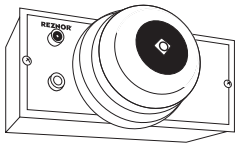
REZNOR

SPECIAL MANIFOLDS

(Apply only to Model Series and sizes indicated.)



OPTION BM12 • **MANIFOLD ARRANGEMENT TO MEET ILLINOIS SCHOOL CODE REQUIREMENTS:** In **addition** to the standard gas train, this optional manifold arrangement includes main gas high and low pressure switches, pilot gas high pressure switch, manual main and pilot shut-off valves, and additional main and pilot line safety solenoid valves. A remote console with special alarm bell and push button alarm silencing switch is included. Other **field-installed components may be required to complete Code requirements.**

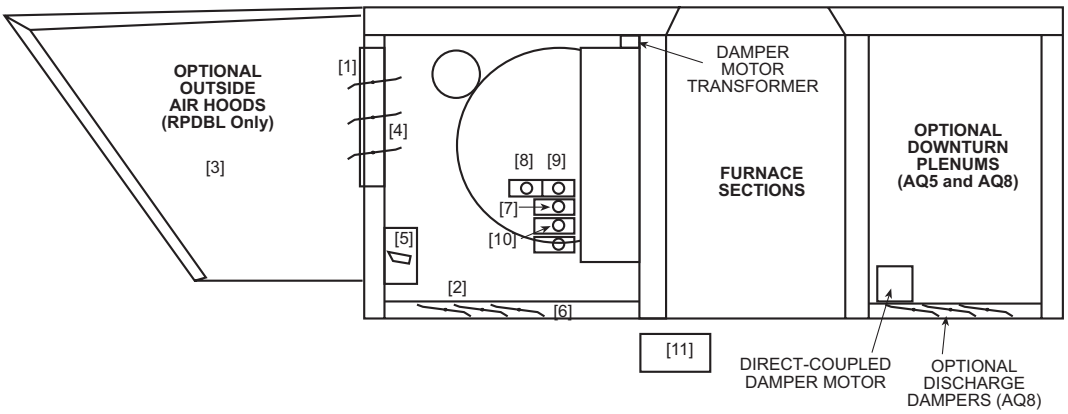
OPTION BM13 • **MANIFOLD ARRANGEMENT TO MEET IRI REQUIREMENTS:** Applies to power vented models with over 1,000,000 BTU's — Sizes 1000, 1200, 1400 and 1600. In **addition** to the standard gas train, this optional manifold arrangement includes two fluid power gas valves, main gas high and low pressure switches, a pilot solenoid gas valve, a vent solenoid valve (requires vent pipe on indoor installation), and a manual shut-off gas valve. **These additional safety components are external to the heater cabinet.** All blower cabinets on units with Option BM13 include an air proving switch.

NOTE: Standard power vent models with spark ignition with less than and including 1,000,000 BTU's meet IRI requirements. (IRI requirements for these sizes are the same as ANSI Standards.)

OPTION BM14 • **MANIFOLD ARRANGEMENT TO MEET FM REQUIREMENTS:** Applies to all sizes. In **addition** to the standard gas train, this optional manifold arrangement includes a fluid power gas valve, a manual gas shut-off valve, and a pilot solenoid valve. **These additional safety components are external to the heater cabinet.**

AIR CONTROL SYSTEMS

(Applies to <u>each</u> packaged system))



- **Standard (SSCDBL only)** [1] Horizontal Air Inlet [2-11] N/A

- **Standard (RPDBL only)** [1] Outside Horizontal Air Inlet [2-11] N/A

- **Reznor Option AR4** [1] N/A [2] Bottom Return Air Inlet [3-11] N/A
  100% Return Air Inlet only - Designed for 100% recirculated heating system.

- **Reznor Option AR6 (RPDBL only)** [1] 30% Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] 30% Outside Air Hood [4] Outside Air Dampers [5-11] N/A
  100% Return Air Inlet, 30% Outside Air Inlet with Hood (see Outside Air Hood section) and Manual Outside Air Damper - Supplies constant 30% or less outside air to recirculating heating system. Outside air hood is shipped separately for field installation.

- **Reznor Option AR7 (RPDBL only)** [1] 30% Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] 30% Outside Air Hood [4] Outside Air Dampers [5] Damper Motor [6-11] N/A
  100% Return Air Inlet, 30% Outside Air Inlet with Hood (see Outside Air Hood section) and Motorized Outside Air Damper - Supplies 30% outside air to a recirculating heating system at specific times, as controlled by a time clock or switch. On shutdown, the outside air damper closes. Outside air hood is shipped separately for field installation.

