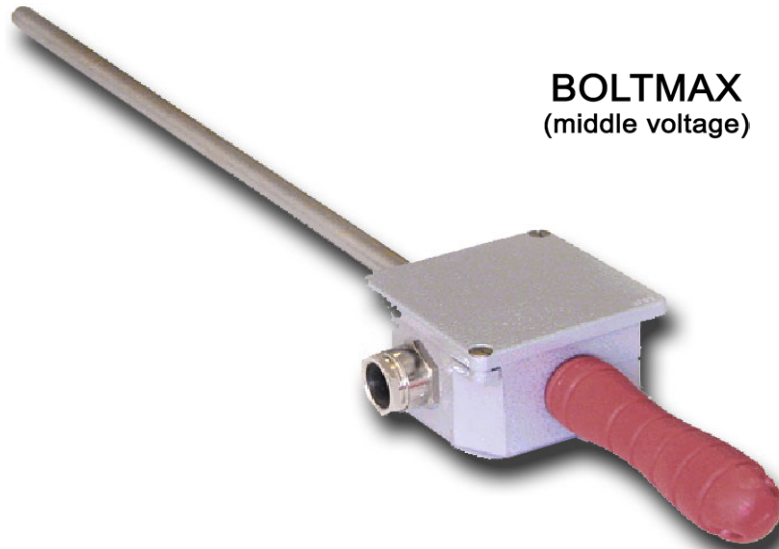


## Bolt-Lengthening Electrical Heaters



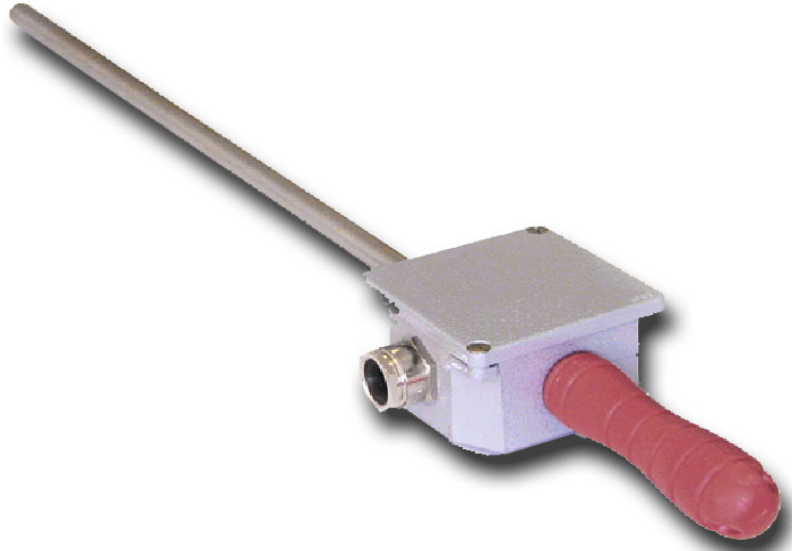
**BOLTMAX**  
(middle voltage)

Electrical bolt heaters are designed to be inserted into holes that are purposely drilled in bolts. They very rapidly thermally lengthen the bolt, letting the nut be further turned on it, therefore providing the highest torque.



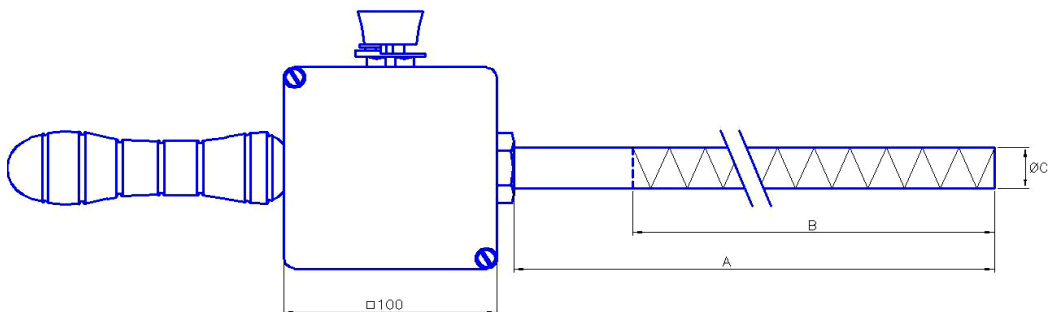
**BOLTFAST**  
(low voltage)

