

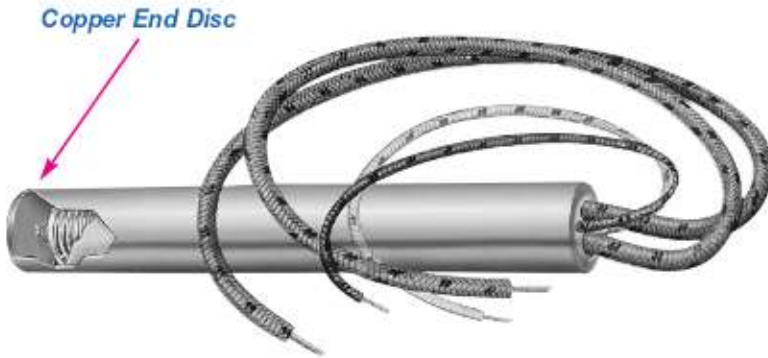
# Cartridge Heaters

## Hi-Density Pennybottom™



### Hi-Density Pennybottom™ Cartridge Heaters with Built-In Thermocouple

Designed for Trouble-Free Performance and Improved Efficiency



The unique feature of the Pennybottom™ cartridge heater is the use of a flat copper end disc to maximize heat transfer and improve temperature sensing. It has been proved through extensive field testing that heat at the tip can be increased by up to 30°F. The Pennybottom™ cartridge heater also includes a Type J thermocouple at the end disc. The junction is grounded to the flat copper end disc, providing excellent temperature control at the gating area, eliminating freeze-ups or drool, thus producing quality molded parts.

Additional features of Pennybottom™ heaters include minimum cold sections and computer designed distributed wattage. Pennybottom™ heaters are manufactured under the same design specifications and rigid quality control workmanship as the Hi-Density cartridge heater line. The swaging operation during the manufacturing process produces a rugged and durable cartridge heater for greater reliability and exceptionally long operating life.

#### Design Features

- \* Pennybottom™ Copper Flat End Disc
- \* Hi-Density Swaged Construction
- \* Grounded Type J Thermocouple at the Copper End Disc
- \* 36" High Temperature Leads for both Heater and Thermocouple
- \* Minimum Cold Sections
- \* OEM Replacements Available From Stock for Runnerless Molding Systems



**Note:** The cartridge heaters listed in this section include Pennybottom™ and Hi-Density cartridge heaters configured for specific tasks in the plastic injection molding environment with extra long leads, Teflon™ or fiberglass insulation, with and without thermocouples, grounded at the end disc or in the middle of the heater.

#### PENNYBOTTOM™ HEATER SPECIFICATIONS

Nominal Diameter	1/4"		3/8"		1/2"	
	in	(mm)	in	(mm)	in	(mm)
Actual Diameter	.246	(6.30)	.371	(9.42)	.496	(12.60)
Diameter Tolerance	±.002	(.051)	±.002	(.051)	±.002	(.051)
Minimum Length	1	(25.40)	1	(25.40)	1-1/4	(31.75)
Maximum Length	36	(914)	48	(1219)	60	(1524)
Length Tolerance Heaters up to 5" (127 mm) long	± 3/32	(2.4)	± 3/32	(2.4)	± 3/32	(2.4)
Length Tolerance Heaters over 5" (127 mm) long	±2% of Sheath Length					
Camber Tolerance Heaters to 12" (305 mm) long	.010" (.254 mm) per Foot of Length					
Camber Tolerance Heaters over 12" (305 mm) long	.020" (.508 mm) per Foot of Length					