- **Reznor Option AR8** [1] Outside Horizontal Air Inlet [2-3] N/A [4] Outside Air Dampers [5] Damper Motor (2-Position) [6-11] N/A
  100% Outside Air Inlet, with Two-Position (open/closed) Motorized Damper - 100% outside air system which provides makeup air intermittently, usually in unison with a building exhauster. Outside air damper opens when unit is on; closes when units is off.

- **Reznor Option AR9** [1] Outside Horizontal Air Inlet [2-3] N/A [4] Outside Air Dampers [5] Damper Motor (3-Position) [6-7] N/A [8] Potentiometer [9-11] N/A
  100% Outside Air Inlet, with a Three-Position (full/partial/closed) Motorized Damper and Potentiometer - 100% outside air system that provides for low and high air flow damper positions to control the supply of makeup air, usually wired in unison with a two-speed exhauster. Motor and drive selections must be based on high air flow. On shutdown, the outside air damper closes.

AIR CONTROL SYSTEMS - (cont'd)

(Applies to <u>each</u> packaged system))

REZNOR®

- **Reznor Option AR11** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] N/A [6] Return Air Dampers
  [7-11] N/A
  Not shown - manual locking quadrant

  100% Outside Air and 100% Return Air Inlet, Dampers and Manual Quadrant - Manually fixed position dampers to provide constant mix of return and makeup air.

- **Reznor Option AR12** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7] Mixed Air Controller [8-11] N/A

  100% Outside Air and 100% Return Air Inlets with Dampers, Modulating Damper Motor and Mixed Air Controller - Automatically controlled mix of outside and return air to meet temperature setting of mixed air controller. ON shutdown, the outside air damper closes.

- **Reznor Option AR13** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7] N/A [8] Potentiometer [9-11] N/A

  100% Outside air and 100% Return Air Inlets with Dampers, Modulating Damper Motor, Mixed Air Controller and Potentiometer - Automatically controlled mix of outside and return air to meet temperature setting of mixed air controller, with a minimum amount of outside air as determined by the potentiometer setting. On shutdown, the outside air damper closes.

- **Reznor Option AR14** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (2-Position) [6] Return Air Dampers
  [7-9] N/A [10] Warm Up Control [11] N/A

  100% Outside Air and 100% Return Air Inlets with Dampers, Two-Position Damper Motor and Warm-up Control (ASHRAE Cycle I) - 100% return air on warm-up and 100% makeup air after warm-up. On shutdown, the outside air damper closes.

- **Reznor Option AR15** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7] Mixed Air Controller [8] Potentiometer [9] N/A
  [10] Warm Up Control [11] N/A

  100% Outside Air and 100% Return Air Inlets with Dampers, Modulating Damper Motor, Potentiometer, Mixed Air Controller and Warm-up Control (ASHRAE Cycle II) - 100% return air on warm-up and automatically controlled mix of outside/return air to meet the temperature setting of the mixed air controller after warm-up. A minimum amount of outside air is allowed after warm-up as determined by the potentiometer setting. When used with mechanical cooling, optional air change over control may be added. An outside air change over control (not included in Option AR15 package) closes outside air dampers when the entering air reaches a set temperature (Usually 75 degrees F).

- **Reznor Option AR16** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7] Mixed Air Controller [8-9] N/A [10] Warm Up Control [11] N/A

  100% Outside Air and 100% Return Air Inlets with Dampers, Modulating Damper Motor, Mixed Air Controller and Warm-up Control (ASHRAE Cycle III) - 100% return air on warm-up and automatically controlled mix of return and outside air to meet the temperature setting of the mixed air controller after warm-up. ON shutdown, the outside air damper closes.

- **Reznor Option AR17** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (2-Position) [6] Return Air Dampers
  [7-11] N/A

  100% Outside Air and 100% Return Air Inlets with Dampers and a Two-Position Damper Motor - 100% return air or 100% outside air as controlled by a switch or time clock. ON shutdown, the outside air damper closes.

- **Reznor Option AR18** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7-10] N/A [11] Remote Potentiometer

  100% Outside Air and 100% Return Air Inlets with Dampers, a Modulating Damper Motor and Potentiometer - Mixture of return and outside air as controlled by a manually set remote potentiometer. On shutdown, the outside air damper closes.

