



## Watt-Flex Split-Sheath Cartridge Heaters

Watt-Flex cartridge heaters use a unique, patented, split-sheath design that expands when energized to maximize heat transfer through greater contact with the wall of the bore. Better heat transfer means less power is consumed to maintain the temperature, reducing operating costs.



**WATT-FLEX SPLIT-SHEATH CARTRIDGE HEATER**



**CONVENTIONAL CARTRIDGE HEATER**

### Continuous Heating Coil

- Eliminates cold sections
- Even heat profile
- One element → On/Off operation

### External Thermocouple

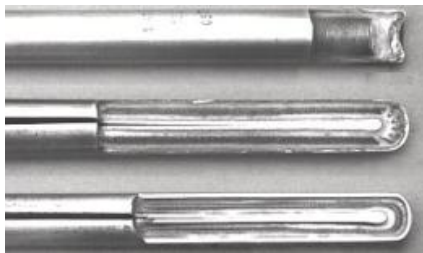
- Replaceable thermocouple
- Temperature sensing of sheath for accuracy
- Position of sensing determined by thermocouple



**TRADITIONAL TIP**

**WATT-FLEX COOL TIP**

**WATT-FLEX HOT TIP**



### Tip Options

- Cool tip
- Hot tip

### Lead Modifications

- Standard or high-temperature leads
- Threaded post terminals
- Clip support and Quick disconnect
- Ceramic leads



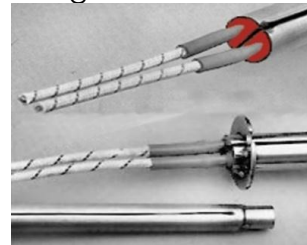
### Heater Accessories

- Straight or right-angle headers
- Stainless steel flexible conduit
- Stainless steel braid

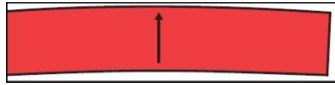


### Heater Modifications

- Contaminant protection: RTV/ceramic potting
- Extra cold section at terminal end
- Stainless Steel flange
- Distributed wattage
- Integral ground wire
- Puller end plug



# Watt-Flex Split-Sheath Cartridge Heaters



CONVENTIONAL  
HEATERS WARP



WATT-FLEX HALVES EXPAND  
INDEPENDENTLY

## Compaction of MgO

Denser / more uniform for:

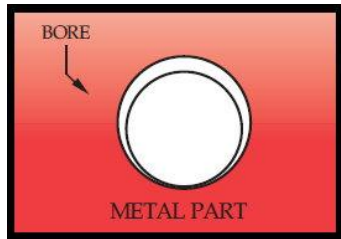
- Better dielectric
- Better heat transfer
- Longer heater life

## Energized Expansion

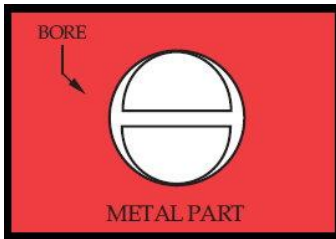
- Wall-wall contact with bore
- Use in oversized bores

## De-energized Contraction

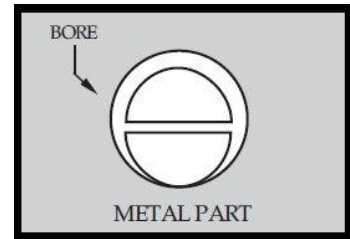
- Warranted removal



ENERGIZED CONVENTIONAL HEATER



ENERGIZED WATT-FLEX HEATER



DE-ENERGIZED WATT-FLEX HEATER

Watt-Flex cartridge heaters run more efficiently, use less power, last longer, and are much simpler and faster to replace than conventional cartridge heaters. The chart at right shows how Watt-Flex heaters reduce the cost of process heating.

## The Cost of Process Heating

Watt-Flex vs. Conventional Cartridge Heaters

