Application Note 2002:

Underground Installation of CITY MULTI® R2-Series, Y-Series and S-Series Refrigerant Piping

Some designs may require burying the refrigerant piping between the outdoor units and the indoor units. Mitsubishi Electric offers guidelines for this application for all CITY MULTI systems.

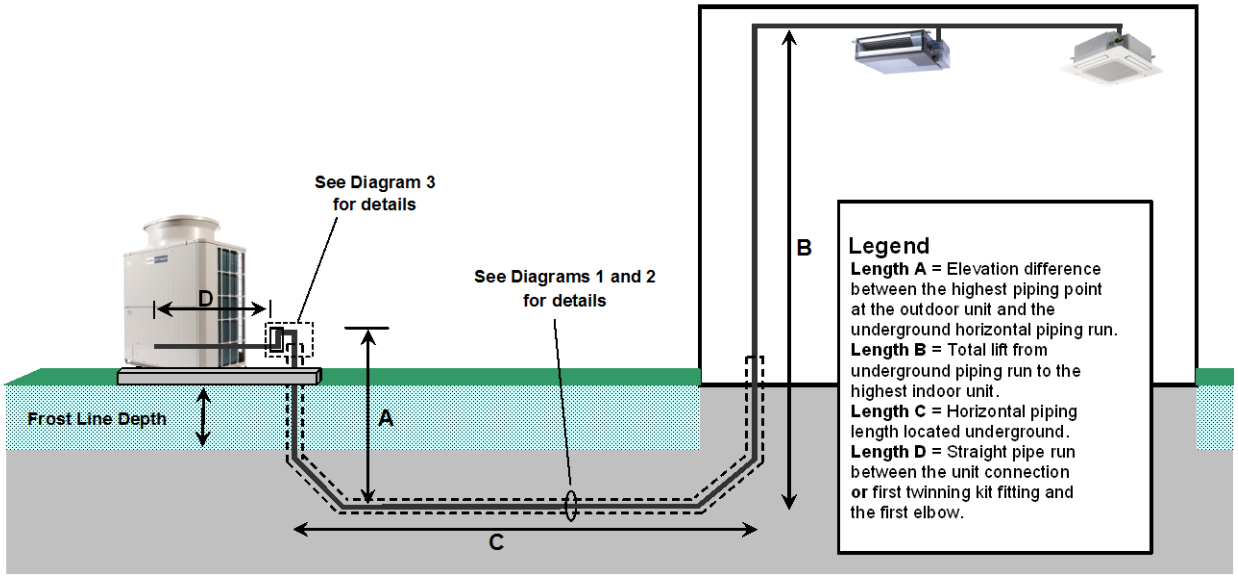


Figure 1. Underground Installation of Refrigerant Piping

- Refrigerant lines must be installed below the frost line. The depth required past the frost line depends on the amount of foot or vehicle traffic that may pass over the refrigerant line path.

- Include the sum of **Lengths A** and **B** (see Figure 1) in the calculation for maximum vertical lift for the respective unit. See the System Design Section in the Engineering Manual(s) to obtain the maximum allowable vertical lift.

- For **Length C**, there is no limitation other than the standard piping line length guidelines.

- **Length D** must be a minimum of 20 inches.

- Use 45° elbows to simplify covering the refrigerant lines with casing. For refrigerant piping with outside diameters of up to 3/4″, soft tubing can be used and large sweeping curves can be bent by hand.

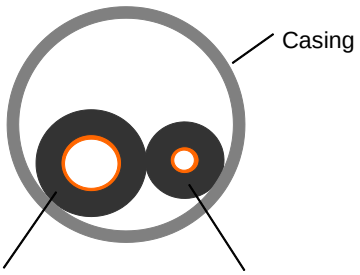
- Refrigerant piping should be pressure-tested before being insulated and covered with casing.

Note: If more than one system is installed, use a separate housing for each set of refrigerant piping.

Caution: Casing must be watertight. If any moisture enters the casing, system performance will be reduced, and equipment failure may occur. If this occurs, the warranty on the equipment is no longer valid.