- **Reznor Option AR23** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3] N/A
  [4] Outside Air Dampers [5] Damper Motor (Modulating) [6] Return Air Dampers
  [7-10] N/A [11] Remote Pressure Null Switch

  100% Outside Air and 100% Return Inlets with Dampers, a Modulating Damper Motor and Pressure Null Switch - Mixture of return and outside air as automatically controlled by a remote pressure null switch. On shutdown, the outside air damper closes.

- **Reznor Option AR24 (RPDBL)** [1] Outside Horizontal Air Inlet [2] Bottom Return Air Inlet [3-11] N/A
  100% Outside Air and 100% Return Air Inlets, **without** Factory-Supplied Dampers - Designed for installation of field supplied damper system.

REZNOR® DISCHARGE AIR CONFIGURATIONS

Discharge Air Configurations		Application
Standard	**Horizontal Outlet** * 3/4" Duct Flange designed for "U" channel top/bottom ductwork connection and "L" type on each side	Installation that requires connection to horizontal ductwork before turning downward or where immediate downturn ductwork with horizontal connection is field supplied.
Option AQ5	**Vertical Outlet** * Downturn Plenum Cabinet * 1" Duct Flange for slip-type connection (flange is perpendicular to the cabinet)	Installation where vertical ductwork is attached and sealed directly to the duct flange on the bottom of the downturn plenum cabinet.
Options AQ8 A-D **A = 115V** **B = 208V** **C = 230V** **D = 460V**	**Vertical Outlet w/Dampers** * Downturn Plenum Cabinet * Two-Position Dampers * Direct-Coupled Motor (rated for use in discharge airstream) * 1" Duct Flange for slip-type connection (flange is perpendicular to the cabinet)	Installation where vertical ductwork is attached and sealed directly to the duct flange on the bottom of the downturn plenum cabinet. The two-position (open/close) dampers in the discharge opening are designed to isolate the unit from the building atmosphere when the system is not operating. The damper motor is located inside the downturn plenum cabinet.

INSTALLATION

WARNING: Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapors or combustible dust, or atmospheres containing chlorinated or halogenated hydrocarbons.

Installations in public garages or airplane hangars are permitted when in accordance with ANSI Z223.1 and NFPA 54 codes or CAN1-B149 and enforcing authorities.

WARNING: Failure to provide proper venting could result in death, serious injury, and/or property damage. Unit must be connected to flue having sufficient draft to ensure safe and proper operation. Unit must be properly vented to the outside of the building. Safe operation of any gravity vented heating equipment requires a properly operating vent system, correct provision for combustion air and regular maintenance and inspection.

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 any heating equipment.

FOR YOUR SAFETY

If you smell gas:
1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR YOUR SAFETY

WARNING: The use and storage of gasoline or other flammable vapors and liquids in the vicinity of this appliance is hazardous.

DANGER: The gas burner in all Reznor gas-fired equipment is designed and equipped to provide safe and economically controlled complete combustion. However, if the installation does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is incomplete combustion which produces carbon monoxide, a poisonous gas that can cause death. Safe operation of indirect-fired gas burning equipment requires a properly operating vent system which vents all flue products to the outside atmosphere. Failure to provide proper venting will result in a health hazard which could cause serious personal injury or death.

Always comply with the combustion air requirements in the installation codes and instructions. Combustion air at the burner should be regulated only by manufacturer-provided equipment. NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER. Indoor units installed in a confined space must be supplied with air for combustion as required by code and in the installation manual. INSTALL AND MAINTAIN THE VENT SYSTEM TO CONTINUALLY VENT ALL FLUE PRODUCTS SAFELY TO THE OUTSIDE ATMOSPHERE.

CODE REQUIREMENTS

The unit shall be installed by a qualified agency in accordance with the standards of the National Fire Protection Association and the national Fuel Gas Code for gas-fired duct furnaces. These standards should be followed carefully. Authorities having jurisdiction should be consulted prior to installation to verify local codes. The unit shall be installed in accordance with the National Fuel Gas Code ANSI Z223.1 (latest edition).

In Canada, the installation of these appliances is to be in accordance with CAN/C.G.A.-B149.1 and B149.2, Installation Code for Gas Burning Appliances and Equipment, and local codes.

Installation in aircraft hangars should be made in accordance with ANSI/NFPA No. 409 (latest edition), standard for aircraft hangars, and in public garages in accordance with NFPA No. 88A (latest edition), standard for parking structures, and NFPA No. 88B for repair garages. In Canada, installation in aircraft hangars should be in accordance with the requirements of the enforcing authorities and in public garages in accordance with CAN1-B149 codes.