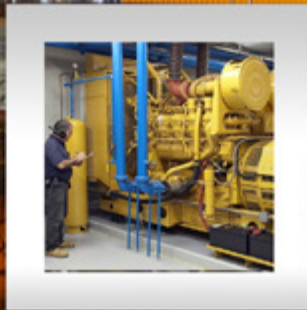


SCREWPLUG HEATERS

immersion heaters



SCREWPLUG HEATERS

immersion heaters

OVERVIEW

WATTCO™ screwplug heaters are comprised of hairpin tubular elements that are brazed or welded into a machined pipe thread fitting, which are then screwed directly through a threaded coupling in the tank wall or vessel, or installed in pipe.

WATTCO™ screwplug heaters are used for heating gases and liquids in tanks or vessels. It is strongly advised, for safety and reliability reasons, to immerse the heated section of the elements in the liquid, which will then be heated through natural convection currents that the elements create.

KEY FEATURES

- » NPT screwplugs: 1", 1¼", 1½", 2", 2½" and 3"
- » Stainless steel, brass or steel screwplugs
- » 0.260", 0.315", 0.375", 0.430" and 0.475" diameters available
- » Sheath materials:
 - Copper
 - Steel
 - Incoloy®
 - Stainless steel
 - Titanium
- » Broad range of standard and custom designs in different sizes, wattage, materials, junction box types, terminal housings and thermostats (including built-in thermostats).
- » Available explosion and/or moisture resistant terminal enclosures upon request.

BENEFITS

- » Energy efficient
- » Easy to install or remove
- » Built solidly
- » Compact
- » CSA™ approved
- » Easy to regulate
- » Easy to maintain
- » Custom-designed
- » Designed and built for safety

SELECTING

WATTCO™ SCREWPLUG HEATER

The following recommendations will help you select the appropriate WATTCO™ screwplug heater that will meet the requirements of your application.

- » Select appropriate screwplug heaters in order to maximize service life.
- » Establish wattage requirement, heater voltage and phase
- » Establish typical temperature range to be reached with the heater.
- » Establish type of solution to be heated (chemical and thermal properties).
- » Establish type of mounting required.
- » Select corrosion-resistant construction materials that will not deteriorate or pollute the liquid.

Please note that heaters are not guaranteed against corrosion or extraordinary working conditions, as liquid types, concentrations, and solution temperatures cannot be controlled. High heat-up time requirements will result in higher equipment and operating costs.

Screwplug immersion heaters are just a component of a larger system. Proper controls should be included to assure the proper functioning and life longevity of the screwplug immersion heaters. These include high limit cutouts, temperature controls as well as level controls that could influence warranty issues.

WARNING – RISKS OF FIRE AND EXPLOSION

If used around explosive or combustible materials, screwplug heaters can sometimes be defective during normal use and can start a fire. Please follow these instructions to prevent risks of explosion and fire:

- » **Do not use** with explosive or combustible materials
- » Follow fire prevention precautions
- » Call us at **1.800.492.8826** to get appropriate installation instructions

Thermostat serves as temperature controls. Verify the temperature and/or pressure safety control to ensure safe operation.

Above warnings are included on all WATTCO™ assembled products that contain these elements and thermostats.



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FACTORS

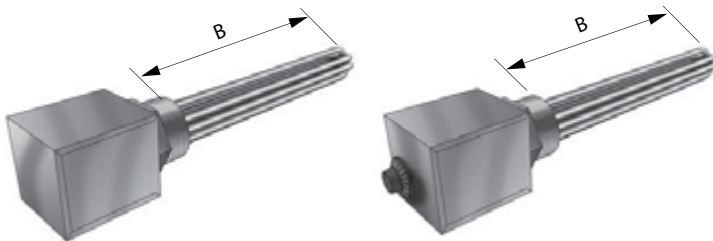
Please consider the following factors in order to select the proper screwplug heater:

- » Desired operating temperature
- » Ambient temperature
- » Vessel insulation
- » Heating element watt density
- » Available length within your tank
- » Sheath material (corrosive or non corrosive)
 - Temperature of the corrodent
 - Degree of aeration of exposed corrodent
 - Velocity of the corrodent

HOW TO INSTALL THE SCREWPLUG HEATER:

- » Pass it through a threaded half coupling in the tank wall, below the minimum liquid level.
- » Place it right above the bottom to avoid sludge build-up.

