

INSTALLATION INSTRUCTION

G1NA SERIES ADD-ON UPFLOW COILING COILS UPFLOW MODELS: G1NA024S17 - G1NA060S24

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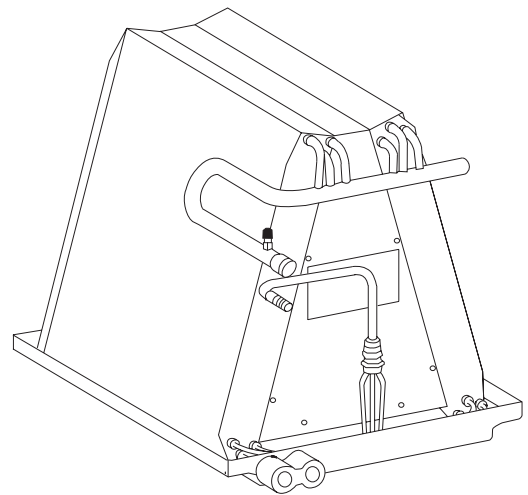
CAUTION:READ ALL SAFETY GUIDES BEFORE
YOU START TO INSTALL YOUR UNIT.

SAVE THIS MANUAL

GENERAL

This instruction covers the installation of the following coils with an upflow furnace or similar air moving system.

G1NA024S17G	G1NA036S21C
G1NA030S17H	G1NA048S21D
G1NA036S17J	G1NA042S24W
G1NA030S17K	G1NA060S24T
G1NA036S17L	



The coils have sweat connections and are shipped with an inert gas holding charge.

INSPECTION

As soon as a coil is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's delivery receipt. A separate request for inspection by the carrier's agent should be made in writing. See local distributor for more information.

REFERENCE

Use this instruction in conjunction with the instructions for the appropriate outdoor unit and air moving system.

Installer should pay particular attention to the words:

NOTE, CAUTION and **WARNING**.

NOTES are intended to clarify or make the installation easier.

CAUTIONS are given to prevent equipment damage.

WARNINGS are given to alert the installer that personal injury and/or equipment damage may result if installation procedures are not handled properly.

CLEARANCE

Clearance must be provided for:

1. Refrigerant piping and connections.
2. Maintenance and servicing access.
3. Condensate drain line.
4. Furnace vent system.

LIMITATIONS

These coils must be installed in accordance with the all national and local safety codes.

Check the following tables for operating limitations.

ENTERING AIR TEMPERATURE LIMITS			
WET BULB TEMP. (F°)		DRY BULB TEMP. (F°)	
MIN.	MAX.	MIN.	MAX.
57	72	65	95

COIL AIR FLOW LIMITS			
COIL SIZE	OUTDOOR UNIT TONS	CFM LIMITS	
		MINIMUM	MAXIMUM
024*G	1-1/2	480	720
030*H	2	640	950
030*K	2	640	960
	2-1/2	800	1200
036*L	2-1/2	800	1200
	3	960	1440
036*J/C	3	960	1440
048*S/D	3-1/2	1100	1680
	4	1280	1920
042*W	2-1/2	800	1200
	3	960	1440
	3-1/2	1100	1680
060*T	5	1480	2200

ORIFICE SELECTION

Each coil will have an orifice installed in the fitting between the liquid line connection and distributor. (See Figure 1).

The factory installed orifice is identified on the unit data plate. Also listed in Table 1.

The orifice that is shipped with the coil is based on the "most sold" combination, but it may have to be changed, depending on the capacity and efficiency of the outdoor unit. An additional orifice is shipped with the outdoor unit in the literature packet for most requirements. Other sizes must be ordered from the parts department if required.

⚠ CAUTION

This fitting is a right-hand thread, turn counterclockwise to remove.

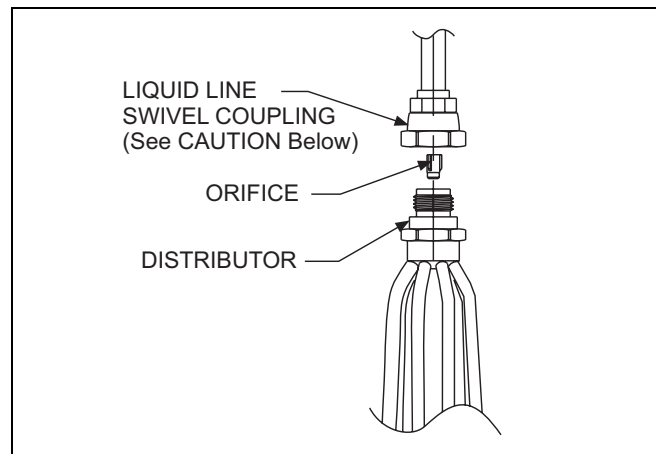


FIGURE 1: Orifice Installation

Table 1: INSTALLED ORIFICE SIZES

INDOOR COIL SIZE	ORIFICE SIZE INSTALLED *
024S17G	051
030S17H	057
030S17K	063
036S17J/21C	067
036S17L	071
048S21D	078
042S24W	084
060S24T	087

ORIFICE INSTALLATION

A standard orifice is pre-installed in the unit and is marked on the unit data plate. Refer to the outdoor unit instruction and application data to determine the proper orifice required for your particular system combination and piping conditions.

