

AB Series Heaters

“AB” and Compact “AB” Flanged Immersion Heaters

An Alternative to Screw Plug Heaters

Introducing the newest members of the Warren Electric Immersion Heater Family...

A SERIES OF FLANGED HEATERS TO REPLACE SCREW PLUG HEATERS

Consider a new approach to your screw plug heaters, particularly 2", 2 1/2", and 3" NPT sizes mounted in tanks or vessels!

Insertion or removal of a screw plug heater often requires a large open end wrench *and the room to swing the wrench handle*. In addition, it requires a lot of torque and many problems may occur such as breaking fittings, shifting pipe, etc.

The alternative? The Warren Electric “AB” and Compact “AB” Family of Flanged Heaters. A 7/16" box, open-end, or short ratchet wrench is all that is required to tighten or loosen the “AB” series flanges.

If you decide to change from a Screw Plug design to a convenient Flanged design - your installers and customers will really appreciate it!

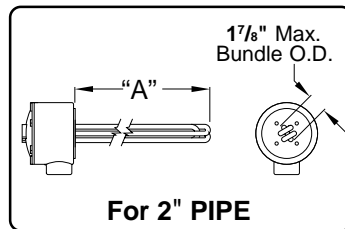


Fig. 1.1

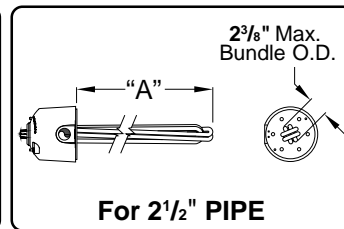


Fig. 1.2

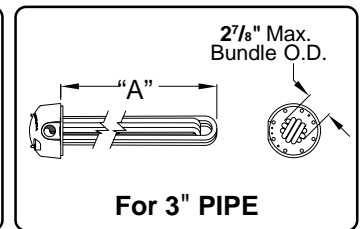


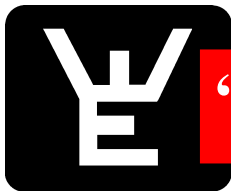
Fig. 1.3

“AB” Flanged Heater designs are available with element sheaths of steel, stainless steel, copper, or incoloy on steel or stainless steel flanges, and with thermostats, thermowells, or thermocouples. Most are available with manual reset over-temperature controls, pilot lights, and external temperature control knobs.

“AB” models are on 4 1/2" O.D. flanges and are designed to fit in 2", 2 1/2", or 3" pipe. For those applications where there is limited space, we also offer the Compact “AB” Family of Flanged Heaters - 3 1/2" O.D. flanges to fit in 2" pipe and 4" O.D. flanges to fit in 2 1/2" pipe.

Warren Electric Corporation

**ISO 9001
REGISTERED
MANUFACTURER**



“AB” & Compact “AB” Flanged Heaters

Electric Process Heaters for Industry

“AB” and Compact “AB” Flanged Immersion Heaters

Frequently Asked Questions

Question I. <i>We've been using screw plug heaters for years - why even consider changing to a flanged heater?</i>	A. Ever have a screw plug to remove that wasn't easily accessible due to the wrench size needed to turn it? A ⁷ / ₁₆ " box, open end, or short ratchet socket wrench is all that's required for <u>all</u> three sizes (2", 2 1/2", or 3") of Warren Electric “AB” and Compact “AB” Flanged Heaters!
Question II. <i>What about existing equipment already designed for a screw plug?</i>	A. Take a look at Fig 3.2 on page 3. Just screw in the adaptor and the conversion is <u>done</u> ! You are now ready for a Warren Electric “AB” Flanged Heater.
Question III. <i>How do I line up the conduit for the electrical service?</i>	A. Warren Electric Mounting Adaptors are available in two styles - Fixed or Rotating (see page 3). If you suspect the conduit location might be a problem, order the Rotating Flange Adaptor which allows a conduit position anywhere in 360 degrees.
Question IV. <i>Which is the least expensive: A screw plug or a Warren Electric compact Flanged Heater?</i>	A. There is very little difference in heater cost but there may be a BIG difference in your labor time & cost - consider the “AB” and Compact “AB” Flanged Heaters because of the convenient features.
Question V. <i>Why haven't we heard of these flanges before? Are they a proven design?</i>	A. We've been using them for over 35 years in the <u>oil burner trade</u> ! It works, it's tested, and it doesn't leak! It's <u>new</u> for other uses - tanks, parts washers, small pressure vessels, and particularly confined spaces.
Question VI. <i>Why bother changing from a screw plug to the Warren “AB” & Compact “AB” Flanged series?</i>	You will make it easier for everyone. You will save time changing your heater - it's that simple!

