

### Capacity Range:

With Integral Blower 239,000 BTU/hr to 2.6 MM BTU/hr  
With External Blower 512,000 BTU/hr to 5.0 MM BTU/hr



## TFR Package Burner™

The TFR package series burner fires immersion tubes in liquid tanks for small bore applications with diameters of 2.5" to 8" (63 to 200 mm). Packages can produce high fire thermal inputs up to 2.6 MM BTU/hr using natural gas or propane. Powerful high-velocity flames scrub the tube surface to achieve system efficiencies of over 80%. External blower versions are available to generate more heat output up to 5 MM BTU/hr.

### How It Works

The TFR burner series uses a progressive cone stack, allowing air into the flame at 3 points for stability and internal cooling for the combustion tubes. The nozzle assembly uses fuel and air jets to create a progressive mixing zone. The burners can be customized to include pre-piped, pre-wired, fuel trains, and controls.

- Basic burner assembly includes:
  - > Burner
  - > Spark ignitor
  - > Flame rod
  - > Peep sight
- Mounted, pre-wired NEMA 4 or NEMA 12 control panel with external display includes:
  - > Flame safety monitoring/control
  - > Optional high temperatures and temperature control units
  - > On-off switch and reset button
  - > Burner run & flame failure
- Integral combustion air blower fitted with TEFC blower motor (either 115/230/1/60 or 230/460/3/60) and air switch
- Gas train with:
  - > Automatic shut-off valves
  - > Pressure switches & regulators
  - > Meeting the requirements of NFPA 86 & CSA for operations in North America
  - > Configurations for operation in other countries are available; consult factory
- Multiple control options including:
  - > Air and fuel control with control motor and butterfly valve
  - > Fixed Air – Gas Hi/Lo
  - > Fixed Air – Gas Modulation
  - > Ratio Modulation – Air and Gas Proportional

### Applications

- Parts cleaning
- Water heating
- Salt bath heaters
- Produce washing
- Quench tanks
- Vaporizers
- Bottle washers
- Plating solutions
- Acid bath heaters
- Spray washers
- Fryers
- Liquid tank heating



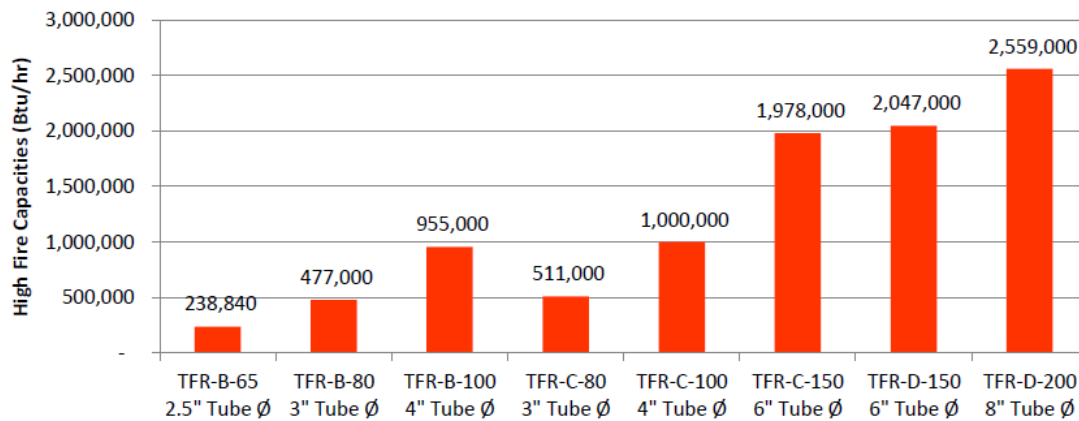
Diverse Combustion Technologies. One Reliable Source.

# Operating Principles

Depending on the tube diameter, the TFR Burner provides length-to-diameter ratios up to 150:1 for applications that require 512,000 to 3.5 MM Btu/hr.

The TFR is designed with a small “footprint” for high efficiency heat transfer in smaller tubes to reduce size and cost. For applications requiring higher thermal inputs or firing in larger immersion tubes, TFR burners can be adapted with an external combustion blower. Burners may be ordered separately or with fuel train and controls neatly attached. A variety of options are available for regional and application requirements.

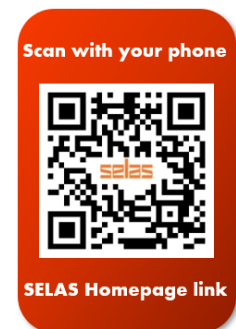
**TFR Burner Capacities (Btu/hr)**



Features	Benefits
Progressive mixing air cones	Stable, cool combustion with high velocity discharge for enhanced heat transfer
Industrial steel and stainless construction	Reduces weight and mounting cost over cast iron burners
Flexible packaging options	Allows burners to be installed in a wide variety of locations and applications
100% tested before leaving the factory	Provides quick and easy start-up

## Add-On Options

- External combustion air blower
- Ultra-violet scanner
- Temperature control
- High temperature limit
- Main gas regulator
- Remote terminal control panel



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