Horizontal installation is advised even if the heater replacement needs the tank to be drained. Vertical installation is also a possible option with special consideration given to the element's specific watt density as well as the level of the liquid to be heated. Please call us at **1.800.4WATTCO (1.800.492.8826)** for more information before placing your order.

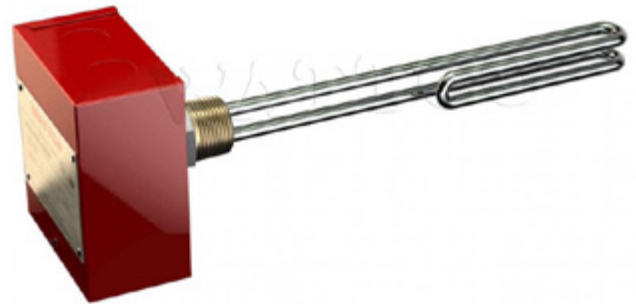


HOW TO OPERATE:

To transfer heat with a screwplug immersion heater, consideration should be given to the following:

- » To determine the proper heat transfer from the elements to the liquids.
- » Special care should be given to viscous materials (ie. Molasses, Asphalt, Oil etc...).
- » Determination of various factors should be made prior to ordering the immersion heaters, to avoid overheating and carbonization of the materials being heated.

Heaters that are immersed in liquids (high-calcium water, magnesium content, phosphates or eluate solutions) tend to leave deposits on the sheath of the elements during the heating process. It is highly suggested to clean heaters regularly in order to remove scale build up, which may cause thermal insulation of the elements, reduce service life longevity and premature failure. For further assistance call us at **1.800.4-WATTCO (1.800.492.8826)** for more information before placing your order.



SELECTING YOUR WATTCO™ SCREWPLUG HEATER

GENERAL RECOMMENDATIONS - SCREWPLUG HEATERS - 1" NPT 1 1/4" NPT 2" NPT 2 1/2" NPT 3" NPT

APPLICATIONS	SHEATH MATERIAL	PLUG MATERIAL	HEATER TYPE
Water, Freeze protection, Hot water storage, Boiler and water heaters, Cooling towers, Solution not corrosive to copper, Food equipment	Copper	Brass	WHC
Oil, Heavy and non-circulated oils, Solution water, Corrosive solutions, Steam super heating, Air, Gas	Incoloy®	Steel	Low watt density WHI
Light oils, In forced oil circulation loops	Incoloy®	Steel	WHI
Mildly corrosive solutions	High density incoloy®	Stainless	WHI
Fluid heat transfer media, Tar, High to low viscosity petroleum oils, Asphalt, Wax, Paraffin, Degreasing solvents, Alcohol, Molten salt, Solutions not corrosive to steel	Steel	Steel	WHO
Process water, Soap and detergent solutions, Soluble cutting oils, Demineralized or deionized water (passivation advised)	Stainless	Steel	WHI

Incoloy® and Inconel® are registered trademarks of Inco Alloys International
PLEASE CONSULT CORROSION GUIDE RECOMMENDATIONS.

SCREWPLUG HEATERS

immersion heaters

1" NPT SCREWPLUG HEATERS (1 ELEMENT)

Refer to PAGE 3 for the GENERAL RECOMMENDATIONS

TABLE 1

1" NPT Screwplug Heaters (1 element)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
HIGH DENSITY - COPPER SHEATH / BRASS PLUG								
0.5	140	5.5	120, 208, 240	8.4	54	SX005A2	SX005A2T	1
0.75	140	5.5	"	12.4	80	SX075A2	SX075A2T	1
1.0	180	7.1	"	12.4	80	SX010A2	SX010A2T	1
1.5	270	10.6	"	12.4	80	SX015A2	SX015A2T	1
2.0	190	7.5	"	12.4	80	SX020A2	SX020A2T	1
3.0	275	10.8	"	12.4	80	SX030A2	SX030A2T	1
5.0	430	16.9	"	12.4	80	SX050A2	SX050A2T	1

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.



