

## COMMERCIAL + INDUSTRIAL SERVICES

bulletin

Technological advances in energy generation, distribution and delivery proceed at a remarkable pace. The options available to any commercial or industrial operation are as varied as they are numerous.

At Bay State Gas we strive to provide you the latest in technology and information on the most advanced and efficient natural gas energy solutions that are right for your business.



## MAKE UP AIR SYSTEMS

**Make-up Air Systems**

- > Improved indoor air quality
- > Improved equipment operation by supplying an adequate supply of combustion air
- > Reduce cold air infiltration by heating outside air as it enters the building
- > Reduce the infiltration of dust and dirt
- > Improve occupant comfort and health by eliminating drafts
- > Increase employee productivity and reduce absenteeism
- > Improve overall building and systems efficiency and operation

**Facilities that may benefit from Make-up Air systems include:**

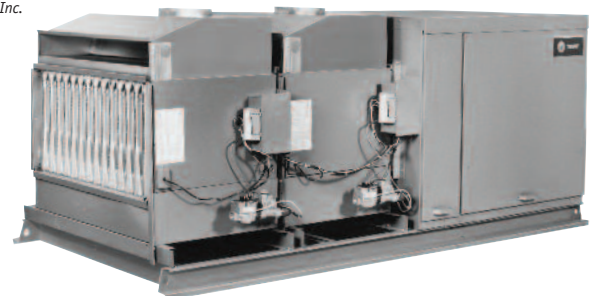
- > Retail stores
- > Warehouses
- > Manufacturing facilities
- > Food processing plants
- > Indoor sports facilities

**Make-Up-Air Systems Provide Significant Operational Benefits**

Proper ventilation in commercial and industrial buildings is important to maintain good indoor air quality and the comfort and health of facility occupants. Today's Federal standards require that a building's ventilation system bring in 15-20 cfm of outdoor air per person. However, problems can result when cold outdoor air is pulled into the building without proper conditioning. Cold drafts can develop, and exhaust and ventilating systems may not work properly. An air-starved building can leave occupants feeling cold and lead to a variety of health and equipment operating issues. A make-up air heater warms incoming air, improves the overall operation of your building's HVAC system, and provides sufficient air for efficient operation of combustion equipment.

**Make-up Air Systems**

*Direct fired make-up air heating system. Photo courtesy of Trane USA, Inc.*



*Make-up air heating system. Photo courtesy of Trane USA, Inc.*

### What are the Symptoms of Poor Ventilation?

- > Doors that are difficult to open
- > Persistent odors
- > Equipment pilot light failures
- > Weeping walls
- > Cold building perimeters
- > Metal corrosion
- > High employee absenteeism
- > Accumulation of debris near doors

### Make-up Air Heaters are Efficient and Economical

Commercial and industrial buildings exhaust large volumes of air. Industries exhaust air to rid the factory floor of odors, fumes, vapors and particulates. All buildings require fresh air to maintain a healthy environment and for the proper operation of fuel-burning equipment.

Air that is removed from the building through exhaust hoods, dust collectors, process exhaust, ventilators and other devices must be replaced with an equal amount of outside air, a process known as makeup air. Without sufficient makeup air, negative pressure problems can result, especially as buildings become better insulated and "tighter." The symptoms of negative pressure can be costly and serious – from faulty products and excessive costs to poor working conditions and employee absenteeism.

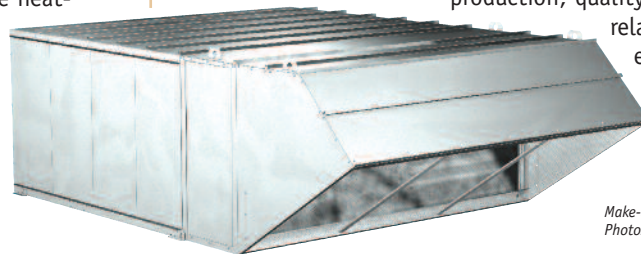
Drawing on either outside air or a combination of indoor and outdoor air, make-up air heaters improve overall space heating efficiency by reducing the intake of uncontrolled

cold air and decreasing building heating requirements. The heaters improve indoor air quality and contribute to greater occupant comfort without significantly increasing energy consumption. Further, sufficient make-up air will provide the necessary combustion air required to maintain efficient operation of gas appliances. Make-up air heaters protect your investment in your equipment and building and improve worker comfort and productivity, while maintaining compliance with indoor air quality requirements. Natural gas make-up air equipment provides a simple, efficient and economical solution to inadequate ventilation problems.

Fortunately, the signs of inadequate make-up air are obvious and easily detected, if you know what to look for. If you already have a make-up air system, expansion of your plant

can alter the balance of the air flow, so your current system should be re-evaluated periodically to make sure it is adequate for your needs. Inadequate

make-up air can directly or indirectly affect every function of your business – production, quality control, employee relations, plant engineering and maintenance.



Make-up air systems  
Photos courtesy of Greenheck Fan Corp.



## Partners In Energy Working Together

YOUR SOURCE FOR ENERGY SOLUTIONS

If you believe make-up air heating technology is an appropriate consideration for your operation, our **Partners In Energy** program can assist you. We offer financial incentives to help you minimize your upfront cost by sharing a portion of the cost to design, purchase and install the equipment. Simply follow the program guidelines to qualify for matching funds.\*

These rebates, combined with the reduction in your overall energy expenses can provide an outstanding return on investment that will pay dividends for years to come.

\*Program restrictions apply. Limited time offer.

FOR MORE INFORMATION call us toll-free

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 **Bay State Gas** [baystategas.com](http://baystategas.com)  
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