

## Safe Circulation Heater Ideal for Contamination-Free Gas and Liquid Heating

Watlow's new CAST-X 500 is a small, lightweight circulation heater ideal for heating gas or liquids in demanding applications. Even in its compact size, the CAST-X 500 is extremely powerful with operating temperatures up to 177°C (350°F) and working fluid pressure up to 3000 psi. It is also intrinsically safe and will not burn heated fluids. The CAST-X 500 heater is available in a variety of wattages and can be shipped in just a few days.

The CAST-X 500 heater is constructed of a helical coiled tube cast into an aluminum body with a replaceable cartridge heater installed in the center. The cartridge heater can be replaced with various wattages to suit your equipment's changing requirements.

The aluminum body serves as the heat transfer media between the cartridge heater and the coiled tube where the fluid is being heated. The aluminum mass acts as a "thermal flywheel" and ensures accurate temperature control of the fluid to prevent degradation.

The unique, non-weld construction of the CAST-X 500 allows it to be used where thermally sensitive materials are being heated such as paints, resins and flammable materials. The heater is suited for applications where fluid cleanliness is critical, because the material being heated never comes in contact with the heater. This is a performance requirement in foodservice, semiconductor and analytical industries.

### Applications

- Solvent heating
- Air, CO<sub>2</sub> and nitrogen heating
- DI water heating
- Packaging sterilization
  - Hydrogen peroxide vaporization
- Analytical instrumentation
  - Sample heating
- Foodservice
  - Steam generation
  - Glycol heating for CIP systems
  - Pasteurization
- Printing ink heating
- Diesel and fuel heating



### Features and Benefits

#### Fluid path constructed independent from heater sheath

- Assures an intrinsically safe thermal solution
- Prevents fluid contamination upon heater failure
- Heats sensitive materials safely because the material heated does not come in contact with heating elements

#### Robust cast-in aluminum construction

- Assures longer heater life
- Offers accurate temperature control

#### Non-welded construction

- Minimizes potential leakage
- Offers an economical priced package
- Provides high pressure operation to 3000 psi
- Self draining when mounted vertically

#### Standard stainless steel fluid path

- Assures material compatibility with many different materials

#### Replaceable cartridge heater

- Offers low cost of ownership due to ability to replace heater in field
- Assures faster delivery and customization from factory

#### Compact size

- Assures quick response due to low mass (2.375 lbs)
- Saves real estate in equipment because of small footprint



BAT-CX500-0807

To be automatically connected to the nearest North American Technical and Sales Office:

**1-800-WATLOW2 • [www.watlow.com](http://www.watlow.com) • [info@watlow.com](mailto:info@watlow.com)**

**International Technical and Sales Offices:** Australia, +61-3-9335-6449 • China, +86-21-3950-9510 • France, +33 (0) 3073-2425 • Germany, +49 (0) 7253-9400-0 • Italy, +39 (0) 2 458-8841 • Japan, +81-3-3518-6630 • Korea, +82-2-575-9804 • Malaysia, +60-3-7980-7741 • Mexico, +52 (442) 217-6235 • Shanghai, +86-21-3950-9504 • Singapore, +65-6777-1266 • Spain, +34 91 675 1292 • Sweden, +46 35-27-11-66 • Taiwan, +886-7-288-5168 • United Kingdom, +44 (0) 115-964-0777

## Specifications

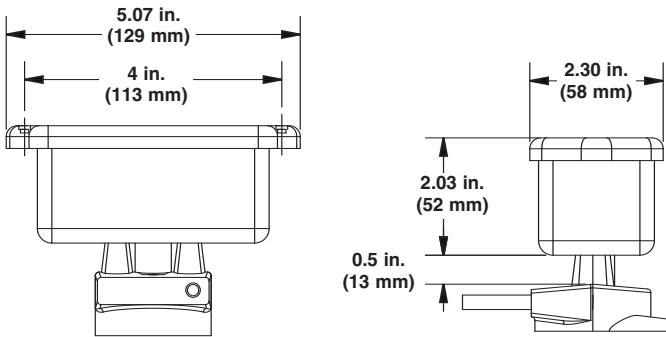
- (4) 10-32  $\frac{3}{8}$  (10 mm) in. deep mounting holes
- $\frac{1}{4}$  in. (6.35 mm) 316 stainless steel tubing
- 0.028 in. (0.710 mm) wall
- 84 in. (213.36 cm) long
- Process temperatures to 177°C (350°F)
- Up to 1500W

