



Installation Instructions

Multi-Position Cased Coils

2-5 Ton Capacity

R-410A Non-bleed TXV Inside

NOTE: Appearance of unit may vary.

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All phases of this installation must comply with National, State and Local Codes.

This document is customer’s property and is to remain with this unit. Please return it to customer with service information upon completion of work.

These instructions are intended as an assist to qualified and licensed personnel for proper installation, adjustment and operation of these units. Read it thoroughly before attempting installation or service work. **Failure to follow these instructions may result in fire, electrical shock, property damage, personal injury or death.**

The instructions do not cover all variations in systems or provide for every possible contingency to be met in connection with the installation.



1. Safety and Inspection

This product is designed and manufactured to comply with national codes. Installation in accordance with 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 may lead to the imposition of substantial fines.

Carefully read these instructions prior to installing or servicing the product. Make sure each step or procedure is understood and any special considerations are taken into account. Read the following safety instructions before installing the unit or doing service work.

 **WARNING** may cause personal death or serious injury.

 **CAUTION** may lead to injury or structural damage under some conditions.

WARNING

Disconnect all power to unit before installing or servicing. Hazardous voltage can cause server personal injury or death.

Installation and maintenance must be performed by authorized personnel only. 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.

Consumer service is recommended only for filter cleaning/replacement. Never operate the unit with the access panels removed.

Failure to inspect pipes or use proper service tools may result in equipment damage or personal injury. If using existing refrigerant pipes, make sure that all joints are brazed, not soldered.

Units are packaged for shipment to avoid damage during normal transit and handling. It is the receiving party's responsibility to inspect the equipment upon arrival. Any obvious damage to the carton box should be reported on the bill of lading and a claim should be filed with the transportation company, and the factory should be noticed.

All units should be stored in the factory shipping carton with internal packaging in a dry place until installation. Carefully remove the packaging and inspect for hidden damage. Any hidden damage should be recorded and the factory should be notified.

