



REZNOR®

Polytube Adapter, Option CD11

Installation Form RZ-NA I-UD-PA

APPLIES TO: Models UDBP and UDBS

Description and Application

The optional polytube adapter is designed to adapt suspended Model UDBP and UDBS blower type unit heaters for use with polytube ductwork. Directly in line with the heater discharge, the adapter is installed on the front of the heater and is equipped with a collar for attaching the field-supplied polytube.

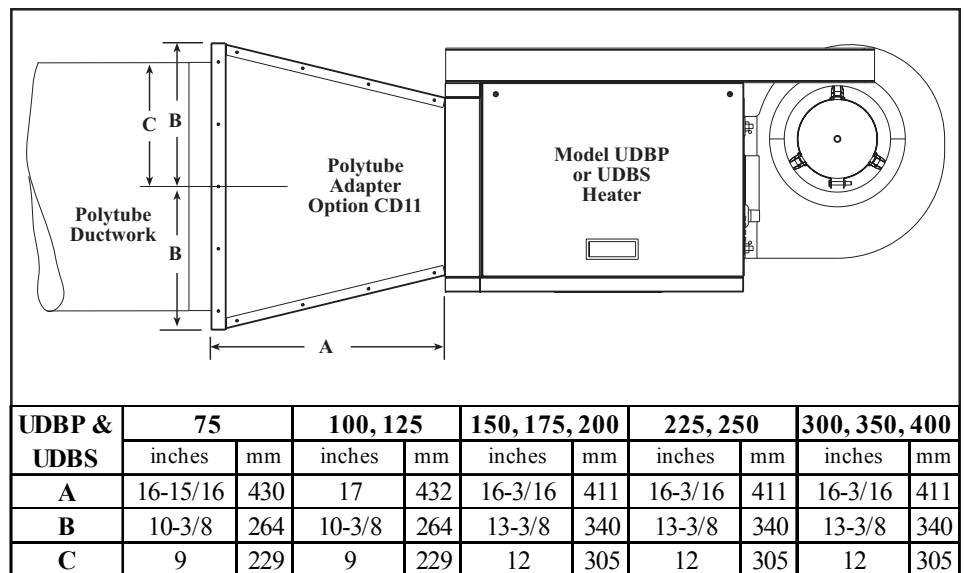
The most common application of polytube ductwork for distribution of tempered air is in greenhouses. Polytubes are also used in industrial buildings to improve operating efficiency by recovering stratified air and reducing the need for complete area heating.

Components

| UDBP and UDBS | 75 | 100, 125 | 150, 175, 200 | 225, 250 | 300, 350, 400 |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Option Pkg P/N | 203086 | 203087 | 203088 | 203089 | 203090 |
| Components: | | | | | |
| Adapter Top/Bottom | (2)202962 | (2)202964 | (2)202966 | (2)202968 | (2)202970 |
| Adapter Side | (2)202961 | (2)202963 | (2)202965 | (2)202967 | (2)202969 |
| Discharge Panel Assembly | 101249 | | 101250 | | |
| Discharge Duct Collar Clamp | 101499 | | 146463 | | |
| Sheetmetal Screws, #10 x 1/2" long | (52)11813 | | | | |
| Sheetmetal Screw, #10 x 3/4" long | 20859 | | -- | | |
| 1/4-20 x 1-1/2" long Hex Head Screw | -- | | 51231 | | |
| 1/4-20 Hex Nuts (Keps) | -- | | 7328 | | |
| 1/4-20 Wing Nut | -- | | 107246 | | |

Dimensions

FIGURE 1 - Polytube Adapter Dimensions



WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

Installation Instructions

Installation should be done by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction.

1. If the heater is installed, turn off the gas and the electric. Allow sufficient time for the heat exchanger and louvers to cool before beginning installation. If the heater is not installed, it is recommended that the crate bottom be left in place until the heater is suspended.

2. Remove the Louvers

The spring mounted louvers in the heater outlet are removed individually. Push on the louver blade compressing the spring on one end so that the louver is released from the opposite end and can be pulled out of the heater outlet. Remove all louvers.

3. Install the Adapter Sides (See FIGURE 2.)

Using the holes located in the vertical flanges of the heater outlet, attach the adapter side panels to the heater with the sheetmetal screws provided.

