Application Note 2002

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

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Introduction

This Application Note provides an overview related to the installation of refrigerant piping underground.

Underground Refrigerant Line Installation Guidelines

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.

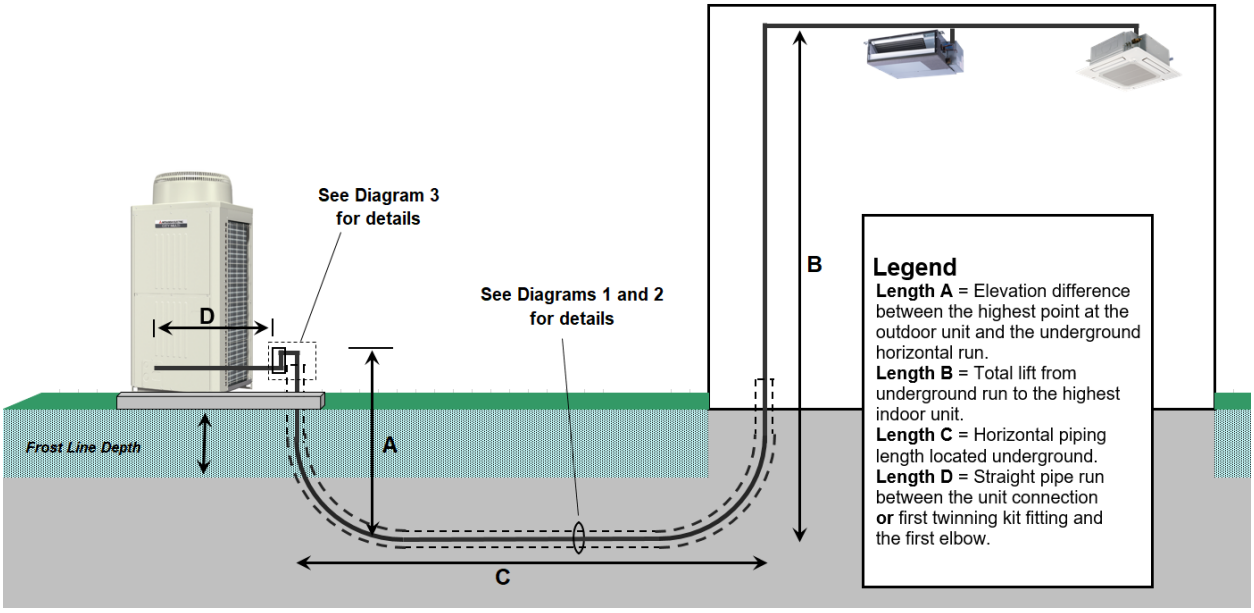

Figure 1: Underground Installation of Refrigerant Piping

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- 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 soft rolled preinsulated ACR tube up to 1-1/8" (meets working pressure requirement, UL listed to 700 psig typical) or larger casement with hard ACR in sizes above this with extra room to facilitate insulation, and movement from expansion.

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

Note: If more than one system is installed, a separate housing for each set of refrigerant piping is recommended, but installing more than one lineset in the casing is acceptable provided the insulation is not compressed.

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 If this occurs, the warranty on the equipment is no longer valid.

