V*A Vertical Floor Lowboy

External Static Pressure	
Max at High Speed	0.50
Max at Medium Speed	0.42
Max at Low Speed	0.25

Water System Balancing

A complete knowledge of the hydronic system, along with its components and controls, is essential to proper water system balancing. This procedure should not be attempted by unqualified personnel. The system must be complete, and all components must be in operating condition BEFORE beginning water system balancing operations.

Each hydronic system has different operating characteristics depending on the devices and controls used in the system. The actual balancing technique may vary from one system to another.

After the proper system operation is established, the appropriate system operating conditions such as various water temperatures and flow rates should be recorded in a convenient place for future reference.

Before, and during water system balancing, conditions may exist due to incorrect system pressures which may result in noticeable water noise or undesired valve operation. After the entire system is balanced, these conditions will not exist on properly designed systems.

Water Treatment

Proper water treatment is a specialized industry. Carrier recommends consulting an expert in this field to analyze the water for compliance with the water quality parameters listed below, and to specify the appropriate water treatment regimen. The expert may recommend typical additives such as rust inhibitors, scaling preventative, antimicrobial growth agents, or algae preventatives. Anti-freeze solutions may also be used to lower the freezing point.

Carrier water coil tubes and headers are constructed of pure copper. Multiple brass alloys may be present in the valve package, depending on unit configuration. It is the user's responsibility to ensure the tube and piping materials furnished by Carrier, are compatible with the treated water. Refer to Table 12.

IMPORTANT: Failure to provide proper water quality will void the fan coil unit's warranty.

Table 12 — Water Quality Concentrations[a,b]

WATER CONTAINING	REQUIRED CONCENTRATION
Sulphate	Less than 200 ppm
pH	7.0 to 8.5
Chlorides	Less than 200 ppm
Nitrate	Less than 100 ppm
Iron	Less than 4.5 mg/l
Ammonia	Less than 2.0 mg/l
Manganese	Less than 0.1 mg/l
Dissolved Solids	Less than 1000 mg/l
CaCO3 Hardness	300 to 500 ppm
CaCO3 Alkalinity	300 to 500 ppm
Particulate Quantity	Less than 10 ppm
Particulate Size	800 micron max

NOTE(S):

a. Maximum Water Operating Temperature: 190°F (87°C).
b. Maximum Allowable Water Pressure: 500 psig (3447 kpa).

Board Components and Specifications

Before proper control operation can be verified, all other systems must be operating properly. The correct water and air temperatures must be present for the control function being tested. Some controls and features are designed to not operate under certain conditions. For example, on a two-pipe cooling/heating system with auxiliary electric heat, the electric heater cannot be energized with hot water in the system.

A wide range of controls, electrical options and accessories may be used with the equipment covered in this manual. Consult the approved unit submittals, order acknowledgments, and other literature for detailed information regarding each individual unit and its controls. Since controls and features may vary from one unit to another, care should be taken to identify the controls used on each unit and their proper control sequence. Information provided by component manufacturers regarding installation, operation, and maintenance of their individual controls is available upon request.

When changing from one mode to another (cooling to heating or heating to cooling), it may take some time to actually notice a change in the leaving air temperature. In addition, some units may be designed for a very low air temperature rise in heating. Before declaring a unit inoperative or a component defective, it may be necessary to verify operation by more than one method.

SERVICE

General

Each unit on a job will have its own unique operating environment and conditions which may dictate a maintenance schedule for that unit that is different from other equipment on the job. A formal schedule of regular maintenance and an individual unit log should be established and maintained. This will help to achieve the maximum performance and service life of each unit on the job.

IMPORTANT: Information regarding safety precautions contained at the beginning of this manual should be followed during any service and maintenance operations.

For more detailed information concerning service operations consult your Sales Representative or the factory.

Motor/Blower Assembly

The type of fan operation is determined by the control components and their method of wiring. This may vary from unit to unit. Refer to the wiring diagram that is attached to each unit for that unit's individual operating characteristics.

All motors have permanently lubricated bearings. No field lubrication is required.

Should the assembly require more extensive service, the motor/ blower assembly may be removed from the unit to facilitate such operations as motor or blower wheel/ housing replacement, etc.

Dirt and dust should not be allowed to accumulate on the blower wheel or housing. This can result in an unbalanced blower wheel condition which can damage a blower wheel or motor. The wheel and housing may be cleaned periodically using a vacuum cleaner and a brush taking care not to dislodge the factory balancing weights on the blower wheel blades.

To Clean Coil

Coils may be cleaned by removing the motor/blower assemblies and brushing the entering air face between fins with a stiff brush. Brushing should be followed by cleaning with a vacuum cleaner. If a compressed air source is available, the coil may also be cleaned by blowing air through the coil fins from the leaving air face. This should again be followed by vacuuming. Units provided with the proper type of air filters, replaced regularly, will require less frequent coil cleaning.

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. Care should be taken to not damage coil fins. 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. Blow air through the coil fins from the leaving air face. This should again be followed by vacuuming. Units provided with the proper type of air filters, replaced regularly, will require less frequent coil cleaning.
3. Install clean filter. Refer to Filters, Throwaway or Filters, Permanent section for proper filter changing on page 81.

Drain

The drain should be checked before initial start-up, and at the beginning of each cooling season to assure that the drain, drain trap, and line are clear. If it is clogged, steps should be taken to clear the debris so that condensate will flow easily.

Periodic checks of the drain should be made during the cooling season to maintain a free-flowing condensate. Units provided with a secondary or "tell-tale" drain connection will indicate a clogged main-drain line by flow from the "tell-tale" connection.

Should the growth of algae and/or bacteria be a concern, consult an air conditioning and refrigeration supply organization familiar with local conditions for chemicals, or other solutions available to control these agents.

Electric Heater Assembly

Electric 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 air flow and proper supply voltage. High supply voltage and/or poorly distributed or insufficient air flow over the element will result in element overheating. This condition may result in the heater cycling on the high limit thermal cutout. Sheath heaters have automatic reset switches only. Open-strip heaters have an automatic reset switch with a back-up, high-limit thermal switch.

Automatic reset switches reset automatically after the heater has cooled down. High-limit thermal switches must be replaced once the circuit has been broken. 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 air flow 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 cut-out device, and may not be evident until actual heater element failure.

TYPICAL HEATER TYPES

Refer to Fig. 88 for wire representation.

1. Exposed wire heater for 42CA, CE, CK, and CG.
2. Exposed wire heater for 42DD.

NOTES:
1. For 42CA, CE, CK, and CG size and number of elements varies with models.
2. For 42DD units heater is located below the coil.

Fig. 88 — Exposed Wire Heater

Electrical Wiring and Controls

The electrical operation of each unit is determined by the components and wiring of the unit. This may vary from unit to unit. Consult the wiring diagram attached to the unit for the actual type and number of controls provided on each unit. See Appendix A and Fig. I for wiring diagram.

The integrity of all electrical connections should be verified at least twice during the first year of operation. Afterwards, all controls should be inspected regularly for proper operation. Some components may experience erratic operation or failure due to age. Wall thermostats may also become clogged with dust and lint, and should be periodically inspected and cleaned to provide reliable operation.

When replacing any components such as fuses, contactors, or relays, use only the exact type, size and voltage component as furnished from the factory. Any deviation without factory authorization could result in personnel injury or damage to the unit. This will also void all factory warranties. All repair work should be done in such a manner as to maintain the equipment in compliance with governing codes, ordinances and testing agency listings.

Filters, Throwaway

The type of throwaway filter most commonly used on fan coil units should be replaced on a regular basis. The time interval between each replacement should be established based on regular inspection of the filter, and should be recorded in the log for each unit. Refer to the product catalog for the recommended filter size for each product type and size. If the replacement filters are not purchased from the factory, the filters used should be the same type and size as those furnished from, or recommended by the factory. Pleated media, or extended surface filters should not be used since the high air pressure drops encountered with these types of filters is not compatible with the type of fan coil unit covered in this manual. Consult the factory for applications using filter types other than the factory standard or optional product.

Filters, Permanent

A maintenance schedule for permanent filters should be developed in the same manner as throwaway filters. Unlike throwaway filters, permanent filters may be cleaned and re-installed in the unit instead of being discarded when dirty. The optional factory permanent filter may be cleaned in hot soapy water to remove any trapped dirt. It should then be set aside on edge to dry.

Before replacing the filter in the unit, it should be recharged with some type of entrapment film such as "Film-Cor Recharging Oil." The filter should be sprayed on both sides or submerged in the film to assure complete coverage. The filter should not be allowed to soak in the film, but should be immediately removed and the excess film drained from the filter before re-installation in the unit. Consult a local filter supplier for types of available cleaning solutions and charging films.