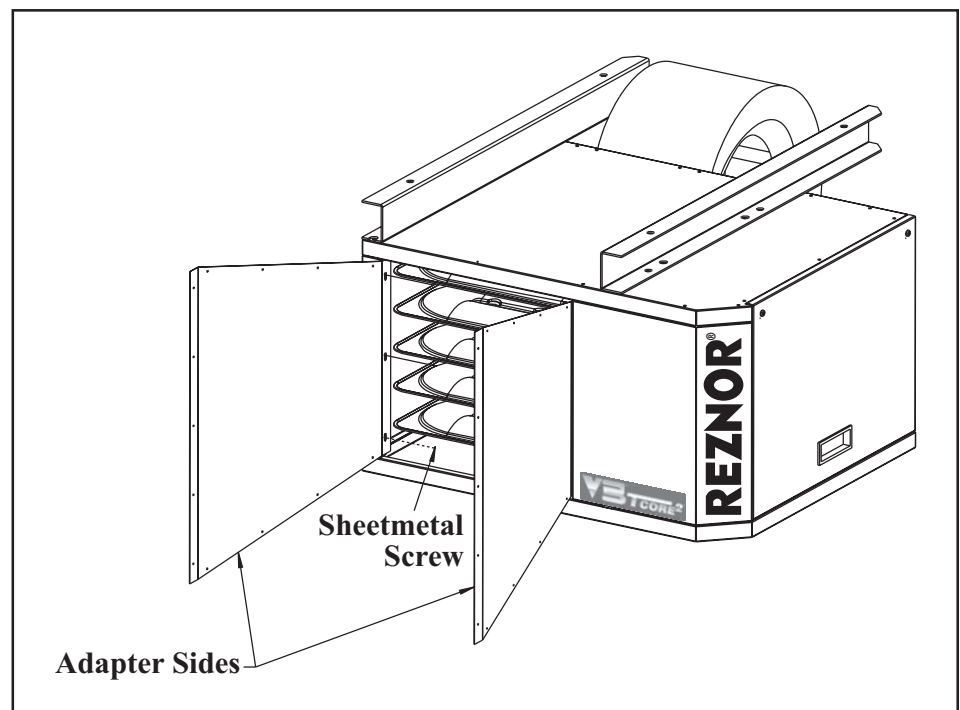


FIGURE 2 - Attach Adapter Sides

4. Attach the Top (See FIGURE 3)

Position the top section (top and bottom are identical) over the side pieces and into the heater outlet. Mark the holes across the top of the heater outlet. Remove the adapter top and drill 1/8" holes at marks on the heater cabinet. Re-position the adapter top and attach to the heater outlet with sheetmetal screws provided.

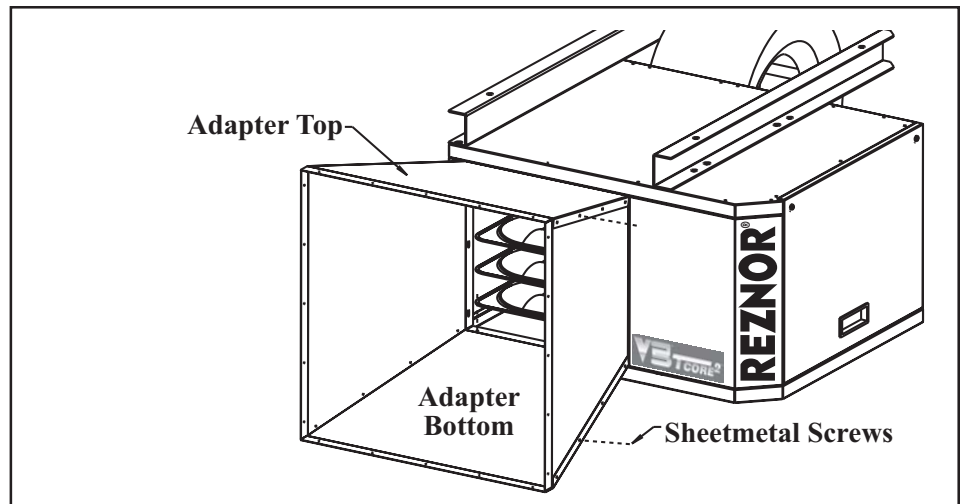
Attach the top to both sides of the adapter outlet. Screw points should be inside the adapter.

5. Attach the Bottom (See FIGURE 3)

Position the bottom section over the side pieces and into the heater outlet. Mark the holes across the bottom of the heater outlet. Remove the adapter bottom and drill 1/8" holes at marks on the heater cabinet. Re-position the adapter bottom and attach to the heater outlet with sheetmetal screws.

