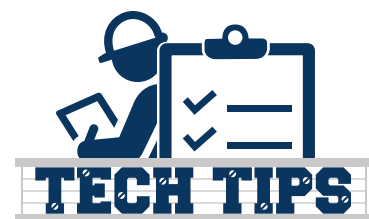




# REFRIGERANT PIPING PROGRAM

Did you know you can use smaller or larger line sets than what is recommended in installation guides for air conditioners and heat pumps? If you have access to ASDealerNet or ComfortSite, the Refrigerant Piping Program is now available as a convenient reference for when to use a different size line set. Knowing how to find out when a smaller or larger line set can be used may save you time and money.



- **Example 1**

A 5-ton, 13-SEER A/C-only outdoor unit running a total line length of 40' sitting 5' above the indoor unit with no short or long radius 90's can use a 3/8" x 3/4" line set. Yet the installation guide says to use 3/8" x 7/8".

- **Example 2**

A 2-ton, 13-SEER A/C-only outdoor unit running a total line length of 35' sitting 12' below the indoor unit with no short or long radius 90's can use a 1/4" x 5/8" line set. This installation guide says to use 3/8" x 3/4".

Let's start with what the IOM is instructing. In the examples below, we see the specified line set sizes for the maximum line length and lift. At those extremes, you will need those sizes.

## Trane

## American Standard

### Section 5. Refrigerant Line Considerations

#### 5.1 Refrigerant Line and Service Valve Connection Sizes

RATED LINE SIZES	Line Sizes		Service Valve Connection Sizes		Max Line & Lift Lengths	
	Vapor Line	Liquid Line	Vapor Line Connection	Liquid Line Connection	TOTAL Max Line Length (ft.)	Max Lift (ft.)
4TR0018N	3/4	3/8	3/4	3/8	150	50
4TR0024H	3/4	3/8	3/4	3/8	150	50
4TR0030N	3/4	3/8	3/4	3/8	150	50
4TR0036N	3/4	3/8	3/4	3/8	150	50
4TR0042N	7/8	3/8	7/8	3/8	150	50
4TR0048N	7/8	3/8	7/8	3/8	150	50
4TR0060H	7/8	3/8	7/8	3/8	150	50

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	Vapor Line	Liquid Line	Vapor Line Connection	Liquid Line Connection	TOTAL Max Line Length (ft.)	Max Lift (ft.)
4ATA0018N	3/4	3/8	3/4	3/8	150	50
4ATA0024H	3/4	3/8	3/4	3/8	150	50
4ATA0030N	3/4	3/8	3/4	3/8	150	50
4ATA0036N	3/4	3/8	3/4	3/8	150	50
4ATA0042N	7/8	3/8	7/8	3/8	150	50
4ATA0048N	7/8	3/8	7/8	3/8	150	50
4ATA0060H	7/8	3/8	7/8	3/8	150	50

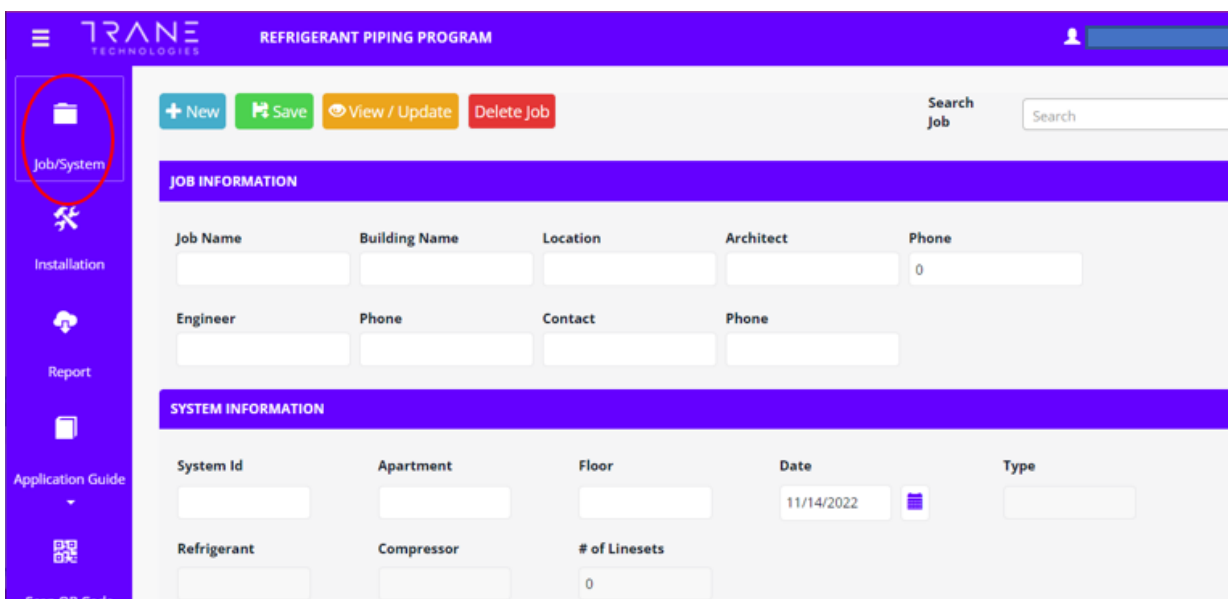
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What if your application has less length or lift? What if a larger existing line could be used?

