

# Pipe Thread Heaters

## Construction Features

### 1/2" and 3/4" Pipe Thread Heaters

**Heating Elements** - Cartridge-type construction consists of an 80/20 nickel-chromium resistance coil strung through a cylindrical ceramic core. This assembly is slipped into the metal sheath, which in turn is attached to a hex head pipe thread fitting. All voids are filled with magnesium oxide and the ends are capped.

**Double Threaded Brass Pipe Thread Fittings** - Silver soldered to the sheath, these are furnished as standard for both brass and steel sheathed heaters. The outlet box is held to the fitting with a locknut and can be easily removed or rotated to any convenient position after the heater is installed. Field connections are made to 6" stripped leads located in the outlet box.

**Watt Density** - Heaters are conservatively rated at 30 watts per square inch (brass sheath) and 20 watts per square inch (steel sheath).

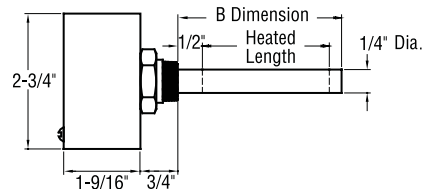
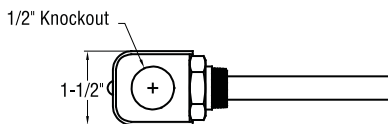
**Galvanized Outlet Box** - 1/2" and 3/4" pipe thread heaters are furnished with galvanized steel NEMA 1 outlet boxes as standard.

**Special Sheath Materials** - Type 304 stainless steel available to replace brass sheathed heater.

**Special Header Materials** - Steel and Type 304 stainless steel available for solutions that may corrode standard brass headers. For example, steel sheath and header must be used in ammonia solutions. Steel or Type 304 stainless steel headers will be welded to matching sheath materials.

**Special Ratings** - Custom wattages, voltages and immersion lengths are available in both pipe thread sizes.

**Special Immersion Lengths** - Intermediate lengths and elements up to 20 feet long are available.



## Water

### Brass Sheath, Brass Fitting

30 W/Sq. In.

Fitting Size (Inches)	Element Diameter (Inches)	KW	NEMA 1 Terminal Box				
			B Dimensions (Inches)	Catalog Number	Availability		
					1 Phase		
120V	208V	240V					
1/2	5/8	.1	2-1/2	751N101		•	
		.15	3-1/2	751N111	•	•	•
		.2	4-1/4	751N121	•	•	•
		.25	5	751N131		•	
		.3	6	751N141	•	•	•
		.4	7-3/4	751N151	•	•	•
		.5	9-1/4	751N161		•	
		.6	11	751N171	•	•	•
	.75	13-1/2	751N181		•		
3/4	3/4	.25	4-1/2	752N191		•	
		.3	5	752N201		•	
		.35	5-3/4	752N211	•	•	•
		.4	6-1/2	752N221	•	•	•
		.5	8	752N231		•	
		.6	9-1/4	752N241	•	•	•
		.75	11-1/2	752N251		•	
		.9	13-1/2	752N261	•	•	•
	1	15	752N271		•		

## Oil

### Steel Sheath, Brass Fitting

20 W/Sq. In.

Fitting Size (Inches)	Element Diameter (Inches)	KW	NEMA 1 Terminal Box				
			B Dimensions (Inches)	Catalog Number	Availability		
					1 Phase		
120V	208V	240V					
1/2	5/8	.05	2	751N373	•	•	•
		.075	2-3/4	751N383	•	•	•
		.125	4	751N393		•	
		.15	4-3/4	751N403		•	
		.2	6	751N413	•	•	•
		.3	8-1/2	751N423		•	
		.4	11	751N433	•	•	•
		.5	13-1/2	751N443		•	
3/4	3/4	.15	4	752N453	•	•	•
		.2	5	752N463		•	
		.3	7-1/4	752N473		•	
		.4	9-1/4	752N483	•	•	•
		.5	11-1/2	752N493		•	
		.6	13-1/2	752N503	•	•	•

Please specify volts and terminal box rating.



# Pipe Thread Heaters

## Construction Features



### 1" – 2-1/2" Pipe Thread Heaters

- Element bends repressed uniformly to insure insulation integrity.
- One piece forging of hex, thread and riser assures reliability of brass pipe thread fittings (1-1/4" through 2-1/2").
- Element spacers prevent hot spots.
- Permanent bus bars prevent loose connections.
- Risers on brass pipe threads allow easy access with pipe wrench.
- UL label furnished on all standard copper, stainless steel and Incoloy sheathed heaters.
- CSA approval also available.

**Tubular Elements** are welded or silver soldered into a hex head pipe thread fitting. Elements have 80/20 nickel-chromium resistance coils centered in a heavy gauge metal tube surrounded by magnesium oxide insulation. Through rolling, the magnesium oxide is packed to a rock-like density for rapid heat transfer from the coil to the sheath. Elements are annealed, bent and then repressed to insure magnesium oxide integrity in the bent area.

1" and 1-1/4" pipe thread heaters have .312" diameter elements for operation up to 277 volts. 2" and 2-1/2" pipe thread heaters have .475" diameter elements suitable for operation up to 600 volts.

**Pipe Thread Fittings** of forged brass, silver soldered to the sheath, are furnished as standard with copper sheathed heaters. Steel and stainless steel sheathed elements are welded into fittings of like material.

**Outlet Boxes** are furnished on heaters without a built-in thermostat. A 4" NEMA 1 octagon outlet box having 3/4" knockouts is standard.