It should be noted that permanent filters normally have less static pressure loss than throwaway filters.

Replacement Parts

Factory replacement parts should be used wherever possible to maintain unit performance, it's normal operating characteristics, and the testing agency listings. Replacement parts may be purchased through a local Sales Representative.

Contact the local Sales Representative or the factory before attempting any unit modifications. Any modifications not authorized by the factory could result in personnel injury, damage to the unit, and could void all factory warranties.

When ordering parts, the following information must be

supplied to ensure proper part identification:

- Complete unit model number
- Unit serial number
- Complete part description, including any numbers

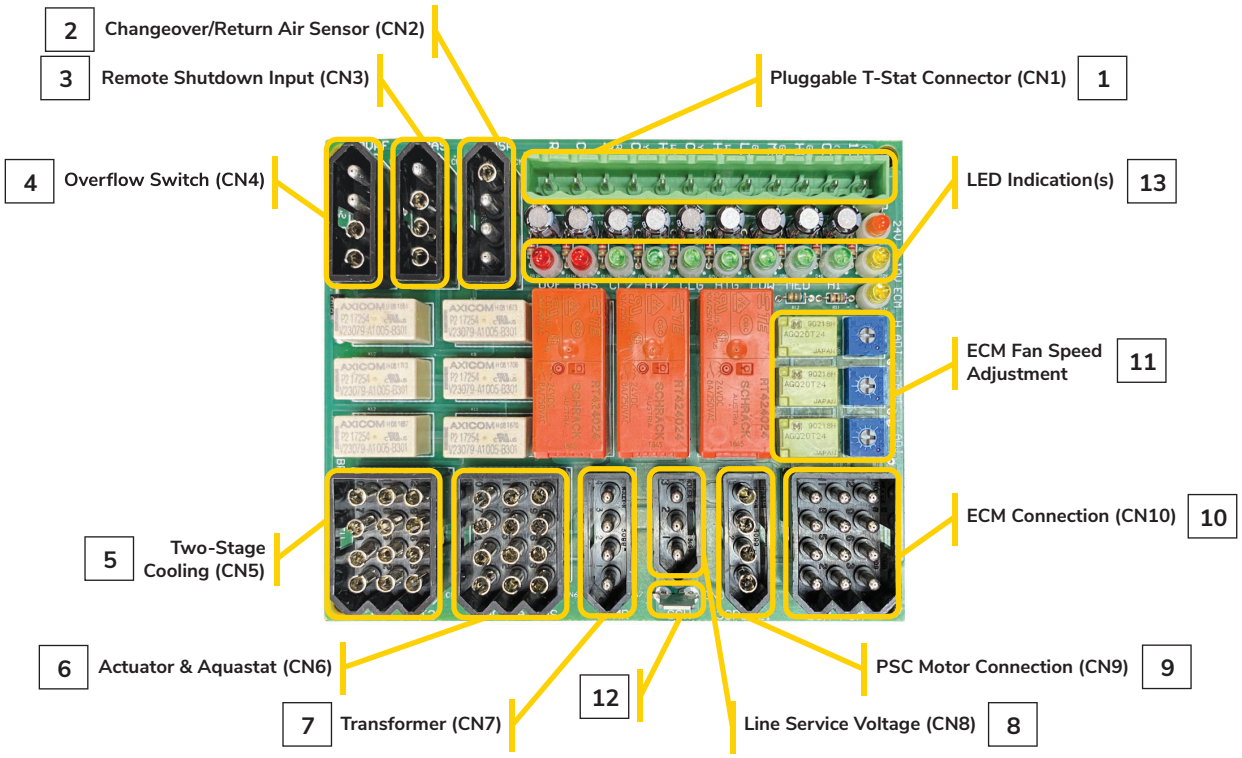
For warranty parts inquiries, in addition to the information previously listed, a description of the issue with the parts is required. Contact the factory for authorization to return any parts, such as defective parts, to be replaced in warranty. All shipments returned to the factory must be marked with a Return Authorization Number which is provided by the factory, if warranty has been approved.

On warranty replacements, in addition to the information previously listed, the unit shipping code which appears on the upper right-hand corner of the serial plate is required. Contact the factory for authorization to return any parts such as defective parts replaced in warranty. All shipments returned to the factory must be marked with a Return Authorization Number which is provided by the factory.

Valves and Piping

No formal maintenance is required on the valve-package components most commonly used with fan coil units other than a visual inspection for possible leaks in the course of other normal periodic maintenance. In the event that a valve should need replacement, the same precautions taken during the initial installation to protect the valve package from excessive heat should also be used during replacement.

APPENDIX A — CONTROLS OPERATION



1	CN1 – 24V Customer Input (Thermostat)
2	CN2 – Changeover/Return Air Sensor
3	CN3 – Remote Shutdown Input
4	CN4 – Condensate Overflow Switch
5	CN5 –Two-Stage Cooling
6	CN6 – Actuator 7 Aquastat
7	CN7 – Transformer
8	CN8 – Line Service Voltage
9	CN9 – PSC Motor Connection
10	CN10 – ECM Connection
11	ECM Fan Speed Adjustment
12	Ground Connection
13	LED Diagnostics (for Multimeter Diagnostics)

Fig. A — 85 Control Board

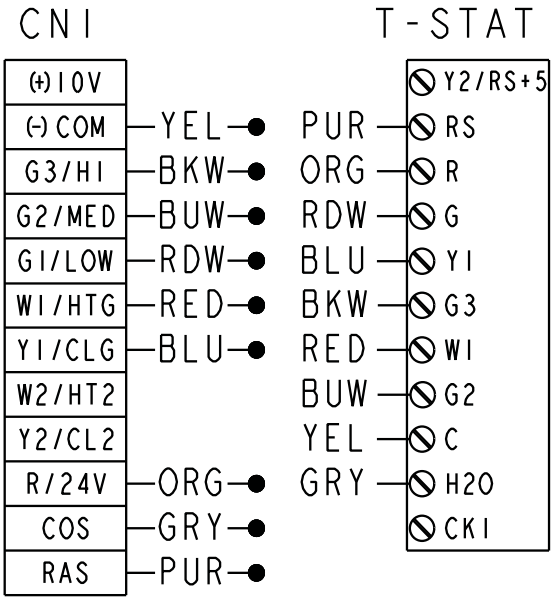


Table A — 3A-Speed ECM or PSC

CONNNECTION	FUNCTION/DESCRIPTION
(+) 10V	Not Used
(-) COM	Ground Control Power
G3/HI	Fan High Speed
G2/MED	Fan Medium Speed
G1/LOW	Fan Low Speed
W1/HTG	Heat
Y1/CLG	Cool
W2/HT2	Heat Stage 2
Y2/CL2	Cool Stage 2
R/24V	24V Controller Power
COS	Changeover Sensor
RAS	Room Air Sensor

NOTE: Does not apply to proportional or line voltage thermostat controls. The diagram represents a factory installed 24-v thermostat.

Fig. B — Factory Installed 24V Thermostat Wiring Diagram

Board Functions and Diagnostics

CN1 - 24V CUSTOMER INPUT (THERMOSTAT)

Use proper wire gauge and insulation type based on application and local code requirements.

For detailed Carrier 24V thermostat control wiring diagrams, reference thermostat Installation Instructions. Refer to Table A and Fig. A-B.

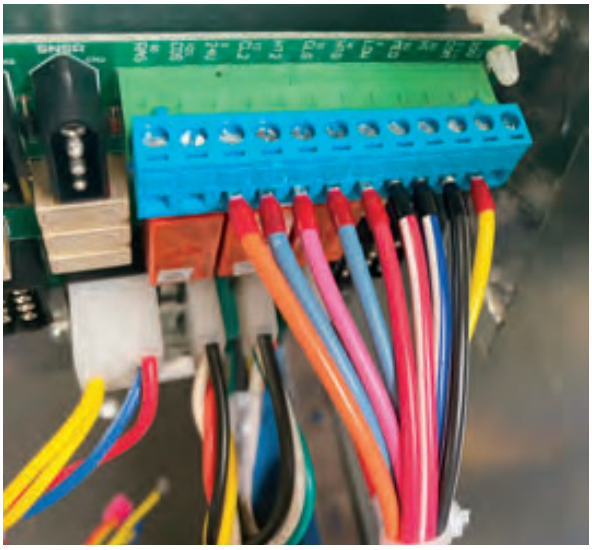
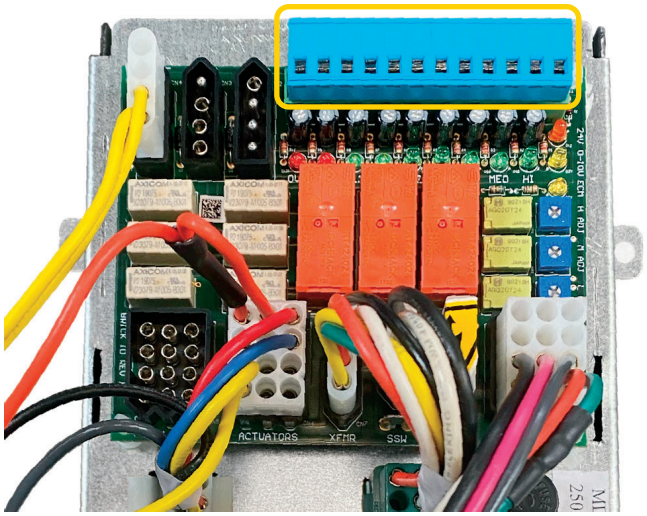


Fig. C — Thermostat Wire Harness Connection

NOTE: Figure depicts a unit-mounted thermostat.