## BOLTMAX Middle-Voltage Bolt Heaters



### Features

- Sturdy plastic-rubber handgrip with rough anti-slide surface.
- Heavy aluminium fusion painted box for electrical connection.
- Cable fastener especially designed to avoid tearing or cutting of the cable.
- Feeding cable, optional, with silicone rubber sheath, length to be specified.
- Internal insulation: compacted MgO.
- Working temperature in free air: 800°C with 8 W/cm<sup>2</sup>.
- Construction designed for keeping an excellent linearity in time.



### Applications

Turbines, motor heads, shipbuilding, pressure boilers, flanged pressure pipings, civil construction, mechanical and hydraulic presses, molds.

## BOLTMAX Technical Data (I)

Feeding Voltage	Bolt Hole Diameter	DIMENSIONS			ELECTRICAL			Part No.	
		Length (A)	Heated Part (B)	Diameter (C)	Total Power	Specific Power	Current (Amps) at nominal voltage		
V	mm	mm ±3%	mm ±3%	mm ±0.15	W ±10%	W/cm <sup>2</sup> ±10%	A		
110V ÷ 120V (single-phase)	10,0÷11,0	350	250	9,6	500	6,6	4,3	UTXS003448	
		450	350	9,6	750	7,1	6,5		
		600	450	9,6	950	7,0	8,3		
		700	500	9,6	1050	7,0	9,1		
	11,3÷12,5	500	400	11,0	1200	8,7	10,4		
		550	450	11,0	1400	9,0	12,2		
		800	650	11,0	1800	8,0	15,7		
		1100	950	11,0	2600	7,9	22,6		
	13,0÷15,0	500	400	12,7	1300	8,1	11,3		
		650	500	12,7	1600	8,0	13,9		
		800	650	12,7	2000	7,7	17,4		
		1100	950	12,7	2600	6,9	22,6		
	1400	1250	12,7	3500	7,0	30,4			
		15,3÷18,0	500	400	15,0	1500	8,0	13,0	
			650	500	15,0	1850	7,9	16,1	
			800	650	15,0	2500	8,2	21,7	
	1100		950	15,0	3600	8,0	31,3		
	1400	1250	15,0	4700	8,0	40,9			
		18,5÷20,0	500	400	18,0	1800	8,0	15,7	
			650	500	18,0	2200	7,8	19,1	
			800	650	18,0	2500	6,8	21,7	
	1100		950	18,0	3750	7,0	32,6		
	1400	1250	18,0	5000	7,1	43,5			
		21,0÷24,0	500	400	20,3	2000	7,8	17,4	
			650	500	20,3	2500	7,8	21,7	
			800	650	20,3	2900	7,0	25,2	
	1100		950	20,3	4200	6,9	36,5		
	1400	1250	20,3	5500	6,9	47,8			
		24,5÷25,0	600	400	24,0	2400	8,0	20,9	
			800	600	24,0	3600	8,0	31,3	
			900	700	24,0	4200	8,0	36,5	
	1100		900	24,0	4700	6,9	40,9		
	1400	1200	24,0	6300	7,0	54,8			
		26,0÷28,0	600	400	25,5	2500	7,8	21,7	
			800	600	25,5	3800	7,9	33,0	
			900	700	25,5	4500	8,0	39,1	
	1100		900	25,5	5000	6,9	43,5		