2" NPT stock heaters (without thermostats) are furnished with cast liquidproof outlet boxes.

Heaters with a built-in thermostat are normally furnished with a NEMA 1 rectangular sheet metal enclosure having combination 1/2"-3/4" knockouts. However, those heaters drawing more than 40 amps are furnished with welded steel outlet boxes having 1" or 1-1/4" hubs for electrical connections.

**Built-In Thermostats** provide automatic temperature control without the necessity of installing a separate well for the thermostat bulb in the field and making electrical connections between the heater and control. The thermostat is fully adjustable throughout its 60°–250° F range.

**A Type DA Thermostat** is provided on 1-1/4", 2" and 2-1/2" pipe thread heaters. It comes complete with integral ON/OFF switch, pilot light and external adjusting knob. It must be mounted in a vertical plane, never "on its back."

This thermostat comes in both two and three-pole models, which have the following load-carrying capacities:

Voltage	Capacity in KW	
	Single Phase	Three Phase
120	3.6	—
208	6.2	10.8
240	7.2	12.4
277	8.3	—
480	9.6	—

Heaters rated above these capacities require a magnetic contactor, with the thermostat controlling the contactor holding coil.

The thermostat's pilot duty rating is 250 VA at 277 volts maximum.

**A Single-Pole, Single-Throw Thermostat** is provided on 1" pipe thread heaters. It has a load-carrying capacity of 25 amps (up to 240 volts), 22 amps (up to 277 volts), and a pilot duty rating of 125 VA (up to 277 volts). It is housed in a zinc-plated handy box that can be mounted in either a horizontal or vertical position.

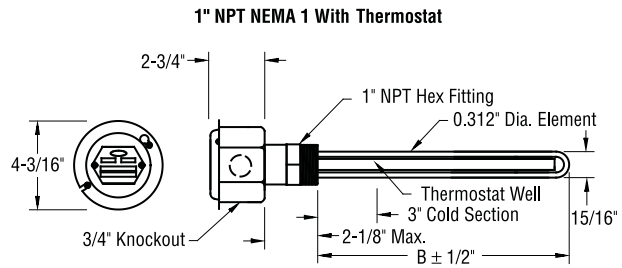
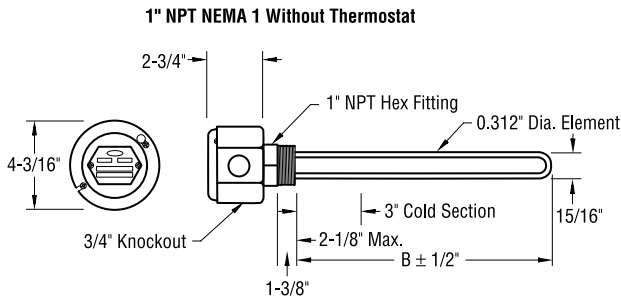
**Element Spacers** made from Type 304 stainless steel maintain a uniform distance between elements, thus preventing hot spots.

**Epoxy Seals** for a moderate resistant seal where fluid temperatures do not exceed 250° F.

**UL and CSA Listings** are available. All standard copper, Type 304 and 316 stainless steel and Incoloy sheathed heaters are listed by the Underwriters Laboratories under Reference E23541. These heaters, as well as steel sheathed heaters, are also available with the CSA (Canadian Standards Association) label under File No. LR11895. Some non-standard constructions can be UL and CSA labeled. Consult factory for availability.

# Pipe Thread Heaters

## 1" Pipe Thread Heaters



### Water

304 SS Sheath, 304 SS Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box				
		B Dimensions (Inches)	Catalog Number	Availability		
				1 Phase		
120V	208V	240V				
1	.5	6-1/2	711N016	•	•	
	.6	7-1/2	711N026	•	•	•
	.75	9	711N036	•	•	•
	.85	10	711N046	•	•	•
	1	11-1/2	711N056	•	•	•
	1.25	14	711N066	•	•	•
	1.5	16-1/2	711N076	•	•	•
	2	21-3/4	711N086	•	•	•
	2.5	26-3/4	711N096	•	•	•
	3	32	711N106		•	•
4	42-1/4	711N116		•	•	

B Dimensions (Inches)	Catalog Number	Availability		
		1 Phase		
		120V	208V	240V
7-1/2	711N126	•	•	
8-1/2	711N136	•	•	•
10	711N146	•	•	•
11	711N156	•	•	•
12-1/2	711N166	•	•	•
15-1/4	711N176	•	•	•
17-3/4	711N186	•	•	•
22-3/4	711N196	•	•	•
28	711N206	•	•	•
33	711N216		•	•
43-1/4	711N226		•	•