Fig. D — Mounted Thermostat Connection



CN1 - PLUG

(+)10V
(-) COM
G3/HI
G2/MED
G1/LOW
W1/HTG
Y1/CLG
W2/HT2
Y2/CL2
R/24V
COS
RAS

Fig. E — Thermostat Control Board (By Others or Remote Mounted)

For Thermostat Control By Others or Remote Mounted Thermostat

Unplug blue connector from control board. Make appropriate thermostat wiring connections and plug connector back to control board. See Fig. C-E.

CN2 - CHANGEOVER/RETURN AIR SENSOR

1. Power connector for 24V or Common-powered sensors
   a. 24V powered sensors:
      Applicable for Carrier-supplied air sensor, Programmable, Non-programmable 24V Carrier thermostats.
   b. Common-powered sensors:
      Applicable for thermostats by others.
2. Sensor/switch:
   a. 10k Thermistor
   b. Bimetal Switch

CN3 - REMOTE SHUTDOWN INPUT

1. Provides dry contact for signal to BAS system – I/O:
   a. Dry Normally Open
   b. Wet Normally Open
   c. Discrete Coil
2. When contact activated:
   a. Motor OFF
   b. Actuator OFF
   c. Electric Heat OFF
   d. Power to controller remains ON
3. BAS LED indicates when BAS relay circuit activated

CN4 - CONDENSATE OVERFLOW SWITCH

1. Low voltage condensate switch shuts down the unit when the water level in the drain pan reaches an unsafe level.
   a. Switch is normally closed and opens on an increase in water level.
2. When contact activated, then:
   a. Motor OFF
   b. Valve Actuator OFF
   c. Electric Heat OFF
   d. Power to controller remains ON
3. OVF LED indication when condensate switch is activated.

CN5 - 2-STAGE COOLING/HEATING

1. Available with two stage coil for part load.
2. 24V On/Off, 24V Floating, 0-10V Proportional control
3. CL2 or HT2 LED indication when either 2-stage cooling or heating activated

CN6 - 1ST STAGE COOLING/HEATING

1. 24V On/Off, 24V Floating, 0-10V Proportional control, Line voltage
2. Contact factory for applications.
3. CLG or HTG LED indication when either first stage cooling or heating activated

CN7 - CLASS II TRANSFORMER

1. 40VA, 75VA option
2. 24V LED activated when powered

CN8 - INCOMING POWER

CN9 - PSC MOTOR

1. 3-speed application
2. Either LOW/MED/HIGH activated when a speed is selected.

CN10 - EC MOTOR

1. 3-speed application
2. Solid State Switching
3. Either LOW/MED/HIGH activated when a speed is selected.
4. ECM LED indicates speed control is powered.
5. 0-10V LED intensity indicates increasing speed.

ECM Fan Speed Adjustment

If the unit is equipped with an ECM blower, additional steps may be required during the air balancing process. Review project submittals or order acknowledgment to determine which ECM control scheme the unit has. Alternatively, match the control board to the illustrations. See Fig. F-G.

⚠ CAUTION

Both of the procedures described below require the control box to be powered while adjustments are made. Line voltage components are concealed behind a secondary cover. However, installer should take all reasonable precautions.

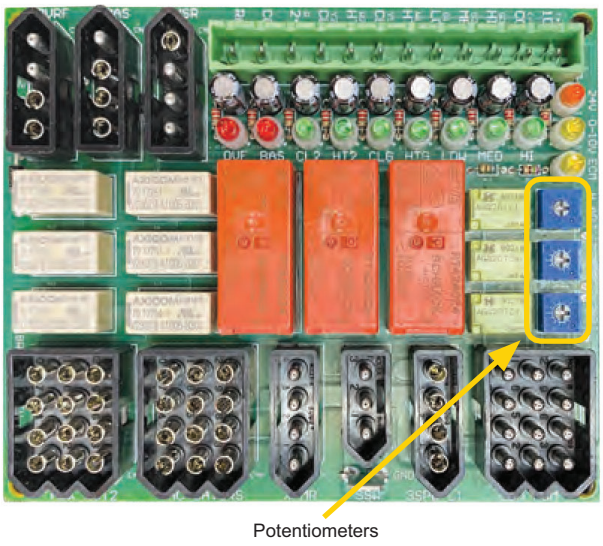


Fig. F — 3-Speed, Potentiometer Adjustment (ECM Only)

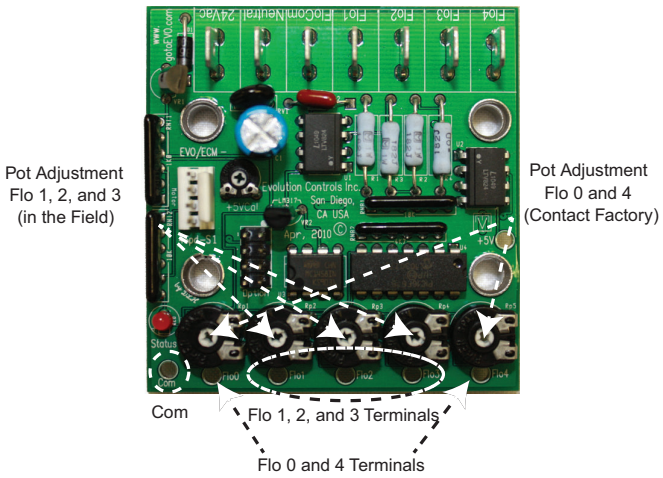


Fig. G — 4-Speed, Solid State with Potentiometer

NOTE: The unit has been factory configured to produce PSC equivalent airflow on high speed, with medium and low speed set at 80% and 60% of high, respectively. If these setting are acceptable, then no further configuring is required.

If alternative airflows are desired, use board mounted pots to adjust the airflow associated with each input.

To reset to initial factory settings, reference the voltages found on the sticker next to the pots.

Each output can be adjusted from 0 to 100% of the motor's factory programmed operating range. Use voltmeter and airflow chart (on control box cover) to set values.

Adjusting the potentiometers requires the use of a Multi-meter capable of measuring 0~5 vdc.

1. Only trained and qualified individuals should attempt to adjust or service components on any electrical component. Failure to follow safety rules could result in electrical shock or hazard.
2. 24 VAC power must be supplied to ECM board to make adjustments.
3. Set the electrical multimeter to Volts Direct Current (vdc) on the 0~5 or 0~20 vdc scale.
4. Attach black (negative) lead of meter to the "Com" terminal to the left of the potentiometers and below the Status light.
5. Attach the red (positive) lead of the meter to the terminal below the Potentiometer needing adjustment.
   a. High Speed: Using a small screwdriver, turn the H ADJ potentiometer (CW for increasing speed, CCW for decreasing speed).
   b. Medium Speed: Using a small screwdriver, turn the M ADJ potentiometer (CW for increasing speed, CCW for decreasing speed).
   c. Low Speed: Using a small screwdriver, turn the L ADJ potentiomenter (CS for increasing speed, CCW for decreasing speed).

VARIABLE AIRFLOW FOR 0-10 VDC

If a factory provided thermostat or DDC controller is utilized, then the unit is already correctly configured.

Carrier recommends using the specified thermostat or DDC controller to commission the unit whenever possible. However, the blower can be started and operated without the thermostat. Consult factory for further instruction.

ECM VARIABLE AIRFLOW FOR 0-10 VDC

No control board is required and no field adjustments are possible. Motor uses 0-10vdc signal directly. See control box label. Fan enable at 1.5vdc.

GROUND TAB CONNECTION

1. For multimeter diagnostics.

LED Function and Outcomes

Refer to Table B and Fig. H for functions and commands.

