

**PROCESS
TECHNOLOGY**

Product Catalog

*Innovation and Excellence
in Advanced Heating and
Cooling Solutions*

We've Got the Power!



PROCESS TECHNOLOGY

We are passionate about our products.

We love the products we build and are excited about creating thermal solutions that will revolutionize the industries we serve. The key to effective thermal solutions is experienced team members deeply invested in understanding your application. The earlier we engage with you, the deeper our understanding will be of your needs and the result you imagine. Our purpose is to redefine what's possible through technology and provide you with the perfect outcome for your application.



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Product Overview

Chemical Heaters



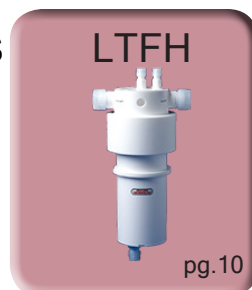
Solvent & Gas Heaters



DI Water Heaters



Filter Housings Inline Exchangers



Electric Immersion Heaters

Fluoropolymer



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Specialty Heaters

Quartz



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TIH High Purity Chemical Heater

Highest temperature heating available, up to 210°C!



Benefits

- Ruggedly designed for the most demanding recirculation or single pass chemical applications.
- All fluoropolymer wetted surfaces for virtually any wet chemistry application. Thick walled chamber provides long service life in the harshest high temperature applications.
- Long heater life for reduced cost of ownership (COO): Patented heater gas purge system continuously removes any chemical permeation and ensures long element life.
- Certification: CE, UL 499, and SEMI S2

For complete information on the TIH High Purity Chemical Heater, click on the link or scan the QR code below. <https://www.processtechnology.com/TIH.html>



Specifications

Heater:	All fluoropolymer wetted surfaces, thick-walled chamber.
Sizes:	1kW to 18kW
Voltages:	200 volts to 600 volts, single or three-phase
Pressure Range:	Up to 689 kPa
Temperature Range:	Up to 210°C depending on operating conditions.
Element Purge:	Small amount of clean dry air (CDA) or N ₂ gas flows between the grounded element and the PTFE sheath. Patented purge process decreases chemical permeation for longer service life.
Fluid Connections:	Available in Flared or Super 300 Type Pillar® (Other connections available. Consult factory) <ul style="list-style-type: none"> • ¼-inch (6mm) to 1-inch (25mm) Flared • ½-inch (12mm) to 1-inch (25mm) Super 300 Pillar®

Compact design, fast heat-up, for processes up to 90°C

New!

Benefits

- Minimal footprint with compact design.
- No wetted o-rings & patented purged housing maintain an ultra clean heating process.
- Increased safety due to internal ground plane, patented purged housing that detects leaks, and a very low watt-density.
- Extended service life from patented purged housing that removes chemical permeates.
- Reduced chemistry cost with low internal volume allowing for faster heat-up times.
- Certification: CE, UL 499, SEMI S2



For complete information on the ChemHeat Chemical Heater, click on the link or scan the QR code below.
<https://www.processtechnology.com/CHEMHEAT.html>

Specifications

Heater:	PTFE wetted surfaces, no o-rings
Sizes:	2kW to 6kW
Voltages:	120 volts to 480 volts, single or-three phase
Pressure Range:	<ul style="list-style-type: none">• 689 kPa at 95°C for ½-inch inlet/outlet• 524 kPa at 95°C for ¾-inch inlet/outlet• 276 kPa at 95°C for 1-inch inlet/outlet
Temperature Range:	Up to 95°C
Fluid Connections:	Available in Flared or Super 300 Type Pillar® (Other connections available. Consult factory) <ul style="list-style-type: none">• ½-inch (12mm)• ¾-inch (19mm)• 1-inch (25mm)



Hot2Shot Quartz Chemical Heater

Ultra pure quartz wetted parts!



Benefits

- Exceptionally easy maintenance and several plumbing configurations are available for maximum flexibility.
- Ultra-clean performance is achieved through the use of 100% high purity quartz construction. No ionic or bacterial contamination.
- Patented cooling system significantly extends heater element life versus conventional designs. With cooling air directed only where it is needed (the lamp sockets), the heater uses minimal purge gas and heater efficiencies are maximized.
- The heating element is isolated from the process to virtually eliminate the potential for catastrophic process contamination.
- Space-conscious design minimizes footprint requirements.
- Tangential flow pattern eliminates stagnant zones in the heater.
- Certification: CE, UL 499, SEMI S2

For complete information on the Hot2Shot Quartz Chemical Heater, click on the link or scan the QR code below.
<https://www.processtechnology.com/HCQ.html>



Specifications

Heater:	100% high-purity quartz construction
Sizes:	0.75kW to 12kW
Voltages:	208 volts to 480 volts, single or three-phase
Temperature Range:	Up to 185°C depending on operating conditions.
Cooling System:	Patented system using 3.5 SCFM (min.) clean dry air (CDA) or nitrogen (N ₂), 1/4" O.D. tube connector
Temperature Accuracy:	1°C depending on operating conditions
Flow Rate:	Up to 100 lpm
Pressure Rating:	345 kPa working
Fluid Connections:	3/4-inch (19mm) MNPT flare quartz connections (Other connections available. Consult factory)

Safely heat process solvents and acids indirectly

Benefits

- Inline electropolished stainless steel or fluoropolymer heater for heating chemistries, single pass or recirculating.
- Hermetically sealed high limit thermal cutoff device (TCO).
- Insulated housing.
- Positive temperature coefficient (PTC) or resistive heating elements available.
- Certification: CE, ETL (tested to UL 823, UL 499 and CSA C22.2). Rated for Class I, Division 2 hazardous locations



For complete information on the SHB/SHC Solvent Heater, click on the link or scan the QR code below.

<https://www.processtechnology.com/SHB-SHC.html>

Specifications

Heater:	316 electropolished stainless steel or PTFE wetted surfaces
Sizes:	0.25kW to 2kW (varies per product line)
Voltages:	120 volts to 480 volts, single-phase
Pressure Range:	Up to 1379 kPa
Temperature Range:	Up to 180°C
Fluid Connections:	Available in Super 300 Type Pillar® (Other connections available. Consult factory)

- 1/8-inch (3mm)
- 1/4-inch (6mm)
- 3/8-inch (9mm)
- 1/2-inch (12mm)



Frontier Solvent Heater

Optimum solution for heating solvents and IPA!



Benefits

- Enhanced features include a non-casted structure, versatile range of flow rates, an expanded wattage range, and high-quality electropolished surfaces resulting in superior cleanliness.
- Grounded metal construction, multiple element thermocouples, insulated housing, and a hermetically sealed high limit thermal cutoff device (TCO).
- Can be used in single pass or recirculating applications for safely heating chemistries such as: EKC265, EKC8730, EKC270, ST28, ST26, ACT690C, MEK, NMP and IPA.
- Certification: UL 823, UL 499, CSA 22.2, and CE; rated for Class I, Division 2 hazardous locations

For complete information on the Frontier Solvent Heater, click on the link or scan the QR code below.

<https://www.processtechnology.com/316Frontier.html>



Specifications

Heater:	Electropolished 316L stainless steel, PFA and PTFE wetted surfaces
Sizes:	3kW to 36kW
Voltages:	120 volts to 600 volts, single or three-phase
Pressure Range:	Up to 100 PSIG (689 kPa)
Temperature Range:	Up to 356°F (180°C)
Fluid Connections:	(Custom connections available) <ul style="list-style-type: none"> • ½-inch (12mm) • ¾-inch (19mm) • 1-inch (25mm) tube stubs

Nexus Multi-Loop Solvent Heater

Safely heat up to four process loops with one unit!

New!

Benefits

- Safely heats through indirect contact instead of direct immersion & delivers superior temperature stability with changes in flow.
- Low cost of ownership: Only one set of controls & safeties required for up to four process loops.
- Reduced footprint required in process tools.
- Patented purge feature extends heater life.
- Certification: CE, UL 499



For complete information on the Nexus Solvent Heater, click on the link or scan the QR code below.

<https://www.processtechnology.com/NEXUS.html>



Specifications

Heater:	All PFA wetted surfaces with no o-rings in fluid path
Sizes:	0.5kW to 2kW (varies per element type)
Voltages:	120 volts to 600 volts, single-phase
Pressure Range:	Up to 276 kPa
Temperature Range:	Up to 80°C
Fluid Connections:	Inlets: Low Flow: ¼-inch (6mm) SP300 Nippon Pillar High Flow: ¼-inch (6mm) SMC Hyperflare Outlets: Low Flow: ⅛-inch (3mm) SP300 Nippon Pillar High Flow: ⅛-inch (3mm) SMC Hyperflare

SoltaN₂ Gas Heater

Safely heat process gas!



Benefits

- Heated nitrogen or other gases reduce drying time and help improve production times. The SoltaN₂ is designed to safely heat process gas through indirect contact instead of direct immersion.
- Delivers superior temperature stability with changes in flow.
- Redundant temperature sensors to ensure safe operation.
- Use in all drying applications for wafer processing, solvent heating, and surface finishing.
- Certifications: CE, ETL (tested to UL8223, UL499, and CSA C22.2)

For complete information on the SH Series Soltan Inline Heater, click on the link or scan the QR code below.
<https://www.processtechnology.com/Soltan.html>



Specifications

Heater:	316 stainless steel wetted surfaces, explosion resistant cast aluminum electrical enclosure and heating block
Sizes:	2kW to 9kW
Voltages:	120 volts to 600 volts, single or three-phase
Pressure Range:	Up to 2859 kPa
Temperature Range:	Between -195°C to 200°C
Connections:	(Custom connections available) <ul style="list-style-type: none"> • ½-inch (12mm) • ¾-inch (19mm) tube stubs

Lufran Ultra Pure Water Heater

Offers exceptional MTBF of ten years!

Benefits

- MTBF: 9.39 years. Documented, real-world “mean time between failures” of nearly 10 YEARS! Uptimes of greater than 99% can be expected.
- Temperature: Distributive zero crossing SSR switched by PLC based DAC™ “Demand Anticipation Control” (DAC available on Lufran only).
- Redundant safety features ensure long, trouble-free life.
- Wetted Surfaces:
Heating elements: continuous virgin PTFE Polytetrafluoroethylene (82%).
Chamber and plumbing: PVDF Polyvinylidene Fluoride (18%)
Chemraz® o-rings
No wetted metal or coated metal parts
- Heating Element: Patented design utilizing a precision resistance wire, 2 w/cm² watt density.
- Element Gas Purge: Removes permeation to extend element life expectancy. Monitors integrity of element tubing.



For complete information on the Lufran Ultra Pure Water Heater, click on the link or scan the QR code below.
<https://www.processtechnology.com/Lufran.html>

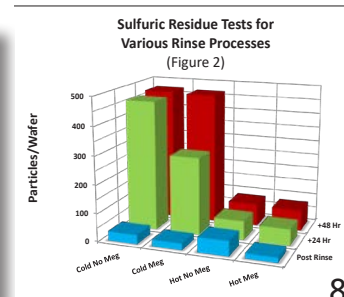
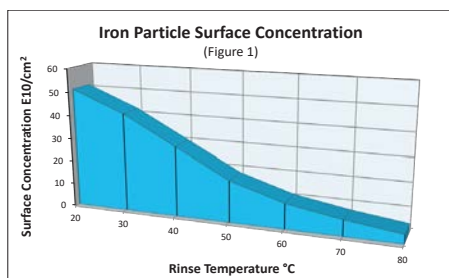
Specifications

Heater:	Patented resistive heating system.
LUF Series:	Patented DAC™ (Demand Anticipation Control) for high temperature accuracy.
LLT Series:	PID
Sizes:	24kW to 312kW
Voltages:	Up to 600 volts, three-phase
Temperature Accuracy:	LUF: +/- 0.3°C. LLT: +/- 1°C. (depending on operating conditions).
Flow Rate:	1 LPM to 200 LPM
Pressure Rating:	689 kPa maximum operating.



Why Hot DI?

- Better cleaning for improved yields: Quickly dissolves and dilutes process chemicals from wafer surfaces (Figure 1)
- Improved rinse effect: Parts stay cleaner longer with hot DI water! (Figure 2)
- Reduced bacterial contamination: Bacterial growth is greatly reduced at temperatures above 60°C.



Tytan Instantaneous Water Heater

Safest and most reliable water heater on the market!



Benefits

- Improved Process Results: Heated DI water improves cleaning effectiveness and reduces rinse time in most processes.
- Cost Saving Design: >99% element efficiency contributes to low cost of ownership (COO) and excellent return on investment (ROI).
- Outstanding Cleanliness: 100% titanium heating elements provide very clean performance for precision cleaning applications.
- Outstanding temperature responsiveness and stability: Excellent temperature accuracy over a wide flow range can substantially improve process consistency.
- Rapid Installation: Minimal facility requirements. Heater is factory tuned to your specifications. Only power and plumbing connections required.
- Compact Configuration: Space-saving design minimizes footprint requirements. Wall mounted up to 72kW; floor mounted to 144kW.
- Certifications: cULus. CE or S2 compliance options available (Consult Factory)

For complete information on the Tytan Instantaneous Water Heater, click on the link or scan the QR code below.

<https://www.processtechnology.com/Tytan.html>



Specifications

Heater:	Patented resistive heating system
Sizes:	12kW to 144kW
Voltages:	208 volt to 600 volt, three phase
Temperature Controller:	PID microprocessor based digital thermostat
Temperature Limit:	90°C (194°F), depending on operating conditions
Temperature Accuracy:	+/-1°F, depending on operating conditions
Flow Rate:	1 LPM (.26 GPM) to 200 LPM (52.8 GPM)
Efficiency:	>99%
Pressure Rating:	100 PSIG (6.89 kPa) maximum operating

Reusable filter housing for high temperature chemicals

Benefits

- Reduced cost of ownership: The housing design eliminates the need to replace the filter housing when the cartridge filter is replaced.
- Spin-on ring assembly not only ensures a positive seal every time, but it also enables quick and easy cartridge filter replacement with no damage to the housing o-ring. Housing collar retainer ring and filter cartridge clip substantially reduce cartridge maintenance clearance space.
- Reduced downtime: Fast filter cartridge change-outs without the need for removing the fluid connections.
- 100% PTFE fluoropolymer wetted surfaces are compatible with virtually all chemistries.
- End cap mounting holes.
- Filter body slides on and locks into position by means of a spin-on ring assembly (spanner wrench included).
- Able to be mounted upright or inverted (mounting bracket available).



