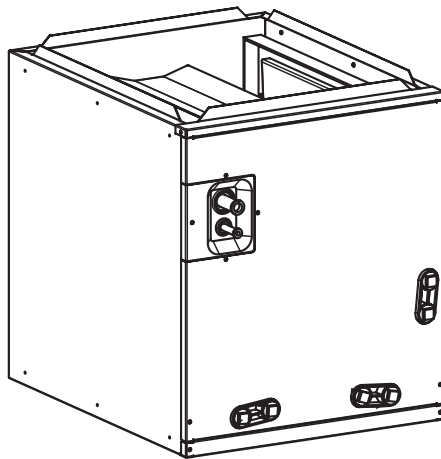


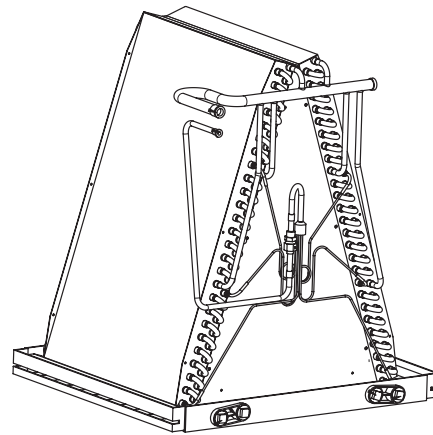
HEAT CONTROLLER, INC.

INSTALLATION INSTRUCTIONS

Multi-Position Cased & Uncased Coils for Cooling and Heat Pumps



MDG Series
1.5 to 5 Ton



CDG Series
1.5 to 5 Ton

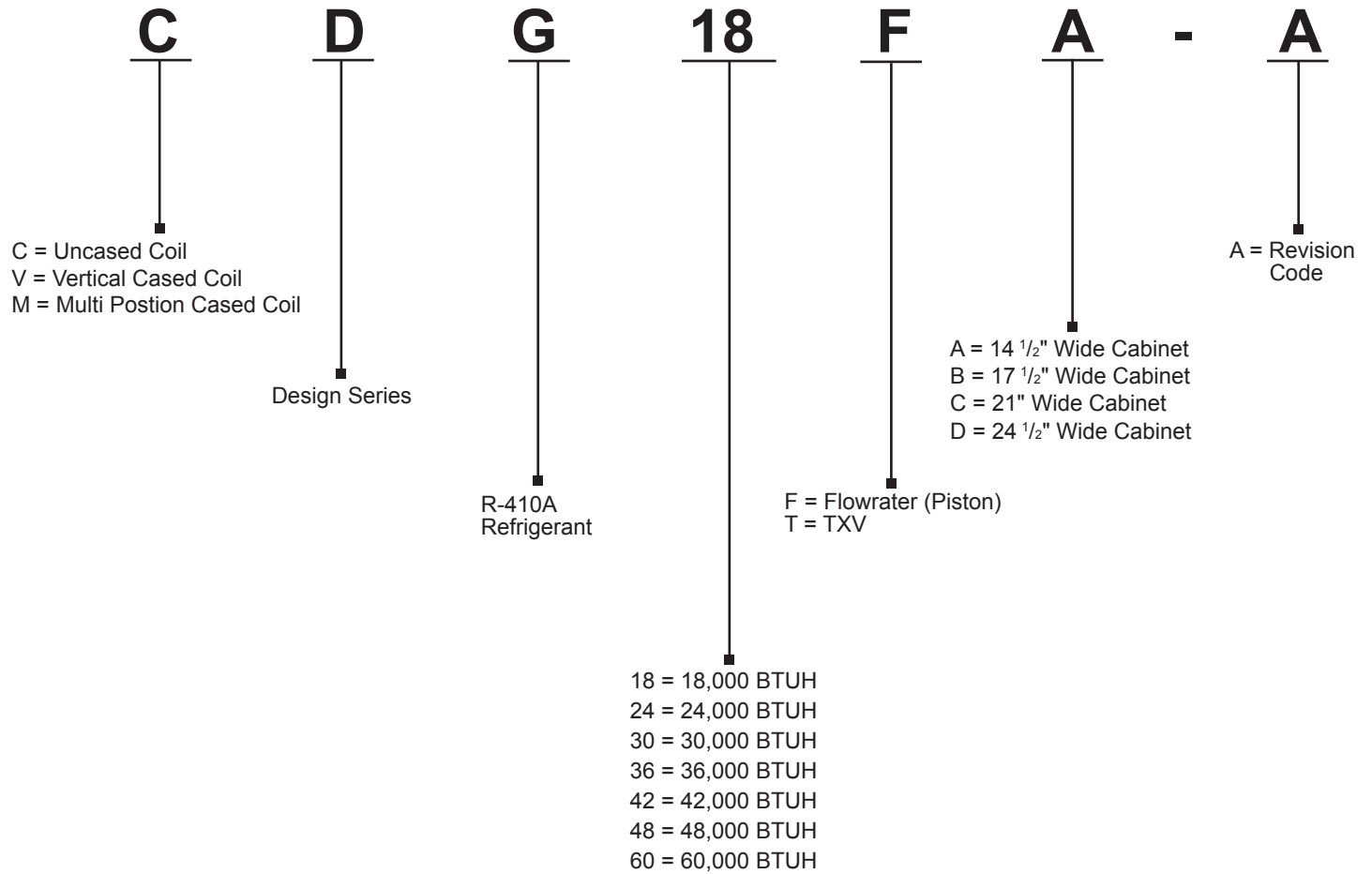
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1.0 Model Nomenclature



