

Phoenix **Thermal** Supply

Cast Bronze Nozzle Heater Bushings & Pressed in Brass Construction Nozzle Heaters

- * *Bronze Cast or Pressed-In construction options 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*



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. 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 over braid. Options include Teflon®-insulated leads and armor cable. All terminations are available with the optional 2-inch-long extended strain relief.



Pressed in brass coil heaters deliver the benefits of cast in brass coil heaters and eliminate known problems associated with the casting process. Originally designed for the mass spectrometry market, Phoenix Thermal's pressed in brass coil heaters have measured 8% faster responding than cast in brass heaters. The machined path in the brass for the heater enables exact repeatability of heat profile. By never exposing the coil heater to molten brass there are no risks of shifted heater coils, or destruction of the thermocouple junction.

Phoenix **Thermal** Supply

Standard Sizes and Ratings

Part Numbers in **Red** are In-Stock for immediate shipment.
 Delivery on non-stock items is 2 weeks.

ID	Length		Watts	Volts	OEM Part Number	Cross Part Number
	mm	in				
19.05mm (3/4")	30	1.181	220	240	534975	HRN40001
	40	1.575	220	240	534976	HRN40002
	50	1.969	220	240	534977	HRN40003
	60	2.362	220	240	534978	HRN40004
	70	2.756	220	240	534979	HRN40005
	80	3.15	220	240	534980	HRN40006
	90	3.543	220	240	534981	HRN40007
	100	3.937	220	240	534982	HRN40008
	110	4.331	220	240	534983	HRN40009
	30	1.181	350	240		HRN40010
	40	1.575	350	240		HRN40011
	50	1.969	350	240		HRN40012
	60	2.362	400	240		HRN40013
	70	2.756	400	240		HRN40014
	80	3.15	400	240		HRN40015
	90	3.543	400	240		HRN40016
	100	3.937	450	240		HRN40017
	110	4.331	400	240		HRN40018