For complete information on the LTFH High Temperature Filter Housing, click on the link or scan the QR code below.

<https://www.processtechnology.com/LTFH.html>



Specifications

Heater:	100% heavy wall PTFE fluoropolymer wetted surfaces
Housing Sizes:	(cartridge not included) <ul style="list-style-type: none">• 70mm, 10-inch, 222 o-ring SOE filter cartridge• 83mm, 10-inch, 222 o-ring SOE filter cartridge• 70mm, 20-inch, 222 o-ring SOE filter cartridge
Temperature Range:	Up to 180°C continuous at 2.75 bar
Fluid Connections:	<ul style="list-style-type: none">• ½-inch (12mm) to 1-inch (25mm) Flaretek® or Super 300 Type Pillar® process connections• ⅛-inch (3mm) to ½-inch (12mm) Flaretek® or Super 300 Type Pillar® drain/vent connections

XC, Inline Exchanger

For virtually any wet chemistry application!



Benefits

- Ideal for one-pass cooling of chemicals dumping to waste stream and innovatively eliminates high costs associated with water aspiration.
- Less surface area required for same BTU exchange compared to most other fluoropolymer exchangers.
- Heavy wall, large diameter tubing improves circulation and minimizes pressure drop.

For complete information on the XC Series Exchanger, click on the link or scan the QR code below.

<https://www.processtechnology.com/XC.html>



Specifications

Exchanger:	All fluoropolymer wetter surfaces (tube side)
Sizes:	0.14m ² , 0.23m ² , and 0.33m ² of exchange area.
Pressure/Temperature Rating*:	<ul style="list-style-type: none"> • Tube (PFA): 241 kPa at 120°C • Shell (PP): 206 kPa at 82°C • Optional shell (PVDF): 206 kPa at 135°C
Connections:	<ul style="list-style-type: none"> • Fluid (tube) ½-inch (12mm) male flare PFA • Shell: ¾-inch (19mm) male flare PFA • Shell drain: ¼-inch (6mm) male flare PFA

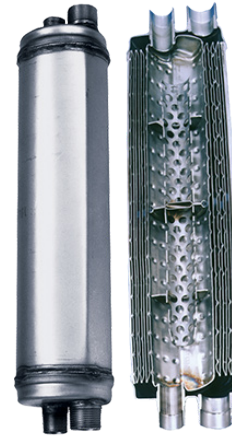
*Tube-side pressure must be greater than shell-side pressure

Thermax², Inline Exchanger

More compact than tubular heat exchangers

Benefits

- Provides extremely high thermal transfer for package size.
- Patented fabrication process ensures consistent, high quality production.
- No gaskets to fail. TIG welding is used on the sheet edge (which separates Circuit A from Circuit B).
- Offers easy installation and servicing. Manifolding is simplified for larger applications. Heat loss is low, requiring little or no insulation.



Specifications

Max. Single Circuit Capacity: 76 fluid ounces (2.2 liters)

Temperature Range: -60°F (-50°C) to 480°F (250°C)

Pressure Rating:

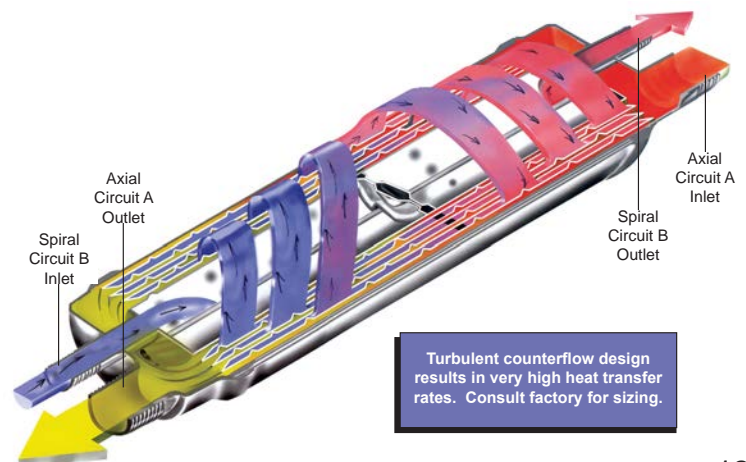
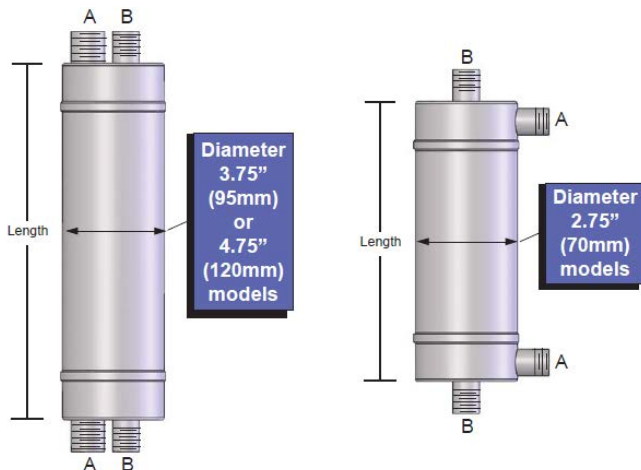
- Axial Circuit A: 230 PSI (1586 kPa)
- Spiral Circuit B: 360 PSI (2482 kPa)

For complete information on the Thermax Series, Inline Exchangers, click on the link or scan the QR code.
<https://www.processtechnology.com/Thermax.html>



THERMAX² SPIRAL PLATE HEAT EXCHANGERS

EXCHANGE AREA Sq. ft./sq. m	OVERALL LENGTH In./mm	DIM. DIA. In./mm	CONNECTIONS (MNPT)		MODEL NUMBER	SHIP WGT. Lbs./kg
			CIRCUIT A	CIRCUIT B		
1.1 (.10)	6.25 (159)	2.75 (70)	3/4"	1/2"	IS1.1-2.75-6.25	5 (2.5)
2.5 (.23)	10.25 (260)	2.75 (70)	3/4"	1/2"	IS2.5-2.75-10.25	7 (3)
3.8 (.35)	14.25 (362)	2.75 (70)	3/4"	1/2"	IS3.8-2.75-14.25	10 (4.5)
3.8 (.35)	10.75 (273)	3.75 (95)	1"	1/2"	IS3.8-3.75-10.75	15 (7)
5.8 (.54)	15.50 (394)	3.75 (95)	1"	3/4"	IS5.8-3.75-15.5	20 (9)
7.8 (.72)	20.25 (514)	3.75 (95)	1"	3/4"	IS7.8-3.75-20.25	24 (11)
15.0 (1.40)	20.25 (514)	4.75 (121)	1-1/4"	3/4"	IS15.0-4.75-20.25	30 (13.5)



Fluoropolymer Heaters, HX Series

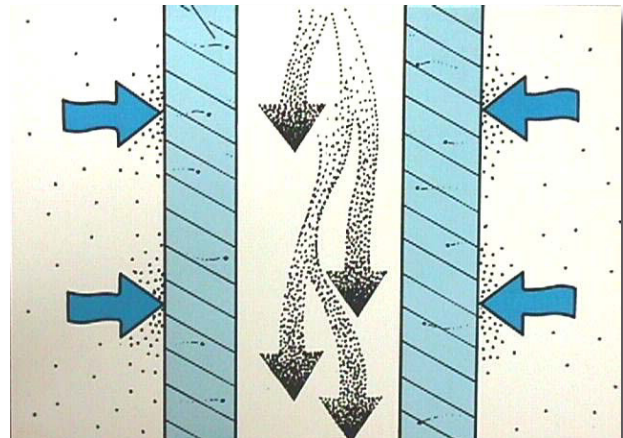
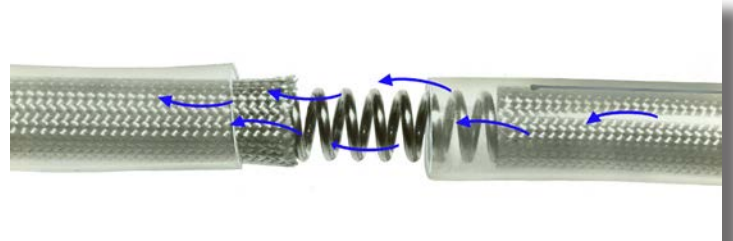
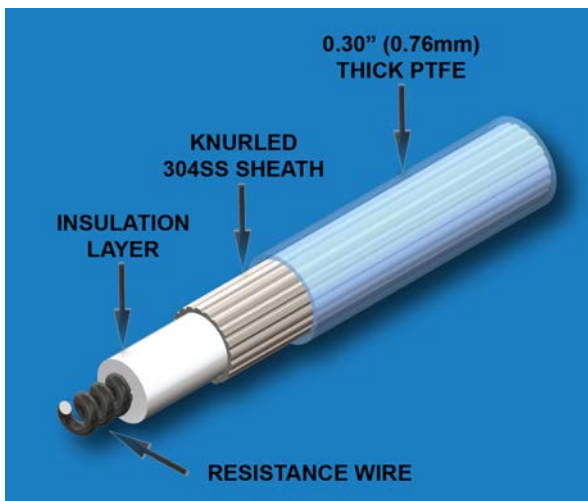
Why Purge?

Although fluoropolymer materials are chemically inert to virtually all solutions, they have absorption and permeation characteristics. Highly aggressive chemistries (especially at higher temperatures and pressures) migrate through the fluoropolymer sheath of an electric heater and attack the stainless steel inner element. This permeation may dramatically shorten the heater's operating life.

Process Technology's purged element design releases a flow of gas to purge the environment surrounding the heating element. The gas flow sweeps away internal moisture and entrapped particles that accumulate due to permeation through the heater sheath. This patented feature resolves the permeability problem and promotes a longer heater life.

Benefits

- Easy purge hookup since nitrogen supply is already available in most fabs.
- Backpressure detection a plus if incorporating flow control with backpressure monitor.
- Cleans away harmful permeation!



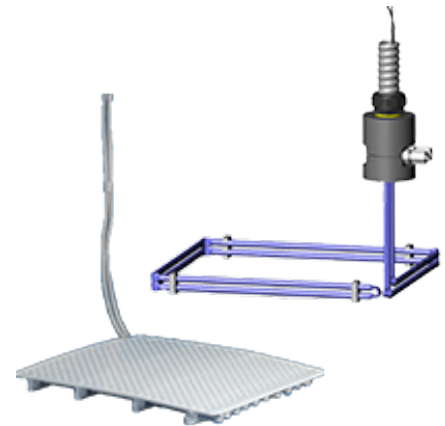
Patented purge feature available on all of our fluoropolymer heaters!

Fluoropolymer Heaters, TF Series

Designed for high purity chemical heating

Benefits

- Constructed with our exclusive patented N2 “purged” elements for extended service life.
- High efficiency in a compact design, and an excellent alternative for replacing strip heaters on quartz tanks.
- TFB for bottom heater applications, and TFW for inside tank wall requirements.
- All wetted parts are fluoropolymer and compatible with virtually any chemistry for unlimited process options. (Not to be used with flammable solutions.)
- Low watt density design promotes process temperature uniformity.



Immersion
Heaters

Specifications

Wattages:	0.5kW to 12kW
Voltages:	120 volts to 600 volts, single or three-phase
Watt Density:	Up to 10 w/in ² (1.5 w/cm ²)
Operating Temperature:	Up to 130°C. (Consult factory for higher temperatures)



For complete information on the TF Series Fluoropolymer Heater, click on the link or scan the QR code below.
<https://www.processtechnology.com/TFB.html>

Fluoropolymer Heaters, HX Series

Excellent chemical resistance to aggressive acids. 10 w/in² (1.5 w/cm²)

Immersion Heaters

Fluoropolymer Heater Benefits

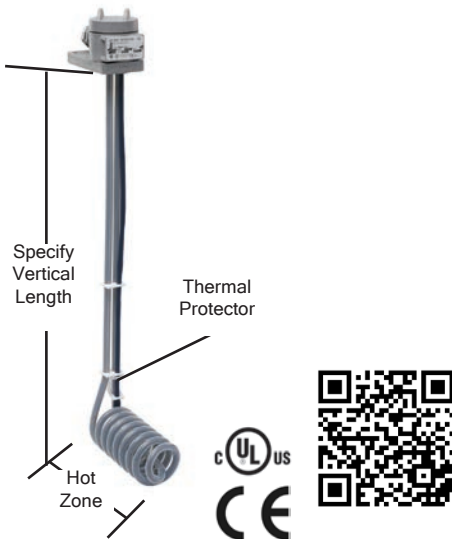
- Constructed with heavy wall fluoropolymer (PTFE) covered stainless steel element to give you a durable design.
- Low watt density design uses minimal space and ensures a long service life.
- Over temperature protection included to provide safe operation.