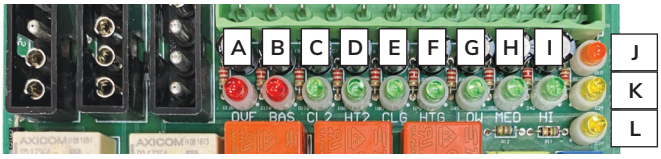
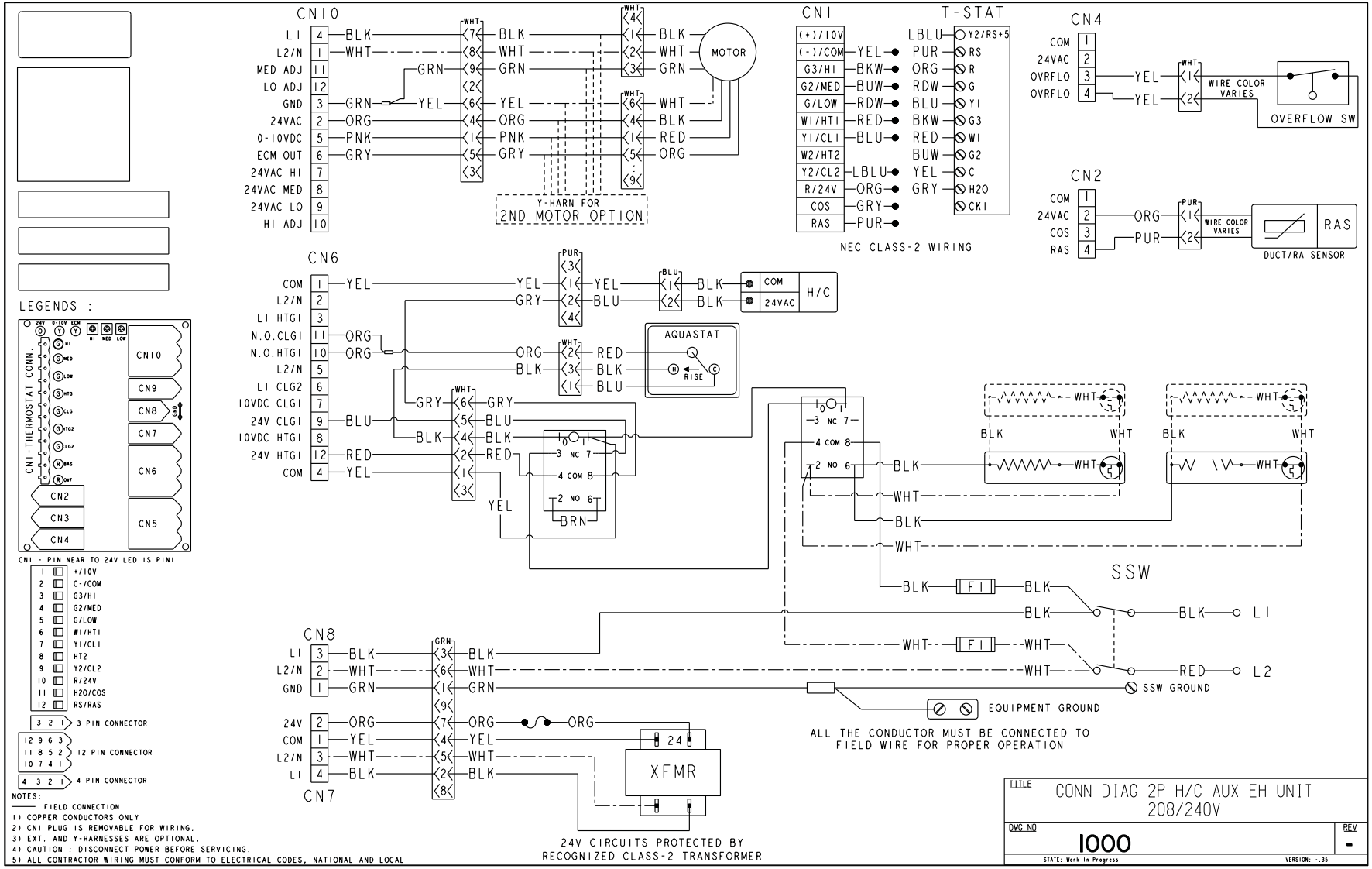


Fig. H — LED Functions

Table B — LED Function and Outcomes (Sequence of Operation)

ITEM		DESCRIPTION	OUTCOME
A	Condensate Overflow Switch (OVF)	Condensate switch is tripped by increasing water level in the drain pan.	OVF LED Shows Red Motor OFF Actuator OFF Electric Heat Off Power to controller remains ON
B	Remote Shutdown Input (BAS)	24VAC externally applied to BAS CN3 or the internally-powered BAS CN3 loop is closed.	BAS LED shows RED Motor OFF Actuator OFF Electric Heat Off Power to controller remains ON
C	Cooling 2-Stage (24VAC and 0-10VDC) (CL2)	24VAC signal applied to CL2 of CN1. 2nd stage cooling relay (CL2) will actuate and supply 24VAC to Pin 9 of connector CN5. When 0-10VDC is applied to CL2, control signal will passively be present at Pin 7 of the CN5 connector.	CL2 LED shows GREEN Signal for 2nd stage cooling valve present
D	0-Heating 2-Stage (24VAC and 10VDC) (HT2)	24VAC signal applied to HT2 of CN1. 2nd stage heating relay (HT2) will actuate and supply 24VAC to Pin 9 of connector CN5. When 0-10VDC is applied to HT2, control signal will passively be present at Pin 7 of the CN5 connector.	HT2 LED shows GREEN Signal for 2nd stage heating valve present
E	Cooling 1st Stage (24VAC and 0-10VDC) (CLG)	24VAC signal applied to CLG of CN1. 1st stage cooling relay (CLG) will actuate and supply 24VAC to Pin 9 of connector CN5. When 0-10VDC is applied to CLG, that control signal will passively be present at Pin 7 of the CN6 connector.	CLG LED shows GREEN Signal for 1st stage cooling valve present
F	0-Heating 1st Stage (24VAC and 10VDC) (HTG)	24VAC signal applied to HTG of CN1. 1st stage HTG relay will actuate and supply 24VAC to Pin 12 of connector CN5. When 0-10VDC is applied to HTG, that control signal will passively be present at Pin 8 of the CN6 connector.	HTG LED shows GREEN Signal for 1st stage cooling valve present
G	Fan Low Speed (24VAC) (LOW)	24VAC signal applied to LOW of CN1. The low speed PSC motor power relay and the low speed ECM signal relays will be activated. Line voltage will be present at Pin 2 of CN9 and the adjustable low speed ECM DC signal will be present at Pin 5 of the CN10 connector.	LOW LED shows GREEN Signal for low speed present
H	Fan Med Speed (24VAC) (MED)	24VAC signal applied to MED of CN1. The medium speed PSC motor power relay and the medium speed ECM signal relays will be activated. Line voltage will be present at Pin 3 of CN9 and the adjustable medium speed ECM DC signal will be present at Pin 5 of the CN10 connector.	MED LED shows GREEN Signal for medium speed present
I	Fan High Speed (24VAC) (HI)	24VAC signal applied to HI of CN1. High speed PSC motor power relay and the high speed ECM signal relays will be activated. Line voltage will be present at Pin 4 of CN9 and the adjustable high speed ECM DC signal will be present at Pin 5 of the CN10 connector..	HI LED shows GREEN Signal for high speed present
J	24VAC Board Power (24V)	24VAC signal supplied from internal transformer. 24VAC required for board operation.	24V LED shows ORANGE
K	0-10V ECM Speed Control (0-10V)	0-10V signal supplied to 10V of CN1. Signal passively present at Pin or CN10 connector.	0-10 LED shows YELLOW Intensity of the LED illumination will vary depending on the amplitude of the 0-10VDC signal (10VDC is brightest)
L	Power Supply by ECM (ECM)	ECM Motor connected to CN10 and powered by line voltage. Signal from the ECM regulator is present at Pin 6 of the CN10 connector.	ECM LED shows YELLOW



NOTE: Wiring diagram also available through QR code found on the unit serialized name plate label.

