PRODIRECT™ Series Multi-Position Cased Coils

Installation & Owner's Manual

MODELS:

HCMP3036AFOA
HCMP3036BFOA
HCMP3036CFOA
HCMP3642BFOA
HCMP3642CFOA
HCMP3642DFOA
HCMP4248BFOA
HCMP4248CFOA
HCMP4248DFOA
HCMP4860CFOA
HCMP4860DFOA



Read this manual carefully before installation and keep it where the operator can easily find it for future reference.

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice.

Version Date: 10/02/2024
Please visit www.mrcool.com/documentation
to ensure you have the latest version of this manual.

MRCOOL®
COMFORT MADE SIMPLE

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Safety Precautions

Read Before Using

Incorrect usage may cause serious damage or injury.

The symbols below are used throughout this manual to indicate instructions that should be followed closely or actions that should be avoided to prevent death, injury, and/or property damage.

WARNING	Indicates the possibility of personal injury or loss of life.
CAUTION	Indicates the possibility of property damage or serious consequences.

WARNING

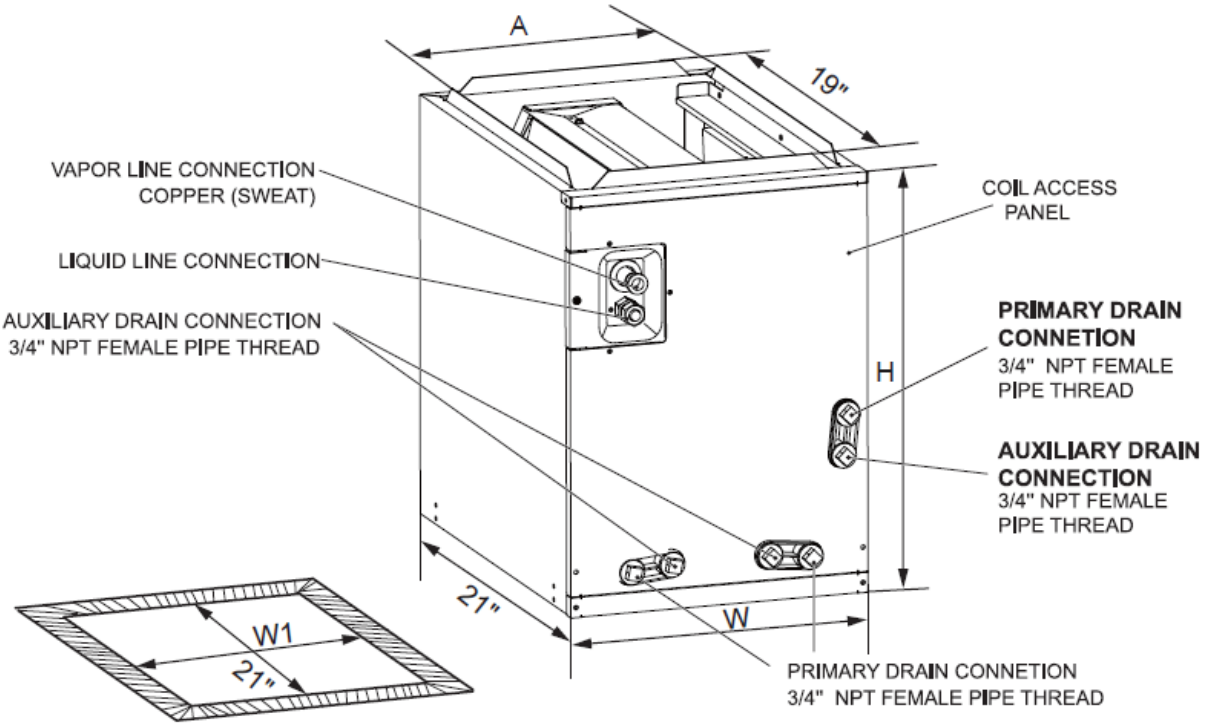
- These instructions are intended as an aid to qualified licensed service personnel for proper installation, adjustment, and operation of this unit. Read these instructions thoroughly before attempting installation or operation. Failure to follow these instructions may result in improper installation, adjustment, service, or maintenance possibly resulting in fire, electric shock, property damage, personal injury, or death.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Proposition 65: This appliance contains fiberglass insulation. Respirable particles of fiberglass are known to the state of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.
- Disconnect all power to the unit before starting any service and maintenance. Failure to do so could cause severe electrical shock resulting in personal injure or death.
- 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.
- This is a safety alert symbol indicating a potential hazardous situation ,which could result in personal injury, property and/or product damage or death.