For complete information on the HX Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HX.html>

HX SERIES, SPIRAL FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HOT ZONE In./(mm)	OVERALL LENGTH In./(mm)	MAX. COLD ZONE In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
500	120	5	11	41	HX 5111-**	6
	240	(127)	(279)	(1041)	HX 5211-**	(2.7)
1000	120	7	11	41	HX 1111-**	7
	240	(178)	(279)	(1041)	HX 1211-**	(3.2)
2000	120	12	17	40	HX 2117-**	8
	240	(305)	(432)	(1016)	HX 2217-**	(3.6)
	480				HX 2417-**	
3000	240	16	23	40	HX 3223-**	13
	480	(406)	(584)	(1016)	HX 3423-**	(5.9)
	240	20	29	40	HX 4229-**	15
4000	480	(508)	(737)	(1016)	HX 4429-**	(6.8)
	240	25	35	36	HX 5235-**	18
	480	(635)	(889)	(914)	HX 5435-**	(8.2)
6000	240	29	40	30	HX 6240-**	21
	480	(737)	(1016)	(762)	HX 6440-**	(9.5)
8000	240	37	47	32	2HX 8247-**	25
	480	(940)	(1194)	(813)	2HX 8447-**	(11.3)
	240	44	54	35	2HX 9254-**	28
9000	480	(1118)	(1372)	(889)	2HX 9454-**	(12.7)



For complete information on the HXL Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXL.html>

HXL SERIES, SPIRAL L-SHAPED FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HOT ZONE In./(mm)	STD. VERT. LENGTH* In./(mm)	MAX. COLD ZONE In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
500	120	6	12	41	HXL 5106-R-**	6
	240	(152)	(305)	(1041)	HXL 5206-R-**	(2.7)
1000	120	8	12	41	HXL 1108-R-**	7
	240	(203)	(305)	(1041)	HXL 1208-R-**	(3.2)
2000	120	12	18	40	HXL 2112-R-***	8
	240	(305)	(457)	(1016)	HXL 2212-R-**	(3.6)
	480				HXL 2412-R-**	
3000	240	17	18	40	HXL 3217-R-***	13
	480	(432)	(457)	(1016)	HXL 3417-R-***	(5.9)
4000	240	20	18	40	HXL 4220-R-***	15
	480	(508)	(457)	(1016)	HXL 4420-R-***	(6.8)
5000	240	24	18	36	HXL 5224-R-***	18
	480	(610)	(457)	(914)	HXL 5424-R-***	(8.2)
6000	240	29	18	30	HXL 6229-R-***	21
	480	(737)	(457)	(762)	HXL 6429-R-***	(9.5)
8000	240	37	18	32	2HXL 8237-R-***	26
	480	(940)	(457)	(813)	2HXL 8437-R-***	(11.8)
9000	240	44	18	35	2HXL 9244-R-***	29
	480	(1118)	(457)	(889)	2HXL 9444-R-***	(13.2)

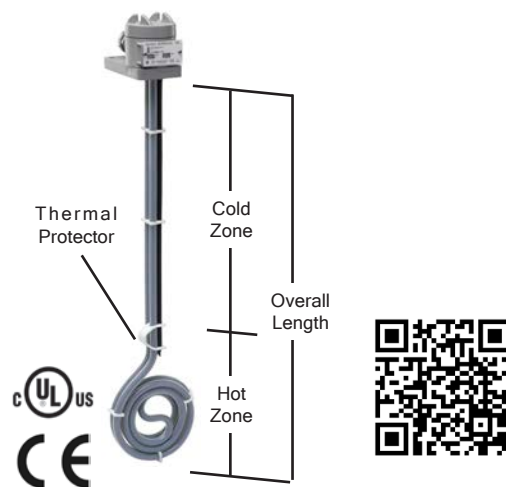
Fluoropolymer Heaters, HXF Series

Excellent chemical resistance to aggressive acids. 10 w/in² (1.5 w/cm²)

Immersion Heaters

HXF SERIES, LOW PROFILE FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	DIA.	MAX. COLD ZONE	MODEL NUMBER	SHIP WGT. Lbs./kg)
		In./mm)	In./mm)	In./mm)	In./mm)		
500	120	6	14	5	36	HXF 5105-14-**	6
	240	(152)	(356)	(127)	(914)	HXF 5205-14-**	(2.7)
1000	120	7	14	6	36	HXF1106-14-**	7
	240	(178)	(356)	(152)	(914)	HXF1206-14-**	(3.2)
2000	120	9	17	8	35	HXF2108-17-**	8
	240	(229)	(432)	(203)	(889)	HXF2208-17-**	(3.6)
	480					HXF2408-17-**	
3000	240	10	23	9	35	HXF3209-23-**	13
	480	(254)	(584)	(229)	(889)	HXF3409-23-**	(5.9)
4000	240	12	29	11	35	HXF4211-29-**	15
	480	(305)	(737)	(279)	(889)	HXF4411-29-**	(6.8)
5000	240	13	35	12	31	HXF5212-35-**	18
	480	(330)	(889)	(305)	(787)	HXF5412-35-**	(8.2)
6000	240	14	40	13	25	HXF6213-40-**	22
	480	(356)	(1016)	(330)	(635)	HXF6413-40-**	(10)



For complete information on the HXF Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXF.html>

HXFL SERIES, LOW PROFILE L-SHAPED FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS (See Pg.1)	HOT ZONE	STD. VERT. LENGTH*	DIA.	MAX. COLD ZONE	MODEL NUMBER	SHIP WGT. Lbs./kg)
		In./mm)	In./mm)	In./mm)	In./mm)		
500	120	5	12	5	36	HXFL 5105-R*-**	6
	240	(127)	(305)	(127)	(914)	HXFL 5205-R*-**	(2.7)
1000	120	6	12	6	36	HXFL 1106-R*-**	7
	240	(152)	(305)	(152)	(914)	HXFL 1206-R*-**	(3.2)
2000	120	8	18	8	35	HXFL 2108-R*-**	8
	240	(203)	(457)	(203)	(889)	HXFL 2208-R*-**	(3.6)
	480					HXFL 2408-R*-**	
3000	240	9	18	9	35	HXFL 3209-R*-**	13
	480	(229)	(457)	(229)	(889)	HXFL 3409-R*-**	(5.9)
4000	240	11	18	11	35	HXFL 4211-R*-**	15
	480	(279)	(457)	(279)	(889)	HXFL 4411-R*-**	(6.8)
5000	240	12	18	12	31	HXFL 5212-R*-**	18
	480	(305)	(457)	(305)	(787)	HXFL 5412-R*-**	(8.2)
6000	240	13	18	13	25	HXFL 6213-R*-**	22
	480	(330)	(457)	(330)	(635)	HXFL 6413-R*-**	(10)

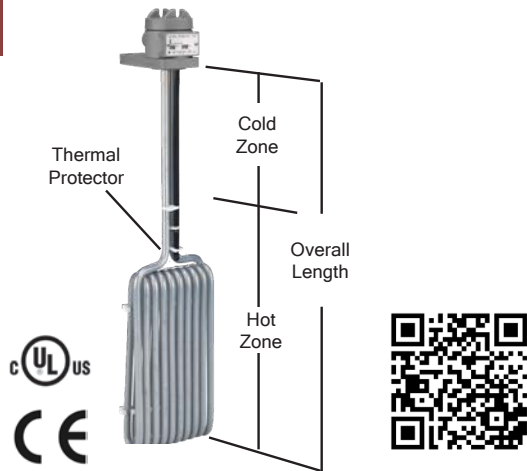


For complete information on the HXFL Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXFL.html>

Fluoropolymer Heaters, HXO Series

Excellent chemical resistance to aggressive acids. 10 w/in² (1.5 w/cm²)

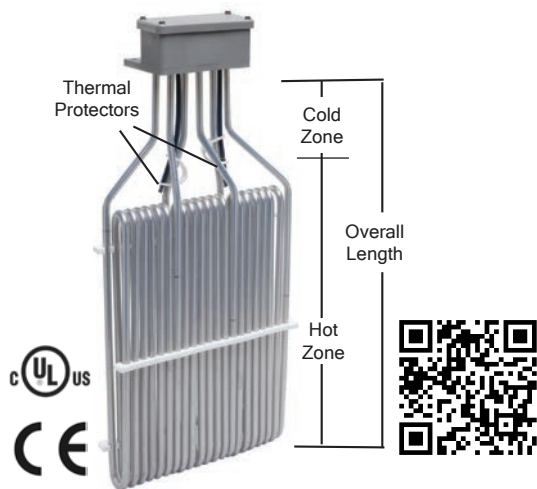
Immersion Heaters



For complete information on the HXO Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXO.html>

HXO SERIES FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HEATER PAD LENGTH		HOT ZONE In./(mm)	OVERALL LENGTH In./(mm)	MAX. COLD ZONE In./(mm)	MODEL NUMBER	SHIP WTG. Lbs./kg
		WIDTH In./(mm)	LENGTH In./(mm)					
500	120	5	6	8	11	36	HXO.5105-06-11-11**	6
	240	(127)	(155)	(203)	(279)	(914)	HXO.5205-06-11-11**	(2.7)
1000	120	6	6	8	11	36	HXO1106-06-11-11**	7
	240	(152)	(152)	(203)	(279)	(914)	HXO1206-06-11-11**	(3.2)
2000	120	6	10	12	17	35	HXO2106-10-17-11**	8
	240	(152)	(254)	(305)	(432)	(889)	HXO2206-10-17-11**	(3.6)
3000	240	6	12	14	23	35	HXO3206-12-23-11**	13
	480	(152)	(305)	(356)	(584)	(889)	HXO3406-12-23-11**	(5.9)
4000	240	6	19	21	29	35	HXO4206-19-29-11**	15
	480	(152)	(483)	(533)	(737)	(890)	HXO4406-19-29-11**	(6.8)
5000	240	6	20	22	35	31	HXO5206-20-35-11**	18
	480	(152)	(508)	(559)	(889)	(787)	HXO5406-20-35-11**	(8.2)
6000	240	6	22	24	40	25	HXO6206-22-40-11**	22
	480	(152)	(559)	(610)	(1016)	(635)	HXO6406-22-40-11**	(10)
8000	240	6	36	38	47	28	2HXO8206-36-47-11**	25
	480	(152)	(914)	(965)	(1194)	(711)	2HXO8406-36-47-11**	(11.3)
9000	240	6	40	42	54	30	2HXO9206-40-54-11**	28
	480	(152)	(1016)	(1067)	(1372)	(762)	2HXO9406-40-54-11**	(12.7)



For complete information on the 3HXO Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/3HXO.html>

3HXO SERIES, MULTI ELEMENT FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HEATER PAD LENGTH		OVERALL LENGTH In./(mm)	MAX. COLD ZONE in./(mm)	MODEL NUMBER	SHIP WTG. Lbs./kg
		WIDTH In./(mm)	LENGTH In./(mm)				
1500	120	10.5	6	11	36	3HXO1.5110.5-06-11-11**	15
	240	(263)	(152)	(279)	(915)	3HXO1.5210.5-06-11-11**	(6.8)
3000	240	11	6	11	36	3HXO3211-06-11-11**	20
	480	(279)	(152)	(279)	(915)	3HXO3411-06-11-11**	(9.1)
4500	240	11	9.5	17	35	3HXO4.5211-9.5-17-11**	21
	480	(279)	(241)	(432)	(890)	3HXO4.5411-9.5-17-11**	(9.5)
6000	240	13	10.5	17	35	3HXO6213-10.5-17-11**	22
	480	(330)	(267)	(432)	(890)	3HXO6413-10.5-17-11**	(10)
9000	240	13	16	23	35	3HXO9213-16-23-11**	36
	480	(330)	(406)	(584)	(890)	3HXO9413-16-23-11**	(16.3)
12000	240	13	20.5	29	35	3HXO12213-20.5-29-11**	42
	480	(330)	(521)	(737)	(890)	3HXO12413-20.5-29-11**	(19.1)
15000	240	13	25	35	31	3HXO15213-25-35-11**	48
	480	(330)	(635)	(889)	(790)	3HXO15413-25-35-11**	(21.8)
18000	240	13	29	40	25	3HXO18213-29-40-11**	54
	480	(330)	(737)	(1016)	(635)	3HXO18413-29-40-11**	(24.5)

Fluoropolymer Heaters, 3HXOL, 3HX Series

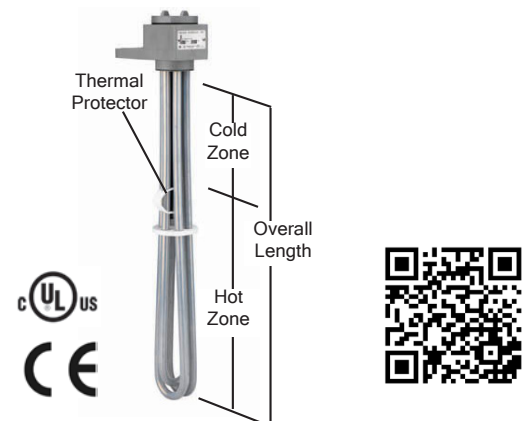
Excellent chemical resistance to aggressive acids. 10 w/in² (1.5 w/cm²)

3HXOL SERIES, MULTI ELEMENT L-SHAPED FLUOROPOLYMER (PTFE) HEATERS							
WATTS	VOLTS	WIDTH	HEATER	STD. VERT.	MAX.	MODEL	SHIP
			PAD	LENGTH*	COLD		
		In./(mm)	LENGTH	LENGTH*	LENGTH	NUMBER	WGT.
		In./(mm)	In./(mm)	In./(mm)	In./(mm)		Lbs./(kg)
3000	240	8	13	18	36	3HXOL3208-13-R**-**	20
	480	(203)	(330)	(460)	(915)	3HXOL3408-13-R**-**	(9.5)
4500	240	11	9	18	35	3HXOL4.5211-9-R**-**	21
	480	(279)	(229)	(460)	(890)	3HXOL4.5411-9-R**-**	(9.5)
6000	240	10.5	19	18	35	3HXOL6210.5-19-R**-**	22
	480	(263)	(485)	(460)	(890)	3HXOL6410.5-19-R**-**	(10)
9000	240	10.5	22	18	35	3HXOL9210.5-22-R**-**	36
	480	(263)	(559)	(460)	(890)	3HXOL9410.5-22-R**-**	(16.5)
12000	240	10.5	29	18	35	3HXOL12210.5-29-R**-**	42
	480	(263)	(737)	(460)	(890)	3HXOL12410.5-29-R**-**	(19.5)
15000	240	10.5	35	18	31	3HXOL15210.5-35-R**-**	48
	480	(263)	(889)	(460)	(790)	3HXOL15410.5-35-R**-**	(22)
18000	240	10.5	41	18	25	3HXOL18210.5-41-R**-**	54
	480	(263)	(1041)	(460)	(635)	3HXOL18410.5-41-R**-**	(24.5)



For complete information on the 3HXOL Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/3HXOL.html>

