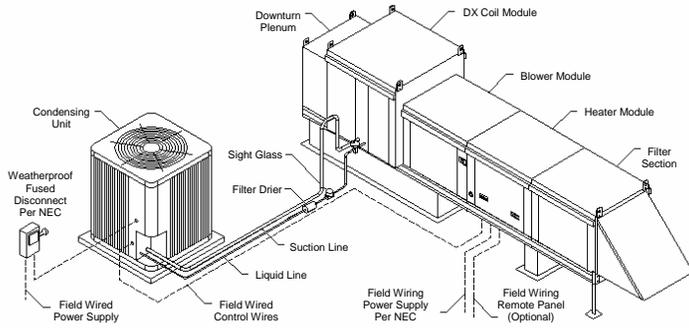


Modular DX System Installation Instructions

TYPICAL PIPING AND WIRING



Notes:

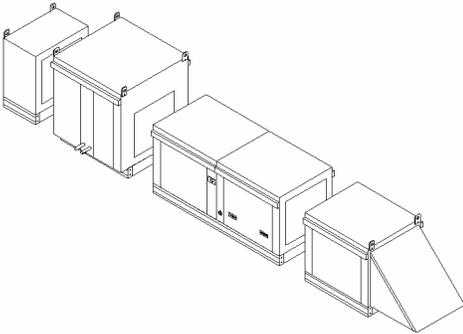
1. Read the equipment's "Installation and Operation Guide" before installing this equipment.
2. All Piping must follow standard refrigerant piping techniques.
3. All wiring must comply with all local and national codes.
4. Call the factory service department with any installation questions.

WARNING

- Installing, start-up, and servicing air-conditioning equipment can be dangerous due to system pressures, electrical components, and equipment locations.
- Only trained, qualified installers and service technicians should install, start-up, and service this equipment.
- Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.
- When working on the equipment, observe precautions in the literature and on decals, labels, and tags attached to the equipment.
- Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing.
- Use safe lifting practices when lifting and setting equipment.

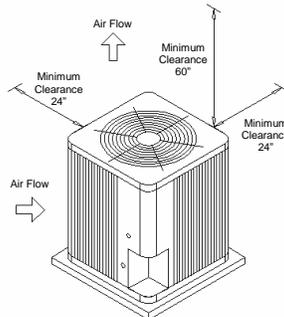
INSPECT UNIT

- Inspect unit for damage.
- Look for damage done to the casing, coils, or ship loose components.
- Contact factory service department if damage is found on the unit.
- Verify that the power and gas supply to the unit matches the unit nameplate ratings.
- Call the factory service department with any installation questions.



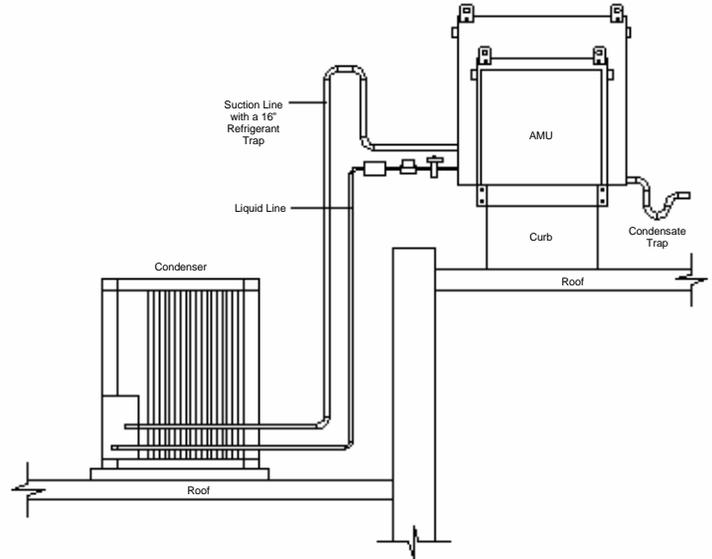
INSTALL CONDENSING UNIT

- Read the customer supplied Condenser Installation manual before attempting to install, pipe, or wire the unit. The manufacturer of the Condenser may have special instructions for installing that is not mentioned in this document.
- Contact the Condenser manufacturer with any installation questions.
- Mount the Condenser in a location where adequate air flow and service space is available.
- The Condensing units comes with a factory refrigerant charge. Do not open the ball valves until the plumbing has been completed and tested for leaks.
- Refer to the Condenser Installation manual for suction and liquid line sizes and maximum lengths.
- Refer to the Condenser Installation manual for general wiring practices. All wiring must comply with all local and national codes.
- Refer to the Cooling Circuit Wiring in this document for instructions on connecting to the Make-Up Air unit electrical panel.

