Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

- **WARNING**
  Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

- **CAUTION**
  Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert a situation that could result in equipment or property-damage only accidents.

- **NOTICE**

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth’s naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs such as HCFCs and HFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

### General Information

1. Clean the lines of all foreign material, (welding slag, pipe scale, dirt, thread chips, etc.). Upstream installation of a strainer may be necessary in dirty systems.

2. Air should be eliminated from the system prior to startup to assure quiet operation and freedom from water hammer.

3. Flow control valves may be installed horizontally, vertically or any angle in between. Additional straight sections of pipe upstream or downstream of the automatic flow control valves are unnecessary for proper operation.

4. Standard reducing bushings or flanges may be directly connected to the hose ends if required.

5. The ATC actuator may be mounted above or along side of piping but must never be mounted where condensation can accumulate or come in contact with electrical or mechanical components.

6. Automatic control valves are marked with direction of flow. Automatic valves will be labeled with the GPM and the water valve Cv.

**Important:** The arrow must point in the direction of flow for proper operation.

7. Automatic flow control valves must be located in the RETURN Line.
### Installation

1. Field threaded connections are made with the inch series NPT threads in accordance with ANSI STD B1.20.1 and are intended for use in building services piping meeting the requirements of ASME B 31.9.
2. Determine which is the supply section and which is the return section. The strainer is only on the supply side. Flow controls and the proportional water valve are only on the return side.
3. Apply thread sealant to male pipe threads, starting with the second or third thread from the end.

**Important:** If factory applied thread sealant is present, **DO NOT ADD ADDITIONAL SEALANT.**

4. Torque the connection to 75 ft-lbs per inch of pipe size minimum.

Example: 1/4", .25 x 75 = 19 ft lb Min

5. Rotate the components having pressure/temperature ports or pressure taps so they are not pointing down.

6. Sweat connections according to the following information:
   
a. Coil sweat fitting valves have their end connections formed to ANSI STD B16.22 requirements and are intended for use in building services piping meeting the requirements of ASME B 31.9.
   
b. The temperature/pressure rating of the solder joint is dependent upon the type of solder used. ANSI STD B16.22 pressure ratings should be reviewed prior to selecting a solder and sweating.
   
c. UNIONS, UNION END PIECES ON VALVES AND THREADED SWEAT ADAPTERS ARE SHIPPED LOOSE AND SHOULD BE UNATTACHED DURING SWEATING.
   
d. O-rings in the union end pieces must be removed and stored on the valve handle or on a nearby PT fitting during the sweating operation.
   
e. Ball valves must be in the closed position during sweating.
   
f. The outside of the tubing, and the inside of the fitting are to be mechanically cleaned and then lightly coated with solder flux.
   
g. The tube is then inserted one diameter into the fitting and the CENTRAL PORTION OF THE VALVE BODY WRAPPED WITH A WET RAG, WET SPONGE OR HEAT ABSORBING PUTTY.

### Operation

1. For optimum operation, air entrapment in the system must be prevented. The flow control valve must remain filled with fluid. The system must be clean and free of foreign materials.

2. The piping packages must only be used with fluids that are compatible with iron, brass, santoprene and EPDM materials. The temperature during operation must be limited to the range of 32 ° F to 225 ° F.

3. Piping packages are fully compatible with ethylene glycol and propylene glycol with all concentrations.

### Maintenance

General maintenance is not required for piping packages. However, if the system experiences large amounts of pipe scale due to poor water conditions, as sometimes is found in older or retrofit systems, some maintenance may be required. Provisions should be made to keep the system clean. Proper water treatment is also recommended.