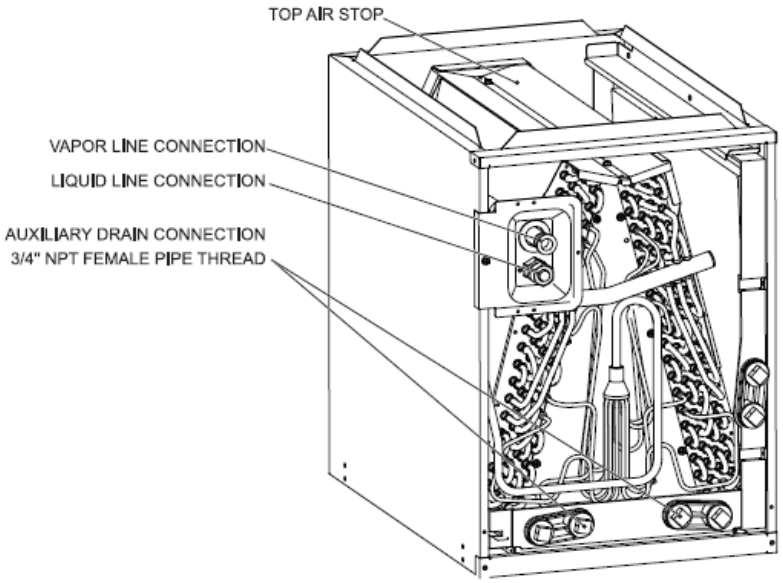
2 UNIT OVERVIEW

The coil can be positioned for bottom return air in the upflow and horizontal right applications. It must be positioned for top return when in downflow and horizontal left applications. For furnace applications, the coil must be installed downstream (in the air outlet) of the furnace.

NOTE:
This coil comes with a factory-installed heat shield on the drain pan.

2.1 Unit Dimensions





Unit Dimensions						
Model	Height "H" (in. [mm])	Width "W" (in. [mm])	Supply Duct "A" (in. [mm])	"W1" (in. [mm])	Liquid Line/ Vapor Line	Weight (lbs.[kg])
HCMP3036AFOA	20" [508]	14-1/2" [368]	13" [330]	13-1/2" [343]	3/8" / 3/4"	46 [21]
HCMP3036BFOA	20" [508]	17-1/2" [445]	16" [407]	16-1/2" [419]	3/8" / 3/4"	49 [22]
HCMP3036CFOA	20" [508]	21" [533]	19-1/2" [495]	20" [508]	3/8" / 3/4"	51 [23]
HCMP3642BFOA	26" [660]	17-1/2" [445]	16" [407]	16-1/2" [419]	3/8" / 7/8"	60 [27]
HCMP3642CFOA	26" [660]	21" [533]	19-1/2" [495]	20" [508]	3/8" / 7/8"	62 [28]
HCMP3642DFOA	26" [660]	24-1/2" [622]	23" [584]	23-1/2" [597]	3/8" / 7/8"	66 [30]
HCMP4248BFOA	30" [762]	17-1/2" [445]	16" [407]	16-1/2" [419]	3/8" / 7/8"	73 [33]
HCMP4248CFOA	30" [762]	21" [533]	19-1/2" [495]	20" [508]	3/8" / 7/8"	73 [33]
HCMP4248DFOA	30" [762]	24-1/2" [622]	23" [584]	23-1/2" [597]	3/8" / 7/8"	77 [35]
HCMP4860CFOA	30" [762]	21" [533]	19-1/2" [495]	20" [508]	3/8" / 7/8"	81 [37]
HCMP4860DFOA	30" [762]	24-1/2" [622]	23" [584]	23-1/2" [597]	3/8" / 7/8"	86 [39]

2.2 Codes & Regulations

This product is designed and manufactured to comply with national codes and regulations.

Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. MRCOOL® 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, contact your local EPA office.

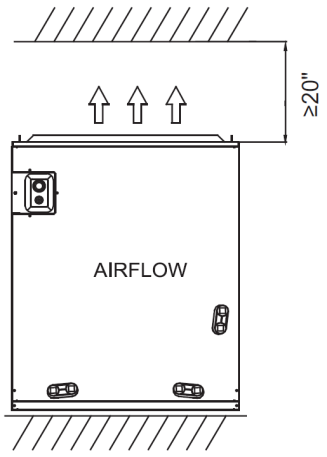
2.3 Initial Inspection

As soon as the unit is received, it should be inspected and noted for possible shipping damage during transportation. It is the carrier's responsibility to cover the costs of shipping damage. MRCOOL® will not accept a claim from contractors for any transportation damage.

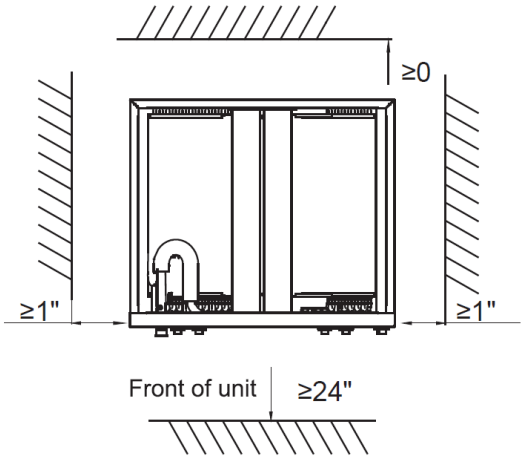
2.4 Clearances

During installation, maintain clearance for maintenance and service access, including coil cleaning and coil assembly removal, refrigerant piping and connections, and the condensate drain line.

To ensure a proper installation, select a solid and level location site, and ensure there is enough space for installation and maintenance.



Front View of Indoor Unit (including air duct)



Top View of Indoor Unit (including air duct)

3 INSTALLATION

3.1 Replacement Parts

Contact MRCOOL® for authorized replacement parts.

3.2 Pre-Installation Instructions

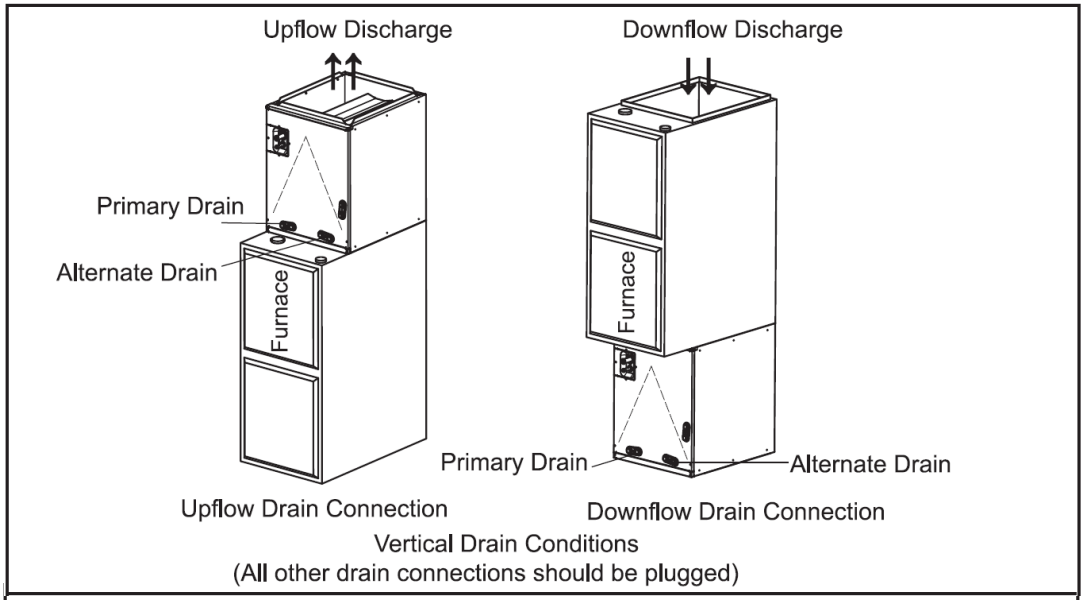
Carefully read all instructions for installation prior to installing the unit. Ensure each step or procedure is understood and take into account any special considerations before starting the installation process. Assemble all tools, hardware, and supplies needed to complete the installation. Some items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