Fig. I — Typical Wiring Diagram

APPENDIX B — ADJUSTMENT OF E025-71521512 3-SPEED POT BOARD

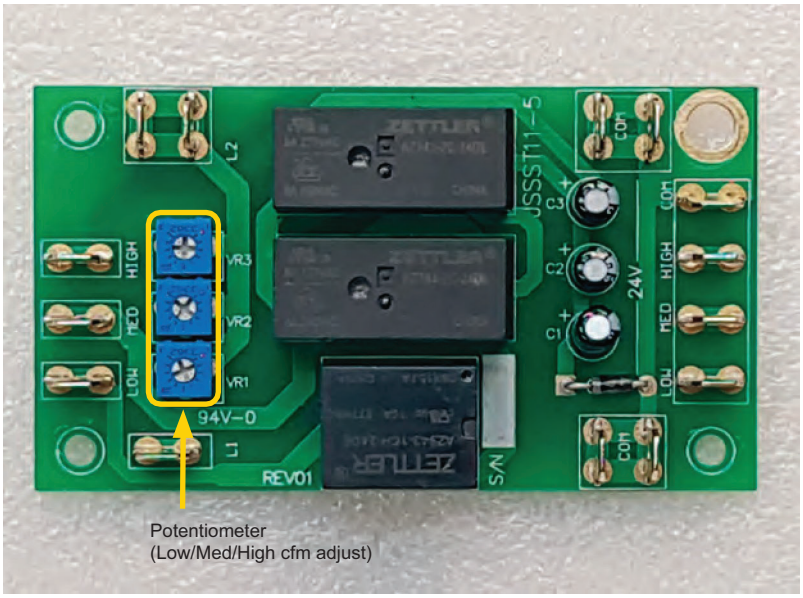


Fig. J — 3-Speed Pot Board

The unit has been factory configured to produce PSC equivalent airflow on high speed, with medium and low speed set at 80% and 60% of high, respectively. If these setting are acceptable, then no further configuring is required. See Fig. J for potentiometer settings.

If alternative airflows are desired, use board mounted pots to adjust the airflow associated with each input. Each output can be adjusted from 0 to 100% of the motor's factory programmed operating range. Use voltmeter and airflow chart (on control box cover) to set values.

To reset to initial factory settings, reference the voltages found on the sticker next to the pots.

Adjusting the Low, Medium, and High potentiometers requires the use of a Multi-meter capable of measuring 0~5 vdc.

1. Only trained and qualified individuals should attempt to adjust or service components on any electrical component. Failure to follow safety rules could result in electrical shock or hazard.
2. Unit must be powered to perform the following procedure. If main power is not available, Carrier recommends connecting a temporary 24V-40VA power supply in parallel with the secondary outputs of the unit's transformer.
3. Set the electrical multimeter to Volts Direct Current (vdc) on the 0~5 or 0~20 vdc scale.
4. Attach black (negative) lead of meter to the DC common terminal, labeled "L2" above the potentiometers.
5. Attach the red (positive) lead of the meter to the red wire that bridges the 0-10VDC outputs: high, medium, and low.
   a. High Speed: Using a small screwdriver, turn the H ADJ potentiometer (CW for increasing speed, CCW for decreasing speed).
   b. Medium Speed: Using a small screwdriver, turn the M ADJ potentiometer (CW for increasing speed, CCW for decreasing speed).
   c. Low Speed: Using a small screwdriver, turn the L ADJ potentiometer (CS for increasing speed, CCW for decreasing speed).

APPENDIX C — 42CE/42DC RETURN MODIFICATION

Below are the procedures for converting furred-in ceiling model fan coils with factory-installed plenum's from rear return to bottom return.

Precautions

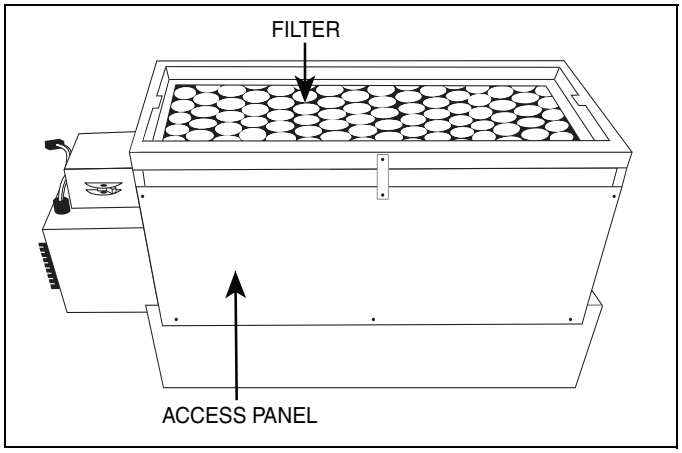
Use eye, ear, and hand safety gear prior to handling sheet metal or modifying any fan coil units.

42CE and 42DC Units

All necessary holes for attachment are present on the unit.

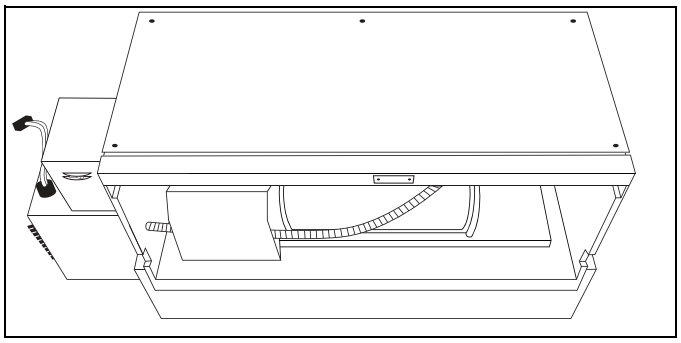
Do not drill new holes.

Use No. 8 sheet metal screws for all attachments.

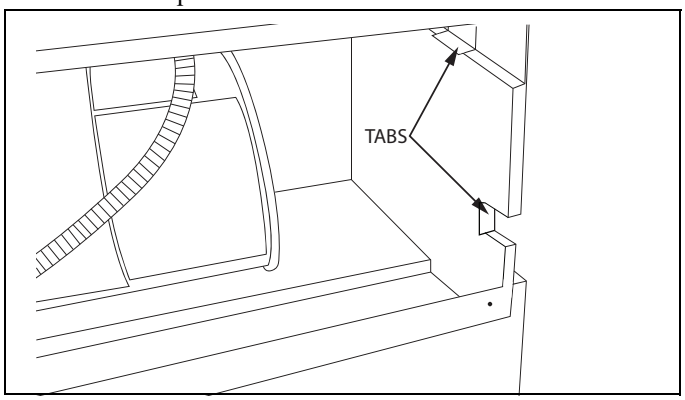


42CE Rear to Bottom Return Conversion (Typical 42CEA03 Rear Return Unit Shown)

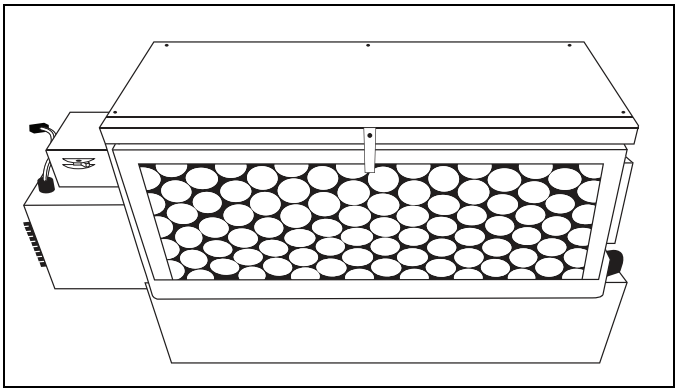
1. Remove filter and access panel.
2. Install access panel on the rear of the unit with 5 screws.



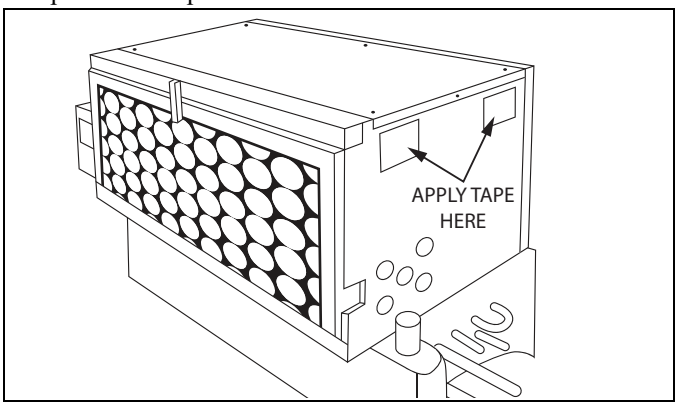
3. Bend the tabs on each of the plenum side panels to hold the filter in place.