3HX SERIES, THREE ELEMENT FLUOROPOLYMER (PTFE) HEATERS					
WATTS	VOLTS	HOT	OVERALL	MODEL	SHIP
		ZONE	LENGTH		
		In./(mm)	In./(mm)		Lbs./(kg)
1000	120	10	17	3HX1117-1**	10
	240	(254)	(432)	3HX1217-**	(4.5)
1500	120	16	23	3HX1.5123-1**	11
	240	(406)	(584)	3HX1.5223-**	(5)
	480			3HX1.5423-**	
2000	120	22	29	3HX2129-1**	12
	240	(559)	(737)	3HX2229-**	(5.4)
	480			3HX2429-**	
3000	240	29	35	3HX3235-**	14
	480	(737)	(889)	3HX3435-**	(6.4)
4000	240	39	47	3HX4247-**	17
	480	(991)	(1194)	3HX4447-**	(7.7)
5000	240	48	59	3HX5259-**	20
	480	(1219)	(1499)	3HX5459-**	(9.1)
6000	240	56	68	3HX6268-**	23
	480	(1422)	(1727)	3HX6468-**	(10.4)

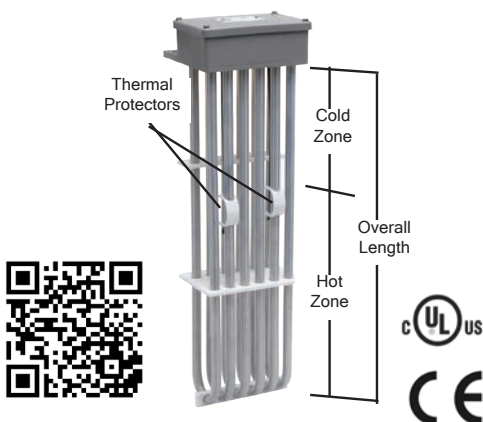


For complete information on the 3HX Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/3HX.html>

Fluoropolymer Heaters, 6 - 9 HX Series

Excellent chemical resistance to aggressive acids. 10 w/in² (1.5 w/cm²)

Immersion Heaters



For complete information on the 6HX Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/6HX.html>

6HX SERIES, SIX ELEMENT FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HOT ZONE In./ (mm)	OVERALL LENGTH In./ (mm)	MODEL NUMBER	SHIP WGT. Lbs./ (kg)
2000	120	9	17	6HX2117-1**	19
	240	(229)	(432)	6HX2217-**	(8.6)
	480			6HX2417-**	
3000	240	15	23	6HX3223-**	22
	480	(381)	(584)	6HX3423-**	(10)
4000	240	21	29	6HX4229-**	24
	480	(533)	(737)	6HX4429-**	(10.9)
6000	240	28	35	6HX6235-**	27
	480	(711)	(889)	6HX6435-**	(12.2)
8000	240	38	47	6HX8247-**	33
	480	(965)	(1194)	6HX8447-**	(15)
10000	240	47	59	6HX10259-**	40
	480	(1194)	(1499)	6HX10459-**	(18.1)
12000	240	55	68	6HX12268-**	45
	480	(1397)	(1727)	6HX12468-**	(20.4)



For complete information on the 9HX Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/9HX.html>

9HX SERIES, NINE ELEMENT FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	HOT ZONE In./ (mm)	OVERALL LENGTH In./ (mm)	MODEL NUMBER	SHIP WGT. Lbs./ (kg)
3000	240	9	17	9HX3217-**	28
	480	(229)	(432)	9HX3417-**	(12.7)
4500	240	15	23	9HX4.5223-**	33
	480	(381)	(584)	9HX4.5423-**	(15)
6000	240	21	29	9HX6229-**	36
	480	(533)	(737)	9HX6429-**	(16.3)
9000	240	28	35	9HX9235-**	40
	480	(711)	(889)	9HX9435-**	(18.1)
12000	240	38	47	9HX12247-**	49
	480	(965)	(1194)	9HX12447-**	(22.2)
15000	240	47	59	9HX15259-**	60
	480	(1194)	(1499)	9HX15459-**	(27.2)
18000	240	55	68	9HX18268-**	67
	480	(1397)	(1727)	9HX18468-**	(30.4)

Fluoropolymer Heaters

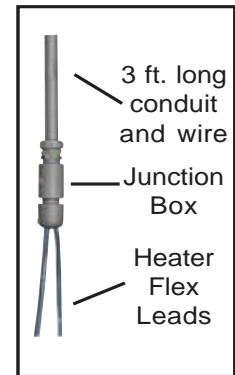
Flexible riser designed to fit in tight spaces. 10 w/in² (1.5 w/cm²)

HXRL, HXOL and HXSL heaters are provided with 4' (1.2m) of flexible continuous fluoropolymer leads as standard. Longer lengths are available. Rigid risers can also be provided, consult factory.

IMPORTANT NOTICE:

Flexible lead fluoropolymer covered heaters are normally equipped with a Protector 3 over-temperature device which requires a special "P3" control circuit included in the temperature control for proper operation. Do not wire this device as indicated for the Protector 1 (P1) or Protector 2 (P2), as damage to the P3 protector will result.

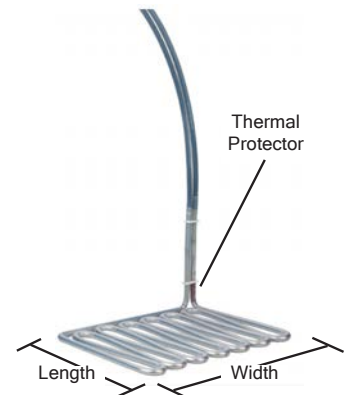
Consult factory and installation instructions for P1 or P2 option on rigid riser models.



Immersion Heaters

HXRL SERIES, FLEX RISER FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	WIDTH In./(mm)	LENGTH In./(mm)	MODEL	SHIP	WATTS	VOLTS	WIDTH In./(mm)	LENGTH In./(mm)	MODEL	SHIP					
				NUMBER	WGT. Lbs./(kg)					NUMBER	WGT. Lbs./(kg)					
1000	120	4	19	HXRL1104-19L-**	6	3000	240	18	13	HXRL3218-13L-**	12					
	240	(100)	(485)	HXRL1204-19L-**	(2.5)							480	(460)	(330)	HXRL3418-13L-**	(5.5)
1000	120	6	13	HXRL1106-13L-**	6	4000	240	12	25	HXRL4212-25L-**	14					
	240	(155)	(330)	HXRL1206-13L-**	(2.5)							480	(305)	(635)	HXRL4412-25L-**	(6.5)
1000	120	8	10	HXRL1108-10L-**	6	4000	240	14	22	HXRL4214-22L-**	14					
	240	(205)	(255)	HXRL1208-10L-**	(2.5)							480	(355)	(560)	HXRL4414-22L-**	(6.5)
2000	120	6	25	HXRL2106-25L-**	7	4000	240	16	19	HXRL4216-19L-**	14					
	240	(155)	(635)	HXRL2206-25L-**	(3.5)							480	(405)	(485)	HXRL4416-19L-**	(6.5)
	480			HXRL2406-25L-**								4000	240	18	17	HXRL4218-17L-**
2000	120	8	19	HXRL2108-19L-**	7	4000	240	18	17	HXRL4218-17L-**	14					
	240	(205)	(485)	HXRL2208-19L-**	(3.5)							480	(460)	(430)	HXRL4418-17L-**	(6.5)
	480			HXRL2408-19L-**								4000	240	20	15	HXRL4220-15L-**
2000	120	10	15	HXRL2110-15L-**	7	5000	240	12	31	HXRL5212-31L-**	17					
	240	(255)	(380)	HXRL2210-15L-**	(3.5)							480	(305)	(790)	HXRL5412-31L-**	(8)
	480			HXRL2410-15L-**								5000	240	14	27	HXRL5214-27L-**
2000	120	12	13	HXRL2112-13L-**	7	5000	240	16	23	HXRL5216-23L-**	17					
	240	(305)	(330)	HXRL2212-13L-**	(3.5)							480	(355)	(685)	HXRL5414-27L-**	(8)
	480			HXRL2412-13L-**								5000	240	16	23	HXRL5216-23L-**
2000	120	14	11	HXRL2114-11L-**	7	5000	240	18	21	HXRL5218-21L-**	17					
	240	(355)	(280)	HXRL2214-11L-**	(3.5)							480	(460)	(535)	HXRL5418-21L-**	(8)



CE *
*Except 600V



For complete information on the HXRL Series, Fluoropolymer Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/HXRL.html>

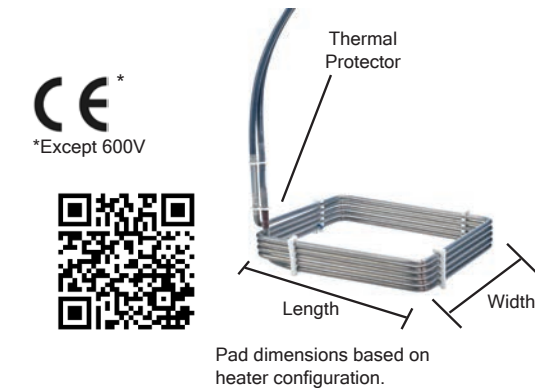
Fluoropolymer Heaters, HXOL, HXSL Series

Flexible riser designed to fit in tight spaces. 10 w/in² (1.5 w/cm²)

Immersion Heaters



For complete information on the HXOL Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXOL.html>



For complete information on the HXSL Series, Fluoropolymer Heater, click on the link or scan the QR code. <https://www.processtechnology.com/HXSL.html>

HXOL SERIES, FLEX RISER FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	WIDTH In./(mm)	LENGTH In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1000	120	2 (50)	11 (280)	HXOL1102-11L-**	6 (2.5)
1000	120	4 (100)	8 (205)	HXOL1104-08L-** HXOL1204-08L-**	6 (2.5)
2000	120	4 (100)	13 (330)	HXOL2104-13L-**	7 (3.5)
2000	120	5 (125)	10 (255)	HXOL2105-10L-** HXOL2205-10L-** HXOL2405-10L-**	7 (3.5)
2000	120	6 (155)	8 (205)	HXOL2106-08L-** HXOL2206-08L-** HXOL2406-08L-**	7 (3.5)
3000	240	4 (100)	18 (460)	HXOL3204-18L-** HXOL3404-18L-**	12 (5.5)
3000	240	5 (125)	12 (305)	HXOL3205-12L-** HXOL3405-12L-**	12 (5.5)
3000	240	6 (155)	11 (280)	HXOL3206-11L-** HXOL3406-11L-**	12 (5.5)
3000	240	8 (205)	8 (205)	HXOL3208-08L-** HXOL3408-08L-**	12 (5.5)
4000	240	5 (125)	18 (460)	HXOL4205-18L-** HXOL4405-18L-**	14 (6.5)
4000	240	6 (155)	14 (355)	HXOL4206-14L-** HXOL4406-14L-**	14 (6.5)
4000	240	8 (205)	11 (280)	HXOL4208-11L-** HXOL4408-11L-**	14 (6.5)
5000	240	6 (155)	18 (460)	HXOL5206-18L-** HXOL5406-18L-**	17 (8)
5000	240	8 (205)	13 (330)	HXOL5208-13L-** HXOL5408-13L-**	17 (8)
5000	240	9 (230)	11 (280)	HXOL5209-11L-** HXOL5409-11L-**	17 (8)
5000	240	10 (255)	10 (255)	HXOL5210-10L-** HXOL5410-10L-**	17 (8)
6000	240	7 (180)	18 (460)	HXOL6207-18L-** HXOL6407-18L-**	20 (9)
6000	240	8 (205)	15 (380)	HXOL6208-15L-** HXOL6408-15L-**	20 (9)
6000	240	9 (230)	13 (330)	HXOL6209-13L-** HXOL6409-13L-**	20 (9)
6000	240	10 (255)	12 (305)	HXOL6210-12L-** HXOL6410-12L-**	20 (9)
6000	240	11 (280)	11 (280)	HXOL6211-11L-** HXOL6411-11L-**	20 (9)

HXSL SERIES, FLEX RISER FLUOROPOLYMER (PTFE) HEATERS

WATTS	VOLTS	WIDTH* Inches	LENGTH* Inches	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1000	120	*	*	HXSL1**	6 (2.5)
2000	120	*	*	HXSL2**	7 (3.5)
3000	240	*	*	HXSL3**	12 (5.5)
4000	240	*	*	HXSL4**	14 (6.5)
5000	240	*	*	HXSL5**	17 (8)
6000	240	*	*	HXSL6**	20 (9)

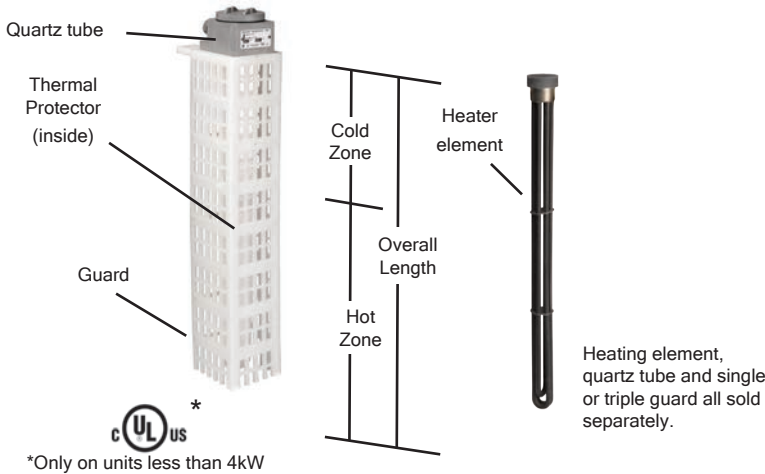
Quartz Heaters

Immersion Heaters

Heavy wall quartz sheath for acidic solutions. 25 w/in² (4 w/cm²)

Quartz Heater Benefits

- Heavy wall quartz sheath with replaceable metal element and polypropylene guards (complete assembly).
- Compatible with many aggressive chemistries.
- Over temperature protection included to provide safe operation.