## Options

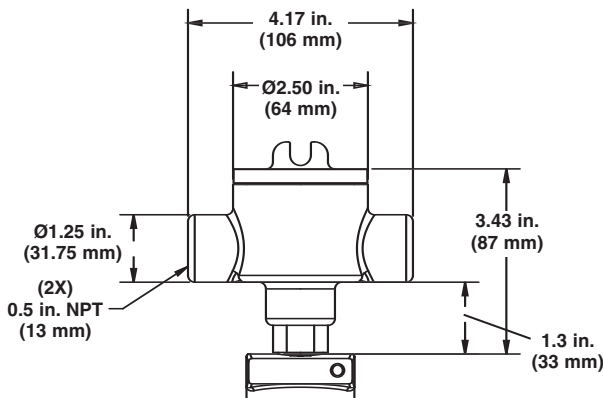
- Single phase operation to 240V
- NEMA 1, 4 or 7 housings with and without sensors.
- Passivated or electropolished wetted surfaces
- Insulated body up to 204°C (400°F) operation

## Dimensions

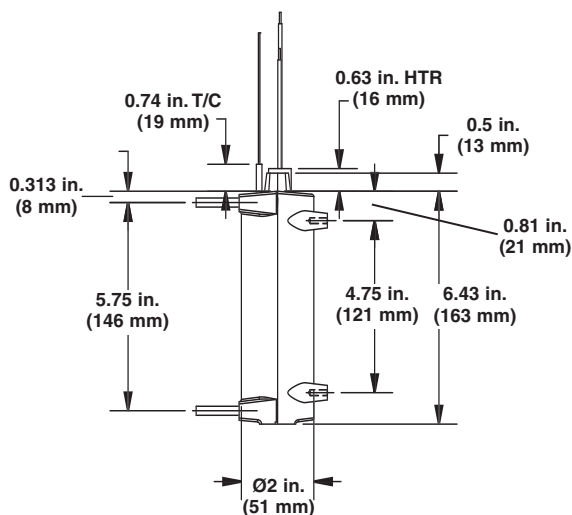
### NEMA 1 and 4



### NEMA 7



### No Enclosure



## Ordering Information

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

W X 6 E 2 A -

### Base Circulation Heater

0.25 in. O.D. (6.35 mm), 0.028 in. wall (0.71 mm), 316 stainless steel tubing with  $\frac{3}{8}$  in. (16 mm) dia. cartridge heater with 36 in. (914 mm) Teflon® leads. No housing

### Heater Wattage

300A = 120V, 300W  
 300B = 120V, 1500W  
 300C = 240V, 300W  
 300D = 240V, 500W  
 300E = 240V, 750W  
 300F = 240V, 1000W  
 300G = 240V, 1200W  
 300H = 240V, 1500W  
 300J = 208V, 1125W  
 300K = 208V, 900W  
 300L = 208V, 750W  
 300M = 208V, 565W

### Enclosures and Sensors

00 = No sensor or enclosure  
 0J = Type J T/C in casting, no housing  
 0K = Type K T/C in casting, no housing  
 S0 = NEMA 1 housing, no sensor  
 SJ = NEMA 1 housing with Type J sensor in casting  
 SK = NEMA 1 housing with Type K sensor in casting  
 W0 = NEMA 4 housing, no sensor  
 WJ = NEMA 4 housing with Type J hi-limit sensor in casting  
 WK = NEMA 4 housing with Type K hi-limit sensor in casting  
 E0 = NEMA 7 housing, no t-stat, no sensor  
 EJ = NEMA 7 housing with Type J hi-limit sensor in heater, non standard delivery  
 EK = NEMA 7 housing with Type K hi-limit sensor in heater, non standard delivery

### High Limits (Only available with no housing option)

00 = None  
 01 = Snap action high limit set at 127°C (260°F)  
 02 = Snap action high limit set at 260°C (500°F)

### Accessories

Pair high pressure compression fitting - 274-55-6-1  
 Insulation jacket - 307-0-12-1, maximum temperature 204°C (400°F)

### Application Guidelines

Maximum process temperature 177°C (350°F)  
 Maximum water flow rate is 0.75 GPM  
 Consult factory for gas applications

Teflon® is a registered trademark of E.I. du Pont de Nemours & Company.