4. Install filter.

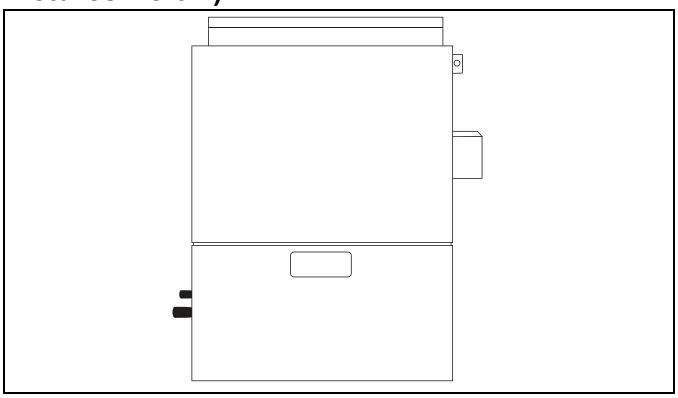


5. Use aluminum tape to cover up the holes on both of the plenum side panels.

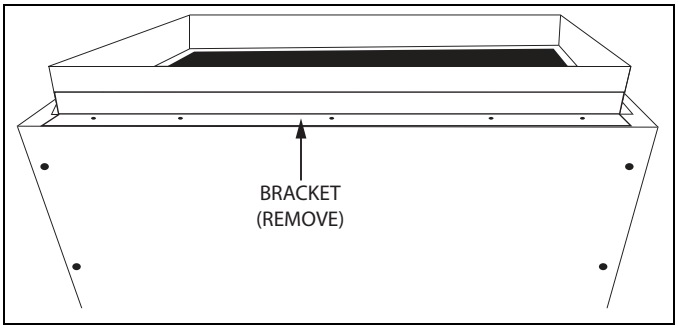


NOTE: To convert a Bottom Return unit to Rear Return, follow the same process but ensure you bend the correct tabs for holding the filter in place.

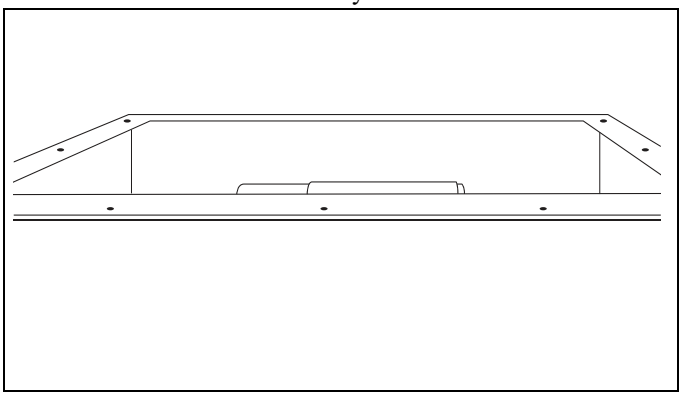
42DC Rear to Bottom Return Conversion (Typical 42DCA03 Rear Return Unit Shown in Pictures Below)



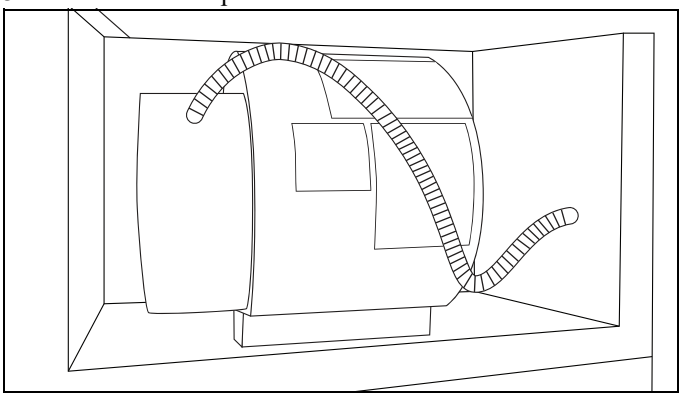
1. Remove filter bracket and take out the filter.



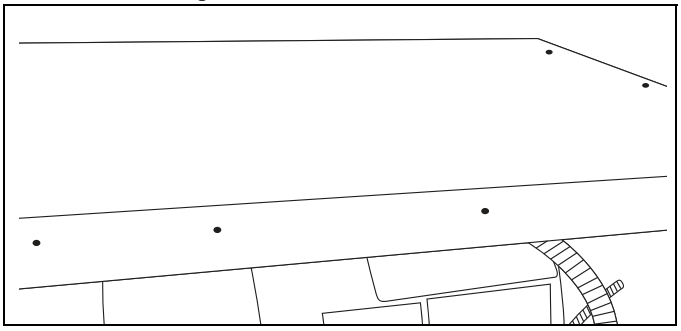
2. Remove duct collar assembly.

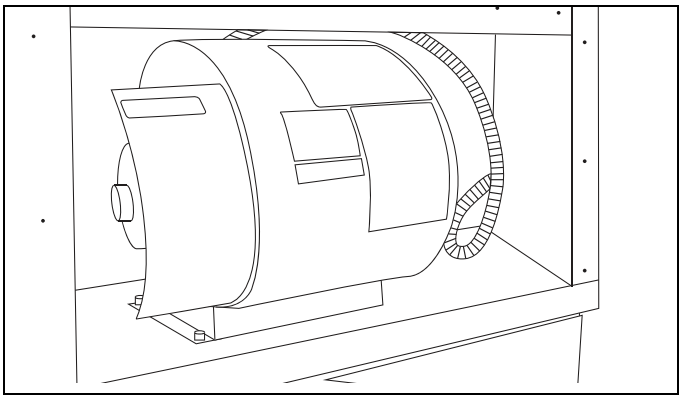


3. Remove access panel.

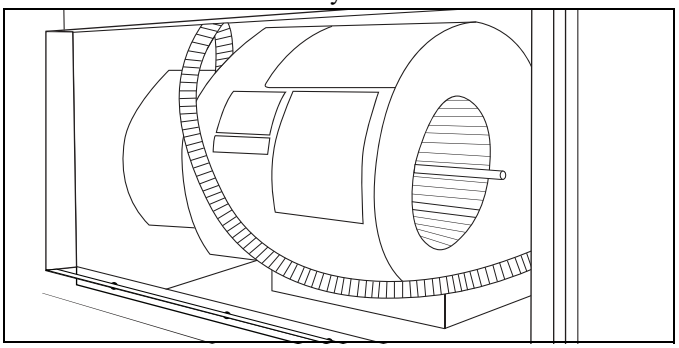


4. Install access panel on the rear of the unit.

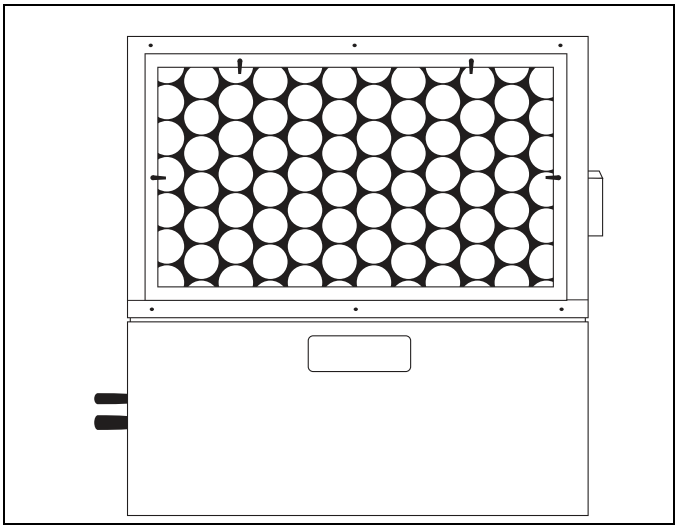




5. Install duct collar assembly.



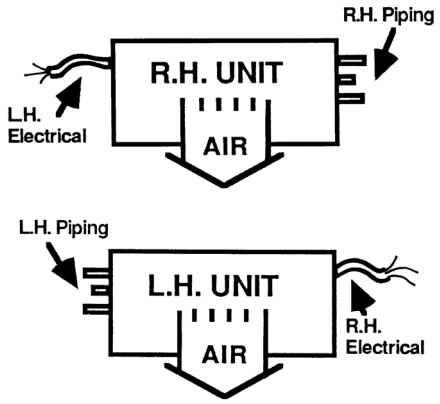
6. Slide the filter in the duct collar opening and install filter bracket.



Conversion is complete.

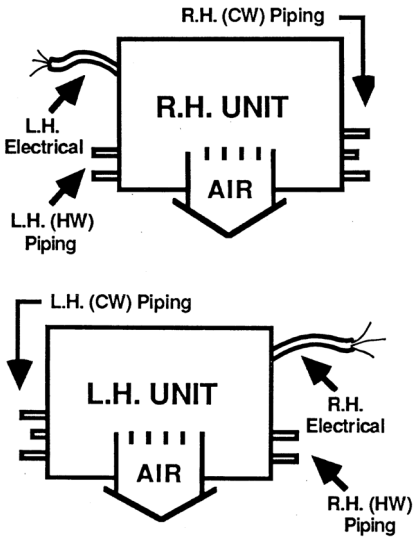
NOTE: To convert a Bottom Return unit to Rear Return, follow the same process in reverse.