Attach the bottom to both sides of the adapter outlet. Screw points should be inside the adapter.

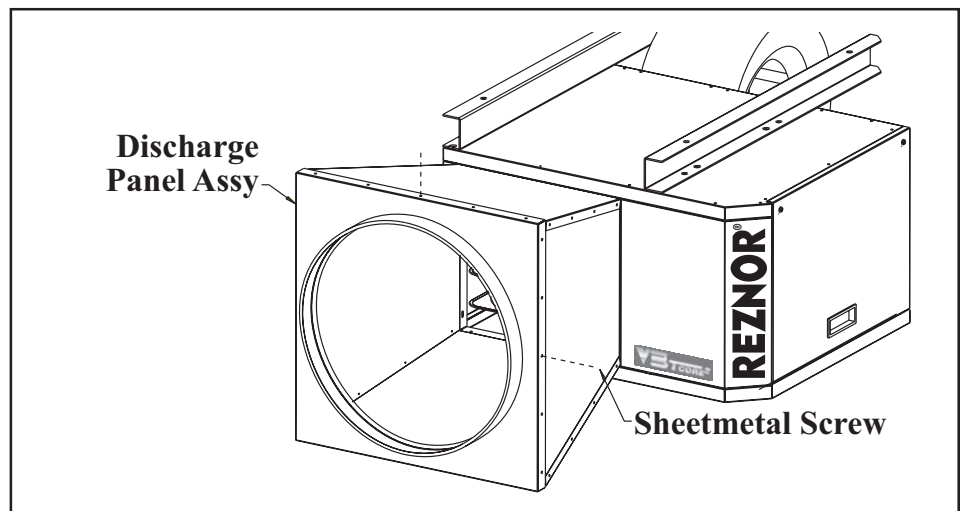
FIGURE 3 - Attach Adapter Top and Bottom



6. Attach the Discharge Panel (See FIGURE 4)

Slide the discharge panel over the front of the “box” formed by the sides, top, and bottom adapter panels. Attach at all of the holes across the top, bottom, and sides.

FIGURE 4 - Attach Adapter Top and Bottom



7. Attach Polytube (See FIGURE 5)

The polytube adapter is now complete and ready for the field-supplied polytube ductwork. Being sure that the air delivery holes are pointed in the proper direction, slip the end of the polytube over the collar under the tightening band. Fasten the band over the polytube by tightening the adjusting screw.

The polytube should be supported in accordance with the polytube manufacturer’s recommendations. General recommendations are that the first suspension point be 10 ft (3M) from the heater and that additional suspension be provided at approximately 8-ft (2.4M) intervals.

Polytubes are normally supplied as a tube which is open at both ends. The end opposite the heater must be closed to permit the tube to inflate.

8. Installation Checks

When the installation is completed, the motor load and discharge air temperature should be checked. Consult the installation manual supplied with the heater for information on checking motor load and how to make blower speed adjustments.

Use a thermometer to check the discharge air temperature. Check the air temperature at a location in the tube, six to eight feet (1.8-2.4M) from the heater. A temperature rise range of 55° to 65°F is recommended. Following

FIGURE 5 - Attach the Polytube



Installation Instructions (cont'd)

8. Installation Checks (cont'd)

the instructions in the heater manual, adjust the speed of the blower to achieve the desired range while maintaining motor current draw below the full load amperes shown on the motor rating plate.

Polytube Selection

Polytube selection is the responsibility of the installer. Different grades, hole positions, hole sizes, and lengths are available. Some local code authorities require that polytube material be a nationally recognized or certified material. Consult code authorities that have jurisdiction and the polytube supplier to determine the appropriate polytube material and recommend methods of suspension. Poly tubing can be obtained from a supply distributor such as MVT-USA Company, 150 Elizabeth Lane, Unit 1, Genoa City, WI 53128 or from most local greenhouse supply distributors.