3.3 Installation & Trap Connection

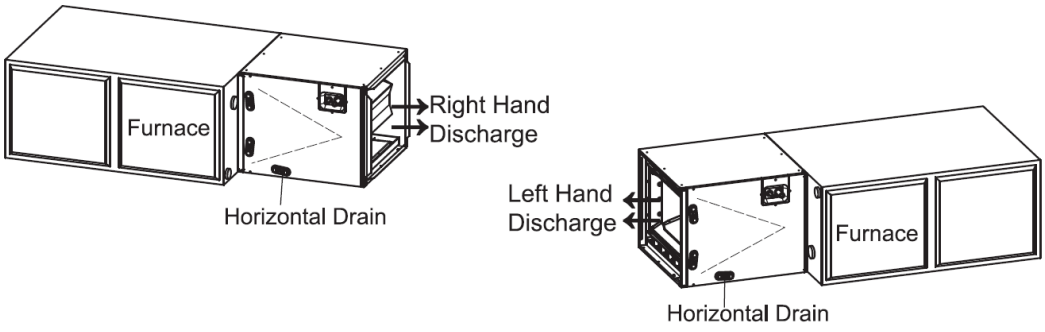
See the figures below for coil installation and drain connection.

Installation steps for cased coil:

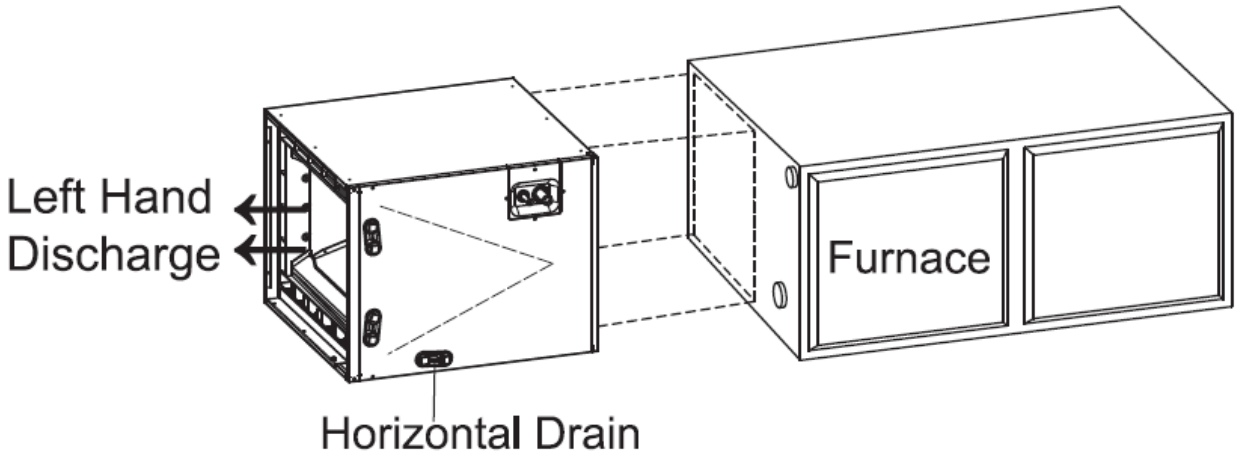
1. Shut off or disconnect gas furnace's power and remove the gas pipe if necessary.
2. Disconnect and remove a sufficient portion of the supply ductwork to provide clearance for the cased coil.
3. Ensure that the coil is leveled well and seal the gap between the coil and the furnace. (If the coil and furnace sizes do not match, use the proper size of sheet metal or other material to fill the gap, then seal the gap to prevent air leakage.)
4. Reconnect the power line on the gas furnace. Turn on the furnace to check for any sign of leakage.