1 1/4" NPT SCREWPLUG HEATERS (2 ELEMENTS)

Refer to PAGE 3 for the GENERAL RECOMMENDATIONS

TABLE 2

1 1/4" NPT Screwplug Heaters (2 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
HIGH DENSITY - COPPER SHEATH / BRASS PLUG								
1.5	145	5.7	120, 208, 240	12.4	80	WHC215EB06	WHC215EB06T	4
2.0	185	7.3	"	12.4	80	WHC220EB07	WHC220EB07T	4
MEDIUM DENSITY - INCOLOY SHEATH / STEEL PLUG								
1.0	280	11.0	120, 208, 240	3.9	25	WHI210EO11	WHI210EO11T	4
2.0	540	21.2	"	3.9	25	WHI220EO12	WHI220EO12T	5
LOW DENSITY - INCOLOY SHEATH / STEEL PLUG								
0.6	280	11.0	120, 208, 240	2.3	15	WHI206EO11	WHI206EO11T	4
1.2	540	21.2	"	2.3	15	WHI206EO21	WHI206EO21T	4

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.

SCREWPLUG HEATERS

immersion heaters

2" NPT SCREWPLUG HEATERS (2 ELEMENTS)... Refer to **PAGE 3** for the **GENERAL RECOMMENDATIONS**

TABLE 3
2" NPT Screwplug Heaters (2 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
HIGH DENSITY - COPPER SHEATH / BRASS PLUG								
1.5	200	7.9	120, 208, 240	6.1	39	WHC215FB08	WHC215FB08T	4
			416, 480, 600					
2.0	200	7.9	"	8.1	53	WHC220FB08	WHC220FB08T	4
3.0	300	11.8	"	7.8	51	WHC230FB12	WHC230FB12T	4
4.0	450	17.7	"	9.3	60	WHC240FB17	WHC240FB17T	5
5.0	550	21.7	"	8.8	57	WHC250FB22	WHC250FB22T	5
6.0	650	25.6	"	8.5	55	WHC260FB26	WHC260FB26T	6
8.0	825	32.5	208, 240, 416	8.4	54	WHC280FB32	WHC280FB32T	6
			480, 600					
10.0	1000	39.4	"	8.4	54	WHC2100FB39	WHC2100FB39T	7
12.0	1200	47.2	"	8.2	53	WHC2120FB47	WHC2120FB47T	7
HIGH DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
1.5	200	7.9	120, 208, 240	6.1	39	WHI215FX08	WHI215FX08T	4
			416, 480, 600					
2.0	200	7.9	"	8.1	53	WHI220FX08	WHI220FX08T	4
3.0	300	11.8	"	7.8	51	WHI230FX12	WHI230FX12T	4
4.0	450	17.7	"	9.3	60	WHI240FX17	WHI240FX17T	5
5.0	550	21.7	"	8.8	57	WHI250FX21	WHI250FX21T	5
6.0	650	25.6	"	8.5	55	WHI260FX26	WHI260FX26T	6
8.0	825	32.5	208, 240, 416	8.4	54	WHI280FX32	WHI280FX32T	6
			480, 600					
10.0	1000	39.4	"	8.4	54	WHI2100FX39	WHI2100FX39T	7
12.0	1200	47.2	"	8.2	53	WHI2120FX47	WHI2120FX47T	7
MEDIUM DENSITY - INCOLOY SHEATH / STEEL PLUG								
1.5	300	11.8	120, 208, 240	3.9	25	WHI215FO12	WHI215FO12T	4
			416, 480, 600	4.6				
2.0	450	17.7	"	4.2	30	WHI220FO17	WHI220FO17T	5
3.0	650	25.6	"	4.2	27	WHI230FO26	WHI230FO26T	5
4.0	825	32.5	"	4.2	27	WHI240FO32	WHI240FO32T	6
5.0	1000	39.4	"	4.1	27	WHI250FO39	WHI250FO39T	7
6.0	1200	47.2	208, 240, 416	26		WHI260FO47	WHI260FO47T	7
			480, 600					
MEDIUM DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
1.5	300	11.8	120, 208, 240	3.9	25	WHI215FX12	WHI215FX12T	4
			416, 480, 600	4.6				
2.0	450	17.7	"	4.2	30	WHI220FX18	WHI220FX18T	5
3.0	650	25.6	"	4.2	27	WHI230FX25	WHI230FX25T	5
4.0	825	32.5	"	4.2	27	WHI240FX32	WHI240FX32T	6
5.0	1000	39.4	"	4.1	27	WHI250FX39	WHI250FX39T	7
6.0	1200	47.2	208, 240, 416	26		WHI260FX47	WHI260FX47T	7
			480, 600					

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.