NOTE: Not all model configurations are available. The nomenclature exists for future product line development. Consult your local distributor or Heat Controller's customer service department regarding available options.

2.0 Safety

When you see the symbols below on labels or in manual, be alert to the potential or immediate hazards of personal injury, property and/or product damage. It is the owner's or installer's responsibility to comply with all safety instructions and information accompanying these symbols.



Warning

This is a safety alert symbol indicating a potential hazardous situation, which could result in personal injury, property and/or product damage or death.



Caution

This is a safety alert symbol indicating a potential hazardous situation, which could result in moderate personal injury, and/or property and product damage.



Warning

Disconnect all power to the unit before starting any service and maintenance. Failure to do so could cause severe electrical shock resulting in personal injury or death.



Warning

Installation or servicing of this unit can be hazardous due to parts, components and system pressure. Qualified and proper trained service personnel should perform installation and repair. Failure to do so could cause severe electrical shock resulting in personal injury or death.

3.0 General

The unit can be positioned for bottom return air in the upflow position, left and right return in the horizontal position, top return in downflow position.

3.1 Codes & Regulations

This product is designed and manufactured to comply with national codes. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations.

The United States Environmental Protection Agency(EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA.

3.2 Inspection Upon Unit Arrival

As soon as unit is received, it should be inspected for possible shipping damage during transportation. It is carrier's responsibility to cover the cost of shipping damage. Manufacturer or distributor will not accept a claim for any transportation damage.

3.3 Clearances

Clearances should be provided for the following during installation

- a.Maintenance and service access, including coil cleaning and coil assembly removal
- b.Refrigerant piping and connections
- c.Condensate drain line

