

SuperMod™ High Turndown Gas Burner

System Solutions from McQuay

"How can I continuously provide the minimum outdoor air requirements outlined in ASHRAE Standard 62.1-1999 and still keep my building project within budget?"

This has been a question asked by many building owners and their consulting engineers. Packaged rooftop systems have always offered many performance and cost benefits desired by owners and engineers. However, providing the high minimum outdoor air requirements of ASHRAE Standard 62.1-1999 challenged the ability of rooftop systems to maintain space comfort conditions while addressing widely varying heating loads. This has been particularly true of variable air volume (VAV) systems at light load low ambient conditions, 100% make-up air systems, and dehumidification systems requiring low temperature rise reheat.

Now there is a solution: The flexible, efficient, factory installed SuperMod High Turndown Gas Burner, available only in McQuay RoofPak™ applied rooftop systems and rooftop air handlers.

Packaged, Economical Comfort Control

McQuay's SuperMod burner is the most advanced indirect gas fired heating system available today for demanding VAV, 100% make-up air, and dehumidification systems, as well as conventional constant volume systems. Its patent pending, fully modulating design provides precise heating control to accurately temper airflow and maintain tenant comfort in the diverse operating conditions encountered in modern building environments. With the SuperMod burner, building owners and consulting engineers can now specify packaged rooftop systems with a single heating source to temper the outdoor air requirements outlined in ASHRAE Standard 62.1-1999, at full and part load conditions, without compromising performance or their budget.



SuperMod Features

- Full 20:1 turndown with continuous modulation between 5% and 100% capacity.
- Operates at normal inlet gas pressures throughout the entire modulation range.
- 14 burner sizes ranging from 200 to 2,000 MBH output capacity.
- UL Listing of the burner and gas train assembly.
- ETL Listing of the entire heating system for U.S. and Canadian installations.

SuperMod System Benefits

- A comfortable tenant environment through precise temperature control, even in demanding applications such as VAV, 100% make-up air, and dehumidification systems.
- Reduced design, equipment and life cycle costs provided by a properly sized, factory installed, single heating source.
- Efficient, economical natural gas heating, along with the benefits of stable operation and improved control accuracy.



McQuay[®]
Air Conditioning

SuperMod™ High Turndown Gas Burner

Superior Modulation Capability

McQuay's SuperMod burner provides full 20:1 turndown capability with continuous modulation between 5% and 100% of capacity, at normal inlet gas pressures.

Continuous modulation, in this case, is defined as control at 5%, 6%, 7%, and so on, up to 100% capacity, to provide just the right amount of heat. SuperMod does not use a final fixed "step" of control where the burner will cycle down immediately from a minimum modulation stage (i.e. 33%) to pilot, nor does it require unrealistic inlet gas pressures to achieve low end control.

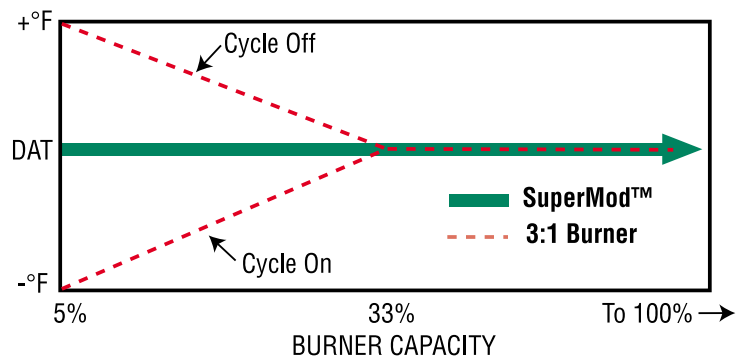
Flexible Sizing Options

With 14 available sizes ranging from 200 to 2,000 MBH output capacity, the right SuperMod burner is available to match your specific heating requirements. If you need 100% make-up air heating, or morning warm-up heat with the ability to temper the high minimum outdoor air concentrations inherent in ASHRAE 62.1-1999, there is a McQuay SuperMod burner that can provide the solution. While others may try to compromise your project with limited selections, McQuay has a SuperMod burner that will closely match your needs.

Precise Temperature Control

The superior modulation capability and flexible sizing options of the SuperMod burner enable the consulting engineer to precisely address the varying heating loads of demanding applications. VAV, 100% makeup air, and dehumidification systems all demand modulating heat control to satisfy varying comfort requirements. For example, a VAV system complying with ASHRAE Standard 62.1-1999 using McQuay's DesignFlow™ Precision Outdoor Air Control System can have mixed air temperatures (MAT) that vary widely with changing load and outdoor conditions. As the outdoor air temperature and supply CFM fall, outdoor airflow becomes an increasing percentage of the supply air volume. The resulting MAT can become too cold to maintain space comfort conditions and reheat is required. At moderate conditions, this reheat requirement can be very low, but no less critical.

Competitive burners with limited 3:1 turndown capability cannot address these light heating loads and will cycle on and off when they can modulate no further. By attempting to size the burner to meet light heating loads, the capacity needed to meet the system's design heating load is sacrificed, or vice versa. The result is a system compromise that produces inadequate comfort control and/or adds expensive remote tempering to maintain comfort conditions. McQuay's SuperMod will efficiently and economically meet your heating requirements, from full heat to tempering mixed air in VAV systems, without adding design, equipment, installation, and life cycle costs to your budget.



SuperMod 20:1 Burner Versus 3:1 Burner

Under light heating loads where 3:1 burners cycle on and off, the SuperMod can still maintain discharge air temperature (DAT) at the set point.

Total Indoor Environment Control, Only From McQuay

The SuperMod High Turndown Gas Burner is one of many innovative solutions for rooftop systems from McQuay. Along with the advanced MicroTech II™ Applied Rooftop Unit Control system and the DesignFlow™ Precision Outdoor Air Control System, the SuperMod burner is another example of how McQuay RoofPak applied rooftop systems and rooftop air handlers provide the most effective, efficient indoor environment control.

Contact your local McQuay Sales Representative for more information on how your building environment can benefit from innovative McQuay rooftop systems.



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