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, CO₂ 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

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, 100 W
300B = 120V, 150 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
OJ = Type J T/C in casting, no housing
OK = 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*

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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