

# TF Series

## PRODUCT DATA SHEET

### Fluoropolymer Heater

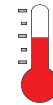
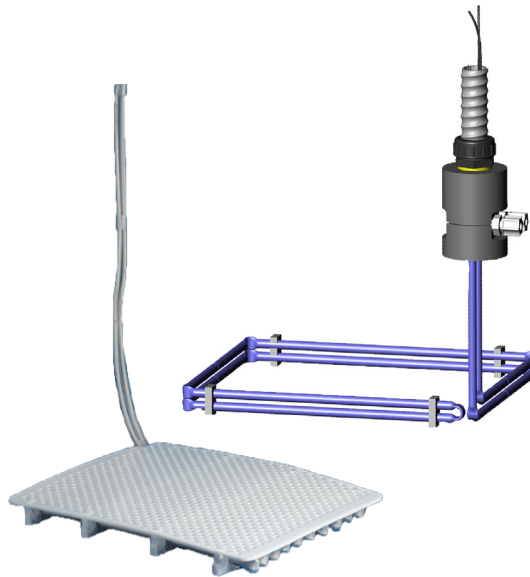
**Excellent chemical resistance to aggressive acids!**

Compatible with virtually any chemistry

Process temperature uniformity with low Watt density design

High efficiency & compact design

Extended service life with patented purge feature



Up to 130°C (266°F)



250 to 12,000 Watts

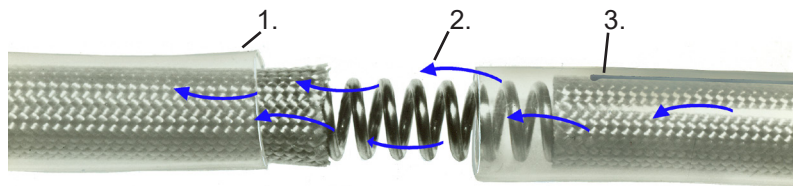


120 to 600 Volts  
Single or three phase



PTFE sheath

#### Purged Heater Element Construction



**1. Fluoropolymer Sleeve Heating Element**  
Resistance element sleeved in braided material for even coil separation. The entire element is given an outer sleeving of pre-tested & pre-extruded fluoropolymer tubing. THIS IS NOT A COATED PRODUCT.

**2. N<sub>2</sub> Purge System**  
Monitors heater integrity & prevents condensation or diffusion of corrosive gases by purging nitrogen or clean dry air through the tubing.

**3. Over-Temperature Thermocouple**  
Protects the integrity of the heater. If an operator should leave the heater on while draining or aspirating a tank, when used in conjunction with a temperature control device, it will automatically shut off the heater when it is exposed to air.

**PROCESS  
TECHNOLOGY**

ISO 9001:2015  
WITH DESIGN CERTIFIED

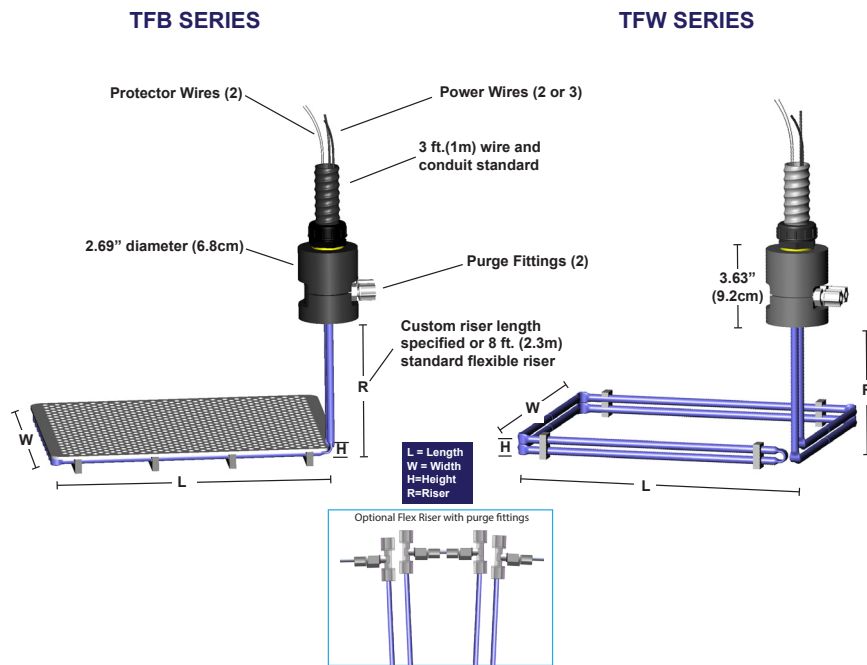
**Features & Values**

- Years of trouble-free performance in the most demanding chemical applications, such as semiconductor, FPD, MEMS, & biomedical industries
- PTFE heater element with 38mm (.015 in.) thick fluoropolymer sheath for safety & long service life
- Patented “purged” element design ensures maximum element life by removing chemical permeation
- 100% fluoropolymer wetted surfaces for virtually any non-flammable process solutions including HF & KOH
- Low Watt density design promotes process temperature uniformity

**Specifications**

<b>Wattages</b>	250 to 12,000 Watts
<b>Voltages</b>	120 to 600 Volts Single or three phase.
<b>Temperature Range</b>	Up to 130°C (266°F) For higher temperatures, see options section
<b>Options Available (Consult Factory)</b>	<ul style="list-style-type: none"> <li>▫ Custom heater configurations built to customer specifications</li> <li>▫ 76mm(.030 in.) thick sheath available for applications above 130°C or for use with certain chemistries, such as nitride etch or HF.</li> <li>▫ PID temperature control module</li> <li>▫ Element gas purge flow regulator panel</li> <li>▫ Special configurations &amp; lengths</li> <li>▫ Longer wire &amp; conduit lengths</li> <li>▫ Bolt down feature</li> <li>▫ Lower Watt densities for highly viscous solutions &amp; technical acids</li> <li>▫ Customized process &amp; over-temperature control sensors</li> </ul>

**Dimensions**



**Ordering Information**

<b>TFB Bottom Heater consist of:</b>
PTFE ensleeved heating element
PTFE guard
8 foot heater leads
Nitrogen purge connections
Overtemperature thermocouples
Optional "TCO" thermal cut off heater fuse

1	TFB	-	1000	-	XXX
<b>Number of Layers</b>	<b>Model</b>	<b>Wattage</b>	<b>Plan Number</b>		
1	TFB	250-12,000	XXX (assigned)		
2	TFW				
3					
4					

