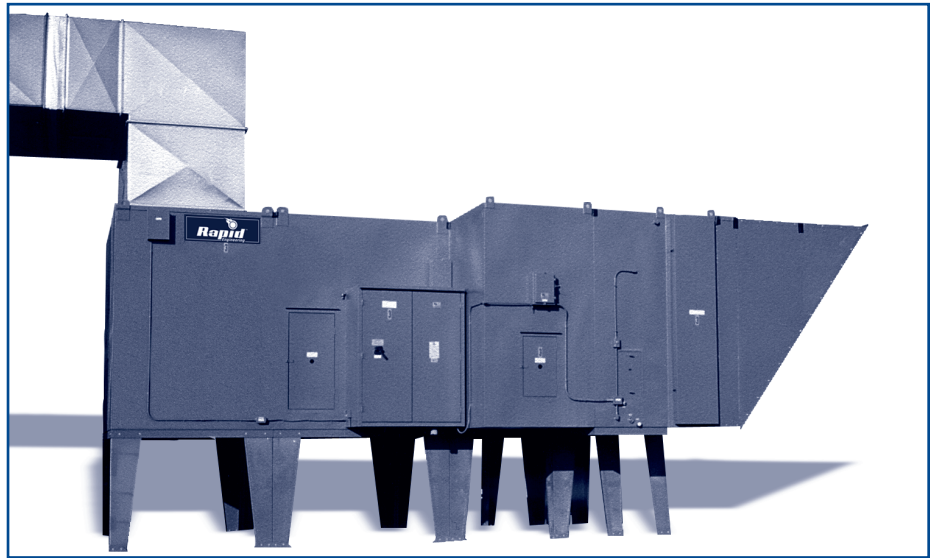


## Direct-Fired Heating, Cooling and Ventilation Systems



- Improved indoor air quality – Helps dilute and expel airborne contaminants making exhaust systems operate more efficiently.
- Heating and ventilation flexibility– System can be designed to automatically modulate outdoor air, return air and/or discharge air volume to meet application needs.
- Consistent temperatures and less stratification – Optional cooling effectively reduces indoor air temperatures to help keep people and processes productive.
- Improved efficiency and quiet operation from airfoil style fans.
- Less maintenance downtime - Fan bearings with L-10 rated life of over 100,000 hours.
- Heavy-duty construction - Internal structural steel framework and exterior skin are welded together.
- Ease of management and control – Optional computer-based Intelligent Controls provide system information easily and effectively.
- Cost savings – Heating systems deliver 100% of the heat generated into the building resulting in energy savings.

**1.800.536.3461**



CANADA: 100% OUTSIDE AIR ONLY



# RAPID™ 4000-Series

**RAPID™ 4000-Series air handlers improve indoor air quality and provide air comfort.**

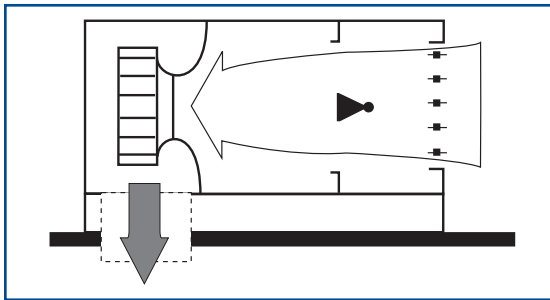
RAPID™ 4000-Series air handlers can be designed to efficiently establish and maintain a slightly pressurized condition in your facility as outdoor air is gently tempered and, as required, mixed with existing indoor air.

NOTE: All models are available in upright or horizontal as well as indoor or outdoor configurations.

Model	4024	4036	4040	4044	4049	4054	4060	4066	4073	4080	4089
CFM	5,000 - 10,000	10,000 - 25,000	15,000 - 30,000	20,000 - 35,000	25,000 - 45,000	30,000 - 50,000	30,000 - 60,000	35,000 - 80,000	40,000 - 95,000	55,000 - 100,000	55,000 - 150,000

## Model Configurations

### 4000 MUA Models



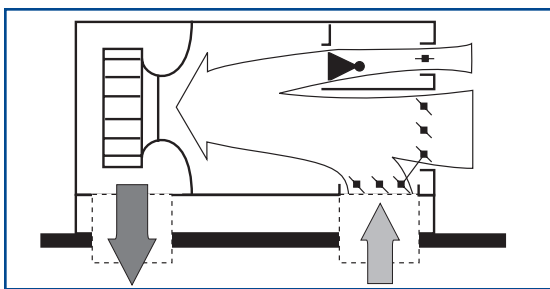
#### Make-Up Air

**Design:** 100% outdoor air and a modulating burner with a 30:1 turndown ratio. Discharge air volume can be fixed or variable (with use of variable frequency drive).