⚠ WARNING

Coil is under 30 PSIG pressure. Relieve pressure from schrader valve on liquid line side.

If the orifice sizes match, nothing further is required and the refrigerant lines may be connected per the outdoor unit instruction. However, if another orifice should be used, change the orifice in the coil with the following procedure.

⚠ CAUTION

This fitting is a right-hand thread, turn counterclockwise to remove.

1. Remove the liquid line fitting using 3/4" wrenches, and remove the pre-installed orifice with a small diameter wire or paper clip.
2. Remove the new orifice from the packet and verify that it is the correct number required. Install this orifice with the rounded end toward the coil and the flat end outward per Figure 1.

- Thread the liquid line fitting back in place on the coil. Tighten the fitting hand tight and turn an additional 1/8 turn to seal.
- Mark data plate with orifice number installed.

CAUTION

Use 3/4" wrenches to turn fittings. Using pliers will cause internal damage to the fitting.

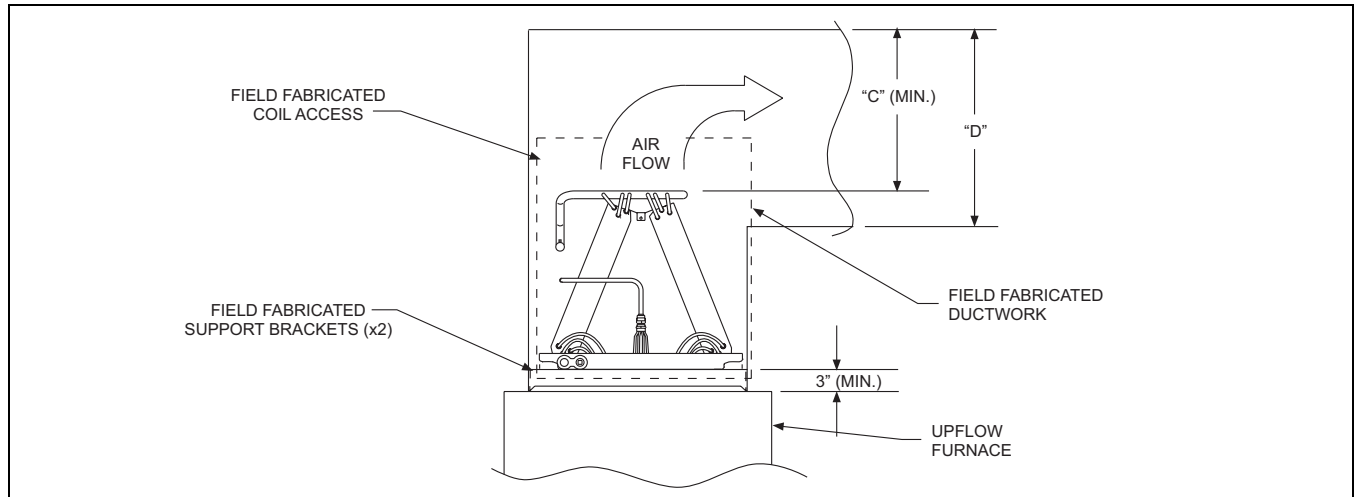


FIGURE 2: Upflow Coil Installation

DUCT CONNECTIONS






All Ducts should be installed in accordance with all local and/or national codes. Use flexible duct collars to minimize the transmission of vibration/noise into the conditioned space.

CRITICAL COIL PROJECTION

The coil assembly must be located in the duct such that a minimum distance is maintained between the top of the coil and the top of the duct. Refer to Table 2.

NOTE: Dimension "D" should be at least 1.5 times dimension "C". (See Figure 2).

Table 2: COIL PROJECTION DIMENSIONS

COIL SIZE	TYPE	DIMENSION "C" INCH
G1NA024S17G G1NA030S17H		3-1/2
G1NA030S17K G1NA036S17J G1NA036S17L		5-1/2
G1NA036S21C		6-1/2
G1NA048S21D		9
G1NA042S24W G1NA060S24T		12

REFRIGERANT LINE CONNECTION

NOTE: Confirm the orifice size before connecting lines.

See the outdoor unit installation instructions for the procedure to install field supplied tubing for system with sweat fittings

WARNING

Coil is under 30 PSIG pressure. Relieve pressure from schrader valve on liquid line side.

Stub adapters are available to adapt sweat connections to quick connections.

