

## Aero® 39M Air Handlers

# Indirect Fired Gas Heaters

Indirect fired gas heaters are available in Carrier's 39M air handler in sizes 06-110 ranging in capacities from 100 to 6,000 MBH with at least 3 heating input options per unit size.\*

With a minimum standard 10:1 turndown ratio, the 39M gas heaters can match the heat output to a specific load maintaining tight temperature control while minimizing operating costs.

### Why use a gas heat system?

Gas heaters provide a cost effective heating solution from both an initial capital cost as well as a life cycle ownership cost.

Unlike hot water or steam heating systems, a gas heat system, by not requiring additional equipment such as boilers and pumps, can avoid additional energy consumption from the heating and conveyance of the fluid or steam.

### Why use an indirect gas fired system?

An indirect gas fired system provides peace of mind as the products of combustion do not come in contact with the re-circulated air. In an indirect fired system, the gas burner is fired into a radiant tube type heat exchanger which is separated from the supply air stream.

This system is recommended for all applications as it provides heat without contamination from the by-products of combustion.

In contrast, a direct gas fired system will introduce the products of combustion and additional moisture directly into the supply air stream.

Direct fired systems are restricted to applications such as large warehouses, manufacturing plants, and other types of commercial/industrial facilities and are not recommended for office buildings, schools or densely populated spaces.

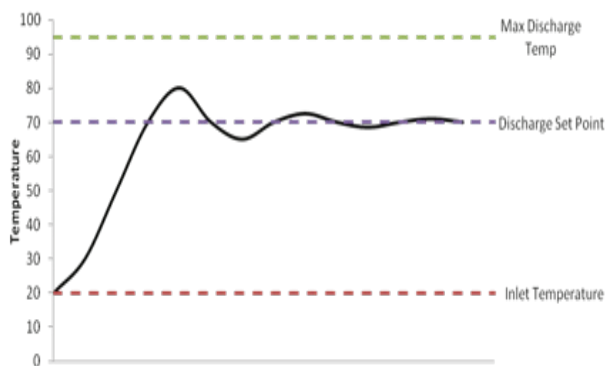


Figure 1

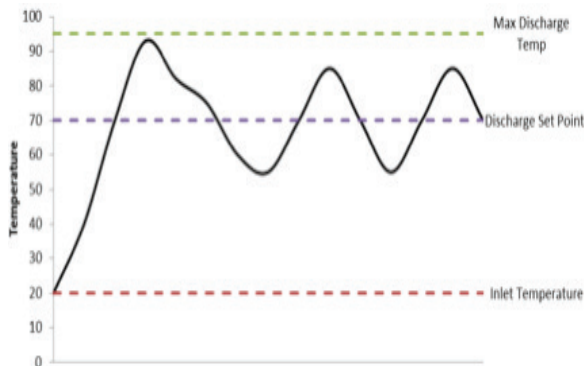


Figure 2

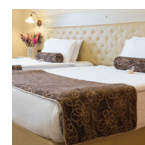
Figure 1, above, shows a typical temperature profile of a gas heating system with a high turndown ratio. This high ratio provides the tight control needed to provide an accurate and consistent leaving air temperature off of the gas heater. In comparison, Figure 2 shows a temperature profile of a gas heating system with a low turndown ratio and, as can be seen, poor leaving air temperature control exists.



AUDITORIUMS



EDUCATION



HOSPITALITY



INDUSTRY



OFFICES



RETAIL



CONTROL



EFFICIENCY



SAVINGS

### Indirect gas fired tubular furnaces in Carrier's 39M provide:

- Induced draft gas heat combustion with inshot burners and a heat exchanger with flue gases under negative pressure
- Low airside pressure drop which can reduce the required fan horsepower as compared to drum & tube style heat exchangers
- Standard minimum 10:1 turndown ratio with options available up to 60:1
- Higher turndown ratios than drum & tube style without the risk of continuous condensation
- 100% Outside air capability
- Standard type 409 stainless steel construction with optional type 304L
- Minimum field setup required
- Single point gas & electrical supply connections for the gas heater
- Control Board with 0-10VDC external input
- Integrated operating and safety controls prewired to a sequencer for system control
- ETL listed
- ANSI Z83.8 (2006) - CSA 2.6M (2006)
- Optional indoor or outdoor flue kit



### Induced draft with inshot burners

This type of burners keeps the flue side under negative pressure on the inside of the heat exchanger pulling out all the products of combustion from the heat exchanger.

### Always in a blow thru arrangement

In the event of a heat exchanger failure, this Arrangement minimizes the possibilities of any products of combustion entering the circulating air stream and therefore the heated space.

### The importance of a high turndown ratio

The gas heaters in the 39M are available with a minimum turndown ratio of 10:1 with options as large as 60:1 depending on the size of the unit.

## Summary

The 39M offers a wide range of modulating indirect tubular gas heaters.

Carrier's 39M gas heater provides a cost effective, reliable and highly controllable heating solution giving you peace of mind in all your applications.



Carrier® 39M Air Handler



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