### STOCK Hi-Density Pennybottom™ Cartridge Heaters with Built-In Type J Thermocouple

Cartridge Heater Diameter	Sheath Length		Watts	Watt Density		Part Number			
	in	mm		W/in <sup>2</sup>	W/cm <sup>2</sup>	120V Tempco	DME	240V Incoe	Tempco
1/4" Actual .248	1½	38.1	200	255	39	—	—	—	HDP00001
	1¾	44.5	200	204	32	HDP00002	—	—	—
	2	50.8	200	170	26	HDP00003	—	—	HDP00004
	2½	63.5	200	127	20	HDP00005	—	—	HDP00006
	3	76.2	200	102	16	HDP00007	—	—	HDP00008
	3½	88.9	250	106	16	—	—	—	HDP00009
	4	101.6	250	91	14	—	—	—	HDP00010
3/8" Actual .371	5	127.0	250	71	11	—	—	—	HDP00011
	1¾	44.5	200	136	21	—	TCH0001	TJ38017	HDP00012
	2	50.8	250	141	22	—	TCH0002	TJ38020	HDP00013
	2½	63.5	250	106	16	—	TCH0003	TJ38025	HDP00014
	3	76.2	260	88	14	—	TCH0004	TJ38030	HDP00015
	3½	88.9	320	91	14	—	TCH0005	TJ38035	HDP00016
	4	101.6	370	90	14	—	TCH0006	TJ38040	HDP00017
	4½	114.3	420	89	14	—	TCH0007	TJ38045	HDP00018
	5	127.0	470	89	14	—	TCH0008	TJ38050	HDP00019
	5½	139.7	525	89	14	—	TCH0009	TJ38055	HDP00020
	6	152.4	575	89	14	—	TCH0010	TJ38060	HDP00021
	6½	165.1	625	88	14	—	TCH0011	TJ38065	HDP00022
	7	177.8	675	88	14	—	TCH0012	TJ38070	HDP00023
	7½	190.5	725	88	14	—	TCH0013	TJ38075	HDP00024
	8	203.2	775	88	14	—	TCH0014	TJ38080	HDP00025
	9	228.6	885	88	14	—	—	TJ38090	HDP00026
9½	241.3	940	89	14	—	—	TJ38095	HDP00027	
10	254.0	990	88	14	—	—	TJ38100	HDP00028	
10½	266.7	1045	89	14	—	—	TJ38105	HDP00029	
11½	292.1	1500	116	18	—	—	TJ38115	HDP00030	
1/2" Actual .496	2½	63.5	280	89	14	—	—	TJ12025	HDP00031
	3½	88.9	420	89	14	—	TCH0015	TJ12035	HDP00032
	4	101.6	490	89	14	—	TCH0016	TJ12040	HDP00033
	4½	114.3	550	88	14	—	TCH0017	TJ12045	HDP00034
	5	127.0	625	88	14	—	TCH0018	TJ12050	HDP00035
	5½	139.7	700	89	14	—	TCH0019	TJ12055	HDP00036
	6	152.4	775	90	14	—	TCH0020	TJ12060	HDP00037
	6½	165.1	850	90	14	—	TCH0021	TJ12065	HDP00038
	7	177.8	900	88	14	—	—	TJ12070	HDP00039
	7½	190.5	975	89	14	—	TCH0022	TJ12075	HDP00040
	8	203.2	1050	89	14	—	—	TJ12080	HDP00041
	8½	215.9	1100	88	14	—	—	TJ12085	HDP00042
	9	228.6	1200	90	14	—	—	TJ12090	HDP00043
	9½	241.3	1250	88	14	—	—	TJ12095	HDP00044
	10	254.0	1325	89	14	—	—	TJ12100	HDP00045
	10½	266.7	1400	89	14	—	—	TJ12105	HDP00046
11	279.4	1470	89	14	—	—	TJ12110	HDP00047	
12½	317.5	1675	89	14	—	—	TJ12125	HDP00048	
13½	342.9	1800	88	14	—	—	TJ12135	HDP00049	

*All Items Available from Stock*

### Ordering Information

#### Stock Heaters

Order by Catalog Part Number from the Stock Sizes and Ratings List above. Note that Part Numbers shown are for heaters with 36" Heater and T/C Leads, Thermocouple Type J grounded at disc end.

#### Custom Engineered/Manufactured Heaters

Because an electric heater can be very application specific, for sizes and ratings not listed, **TEMPCO** will design and manufacture a Pennybottom™ Cartridge Heater to meet your requirements. **Standard lead time is 3 weeks.**

**Please Specify** the following:

- Diameter
- Length
- Wattage
- Voltage
- Lead and Thermocouple Lengths
- Special Features

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

**(800) 323-6859 • Email: [sales@tempco.com](mailto:sales@tempco.com)**