2. Dimensions

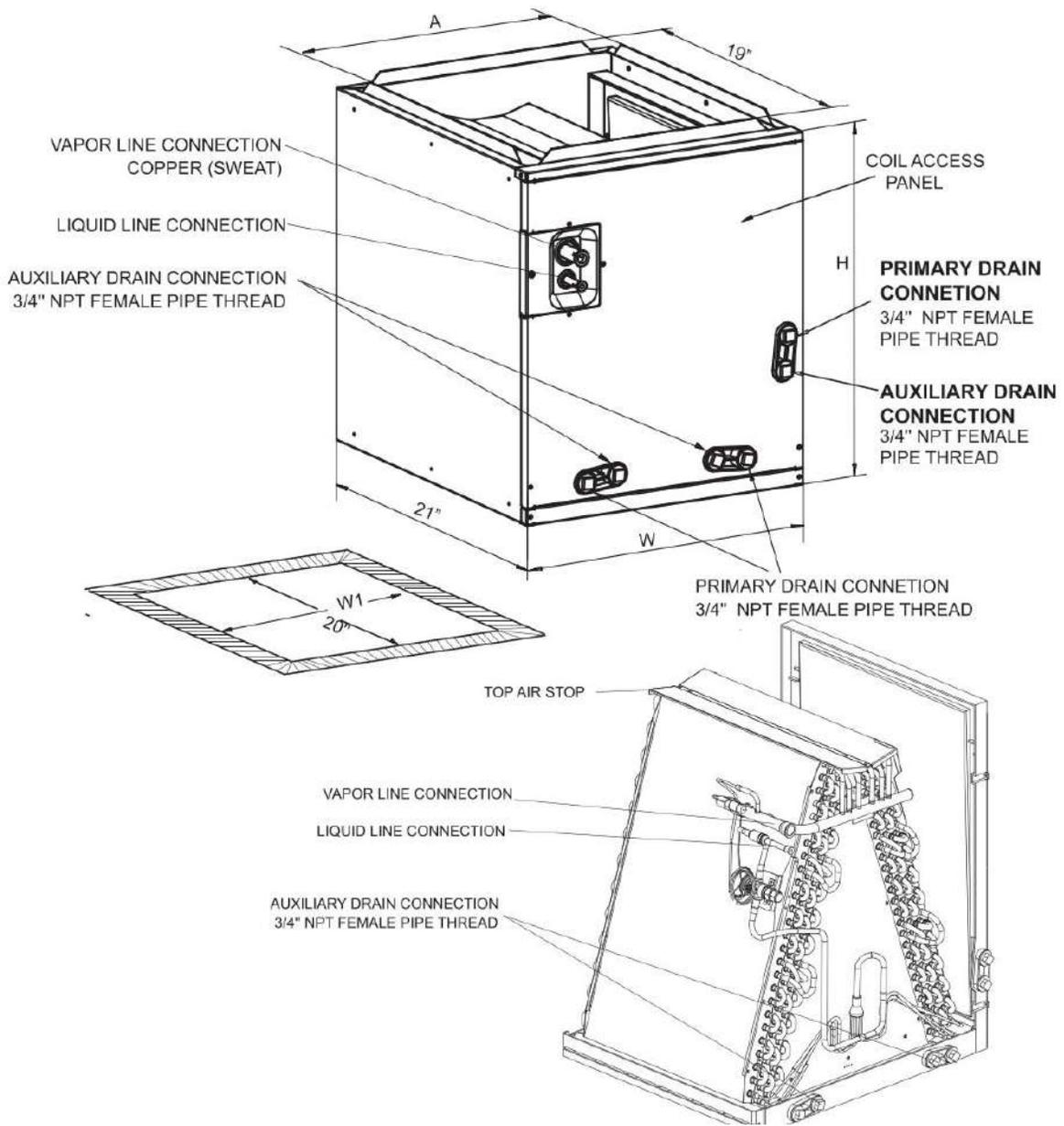


Figure 2-1 Unit Dimensions

Model	Dimensions (in.)						Net Weight (LBS)
	H	W	Duct "A"	W1	Liquid Line	Vapor Line	
GNC2430APT	20	14½	13	13½	3/8	3/4	44.1
GNC2430BPT	20	17½	16	16½	3/8	3/4	46.7
GNC3036BPT	20	17½	16	16½	3/8	3/4	46.7
GNC4248CPT	30	21	19½	20	3/8	7/8	71.4
GNC4860CPT	30	21	19½	20	3/8	7/8	82.2
GNC4860DPT	30	24½	23	23½	3/8	7/8	86.4

3. Applications

These coils are approved for up-flow or down-flow, horizontal left-flow and right-flow installation. Keep enough space for proper installation and maintenance.

For furnace applications, the coil must be installed downstream (in the air outlet) of the furnace.

IMPORTANT

In case that coil and furnace sizes are not matched, use proper size of sheet metal or other material to fill the gap and seal the gap to prevent air leak.