3.4 Unit Dimension and Component Location

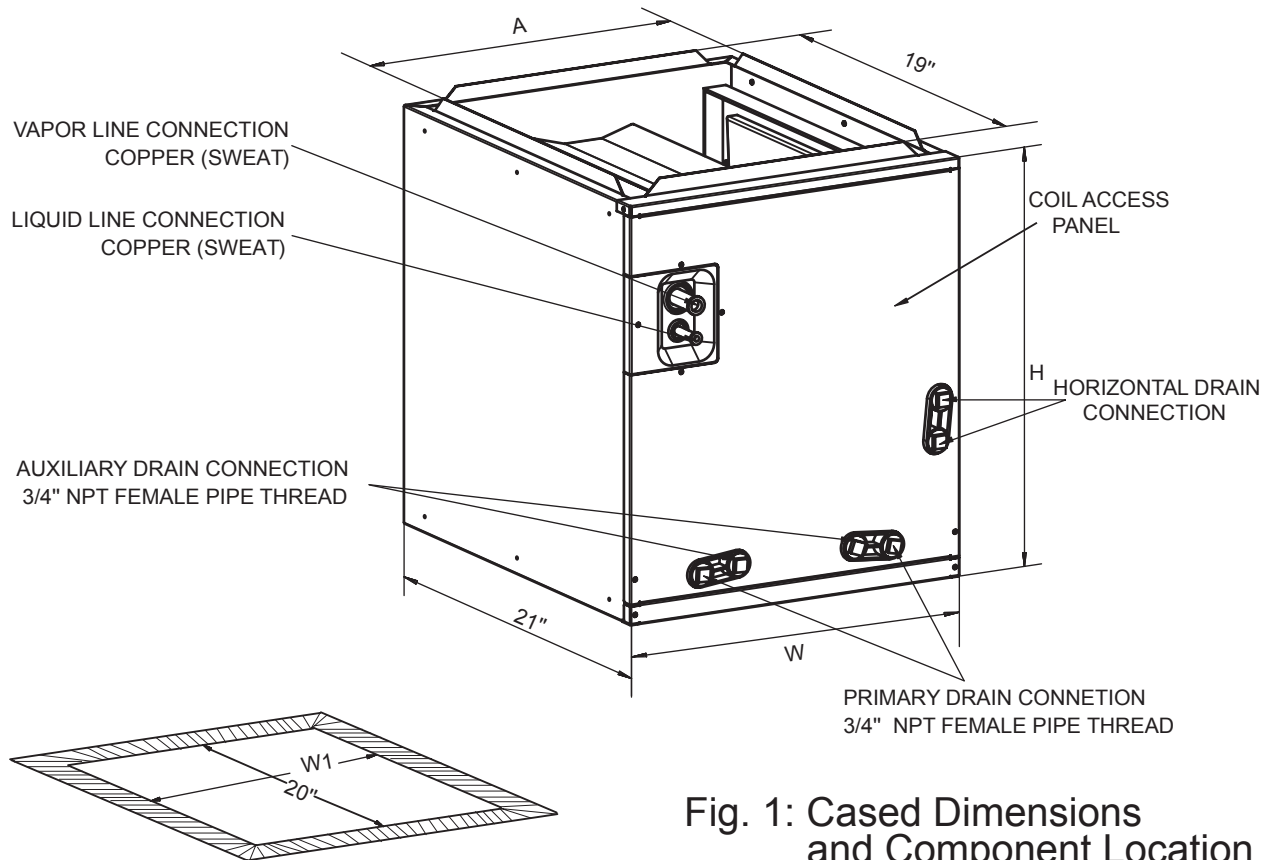


Fig. 1: Cased Dimensions and Component Location

Dimensional Data

Model No.	"H" Height in. [mm]	"W" Width in. [mm]	"A" Width in. [mm]	W1 Width in. [mm]	Unit Weight lbs. [kg]	Shipping Wt lbs. [kg]
MDG18FA-A	20" [508]	14 1/2" [368]	13" [330]	13 1/2" [343]	42 [19.1]	45 [20.5]
MDG18FB-A	20" [508]	17 1/2" [445]	16" [407]	16 1/2" [419]	47 [21.5]	50 [23]
MDG24FA-A	20" [508]	14 1/2" [368]	13" [330]	13 1/2" [343]	44 [20.1]	47 [21.5]
MDG24FB-A	20" [508]	17 1/2" [445]	16" [407]	16 1/2" [419]	49 [22.2]	52 [23.8]
MDG30FA-A	20" [508]	14 1/2" [368]	13" [330]	13 1/2" [343]	44 [20.1]	47 [21.5]
MDG30FB-A	20" [508]	17 1/2" [445]	16" [407]	16 1/2" [419]	49 [22.4]	53 [24]
MDG36FA-A	26" [660]	14 1/2" [368]	13" [330]	13 1/2" [343]	57 [26]	61 [27.7]
MDG36FB-A	26" [660]	17 1/2" [445]	16" [407]	16 1/2" [419]	60 [27.3]	64 [29.2]
MDG36FC-A	26" [660]	21" [533]	19 1/2" [495]	20" [508]	64 [28.9]	68 [31]
MDG42FB-A	30" [762]	17 1/2" [445]	16" [407]	16 1/2" [419]	70 [31.9]	75 [34]
MDG42FC-A	30" [762]	21" [533]	19 1/2" [495]	20" [508]	72 [32.6]	77 [34.8]
MDG42FD-A	30" [762]	24 1/2" [622]	23" [597]	23 1/2" [597]	75 [34.1]	80 [36.5]
MDG48FB-A	30" [762]	17 1/2" [445]	16" [407]	16 1/2" [419]	78 [35.6]	83 [37.8]
MDG48FC-A	30" [762]	21" [533]	19 1/2" [495]	20" [508]	83 [37.8]	88 [40]
MDG48FD-A	30" [762]	24 1/2" [622]	23" [597]	23 1/2" [597]	87 [39.4]	92 [41.8]
MDG60FC-A	30" [762]	21" [533]	19 1/2" [495]	20" [508]	83 [37.9]	88 [40]
MDG60FD-A	30" [762]	24 1/2" [622]	23" [584]	23 1/2" [597]	87 [39.4]	92 [41.8]