SCREWPLUG HEATERS

immersion heaters

2" NPT SCREWPLUG HEATERS (2 ELEMENTS)... Refer to **PAGE 3** for the **GENERAL RECOMMENDATIONS**

TABLE 3
2" NPT Screwplug Heaters (2 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
LOW DENSITY - INCOLOY SHEATH / STEEL PLUG								
1.0	450	17.7	120, 208, 240	1.7	11	WHI210FO17	WHI210FO17T	5
			416, 480, 600					
1.5	650	25.6	"	1.7	11	WHI215FO25	WHI215FO25T	5
2.0	825	32.5	"	2.1	14	WHI220FO32	WHI220FO32T	6
3.0	1000	39.4	"	2.5	16	WHI230FO39	WHI230FO39T	7
LOW DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
1.0	450	17.7	120, 208, 240	1.7	11	WHI210FX17	WHI210FX17T	5
			416, 480, 600					
1.5	650	25.6	"	1.7	11	WHI215FX25	WHI215FX25T	5
2.0	825	32.5	"	2.1	14	WHI220FX32	WHI220FX32T	6
3.0	1000	39.4	"	2.5	16	WHI230FX39	WHI230FX39T	7

2" NPT SCREWPLUG HEATERS (3 ELEMENTS)... Refer to **PAGE 3** for the **GENERAL RECOMMENDATIONS**

TABLE 4
2" NPT Screwplug Heaters (3 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
HIGH DENSITY - COPPER SHEATH / BRASS PLUG								
3.0	200	7.9	120, 208, 240	8.1	53	WHC330FB08	WHC330FB08T	4
			416, 480, 600					
4.5	300	11.8	"	7.8	51	WHC345FB12	WHC345FB12T	4
6.0	450	17.7	"	9.3	60	WHC360FB18	WHC360FB18T	5
7.5	550	21.7	"	8.8	57	WHC375FB21	WHC375FB21T	5
9.0	650	25.6	"	8.5	55	WHC390FB26	WHC390FB26T	6
12.0	825	32.5	208, 240, 416	8.4	54	WHC3120FB33	WHC3120FB33T	7
			480, 600					
MEDIUM DENSITY - INCOLOY SHEATH / STEEL PLUG								
3.0	450	17.7	120, 208, 240	4.6	30	WHI330FO18	WHI330FO18T	5
			416, 480, 600					
6.0	825	32.5	"	4.2	27	WHI360FO33	WHI360FO33T	6
9.0	1200	47.2	208, 240, 416	4.1	26	WHI390FO47	WHI390FO47T	8
			480, 600					
LOW DENSITY - INCOLOY SHEATH / STEEL PLUG								
3.0	450	17.7	120, 208, 240	1.7	11	WHI315FO18	WHI315FO18T	5
			416, 480, 600					
3.0	825	32.5	"	2.1	14	WHI330FO33	WHI330FO33T	6
4.5	1000	39.4	"	2.5	16	WHI345FO40	WHI345FO40T	7

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.

SCREWPLUG HEATERS

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2 1/2" NPT SCREWPLUG HEATERS (3 ELEMENTS)... Refer to **PAGE 3** for the **GENERAL RECOMMENDATIONS**

