

The STARFLOW™ circulation heater is engineered to heat a flowing gas stream to 1000°F (537°C). The 316L stainless steel chamber houses a small diameter sheathed element, which allows for quick response to both heat-up and cool down cycles. The starwound, coiled cable heater provides extremely efficient and reliable heating by maximizing the contact area of the gas or fluid with the element. Because the element is sheathed, the unit can operate in gas streams requiring a clean environment as well as atmospheres containing contaminants and moisture. This provides superior performance compared to units with internally exposed or open element wires.



## PERFORMANCE CAPABILITIES

- Temperatures up to 1000°F (537°C), 316L stainless steel sheath
- Maximum watt densities to 30 W/in<sup>2</sup> (4.7 W/cm<sup>2</sup>)
- Maximum voltage to 240V

## FEATURES and BENEFITS

- Small diameter heater allows for quick response time
- Internal starwound element provides fast, efficient heating
- Sheathed element provides the ability to heat in clean or impure streams
- Flexibility in configurations ensures adaptability to any process
- 316L stainless steel presents a rugged and corrosion resistant construction
- Electropolishing available on all wetted surface to reduce particulate contamination  
*Note: contact factory for ultra-high purity applications*
- Low pressure loss means minimal flow restriction  
*Note: not suitable for use as a pressure vessel*
- Type J or K thermocouples provide precise control and high-limit safety
- Replaceable heater and thermocouple reduce replacement cost
- Shipment from stock reduces downtime

## TYPICAL APPLICATIONS

- Semiconductor processing
- Curing and drying
- Electronics
- Heat shrinking
- Thermal forming/sealing

**ORDERING INFORMATION**

To order, complete the code number to the right with the information below:

|  |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
|--|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|
|  | 1     | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|  | C     | H |   |   |   |   | - |   | - |    |    |    |    |    |
| <b>3-4. Type of Inlet</b>                              | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| ET = ¼ in. (6 mm) O.D. tube                            |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| JT = ½ in. (13 mm) O.D. tube                           |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>5-6. Type of Outlet</b>                             | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| ET = ¼ in. (6 mm) O.D. tube                            |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| JT = ½ in. (13 mm) O.D. tube                           |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>7-10. Heater Wattage</b>                            | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 0375 = 120V, 375 W                                     |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 0500 = 120V, 500 W                                     |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 0750 = 120V, 750 W                                     |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 1500 = 240V, 1500 W                                    |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 2000 = 240V, 2000 W                                    |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| 3000 = 240V, 3000 W                                    |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>11. Internal Thermocouple Calibration (Heater)</b>  | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| J = Type J   |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| K = Type K   |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>12. Surface Finish of Assembly and Heater</b>       | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| X = Unfinished   |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| E = Electropolished                                    |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>13. Process Thermocouple Calibration (Assembly)</b> | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| J = Type J   |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| K = Type K   |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| <b>14. O-Ring Material</b>                             | _____ |   |   |   |   |   |   |   |   |    |    |    |    |    |
| A = Viton® 500°F (260°C)                               |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| M = Alloy X750® 1300°F (704°C)                         |       |   |   |   |   |   |   |   |   |    |    |    |    |    |
| T = Teflon® encapsulated Viton® 392°F (200°C)          |       |   |   |   |   |   |   |   |   |    |    |    |    |    |