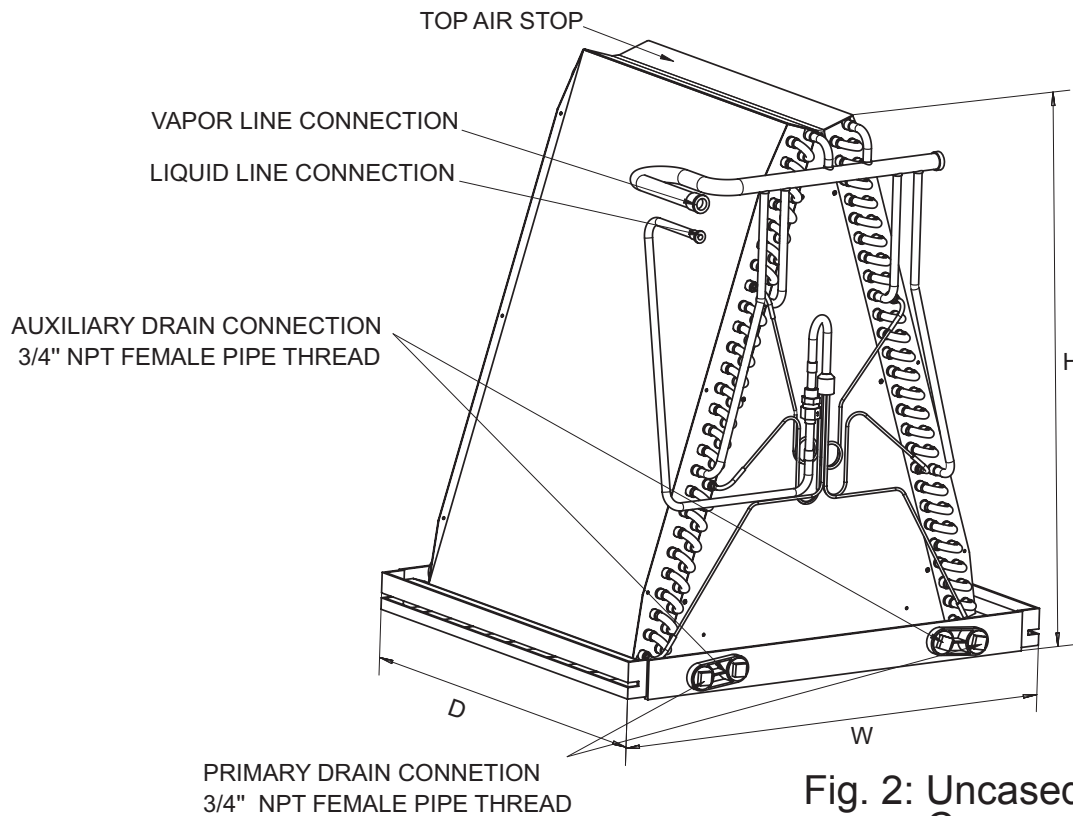


Fig. 2: Uncased Dimensions and Component Location

The Max. pressure resistance of evaporator is up to 2320 PSI (16MPa)

Dimensional Data

Model No.	"H" Height in. [mm]	"W" Width in. [mm]	"D" Depth in. [mm]	Weight lbs. [kg]	Shipping Wt. lbs. [kg]
CDG18FA-A	16 ¹ / ₄ " [412]	13 ³ / ₈ " [339]	20 ¹ / ₂ " [521]	20 [9.2]	23 [10.6]
CDG18FB-A	16 ³ / ₄ " [425]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	25 [11.2]	28 [12.6]
CDG24FA-A	16 ¹ / ₄ " [412]	13 ³ / ₈ " [339]	20 ¹ / ₂ " [521]	23 [10.4]	26 [11.8]
CDG24FB-A	16 ³ / ₄ " [425]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	26 [11.8]	30 [13.5]
CDG30FA-A	16 ¹ / ₄ " [412]	13 ³ / ₈ " [339]	20 ¹ / ₂ " [521]	23 [10.4]	26 [11.8]
CDG30FB-A	16 ³ / ₄ " [425]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	26 [11.8]	30 [13.5]
CDG36FA-A	22 ³ / ₄ " [578]	13 ³ / ₈ " [339]	20 ¹ / ₂ " [521]	30 [13.8]	34 [15.5]
CDG36FB-A	22 ⁵ / ₈ " [576]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	31 [14.3]	36 [16.2]
CDG36FC-A	22 ¹ / ₂ " [571]	19 ³ / ₈ " [504]	20 ¹ / ₂ " [521]	32 [14.9]	37 [17]
CDG42FB-A	26 ¹¹ / ₁₆ " [678]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	35 [15.9]	40 [18]
CDG42FC-A	26 ⁹ / ₁₆ " [674]	19 ⁷ / ₈ " [504]	20 ¹ / ₂ " [521]	37 [16.8]	42 [19]
CDG42FD-A	26 ¹ / ₈ " [664]	23 ³ / ₈ " [593]	20 ¹ / ₂ " [521]	39 [17.6]	44 [20]
CDG48FB-A	26 ⁷ / ₈ " [682]	16 ³ / ₈ " [415]	20 ¹ / ₂ " [521]	46 [21]	51 [23.2]
CDG48FC-A	26 ³ / ₄ " [679]	19 ⁷ / ₈ " [504]	20 ¹ / ₂ " [521]	48 [21.8]	53 [24]
CDG48FD-A	28" [670]	23 ³ / ₈ " [593]	20 ¹ / ₂ " [521]	50 [22.5]	55 [25]
CDG60FC-A	26 ³ / ₄ " [679]	19 ⁷ / ₈ " [504]	20 ¹ / ₂ " [521]	48 [21.8]	53 [24]
CDG60FD-A	28" [670]	23 ³ / ₈ " [593]	20 ¹ / ₂ " [521]	50 [22.5]	55 [25]