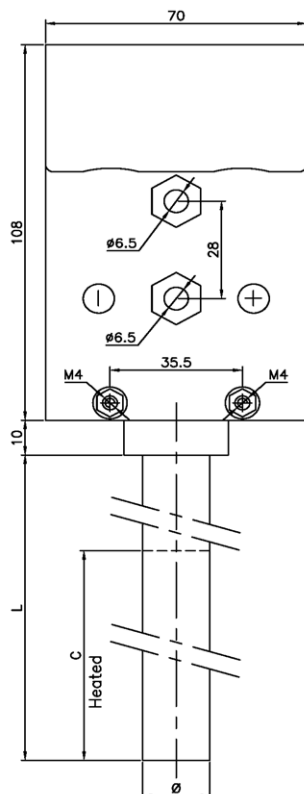
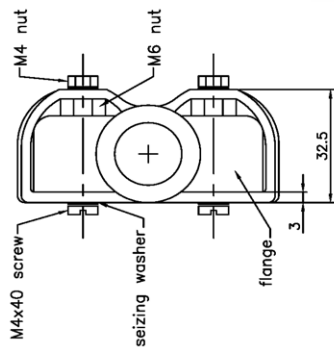
Note: ASK YOUR SALES CORRESPONDENT FOR OTHER DIAMETERS OR LENGTHS.

## BOLTMAX Technical Data (II)

Feeding Voltage	Bolt Hole Diameter	DIMENSIONS			ELECTRICAL			Part No.
		Length (A)	Heated Part (B)	Diameter (C)	Total Power	Specific Power	Current (Amps) at nominal voltage	
V	mm	mm ±3%	mm ±3%	mm ±0,15	W ±10%	W/cm <sup>2</sup> ±10%	A	
220V ÷ 240V  (single-phase)	15,3÷18,0	1100	950	15,0	3600	8,0	15,7	
		1400	1250	15,0	4700	8,0	20,4	
	18,5÷20,0	800	650	18,0	3300	9,0	14,3	
		1100	950	18,0	4300	8,0	18,7	
	21,0÷24,0	1400	1250	18,0	5600	7,9	24,3	
		800	650	20,3	3700	8,9	16,1	
		1100	950	20,3	4800	7,9	20,9	
	24,5÷25,0	1400	1250	20,3	6400	8,0	27,8	
		900	750	24,0	5000	8,8	21,7	
		1100	950	24,0	5700	8,0	24,8	
		1400	1250	24,0	7500	8,0	32,6	
	26,0÷28,0	900	750	25,5	5400	9,0	23,5	
1100		950	25,5	6000	7,9	26,1		
1400		1250	25,5	8000	8,0	34,8		
1800		1600	25,5	10200	8,0	44,3		
48V  (single-phase)	10,0÷11,0	350	250	9,6	400	5,3	8,3	
		600	450	9,6	800	5,9	16,7	
	15,3÷18,0	500	400	15,0	1200	6,4	25,0	UTXS003447
		650	500	15,0	1600	6,8	33,3	UTXS003446
	18,5÷20,0	500	400	18,0	1500	6,6	31,3	
		650	450	18,0	1800	7,1	37,5	UTXS003445
		800	650	18,0	2450	6,7	51,0	UTXS003444
	21,5÷24,0	1100	950	18,0	3800	7,1	79,2	UTXS003443
		500	400	21,0	1600	6,1	33,3	
		650	500	21,0	2400	7,3	50,0	
800		650	21,0	3000	7,0	62,5		
48V  (three-phase)	21,5÷24,0	1100	950	21,0	4600	7,3	55,4	UTXS003442
		1400	1250	21,0	5500	6,7	66,2	
	24,5÷25,0	1200	1050	24,0	5850	7,4	70,4	
	26,0÷28,0	1200	1050	25,5	6700	8,0	80,7	
		1800	1600	25,5	8900	6,9	107,2	
37,0÷40,0	1900	1650	36,0	12300	6,6	148,1		

Note: ASK YOUR SALES CORRESPONDENT FOR OTHER DIAMETERS OR LENGTHS.