Heater “AB” & Compact “AB” Design Selector

X RUHTR - 5 - 2 - 14 C - EP *3							
TEMPERATURE CONTROL	FLANGE SIZE AND PIPE	WATTAGE (KW)	VOLTAGE (VOLTS)	IMMERSED LENGTH (INCHES)	ELEMENT SHEATH MATERIAL	OPTIONAL MODIFICATIONS <small>Blank = General Purpose Terminal Enclosure</small>	PHASE
X = No Thermostat 1- = 0° - 100° F Thermostat 2- = 60° - 250° F Thermostat 3- = 175° - 550° F Thermostat 4- = Other Ranges 5- = Thermocouple 7- = RTD	PUHTR = 4 1/2" O.D. for 2" Sch. 40 Pipe RUHTR = 4 1/2" O.D. for 2 1/2" Sch. 40 Pipe CUHTR = 4 1/2" O.D. for 3" Sch. 40 Pipe PCHTR = 3 1/2" O.D. for 2" Sch. 40 Pipe RUTR = 4" O.D. for 2 1/2" Sch. 40 Pipe		1 = 120 2 = 240 3 = 380 4 = 480 5 = 550 Others (Use full numbers)		C = Copper IC = Incoloy SS = Stainless Steel Blank = Steel	LT = Weather-Resistant EP = Explosion-Resistant EP/LT = Explosion /Weather-Resistant Y = Stainless Flange	*3 = 3 phase Blank = Single Phase
The above model (XRUHTR-5-2-14C-EP*3) has no thermostat, a 4 1/2" O.D. Flange and is designed to fit in a 2 1/2" Sch. 40 Pipe. It is 5 KW (5000 watts), 240 volts with an immersion length of 14", copper sheath elements, explosion-resistant terminal enclosure, 3 phase.							

Warren Electric Corporation

Please call TOLL FREE 877 399-HEAT (4328) Tel: 401 245-3700 Fax: 401 245-9331

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“AB” and Compact “AB” Flanged Immersion Heaters

Mounting Adaptors

The mounting adaptor's flanged end is a ring that has a bolt hole pattern which matches your AB heater flange. It is available in either **Fixed** or **Rotating** style. The decision to use either the **Fixed** or **Rotating** Adaptor depends on the importance of the need to alter the conduit location.

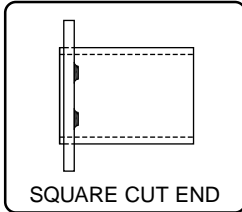


Fig. 3.1

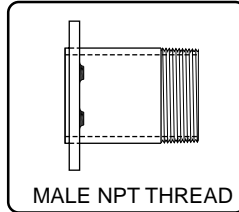


Fig. 3.2

The other end of the Fixed or Rotating Adaptor that attaches to your tank or pipe may have a **square cut** or **male NPT threaded** end. The square cut end is appropriate for welding to a tank or pipe (Fig. 3.1). Use the threaded end if you are converting a screw plug installation to a convenient flange (Fig. 3.2). The threaded adaptor end screws into the same coupling where the screw plug heater was.

Mounting adaptors are available for new installations or conversions from a former screw plug heater.

- Adaptors are either steel or stainless steel.
- Available in pipe sizes to match the “AB” series heaters.
- Adaptors have machined flanged ends for gasketing against the heater flange.

Terminal Enclosures

Heavy duty **General Purpose** terminal enclosures (Fig. 3.3 and 3.4), with or without thermostats, are standard and provide superior mechanical protection for your heater's wiring, terminals, and thermostat. They are constructed from heavy gauge cast aluminum as opposed to the “tin can” style often seen with other brands and are available with an **External Control Knob** for the thermostat. (Fig. 1.2)

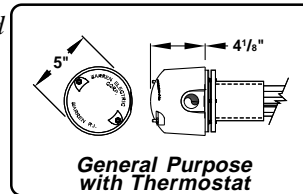


Fig. 3.3

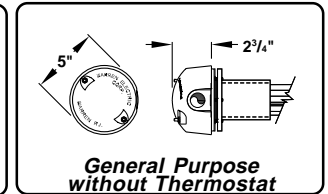


Fig. 3.4

Also available:

- **Weather- and/or Explosion-Resistant** enclosures (Fig. 3.5)
- **Economy** enclosures (Fig 3.6)
- **Smaller compact terminal enclosures** for the “AB” Compact Flanges. Please consult factory.

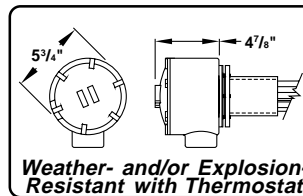


Fig. 3.5

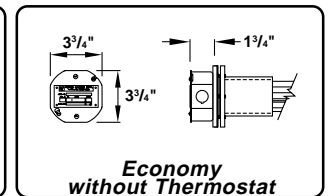


Fig. 3.6

Specifications

“AB” & Compact “AB” Flanged Heaters	2" Pipe Flanged Heaters	2 1/2" Pipe Flanged Heaters	3" Pipe Flanged Heaters
Wattage (Maximum)	49 KW	49 KW	99 KW
Voltage	Up to 600 volts		
Phase	1 or 3 phase		
“AB” Flange Size	4 1/2" O.D.		
“AB” Compact Flange Size	3 1/2" O.D.	4" O.D.	NA
Pressure Rating	150 PSI (300 PSI available, Consult Factory)		
Flange Material	Steel or Stainless Steel		
Element Sheath Material	Steel, Stainless Steel, Copper, Incoloy		
Mounting Adaptors	Fixed or Rotating, (Square Cut or Threaded End)		
Adaptor Standard Length	3 3/8"	3 7/8"	4"

Larger Flanged, Screw Plug, and Circulation Heaters are also available. Casings and assemblies are manufactured to your specifications. Please consult factory.

