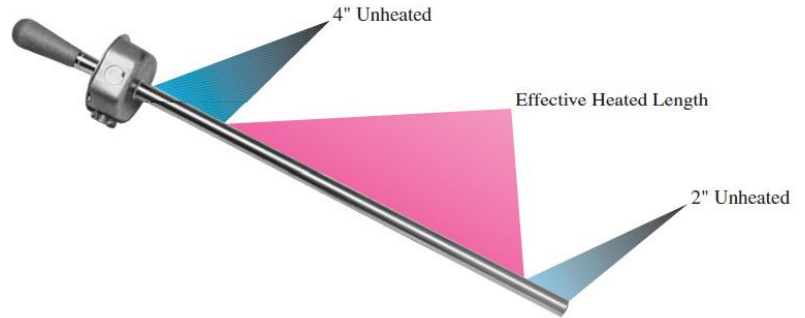


Thermal Solutions of Texas **Bolt Heaters** are used as an aid to tighten large bolts in heavy machinery and equipment. Heaters are sized for easy insertion into a hollow bolt. The rapid heating of the bolt expands it, allowing further tightening of the nut. The heater is then de-energized and removed. As the bolt cools, its contraction back to original size provides a tight fit.

Thermal Solutions of Texas Bolt Heaters are constructed with one of the industry's most efficient and highest quality heating elements—Hi-Density (swaged) Cartridge Heaters; with close tolerance fits, watt densities of 100 watts per square inch are obtainable—65% higher than standard cartridge or tubular heating elements can

BOLT HEATERS



deliver. The higher wattage on Hi-Density Bolt Heaters means quicker heat-up time and minimum heat loss to the area surrounding the bolt.

Design Features

- Hi-Density Construction
- Conduit Box with Knockouts
- Wooden Handle
- High Temp Lead Wires—250°C (482°F)
- Optional SJO Cord or Post Terminals
- Optional Quick Disconnect Plugs

Typical Applications

- Large Compressors, Turbines & Die Blocks
- Large Cylinders, Engine Heads & Vessels

Typical Industries

- Power Plants, Shipyards and Construction
- Machine, Die and Boiler Manufacturers

Bolt Heaters Standard Specifications and Tolerances

DIMENSIONAL SPECIFICATIONS

Actual Diameter (in)	.438	.496	.553	.580	.621	.660	.710	.745	.813	.993
Actual Diameter (mm)	11.1	12.6	14.0	14.7	15.8	16.8	18.0	18.9	20.7	25.2
Diameter Tolerance	±.005 (.127 mm)									
Length Tolerance	±2% of sheath length									
Camber Tolerance	.015" (0.38 mm) per foot of length									

ELECTRICAL SPECIFICATIONS

Diameter (in)	.438	.496	.553	.580	.621	.660	.710	.745	.813	.993
Maximum Voltage	240	240	240	240	240	480	480	480	480	480
Maximum Amperage	6.7	10.5	10.5	23	25	25	25	25	25	25

If tighter tolerances are required, consult Thermal Solutions.

Standard (Non-Stock) Bolt Heaters

Heater Diameter	Inserted Length		Heated Length		Watts	Watt Density		Part Number 240 V
	in	mm	in	mm		W/in ²	W/cm ²	
.438 (11.1)	18	457	12	305	1000	60.6	9.4	HDB00001
	24	610	18	457	1500	60.6	9.4	HDB00002
	18	457	12	305	1900	101.6	15.8	HDB00003
	24	610	18	457	2300	82.0	12.7	HDB00004
.496 (12.6)	30	762	24	610	2300	61.5	9.5	HDB00005
	36	914	30	762	2300	49.2	7.6	HDB00006
	18	457	12	305	1200	57.6	8.9	HDB00007
	24	610	18	457	1700	54.4	8.4	HDB00008
.553 (14.0)	30	762	24	610	2500	60.0	9.3	HDB00009
	36	914	30	762	3200	61.4	9.5	HDB00010
	18	457	12	305	2200	100.6	15.6	HDB00011
.580 (14.7)	24	610	18	457	3300	100.6	15.6	HDB00012
	30	762	24	610	4350	99.5	15.4	HDB00013
	36	914	30	762	5450	99.7	15.5	HDB00014
	18	457	12	305	2350	100.4	15.6	HDB00015
.621 (15.8)	24	610	18	457	3500	99.7	15.4	HDB00016
	30	762	24	610	4700	100.4	15.6	HDB00017
	36	914	30	762	5500	94.0	14.6	HDB00018
	18	457	12	305	1200	48.2	7.5	HDB00019
.660 (16.8)	24	610	18	457	1700	45.5	7.1	HDB00020
	30	762	24	610	2300	46.2	7.2	HDB00021
	36	914	30	762	2800	45.0	7.0	HDB00022
	18	457	12	305	2700	100.9	15.6	HDB00023
.710 (18.0)	24	610	18	457	4000	99.7	15.4	HDB00024
	30	762	24	610	5350	100.0	15.5	HDB00025
	36	914	30	762	5500	82.2	12.7	HDB00026
	18	457	12	305	2800	99.7	15.5	HDB00027
.745 (18.9)	24	610	18	457	4200	99.7	15.5	HDB00028
	30	762	24	610	5500	97.9	15.2	HDB00029
	36	914	30	762	5500	78.3	12.1	HDB00030
	18	457	12	305	1800	58.7	9.1	HDB00031
.813 (20.7)	24	610	18	457	2500	54.4	8.4	HDB00032
	30	762	24	610	3500	57.1	8.6	HDB00033
	36	914	30	762	4200	54.8	8.5	HDB00034
	18	457	12	305	3750	100.2	15.5	HDB00035
.993 (25.2)	24	610	18	457	5500	97.9	15.2	HDB00036
	30	762	24	610	5500	73.5	11.4	HDB00037
	36	914	30	762	5500	58.8	9.1	HDB00038



Note: Part Numbers shown are for heaters with standard 10" long leads and conduit box with wooden handle. Hi-Density Bolt Heaters are made-to-order only.

Ordering Information

Catalog Heaters

Order by Catalog Part Number from the Standard Sizes and Ratings List. Note that Part Numbers shown are for heaters with 10" long, 428°F (250°C) stranded flexible lead wires inside the conduit box.

Standard lead time is 3 weeks.

Custom Engineered/Manufactured Heaters

Understanding that an electric heater can be very application specific, for sizes and ratings not listed, Thermal Solutions of Texas will design and manufacture a Bolt Heater to meet your requirements.

Standard lead time is 3 weeks.

Please Specify the following:

- Diameter & Insertion Length
- Cold Section (top and bottom)
- Voltage & Wattage
- Lead Length or Terminals
- Optional Cord or Plug
- Special Features