TABLE 5
2 1/2" NPT Screwplug Heaters (3 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
HIGH DENSITY - COPPER SHEATH / BRASS PLUG								
3.0	195	7.7	120, 208, 240	8.1	53	WHC330GB08	WHC330GB08T	4
			416, 480, 600					
4.5	295	11.6	"	7.8	51	WHC345GB12	WHC345GB12T	4
2.0	445	17.5	208, 240, 416	9.3	60	WHC360GB18	WHC360GB18T	5
			480, 600					
7.5	545	21.5	"	8.8	57	WHC375GB22	WHC375GB22T	5
9.0	645	25.4	"	8.5	55	WHC390GB26	WHC390GB26T	6
12.0	820	32.3	"	8.4	54	WHC3120GB32	WHC3120GB32T	6
15.0	995	39.2	"	8.4	54	WHC3150GB39	WHC3150GB39T	7
18.0	1195	47.0	"	8.2	53	WHC3180GB47	WHC3180GB47T	7
HIGH DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
3.0	195	7.7	120, 208, 240	8.1	53	WHI330GX08	WHI330GX08T	4
			416, 480, 600					
4.5	295	11.6	"	7.8	51	WHI345GX12	WHI345GX12T	4
2.0	445	17.5	208, 240, 416	9.3	60	WHI360GX18	WHI360GX18T	5
			480, 600					
7.5	545	21.5	"	8.8	57	WHI375GX22	WHI375GX22T	5
9.0	645	25.4	"	8.5	55	WHI390GX26	WHI390GX26T	6
12.0	820	32.3	"	8.4	54	WHI3120GX32	WHI3120GX32T	6
15.0	995	39.2	"	8.4	54	WHI3150GX39	WHI3150GX39T	7
18.0	1195	47.0	"	8.2	53	WHI3180GX47	WHI3180GX47T	7
MEDIUM DENSITY - INCOLOY SHEATH / STEEL PLUG								
3.0	445	17.5	120, 208, 240	4.6	30	WHI330GO18	WHI330GO18T	5
			416, 480, 600					
4.5	645	25.4	"	4.2	27	WHI345GO25	WHI345GO25T	5
6.0	820	32.3	208, 240, 416	4.2	27	WHI360GO32	WHI360GO32T	6
			480, 600					
7.5	995	39.2	"	4.2	27	WHI375GO40	WHI375GO40T	7
9.0	1195	47.0	"	4.1	26	WHI390GO47	WHI390GO47T	7
MEDIUM DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
3.0	445	17.5	120, 208, 240	4.6	30	WHI330GX18	WHI330GX18T	5
			416, 480, 600					
4.5	645	25.4	"	4.2	27	WHI345GX26	WHI345GX26T	5
6.0	820	32.3	208, 240, 416	4.2	27	WHI360GX33	WHI360GX33T	6
			480, 600					
7.5	995	39.2	"	4.2	27	WHI375GX39	WHI375GX39T	7
9.0	1195	47.0	"	4.1	26	WHI390GX47	WHI390GX47T	7

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.

SCREWPLUG HEATERS

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2 1/2" NPT SCREWPLUG HEATERS (3 ELEMENTS)... Refer to **PAGE 3** for the **GENERAL RECOMMENDATIONS**

TABLE 5

2 1/2" NPT Screwplug Heaters (3 elements)

KILOWATTS	IMMERSION LENGTH B		STANDARD VOLTAGES 1 PHASE ONLY	WATT DENSITY		WITHOUT THERMOSTAT CAT. No.	WITH THERMOSTAT 10 - 120°C (50 - 250°F) CAT. No.	NET WT. (KG)
	mm	in.		(W/cm ²)	(W/in. ²)			
LOW DENSITY - INCOLOY SHEATH / STEEL PLUG								
3.0	820	32.3	120, 208, 240 416, 480, 600	2.1	14	WHI330GO32	WHI330GO32T	5
4.5	995	39.2	"	2.5	16	WHI345GO39	WHI345GO39T	7
6.0	1195	47.0	208, 240, 416 480, 600	2.7	18	WHI360GO47	WHI360GO47T	7
LOW DENSITY - INCOLOY SHEATH / STAINLESS PLUG								
3.0	820	32.3	120, 208, 240 416, 480, 600	2.1	14	WHI330GX33	WHI330GX33T	5
4.5	995	39.2	"	2.5	16	WHI345GX39	WHI345GX39T	7
6.0	1195	47.0	208, 240, 416 480, 600	2.7	18	WHI360GX47	WHI360GX47T	7

WHEN ORDERING, PLEASE SPECIFY: Quantity, catalogue number, voltage, phase, wattage, material to be heated, flowing or static mediums, types of controls to be applied, type of metal or alloy of the container, any extra features.