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

### Oil

Steel Sheath, Steel Fitting

20 W/Sq. In.

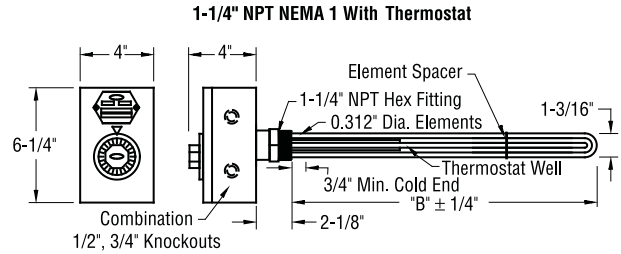
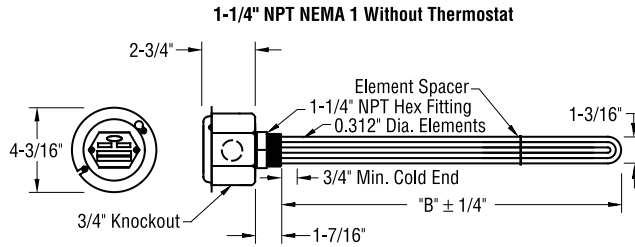
Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box				
		B Dimensions (Inches)	Catalog Number	Availability		
				1 Phase		
120V	208V	240V				
1	.25	7-1/2	711N204	•		
	.3	9	711N214	•	•	
	.375	10-3/4	711N224	•	•	•
	.425	12	711N234	•	•	•
	.5	14	711N244	•	•	•
	.625	17	711N254	•	•	•
	.75	20-1/4	711N264	•	•	•
	1	26-3/4	711N274	•	•	•
	1.5	39-1/2	711N284	•	•	•
	2	52-1/4	711N294	•	•	•

B Dimensions (Inches)	Catalog Number	Availability		
		1 Phase		
		120V	208V	240V
7-1/2	711N304	•		
9	711N314	•	•	
10-3/4	711N324	•	•	•
12	711N334	•	•	•
14	711N344	•	•	•
17	711N354	•	•	•
20-1/4	711N364	•	•	•
26-3/4	711N374	•	•	•
39-1/2	711N384	•	•	•
52-1/4	711N394	•	•	•

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

# Pipe Thread Heaters

## 1-1/4" Pipe Thread Heaters



### Water

304 SS Sheath, 304 SS Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase		3 Phase				
				120V	208V	240V	480V	208V	240V	480V
1	.6	7-1/2	712U116	•	•	•				
	.75	9	712U126	•	•	•				
	1	11-1/2	712U136	•	•	•				
	1.5	16-1/2	712U146	•	•	•				
	2	21-3/4	712U156	•	•	•				
	2.5	26-3/4	712U166	•	•	•				
	3	32	712U176	•	•	•				
	4	42	712U186		•	•				
2	1.2	7-1/2	712U306	•	•	•				
	1.5	9	712U316	•	•	•				
	2	11-1/2	712U326	•	•	•				
	2.5	14	712U336	•	•	•				
	3	16-1/2	712U346	•	•	•				
	3.5	19-1/4	712U356	•	•	•				
	4	21-3/4	712U366	•	•	•				
	5	26-3/4	712U376		•	•				
6	32	712U386		•	•					
3	1.5	6-1/4	712U496	•	•			•		
	1.8	7-1/2	712U506	•	•	•		•	•	
	3	11-1/2	712U516	•	•	•		•	•	
	3.75	14	712U526	•	•	•		•	•	
	4.5	16-1/2	712U536	•	•	•		•	•	
	5.25	19-1/4	712U546		•	•		•	•	
	6	21-3/4	712U556		•	•		•	•	
	7.5	26-3/4	712U566		•	•		•	•	
	9	32	712U576			•		•	•	
	12	42	712U586					•	•	

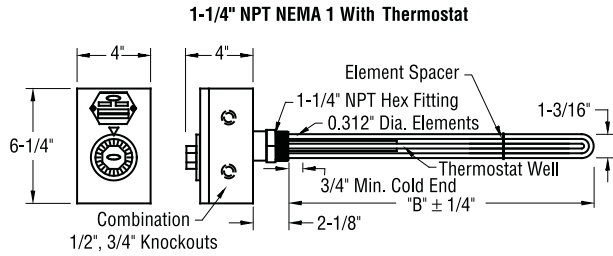
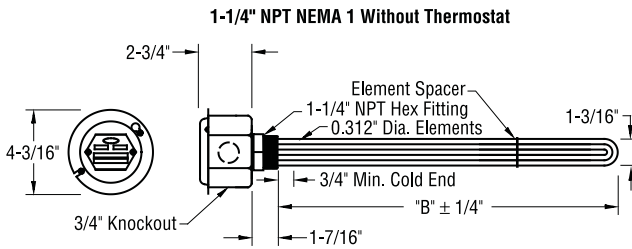
B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box						
		Availability						
		1 Phase		3 Phase				
		120V	208V	240V	480V	208V	240V	480V
8-3/4	712U216	•	•	•				
10-1/4	712U226	•	•	•				
12-3/4	712U236	•	•	•				
18	712U246	•	•	•				
23	712U256	•	•	•				
28-1/4	712U266	•	•	•				
33-1/4	712U276	•	•	•				
43-1/2	712U286		•	•				
8-3/4	712U406	•	•	•				
10-1/4	712U416	•	•	•				
12-3/4	712U426	•	•	•				
15-1/2	712U436	•	•	•				
18	712U446	•	•	•				
20-1/2	712U456	•	•	•				
23	712U466	•	•	•				
28-1/4	712U476		•	•				
33-1/4	712U486		•	•				
7-3/4	712U596	•	•			•		
8-3/4	712U606	•	•	•		•	•	
12-3/4	712U616	•	•	•		•	•	
15-1/2	712U626	•	•	•		•	•	
18	712U636	•	•	•		•	•	
20-1/2	712U646		•	•		•	•	
23	712U656		•	•		•	•	
28-1/4	712U666		•	•		•	•	
33-1/4	712U676			•		•	•	
43-1/4	712U686					•	•	

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 712N designation.