4.0 Installation Instructions

4.1 Parts

Contact your distributor for authorized replacement parts.

4.2 Pre-Installation Instructions

Carefully read all instructions for installation prior to installing product. Make sure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally. Make sure everything needed to install the product is on hand before starting.

4.3 Installation and Trap Connection

See Fig .3 for coil installation and drain connection for vertical and horizontal applications.

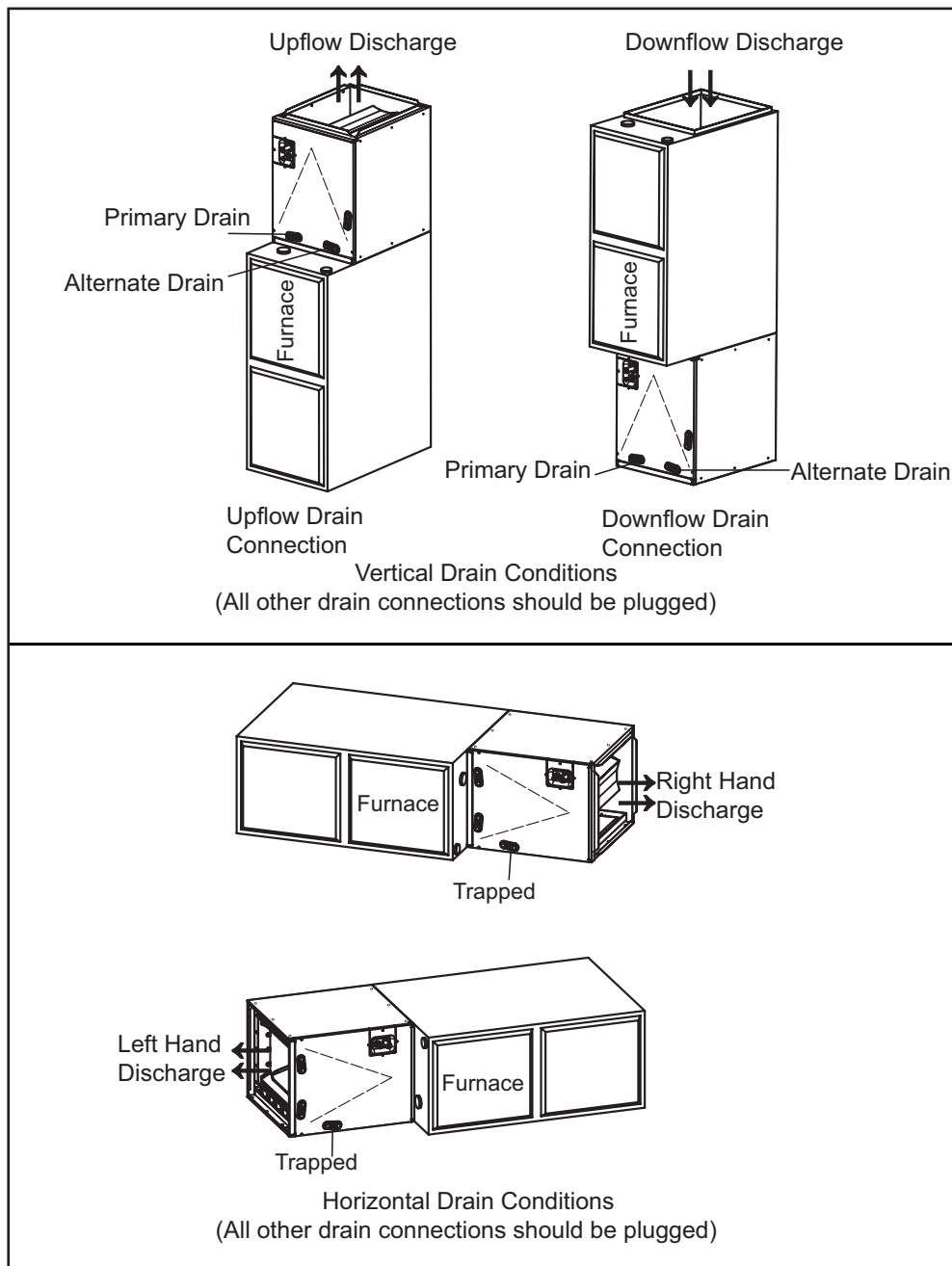


Fig. 3: Installation and Drain Connections

5.0 Drain Applications

5.1 Condensate Drain Piping

Consult local codes for special requirements.

