Design Features
✴ Bronze Cast construction for excellent heat transfer and long life
✴ Operating Temperature to 1200°F (650°C)
✴ Built-in Type J or K Thermocouple for accurate temperature control
✴ Distributed wattage for even heat transfer
✴ Precision machining of the inside diameter
✴ Choice of leads and lead protection

Custom Engineered/Manufactured to meet customer specifications — we welcome your inquiries.

Construction Characteristics
Tempco’s cast bronze nozzle heater bushings offer the latest in state-of-the-art technology to these innovative designs. They eliminate uneven temperature profiles and short heater life; their precision machining also eliminates poor fit and the need for clamping bands, while providing maximum heat transfer.

The casting is protected by a stainless steel tube. The maximum operating temperature for the bronze casting is 1200°F (650°C); the optional aluminum casting has a maximum operating temperature of 600°F (315°C). The built-in thermocouple in either Type J or K gives exceptional temperature control when connected to a Tempco TEC controller. The thermocouple has as standard an ungrounded junction located in the center of the width, which helps eliminate stray EMFs caused by the heater. A grounded junction at the end is optional.

The heater and thermocouple have a standard termination of 36-inch fiberglass leads with a stainless steel overbraid. Options include Teflon® insulated leads and armor cable. All terminations are available with the optional 2-inch-long extended strain relief.

**Tabletop Point-of-Use Temperature Control Console Systems**

See Section 13, Page 13-52
Custom Engineered/Manufactured Heater Bushings

Ordering Code:

**NHB** – 1 2 3 4 5 6 7 8 9 10 11 12 13

**Inside Diameter** BOX 1
A = .375"
B = .500"
C = .563"
D = .625"
E = .750"
F = .875"
G = Other (Specify)

**Nominal Outside Diameter** BOX 2
A = 1"
B = 1-1/8"
C = 1-1/4"
D = 1-3/8"
E = Other (Specify)

**Width (Length)** BOX 3
A = 1"
B = 2"
C = 3"
D = 4"
X = Other (Specify)

**Volts** BOX 4
A = 240 Standard
B = 120 Optional

**Wattage** BOX 5
X = (Specify)

**Lead Length** BOX 6
Whole inches  
01 to 999  
36" Standard (036)

**Lead Construction** BOX 7
A = Fiberglass, Heater and T/C with SS overbraid – Standard
B = Fiberglass, Heater and T/C
C = Teflon® Insulated, Heater and T/C
D = Teflon® Insulated with SS overbraid (no T/C)
E = Fiberglass Insulated with SS armor cable (no T/C)
F = Teflon® Insulated with SS armor cable (no T/C)
NOTE: For A, D, E and F the cable or braid length will be 2" shorter than the lead wire length unless otherwise specified.

**Extended Strain Relief (2" long)** BOX 8
1 = Yes
2 = No

**Thermocouple Type** BOX 9
J = Type J Iron/Constantan
K = Type K Chromel/Alumel
0 = None Required

**T/C Junction Location** BOX 10
A = Ungrounded (Standard)
B = Grounded (Optional)
0 = None Required

**Casting Construction** BOX 11
B = Bronze (Standard) 1200°F (650°C)
A = Aluminum (Optional) 600°F (315°C)

**Cold Length** BOX 12
Whole inches  
02 to 18  
2" Standard (02)

**Special Requirements** BOX 13
X = Specify
0 = None

**Ordering Information**

**Custom Engineered/Manufactured Heaters**
An electric heater can be very application specific; for sizes, ratings and terminations not listed, TEMPCO will design and manufacture a Heater Bushing to meet your requirements. **Standard lead time is 4 weeks.**

To order a custom Heater Bushing create an order code number by filling in the boxes with the appropriate number and/or letter designation for your requirements. A product part number will be assigned at time of order.

**Standard (Non-Stock) Heaters**
Order standard Heater Bushings by part number from the table on page 5-28.

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**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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