Urn Heaters - TX

Application

Type TX immersion heaters are intended for use in steam tables, coffee urns, kettles, sterilizers, percolators and many other water heating applications where a bottom-mount heater is most practical.

The heaters are not guaranteed against corrosion since CCI Thermal has no control over the liquid type, concentration or temperature.

Heaters must be kept free of heavy scale build-up to prolong life. Most importantly, the heating elements must be fully immersed in liquid during operation. Units with built-in low water level cutouts are recommended. Units without cutout will fail under low water conditions. Cutouts are a safety device and should not be relied on as the only form of water level control.

Features

Type TX heater represents a complete redesign of the TTUH unit. All models have an O-ring sealing gasket with elements fully prewired.

The most advanced feature, intended to provide extended life, is the fast response low level trip used on the built-in cutout models. Once the cutout trips (and after the water level is restored) it must be manually reset before the heater will energize.

CAUTION: This limit is not intended to function as a low level control. Repeated use as a low level control will result in premature heater failure.

For heaters which draw over 25 amps, or for three phase heaters, the cutout is intended for pilot duty only and is not factory prewired to the elements.

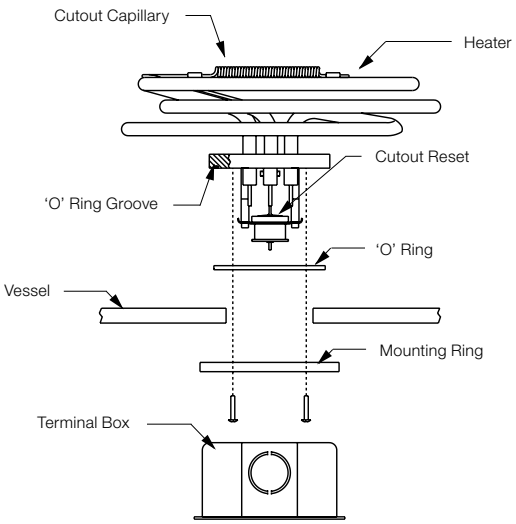

Figure 13 – Urn Heater Diagram

Installation

After removal of the terminal box and the mounting ring, the heater is inserted from the inside of the tank. A 2.44" (62 mm) diameter opening in the vessel (which is normally of thin walled construction) is required to receive the brass mounting flange.

To insert the heater into a closed or semi-closed tank, an opening at the top or side of the tank is required. Check Table 13 on page B24 for the required size of this hand-hole.

Construction

All units have a brass mounting flange and a copper sensing capillary for the low level cutout (when installed). Heaters without a factory installed cutout can only be retrofitted with a cutout at the factory since a special socket wrench is required for this purpose.

Standard element sheath material is copper. Other materials are available on custom orders. Special wattage and voltage ratings can be ordered.

Table 13 – Hand-Hole Requirements

Heater Type	Hand-Hole Size	
	in.	mm
1 Element	5.125	103
2 Element	5.500	140
3 Element	5.875	150

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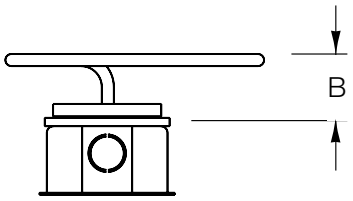

Figure 14 – 1 Element Unit

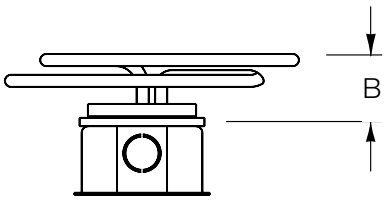

Figure 15 – 2 Element Unit

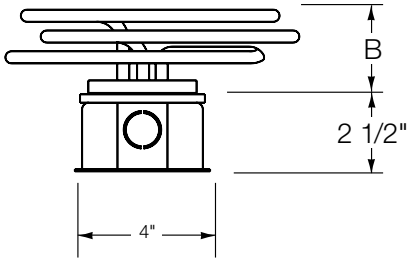

Figure 16 – 3 Element Unit

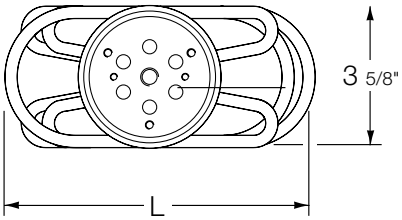

Figure 17 – Bottom View

Selection

Type TXC heaters are primarily for water heating and have copper sheathed heating elements. These units do not have a built-in low level cutout and should only be used where there is no chance that the water level will fall exposing the elements. Elements will fail if not completely immersed.

Type TXCC heaters are similar to the TXC models except that a built-in low level cutout is designed to trip the heater circuit in the event of low water. If there is even the slightest chance of a low water condition, the TXCC should be specified.

Special Sheath

These heaters are available with Incoloy® sheath on special order.

To Order Specify

- Quantity
- Catalog number
- Voltage
- Phase
- Wattage
- Special features

Table 14 – TX Heater Selection Guide

	kW	Standard Voltages			'B' Dimension		'L' Dimension		Catalog No.	Part No.	Figure No.
		120	208	240	in.	mm	in.	mm			
Type TXC without Low Level Cutout	1.0	1Ø			1.500	3.8	7.750	19.7	TXC110	TTUH-10R	1
	1.5				1.500	3.8	7.750	19.7	TXC115	TTUH-15R	1
	2.0	1Ø or 3Ø			1.500	3.8	7.750	19.7	TXC220	TTUH-20R	2
	2.5	–	1Ø	1Ø	1.500	3.8	12.750	32.4	TXC125	TTUH-25R	1
	3.0	1Ø or 3Ø			1.500	3.8	7.750	19.7	TXC230	TTUH-30R	2
	4.0	–	1Ø or 3Ø		1.500	3.8	12.750	32.4	TXC240	TTUH-40R	2
	4.5				2.125	5.4	7.750	19.7	TXC345	TTUH-45R	3
	5.0				1.500	3.8	12.750	32.4	TXC250	TTUH-50R	2
	6.0				2.125	5.4	12.750	32.4	TXC360	TTUH-60R	3
	7.5				2.125	5.4	12.750	32.4	TXC375	TTUH-75R	3
Type TXCC with Built-in Low Level Cutout	1.0	1Ø			1.500	3.8	7.750	19.7	TXCC110	TTUH-CO-10R	1
	1.5				1.500	3.8	7.750	19.7	TXCC115	TTUH-CO-15R	1
	2.0	1Ø or 3Ø			1.500	3.8	7.750	19.7	TXCC220	TTUH-CO-20R	2
	2.5	–	1Ø	1Ø	1.500	3.8	12.750	32.4	TXCC125	TTUH-CO-25R	1
	3.0	1Ø or 3Ø			1.500	3.8	7.750	19.7	TXCC230	TTUH-CO-30R	2
	4.0	–	1Ø or 3Ø		1.500	3.8	12.750	32.4	TXCC240	TTUH-CO-40R	2
	4.5				2.125	5.4	7.750	19.7	TXCC345	TTUH-CO-45R	3
	5.0				1.500	3.8	12.750	32.4	TXCC150	TTUH-CO-50R	2
	6.0				2.125	5.4	12.750	32.4	TXCC360	TTUH-CO-60R	3
	7.5				2.125	5.4	12.750	32.4	TXCC375	TTUH-CO-75R	3