APPENDIX D — PIPING AND VALVE CONNECTIONS



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

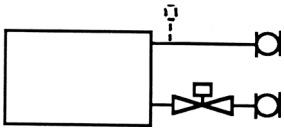
SAME END CONNECTION



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

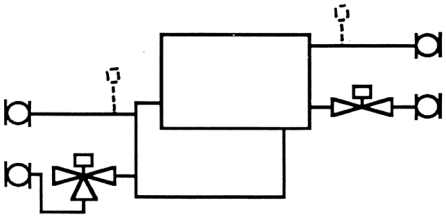
OPPOSITE END CONNECTION

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

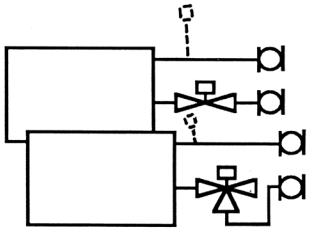


Valve Packages for 4-Pipe Systems — Select 2 valve packages per unit.

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



OPPOSITE END CONNECTION



SAME END CONNECTION

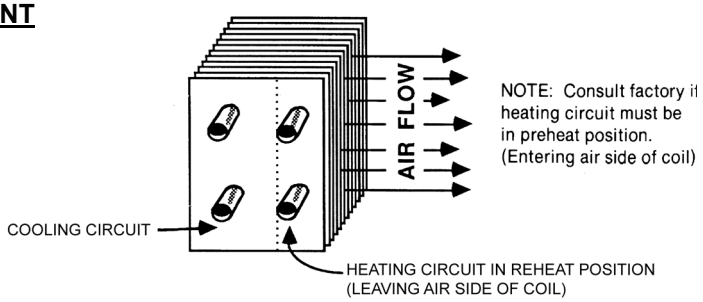
LEGEND

CW — Chilled Water
HW — Hot Water
LH — Left Hand
RH — Right Hand

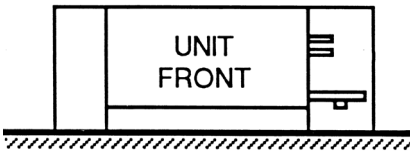
Fig. K — Pipe Connection Configurations

APPENDIX D — PIPING AND VALVE CONNECTIONS (CONT)

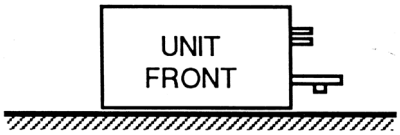
HYDRONIC COIL ARRANGEMENT



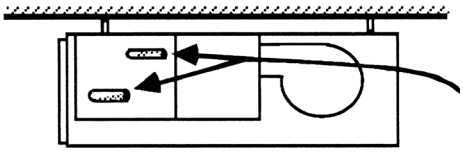
FIELD PIPING CONNECTIONS*



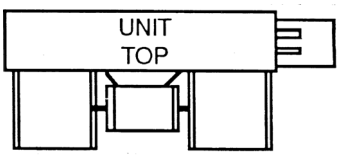
VERTICAL FLOOR UNITS — 42VB, VE, VF
Pipe into cabinet end compartment (opening in bottom and back).



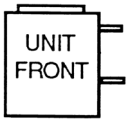
VERTICAL FLOOR UNITS — 42VA, VC
Pipe to external connections (no cabinet).



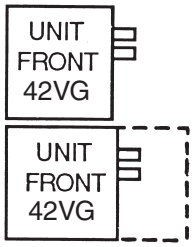
CEILING UNITS (EXPOSED) — 42CG, CK, DE, DF
Pipe through knock-outs in rear of cabinet to coil and valve package connections.



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.

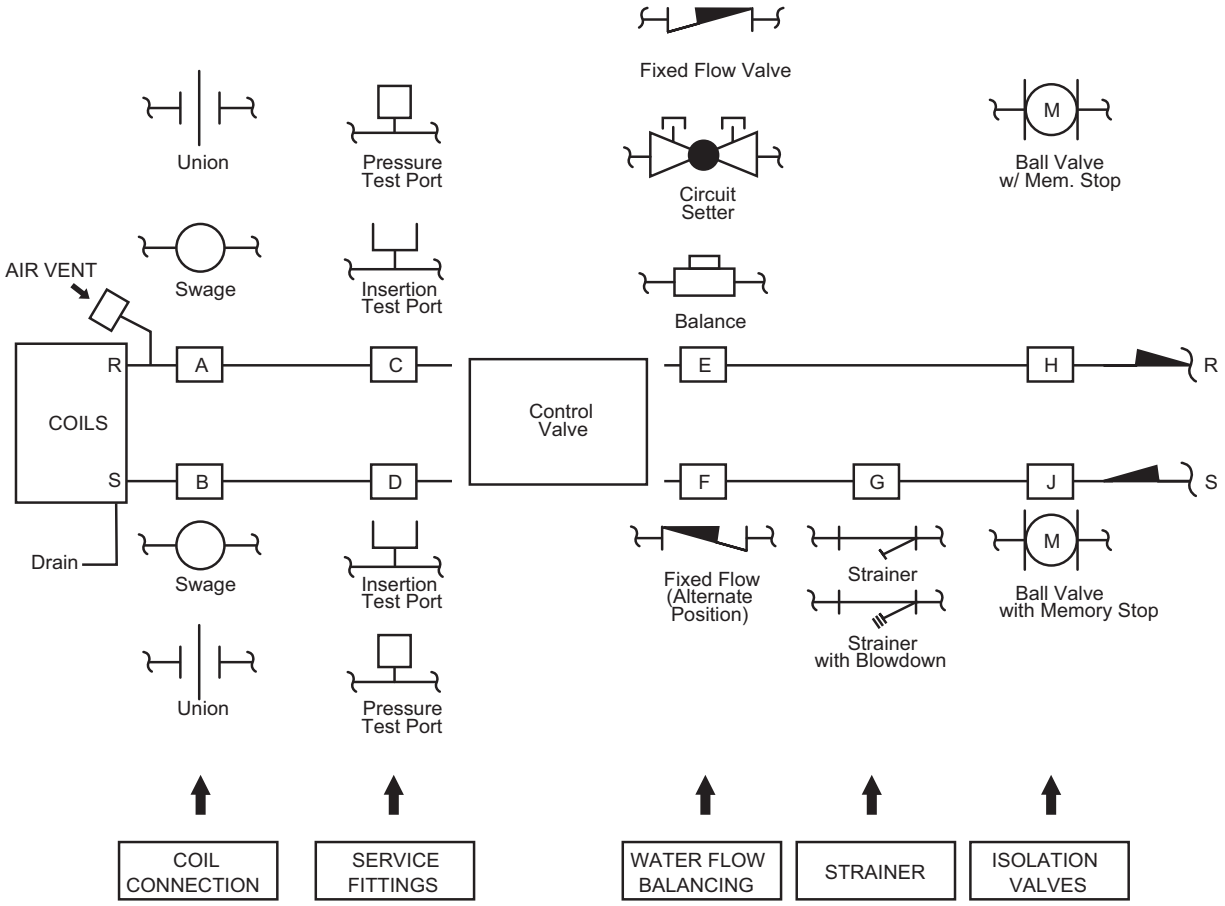


WALL UNITS, FURRED-IN
Pipe to stub connections at the side of unit
or
into optional piping compartment. Optional piping compartment is required if valves are factory provided. Factory-provided valve package is limited to one 2-way or 3-way motorized valve and 2 hand valves.

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

Fig. L — Piping Connection Positions

APPENDIX D — PIPING AND VALVE CONNECTIONS (CONT)



* Available for Horizontal Ceiling Valve Packages. For application in other units, contact factory. Combination valves will also take the place of the ball valve because they include an isloation shut off valve.

Coil Connections (Positions A and B) — Swage fitting for field braze is standard. Unions added by the factory for field connection is optional.

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.

Strainer (Position G) — Should not be used in lieu of main piping strainers.

Isolation Valves (Positions H & J) — Normally requires one each on supply and return line except when combination valves are used. When position H is used for balancing (ball valve or ball valve with memory stop), check specifications for service valve requirements.

Fig. M — 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

LEGEND

Ball Valve

Motorized 2-Way Valve

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.

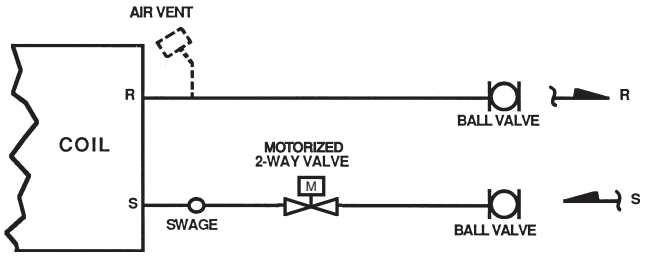


Fig. N — Two-Way Motorized Control Valve Package

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 is required to lock out the optional auxiliary electric heat when hot water is in the 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

LEGEND

Ball Valve

Motorized 2-Way Valve

NOTE: Additional aquastat required as noted above.