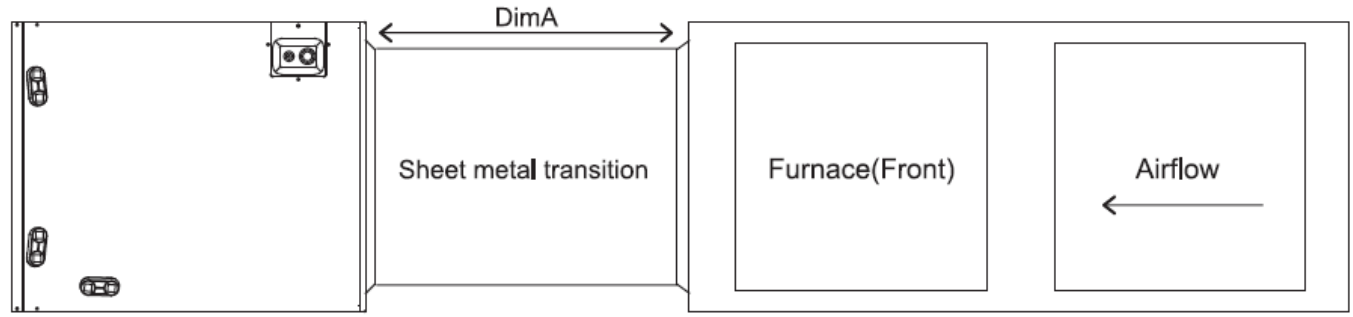


Vertical Drain Conditions
(All other drain connections should be plugged)



Horizontal Drain Conditions
(All other drain connections should be plugged)





Furnace	Dim A
Condensing	6.5"
Non-condensing A-cabinet	6"

Transition for Horizontal Left Orientation

If the coil is used in connection with an upflow furnace in horizontal left orientation, a sheet metal transition can be installed between the furnace supply air outlet and the evaporator coil supply air inlet to create clearance between the coil lineset and the furnace flue outlet for A-cabinet non-condensing furnaces and for all cabinet size condensing furnaces.

For A-cabinet non-condensing furnaces, a 6" transition is needed.

For all cabinet size condensing furnaces, a 6.5" transition is needed.

If space is a constraint, the lines/flue interference can be removed by rotating the coil so the lineset is facing the opposite direction and air flows through the bottom of the A-coil, thus optimizing airflow.

4 DRAIN APPLICATION

4.1 Condensate Drain Piping

Consult local codes for special requirements.

To provide extra protection from water damage, it is always recommended to install an additional drain pan, provided by the installer, under the entire unit with a separate drain line. MRCOOL® will not be responsible for any damages due to the failure to follow these recommendations.

4.2 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 also be used for these types of applications.
Failure to follow this warning may result in property damage and/or personal injury.

NOTE:
Use Teflon tape on the drain line connections. Do not use pipe joint compound or PVC/CPVC cement on the drain nipple.

The coil drain pan has a primary and an optional secondary drain pan with 3/4" NPT female connections; use either PVC or copper pipe and hand-tighten to a torque of approximately 37 in-lbs. to prevent damage to the drain pan connection. An insertion depth between 0.355 to 0.485 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 the drain line to prevent sweating.