# Pipe Thread Heaters

## 1-1/4" Pipe Thread Heaters



### Oil

Steel Sheath, Steel Fitting

20 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase			3 Phase			
				120V	208V	240V	480V	208V	240V	480V
1	.25	7-3/4	712U404	•						
	.375	10-3/4	712U414	•	•	•				
	.5	14	712U424	•	•	•				
	.75	20-1/2	712U434	•	•	•				
	1	26-3/4	712U444	•	•	•				
	1.25	33-1/4	712U454	•	•	•				
	1.5	39-1/2	712U464	•	•	•				
	2	52-1/4	712U474	•	•	•				
2	.5	7-3/4	712U564	•						
	.75	10-3/4	712U574	•	•	•				
	1	14	712U584	•	•	•				
	1.25	17-1/4	712U594	•	•	•				
	1.5	20-1/2	712U604	•	•	•				
	1.75	23-1/2	712U614	•	•	•				
	2	26-3/4	712U624	•	•	•				
	2.5	33-1/4	712U634	•	•	•				
3	1.5	14	712U764	•	•	•		•	•	
	2.25	20-1/4	712U774	•	•	•		•	•	
	3	26-3/4	712U784	•	•	•		•	•	
	3.75	33-1/4	712U794	•	•	•		•	•	
	4.5	39-1/2	712U804	•	•	•		•	•	
	6	52-1/4	712U814	•	•	•		•	•	

B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box						
		Availability						
		1 Phase			3 Phase			
		120V	208V	240V	480V	208V	240V	480V
7-3/4	712U484	•						
10-3/4	712U494	•	•	•				
14	712U504	•	•	•				
20-1/2	712U514	•	•	•				
26-3/4	712U524	•	•	•				
33-1/4	712U534	•	•	•				
39-1/2	712U544	•	•	•				
52-1/4	712U554	•	•	•				
7-3/4	712U664	•						
10-3/4	712U674	•	•	•				
14	712U684	•	•	•				
17-1/4	712U694	•	•	•				
20-1/2	712U704	•	•	•				
23-1/2	712U714	•	•	•				
26-3/4	712U724	•	•	•				
33-1/4	712U734	•	•	•				
39-1/2	712U744	•	•	•				
52-1/4	712U754	•	•	•				
14	712U824	•	•	•		•	•	
20-1/4	712U834	•	•	•		•	•	
26-3/4	712U844	•	•	•		•	•	
33-1/4	712U854	•	•	•		•	•	
39-1/2	712U864	•	•	•		•	•	
52-1/4	712U874	•	•	•		•	•	

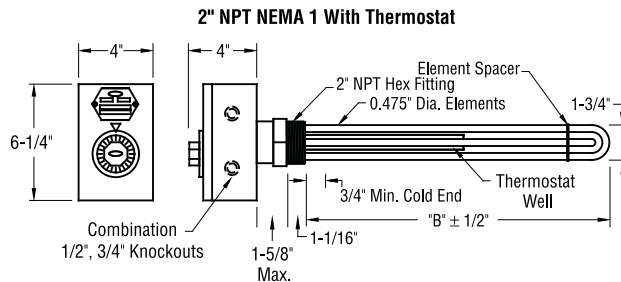
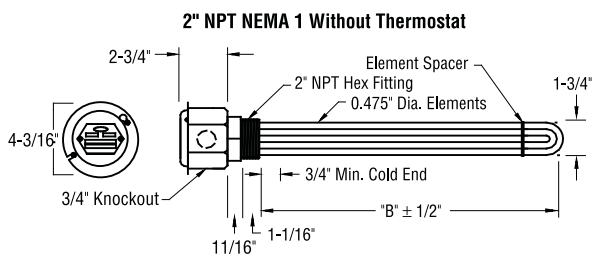
Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 712N designation.



# Pipe Thread Heaters

## 2" Pipe Thread Heaters



### Water

304 SS Sheath, 304 SS Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box										
		B Dimensions (Inches)	Catalog Number	Availability								
				1 Phase			3 Phase					
120V	208V	240V	480V	208V	240V	480V						
1	1	8-1/2	713U146	•	•	•						
	1.5	11-3/4	713U056	•	•	•	•					
	2	15-1/4	713U076	•	•	•	•					
	2.5	18-1/2	713U156	•	•	•	•					
	3	21-3/4	713U166	•	•	•	•					
	4	28-1/2	713U176	•	•	•	•					
	5	35-1/4	713U186		•	•	•					
2	6	42	713U196		•	•	•					
	2	8-1/2	713U236	•	•	•						
	2.5	10	713U246	•	•	•	•					
	3	11-3/4	713U256	•	•	•	•					
	3.5	13-1/2	713U206	•	•	•	•					
	4	15-1/4	713U216	•	•	•	•					
	5	18-1/2	713U226		•	•	•					
	6	21-3/4	713U316		•	•	•					
	8	28-1/2	713U266		•	•	•					
	10	35-1/4	713U376				•					
3	12	42	713U276				•					
	3	8-1/2	713U286	•	•	•	•	•	•	•	•	•
	3.75	10	713U296	•	•	•		•	•	•	•	•
	4.5	11-3/4	713U306	•	•	•	•	•	•	•	•	•
	5.25	13-1/2	713U326		•	•	•	•	•	•	•	•
	6	15-1/4	713U346		•	•	•	•	•	•	•	•
	7.5	18-1/2	713U356		•	•	•	•	•	•	•	•
	9	21-3/4	713U366				•	•	•	•	•	•
	12	28-1/2	713U386				•	•	•	•	•	•
	15	35-1/4	713U396					•	•	•	•	•
	18	42	713U406					•	•	•	•	•