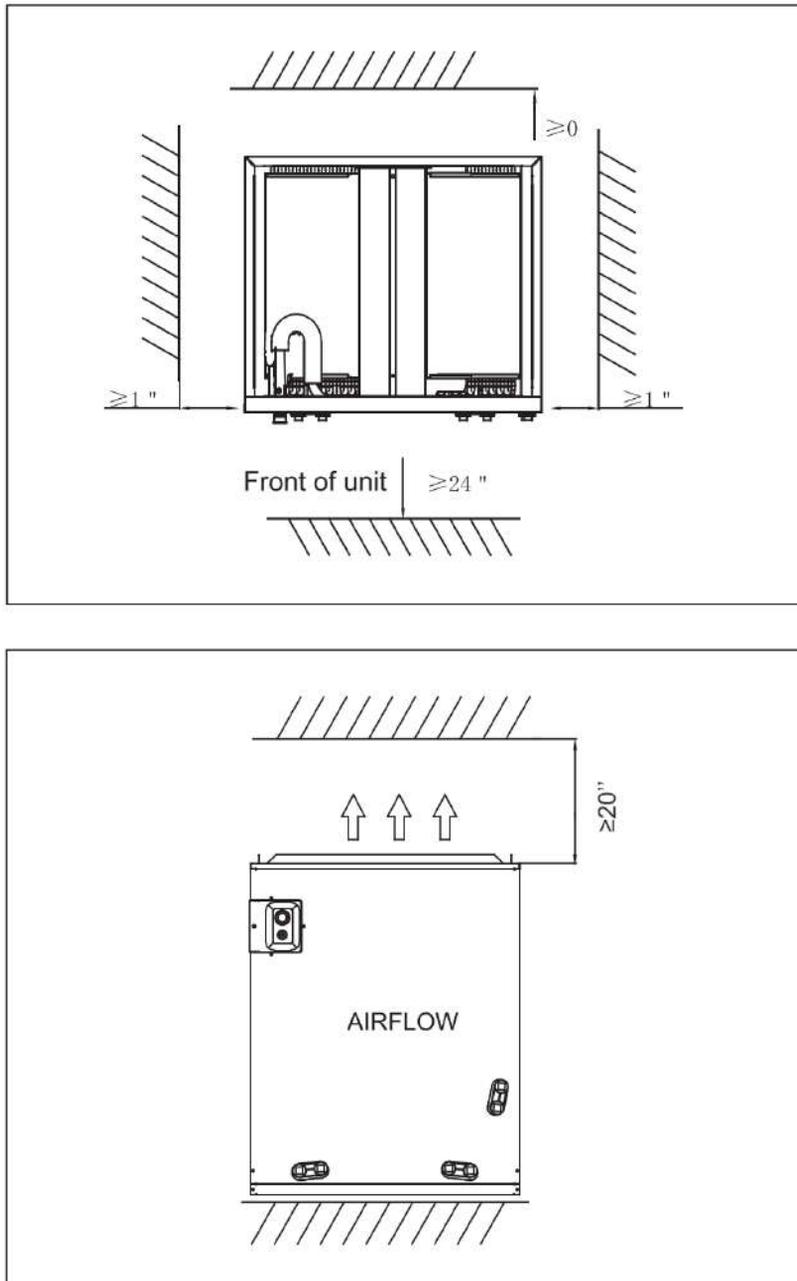


Figure 3-1 Clearance requirements

Installation Steps

- I. Shut off or disconnect gas furnace's power (Remove gas pipe if necessary)
- II. Disconnect and remove portion of the supply ductwork to provide sufficient clearance for the cased coil.