Now you can reference the new Trane Technologies web-based calculator on ComfortSite and ASDealerNet called the Refrigerant Piping Program. To access the calculator, enter ComfortSite or ASDealerNet with your credentials. Then, from the tabs on the left, click on **Tech Support > Refrigerant Piping Program**. See the example below:



A new browser window will open. You can enter job/system information for tracking later.



Details about the installation can be entered in the Installation tab. Then, use the drop-down boxes to select your unit information: the type, family and model.

Under "Installation Information":

- Select if your outdoor unit sits above or below the indoor unit
- The total line length
- The vertical change
- The type of radius or if they have underground piping

Hit calculate and get sizing for option 1.

The screenshot shows the TRANE REFRIGERANT PIPING PROGRAM interface. The 'OPTION 1 SIZING' tab is highlighted with a red circle. The interface is divided into four main sections: UNIT INFORMATION, INSTALLATION INFORMATION, OPTION 1 SIZING, and OPTION 2 SIZING. The left sidebar contains navigation options: Job/System, Installation (circled in red), Report, Application Guide, and Scan QR Code. The UNIT INFORMATION section includes Unit Measurement (I-P (Standard)), Select Type (Air Conditioner), Select by Family (XR13), Model Numbers (4TTR3060E1000NA), and Refrigerant Type (R410A). The INSTALLATION INFORMATION section includes Select Job/System, Select Unit Location (Above), Total Line length (ft.) (40), Vertical Chg. (ft.) (5), Short Elbows (0), Long Elbows (0), and Underground tubing (ft.) (0). The OPTION 1 SIZING section shows calculations for Liquid and Vapor, with Line Size and PSI Drop fields highlighted in yellow. The OPTION 2 SIZING section is currently inactive.

Now, what options do you have? Click on "Option 2 Sizing" and select liquid and vapor drop-down boxes. In this case, we will select 3/8" and 3/4". Then, the solution will auto-populate.

This screenshot shows the same TRANE REFRIGERANT PIPING PROGRAM interface, but with the 'OPTION 2 SIZING' tab selected. The 'Liquid' and 'Vapor' line size dropdowns are now set to 3/8 in and 3/4 in, respectively, and are highlighted in yellow. The rest of the interface, including the sidebar and other sections, remains the same as in the previous screenshot.

If you get the message "PSI Drop is High," that indicates that the wrong information was entered. You're only allowed up to five PSIG suction and 50 PSIG liquid pressure drop. Once you correct this, the calculation will modify itself.

Should accessories be required due to the total estimated amount of refrigerant, they will auto-populate in the Required Accessories box, such as a crankcase heater or thermal expansion valve.

You can also view and download the PDF form of the relevant application guides. This calculator originated from those guides. When you click "Scan QR Code," a QR code will pop up for you to scan with your mobile device. Enter your ComfortSite or ASDealerNet credentials and have this right on your phone.

**Questions? Call Munch's Technical Support Group at 815-215-5020. We are here to help.**