B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box									
		Availability									
		1 Phase			3 Phase						
120V	208V	240V	480V	208V	240V	480V					
8-1/2	713U416	•	•	•							
11-3/4	713U426	•	•	•	•						
15-1/4	713U436	•	•	•	•						
18-1/2	713U446	•	•	•	•						
21-3/4	713U456	•	•	•	•						
28-1/2	713U466	•	•	•	•						
35-1/4	713U476		•	•	•						
42	713U486		•	•	•						
8-1/2	713U496	•	•	•							
10	713U506	•	•	•	•						
11-3/4	713U516	•	•	•	•						
13-1/2	713U526	•	•	•	•						
15-1/4	713U536	•	•	•	•						
18-1/2	713U546		•	•	•						
21-3/4	713U556		•	•	•						
28-1/2	713U566		•	•	•						
35-1/4	713U576				•						
42	713U586				•						
8-1/2	713U596	•	•	•		•	•				
10	713U606	•	•	•		•	•	•	•		
11-3/4	713U616	•	•	•	•	•	•	•	•	•	•
13-1/2	713U626		•	•	•	•	•	•	•	•	•
15-1/4	713U636		•	•	•	•	•	•	•	•	•
18-1/2	713U646		•	•	•	•	•	•	•	•	•
21-3/4	713U656				•	•	•	•	•	•	•
28-1/2	713U676				•	•	•	•	•	•	•
35-1/4	713U686					•	•	•	•	•	•
42	713U696					•	•	•	•	•	•

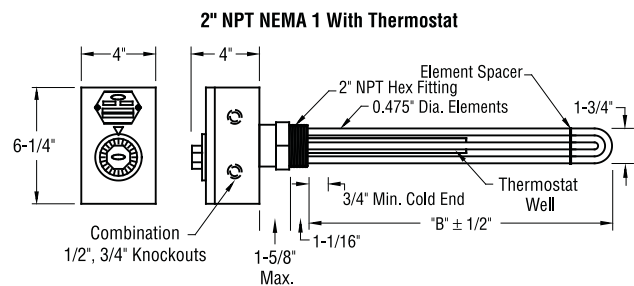
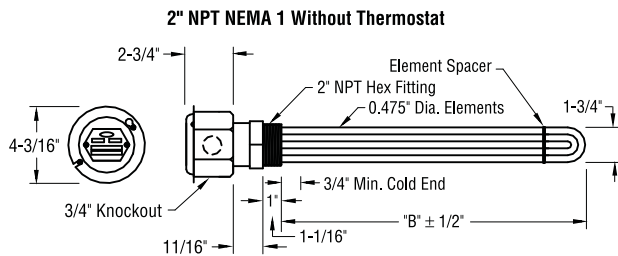
Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 713N designation.



# Pipe Thread Heaters

## 2" Pipe Thread Heaters



### Water

#### Copper Sheath, Brass Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase		3 Phase				
120V	208V	240V	480V	208V	240V	480V				
1	1	8-1/4	713U361	•	•	•				
	1.5	11-3/4	713U051	•	•	•	•			
	2	15	713U071	•	•	•	•			
	2.5	18-1/4	713U371	•	•	•	•			
	3	21-3/4	713U381	•	•	•	•			
	4	28-1/2	713U391	•	•	•	•			
	5	35-1/4	713U401		•	•	•			
	6	41-3/4	713U411		•	•	•			
2	2	8-1/4	713U231	•	•	•				
	2.5	10	713U241	•	•	•	•			
	3	11-3/4	713U501	•	•	•	•			
	3.5	13-1/4	713U511	•	•	•	•			
	4	15	713U271	•	•	•	•			
	5	18-1/4	713U521		•	•	•			
	6	21-3/4	713U311		•	•	•			
	8	28-1/2	713U531		•	•	•			
	10	35-1/4	713U541				•			
	12	41-3/4	713U551				•			
3	3	8-1/4	713U621	•	•	•		•	•	
	3.75	10	713U631	•	•	•	•	•	•	•
	4	10-1/2	713U641	•	•	•	•	•	•	•
	4.5	11-3/4	713U651	•	•	•	•	•	•	•
	5	12-3/4	713U661	•	•	•	•	•	•	•
	5.25	13-1/4	713U671	•	•	•	•	•	•	•
	6	15	713U681	•	•	•	•	•	•	•
	7	17-1/4	713U691	•	•	•	•	•	•	•
	7.5	18-1/4	713U701	•	•	•	•	•	•	•
	8	19-1/2	713U711		•	•	•	•	•	•
	9	21-3/4	713U721		•	•	•	•	•	•
	10	24	713U731				•	•	•	•
	12	28-1/2	713U741				•	•	•	•
	15	35-1/4	713U751						•	•
16	37-3/4	713U761							•	
18	41-3/4	713U771							•	

