



RAM Series

Direct-Fired Gas Horizontal Heaters

Standard Features

Casing

- G-90 galvanized steel
- interlocked wall seam and roof panels
- weatherproof construction
- standing roof seams (RAM 18 and larger)
- single casing construction (RAM 9-230)
- hinged service doors with flush-mount latches
- six discharge options
- double wall doors

Burner Profile

- adjustable profile plates
- optional 80/20 arrangement
- optional two-speed arrangement
- optional VFD arrangement

Burner

- wide-range, high capacity line burner
- up to 30:1 turndown ratio
- electric-pilot spark ignition

Blower

- FC-DWDI centrifugal blower assembly
- v-belt drive
- 100,000 hour greasable bearings (RAM 18-230)
- permanent lubricated bearings (RAM 9-15)
- solid steel shaft
- split shafts with couplings on twin units

Controls

- electronic flame safety controls
- ignition transformer
- airflow proving control
- high-temperature safety controls
- burner and blower service switches

Burner-Observation Port

Base and Lifting Lugs

- formed G-90 galvanized-steel base
- direct floor or curb mount
- standard heavy-duty lifting lugs
- optional hanging-mount lifting lugs (RAM 9-230)

Motor

- standard, high E, open-drip proof with adjustable motor mount
- v-belt drive
- starter with burner interlock
- adjustable drive up to and including 25 HP

Gas Connection

Manifold Controls Vestibule

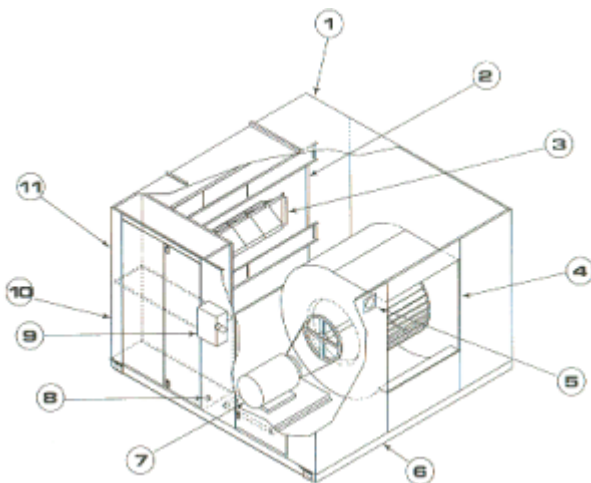
- weatherproof enclosure
- easy access to manifold and controls
- manifold built to required codes (FM/IRI/FIA)

Electrical Controls Vestibule

- weatherproof enclosure
- easy access to manifold and controls
- exhaust-interlock terminals
- terminal strip for quick service check
- Blower & burner service switches

Remote Control Panel

- Summer-Off-Winter switch
- "Blower on" light
- "Burner on" light
- Other lights available



1. Casing
2. Burner Profile
3. Burner
4. Blower
5. Burner Observation Port
6. Base and Lifting Lugs
7. Motor
8. Gas Connection
9. Main Fused Disconnect
10. Manifold Control Vestibule
11. Electrical Controls Vestibule

Factory assembled, wired, and flame-tested

Discharge damper, two-position motor and interlock:

motor-operated parallel blade damper that prevents warm air from escaping the building through the unit. The motor-damper end switch energizes the starter circuit when the damper is in the full-open position, and returns to a closed position during shutdown. Down discharge arrangement units available with RAMS exclusive "Hassle Free Damper" internally mounted in unit.

Discharge louvers with air diffuser:

discharges air in four directions with vertical and horizontal blades, and is field-installed. The blades can be manually adjusted to set direction of airflow.

Filter section:

removable, hinged access door, with a 2-inch washable, aluminum-mesh filter, or a 2-inch pleated filter. Also available with 1-inch, 1.5 lb density insulation.

Fresh-air intake hood with birdscreen:

prevents rain or snow from entering the unit with a 1-inch mesh screen on hood face; sized to fit unit's fresh-air intake. Shipped loose to be field installed.

Full-downturn inlet hood:

prevents rain and snow from entering the unit by bringing air into the bottom of the hood with a 1-inch wire-mesh screen, and is field installed. Large hoods are shipped separately, and must be field assembled.

High efficiency filter section:

a separate section with high efficiency filters mounted on the unit's inlet side. Available with 65%, 85%, or 95% cartridge filters and inlet-air hood.

Inlet-hood filters, 2-inch:

cleanable, aluminum-mesh filters mounted on the inlet-hood face in lieu of a separate filter section. Not available on RAM-M 227 and larger models.

Inlet screen:

prevents material from entering unit. A 1-inch mesh screen fastens to unit's fresh-air intake.

Inlet damper, two-position motor and interlock:

motor-operated parallel blade damper that prevents outside air from entering the building through the unit. The motor damper end switch energizes the starter circuit when the damper is in the full-open position, and returns to a closed position during shutdown.

Return-air filter, 80/20 units:

2-inch deep, aluminum mesh, or 2-inch deep, 30% efficient, pleated type; v-bank, filter section shipped loose for field mounting to the return-air connection.

Return-air mixing section:

passes return air across the burner, with outside and return-air mixing dampers for RAM models only, not available on RAM-M 80/20 System models. Available with insulated casings, manual potentiometer static pressure and two-position control, 2-inch cleanable filters, and 2-inch pleated filters.

Service platform, standard length:

allows access to unit, and is mounted on the unit's control side. Supplied with guard rails, safety chain and is the same length as the basic unit.

Service platform with cradle:

same as service platform with longer supports on which to rest the unit and platform.

Standard curb:

24-inch roof curb formed of 12-gauge steel; 14-inch curb is also available. Shipped separately, and must be field assembled. Insulation, cant, and wood nailer by others

Standard curb, unit with mixing section:

same as standard curb, with additional length to accommodate a unit with a mixing section.

Options

Adjustable drives:

fixed-pitched sheaves are standard on motors 30 HP and larger. An adjustable-pitch motor sheave is provided in lieu of the standard fixed-pitch sheave.

Casing insulation:

adds 1", 1.5 lb density insulation to inner surface of unit's walls and ceiling, casing liners are standard with this option.

Casing liners with insulation:

prevents insulation fibers from being drawn into air stream and discharged into conditioned space, and prevents physical abuse and moisture damage to insulation. Made of galvanized steel.

Extended grease lines:

lubrication lines from blower bearings to a common point on the unit's exterior. Units with permanently lubricated bearings to be changed to pillow block-type.

Floor-mounted spring isolators:

box-type lifting points replace standard lifting eyes; 1-inch deflection spring mounts shipped loose for field installation.

Hanging spring isolators, 1-inch:

shipped loose for field installation.

Painted casings:

one coat of beige air-dried enamel over a vinyl wash primer.

Pillow-block bearings, 100,000 hr:

standard on all units ordered with an industrial blower, and are rated at 100,000 to 200,000 hours; available on smaller units with standard, permanently lubricated ball bearings.

Spring-isolated blower and motor:

mounted on a 1" deflection spring isolated base. A flexible duct connects the fan outlet to the unit's casing.

Two-speed damper package:

provides burner-profile dampers that automatically maintain the correct burner velocity. Also dual airflow switches and rate-limiting control are included to prevent over-firing on low speed.