

# COMPLETE HEAT

## TF/TFR BURNERS:

The Pyronics TF and TFR Packaged Immersion Tube Burner Series are designed to offer the equipment designer and user a completely pre-wired, pre-piped burner package for heating liquid process tanks. TF burners utilize standard nozzle mix burner heads and are intended for applications with "conventional" sized firing tubes with diameters up to 12" and length to diameter ratios up to 80:1 depending on tube diameter.

TFR burners are specifically designed to maximize the heat release in small diameter tubes 2-1/2" through 8" and length to diameter ratios up to 150:1. The system offers the precise package required for virtually all types of small bore immersion tube process heating applications. Burners can be supplied with integral combustion air blowers for maximum nominal inputs ranging from 170,000 Btu/hr to 3,300,000 Btu/hr. Higher firing rates are possible with induced draft exhaust fans and/or higher capacity/pressure stand alone combustion air blowers. Depending on immersion tube selection TF/TFR burner applications can produce thermal efficiencies of over 80%.

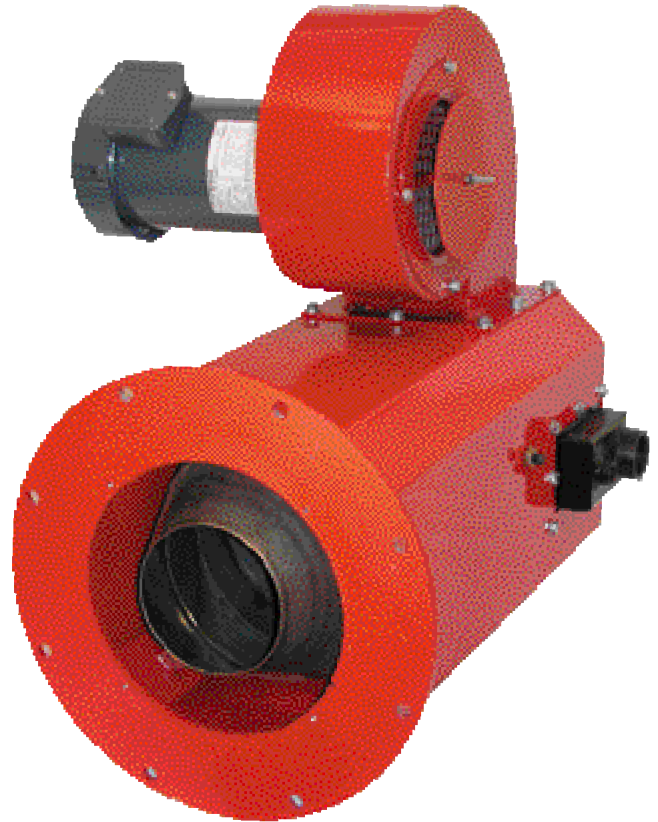
## COMPLETE PREPACKAGED BURNERS:

### *Each burner unit is supplied with:*

- A packaged and pre-piped FM or IRI gas safety valve train assembly.
- Integral combustion air fan.
- Complete gas valve assembly consisting of pilot/start valve assembly and ratio controls.
- Complete pre-wired flame failure and automatic ignition controls.
- Electrical components pre-wired to a terminal enclosure.
- Special mounting, valve arrangements and additional controls available upon request.

### *Additional Features:*

- Ease of maintenance and installation.
- Nozzle and combustion tube can be removed without unbolting the burner off the mounting flange.
- An access panel on the burner casing allows easy access to the gas nozzle, spark plug and flame sensor.



### *Applications Include:*

- |                   |                          |
|-------------------|--------------------------|
| Parts Cleaning    | Bottle Washers           |
| Water Heating     | Plating Solutions        |
| Salt Bath Heaters | Acid Bath Heaters        |
| Produce Washing   | Spray Washers            |
| Quench Tanks      | Product Storage Tanks    |
| Vaporizers        | Most Liquid Tank Heating |

## THE TFR BURNER:

The TFR burner head has been specifically developed for small bore applications and is available for firing into immersion tubes with diameters up to 8" and length to diameter ratios up to 150:1 depending upon tube diameter. To prevent overheating of the burner components and immersion tubes at high firing rates, the burner has been designed with a split combustion cone head where air is introduced into the flame at three points to provide cooling.

TFR series burners can be supplied for operation on either natural or LP gases and are available in 8 basic sizes, ranging from 240,000 Btu/hr to 2,600,000 Btu/hr. Higher firing rates are possible with the use of draft fans and/or stand alone high pressure and capacity combustion air blowers.

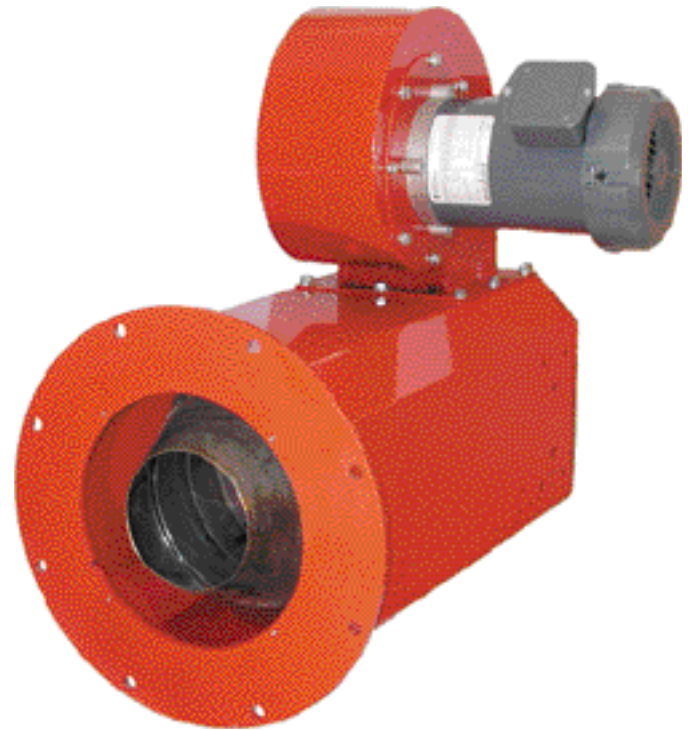
## THE TF BURNER:

The TF burners utilize standard nozzle mix burner heads and are intended for application to "conventional" sized firing tubes with diameters up to 12" and length to diameter ratios up to 80:1 depending on tube diameter.

TF series burners can be supplied for operation on natural or LP gases and are available in 10 basic sizes, ranging from nominal thermal capacities of 170,000 Btu/hr to 3,300,000 Btu/hr.

## GAS SUPPLY:

All valve assemblies on the burners are sized to suit an inlet gas pressure of 8" WC (natural gas) or 12" WC (LP gases). Burners can be supplied to suit other gas types and supply pressures.



## GAS SAFETY VALVE TRAINS:

An FM or IRI gas safety valve train can be supplied with the burner. The valve trains are complete with blocking valves, proof of closure if required, vent valve if required, and high and low gas pressure switches. The valve trains are pre-piped and all components are pre-wired to the standard terminal enclosure mounted on the burner.

## INSTALLATION AND START UP:

All TF and TFR completely packaged burners are test fired prior to shipment. The burners are designed for ease of installation and maintenance and are supplied with complete installation, operating and maintenance manuals. Parts and service are available worldwide through Pyronics' international sales force.



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