With Built-In Thermostat, NEMA 1 Terminal Box		Availability						
B Dimensions (Inches)	Catalog Number*	1 Phase				3 Phase		
		120V	208V	240V	480V	208V	240V	480V
9-1/4	713U421	•	•	•				
12-3/4	713U431	•	•	•	•			
16	713U441	•	•	•	•			
19-1/2	713U451	•	•	•	•			
22-3/4	713U461	•	•	•	•			
29-1/2	713U471	•	•	•	•			
36-1/4	713U481		•	•	•			
43	713U491		•	•	•			
9-1/4	713U181	•	•	•				
11	713U561	•	•	•	•			
12-3/4	713U251	•	•	•	•			
14-1/4	713U571	•	•	•	•			
16	713U191	•	•	•	•			
19-1/2	713U581		•	•	•			
22-3/4	713U211		•	•	•			
29-1/2	713U591		•	•	•			
36-1/4	713U601				•			
43	713U611				•			
9-1/4	713U781	•	•	•		•	•	
11	713U791	•	•	•	•	•	•	•
11-1/2	713U801	•	•	•	•	•	•	•
12-3/4	713U811	•	•	•	•	•	•	•
13-3/4	713U821		•	•	•	•	•	•
14-1/4	713U831		•	•	•	•	•	•
16	713U841		•	•	•	•	•	•
18-1/4	713U851		•	•	•	•	•	•
19-1/2	713U861		•	•	•	•	•	•
20-1/2	713U871		•	•	•	•	•	•
22-3/4	713U881			•	•	•	•	•
25	713U891				•	•	•	•
29-1/2	713U901				•	•	•	•
36-1/4	713U911						•	•
38-1/4	713U921							•
43	713U931							•

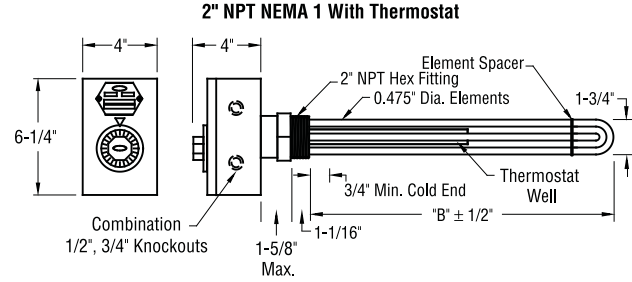
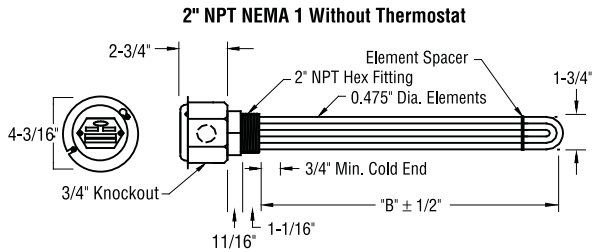
Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 713N designation.



# Pipe Thread Heaters

## 2" Pipe Thread Heaters



### Oil

#### Steel Sheath, Steel Fitting

20 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase			3 Phase			
				120V	208V	240V	480V	208V	240V	480V
1	1	18-1/2	713U234	•	•	•	•			
	1.5	27	713U244	•	•	•	•			
	2	35-1/4	713U254	•	•	•	•			
	2.5	43-3/4	713U264	•	•	•	•			
	3	52	713U274	•	•	•	•			
2	1	10	713U334	•	•	•				
	1.5	14-1/4	713U034	•	•	•	•			
	1.75	16-1/4	713U354	•	•	•	•			
	2	18-1/2	713U364	•	•	•	•			
	2.25	20-1/2	713U374	•	•	•	•			
	2.5	22-3/4	713U384	•	•	•	•			
	3	27	713U064	•	•	•	•			
	4	35-1/4	713U084	•	•	•	•			
	5	43-3/4	713U104		•	•	•			
6	52	713U124		•	•	•				
3	1.5	9-3/4	713U474	•	•	•		•	•	•
	2.25	14-1/4	713U484	•	•	•	•	•	•	•
	3	18-1/2	713U494	•	•	•	•	•	•	•
	3.75	22-3/4	713U504	•	•	•	•	•	•	•
	4.5	27	713U514	•	•	•	•	•	•	•
	6	35-1/4	713U524	•	•	•	•	•	•	•
	7.5	43-3/4	713U534		•	•	•	•	•	•
	9	52	713U544			•	•	•	•	•
	10	57-1/2	713U554				•	•	•	•
	12	68-1/2	713U564				•	•	•	•

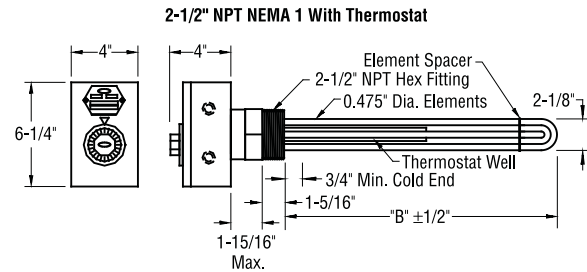
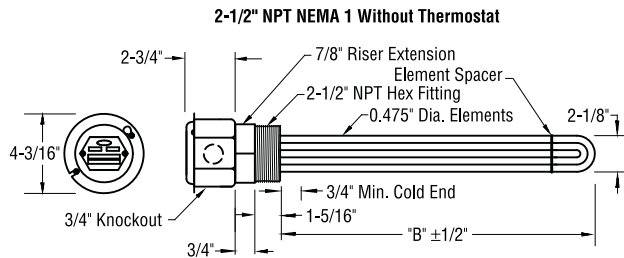
B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box						
		Availability						
		1 Phase			3 Phase			
		120V	208V	240V	480V	208V	240V	480V
18-1/2	713U284	•	•	•	•			
27	713U294	•	•	•	•			
35-1/4	713U304	•	•	•	•			
43-3/4	713U314	•	•	•	•			
52	713U324	•	•	•	•			
10	713U394	•	•	•				
14-1/4	713U014	•	•	•	•			
16-1/4	713U404	•	•	•	•			
18-1/2	713U414	•	•	•	•			
20-1/2	713U424	•	•	•	•			
22-3/4	713U054	•	•	•	•			
27	713U434	•	•	•	•			
35-1/4	713U444	•	•	•	•			
43-3/4	713U454		•	•	•			
52	713U464		•	•	•			
9-3/4	713U574	•	•	•		•	•	•
14-1/4	713U584	•	•	•	•	•	•	•
18-1/2	713U594	•	•	•	•	•	•	•
22-3/4	713U604	•	•	•	•	•	•	•
27	713U614	•	•	•	•	•	•	•
35-1/4	713U624	•	•	•	•	•	•	•
43-3/4	713U634		•	•	•	•	•	•
52	713U644			•	•	•	•	•
57-1/2	713U654				•	•	•	•
68-1/2	713U664				•	•	•	•