- III. Ensure that the coil is level. Seal the gap between coil and furnace.
- IV. Reconnect the ductwork to the coil, and seal any air leakage.
- V. Reconnect power line on gas furnace, turn ON the furnace to check any leakage.

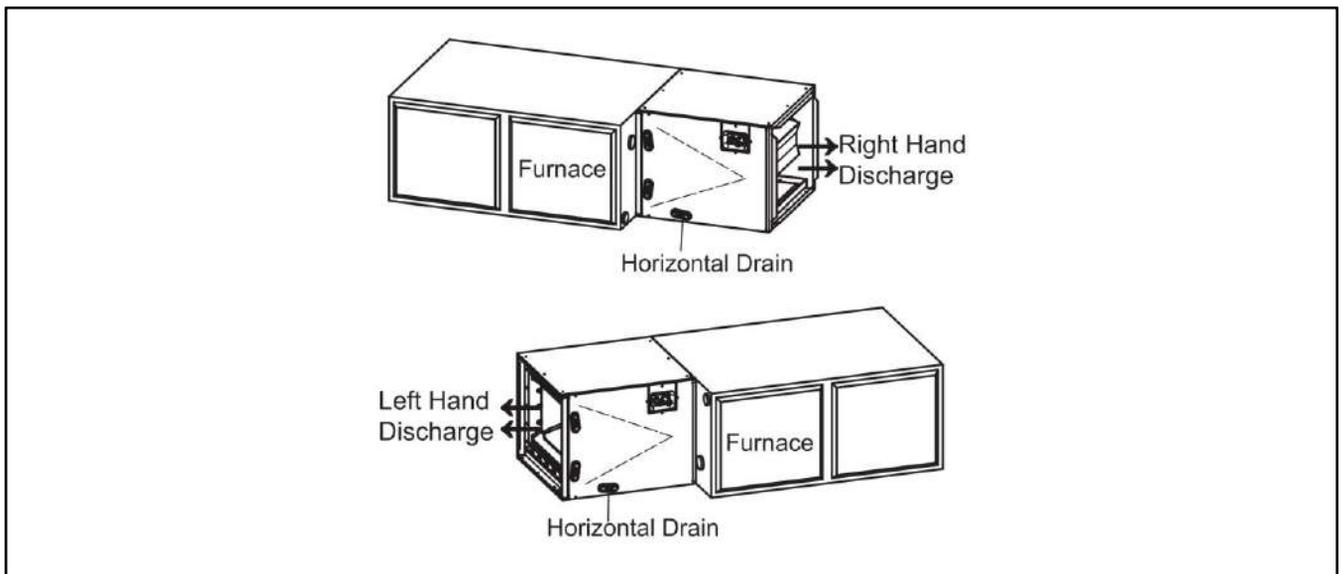
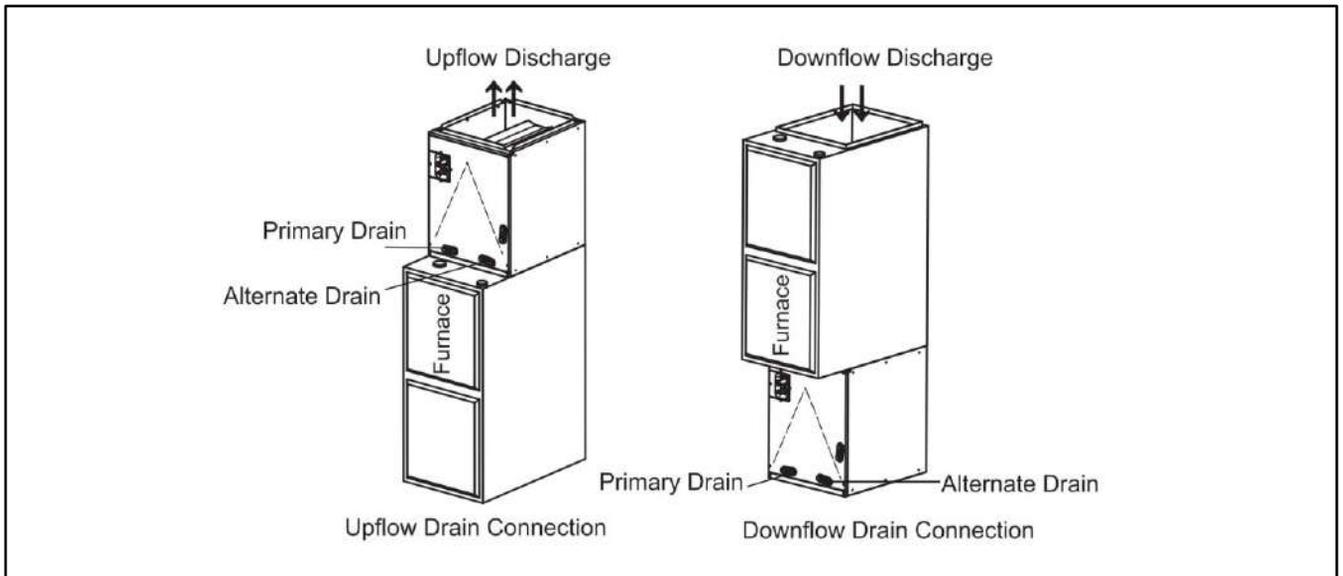