QM SERIES, QUARTZ HEATERS WITH METAL ELEMENTS						QM & 3QM SERIES GUARDS		SHIP WEIGHT	
WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	ELEMENT MODEL NUMBER	TUBE MODEL NUMBER	SINGLE GUARD MODEL #	TRIPLE GUARD MODEL #	SINGLE ASSEMBLY SHIP WT.	TRIPLE ASSEMBLY SHIP WT.
		In./(mm)	In./(mm)					Lbs./(kg)	Lbs./(kg)
500	120	7	10	QM.5110E	QM.5110J-**	QM10G	3QM10G	9	21
	240	(178)	(254)	QM.5210E	QM.5210J-**			(4.1)	(9.5)
1000	120	7	11	QM1111E	QM1111J-**	QM11G	3QM11G	10	22
	240	(178)	(279)	QM1211E	QM1211J-**			(4.5)	(10)
1000	120	7	17	QM1117E	QM1117J-**	QM17G	3QM17G	11	26
	240	(178)	(430)	QM1217E	QM1217J-**			(5)	(11.8)
2000	240	12	17	QM2217E	QM2217J-**	QM17G	3QM17G	11	26
	480	(305)	(432)	QM2417E	QM2417J-**			(5)	(11.8)
2000	240	12	23	QM2223E	QM2223J-**	QM23G	3QM23G	14	30
	480	(305)	(584)	QM2423E	QM2423J-**			(6.4)	(13.6)
3000	240	18	23	QM3223E	QM3223J-**	QM23G	3QM23G	14	30
	480	(457)	(584)	QM3423E	QM3423J-**			(6.4)	(13.6)
3000	240	18	29	QM3229E	QM3229J-**	QM29G	3QM29G	17	34
	480	(457)	(737)	QM3429E	QM3429J-**			(7.7)	(15.4)
3500	240	21	29	QM3.5229E	QM3.5229J-**	QM29G	3QM29G	17	34
	480	(533)	(737)	QM3.5429E	QM3.5429J-**			(7.7)	(15.4)
4000	240	28	35	QM4235E	QM4235J-**	QM35G	3QM35G	20	38
	480	(711)	(889)	QM4435E	QM4435J-**			(9.1)	(17.2)
4000	240	28	41	QM4241E	QM4241J-**	QM41G	3QM41G	23	44
	480	(711)	(1041)	QM4441E	QM4441J-**			(10.4)	(20)
5000	240	33	41	QM5241E	QM5241J-**	QM41G	3QM41G	23	44
	480	(838)	(1041)	QM5441E	QM5441J-**			(10.4)	(20)
5000	240	33	47	QM5247E	QM5247J-**	QM47G	3QM47G	26	48
	480	(838)	(1194)	QM5447E	QM5447J-**			(11.8)	(21.8)
6000	240	39	47	QM6247E	QM6247J-**	QM47G	3QM47G	26	48
	480	(991)	(1194)	QM6447E	QM6447J-**			(11.8)	(21.8)
6000	240	39	52	QM6252E	QM6252J-**	QM52G	3QM52G	29	52
	480	(991)	(1321)	QM6452E	QM6452J-**			(13.2)	(23.6)
8000	240	49	59	QM8259E	QM8259J-**	QM59G	3QM59G	31	55
	480	(1245)	(1499)	QM8459E	QM8459J-**			(14.1)	(25)
10000	240	62	71	QM10271E	QM10271J-**	QM71G	3QM71G	34	65
	480	(1575)	(1803)	QM10471E	QM10471J-**			(15.4)	(29.5)



For complete information on the QM/3QM Series, Quartz Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/QM-3QM.html>

Metal Heaters

Durable, efficient chemical heater. 35 w/in² (5.4 w/cm²), derated 18 w/in²

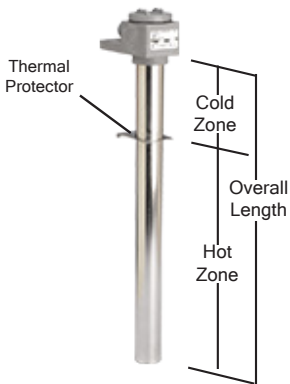
Immersion Heaters

Metal Heater Benefits

- Variety of materials and watt densities available to fit your application.
- Wattages up to 54kW.
- Custom configurations available.

P, F, S, and T SERIES, METAL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT.
		In./ (mm)	In./ (mm)					
1000	120	6	11	P1111-**. F1111-**. S1111-**. T1111-**. (8)				
	240	(152)	(279)	P1211-**. F1211-**. S1211-**. T1211-**. (3.6)				
2000	240	10	17	P2217-**. F2217-**. S2217-**. T2217-**. (10)				
	480	(254)	(432)	P2417-**. F2417-**. S2417-**. T2417-**. (4.5)				
3000	240	16	23	P3223-**. F3223-**. S3223-**. T3223-**. (12)				
	480	(406)	(584)	P3423-**. F3423-**. S3423-**. T3423-**. (5.4)				
4000	240	20	29	P4229-**. F4229-**. S4229-**. T4229-**. (13)				
	480	(508)	(737)	P4429-**. F4429-**. S4429-**. T4429-**. (5.9)				
5000	240	25	35	P5235-**. F5235-**. S5235-**. T5235-**. (16)				
	480	(635)	(889)	P5435-**. F5435-**. S5435-**. T5435-**. (7.3)				
6000	240	30	40	P6240-**. F6240-**. S6240-**. T6240-**. (18)				
	480	(762)	(1016)	P6440-**. F6440-**. S6440-**. T6440-**. (8.2)				
8000	240	37	47	P8247-**. F8247-**. S8247-**. T8247-**. (23)				
	480	(940)	(1194)	P8447-**. F8447-**. S8447-**. T8447-**. (10.4)				
9000	240	44	54	P9254-**. F9254-**. S9254-**. T9254-**. (24)				
	480	(1118)	(1372)	P9454-**. F9454-**. S9454-**. T9454-**. (10.9)				
10000	240	49	59	P10259-**. F10259-**. S10259-**. T10259-**. (25)				
	480	(1245)	(1499)	P10459-**. F10459-**. S10459-**. T10459-**. (11.3)				
12000	240	58	68	P12268-**. F12268-**. S12268-**. T12268-**. (29)				
	480	(1473)	(1727)	P12468-**. F12468-**. S12468-**. T12468-**. (13.2)				



*Except 600V



*Except Steel

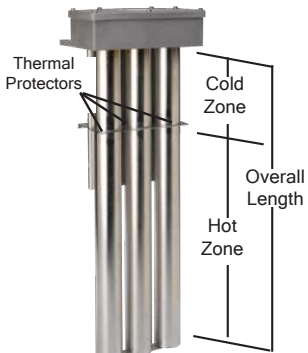


For complete information on the MOTS Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/MOTS.html>

3P, 3F, 3S, and 3T SERIES, TRIPLE METAL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT.
		In./ (mm)	In./ (mm)					
3000	240	6	11	3P3211-*. 3F3211-*. 3S3211-*. 3T3211-*. (21)				
	480	(152)	(279)	3P3411-*. 3F3411-*. 3S3411-*. 3T3411-*. (9.5)				
6000	240	10	17	3P6217-*. 3F6217-*. 3S6217-*. 3T6217-*. (30)				
	480	(254)	(432)	3P6417-*. 3F6417-*. 3S6417-*. 3T6417-*. (13.6)				
9000	240	16	23	3P9223-*. 3F9223-*. 3S9223-*. 3T9223-*. (33)				
	480	(406)	(584)	3P9423-*. 3F9423-*. 3S9423-*. 3T9423-*. (15)				
12000	240	20	29	3P12229-*. 3F12229-*. 3S12229-*. 3T12229-*. (39)				
	480	(508)	(737)	3P12429-*. 3F12429-*. 3S12429-*. 3T12429-*. (17.7)				
15000	240	25	35	3P15235-*. 3F15235-*. 3S15235-*. 3T15235-*. (45)				
	480	(635)	(889)	3P15435-*. 3F15435-*. 3S15435-*. 3T15435-*. (20.4)				
18000	240	30	40	3P18240-*. 3F18240-*. 3S18240-*. 3T18240-*. (51)				
	480	(762)	(1016)	3P18440-*. 3F18440-*. 3S18440-*. 3T18440-*. (23.1)				
24000	240	37	47	3P24247-*. 3F24247-*. 3S24247-*. 3T24247-*. (63)				
	480	(940)	(1194)	3P24447-*. 3F24447-*. 3S24447-*. 3T24447-*. (28.6)				
27000	240	44	54	3P27254-*. 3F27254-*. 3S27254-*. 3T27254-*. (69)				
	480	(1118)	(1372)	3P27454-*. 3F27454-*. 3S27454-*. 3T27454-*. (31.3)				
30000	240	49	59	3P30259-*. 3F30259-*. 3S30259-*. 3T30259-*. (75)				
	480	(1245)	(1499)	3P30459-*. 3F30459-*. 3S30459-*. 3T30459-*. (34)				
36000	240	58	68	3P36268-*. 3F36268-*. 3S36268-*. 3T36268-*. (84)				
	480	(1473)	(1727)	3P36468-*. 3F36468-*. 3S36468-*. 3T36468-*. (38.1)				



*Except 600V



*Except Steel



For complete information on the Triple Tube Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/3MOTS.html>

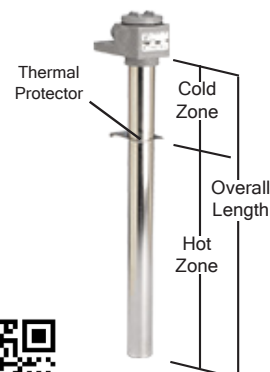
Metal Heaters

Durable, efficient chemical heater. 35 w/in² (5.4 w/cm²), derated 18 w/in²

Immersion Heaters

D SERIES, DERATED METAL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./(kg)
		In./(mm)	In./(mm)					
500	120	6	11	DP.5111-**. DF.5111-**. DS.5111-**. DT.5111-**. 7				
	240	(152)	(279)	DP.5211-**. DF.5211-**. DS.5211-**. DT.5211-**. (3.2)				
1000	240	10	17	DP1217-**. DF1217-**. DS1217-**. DT1217-**. 10				
	480	(254)	(432)	DP1417-**. DF1417-**. DS1417-**. DT1417-**. (4.5)				
1500	240	16	23	DP1.5223-**. DF1.5223-**. DS1.5223-**. DT1.5223-**. 11				
	480	(406)	(584)	DP1.5423-**. DF1.5423-**. DS1.5423-**. DT1.5423-**. (5)				
2000	240	20	29	DP2229-**. DF2229-**. DS2229-**. DT2229-**. 13				
	480	(508)	(737)	DP2429-**. DF2429-**. DS2429-**. DT2429-**. (5.9)				
2500	240	25	35	DP2.5235-**. DF2.5235-**. DS2.5235-**. DT2.5235-**. 15				
	480	(635)	(889)	DP2.5435-**. DF2.5435-**. DS2.5435-**. DT2.5435-**. (6.8)				
3000	240	30	40	DP3240-**. DF3240-**. DS3240-**. DT3240-**. 17				
	480	(762)	(1016)	DP3440-**. DF3440-**. DS3440-**. DT3440-**. (7.7)				
4000	240	37	47	DP4247-**. DF4247-**. DS4247-**. DT4247-**. 23				
	480	(940)	(1194)	DP4447-**. DF4447-**. DS4447-**. DT4447-**. (10.4)				
4500	240	44	54	DP4.5254-**. DF4.5254-**. DS4.5254-**. DT4.5254-**. 24				
	480	(1118)	(1372)	DP4.5454-**. DF4.5454-**. DS4.5454-**. DT4.5454-**. (10.9)				
5000	240	49	59	DP5259-**. DF5259-**. DS5259-**. DT5259-**. 25				
	480	(1245)	(1499)	DP5459-**. DF5459-**. DS5459-**. DT5459-**. (11.3)				
6000	240	58	68	DP6268-**. DF6268-**. DS6268-**. DT6268-**. 28				
	480	(1473)	(1727)	DP6468-**. DF6468-**. DS6468-**. DT6468-**. (12.7)				

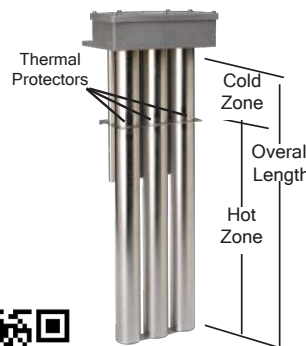


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*Except Steel
 *
*Except 600V

For complete information on the DMOTS Series, Derated Metal Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/DMOTS.html>

D3 SERIES, DERATED TRIPLE METAL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./(kg)
		In./(mm)	In./(mm)					
1500	120	6	11	D3P1.5111-**. D3F1.5111-**. D3S1.5111-**. D3T1.5111-**. 21				
	240	(152)	(279)	D3P1.5211-**. D3F1.5211-**. D3S1.5211-**. D3T1.5211-**. (9.5)				
3000	240	10	17	D3P3217-**. D3F3217-**. D3S3217-**. D3T3217-**. 30				
	480	(254)	(432)	D3P3417-**. D3F3417-**. D3S3417-**. D3T3417-**. (13.6)				
4500	240	16	23	D3P4.5223-**. D3F4.5223-**. D3S4.5223-**. D3T4.5223-**. 33				
	480	(406)	(584)	D3P4.5423-**. D3F4.5423-**. D3S4.5423-**. D3T4.5423-**. (15)				
6000	240	20	29	D3P6229-**. D3F6229-**. D3S6229-**. D3T6229-**. 39				
	480	(508)	(737)	D3P6429-**. D3F6429-**. D3S6429-**. D3T6429-**. (17.7)				
7500	240	25	35	D3P7.5235-**. D3F7.5235-**. D3S7.5235-**. D3T7.5235-**. 45				
	480	(635)	(889)	D3P7.5435-**. D3F7.5435-**. D3S7.5435-**. D3T7.5435-**. (20.4)				
9000	240	30	40	D3P9240-**. D3F9240-**. D3S9240-**. D3T9240-**. 51				
	480	(762)	(1016)	D3P9440-**. D3F9440-**. D3S9440-**. D3T9440-**. (23.1)				
12000	240	37	47	D3P12247-**. D3F12247-**. D3S12247-**. D3T12247-**. 63				
	480	(940)	(1194)	D3P12447-**. D3F12447-**. D3S12447-**. D3T12447-**. (28.6)				
13500	240	44	54	D3P13.5254-**. D3F13.5254-**. D3S13.5254-**. D3T13.5254-**. 69				
	480	(1118)	(1372)	D3P13.5454-**. D3F13.5454-**. D3S13.5454-**. D3T13.5454-**. (31.3)				
15000	240	49	59	D3P15259-**. D3F15259-**. D3S15259-**. D3T15259-**. 75				
	480	(1245)	(1499)	D3P15459-**. D3F15459-**. D3S15459-**. D3T15459-**. (34)				
18000	240	58	68	D3P18268-**. D3F18268-**. D3S18268-**. D3T18268-**. 84				
	480	(1473)	(1727)	D3P18468-**. D3F18468-**. D3S18468-**. D3T18468-**. (38.1)				