**Function:** Supplies direct replacement air for building mechanical exhaust.

**Application:** Used as make-up air for industrial processes which incorporate mechanical exhaust.

### 4000 AM Models



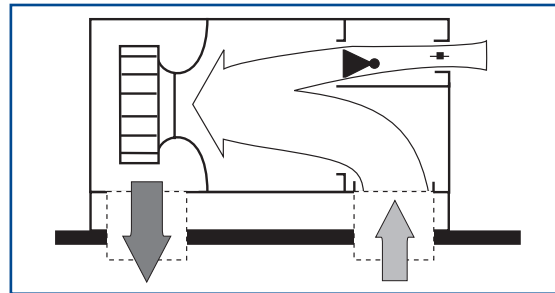
#### Air Management

**Design:** Variable outdoor air from 20% to 100%, and a modulating burner with a 30:1 turn-down ratio. Discharge air volume is fixed.

**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.

### 4000 FR Models



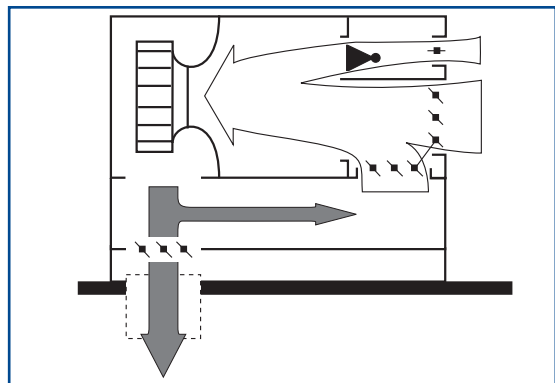
#### Fixed Recirculation

**Design:** Fixed 80% air turnover rate and 20% outdoor air replacement rate and a modulating burner with a 30:1 turndown ratio. Discharge air volume is fixed.

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

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

### 4000 VAV Models



#### Variable Air Volume

**Design:** 100% outdoor air and a modulating burner with a 30:1 turnover ratio. Discharge air volume is variable.

**Function:** Works the same as the AM Model, except all recirculated air passes through a bypass section, not the building.

**Application:** Used where building pressurization is desired and where contaminants produced by the industrial or commercial process should not be recirculated.

# RAPID™ 4000-Series Features

## Long Lasting Construction Provided by:

- Heavy-duty, corrosion-resistant galvanized steel housing.
- Welded frame construction.
- Two-coat, water-based, weather-resistant cabinet paint.
- Heavy-duty, factory-installed motor and drive package designed for long-lasting performance.

## Reliable, Efficient System Operation Provided by:

- 30:1 fully-modulating burner that maintains 100% combustion efficiency.
- Airfoil fan wheel.
- Electric spark ignition system.
- System that puts 100% of the available heat in the airstream, not out a flue.
- Compliance to ETL per ANSI Z83.18 or Z83.4 standards.
- Unit that uses up to 50% less energy.
- Remote Control Panel for easy operation and remote temperature adjustment.
- Electronic fuel modulation providing immediate response.
- Operation of fan only in warm weather to enjoy free ventilation cooling.
- Positive low-fire start.
- High temperature and low temperature automatic shutdown.
- Fused primary circuits.

## Ease of Installation/Maintenance Provided by:

- Large tooled access doors for easy access to blower, motor, drives and burner.
- Number-coded wires and terminal strips.
- Blower installed downstream of burner for convenient access.
- One power and gas connection
- Hoisting eyes for lifting and placing components.
- Field start-up checklist and rigging manual.

## Other 4000-Series Options:

- Discharge plate or heads with optional motorized blades.
- Roof curbs, mounting legs and service platforms.
- Outdoor air filters, filter mix boxes and inlet hoods/plenums (High efficiency filtration available).
- Class II and III fan wheels / aluminum wheels and inlet cones
- Double-wall, high temperature and stainless steel cabinet construction.
- Premium-efficiency motors.
- Low-leakage dampers.
- Usable with high external static and high gas inlet pressures.
- Variable frequency drives.

## 4000-Series Intelligent Controls Features:

- Module can monitor, diagnose, log and report on more than 30 functions including temperature, humidity and building pressure.
- Windows™-based displays simplify set up and changes.
- Hourly collection of air handler data allows trending and in-depth analysis.
- Compatible via modem or internet with Bacnet®, ModBus®, N2Bus®, Lonworks®, etc. systems.

## 4000-Series Conventional Controls Features:

- Low-temperature automatic shutdown.
- Space temperature control for added comfort.
- 7-day time clock.
- Remote Control Panel with burner and blower switches for easy operation.
- Mild weather stat.
- Dynamic Building Pressure Control.

# RAPID™ 4000-Series Optional Cooling Packages

## Evaporative Cooling

RAPID™ 4000-Series evaporative cooling system is an economical solution. It requires no air-cooled condenser, chiller or cooling tower, chilled water pumps or distribution piping/insulation, major motor control center or electrical gear. Operating costs are a fraction of similar-capacity mechanical refrigeration systems.

Evaporative cooling works when warm air passes over specially treated wetted media. The heat passes from the air to the wetted media, causing the water to evaporate and inside air to cool.

## Mechanical Cooling

For situations requiring temperature and humidity levels lower than the performance parameters available with outdoor air alone or with evaporative cooling, RAPID™ 4000-Series offer a broad range of cooling options.

