



8500-Series


Rapid[®]


Engineering LLC

Air Handlers

Indirect-Fired Heating • Cooling • Pressurization



 Can be ideal solution for wide range of applications: Unit can be designed to ventilate/pressurize, heat and/or cool using a variety of different technologies.

 Can be ideal for industrial applications requiring heavy-duty design: Unit designed with welded structural steel framework and painted, heavy-gauge cabinet panels.

 Energy saving design: Unique dual blower/ single motor design helps reduce blower motor electrical use.

 Simplified maintenance: Supply blower motor, belts, bearings and drives are located outside of the airstream to help ease component replacement.

 Longer component longevity: Forced draft system avoids exposure of combustion blower to high temperature gases.

1.800.536.3461

www.rapidengineering.com



Intertek
GAS/OIL HEATING ONLY

Indirect-Fired Air Handlers

RAPID® indirect-fired air handlers can help minimize air quality problems by pressurizing a space with conditioned outdoor air and/or effectively heat a space with recirculated air. These units discharge the byproducts of combustion outside of the heated space when in heating mode.

Reliable, Efficient System Operation Provided by:

- Availability of upright and horizontal configurations with a variety of discharge options to meet application requirements.
- Single or dual belt-driven DWDI, FC centrifugal blower(s), driven by a single-speed, premium efficiency, open drip-proof (ODP) motor. (Optional totally-enclosed, fan-cooled [TEFC] motor.)
- Adjustable blower sheaves to allow the fine-tuning of airflow levels.
- Fully-assembled and tested power burner with built-in combustion blower, helping eliminate the need for power venter in flue.
- Indirect-fired burners available at a variety of turndown levels and fuel options to meet specific application requirements.
- Fully-assembled and tested manifold assembly, available for gas (NG or LPG), oil or both and for FM or XL Insurance-compliant buildings.
- Direct expansion (DX) or chilled water cooling coils.
- Mounting and wiring of all necessary operating starters, relays, switches, controls and fuses to help eliminate the need for extensive wiring in the field.
- Optional Underwriters Laboratories (UL) or Intertek Semko (ETL)-listed control panel.
- Selection of remote panels and/or Building Management System (BMS)-interlock control in order to provide discharge temperature or space temperature control.

Long Lasting Construction Provided by:

- Welded structural steel framework with welded-on galvanized steel cabinet panels.
- Double-wall cabinet construction in heat exchanger section.
- Multi-pass, positive-pressure heat exchanger with stainless steel primary drum and cold-rolled steel secondary tubes. (Optional stainless steel secondary tubes).

Ease of Maintenance Provided by:

- Easy access to fan(s), motor(s), sheaves and belts. Power burner and manifold accessible on burner mounting shelf.
- Optional service receptacle to provide power during maintenance activities.

Suit Most Applications with Available Options:

- External spring or neoprene pad vibration isolators.
- Fused disconnect switch (shipped loose or factory-mounted) for single point connection.
- Two-position inlet and discharge dampers to control airflow.
- Discharge heads and burners to deflect airflow in required direction.
- Inlet hood with birdscreen to prevent unwanted entrainment of water and other debris into horizontal unit.

Applications

Steel Manufacturing Facilities

- Use of a heating unit where flue gases are ducted outside of the heated space can provide heated air without introducing combustion by-product water vapor into the space, which can cause surface rust on steel product.

Wastewater Treatment Plants

- Utilizing a heating unit can provide tempered outdoor air to space for ventilation without exposing the potentially-contaminated supply air directly to the heating source.

Chemical Manufacturing Facilities

- By selecting a heating unit with a combustion air flange on the burner, combustion air can be ducted in from outside of the heated space to ensure uncontaminated air is used for combustion.

Educational Facilities

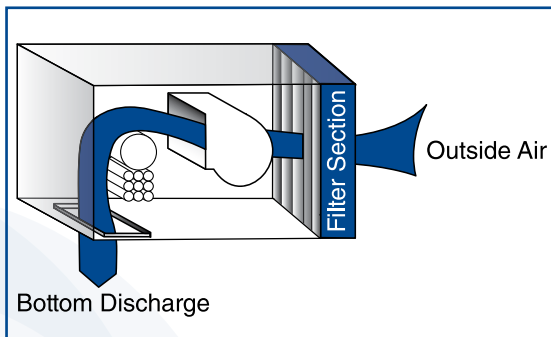
- Using a heating unit where combustion by-products are vented outside of the heated space is common in large open areas of schools and universities, such as in gymnasium spaces.

MODEL		8500-35	8500-45	8500-50	8500-65	8500-75	8500-85	8500-100	8500-125	8500-150
Airflow	(CFM)	3,500-6,000	3,500-6,000	4,000-8,000	4,000-8,000	6,000-12,000	6,000-12,000	6,000-12,000	10,000-18,000	13,000-24,000
	(m ³ /h)	5,900-10,200	5,900-10,200	6,800-13,600	6,800-13,600	10,200-20,400	10,200-20,400	10,200-20,400	17,000-30,600	22,100-40,800
Output	(MBH)*	240-350	240-450	240-500	520-650	520-750	520-850	520-1,000	560-1,250	560-1,500
	(kW)	70.3-102.5	70.3-131.9	70.3-146.5	152.4-190.5	152.4-219.8	152.4-249.1	152.4-293.1	164.1-366.3	164.1-439.6