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 713N designation.

# Pipe Thread Heaters

## 2-1/2" Pipe Thread Heaters



### Water

304 SS Sheath, 304 SS Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase		3 Phase				
120V	208V	240V	480V	208V	240V	480V				
3	3	8	714U636	•	•	•	•	•	•	•
	4.5	11-1/2	714U726	•	•	•	•	•	•	•
	6	14-3/4	714U676		•	•	•	•	•	•
	7.5	18	714U696		•	•	•	•	•	•
	9	21-1/2	714U716			•	•	•	•	•
	12	28-1/4	714U756				•	•	•	•
	15	35	714U776					•	•	•
	18	41-1/2	714U796						•	•
	20	46	714U736							•

B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box					
		Availability					
		1 Phase		3 Phase			
120V	208V	240V	480V	208V	240V	480V	
8	714U746	•	•	•	•	•	•
11-1/2	714U766	•	•	•	•	•	•
14-3/4	714U786		•	•	•	•	•
18	714U806		•	•	•	•	•
21-1/2	714U816			•	•	•	•
28-1/4	714U826				•	•	•
35	714U836					•	•
41-1/2	714U846					•	•
46	714U856						•

1 and 2 element designs available. Consult factory.

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 714N designation.

### Water

Copper Sheath, Brass Fitting

50 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box								
		B Dimensions (Inches)	Catalog Number	Availability						
				1 Phase		3 Phase				
120V	208V	240V	480V	208V	240V	480V				
3	3	8	714U431	•	•	•	•	•	•	•
	4	10-1/4	714U291	•	•	•	•	•	•	•
	4.5	11-1/2	714U451	•	•	•	•	•	•	•
	5	12-1/2	714U301		•	•	•	•	•	•
	6	14-3/4	714U471		•	•	•	•	•	•
	7	17	714U311		•	•	•	•	•	•
	7.5	18	714U491		•	•	•	•	•	•
	8	19-1/4	714U321		•	•	•	•	•	•
	9	21-1/2	714U511			•	•	•	•	•
	10	23-3/4	714U331				•	•	•	•
	12	28-1/4	714U341					•	•	•
	15	35	714U351						•	•
	18	41-1/2	714U361							•
	20	46	714U371							•

B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box					
		Availability					
		1 Phase		3 Phase			
120V	208V	240V	480V	208V	240V	480V	
9-1/4	714U381	•	•	•	•	•	•
11-1/2	714U391	•	•	•	•	•	•
12-1/4	714U401		•	•	•	•	•
13-3/4	714U411		•	•	•	•	•
15-3/4	714U421		•	•	•	•	•
18	714U441		•	•	•	•	•
19-1/4	714U461		•	•	•	•	•
20-1/4	714U481		•	•	•	•	•
22-1/2	714U501			•	•	•	•
24-3/4	714U521				•	•	•
29	714U531					•	•
36	714U541						•
42-3/4	714U551						•
47-1/4	714U561						•

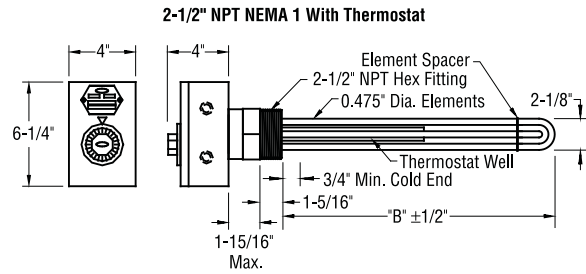
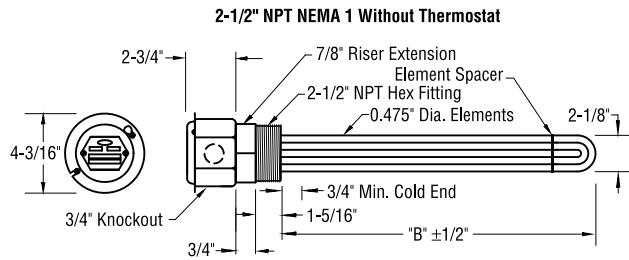
1 and 2 element designs available. Consult factory.

Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 714N designation.