Figure 3-2 Applications

4. Pipe Connections

Refrigerant Line Connection

Coil is shipped with Nitrogen, the pressure inside the coil is about 10 PSIG. There might be a leak if you can't hear nitrogen gas coming out after remove the sealing plug of vapor line.

- Make sure the layout of refrigerant lines does not block service access.
- Purge the refrigerant lines and indoor coil with dry nitrogen while brazing.
- Use brazing shield to the cabinet surface and wet rag to protect rubber grommet.
- Use a wet rag to protect the TXV sensing bulb during the brazing process. Overheating of the sensing bulb will affect the functional characteristics and performance of the comfort coil.
- Evacuate the system before charging with refrigerant.

Condensate Drain Connection

To provide extra protection from water damage, it is always recommended to install an additional 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 recommendations.

IMPORTANT

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 275F. A field fabricated metal drain pan can also be used for these type of applications. Failure to follow this warning may result in property damage and/or personal injury.

The coil drain pan has a primary and an optional secondary drain with 3/4" NPT female connections. This figure shows how to avoid interference with vent piping.

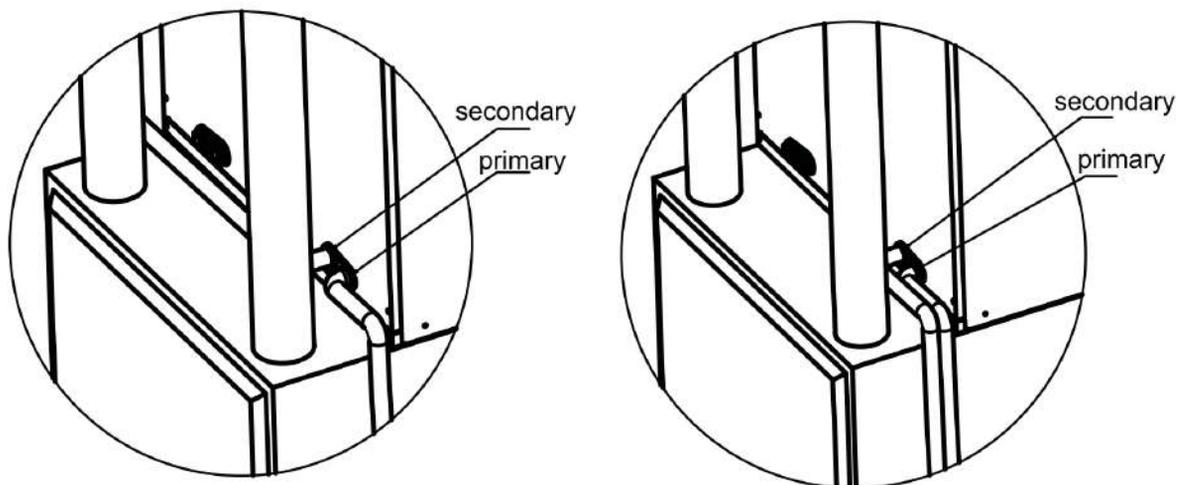


Figure 4-1 Drain connections

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.

If the secondary drain line is required, run the line separately from the primary drain and terminate it where it can be easily seen. **Water coming from this line means the coil primary drain is plugged and needs clearing.**

Install a trap below the bottom of the drain pan. Use either PVC or copper pipe for the installation. If using a copper drain line, solder a short piece of pipe to the connector before installing a drain fitting.

DO NOT over torque! Tighten a torque of approximately 37 in-lbs to the 3/4" plastic drain pan. An insertion depth between 0.355 to 0.485 inches (3-5 turns) should be expected at this torque setting.

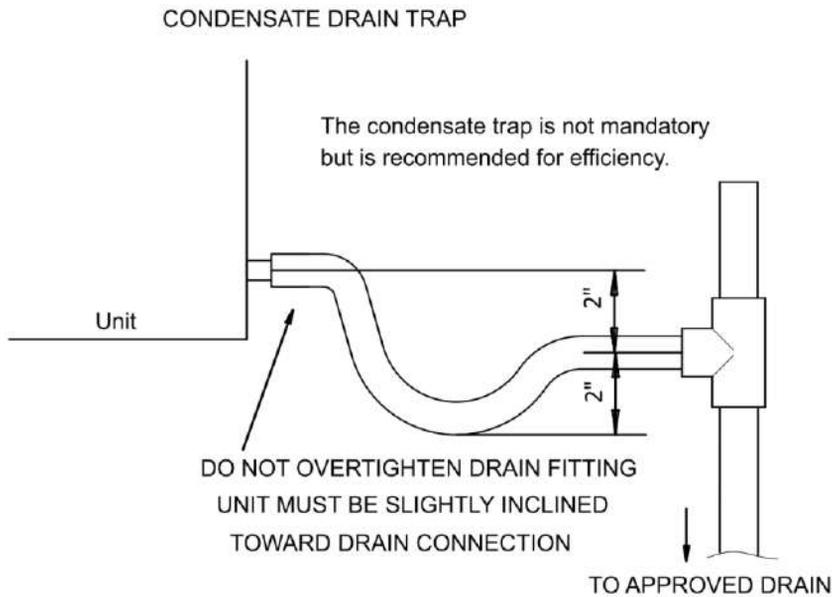


Figure 4-2 Condensate drain trap

5. Airflow Performance

Heat pump systems require a specified airflow. Check the performance table for appropriate unit size selection. Each ton of cooling requires between 300 and 450 cubic feet per minute (CFM). Duct design and construction should be carefully done. System performance can be lowered dramatically through bad planning or workmanship.

Air supply diffusers must be selected and located carefully. It must be sized and positioned to deliver treated air along the perimeter of the space. Return air grilles must be properly sized to carry air back to the blower as well. Failure to follow these may cause abnormal noise and drafts.

The installers should balance the air distribution system to ensure proper quiet airflow to all rooms in the home. This ensures a comfortable living space. An air velocity meter or airflow hood can give a reading of system CFM.

Model	Pressure Drop (Inches W.C)							
	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4
GNC2430APT	307	485	618	729	823	911	991	1063
GNC2430BPT	327	527	682	810	925	1024	1122	1217
GNC3036BPT	327	527	682	810	925	1024	1122	1217
GNC4248CPT	505	726	932	1098	1244	1375	1494	1604
GNC4860CPT	439	699	906	1071	1224	1362	1487	1589
GNC4860DPT	466	764	978	1157	1313	1466	1590	1695

* Data based on wet coil with entering air at 80FDB/67FWB without air filter.