To provide extra protection from water damage, install an additional auxiliary drain pan, provided by installer under the entire unit with a separate drain line. Manufacturer will not be responsible for any damages due to the failure to follow these requirements.

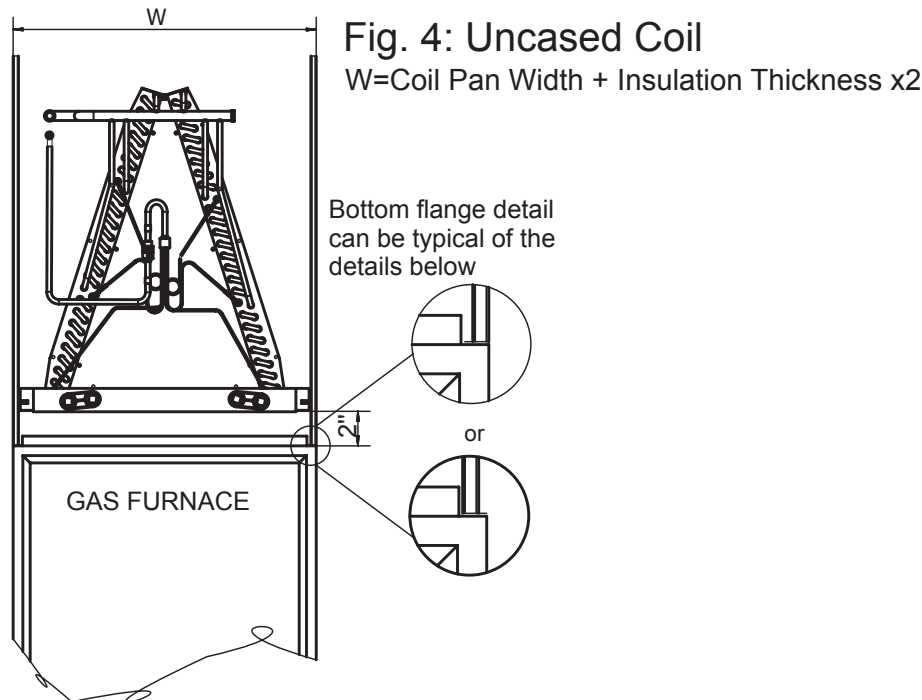
5.2 Plastic Drain Pan Installation



Warning

Do not use the coil pan shipped with the unit on OIL furnaces or any application where the temperature of the drain pan may exceed 275°F. A field fabricated metal drain pan can be used for these type of applications. Failure to follow this warning may result in property damage and/or personal injury.

If the uncased coil is to be installed on top of a gas furnace, allow enough space between the top of the furnace and the bottom of the plastic coil drain pan to have a free flow of air. A minimum of 2.0" distance from the top of the furnace and the bottom of the coil pan is required. The coil should be installed with the line set and drain openings to the front of the furnace.



The coil drain pan has a primary and an optional secondary drain with 3/4" NPT female connections; use either PVC or metal pipe and hand tighten to a torque of approximately 37 in-lbs. to prevent damage to the drain pan connection. An insertion depth between 3/8" to 1/2" inches (3-5 turns) should be expected at this torque setting.

Use male 3/4" NPT threaded fitting for outside connection and make sure the drain holes are not blocked.

Insulation may be needed for drain line to prevent sweating.

Drain pan has two drain connections on each side to provide flexibility of connection and drainage. Make sure pan has proper pitch and plugged if second connection is not used.

It is highly recommended to use the secondary drain line to prevent overflow when the primary drain is plugged.

NOTE: Water coming from this line means the coil primary drain is plugged and needs clearing.

Install a trap in the drain line below the bottom of the drain pan (required). If using a copper drain line, solder a short piece of pipe to the connector before installing a drain fitting. **DO NOT** over torque the 3/4" copper connector to the plastic drain connection. Use a wet rag or heatsink material on the short piece to protect plastic drain pan, complete the drain line installation (Fig.5). Use (Fig.6) as a template for typical drain pipe routing. This figure shows how to avoid interference with vent piping.