SCREWPLUG HEATERS

immersion heaters

EXTRA FEATURES	DESCRIPTION
VOLTAGE	WATTCO™ screwplug heaters are custom-built and supplied with voltages up to 600V.
WATTAGE	WATTCO™ screwplug heaters come with standard wattage. If you need to replace your current heater with other wattages, simply select the appropriate WATTCO™ unit.
LENGTH	WATTCO™ immersed length of heaters: 180" Use internal vessel support if immersed length exceeds 50"
EXTRA HEAVY WALL SHEATH	Heavy wall sheath (0.049" or 0.065" thickness) is provided in: » Incoloy® » Steel » Inconel® » Stainless steel
PASSIVATION	Available Incoloy® and stainless steel sheathed heaters can be supplied with chemically passivated sheaths. Note: Chemically passivated sheaths are highly corrosion resistant in most applications. Passivation process is carried out through electropolishing. WATTCO™ stainless steel screwplug heaters can come with passivated wetted surfaces (Teflon on top of the sheath).
WELDED ELEMENTS	WHO heaters are made of standard welded elements. WHI heaters are made of elements silver-brazed to the plug (upon request).
BUILT-IN THERMOSTAT	All WATTCO™ screwplug heaters can be supplied with built-in thermostats. » Standard built-in thermostats: Single pole device of a maximum of 240V up to 30 amps. » Standard thermostat range: 10°C -120°C (50°F-250°F) Available on special request: » 600V thermostats – 15 Amp max. • Double pole thermostats
BUILT-IN THERMOSTAT WELL	Built-in thermostat wells can be installed upon request. When ordering, please provide length and internal diameter.
SPECIAL THERMOSTAT RANGES	WATTCO™ can provide specific thermostats with the following temperature ranges: » 0°C to 120°C (70°-245°F) » 70°C to 280°C (150°-550°F)
BUILT-IN THERMOCOUPLES	Thermocouples can be mounted to provide sheath limit protection or temperature control. Configured temperature control and power controls are available to meet the requirements of any application.
TERMINAL HOUSINGS	MOISTURE RESISTANT For outdoor applications, WATTCO™ recommends moisture resistant terminal housings in various sizes. Refer to Figure 4 on Page 10 EXPLOSION-PROOF When operating in an unsafe environment, an explosion-proof housing is mandatory. Refer to Figure 5 . For unsafe locations, please provide: » Class » Division or zone » Group » Temperature code Several types of terminal housings used with screwplug heaters are illustrated: (see FIG 1, FIG 2, FIG 3, FIG 4 on Page 10)
PLUG SIZE AND RATINGS	WATTCO™ elements can be installed in any plug size or rating (special or standard) upon request.
SPECIAL MATERIALS	Supplied upon request: » Special sheath » Plug » Terminal box materials

SCREWPLUG HEATERS

immersion heaters

TERMINAL HOUSING

DESCRIPTION	FIGURE	A		B	
		mm	(in.)	mm	(in.)
Standard housing without thermostat	1	102	(4)	76	(3)
Standard thermostat housing (1 pole)	2	102	(4)	127	(5)
Special thermostat housing	3	105	(4 1/8)	180	(7)
Moisture resistant housing without thermostat	4	92	(3 5/8)	76	(3)
		140	(5 1/2)	102	(4)
Moisture resistant housing	4	92	(3 5/8)	76	(3)
		140	(5 1/2)	102	(4)
Explosion-proof housing with 1 pole thermostat or without thermostat	5	92	(3 5/8)	76	(3)
		140	(5 1/2)	102	(4)
Explosion-proof housing with 2 pole thermostat	5	92	(3 5/8)	76	(3)
		140	(5 1/2)	102	(4)

FIG.1

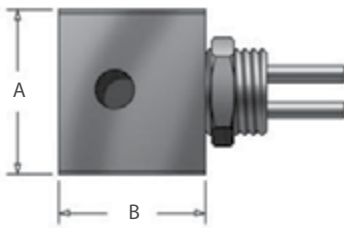


FIG.2

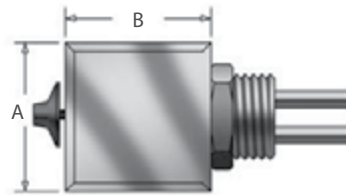
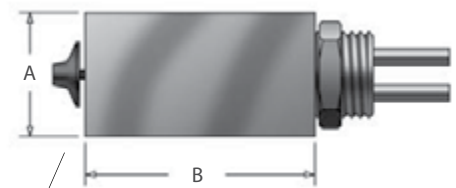