Diagram 1.

Typical Cross-section of Piping



- Refrigerant lines must be insulated separately
- A minimum of 1/2" thick insulation is recommended.
- If possible, install casing as one continuous piece.
- If the casing includes joints, contact the casing manufacturer or supplier for instructions on how to seal the joints to make them watertight.

Figure 2. Typical Cross Section of Piping

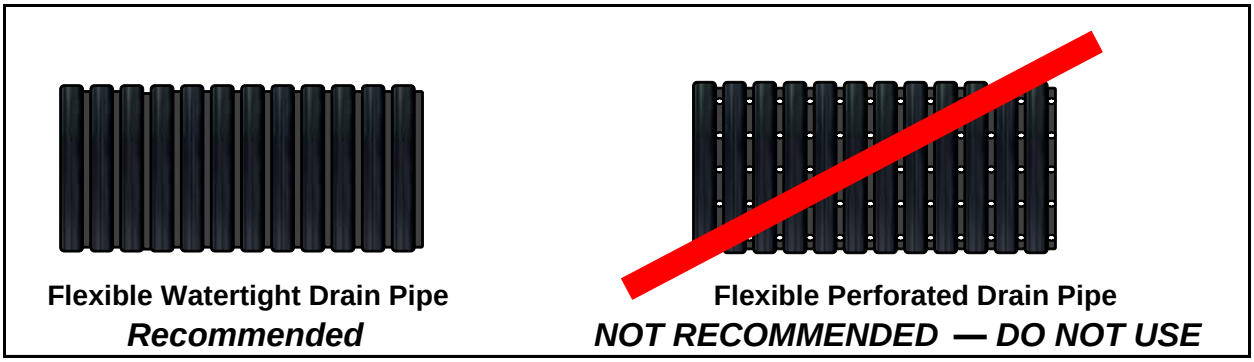


Figure 3. Recommended Enclosed Piping in a Watertight Casing

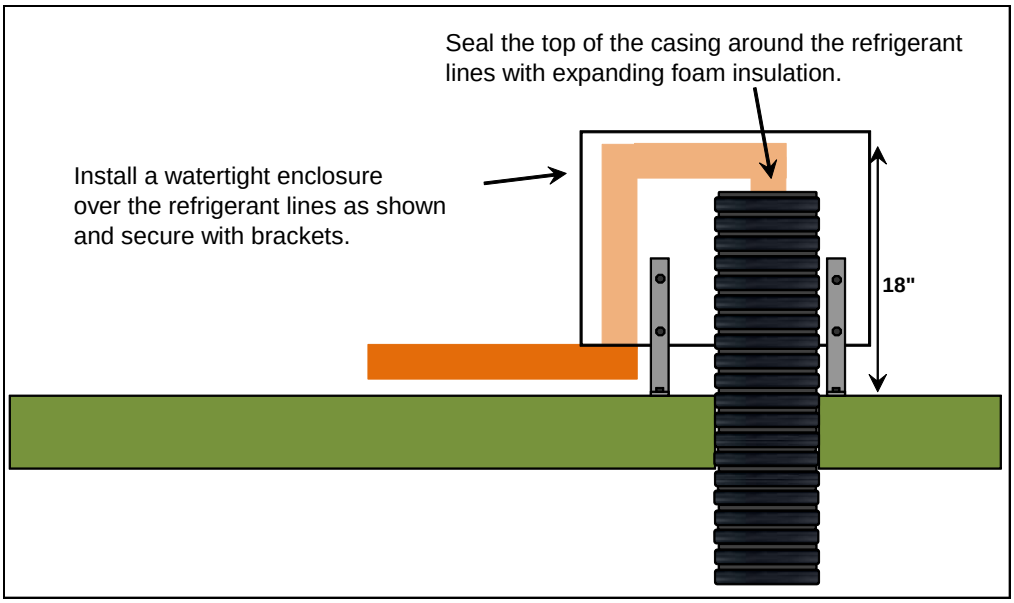


Figure 4. Example of Enclosed Piping Applications