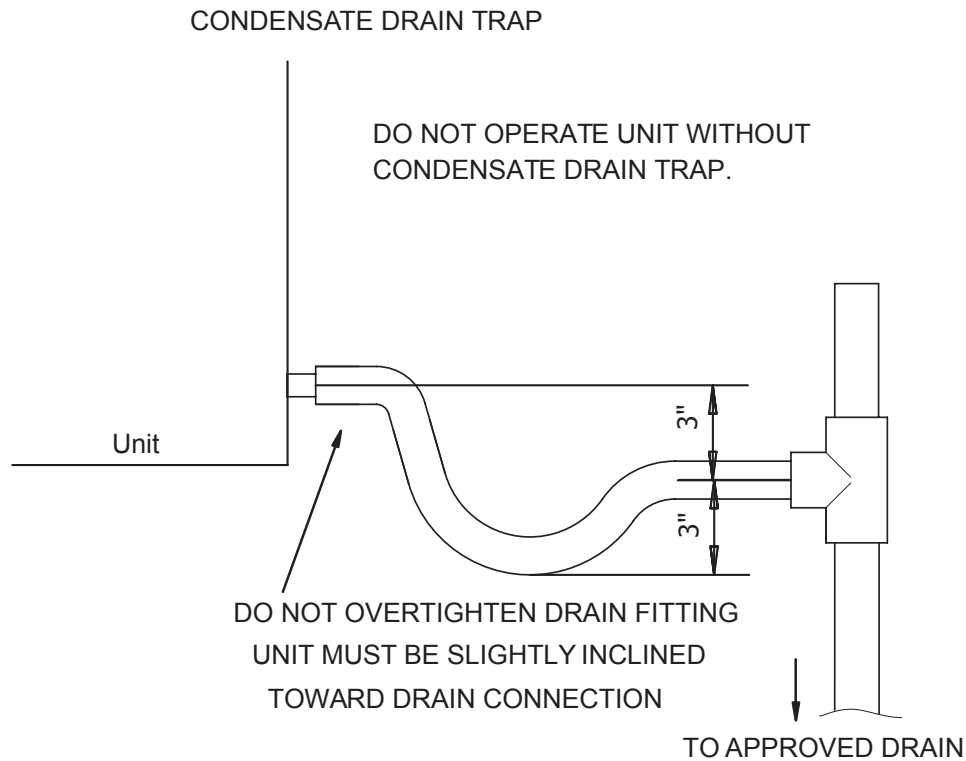


Fig. 5: Drain Line Installation

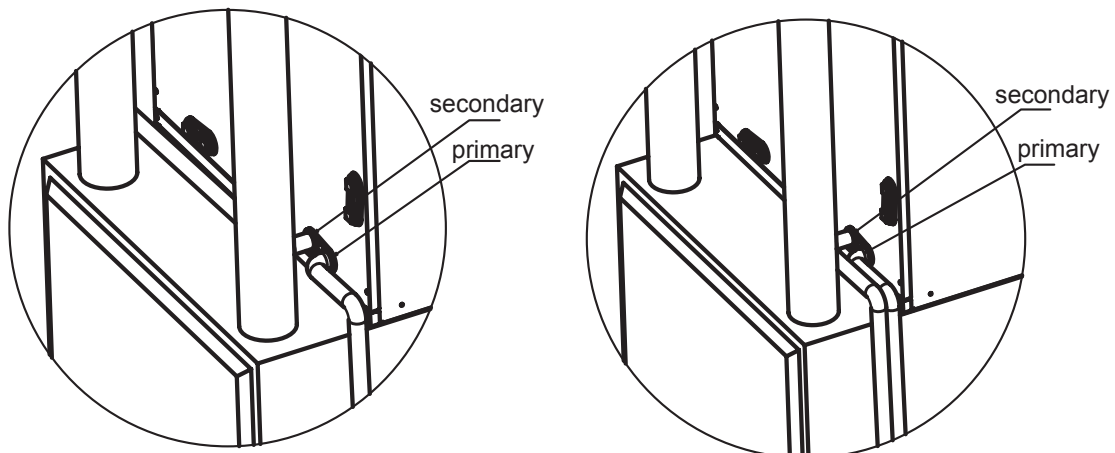


Fig. 6: Drain Pipe Routing

6.0 Refrigerant Connections

To prevent refrigerant leak, use proper tools to ensure clean, burr-free cut.

Use brazing shield when welding close to the cabinet surface and wet rag to protect rubber grommet.

Brazing alloy should be at least 5% silver content.

6.1 Flowrator Piston Change

In most applications, there is no need to change the piston (orifice). However, in some applications, changing the piston size is required. If the application requires a different piston/flowrator, change the piston in the distributor of indoor coil before installing the coil. See Table 1 for orifice size.