# Pipe Thread Heaters

## 2-1/2" Pipe Thread Heaters



### Oil

#### Steel Sheath, Steel Fitting

20 W/Sq. In.

Number of Elements	KW	Without Thermostat, NEMA 1 Terminal Box						
		B Dimensions (Inches)	Catalog Number	Availability				
				1 Phase		3 Phase		
120V	208V	240V	480V	208V	240V	480V		
3	1.5	9-3/4	714U084	•	•	•	•	•
	2	12-7/16	714U094	•	•	•	•	•
	2.5	15-1/4	714U104	•	•	•	•	•
	3	18	714U324	•	•	•	•	•
	4	23-5/8	714U114	•	•	•	•	•
	4.5	26-1/2	714U344	•	•	•	•	•
	5	29-1/4	714U124	•	•	•	•	•
	6	35	714U364	•	•	•	•	•
	7.5	43-1/4	714U384	•	•	•	•	•
	9	51-3/4	714U404	•	•	•	•	•
	10	57-1/8	714U134	•	•	•	•	•
	12	68-1/2	714U144	•	•	•	•	•

B Dimensions (Inches)	Catalog Number*	With Built-In Thermostat, NEMA 1 Terminal Box					
		Availability					
		1 Phase		3 Phase			
120V	208V	240V	480V	208V	240V	480V	
9-3/4	714U154	•	•	•	•	•	
12-7/16	714U164	•	•	•	•	•	
15-1/4	714U174	•	•	•	•	•	
18	714U184	•	•	•	•	•	
23-5/8	714U194	•	•	•	•	•	
26-1/2	714U204	•	•	•	•	•	
29-1/4	714U214	•	•	•	•	•	
35	714U224	•	•	•	•	•	
43-1/4	714U234	•	•	•	•	•	
51-3/4	714U244	•	•	•	•	•	
57-1/8	714U254	•	•	•	•	•	
68-1/2	714U264	•	•	•	•	•	

1 and 2 element designs available. Consult factory.

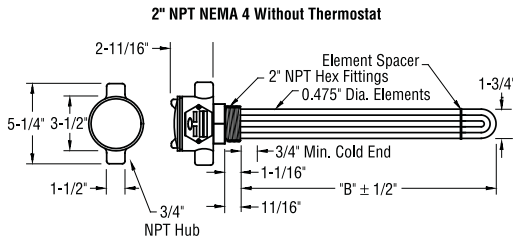
Please specify volts, phase, terminal box rating and, if needed, thermostat range from options listed on page 16.

\*UL Listing is available with thermostat built-in NEMA 1 Box only. For all other terminal box options, use 714N designation.

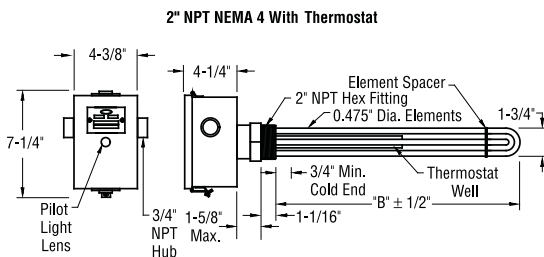
# Pipe Thread Heaters

## Heater Options

**Liquidproof NEMA 4 Outlet Box (Without Built-In Thermostat)** - Cast box with threaded, gasketed cover and 3/4" NPT female threaded hubs for electrical connections. For applications where there is danger of moisture entering the outlet box.



**Liquidproof NEMA 4 Outlet Box (With Built-In Thermostat)** - Welded steel outlet box with enamel finish and gasketed cover. Pilot light is visible through lens cover. Two 3/4" NPT hubs provided for electrical connections. Stainless steel outlet box is available as an option, with two 1-1/4" NPT hubs.



**Single-Pole, Single-Throw Thermostat on 1-1/2", 2" and 2-1/2" Pipe Thread Heaters** - Where single-pole control for pilot duty is adequate, and neither pilot light nor an ON/OFF switch is required. 0°-100° F and 60°-250° F temperature ranges are available.

### Alternate Thermostat Ranges, Type DA

Range °F	Pipe Thread Sizes (Inches)
0-100	All
150-550	1
200-550	1-1/4, 2, 2-1/2
300-700	1-1/4, 2, 2-1/2

**Omit Outlet Box** - For applications where heater terminals will be protected by field-furnished enclosures.

**Special Sheath Materials** - Incoloy 800, Inconel 600, Type 316 stainless steel and Monel 400 available.

**Special Header Materials** - Incoloy 800, Inconel 600 and Type 316 stainless steel headers available.

**Passivated Sheath** - Stainless steel sheath may be passivated with nitric acid to remove trace particles of steel that may be embedded during manufacture.

**Vertical Mounting for 1-1/4", 2", and 2-1/2" Pipe Thread Heaters with Thermostat** - Thermostat must be mounted vertically. Heaters with single-pole, single-throw thermostats can be mounted in any position without relocating the box.



**Other Special Ratings** - 2" and 2-1/2" pipe thread heaters available in 200, 277, 380, 400 and 600 volts. All sizes available with lower watt densities for special applications.

**Longer Elements** - Consult factory for length and wattage limits per element.

**CSA Approval** - Available on all standard heaters listed and on 2" and 2-1/2" pipe thread heaters rated at 600 volts.

**A Single-Pole, Single-Throw Thermostat** - In a 4" NEMA 1 octagon box with internal thermostat knob.

**Type HA Thermostat** - The DA box, with external manual reset button, has three contacts. Two cycle automatically and the third, auxiliary contact, opens on overtemperature. Temperature ranges of 60°-250° F or 200°-550° F are available with the following ratings:

Voltage-Single Phase	Capacity in KW
120	3.6
208	6.2
240	7.2
277	8.3

**Longer Element Cold Ends** - Cold ends are 3" for copper, stainless and steel, 6" for Incoloy. In vertically mounted heaters and other applications where the liquid will not completely cover the elements, immersion length should be increased by the length of additional cold end.