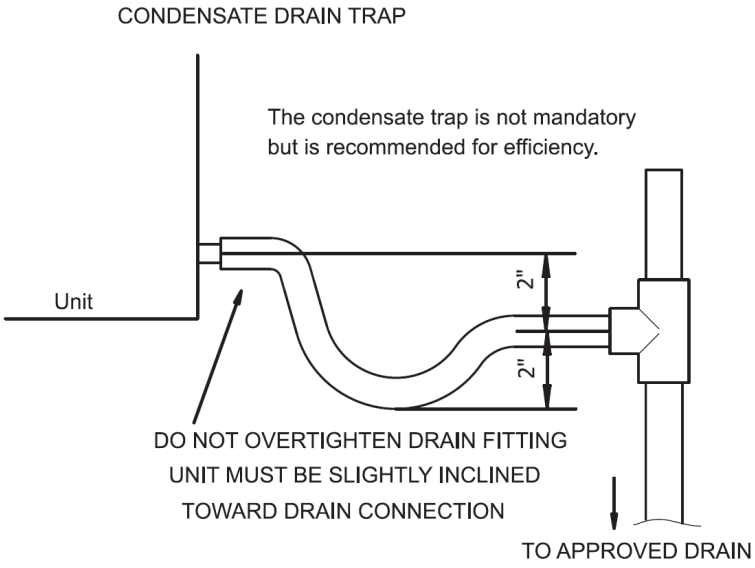
The drain pan has two drain connections on each side to provide flexibility of connection and drainage. Make sure the pan has a proper pitch and is plugged if the second connection is not used.

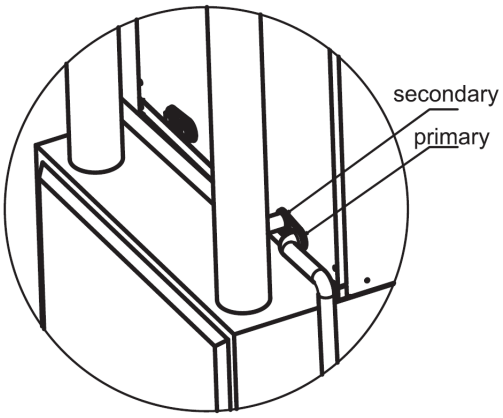
If the secondary drain line is required, run the line separately from the primary drain and terminate it where it can be easily seen.

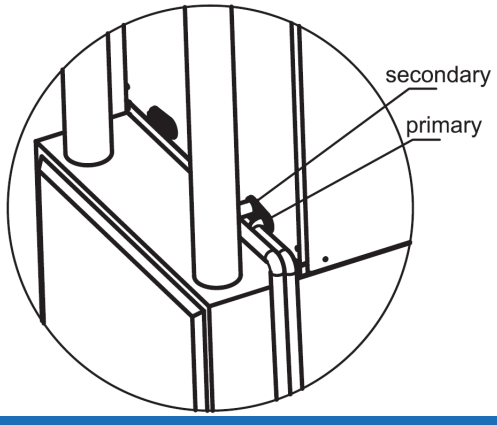
NOTE: Water coming from this line means the coil's primary drain is plugged and needs cleaning.

Install a trap in the drain line below the bottom of the drain pan. 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 heat-sink material on the short piece to protect the plastic drain pan, and complete the drain line installation. Use the figures below as a template for a typical drain pipe routing.

This figure shows how to avoid an interference with vent piping.







5 - Refrigerant Connections

CAUTION

When using the unit with an electrical heater, the switch is used only for the electrical heater on the front of the panel.

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

CAUTION

TXV bulb MUST be protected (wrapped with wet cloth) or removed while brazing the tubing. Overheating of the sensing bulb will affect the functional characteristics and performance of the comfort coil.

6 - Piston/TXV Installation

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

Brazing alloy should be at least 5% silver content.

NOTE: A piston does come pre-installed. The piston must be removed before installing a TXV.