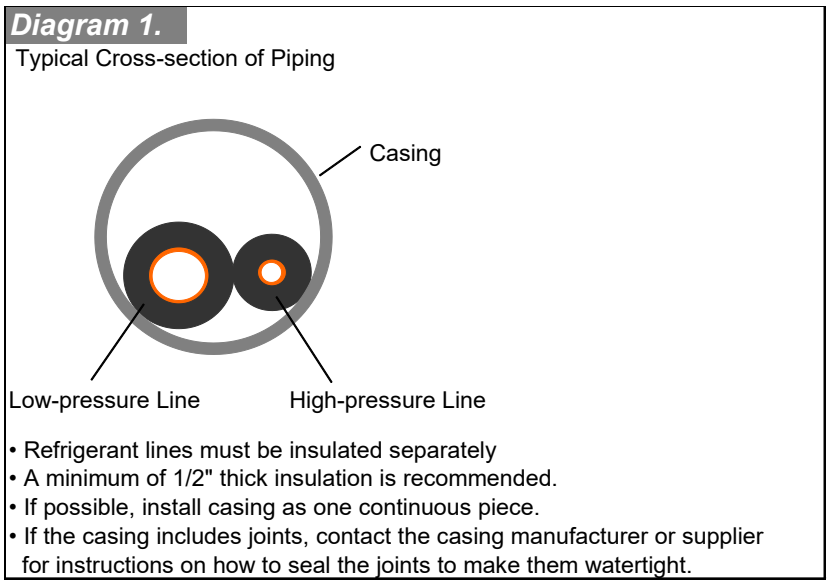

Figure 2: Typical Cross Section of Piping

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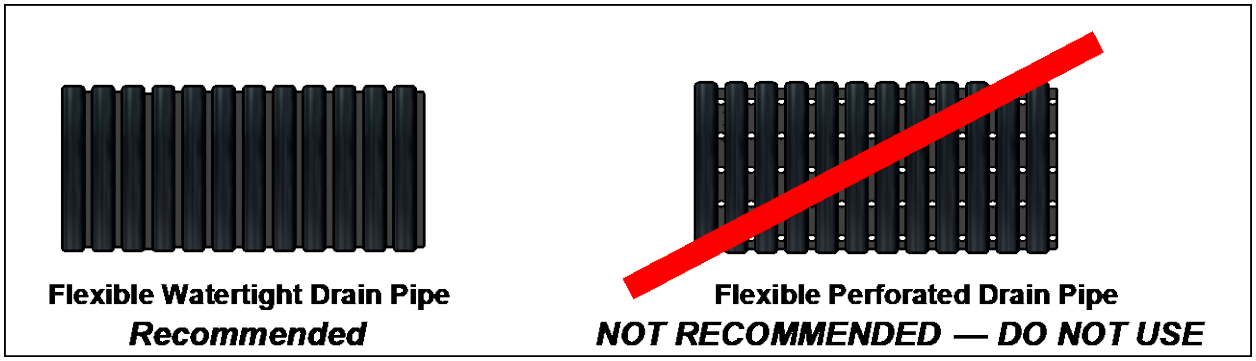
Note: Casing must be watertight. Do not use perforated drain pipe for casing.



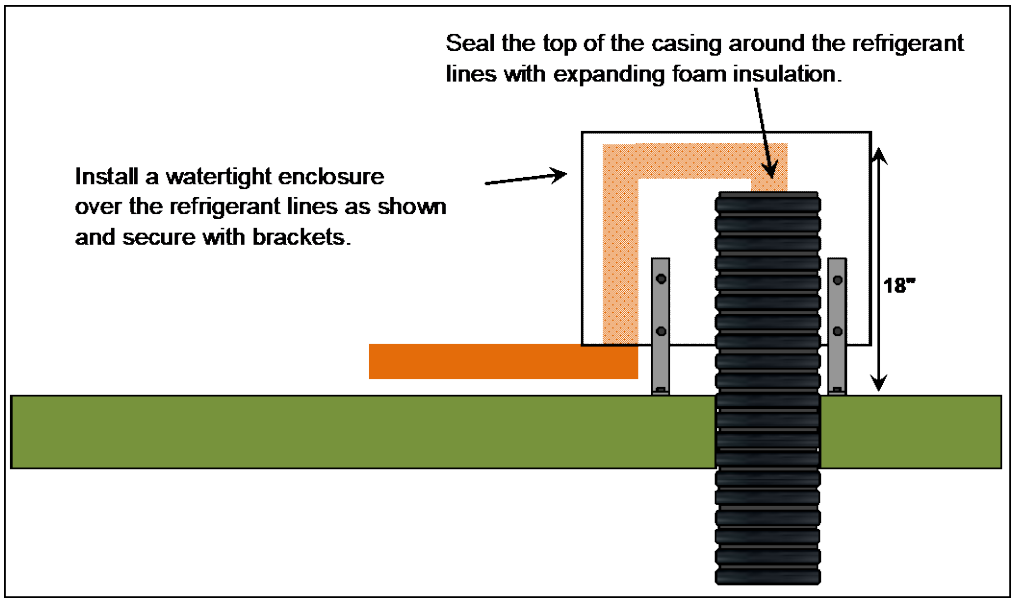


Figure 3: Recommended Enclosed Piping in a Watertight Casing

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