



# CAST - X 500 Circulation Heater

### SAFE, COMPACT HEATING IDEAL FOR CONTAMINATION-FREE GAS AND LIQUIDS

The CAST-X 500 from Cast Aluminum Solutions 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 350°F (177°C) and working fluid pressure up to 3200 psi. 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 built 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 heater is suited for applications where fluid cleanliness is critical, because the material being heated never comes in contact with the heater. 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. This is a performance requirement in many 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 cleaning-in-place (CIP) systems**
- Pasteurization    Printing ink heating    Diesel and fuel heating**

### FEATURES AND BENEFITS

#### **Fluid path constructed independent from heater sheath**

- Ensures an intrinsically safe thermal solution
- Prevents fluid contamination
- 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 up to 3200 psi
- Allows self draining when mounted vertically

#### **Standard 316L stainless steel fluid path**

- Ensures material compatibility with many different materials

#### **Replaceable cartridge heater**

- Offers low cost of ownership due to ability to replace heater element in the 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



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## SPECIFICATIONS

(4) 10-32, 3/8 in. (10 mm) deep mounting holes

1/4 in. (6.35 mm) 316 SS tubing

0.028 in. (0.710 mm) wall

84 in. (213.36 cm) long

Process temperatures to 350°F (177°C)

Up to 1500 W

Max. working fluid pressure- 3200 psi (220 Bar)

## OPTIONS

Single-phase operation to 240V

NEMA 1, 4 or 7 housings with and without sensors

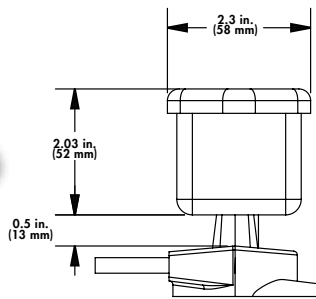
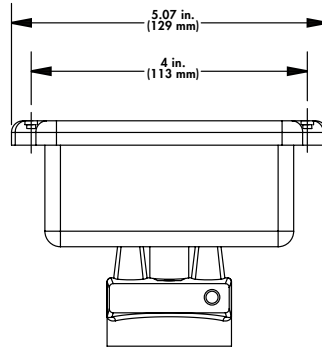
Passivated or electropolished wetted surfaces

Insulated body up to 400°F (204°C) operation

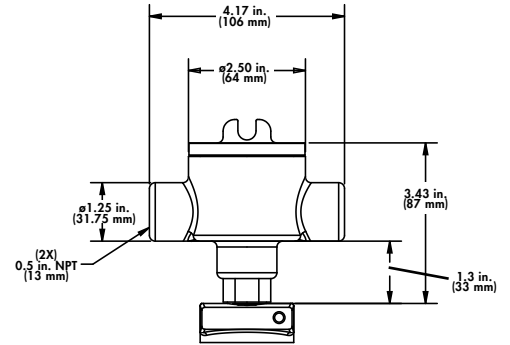


## DIMENSIONS

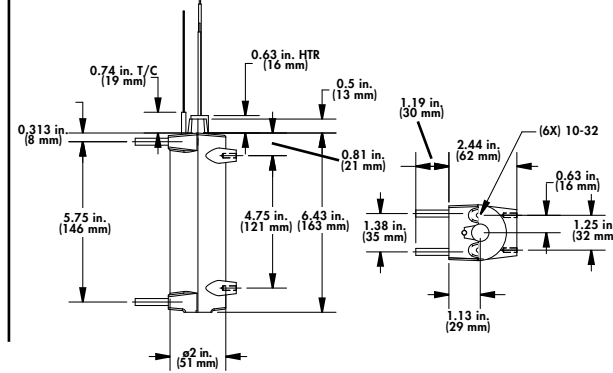
### NEMA 1 AND 4



### NEMA 7



### NO ENCLOSURE



## ORDERING INFORMATION

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

### Base:

0.25 in. (6.35 mm) O.D., 0.028 in. (0.71 mm) wall, 316 SS tubing with 5/8 in. (16 mm) dia. cartridge heater with 36 in. (914 mm) Teflon® leads. No housing

### Heater Wattages:

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

### 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 sensor in casting  
**WK** = NEMA 4 housing with Type K sensor in casting  
**E0** = NEMA 7 housing, no thermostat, no sensor  
**EJ** = NEMA 7 housing with Type J sensor in heater\*  
**EK** = NEMA 7 housing with Type K sensor in heater\*  
\*non standard delivery

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

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

### Accessories:

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

### Application Guidelines:

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

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