6.1 Piston Installation

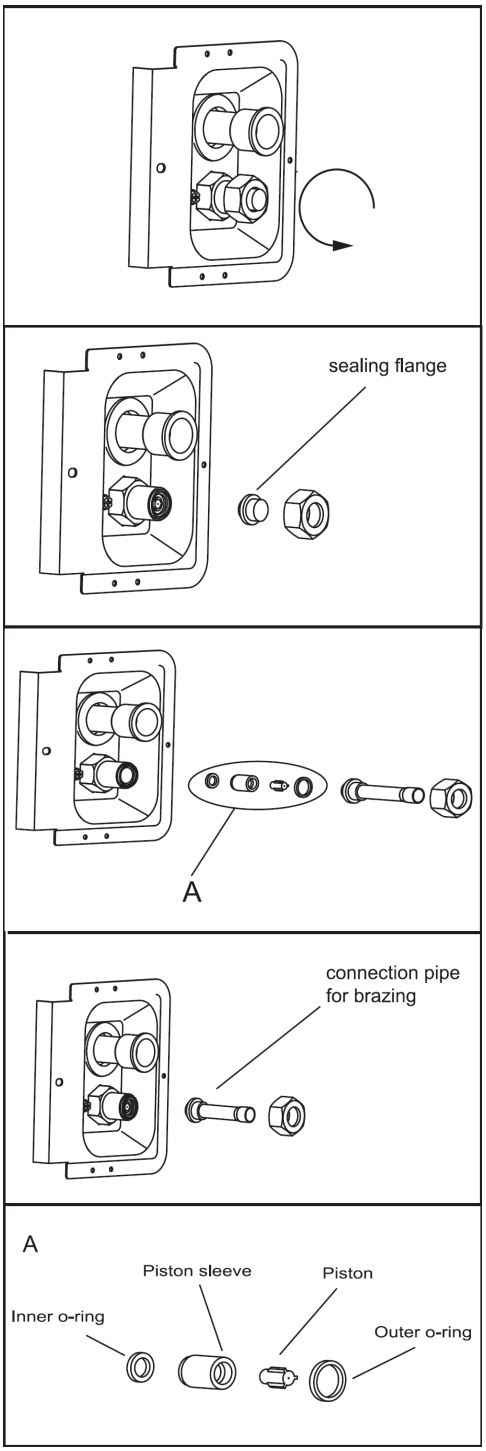
NOTE: A piston does come pre-installed. The piston must be removed before installing a TXV.

1. Using a wrench to loosen the nut. Remove the nut and sealing flange.
2. Check the piston sizes for each outdoor/coil combination in Table 6.1 and choose the correct orientation.
3. If a different-sized piston is needed for your specific system combination, remove the pre-installed piston.

NOTE: Avoid pulling the piston sleeve out when removing the pre-installed piston.

4. Choose the correct size piston and insert it with the correct orientation.
5. Replace the outer O-ring with the O-ring provided.
6. Attach the connection pipe with the nut and hand-tighten, plus an additional 1/6th turn.

IMPORTANT: Wrap the nut with a wet rag before brazing.



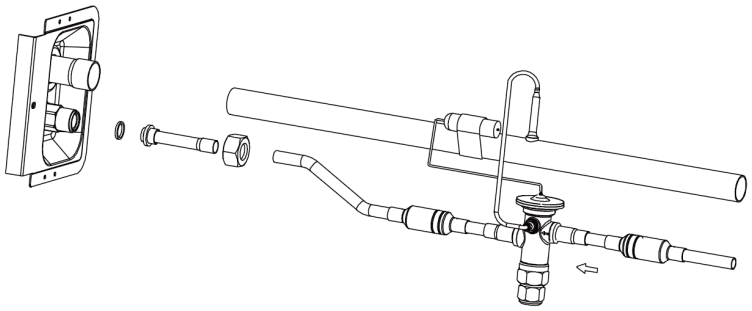
This coil comes with a factory-installed piston metering device. See table 6.1 for factory-installed piston sizes. Some system combinations will require a different sized piston to be field-installed.

- Use the piston size recommended by the outdoor unit, if available.
- Reference table 6.2 if the outdoor unit does not list a piston size.
- Additional R-410A pistons for most applications are shipped with the unit. Contact MRCOOL to order the appropriate piston if needed.

6.2 Optional TXV Kit Installation

Reference the TXV kit literature for installation instructions.

1. Use a wrench to loosen the nut and remove the sealing flange and sealing gasket.
2. Take out the connecting pipe and braze it onto the refrigeration-out pipe.
3. Install the sealing washers, TXV, and flange connection tube.
4. Use a wrench to fasten the nut and connecting pipe (18±2N•m).
5. Connect TXV equalizer pipe to the port on the connecting pipe.
6. Attach bulbs on the connecting pipe using materials included with the TXV kit.