MODEL		8500-175	8500-200	8500-225	8500-250	8500-275	8500-300	8500-350	8500-400	8500-450
Airflow	(CFM)	13,000-24,000	21,000-37,000	21,000-37,000	21,000-45,000	21,000-45,000	30,000-45,000	35000-57,000	35,000-57,000	35,000-57,000
	(m ³ /h)	22,100-40,800	35,700-62,900	35,700-62,900	35,700-76,500	35,700-76,500	51,000-76,500	59,500-96,800	59,500-96,800	59,500-96,800
Output	(MBH)*	600-1,750	600-2,000	600-2,250	600-2,500	720-2,750	720-3,000	720-3,500	1,400-4,000	1,400-4,500
	(kW)	175.8-512.9	175.8-586.1	175.8-659.4	175.8-732.7	211.0-805.9	211.0-879.2	211.0-1,025.7	410.3-1,172.3	410.3-1,318.8

*1 MBH = 1,000 Btu/h

Model Configurations

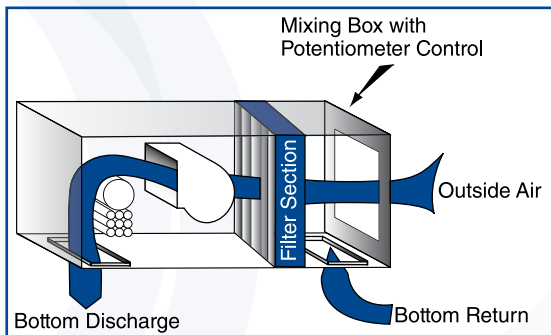


Make-Up Air (MUA) Models

Design: 100% outside air with a fixed discharge air volume.

Function: Supplies direct replacement air for building mechanical exhaust.

Application: Used as make-up air for paint booths and other industrial processes which incorporate mechanical exhaust.

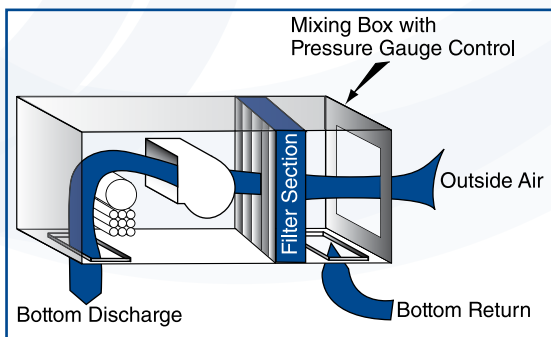


Fixed Recirculation (FR) Models

Design: Manual modulation of outdoor air/return air mix from 0% to 100% with use of mixing box and factory-mounted potentiometer on remote panel.

Function: Provides efficient, low-cost heating where minimum ventilation rates are required.

Application: Used in warehouses, distribution centers, retail outlets, etc.



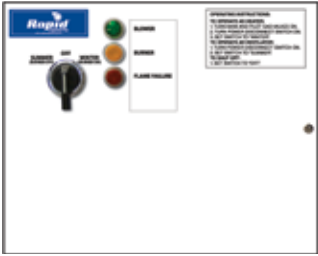
Air Management (AM) Models

Design: Automatic modulation of outdoor air/return air mix from 0% to 100% with use of mixing box and pressure controller.

Function: Automatically responds to building pressure and temperature needs.

Application: Used in industrial and commercial buildings that have air quality and specific air management requirements.

Remote Panels for Heat-Only Units



8.1 Remote Panel with any Type of Burner

This remote panel controls the air turnover unit based on return air temperature. It includes a Summer/Off/Winter switch and three indicator lights (blower operation, burner operation and flame failure).

SUMMER Mode:

The blower operates continuously without the burner for summer ventilation.

WINTER Mode:

The blower operates continuously. The burner cycles on/off with it staging on/off, staging high/low/off or modulating (depending on burner type) while in operation to meet the return temperature set point, as selected on the controller/duct stat. (The controller/duct stat is factory-mounted in the intake plenum.)

Dimensions:

10" L x 8" H x 4" D (25 cm L x 20 cm H x 10 cm D) NEMA1 Enclosure



8.5 Remote Panel with On/Off or High/Low/Off Burner

This remote panel controls the air turnover unit based on space temperature. It includes a Summer/Off/Winter switch, three indicator lights (blower operation, burner operation and flame failure) and room thermostat.

SUMMER Mode:

The blower operates continuously without the burner for summer ventilation.

WINTER Mode:

The blower operates continuously. The burner cycles on/off with it staging on/off or staging high/low/off (depending on burner type) while in operation to meet the space temperature set point, as selected on the thermostat. (Thermostat is factory-mounted on the remote panel.)

Dimensions:

10" L x 8" H x 4" D (25 cm L x 20 cm H x 10 cm D) NEMA1 Enclosure



8.5 Remote Panel with Modulating Burner

This remote panel controls the air turnover unit based on space temperature. It includes a Summer/Off/Winter switch, three indicator lights (blower operation, burner operation and flame failure) and room thermostat.

SUMMER Mode:

The blower operates continuously without the burner for summer ventilation.

WINTER Mode:

The blower operates continuously. The burner cycles on/off with it modulating while in operation to meet the space temperature set point, as selected on the thermostat. (Thermostat is factory-mounted on the remote panel.)

Dimensions:

12" L x 16" H x 4" D (30 cm L x 41 cm H x 10 cm D) NEMA1 Enclosure

Installation Code and Annual Inspections:

All installation and service of RAPID® equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Rapid Engineering LLC and conform to all requirements set forth in the Rapid Engineering LLC manuals and all applicable governmental authorities pertaining to the installation, service, operation and labeling of the equipment. To help facilitate optimum performance and safety, Rapid Engineering LLC recommends that a qualified contractor conduct, at a minimum, annual inspections of your RAPID® equipment and perform service where necessary, using only replacement parts sold and supplied by Rapid Engineering LLC.

Further Information: Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through RAPID® representatives. Please contact us for any further information you may require, including the Installation, Operation and Service Manual.

This product is not for residential use.

This document is intended to assist licensed professionals in the exercise of their professional judgement.

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