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AB and Compact AB Heater "Quick Quote"

Warren Electric Corporation

36 Franklin Street, P.O. Box 86
Warren, Rhode Island 02885-0086 USA
TOLL FREE: 877 399-4328
TEL: 401 245-3700 FAX: 401 245-9331



Name _____	Title _____
Company _____	EMAIL ADDRESS: _____
Address _____	
City _____	State _____ Zip _____ Country _____
Tel: (____) _____ - _____ Ext _____ Fax: (____) _____ - _____	

APPLICATION *Please complete as much information as possible:*

Quantity _____	<input type="checkbox"/> New Application	<input type="checkbox"/> Horizontally Mounted	<input type="checkbox"/> Vertically Mounted
	<input type="checkbox"/> Replacement Model # _____		Manufacturer _____

"AB" FLANGED HEATER

Replaces Screw Plug Size: <input type="checkbox"/> 2" NPT <input type="checkbox"/> 2 1/2" NPT <input type="checkbox"/> 3" NPT	Compact Required: <input type="checkbox"/> Yes <input type="checkbox"/> No
Flange Material: <input type="checkbox"/> Steel <input type="checkbox"/> Stainless Steel	Pressure Rating: <input type="checkbox"/> 150 PSI <input type="checkbox"/> 300 PSI <input type="checkbox"/> Other: _____
Tank Adaptor: <input type="checkbox"/> Yes <input type="checkbox"/> No	Material: <input type="checkbox"/> Steel <input type="checkbox"/> Stainless Steel
<input type="checkbox"/> Fixed <input type="checkbox"/> Rotating	Length: _____" <input type="checkbox"/> Square Cut <input type="checkbox"/> Threaded

ELEMENT SHEATH

Material: <input type="checkbox"/> Steel <input type="checkbox"/> Stainless Steel <input type="checkbox"/> Copper <input type="checkbox"/> Incoloy <input type="checkbox"/> Other: _____
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TECHNICAL REQUIREMENTS

Voltage: _____	Phase: <input type="checkbox"/> Single <input type="checkbox"/> Three	KW Required (IF KNOWN): _____
Immersion Length: Min _____" Max _____"	Operating Temperature: _____° F or _____° C	
Fluid/Gas to be Heated: _____	Watt Density: _____ WSI	

CONTROLS

Thermostat: <input type="checkbox"/> None <input type="checkbox"/> 0° -- 100°F (-18° -- 38°C) <input type="checkbox"/> 60° -- 250°F (16° -- 121°C) <input type="checkbox"/> 175° -- 550°F (79° -- 288°C)	<input type="checkbox"/> Other: _____°F or _____°C	Thermocouple: _____	RTD: _____
		Type "____"	Resistance _____ Ω
		<input type="checkbox"/> GND'D <input type="checkbox"/> Un-GND'D	No. of Wires: _____

TERMINAL ENCLOSURE

Type: <input type="checkbox"/> General Purpose <input type="checkbox"/> Weather-Resistant	<input type="checkbox"/> Explosion-Resistant <input type="checkbox"/> Explosion/Weather-Resistant	<input type="checkbox"/> Economy
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Please complete the following for sizing recommendations:

Volume of Fluid to be Heated: _____ Gallons	Tank Size: _____" Length x _____" Width x _____" Height or _____" Diameter x _____" Height or Length	Tank Top: <input type="checkbox"/> Open <input type="checkbox"/> Closed
Desired Temperature to Maintain: _____° F or _____° C	<input type="checkbox"/> Horizontal Tank <input type="checkbox"/> Vertical Tank	Tank Insulation: <input type="checkbox"/> None <input type="checkbox"/> 1" <input type="checkbox"/> 2" <input type="checkbox"/> Other _____"
Outside Ambient Temperature: (worst case): _____° F or _____° C	Recommendation will be provided using the above parameters assuming fluid is in a static state. If the fluid is continuously circulating out of the tank, provide a flow rate in gallons per hour or gallons per minute.	
Initial Heat Up Time (if required): _____ Hours	Flow rate: _____ GPH or _____ GPM	Inlet Temperature: _____° F or _____° C Outlet Temperature: _____° F or _____° C

Other Requirements and Additional Heat Loss Considerations: Please attach sheet for additional information