A TXV may be required to achieve minimum efficiency ratings or for long refrigerant line set applications. Reference AHRI for system combination ratings.

Reference Table 6.2 to charge the system by superheat when using the piston.

Reference the outdoor unit installation guide to charge the system when using a TXV.

MCPM	Piston/Orifice Sizes												
Model	50	52	56	58	60	64	68	70	73	75	80	83	90
3036A		X		X	X	X*		X					
3036B		X		X	X	X*		X					
3036C		X		X	X	X*		X					
3642B		X			X	X		X		X*			
3642C					X	X		X		X*			
3642D					X	X		X		X*			
4248B				X		X		X		X		X*	
4248C						X		X		X		X*	
4248D								X		X		X*	
4860C										X	X	X	X*
4860D										X	X	X	X*

Table 6.1

WARNING

Failure to install the proper piston can lead to poor system performance and possible compressor damage.

CAUTION

When using the unit with an electrical heater, the switch is used only for the electrical heater on the front of the panel.

Outdoor Temp (°F)	Indoor Temperature (°F) Dry Bulb/Wet Bulb					
	50	52	56	58	60	64
	Superheat					
115	23	16	7	5	5	5
110	24	17	9	5	5	5
105	26	19	11	5	5	5
100	27	21	13	7	5	5
95	29	23	16	9	5	5
90	30	25	18	12	5	5
85	35	26	20	14	8	5
80	34	28	22	17	11	5
75	35	30	24	19	13	6
70	37	32	26	21	16	10
65	38	34	29	24	19	13
60	40	36	31	27	22	17
55	41	37	33	29	25	21

Table 6.2

NOTE: The chart is based on 400CFM/Ton indoor airflow and 50% relative humidity. If indoor relative humidity is above 70% or below 20%, use indoor wet bulb temperature only.

7 - Air Flow Performance

Pressure Drop Characteristics for Cooling and Heat Pump Coils								
Pressure Drop (inches of water)								
Model	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4*
HCMP3036AFOA	307	485	618	729	823	911	991	1063
HCMP3036BFOA	327	527	682	810	925	1024	1122	1217
HCMP3036CFOA	360	585	748	893	925	1024	1122	1217
HCMP3642BFOA	401	600	773	916	1045	1160	1256	1357
HCMP3642CFOA	457	663	856	1019	1156	1277	1394	1502
HCMP3642DFOA	496	718	924	1102	1259	1398	1530	1651
HCMP4248BFOA	456	638	810	953	1077	1191	1284	1390
HCMP4248CFOA	505	726	932	1098	1244	1375	1494	1604
HCMP4248DFOA	533	857	1105	1319	1509	1675	1824	1956
HCMP4860CFOA	439	699	906	1071	1224	1362	1487	1589
HCMP4860DFOA	466	764	978	1157	1313	1466	1590	1695

Data based on wet coil with entering air at 80°F DB / 67°F WB without air filter.

The maximum allowable pressure drop is 0.4 IWG.

The maximum CFM is the data at 0.4 IWG pressure.

NOTE: Water blow-off could occur in certain installation positions if the airflow setting exceeds the maximum values listed.

Maximum Airflow Setting (CFM)				
Model	Upflow	Horizontal Left	Downflow	Horizontal Right
HCMP3036AFOA	1200	1050	1050	1200
HCMP3036BFOA	1250	1200	1050	1250
HCMP3036CFOA	1250	1200	1050	1250
HCMP3642BFOA	1575	1400	1400	1575
HCMP3642CFOA	1575	1400	1400	1575
HCMP3642DFOA	1575	1450	1450	1575
HCMP4248BFOA	1800	1800	1700	1500
HCMP4248CFOA	1800	1800	1700	1700
HCMP4248DFOA	1800	1800	1700	1700
HCMP4860CFOA	1850	1750	1750	1850
HCMP4860DFOA	2000	1850	1850	2000



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The design and specifications of this product and/or manual are subject to change without prior notice.
Consult with the sales agency or manufacturer for details.