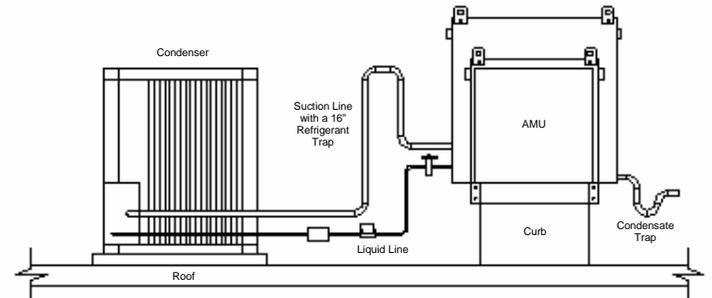


REFRIGERANT PIPING PRACTICES

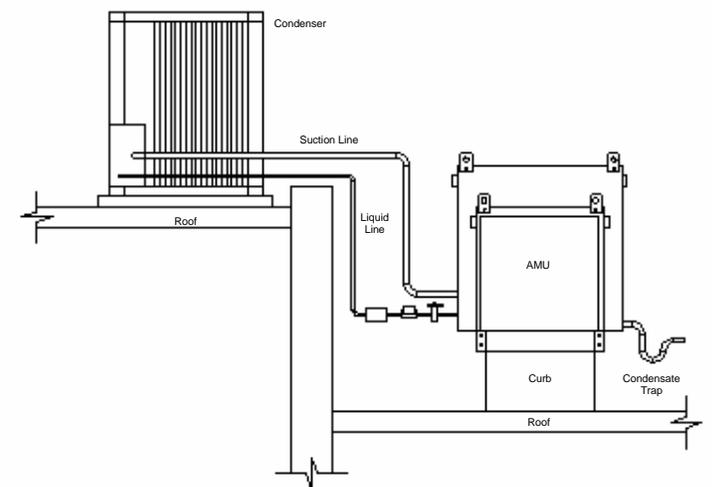
Typical Piping When Condenser Is Below The AMU



Typical Piping On Same Level



Typical Piping When AMU Is Below Condenser



Notes:

1. Maximum refrigerant line length 100 feet.
2. Do not bury refrigerant lines underground.
3. Accumulators are required on refrigerant line lengths of 75 to 100 feet.
4. Maximum refrigerant liquid lift 60 feet.
5. Dual circuit systems require two suction and liquid lines.

⚠ WARNING

Disconnect power before installing or servicing fan. High voltage electrical input is needed for this equipment. This work should be performed by a qualified electrician.

Electrical wiring must be done in accordance with local ordinances and the National Electric Code, ANSI/NFPA70. Be sure the voltage and phase of the power supply and the wire amperage capacity conform to those listed on the units nameplate. For additional safety information, refer to AMCA publication 410-96, "Recommended Safety Practices for Users and Installers of Industrial and Commercial Fans."

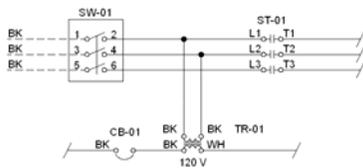
ELECTRICAL CONNECTIONS

AMU POWER SUPPLY

Check that the power supply matches the units nameplate rating.

Wire the disconnect using NEC and local codes. Size the wire according to the units minimum circuit amps.

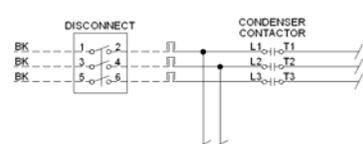
SW-01 MAIN DISCONNECT SWITCH
ST-01 SUPPLY MOTOR CONTACTOR
CB-01 CIRCUIT BREAKER
TR-01 POWER TRANSFORMER



CONDENSER POWER SUPPLY

Check that the power supply matches the units nameplate rating.

Wire the disconnect using NEC and local codes. Size the wire according to the units minimum circuit amps.

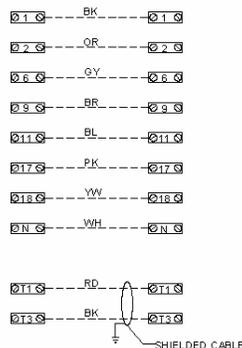


REMOTE PANEL

AMU units that ship with an optional remote panel must be field wired before starting the unit.

The AMU terminal block will correspond with the remote panel terminal block.

Use shielded cable on the wires for T1 and T3 for the remote set-point dial, or run the wires in a separate conduit from the power wiring.



CONDENSER SINGLE COMPRESSOR (A)

Option A

Wire single compressor condensers with R-G-Y-W-C terminals to the AMU as shown.

