



## Frontier Plus+

### Inline Chemical/Solvent Heater

## Frontier Plus+ Features and Specifications

- For those seeking to safely heat chemicals and solvents through indirect heat in harsh environments, Process Technology proudly presents our next generation ultra high-purity heater, The Frontier Plus+!
- The Frontier Plus+ has PFA and PTFE wetted surfaces to safely heat flammable solvents and provide an ultra level of purity suitable for metal-free solvent heating requirements.
- Frontier Plus+ is a high-wattage, high-flow inline chemical and solvent heater for use in a variety of applications and industries.
- No O-Rings in the fluid path help maintain an ultra clean heating process.
- Offers outstanding performance over a wide range of flow and temperature requirements.
- Choose between standard resistive heat source or optional Self-Limiting (PTC) heat source for enhanced safety.
- Comes in sizes up to 24kw

#### APPLICATIONS FOR HEATING INCLUDE, BUT ARE NOT LIMITED TO:

- |                                  |                                  |                    |
|----------------------------------|----------------------------------|--------------------|
| • EKC265                         | • EKC830                         | • ST28             |
| • EKC270                         | • ACT690C                        | • NMP              |
| • IPA                            | • HCl                            | • HF               |
| • H <sub>2</sub> SO <sub>4</sub> | • H <sub>3</sub> PO <sub>4</sub> | • HNO <sub>3</sub> |
| • MEK                            | • ST26                           |                    |

**CONSTRUCTION:** PFA and PTFE wetted surfaces, fluid pathway through manifold tubing oriented in a patented circular array.

**TEMPERATURE RANGE:** Up to 180°C (356°F) (Consult factory for watt density requirements).

**FLUID CONNECTIONS:** 1/2 inch (12mm), 3/4 inch (19mm) or 1 inch (25mm) flared connections (custom connections available).

**PRESSURE RANGE:** Up to 100 PSIG (689 kPa) (depending on chemistry and temperature)

**VOLTAGES:** 200 volt to 480 volt, single or three phase.

**STANDARD WATTAGES:** 2 to 24 kW.

**CERTIFICATIONS:** UL499, SEMI S2, CE certified. *(pending)*

**SAFETY FEATURES:** In lieu of direct immersion, the Frontier Ultra safely heats process chemicals or solvents through indirect contact. Standard features include:

- |                         |                     |
|-------------------------|---------------------|
| • Grounded construction | • Overtemp sensor   |
| • Bimetallic TCO        | • Insulated Housing |

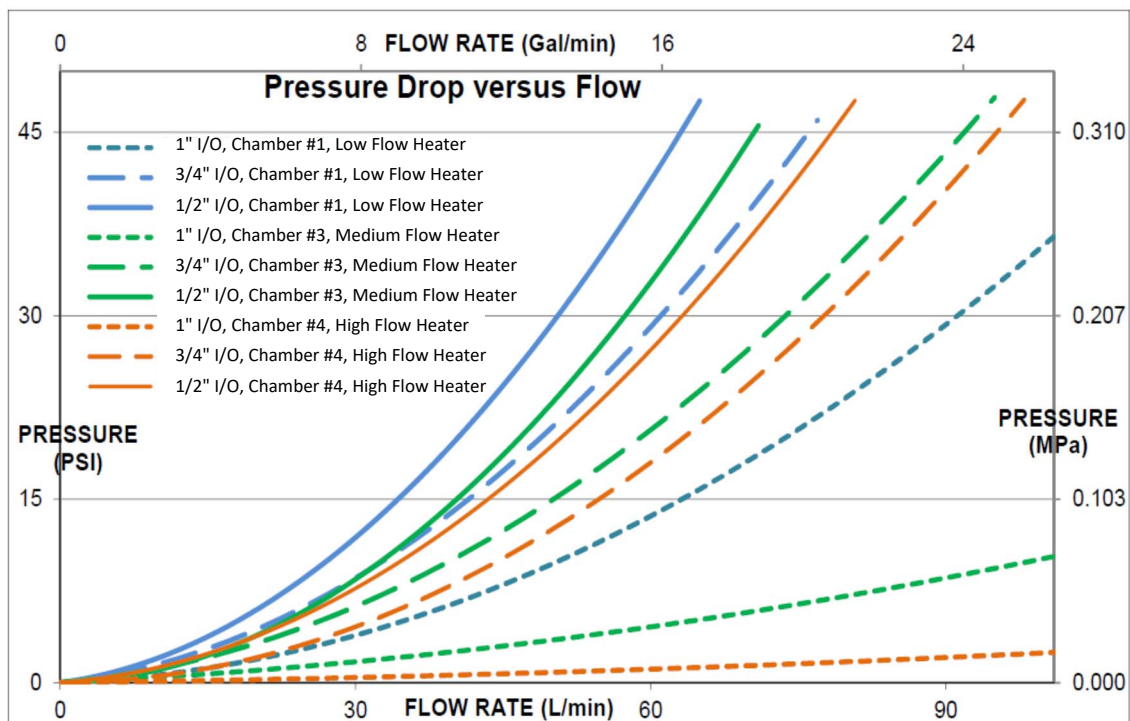
## Sizing Data:

DIMENSIONS				
Wattage	Overall Length IN(mm)	Chamber Number	Width IN(mm)	Depth IN(mm)
2kW - 4kW	13.75 (349)	1 = 13.75	12 (305)	9.2 (233)
4kW - 8kW	19.25 (489)	2 = 19.25		
8kW - 16kW	30.25 (768)	3 = 30.25		
12kW - 24kW	41.25 (1048)	4 = 41.25		

\*Typical range for process chemistry and temperature. Watt density requirement could reduce size required. Consult factory.



## Flow Performance:



Note: Length of heater has minimal effect on pressure drop.