FIG.3



SHOWN WITH OPTIONAL
EXTERNALLY ADJUSTABLE
THERMOSTAT

FIG.4

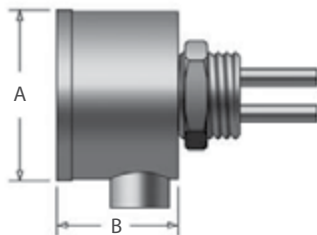
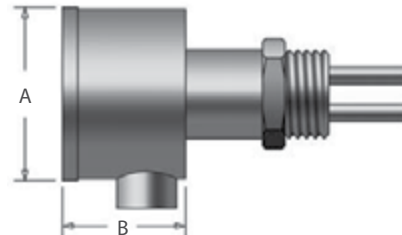


FIG.5



SCREWPLUG HEATERS

immersion heaters

DOMESTIC IMMERSION HEATERS

WATTCO™ domestic immersion heaters are outlined in this section. These heaters are first-class quality replacement solutions for all heater applications.

APPLICATIONS

- » For domestic and small industrial applications
- » Select tin or zinc plated element if you use an old style resistor type element.

Plating decreases galvanic current and prevents corrosion within the tank while increasing the service life of the heater and tank.

TABLE 1
WATTCO™ Domestic Immersion Heaters

B DIM (in.)	WATTS	VOLTS	CATALOG NUMBER
2 1/2" SQ. FLANGE - TINNED COPPER SHEATH (FIG. 1)			
6 1/2	500	120	SXQ312501
6 1/2	750	120	SXQ312502
6 1/2	750	240	SXQ312503
8	1000	120	SXQ312504
8	1000	240	SXQ312505
15 3/4	1500	120	SXQ312506
15 3/4	1500	240	SXQ312507
11	1500	120	SXQ312508
11	1500	240	SXQ312509
6 1/2	1500	120	SXQ312510
6 1/2	1500	240	SXQ312511
14 1/2	2000	120	SXQ312512
14 1/2	2000	208	SXQ312513
14 1/2	2000	240	SXQ312514
8	2000	120	SXQ312515
8	2000	208	SXQ312516
8	2000	240	SXQ312517
11 1/4	3000	120	SXQ312518
11 1/4	3000	208	SXQ312519
11 1/4	3000	240	SXQ312520
11	3000	120	SXQ312521
11	3000	240	SXQ312522
15 3/4	4500	208	SXQ312523
15 3/4	4500	240	SXQ312524
16	4500	208	SXQ312525
16	4500	240	SXQ312526
17 1/2	5000	208	SXQ312527
17 1/2	5000	240	SXQ312528
9 1/2	5000	208	SXQ312529
9 1/2	5000	240	SXQ312530
21	6000	208	SXQ312531
21	6000	240	SXQ312532
11 1/4	6000	208	SXQ312533
11 1/4	6000	240	SXQ312534

INVENTORY: THESE HEATERS ARE NORMALLY STOCKED IN LIMITED QUANTITIES

TABLE 1
WATTCO™ Domestic Immersion Heaters

B DIM (in.)	WATTS	VOLTS	CATALOG NUMBER
2 1/2" SQ. FLANGE - INCOLOY SHEATH (FIG. 1)			
8 3/4	2000	600	SXQ412501
11 5/8	3000	600	SXQ412502
13 7/8	4500	600	SXQ412503
15 1/8	5000	600	SXQ412504
17 7/8	6000	600	SXQ412505
1" TAPERED BRASS PLUG - COPPER SHEATH (FIG. 2)			
5 1/2	500	120	TX225001
5 1/2	500	240	TX225002
5 1/2	750	120	TX225003
5 1/2	750	240	TX225004
7	1000	120	TX225005
7	1000	240	TX225006
15 1/4	1500	208	TX225007
15 1/4	1500	240	TX225008
10 1/2	1500	120	TX225009
10 1/2	1500	208	TX225010
10 1/2	1500	240	TX225011
6 1/2	1500	120	TX225012
6 1/2	1500	208	TX225013
6 1/2	1500	240	TX225014
14	2000	208	TX225015
14	2000	240	TX225016
7 1/2	2000	120	TX225017
7 1/2	2000	208	TX225018
7 1/2	2000	240	TX225019
9	2500	208	TX225020
9	2500	240	TX225021
10 3/4	3000	120	TX225022
10 3/4	3000	208	TX225023
10 3/4	3000	240	TX225024
6	3000	120	TX225025
6	3000	208	TX225026
6	3000	240	TX225027
15 1/4	4500	208	TX225028
15 1/4	4500	240	TX225029
8 1/4	4500	208	TX225030
8 1/4	4500	240	TX225031
17	5000	208	TX225032
17	5000	240	TX225033
9	5000	208	TX225034
9	5000	240	TX225035
20 1/2	6000	208	TX225036
20 1/2	6000	240	TX225037
10 3/4	6000	208	TX225038
10 3/4	6000	240	TX225039