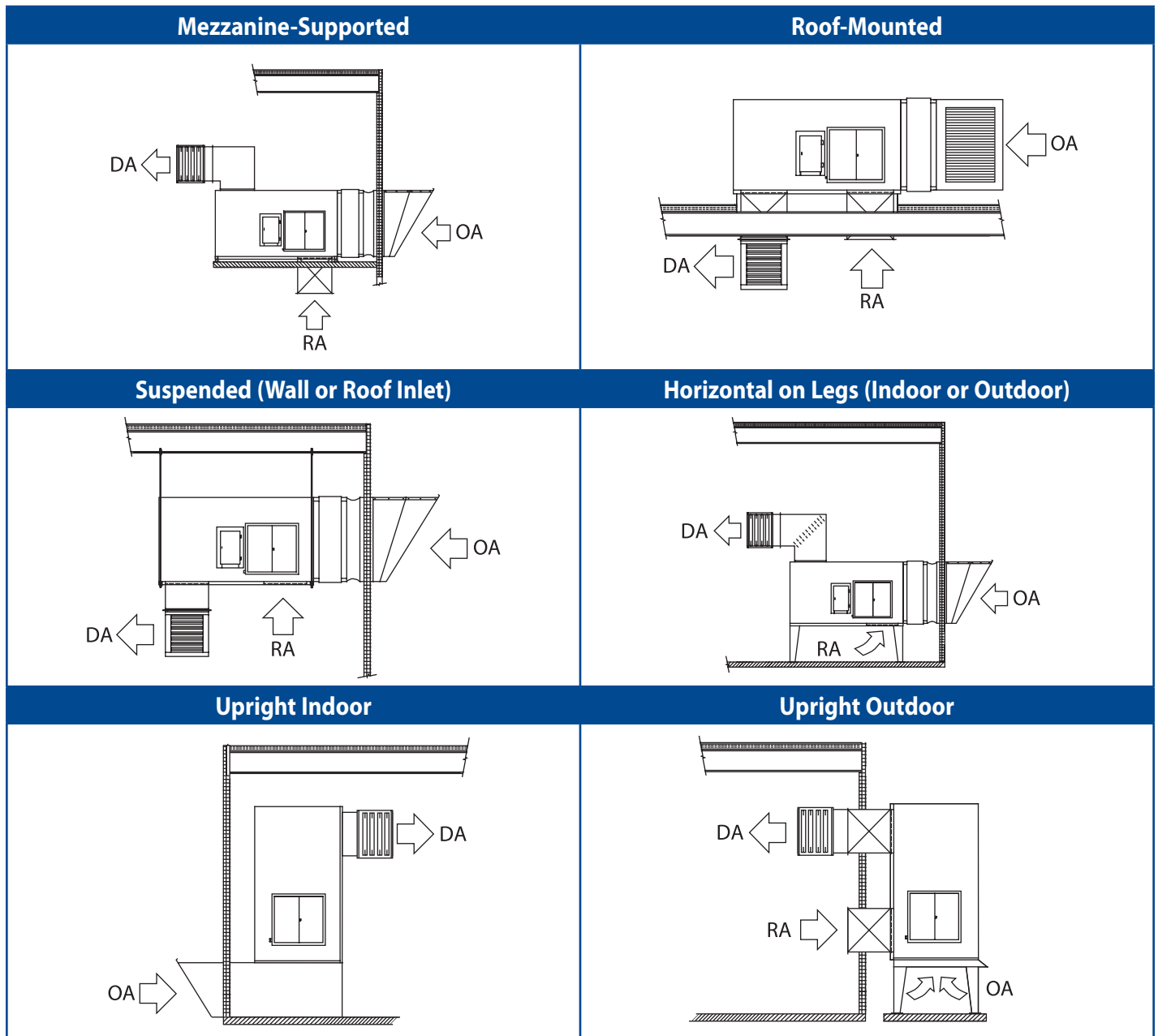
Cooling options can be added by simply installing one of our coil sections equipped with the appropriate cooling coils and a condensing unit or chiller. The versatility afforded by the coil section enables you to utilize DX refrigerant, chilled water or other types of cooling coils in your system.

## Reheating After Cooling

If your requirements are such that reheating the air after cooling is necessary to maintain comfort levels, an electric, hot-water or steam coil can be installed in the same RAPID™ coil section.

Heating coils can also be used as sources of heat instead of the standard direct-fired burner during the heating season. As such, they are more viable for certain kinds of projects, such as locations with a steam boiler plant for process loads. Another option is to supplement your direct-fired heat with recovered heat by using a heat-recovery coil. Rapid Engineering can readily build units to take advantage of various situations.

# Typical Installations



## LEGEND

OA = Outside Air

DA = Discharge Air

RA = Return Air

### Installation Code and Annual Inspections:

All installations and service of RAPID™ products must be performed by a contractor qualified in the installation and service of products sold and supplied by Rapid Engineering and conform to all requirements set forth in the RAPID™ manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Rapid Engineering recommends that a qualified contractor annually inspect your RAPID™ products and perform service where necessary, using only replacement parts sold and supplied by Rapid Engineering.

**Further Information:** Applications, engineering and detailed guidance on systems design, installation and product 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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