IMPORTANT

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

Model	Maximum Airflow Settings (CFM)			
	Vertical Up-flow	Horizontal Left-flow	Vertical Down-flow	Horizontal Right-flow
GNC2430APT	1125	1050	1050	1125
GNC2430BPT	1125	1050	1050	1125
GNC3036BPT	1250	1200	1050	1250
GNC4248CPT	1800	1800	1700	1700
GNC4860CPT	1850	1850	1750	1750
GNC4860DPT	2000	2000	1850	1850

6. TXV Adjustment

To keep the best Ecoer Smart Inverter (ESI) systems' performance and reliability, be sure liquid line sub-cooling (SC) and compressor suction superheat (SH) meet our requirements.

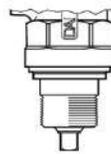
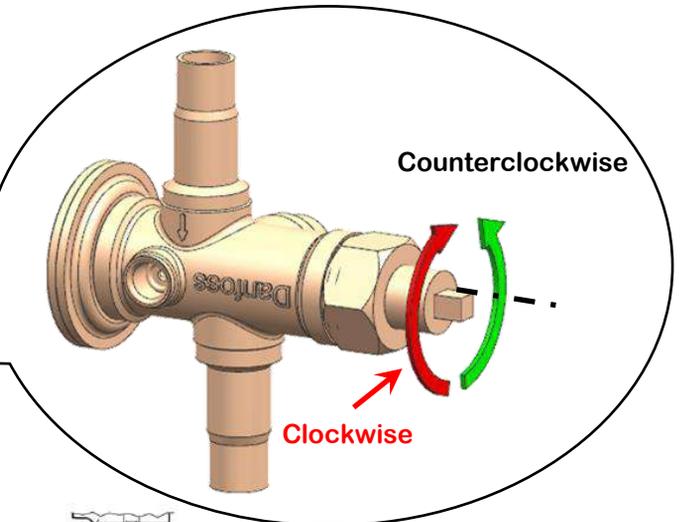
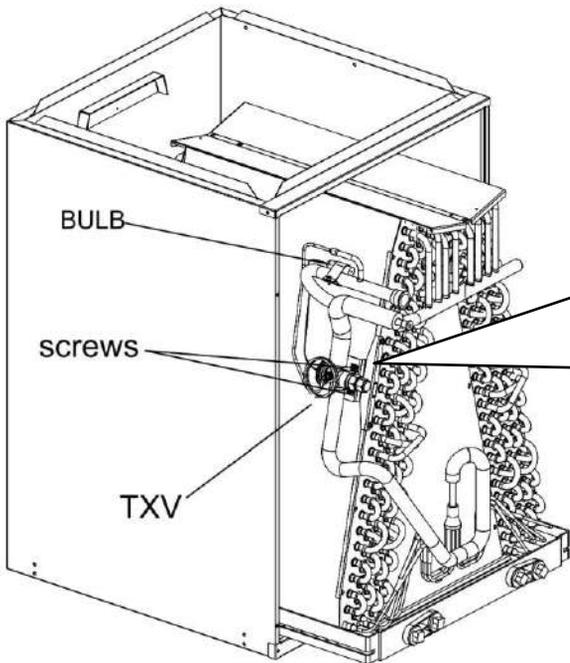


**Target values
in cooling mode**



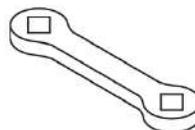
- If the LED displays "--" in AUTO charge mode for more than 20 minutes, stop charging and use a wrench to **clockwise** the TXV to ensure SH is no less than 7°F.
- In case that the cooling performance is abnormal due to improper superheat (i.e. SH >20°F). Proceed as follows to complete the field adjustment.
 1. Activate AUTO charge mode from outdoor condensing unit to fix compressor speed (RPS) by **press BS4 for 5 seconds on PCB**. Run the system for 15~20 minutes and check refrigerant coefficient number from LED display or ESS Pro App, **add refrigerant until you get 0.6**.
 2. Open the front panel of the air handler unit, then use a wrench to **counterclockwise the TXV until SH ≤ 20°F**. This will make more refrigerant flow into indoor coil for better cooling performance.

NOTE: Maintain a minimum of 5 minutes' operation after every refrigerant amount or TXV opening adjustment, then check live SC and SH via Ecoer Smart Service (ESS) Pro App.



Hex = 19 mm / 3/4 in.

Torque = 10 Nm / 7 ft-lb



Δ SH / 1 turn / 360° ≈

R410A: 0.6°C / 1.1°F

Remarks: GNC2430*PT and GNC3036*PT equipped with Non-adjustable TXV. Put back the panel after TXV adjusted.