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*Except Steel

For complete information on the D3MOTS Series, Metal Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/D3MOTS.html>

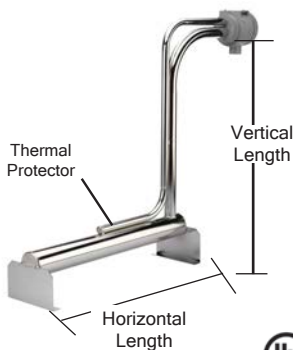
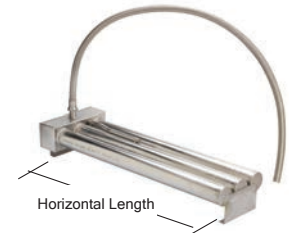
Metal Heaters

Durable, efficient chemical heater. 35 w/in² (5.4 w/cm²), derated 18 w/in²

Immersion Heaters

Flex Riser for Metal L Heaters

Non-conductive fluoropolymer (PTFE) riser with stainless reinforced construction affords versatile installation in various tank depths and enhances delivery time as well. With less bulk and less weight, most heaters can be shipped by a parcel carrier thereby reducing shipping costs. Suitable for process temperatures up to 300°F only. Available with P2 overtemperature protection only. P2 safety components necessary for thermal overtemperature monitoring. (Consult factory)



*Except Steel



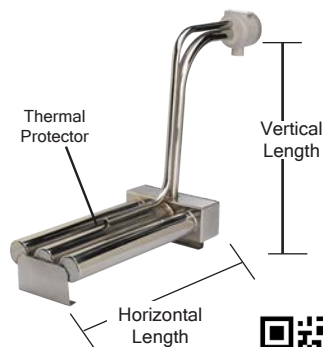
*Except 600V

L SERIES, METAL L-SHAPED HEATERS

WATTS	VOLTS	HORIZ. In./(mm)	STD. VERT.* In./(mm)	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./kg)
1000	120	13	15	LP1113Q-R**	LF1113Q-R**	LS1113Q-R**	LT1113Q-R**	10
	240	(330)	(381)	LP1213Q-R**	LF1213Q-R**	LS1213Q-R**	LT1213Q-R**	(4.5)
2000	120	17	19	LP2117Q-R**	LF2117Q-R**	LS2117Q-R**	LT2117Q-R**	11
	240	(432)	(483)	LP2217Q-R**	LF2217Q-R**	LS2217Q-R**	LT2217Q-R**	(5)
3000	120	22	25	LP3222Q-R**	LF3222Q-R**	LS3222Q-R**	LT3222Q-R**	12
	480	(559)	(635)	LP3422Q-R**	LF3422Q-R**	LS3422Q-R**	LT3422Q-R**	(5.4)
4000	240	26	25	LP4226Q-R**	LF4226Q-R**	LS4226Q-R**	LT4226Q-R**	13
	480	(660)	(635)	LP4426Q-R**	LF4426Q-R**	LS4426Q-R**	LT4426Q-R**	(5.9)
5000	240	31	37	LP5231Q-R**	LF5231Q-R**	LS5231Q-R**	LT5231Q-R**	14
	480	(787)	(940)	LP5431Q-R**	LF5431Q-R**	LS5431Q-R**	LT5431Q-R**	(6.4)
6000	240	36	50	LP6236Q-R**	LF6236Q-R**	LS6236Q-R**	LT6236Q-R**	15
	480	(914)	(1270)	LP6436Q-R**	LF6436Q-R**	LS6436Q-R**	LT6436Q-R**	(6.8)
8000	240	44	50	LP8244Q-R**	LF8244Q-R**	LS8244Q-R**	LT8244Q-R**	18
	480	(1118)	(1270)	LP8444Q-R**	LF8444Q-R**	LS8444Q-R**	LT8444Q-R**	(8.2)
9000	240	50	50	LP9250Q-R**	LF9250Q-R**	LS9250Q-R**	LT9250Q-R**	20
	480	(1270)	(1270)	LP9450Q-R**	LF9450Q-R**	LS9450Q-R**	LT9450Q-R**	(9.1)
10000	240	55	50	LP10255Q-R**	LF10255Q-R**	LS10255Q-R**	LT10255Q-R**	22
	480	(1397)	(1270)	LP10455Q-R**	LF10455Q-R**	LS10455Q-R**	LT10455Q-R**	(10)
12000	240	64	50	LP12264Q-R**	LF12264Q-R**	LS12264Q-R**	LT12264Q-R**	25
	480	(1626)	(1270)	LP12464Q-R**	LF12464Q-R**	LS12464Q-R**	LT12464Q-R**	(11.3)

For complete information on the LMOTS Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/LMOTS.html>



*Except Steel



*Except 600V



3L SERIES, TRIPLE METAL L-SHAPED HEATERS

WATTS	VOLTS	HORIZ. In./(mm)	STD. VERT.* In./(mm)	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./kg)
3000	240	13	15	3LP3213Q-R**	3LF3213Q-R**	3LS3213Q-R**	3LT3213Q-R**	30
	480	(330)	(381)	3LP3413Q-R**	3LF3413Q-R**	3LS3413Q-R**	3LT3413Q-R**	(13.6)
6000	240	17	37	3LP6217Q-R**	3LF6217Q-R**	3LS6217Q-R**	3LT6217Q-R**	33
	480	(432)	(940)	3LP6417Q-R**	3LF6417Q-R**	3LS6417Q-R**	3LT6417Q-R**	(15)
9000	240	22	37	3LP9222Q-R**	3LF9222Q-R**	3LS9222Q-R**	3LT9222Q-R**	36
	480	(559)	(940)	3LP9422Q-R**	3LF9422Q-R**	3LS9422Q-R**	3LT9422Q-R**	(16.3)
12000	240	26	37	3LP12226Q-R**	3LF12226Q-R**	3LS12226Q-R**	3LT12226Q-R**	39
	480	(660)	(940)	3LP12426Q-R**	3LF12426Q-R**	3LS12426Q-R**	3LT12426Q-R**	(17.7)
15000	240	31	37	3LP15231Q-R**	3LF15231Q-R**	3LS15231Q-R**	3LT15231Q-R**	42
	480	(787)	(940)	3LP15431Q-R**	3LF15431Q-R**	3LS15431Q-R**	3LT15431Q-R**	(19.1)
18000	240	36	50	3LP18236Q-R**	3LF18236Q-R**	3LS18236Q-R**	3LT18236Q-R**	45
	480	(914)	(1270)	3LP18436Q-R**	3LF18436Q-R**	3LS18436Q-R**	3LT18436Q-R**	(20.4)
24000	240	44	50	3LP24244Q-R**	3LF24244Q-R**	3LS24244Q-R**	3LT24244Q-R**	54
	480	(1118)	(1270)	3LP24444Q-R**	3LF24444Q-R**	3LS24444Q-R**	3LT24444Q-R**	(24.5)
27000	480	50	50	3LP27450Q-R**	3LF27450Q-R**	3LS27450Q-R**	3LT27450Q-R**	60
			(1270)	(1270)				(27.2)
30000	480	55	50	3LP30455Q-R**	3LF30455Q-R**	3LS30455Q-R**	3LT30455Q-R**	66
			(1397)	(1270)				(29.9)
36000	480	64	50	3LP36464Q-R**	3LF36464Q-R**	3LS36464Q-R**	3LT36464Q-R**	75
			(1626)	(1270)				(34)

For complete information on the 3LMOTS Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/3LMOTS.html>

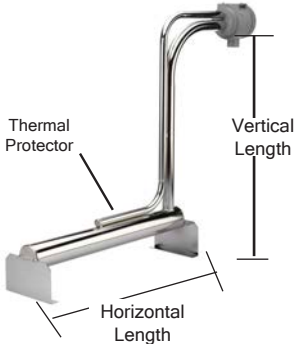
Metal Heaters

Immersion Heaters

Durable, efficient chemical heater. 35 w/in² (5.4 w/cm²), derated 18 w/in²

DL SERIES, DERATED METAL L-SHAPED HEATERS

WATTS	VOLTS	STD.		STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./kg)
		HORIZ. In./(mm)	VERT.* In./(mm)					
500	120	13	15	DLP.5113Q-R**	DLF.5113Q-R**	DLS.5113Q-R**	DLT.5113Q-R**	10
	240	(330)	(381)	DLP.5213Q-R**	DLF.5213Q-R**	DLS.5213Q-R**	DLT.5213Q-R**	(4.5)
1000	120	17	19	DLP1117Q-R**	DLF1117Q-R**	DLS1117Q-R**	DLT1117Q-R**	11
	240	(432)	(483)	DLP1217Q-R**	DLF1217Q-R**	DLS1217Q-R**	DLT1217Q-R**	(5)
1500	120	22	25	DLP1.5122Q-R**	DLF1.5122Q-R**	DLS1.5122Q-R**	DLT1.5122Q-R**	12
	240	(559)	(635)	DLP1.5222Q-R**	DLF1.5222Q-R**	DLS1.5222Q-R**	DLT1.5222Q-R**	(5.4)
2000	120	26	25	DLP2226Q-R**	DLF2226Q-R**	DLS2226Q-R**	DLT2226Q-R**	13
	480	(660)	(635)	DLP2426Q-R**	DLF2426Q-R**	DLS2426Q-R**	DLT2426Q-R**	(5.9)
2500	240	31	37	DLP2.5231Q-R**	DLF2.5231Q-R**	DLS2.5231Q-R**	DLT2.5231Q-R**	14
	480	(787)	(940)	DLP2.5431Q-R**	DLF2.5431Q-R**	DLS2.5431Q-R**	DLT2.5431Q-R**	(6.4)
3000	240	36	50	DLP3236Q-R**	DLF3236Q-R**	DLS3236Q-R**	DLT3236Q-R**	15
	480	(914)	(1270)	DLP3436Q-R**	DLF3436Q-R**	DLS3436Q-R**	DLT3436Q-R**	(6.8)
4000	240	44	50	DLP4244Q-R**	DLF4244Q-R**	DLS4244Q-R**	DLT4244Q-R**	18
	480	(1118)	(1270)	DLP4444Q-R**	DLF4444Q-R**	DLS4444Q-R**	DLT4444Q-R**	(8.2)
4500	240	50	50	DLP4.5250Q-R**	DLF4.5250Q-R**	DLS4.5250Q-R**	DLT4.5250Q-R**	20
	480	(1270)	(1270)	DLP4.5450Q-R**	DLF4.5450Q-R**	DLS4.5450Q-R**	DLT4.5450Q-R**	(9.1)
5000	240	55	50	DLP5255Q-R**	DLF5255Q-R**	DLS5255Q-R**	DLT5255Q-R**	22
	480	(1397)	(1270)	DLP5455Q-R**	DLF5455Q-R**	DLS5455Q-R**	DLT5455Q-R**	(10)
6000	240	64	50	DLP6264Q-R**	DLF6264Q-R**	DLS6264Q-R**	DLT6264Q-R**	25
	480	(1626)	(1270)	DLP6464Q-R**	DLF6464Q-R**	DLS6464Q-R**	DLT6464Q-R**	(11.3)

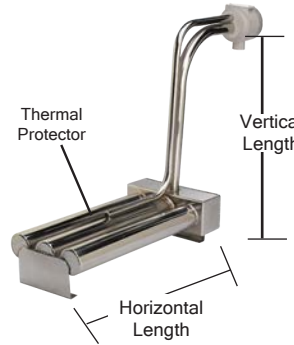


*Except Steel *Except 600V

For complete information on the DLMOTS Series, Metal Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/DLMOTS.html>

D3L SERIES, DERATED TRIPLE METAL L-SHAPED HEATERS

WATTS	VOLTS	STD.		STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./kg)
		HORIZ. In./(mm)	VERT.* In./(mm)					
1500	120	13	15	D3LP1.5113Q-R**	D3LF1.5113Q-R**	D3LS1.5113Q-R**	D3LT1.5113Q-R**	30
	240	(330)	(381)	D3LP1.5213Q-R**	D3LF1.5213Q-R**	D3LS1.5213Q-R**	D3LT1.5213Q-R**	(13.6)
3000	240	17	37	D3LP3217Q-R**	D3LF3217Q-R**	D3LS3217Q-R**	D3LT3217Q-R**	33
	480	(432)	(940)	D3LP3417Q-R**	D3LF3417Q-R**	D3LS3417Q-R**	D3LT3417Q-R**	(15)
4500	240	22	37	D3LP4.5222Q-R**	D3LF4.5222Q-R**	D3LS4.5222Q-R**	D3LT4.5222Q-R**	36
	480	(559)	(940)	D3LP4.5422Q-R**	D3LF4.5422Q-R**	D3LS4.5422Q-R**	D3LT4.5422Q-R**	(16.3)
6000	240	26	37	D3LP6226Q-R**	D3LF6226Q-R**	D3LS6226Q-R**	D3LT6226Q-R**	39
	480	(660)	(940)	D3LP6426Q-R**	D3LF6426Q-R**	D3LS6426Q-R**	D3LT6426Q-R**	(17.7)
7500	240	31	37	D3LP7.5231Q-R**	D3LF7.5231Q-R**	D3LS7.5231Q-R**	D3LT7.5231Q-R**	42
	480	(787)	(940)	D3LP7.5431Q-R**	D3LF7.5431Q-R**	D3LS7.5431Q-R**	D3LT7.5431Q-R**	(19.1)
9000	240	36	50	D3LP9236Q-R**	D3LF9236Q-R**	D3LS9236Q-R**	D3LT9236Q-R**	45
	480	(914)	(1270)	D3LP9436Q-R**	D3LF9436Q-R**	D3LS9436Q-R**	D3LT9436Q-R**	(20.4)
12000	240	44	50	D3LP12244Q-R**	D3LF12244Q-R**	D3LS12244Q-R**	D3LT12244Q-R**	54
	480	(1118)	(1270)	D3LP12444Q-R**	D3LF12444Q-R**	D3LS12444Q-R**	D3LT12444Q-R**	(24.5)
13500	240	50	50	D3LP13.5250Q-R**	D3LF13.5250Q-R**	D3LS13.5250Q-R**	D3LT13.5250Q-R**	60
	480	(1270)	(1270)	D3LP13.5450Q-R**	D3LF13.5450Q-R**	D3LS13.5450Q-R**	D3LT13.5450Q-R**	(27.2)
15000	240	55	50	D3LP15255Q-R**	D3LF15255Q-R**	D3LS15255Q-R**	D3LT15255Q-R**	66
	480	(1397)	(1270)	D3LP15455Q-R**	D3LF15455Q-R**	D3LS15455Q-R**	D3LT15455Q-R**	(29.9)
18000	240	64	50	D3LP18264Q-R**	D3LF18264Q-R**	D3LS18264Q-R**	D3LT18264Q-R**	75
	480	(1626)	(1270)	D3LP18464Q-R**	D3LF18464Q-R**	D3LS18464Q-R**	D3LT18464Q-R**	(34)