Connect lines as follows:

NOTE: Route the refrigerant lines to the coil in a manner that will not obstruct service access to the coil, condensate drain or vent system.

- Suction line connections are made outside the ductwork. Remove the soft solder cap at the end of the suction line.
- Braze the suction line.
- Cut the liquid line at the groove in the bell, removing the schrader fitting.
- Braze the liquid line.

Lines should be sound isolated by using the appropriate hangers or strapping.

When field supplied lines are used be sure to insulate the suction line only.

AIR SYSTEM ADJUSTMENT

To check the CFM, measure the static pressure drop across the coil using a portable manometer and static pressure tips. Drill 2 holes, one 3" after the coil (before any elbows in the ductwork) and one 3" before the coil. Insert the pressure tips and read the pressure drop from the manometer. See table 3 to determine the air flow, and make the necessary adjustments to keep the CFM within the air flow limitations of the coil.

Table 3: AIR FLOW DATA STATIC PRESSURE DROP

G1NA024S17G	600	0.11
	800	0.20
	1000	0.31
G1NA030S17H	800	0.17
	1000	0.27
	1200	0.38
G1NA030S17K	800	0.16
	1000	0.25
	1200	0.36
G1NA036S17J	1000	0.21
	1200	0.31
	1400	0.42
G1NA036S17L	1000	0.22
	1200	0.30
	1400	0.38
G1NA036S21C	1000	0.18
	1200	0.24
	1400	0.29
G1NA042S24W	1200	0.29
	1400	0.39
	1600	0.51
G1NA048S21D	1200	0.28
	1400	0.38
	1600	0.50
G1NA060S24T	1800	0.63
	1600	0.25
	1800	0.32
	2000	0.39
	2200	0.47

COIL INSTALLATION

These upflow coils are designed for installation on top of upflow furnaces.

If the coil is used with a furnace of a different size, use a 45° transition or air baffle to allow proper air distribution through the coil.

1. Create opening in furnace duct large enough to allow coil installation (See Figure 2). See Figure 3 for coil dimensions.
2. Install field fabricated support brackets using screws or rivets (See Figure 2). Brackets should be installed level or pitched slightly toward the drain end (high in the back, low in the front). Pitch should not exceed 1/4" per length of coil.
3. Position the coil over the furnace opening as shown in Figure 2.

	A	B	C	D
024S17G	12-3/4	14-5/8	16-1/4	19-7/8
030S17H	14-3/4	15-3/4	16-1/4	19-7/8
030S17K	16-5/8	17-7/8	16-1/4	19-7/8
036S17J	18-5/8	19-5/8	16-1/4	19-7/8
036S17L	18-3/4	19-7/8	16-1/4	19-7/8
036S21C	18-1/2	19-1/8	19-3/8	19-7/8
048S21D	18-3/8	19-3/8	19-3/8	19-7/8
042S24W	22-3/4	23-7/8	21-3/8	20-3/8
060S24T	24-3/8	24-5/8	21-3/8	20-3/8

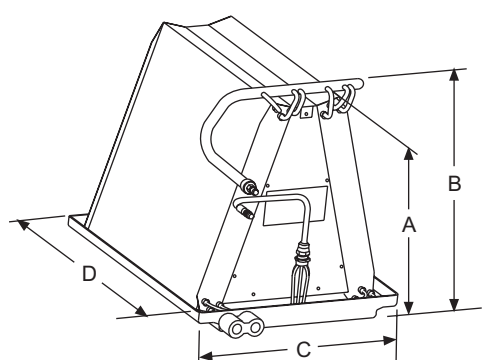


FIGURE 3 : Coil Dimension

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Supersedes: 035-15213-002 Rev.A (600)

4. Check for air leakage between the coil drain pan and supply duct and seal appropriately.

CAUTION

Do Not drill any holes or drive any screws into the front of the supply duct in order to prevent damaging coil tubing (See Figure 2).

DRAIN CONNECTIONS

All drain lines should be trapped a minimum of three (3) inches and should be no smaller than the coil drain connection. Use 3/4" NPT.

WARNING

The use of PVC pipe cement will degrade the plastic material of the drain pan.

CAUTION

Threaded drain connections should be hand tightened, plus no more than 1/4" turn.

Route the drain line so that it doesn't interfere with accessibility to the coil, furnace vents, access doors or filter and will not be exposed to freezing temperatures.

Instruct the owner that the evaporate coil drain pan should be inspected and cleaned regularly to prevent odors and assure proper drainage.

The coil is provided with a secondary drain, it should be trapped and piped to a location that will give the occupant a visual warning that the primary drain is clogged. If the secondary drain is not used it must be capped.

COIL CLEANING

If the coil needs to be cleaned, it should be washed with Calgon Coilclean (mix one part Coilclean to seven parts water). Allow solution to remain on coil for 30 minutes before rinsing with clean water. Solution should not be permitted to come in contact with painted surfaces.