Table 1 is continued on page 12

SCREWPLUG HEATERS

immersion heaters

TABLE 1 ...continued

WATTCO™ Domestic Immersion Heaters

B DIM (in.)	WATTS	VOLTS	CATALOG NUMBER
1" NON-TAPERED BRASS PLUG - COPPER SHEATH (FIG. 3)			
6 1/2	500	120	TX235001
6 1/2	500	240	TX235002
6 1/2	750	120	TX235003
6 1/2	750	240	TX235004
8	1000	120	TX235005
8	1000	240	TX235006
15 3/4	1500	120	TX235007
15 3/4	1500	240	TX235008
11	1500	120	TX235009
11	1500	240	TX235010
6 1/2	1500	120	TX235011
6 1/2	1500	240	TX235012
14 1/2	2000	240	TX235013
8	2000	120	TX235014
8	2000	208	TX235015
8	2000	240	TX235016
9 1/2	2500	120	TX235017
9 1/2	2500	240	TX235018
11 1/4	3000	120	TX235019
11 1/4	3000	208	TX235020
11 1/4	3000	240	TX235021
6 1/2	3000	240	TX235022
15 3/4	4500	208	TX235023
15 3/4	4500	240	TX235024
8 3/4	4500	208	TX235025
8 3/4	4500	240	TX235026
17 1/2	5000	208	TX235027
17 1/2	5000	240	TX235028
9 1/2	5000	208	TX235029
9 1/2	5000	240	TX235030
21	6000	240	TX235031
11 1/4	6000	240	TX235032
ROUND FLANGE - ZINC PLATED COPPER SHEATH			
11 1/4	4500	240	TX255032

INVENTORY: THESE HEATERS ARE NORMALLY STOCKED IN LIMITED QUANTITIES

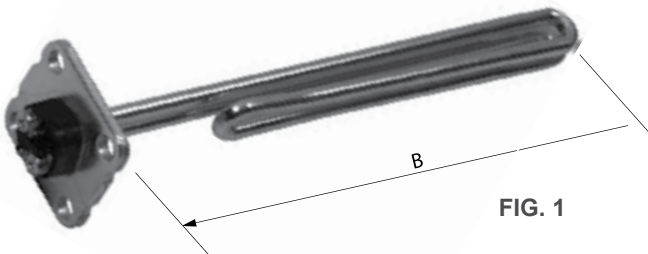


FIG. 1

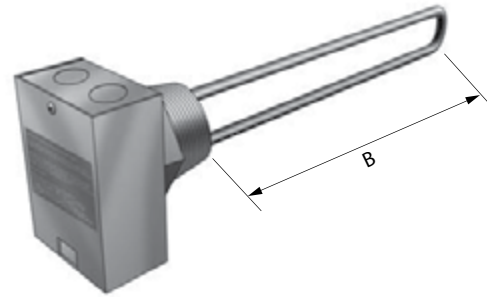


FIG. 2

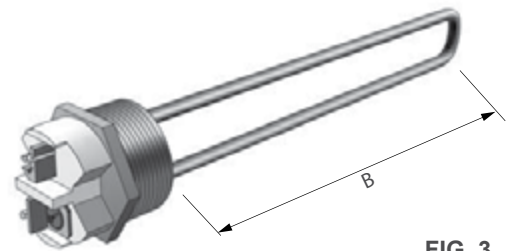


FIG. 3

TABLE 2

Domestic Immersion Heater Thermostats and High Limit with Manual Reset

ELECTRICAL RATING	CIRCUIT OPENS	TEMP. °F	CATALOG NUMBER
240 V 25 amp Single Pole Single Throw	on temp. rise	120 - 180	WAT-122
240 V 25 amp Single Pole Double Throw	Circuit 1 on temp. rise Circuit 2 on temp. fall	120 - 180	WAT-123
240 V 25 amp Double Pole Double Throw	on temp. rise	190 ± 5	WAT-124

FIG. 4

WAT-122



FIG. 5

WAT-123



FIG. 6

WAT-124