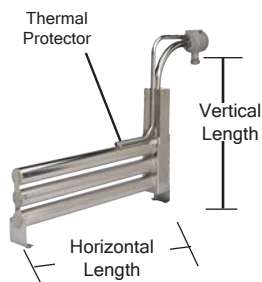
*Except Steel *Except 600V

For complete information on the D3LMOTS Series, Metal Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/D3LMOTS.html>

Metal Heaters

Durable, efficient chemical heater. 35 w/in² (5.4 w/cm²), derated 18 w/in²

Immersion Heaters



*Except Steel



*Except 600V

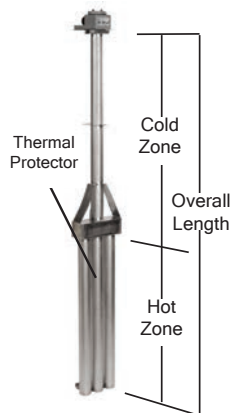


3LV SERIES, VERTICAL STACK TRIPLE METAL L-SHAPED HEATERS

WATTS	VOLTS	STD.		STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./ (kg)
		HORIZ. In./ (mm)	VERT.* In./ (mm)					
3000	240	13	15	3LVP3213Q-R**	3LVF3213Q-R**	3LVS3213Q-R**	3LVT3213Q-R**	30
	480	(330)	(381)	3LVP3413Q-R**	3LVF3413Q-R**	3LVS3413Q-R**	3LVT3413Q-R**	(13.6)
6000	240	17	37	3LVP6217Q-R**	3LVF6217Q-R**	3LVS6217Q-R**	3LVT6217Q-R**	33
	480	(432)	(940)	3LVP6417Q-R**	3LVF6417Q-R**	3LVS6417Q-R**	3LVT6417Q-R**	(15)
9000	240	22	37	3LVP9222Q-R**	3LVF9222Q-R**	3LVS9222Q-R**	3LVT9222Q-R**	36
	480	(559)	(940)	3LVP9422Q-R**	3LVF9422Q-R**	3LVS9422Q-R**	3LVT9422Q-R**	(16.3)
12000	240	26	37	3LVP12226Q-R**	3LVF12226Q-R**	3LVS12226Q-R**	3LVT12226Q-R**	39
	480	(660)	(940)	3LVP12426Q-R**	3LVF12426Q-R**	3LVS12426Q-R**	3LVT12426Q-R**	(17.7)
15000	240	31	37	3LVP15231Q-R**	3LVF15231Q-R**	3LVS15231Q-R**	3LVT15231Q-R**	42
	480	(787)	(940)	3LVP15431Q-R**	3LVF15431Q-R**	3LVS15431Q-R**	3LVT15431Q-R**	(19.1)
18000	240	36	50	3LVP18236Q-R**	3LVF18236Q-R**	3LVS18236Q-R**	3LVT18236Q-R**	45
	480	(914)	(1270)	3LVP18436Q-R**	3LVF18436Q-R**	3LVS18436Q-R**	3LVT18436Q-R**	(20.4)
24000	240	44	50	3LVP24244Q-R**	3LVF24244Q-R**	3LVS24244Q-R**	3LVT24244Q-R**	54
	480	(1118)	(1270)	3LVP24444Q-R**	3LVF24444Q-R**	3LVS24444Q-R**	3LVT24444Q-R**	(24.5)
27000	480	50	50	3LVP27450Q-R**	3LVF27450Q-R**	3LVS27450Q-R**	3LVT27450Q-R**	60
			(1270)					(27.2)
30000	480	55	50	3LVP30455Q-R**	3LVF30455Q-R**	3LVS30455Q-R**	3LVT30455Q-R**	66
			(1397)					(29.9)
36000	480	64	50	3LVP36464Q-R**	3LVF36464Q-R**	3LVS36464Q-R**	3LVT36464Q-R**	75
			(1270)					(34)

For complete information on the 3LVMOTS Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/3LVMOTS.html>



*Except 600V



3V SERIES, TRIPLE METAL DEEP TANK HEATERS

WATTS	VOLTS	THREE TUBE		STEEL	304 SS	316 SS	TITANIUM
		LENGTH In./ (mm)	LENGTH In./ (mm)				
18000	240	36		3VP18236-R**	3VF18236-R**	3VS18236-R**	3VT18236-R**
	480	(914)		3VP18436-R**	3VF18436-R**	3VS18436-R**	3VT18436-R**
24000	240	44		3VP24244-R**	3VF24244-R**	3VS24244-R**	3VT24244-R**
	480	(1118)		3VP24444-R**	3VF24444-R**	3VS24444-R**	3VT24444-R**
27000	480	50		3VP27450-R**	3VF27450-R**	3VS27450-R**	3VT27450-R**
			(1270)				
30000	480	55		3VP30455-R**	3VF30455-R**	3VS30455-R**	3VT30455-R**
			(1397)				
36000	480	64		3VP36464-R**	3VF36464-R**	3VS36464-R**	3VT36464-R**
			(1626)				
45000	480	77		3VP45477-R**	3VF45477-R**	3VS45477-R**	3VT45477-R**
			(1956)				
48000	480	82		3VP48482-R**	3VF48482-R**	3VS48482-R**	3VT48482-R**
			(2083)				
54000	480	91		3VP54491-R**	3VF54491-R**	3VS54491-R**	3VT54491-R**
			(2311)				

For complete information on the 3V Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/3V.html>

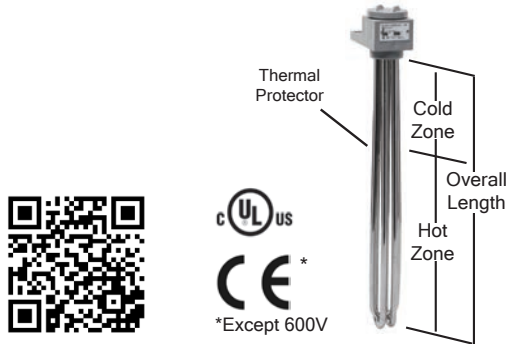
Metal Heaters

Powerful, high watt density, 316 stainless heaters, up to 40 w/in² (6.2 w/cm²)

Immersion Heaters

3HS SERIES, THREE ELEMENT STAINLESS STEEL HEATERS

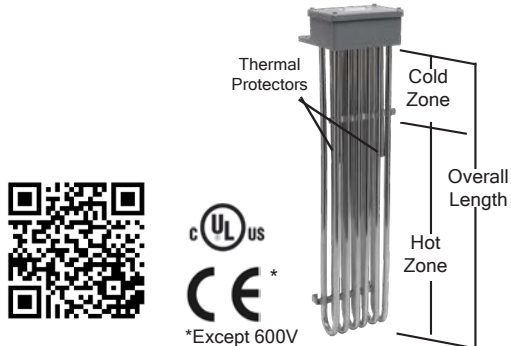
WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	MODEL NUMBER	SHIP WGT.
		In./(mm)	In./(mm)		Lbs./(kg)
3000	240	11	17	3HS3217-**	9
	480	(279)	(432)	3HS3417-**	(4.1)
4500	240	17	23	3HS4.5223-**	10
	480	(432)	(584)	3HS4.5423-**	(4.5)
7500	240	21	29	3HS7.5229-**	12
	480	(533)	(737)	3HS7.5429-**	(5.4)
10500	240	26	34	3HS10.5234-**	14
	480	(660)	(864)	3HS10.5434-**	(6.4)



For complete information on the 3HS Series, Tubular Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/3HS.html>

6HS SERIES, SIX ELEMENT STAINLESS STEEL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	MODEL NUMBER	SHIP WGT.
		In./(mm)	In./(mm)		Lbs./(kg)
6000	240	10	17	6HS6217-**	12
	480	(254)	(432)	6HS6417-**	(5.4)
9000	240	16	23	6HS9223-**	13
	480	(406)	(584)	6HS9423-**	(5.9)
15000	240	20	29	6HS15229-**	16
	480	(508)	(737)	6HS15429-**	(7.3)
21000	240	25	34	6HS21234-**	18
	480	(635)	(864)	6HS21434-**	(8.2)

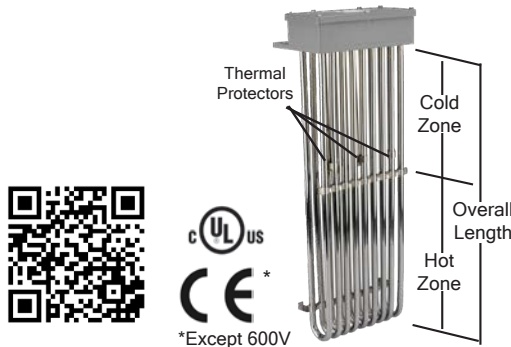


For complete information on the 6HS Series, Tubular Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/6HS.html>

9HS SERIES, NINE ELEMENT STAINLESS STEEL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	MODEL NUMBER	SHIP WGT.
		In./(mm)	In./(mm)		Lbs./(kg)
9000	240	10	17	9HS9217-**	16
	480	(254)	(432)	9HS9417-**	(7.3)
13500	240	16	23	9HS13.5223-**	19
	480	(406)	(584)	9HS13.5423-**	(8.6)
22500	240	20	29	9HS22.5229-**	23
	480	(508)	(737)	9HS22.5429-**	(10.4)
31500	240*	25	34	9HS31.5234-M-**	25
	480	(635)	(864)	9HS31.5434-**	(11.3)

*Requires a welded metal head



For complete information on the 9HS Series, Tubular Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/9HS.html>

Metal Heaters

Varipower Lab Heaters

Immersion Heaters

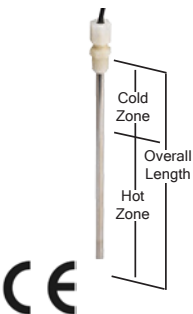


V SERIES, VARIPOWER HEATERS

WATTS	VOLTS	HOT ZONE	LENGTH	NO. OF ELEMENTS (see drawing)	316 SS	TITANIUM	FLUOROPOLYMER (PFA)	SHIP WGT. Lbs./kg)
		In./(mm)	In./(mm)					
100	120	4	7	1	VS.1107	VT.1107	VX.1107	2
	240	(102)	(178)	1	VS.1207	VT.1207	VX.1207	(.9)
300	120	6	11	2	VS.3111	VT.3111	VX.3111	2
	240	(152)	(279)	2	VS.3211	VT.3211	VX.3211	(.9)
500	120	6	11	3	VS.5111	VT.5111	VX.5111	2
	240	(152)	(279)	3	VS.5211	VT.5211	VX.5211	(.9)
1000	120	6	11	6	VS1111	VT1111	VX1111	2
	240	(152)	(279)	6	VS1211	VT1211	VX1211	(.9)

For complete information on the Varipower Series, Metal Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/Varipower.html>



V*T SERIES, VARIPOWER HEATERS

WATTS	VOLTS	NPT	LENGTH	NO. OF ELEMENTS (see drawing)	316 SS	TITANIUM	FLUOROPOLYMER (PFA)	SHIP WGT. Lbs./kg)
		In./(mm)	In./(mm)					
100	120	.5	7	1	VST.1107	VTT.1107	VXT.1107	2
	240	(.23)	(178)	1	VST.1207	VTT.1207	VXT.1207	(.9)
200	120	.5	11	1	VST.2110	VTT.2110	VXT.2110	2
	240	(.23)	(279)	1	VST.2210	VTT.2210	VXT.2210	(.9)

For complete information on the Varipower Series, Screwplug Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/Varipower.html>

Small Tank Heaters

B SERIES, 1/4" SMALL TANK METAL HEATERS

WATTS	VOLTS	HOT ZONE	OVERALL LENGTH	304 SS	316 SS	TITANIUM	SHIP WGT.
		In./(mm)	In./(mm)				Lbs./(kg)
500	120	5	10	FB.5110-**	SB.5110-**	TB.5110-**	5
	240	(127)	(254)	FB.5210-**	SB.5210-**	TB.5210-**	(2.3)
1000	120	8	14	FB1114-**	SB1114-**	TB1114-**	6
	240	(203)	(356)	FB1214-**	SB1214-**	TB1214-**	(2.7)
1500	120	11	17	FB1.5117-**	SB1.5117-**	TB1.5117-**	8
	240	(279)	(432)	FB1.5217-**	SB1.5217-**	TB1.5217-**	(3.6)



For complete information on the Small Tank Series, Metal Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/SmallTank.html>

Plug-In Heater/Control Option

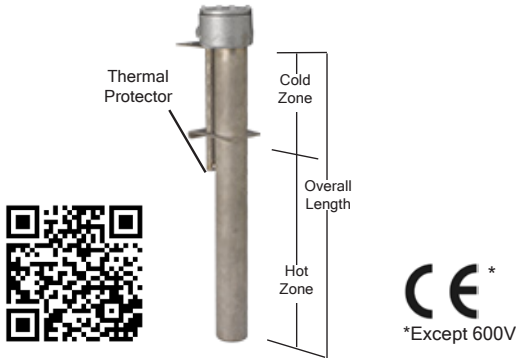
Plug-in heater/control option available on 120 VAC quartz, fluoropolymer (PTFE) and metal heaters up to 1000 watts in combination with one of our thermostats outfitted with a receptacle, 6' cord and plug.