To change the piston, use following steps:

1. Remove cover panel.
2. Use Two wrenches.
Loosen one turn to release pressure. (High pressure gas)
3. After releasing pressure.
Loosen and carefully pull a part the two fittings to expose piston.
4. Remove factory installed piston and replace with recommended piston from Table 1 as shown in Fig.7.
5. Carefully reassemble assembly. (Hand tighten)
Be sure to use teflon tape on thread for a complete seal.
6. Hand tighten and make sure assembly is properly connected and then torque to 10-30 ft/lb.

NOTE: Be careful not to bend tubing

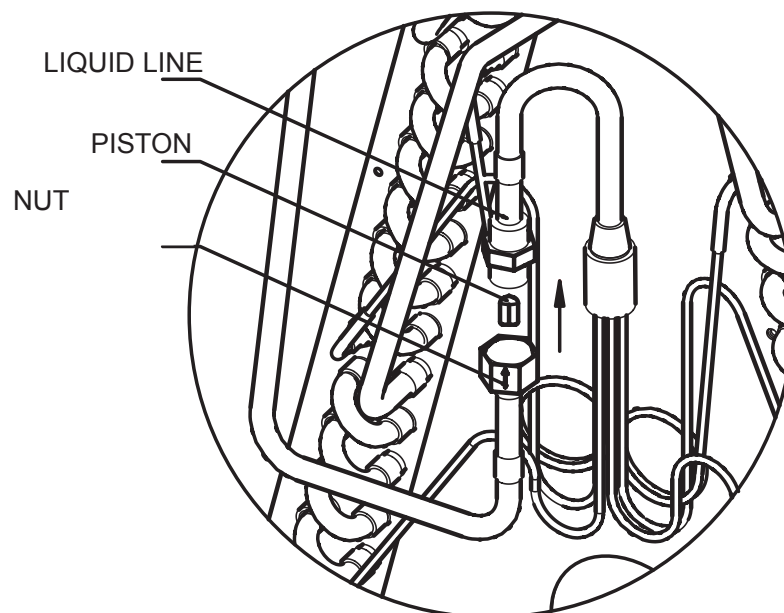


Fig. 7: Flowrator Piston Change

Table 1: Flowrator Piston Size Chart

NOTE: Pistons are factory installed for use with RSG-1D series condenser. To use the coil with a HRG-1D series heat pump, a piston change may be required. Refer to Table 1.

Condensing Unit Model No.	HCI Indoor Coil		PISTON SIZE
	Cased Coil	Uncased Coil	
RSG18S-1D RSG18R-1D	MDG18FA-A MDG18FB-A	CDG18FA-A CDG18FB-A	0.050
RSG24S-1D RSG24R-1D	MDG24FA-A MDG24FB-A	CDG24FA-A CDG24FB-A	0.053
RSG30S-1D RSG30R-1D	MDG30FA-A MDG30FB-A	CDG30FA-A CDG30FB-A	0.059
RSG36S-1D	MDG36FA-A	CDG36FA-A	0.070
	MDG36FB-A	CDG36FB-A	
	MDG36FC-A	CDG36FC-A	
RSG42S-1D	MDG42FB-A	CDG42FB-A	0.072
	MDG42FC-A	CDG42FC-A	
	MDG42FD-A	CDG42FD-A	
RSG48S-1D	MDG48FB-A	CDG48FB-A	0.088
	MDG48FC-A	CDG48FC-A	
	MDG48FD-A	CDG48FD-A	
RSG60S-1D	MDG60FC-A	CDG60FC-A	0.098
	MDG60FD-A	CDG60FD-A	

Heat Pump Model No.	HCI Indoor Coil		PISTON SIZE
	Cased Coil	Uncased Coil	
HRG18S-1D	MDG18FA-A	CDG18FA-A	0.050
	MDG18FB-A	CDG18FB-A	
HRG24S-1D	MDG24FA-A	CDG24FA-A	0.053
	MDG24FB-A	CDG24FB-A	
HRG30S-1D	MDG30FA-A	CDG30FA-A	0.064
	MDG30FB-A	CDG30FB-A	
HRG36S-1D	MDG36FA-A	CDG36FA-A	0.071
	MDG36FB-A	CDG36FB-A	0.066
	MDG36FC-A	CDG36FC-A	0.068
HRG42S-1D	MDG42FB-A	CDG42FB-A	0.079
	MDG42FC-A	CDG42FC-A	0.078
	MDG42FD-A	CDG42FD-A	0.080
HRG48S-1D	MDG48FB-A	CDG48FB-A	0.088
	MDG48FC-A	CDG48FC-A	0.092
	MDG48FD-A	CDG48FD-A	0.096
HRG60S-1D	MDG60FC-A	CDG60FC-A	0.118
	MDG60FD-A	CDG60FD-A	0.111

Design, material, performance data and components
subject to change without notice.

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