Refer to the condensers installation manual for additional wiring directions.

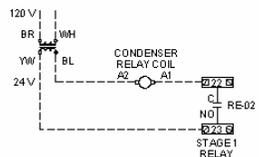


CONDENSER SINGLE COMPRESSOR (B)

Option B

Wire single compressor condensers without R-G-Y-W-C terminals to the AMU as shown.

Refer to the condensers installation manual for additional wiring directions.

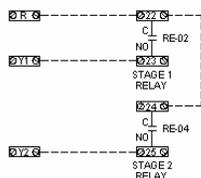


CONDENSER DUAL COMPRESSOR (A)

Option A

Wire dual compressor condensers with R-G-Y-W-C terminals to the AMU as shown.

Refer to the condensers installation manual for additional wiring directions.

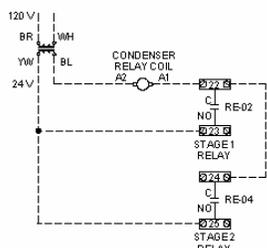


CONDENSER DUAL COMPRESSOR (B)

Option B

Wire dual compressor condensers without R-G-Y-W-C terminals to the AMU as shown.

Refer to the condensers installation manual for additional wiring directions.



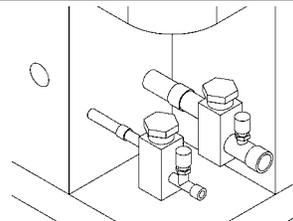
⚠ CAUTION

Condensing units contain a factory holding charge of refrigerant. Opening the liquid or suction line shut-off valves before the piping has been braised, evacuated, and leak tested may result in releasing the holding charge.

EPA Section 608 Clean Air Act

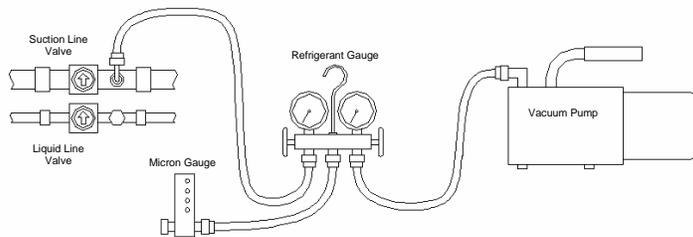
Section 608 of the "Clean Air Act", prohibits individuals from knowingly venting ozone-depleting compounds (refrigerant) into the atmosphere while installing, maintaining, servicing, repairing, or disposing of air-conditioners or refrigeration equipment.

EPA performs random inspections, responds to tips, and pursues potential violators. Under the Act, EPA is authorized to fine up to \$32,000 per day for any violation of these regulations.



EVACUATION & REFRIGERANT CHARGING

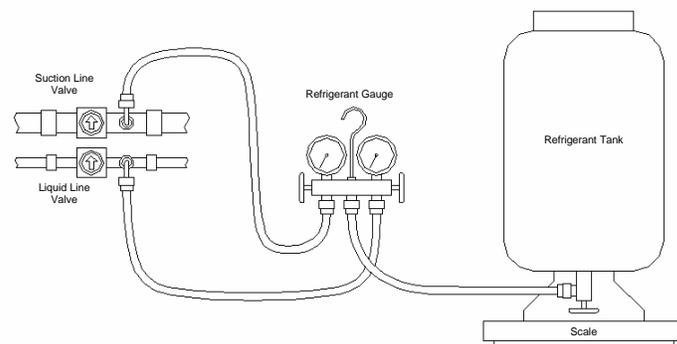
EVACUATION



- Leave suction and liquid line valves closed
- Open both refrigerant gauge valves and turn the vacuum pump ON
- Evacuate the system until the micron gauge reads less than 500 microns
- Repair leaks or check the hose connections if the micron gauge does not reach 500 microns
- Close the refrigerant gauge valves and turn the vacuum pump OFF

CHARGING

Check the condensing unit Installation Manual and documentation on charging instructions. Some condensing unit come with the full operating refrigerant charge.



- Check the condensing units Installation Manual and documentation on charging information, some condensing units come with the full operating refrigerant charge
- After evacuating the system, charge the system with 80% of the operating charge shown on the condensing units name plate
- After starting the unit add the remaining refrigerant charge and fine tune the charge so the units super-heat is around 8 to 12°F
- Remove the gauge lines and replace the suction and liquid line valve caps.

START-UP

Read the condensing unit and AMU installation, start-up, and operation guides
Fill out the start-up check lists and send them to the Factory Service Department

TECHNICAL SERVICE

Need additional help or have other questions?

Contact the factory service department.

715-595-4225 office
919-227-5959 fax