The total open or free area of the polytube is important. Polytube suppliers have a great deal of flexibility in placement and sizing of holes. Too small of a free area will cause overheating and damage to the polytube. Excessive open area may not permit the tube to inflate. See the table below for a guide in hole size and location. **Spacing and hole size may be varied, but free area must be approximately as shown for your heater size.**

| Size | CFM at 60°F Temp Rise | Polytube Diameter (inches) | Approximate Free Area (square inches) | Suggested Hole Sizes and Locations | | | | | |
|------|-----------------------|----------------------------|---------------------------------------|------------------------------------|--------------------|----------|----------|----------|----------|
| | | | | Holes | Length of Polytube | | | | |
| | | | | | 50 Ft | 75 Ft | 100 Ft | 125 Ft | 150 Ft |
| 75* | 960 | 18 | 115 | Quantity | 75 pairs | 75 pairs | 75 pairs | 75 pairs | 75 pairs |
| | | | | Diameter | 1" | 1" | 1" | 1" | 1" |
| | | | | Spacing | 8" | 12" | 16" | 20" | 24" |
| 100* | 1345 | 18 | 160 | Quantity | 48 pairs | 48 pairs | 48 pairs | 48 pairs | 48 pairs |
| | | | | Diameter | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" |
| | | | | Spacing | 12-1/2" | 18-3/4" | 25" | 31-1/4" | 37-1/2" |
| 125* | 1540 | 18 | 185 | Quantity | 50 pairs | 50 pairs | 50 pairs | 50 pairs | 50 pairs |
| | | | | Diameter | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" |
| | | | | Spacing | 12" | 18" | 24" | 30" | 36" |
| 150 | 1920 | 24 | 230 | Quantity | 40 pairs | 40 pairs | 40 pairs | 40 pairs | 45 pairs |
| | | | | Diameter | 2" | 2" | 2" | 2" | 1-7/8" |
| | | | | Spacing | 15" | 22-1/2" | 30" | 37-1/2" | 40" |
| 175 | 2240 | 24 | 270 | Quantity | 50 pairs | 50 pairs | 80 pairs | 80 pairs | 80 pairs |
| | | | | Diameter | 1-7/8" | 1-7/8" | 1-1/2" | 1-1/2" | 1-1/2" |
| | | | | Spacing | 12" | 18" | 15" | 18-3/4" | 22-1/2" |
| 200 | 2560 | 24 | 300 | Quantity | 50 pairs | 50 pairs | 50 pairs | 50 pairs | 50 pairs |
| | | | | Diameter | 2" | 2" | 2" | 2" | 2" |
| | | | | Spacing | 12" | 18" | 24" | 30" | 36" |
| 225 | 2880 | 24 | 340 | Quantity | 42 pairs | 42 pairs | 42 pairs | 42 pairs | 42 pairs |
| | | | | Diameter | 2-1/4" | 2-1/4" | 2-1/4" | 2-1/4" | 2-1/4" |
| | | | | Spacing | 14" | 21" | 28" | 35" | 42" |
| 250 | 3200 | 24 | 380 | Quantity | 50 pairs | 50 pairs | 50 pairs | 60 pairs | 60 pairs |
| | | | | Diameter | 2-1/4" | 2-1/4" | 2-1/4" | 2" | 2" |
| | | | | Spacing | 12" | 18" | 24" | 25" | 30" |
| 300 | 3840 | 24 | 460 | Quantity | 60 pairs | 60 pairs | 75 pairs | 75 pairs | 75 pairs |
| | | | | Diameter | 2-1/4" | 2-1/4" | 2" | 2" | 2" |
| | | | | Spacing | 10" | 15" | 16" | 20" | 24" |
| 350 | 4480 | 24 | 540 | Quantity | 50 pairs | 50 pairs | 50 pairs | 50 pairs | 50 pairs |
| | | | | Diameter | 2-1/2" | 2-1/2" | 2-1/2" | 2-1/2" | 2-1/2" |
| | | | | Spacing | 12" | 18" | 24" | 30" | 36" |
| 400 | 5120 | 24 | 600 | Quantity | 60 pairs | 60 pairs | 75 pairs | 75 pairs | 75 pairs |
| | | | | Diameter | 2-1/2" | 2-1/2" | 2-1/4" | 2-1/4" | 2-1/4" |
| | | | | Spacing | 10" | 15" | 16" | 20" | 24" |

Conversion Table
(Diameter of the Hole to Square Inch Area of a Hole)

| Hole Diameter (inches) | Equals Area of the Hole (square inches) |
|------------------------|---|
| | 2-1/2 |
| 2-1/4 | 3.98 |
| 2 | 3.14 |
| 1-7/8 | 2.76 |
| 1-1/2 | 1.76 |
| 1 | 0.785 |

Multiply the quantity of holes times the area of each hole to determine the "free area".

*Required direct drive blower speed.

| Size | Speed |
|------|--------|
| 75 | Low |
| 100 | Low |
| 125 | Medium |



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