## BOLTFAST Low-Voltage Bolt Heaters



BOLTFAST heaters are a practical and reliable tool and are mainly used for the extension of bolts and rods during the assembly of turbines, nuclear plants, presses, building construction, pressure boilers, etc. Due to their quick action the BOLTFAST heaters guarantee precision and high productivity. They are essential when fast action and a perfect thermodynamic action are required.

Insulation by means of compressed boron nitride raises the speed of heat transmission and allows excellent insulation even with temperatures above 1000 °C.

The strong and reliable Anderson connectors with their high amperage, allow an excellent and practical handling of the element, thus facilitating the operators movements in all safety. These connectors can be equipped with a release system that may also be used as a switch or safety device.

## BOLTFAST Technical Data

Feeding Voltage (single-phase)	Bolt Hole Diameter	DIMENSIONS			ELECTRICAL			Part No.
		Length (A)	Heated Part (B)	Diameter (C)	Total Power	Specific Power	Current (Amps) at nominal voltage	
V	mm	mm ±3%	mm ±3%	mm ±0.15	W ±10%	W/cm <sup>2</sup> ±10%	A	
24 V	10,0÷11,0	250	170	9,6	950	18,0	39,6	BLTSF00001
		350	250	9,6	1400	18,0	58,3	BLTSF00002
		450	350	9,6	1900	18,0	79,2	BLTSF00003
		500	400	9,6	1950	16,0	81,3	BLTSF00004
		600	470	9,6	2150	15,0	89,6	BLTSF00005
		700	500	9,6	2300	15,0	95,8	BLTSF00006
	11,3÷12,5	350	250	11,0	1600	18,0	66,7	BLTSF00007
		450	350	11,0	2200	18,0	91,7	BLTSF00008
		500	400	11,0	2250	16,0	93,8	BLTSF00009
		650	520	11,0	2900	16,0	120,8	BLTSF00010
		800	550	11,0	3050	16,0	127,1	BLTSF00011
	14,5÷15,0	350	250	14,0	2000	18,0	83,3	BLTSF00012
		450	350	14,0	2800	18,0	116,7	BLTSF00013
		500	400	14,0	3200	18,0	133,3	BLTSF00014
		650	520	14,0	3700	16,0	154,2	BLTSF00015
		800	550	14,0	3900	16,0	162,5	BLTSF00016
	15,5÷18,0	350	250	15,0	2150	18,0	89,6	BLTSF00017
		450	350	15,0	3000	18,0	125,0	BLTSF00018
		500	400	15,0	3400	18,0	141,7	BLTSF00019
		650	520	15,0	3950	16,0	164,6	BLTSF00020
		800	600	15,0	4550	16,0	189,6	BLTSF00021
	18,5÷20,0	400	250	18,0	2550	18,0	106,3	BLTSF00022
		500	350	18,0	3600	18,0	150,0	BLTSF00023
		650	500	18,0	5100	18,0	212,5	BLTSF00024
		800	550	18,0	5000	16,0	208,3	BLTSF00025
		1100	750	18,0	6800	16,0	283,3	BLTSF00026
	20,5÷21,0	500	350	20,0	4000	18,0	166,7	BLTSF00027
		650	500	20,0	5700	18,0	237,5	BLTSF00028
		800	550	20,0	5550	16,0	231,3	BLTSF00029
		1100	750	20,0	7550	16,0	314,6	BLTSF00030
21,5÷22,0	500	350	21,0	4200	18,0	175,0	BLTSF00031	
	650	500	21,0	5950	18,0	247,9	BLTSF00032	
	800	550	21,0	6200	17,0	258,3	BLTSF00033	
	1100	750	21,0	8400	16,9	350,0	BLTSF00034	
24 V	22,5÷24,0	500	350	22,0	4600	19,0	191,7	BLTSF00035
24 V		650	500	22,0	6250	18,0	260,4	BLTSF00036
24 V		800	550	22,0	6850	18,0	285,4	BLTSF00037
48 V		1100	750	22,0	9350	18,0	194,8	BLTSF00038
24 V	24,5÷25,0	500	350	24,0	5300	20,0	220,8	BLTSF00039
24 V		600	450	24,0	7500	22,0	312,5	BLTSF00040
48 V		800	550	24,0	8300	20,0	172,9	BLTSF00041
48 V		1100	750	24,0	11350	20,0	236,5	BLTSF00042
24 V	26,0÷30,0	500	350	25,4	5600	20,0	233,3	BLTSF00043
24 V		600	450	25,4	7900	22,0	329,2	BLTSF00044
48 V		800	550	25,4	8800	20,0	183,3	BLTSF00045
48 V		1100	750	25,4	10800	18,0	225,0	BLTSF00046
48 V		1200	800	25,4	11500	18,0	239,6	BLTSF00047

