

Watlow

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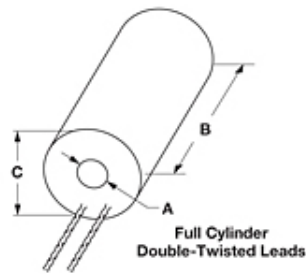
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Code No. VC402A06A, Ceramic Fiber Heaters - Full Cylindrical Units

Ceramic fiber heaters offer some of the highest temperature heating element capabilities in the Watlow family of heaters. Heating units constructed of ceramic fiber insulation isolate the heating chamber from the outside. Ceramic fiber heaters are extremely low mass, high insulation value units with self-supported heating elements. Many applications can benefit from the convenience of the heating element and insulation combined into one package. It's lightweight, low-density properties make it ideally suited for high temperature applications requiring low thermal mass.

Performance Capabilities

- Operating temperatures up to 2200°F (1204°C)
- Watt densities from 5 to 30 W/in² (0.8 to 4.6 W/cm²)
- Uses "radiant" heat transfer exclusively



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SPECIFICATIONS

Shape	Full Cylinder Units
Design	Coil Design
Insulation Tube	Heated
Heated Area I.D. (A)	2 in 51 mm
Tolerance Heated Area I.D. (A)	±1/16 in ±1.6 mm
Heated Area Length (B)	6 in 152 mm

Tolerance Heated Area Length (B)	±1/16 in ±1.6 mm
Overall O.D. (C)	4 in 102 mm
Tolerance Overall O.D. (C)	±1/8 in ±3.2 mm
Volts (AC)	120 V
Power	425 Watts
Power Tolerance	±5 %
Surface Loading	11.3 W/in ² 1.8 W/cm ²
Lead Type	Double Twisted Leads
Lead Width	Double Twisted Leads
Approx. Net Weight	13 oz 0.37 kg
Delivery	• Rapid Ship - 2 to 5 day shipment

OPTIONS

Termination Options	T-A, Termination Options for Ceramic Fiber Heaters T-B, Termination Options for Ceramic Fiber Heaters
Options	EMFS, Embedded Flat Sinuated Element EMVS, Embedded V-Sinuated Element EXFS, Exposed Flat Sinuated Element EXVS, Exposed V-Sinuated Element
Accessories	BTE140CETT, 0.140 in. B.T.E. Closed-End Thermocouple Tube BTE265CETT, 0.265 in. B.T.E. Closed-End Thermocouple Tube CC405-1, Ceramic Tube CC405-2, Ceramic Tube CC405-3, Ceramic Tube CC405-4, Ceramic Tube CC405-5, Ceramic Tube CC405-6, Ceramic Tube CC405-8, Ceramic Tube CC405-9, Ceramic Tube CFBLKT-1, Ceramic Fiber Insulation Blanket CFBLKT1/2, Ceramic Fiber Insulation Blanket CFBLKT1/4, Ceramic Fiber Insulation Blanket CFBSC, Black Surface Coat CFCTGCMTGAL, High Temperature Coating and Electrical Potting Cement CFCTGCMTPT, High Temperature Coating and Electrical Potting Cement CFHTGMXGAL, Dry Heating Surface Mix CFHTGSURMX, Dry Heating Surface Mix CFPATCHKIT, Patch Kit CFPDRFPT, Powdered Ceramic Fiber CFPTGCMT, High Temperature Coating and Electrical Potting Cement CFRGDGAL, Rigidizer CFRGDPT, Rigidizer CS45-11, Strip Lead Porcelain Bushings CS45-20, Strip Lead Porcelain Bushings CS45-30, Strip Lead Porcelain Bushings

FEATURES AND BENEFITS

High temperature ICA resistance elements

- Bounds integrally into required position
- Allows five element configurations

Lightweight, low-density alumina-silica composition molded into shape

- Acts as an insulation to isolate the heating chamber from the outside
- Provides low shrinkage fiber and inorganic binder
- Assures a firm, thermal shock resistant, self-supporting unit at all operating temperatures

Operating temperatures up to 2200°F (1204°C)

- Provides high temperature performance not possible with many other heater types

Low mass ceramic fiber insulation of 10 to 15 lb/ft³ (160 to 240 kg/m³)

- Allows the heater to reach process temperature quickly
- Allows the energy to heat the load instead of wasting energy on itself

Works directly off common power line voltages

- Eliminates the need for expensive transformers or complex power control systems
- Allows compatibility with the full range of Watlow temperature controllers and power switching devices

TYPICAL APPLICATIONS

- High temperature furnaces
- Metal melting, holding and transfer
- Semiconductor processing
- Glass, ceramic and wire processing
- Analytical instrumentation

HEATING SOLIDS

Ceramic fiber heaters can be formed into an oversized chamber to surround the object being heated. Using radiant and convection heat transfer, ceramic fiber heaters are used in ovens and furnaces.

HEATING LIQUIDS/SURFACE HEATING AND IMMERSION

Ceramic fiber assembled heaters can be used in a chamber surrounding the tank, vessel, crucible or bath. Radiant and convection heat transfer heat the load.

HEATING GASES

Ceramic fiber heaters are used to construct chambers and furnaces through which gases are passed. Heaters function as high-temperature radiant heaters surrounding transfer pipes or other special vessels.

HEATING WITHIN A VACUUM

Ceramic fiber heaters surround the exterior surface of a vacuum vessel, using radiant energy for heat transfer.