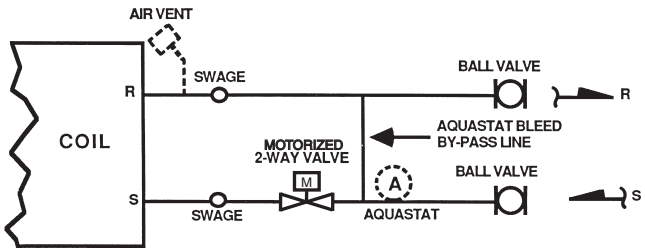


Fig. O — Two-Way Motorized Control Valve Package With Aquastat Bleed Bypass Line

APPENDIX D — PIPING AND VALVE CONNECTIONS (CONT)

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.

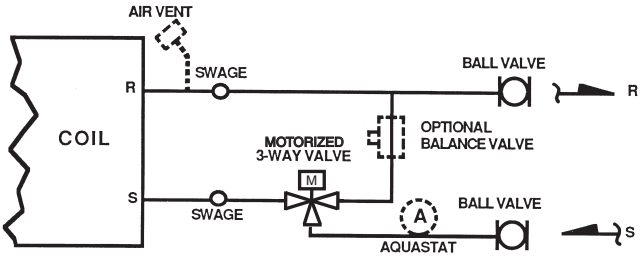
The aquastat (A) clips on supply line upstream from 3-way valve (as shown above). It senses system water temperature to prevent cooling operation with hot water in system piping or heating operation with chilled water in system piping. Aquastat(s) required for 2-pipe cooling and heating with automatic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



LEGEND

Balancing Valve

Ball Valve

Motorized 3-Way Valve

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).
4. When aquastat is used for automatic changeover, bypass is required.

Fig. P — Three-Way Motorized Control Valve Package

APPENDIX D — PIPING AND VALVE CONNECTIONS (CONT)

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

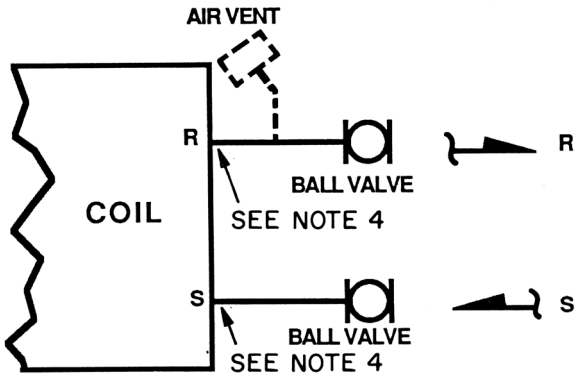
Check job specifications for system pressure, pressure drop limitations and flow rate prior to selecting specific components or valve package size (1/2 in., 3/4 in., etc.).

2-PIPE SYSTEM ONLY (One Valve Package) Application:
- 2-Pipe - Hydronic Heating Only
- 2-Pipe - Hydronic Cooling Only

LEGEND

- Balancing Valve
- Ball Valve
- Circuit Setter
- Gate Shut Off Valve

NOTES:
1. Continuous water flow, chilled water or hot water.
2. Not recommended for high humidity applications.
3. 2-Pipe System Only: Not recommended with unit-mounted thermostat on vertical units.
4. The addition of any other component(s) will require swage fitting for field braze or optional union connection.
5. Packages factory furnished and installed.
6. Valves are 5/8 in. ODS unless otherwise specified.
7. 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).
8. When aquastat is used for automatic changeover, bypass is required as indicated by dashed line.



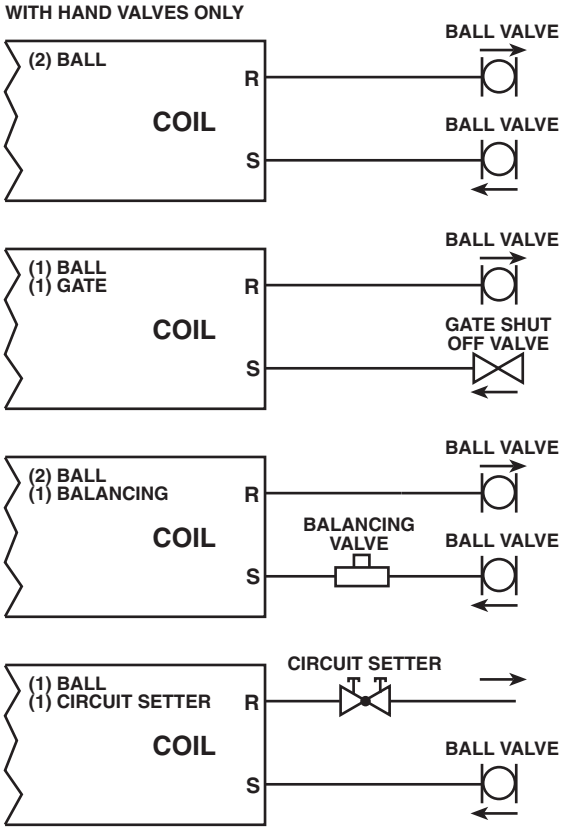


Fig. Q — Valve Package without Motorized Control

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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

NOTE: To avoid injury to personnel and damage to equipment or property when completing the procedures listed in this start-up checklist, use good judgment, follow safe practices, and adhere to the safety considerations/information as outlined in preceding sections of this Installation, Start-Up, and Service Instructions document.

I. Project Information

Job Name _____

Address _____

City _____ State _____ Zip _____

Installing Contractor _____

Sales Office _____

Start-up Performed By _____

NOTE: Fan coil units must be filled with water before operating the circulator. The circulator bearings are water lubricated and should not be allowed to operate dry. Filling the system properly will result in immediate lubrication of the bearings.

INSPECTION, INSTALLATION, AND START-UP CHECKLIST

ITEM	COMPLETE
Receiving and Inspection	
1. Unit received undamaged	
2. Unit received complete as ordered	
3. “Furnish only” parts accounted for	
4. Unit arrangement/hand correct	
5. Unit structural support complete and correct	
Handling and Installation	
6. Mounting grommets/isolators used	
7. Unit mounted level and square	
8. Proper access provided for unit and accessories	
9. Proper electrical service provided	
10. Proper overcurrent protection provided	
11. Proper service switch/disconnect provided	
12. Proper chilled water line size to unit	
13. Proper hot water line size to unit	
14. Proper refrigerant line sizes to unit	
15. Proper steam line sizes to unit	
16. Proper steam condensate trap on return line	
17. Proper steam supply pressure to unit (10 psi max)	
18. All service to unit in code compliance	
19. All shipping screws and braces removed	
20. Unit protected from dirt and foreign matter	
Cooling/Heating Connections	
21. Protect valve package components from heat	
22. Mount valve packages	
23. Connect field piping to unit	
24. Pressure test all piping for leaks	
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	

ITEM	COMPLETE
31. Control outside air for freeze protection	
32. Insulate all ductwork as required	
Electrical Connections	
33. Refer to unit wiring diagram	
34. Connection incoming power service(s)	
35. Install and connect “furnish only” parts	
36. All field wiring in code compliance	
Unit Start-Up	
37. General visual unit and system inspection	
38. Check for proper fan rotation	
39. Record electrical supply voltage	
40. Record ambient temperatures	
41. Check all wiring for secure connections	
42. Close all unit isolation valves	
43. Flush water systems	
44. Fill systems with water/refrigerant	
45. Vent water systems as required	
46. All ductwork and grilles in place	
47. All unit panels and filters in place	
48. Start fans, pumps, chillers, etc.	
49. Check for overload condition of all units	
50. Check all ductwork and units for air leaks	
51. Balance air systems as required	
52. Record all final settings for future use	
53. Check piping and ductwork for vibration	
54. Check all dampers for proper operation	
55. Verify proper cooling operation	
56. Verify proper heating operation	
57. Reinstall all covers and access panels	
58. Verify proper condensate drainage	

42 Series Fan Coil Air Conditioner Maintenance Data Log

MODEL NUMBER	SERIAL NUMBER	QTY		FAN AND MOTOR			FILTER TYPE	COOLING						HEATING							
		RH	LH	CFM	ESP	WATTS		EAT db/wb °F	EWT °F	GPM	PD H_2O	TOTAL BTUH	SENSIBLE BTUH	EAT db/wb °F	EWT °F	GPM	PD H_2O	STEAM PSI	BTUH	kW	VOLTAGE

NOTE: Indicate repairs made, refrigerant added or removed (include amounts), field controls and valve packages added.

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CUT ALONG DOTTED LINE CUT ALONG DOTTED LINE