Note: ASK YOUR SALES CORRESPONDENT FOR OTHER DIAMETERS OR LENGTHS.

## Control Panel for Bolt Heaters



Electrical supply: 380 V three-phase, output 24V - 48V, max. power 30 KVA.

Size: 1200x1000 mm, 800 mm height, installed on a wheeled frame.

The cabinet accommodates the following components:

- 1 door locking master switch
- 1 isolation transformer, power: 30 KVA, firm power: 380V, 50Hz, three-phase, interruptible power: two separate windings for 24 V 200 A (5000 W) phase
- 3 contactors
- 3 disconnecting switches
- 12 output terminals

Serial or parallel coupling of phase windings allow the following supply selections:

- 6 24 V insulated elements, maximum rated power: 5 KW
- 3 24 V grounded elements, maximum rated power: 10 KW
- 3 48 V insulated elements, maximum rated power: 10 KW

A set of controls and commands has been provided for, and more particularly:

- 1 timer for heating-up time pre-setting
- 1 automatic - manual switch
- 1 OFF switch
- 1 ON switch
- 1 phase ON led
- 1 emergency stop push-button
- 1 remote control socket
- 1 undervoltage led
- Cable

### Connection Process

Once the line connection has been established and the conduction of electricity across the surface ascertained, resistors can be connected as follows:

- Less than 5 KW resistor: use a cable set for each heating element, connected between 0 - 24 V to a single core, for a maximum of 6 resistors. Whenever connecting more than one resistors, cores should be used in a balanced manner.
- 24 V resistor, from 5 KW higher to a maximum of 10 KW: Use two cable sets for each heating element. Connect one set to the two 0 terminals of a single core, and the other to the two 24 V terminals of that same core, up to a maximum of three resistors. Use an appropriate clamp to connect two cable sets to one resistor.
- 48 V resistor, maximum rated power: 100 KW: use a cable set, connect one cable to the upper 0 V terminal, and one cable to the lower 24 V terminal; slide a bridge in between the two central 0V - 24V terminals mounted on the same core; three resistors at most.

### Heating Process

Drive the resistors into the tie rod to be heated. Select the required function and power supply the cabinet.

Manual function: as soon as the "start" push-button is turned ON, resistors start heating until an interruption occurs by pressing the "stop" or "emergency" push-buttons.

Automatic function: as soon as the "start" push-button is turned ON, resistors start heating for a pre-established period of time, before being automatically switched OFF. Interruption occurs anytime by pressing the "stop" or "emergency" push-buttons.

Timer adjustment: make sure the timer is set to "E". Pre-set the timescale with a screwdriver, before turning the handle to the heating time required. Turn the selector ON and press the "start" push-button.

Remote control: same operations apply, but for the cabinet "start" push-button being disabled.



As a dynamic and innovative Group, we pursue a policy of continuous product development and improvement. Our companies, therefore, reserve the right to amend the specifications without giving prior notice. Descriptions and data in this brochure are correct at the time of the issue but are subject to alteration. Details of any change are available on request.

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