Phosphate Heaters

Specialty Phosphate Heaters

Immersion Heaters



For complete information on the DAS Series, Phosphate Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/DAS.html>

DAS SERIES, PHOSPHATE HEATERS

WATTS	VOLTS	HOT ZONE In./(mm.)	OVERALL LENGTH In./(mm.)	MODEL NUMBER	SHIP WGT. Lbs./(kg.)
1000	120	7	11	DAS1111-P4	17
	240	(180)	(280)	DAS1211-P4	(8)
2000	240	12	17	DAS2217-P4	20
	480	(305)	(430)	DAS2417-P4	(9)
3000	240	18	23	DAS3223-P4	24
	480	(460)	(585)	DAS3423-P4	(11)
3500	240	21	29	DAS3.5229-P4	30
	480	(535)	(735)	DAS3.5429-P4	(14)
4000	240	28	35	DAS4235-P4	36
	480	(710)	(890)	DAS4435-P4	(16)
5000	240	33	41	DAS5241-P4	42
	480	(840)	(1040)	DAS5441-P4	(19)
6000	240	39	47	DAS6247-P4	48
	480	(990)	(1195)	DAS6447-P4	(22)
8000	240	49	59	DAS8259-P4	58
	480	(1245)	(1500)	DAS8459-P4	(27)
10000	240	62	71	DAS10271-P4	64
	480	(1575)	(1805)	DAS10471-P4	(30)

Why Phosphate Heaters?



Phosphate coating processes provide some of the more difficult challenges in heating. Phosphate coatings are used extensively on lubricated metal parts to provide a thick, porous layer and a grain structure for oil to reside to improve lubricity for gears and threads while protecting against corrosion.

During the phosphate process, a coating builds up on heated surfaces such as electric immersion heaters, restricting heat transfer, causing corrosion and shortening heater life. For this reason, Process Technology developed a purpose-built heater for phosphate chemistries: the DAS-series immersion heater. The DAS-series heaters are designed to last longer in heavy buildup and surface corrosion that normally occurs in these baths. A heavy-wall outer sheath and unique internal construction protects the heater core resulting in a longer life and better performance in harsh phosphate applications.

Screwplug Heaters

2T, 2" Screwplug Heaters and 2" Tubular Screwplug Heaters

2T SERIES, 2" (STAINLESS STEEL) SCREW PLUG HEATERS

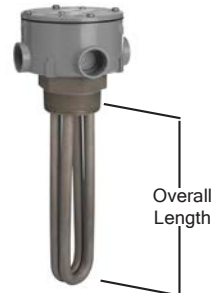
WATTS	VOLTS	OVERALL LENGTH In./(mm)	PIPE THREAD	NO. OF ELEMENTS	MODEL NUMBER	SHIP WGT. Lbs./(kg)
2000	240	8	2	2	2T2208	5
	480	(203)			2T2408	(2.3)
3000	240	12	2	2	2T3212	6
	480	(305)			2T3412	(2.7)
4000	240	18	2	2	2T4218	7
	480	(457)			2T4418	(3.2)
6000	240	25	2	2	2T6225	8
	480	(635)			2T6425	(3.6)
8000	240	32	2	2	2T8232	10
	480	(813)			2T8432	(4.5)
10000	240	40	2	2	2T10240	11
	480	(1016)			2T10440	(5)
12000	480	48	2	2	2T12448	13
		(1219)				(5.9)
15000	480	54	2	2	2T15454	15
		(1372)				(6.8)



For complete information on the 2T Series, Screwplug Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/2T.html>

T2T SERIES, 2" (TITANIUM) SCREW PLUG HEATERS

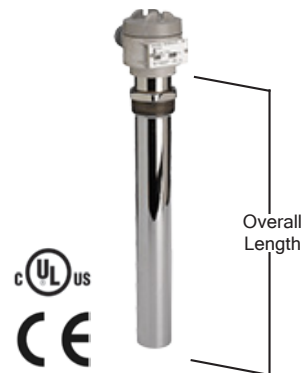
WATTS	VOLTS	OVERALL LENGTH In./(mm)	PIPE THREAD	NO. OF ELEMENTS	MODEL NUMBER	SHIP WGT. Lbs./(kg)
2000	240	8	2	2	T2T2208	5
	480	(203)			T2T2408	(2.3)
4000	240	18	2	2	T2T4218	7
	480	(457)			T2T4418	(3.2)
6000	240	25	2	2	T2T6225	8
	480	(635)			T2T6425	(3.6)
8000	240	32	2	2	T2T8232	10
	480	(813)			T2T8432	(4.5)
12000	480	48	2	2	T2T12448	13
		(1219)				(5.5)



For complete information on the T2T Series, Screwplug Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/2T.html>

T SERIES, 2" TUBULAR SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH In./(mm)	PIPE THREAD	304			SHIP WGT. Lbs./(kg)
				SS	316 SS	TITANIUM	
1000	120	10	2	FT1110	ST1110	TT1110	11
	240	(255)		FT1210	ST1210	TT1210	(5)
2000	120	14	2	FT2114	ST2114	TT2114	14
	240	(355)		FT2214	ST2214	TT2214	(6.5)
	480			FT2414	ST2414	TT2414	
3000	240	19	2	FT3219	ST3219	TT3219	16
	480	(485)		FT3419	ST3419	TT3419	(7.5)
4000	240	23	2	FT4223	ST4223	TT4223	20
	480	(585)		FT4423	ST4423	TT4423	(9)
6000	240	33	2	FT6233	ST6233	TT6233	26
	480	(840)		FT6433	ST6433	TT6433	(12)
8000	240	40	2	FT8240	ST8240	TT8240	29
	480	(1015)		FT8440	ST8440	TT8440	(13.5)
9000	240	47	2	FT9247	ST9247	TT9247	32
	480	(1195)		FT9447	ST9447	TT9447	(14.5)
12000	240	61	2	FT12261	ST12261	TT12261	37
	480	(1550)		FT12461	ST12461	TT12461	(17)



For complete information on the Tubular Series, Screwplug Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/T.html>

Screwplug Heaters

5T, 2" Screwplug Heaters

Immersion Heaters



For complete information on the 5T Series, Screwplug Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/5T.html>

5T SERIES, 2-1/2" (STAINLESS) SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH In./(mm)	PIPE THREAD	NO. OF ELEMENTS	MODEL NUMBER	SHIP WGT. Lbs./(kg)
4500	240	12	2-1/2	3	5T4.5212	7
	480	(305)			5T4.5412	(3.5)
6000	240	18	2-1/2	3	5T6218	8
	480	(458)			5T6418	(4)
9000	240	25	2-1/2	3	5T9225	9
	480	(635)			5T9425	(4.5)
12000	240	32	2-1/2	3	5T12232	10
	480	(813)			5T12432	(4.5)
15000	240	40	2-1/2	3	5T15240	12
	480	(1016)			5T15440	(5.5)
18000	240	48	2-1/2	3	5T18248	15
	480	(1220)			5T18448	(7)



For complete information on the T5T Series, Screwplug Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/5T.html>

T5T SERIES, 2-1/2" (TITANIUM) SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH In./(mm)	PIPE THREAD	NO. OF ELEMENTS	MODEL NUMBER	SHIP WGT. Lbs./(kg)
6000	240	18	2-1/2	3	T5T6218	6
	480	(460)			T5T6418	(3)
9000	240	25	2-1/2	3	T5T9225	7
	480	(635)			T5T9425	(3.5)
12000	240	32	2-1/2	3	T5T12232	8
	480	(815)			T5T12432	(4)
18000	240	48	2-1/2	3	T5T18248	13
	480	(1220)			T5T18448	(6)

Screwplug Heaters

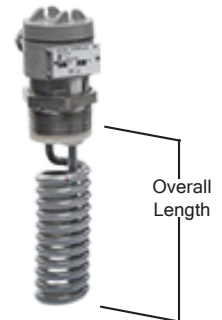
HXT Fluoropolymer Screwplug and Small Tank Screwplug Heaters

HXT SERIES, FLUOROPOLYMER (PTFE) SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH In./ (mm)	PIPE THREAD	MODEL NUMBER	SHIP WGT. Lbs./ (kg)
1000	120	9	2-1/2	HXT1109	9
	240	(230)		HXT1209	(4)
2000	120	14	2-1/2	HXT2114	12
	240	(355)		HXT2214	(5.5)
	480			HXT2414	
3000	240	19	2-1/2	HXT3219	15
	480	(485)		HXT3419	(7)
4000	240	26	2-1/2	HXT4226	17
	480	(660)		HXT4426	(8)
5000	240	30	2-1/2	HXT5230	20
	480	(760)		HXT5430	(9)
6000	240	34	2-1/2	HXT6234	23
	480	(865)		HXT6434	(10.5)



*Except 600V

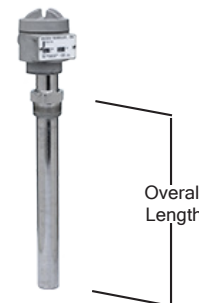


For complete information on the HXT Series, Fluoropolymer Screwplug Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/HXT.html>

TB SERIES, 1-1/4" SMALL TANK SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH		304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./ (kg)
		NPT	In./ (mm)				
500	120	8	1-1/4"	FTB.5108	STB.5108	TTB.5108	8
	240	(203)					FTB.5208
1000	120	10	1-1/4"	FTB1110	STB1110	TTB1110	10
	240	(254)					FTB1210
1500	120	14	1-1/4"	FTB1.5114	STB1.5114	TTB1.5114	14
	240	(356)					FTB1.5214
2000	120	17	1-1/4"	FTB2117	STB2117	TTB2117	17
	240	(432)					FTB2217



For complete information on the TB Series, Small Tank Screwplug Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/SmallTank.html>

Fluoropolymer Flanged Heaters

Fluoropolymer Flanged Heaters



For complete information on the FLX Series, Flanged Heater, click on the link or scan the QR code.
<https://www.processtechnology.com/FLX.html>

FLX SERIES, 3" 150 LB. STYLE SINGLE ELEMENT FLUOROPOLYMER (PTFE) FLANGED HEATERS

WATTS	VOLTS	NO. OF ELEMENTS	OVERALL LENGTH In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1000	120	1	11	3FLX11111-**	20
	240		(279)	3FLX1211-**	(9.1)
2000	240	1	16	3FLX2216-**	23
	480		(406)	3FLX2416-**	(10.4)
3000	240	1	21	3FLX3221-**	26
	480		(533)	3FLX3421-**	(11.8)
4000	240	1	28	3FLX4228-**	29
	480		(711)	3FLX4428-**	(13.2)
5000	240	1	32	3FLX5232-**	32
	480		(813)	3FLX5432-**	(14.5)
6000	240	1	35	3FLX6235-**	35
	480		(889)	3FLX6435-**	(15.9)

FLX SERIES, 6" 150 LB. STYLE THREE ELEMENT FLUOROPOLYMER (PTFE) FLANGED HEATERS

WATTS	VOLTS	NO. OF ELEMENTS	OVERALL LENGTH In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
3000	240	3	11	6FLX32111-**	42
	480		(279)	6FLX34111-**	(19.1)
6000	240	3	16	6FLX6216-**	51
	480		(406)	6FLX6416-**	(23.1)
9000	240	3	21	6FLX9221-**	60
	480		(533)	6FLX9421-**	(27.2)
12000	240	3	28	6FLX12228-**	66
	480		(711)	6FLX12428-**	(29.9)
15000	240	3	32	6FLX15232-**	75
	480		(813)	6FLX15432-**	(34)
18000	240	3	35	6FLX18235-**	84
	480		(889)	6FLX18435-**	(38.1)

316 Stainless Flanged Heaters

316 Stainless Steel Flanged Heaters

3" 150 LBS. SS FLANGE 3 STAINLESS STEEL ELEMENTS

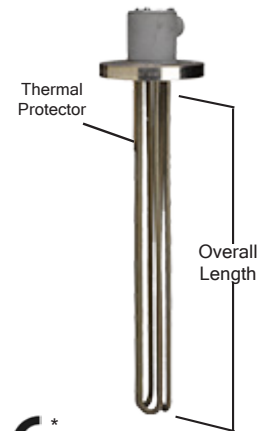
WATTS	VOLTS	OVERALL	MODEL	SHIP
		LENGTH	NUMBER	WGT.
		In./(mm)		Lbs./(kg)
3000	240	9	3FLS3209-**	14
	480	(229)	3FLS3409-**	(6.4)
4500	240	13	3FLS4.5213-**	15
	480	(330)	3FLS4.5413-**	(6.8)
6000	240	19	3FLS6219-**	16
	480	(483)	3FLS6419-**	(7.3)
9000	240	26	3FLS9226-**	17
	480	(660)	3FLS9426-**	(7.7)
12000	240	33	3FLS12233-**	18
	480	(838)	3FLS12433-**	(8.2)
15000	240	41	3FLS15241-**	20
	480	(1041)	3FLS15441-**	(9.1)
18000	240	49	3FLS18249-**	21
	480	(1245)	3FLS18449-**	(9.5)

5" 150 LBS. SS FLANGE 6 STAINLESS STEEL ELEMENTS

WATTS	VOLTS	OVERALL	MODEL	SHIP
		LENGTH	NUMBER	WGT.
		In./(mm)		Lbs./(kg)
6000	240	9	5FLS6209-**	25
	480	(229)	5FLS6409-**	(11.3)
9000	240	13	5FLS9213-**	28
	480	(330)	5FLS9413-**	(12.7)
12000	240	19	5FLS12219-**	30
	480	(483)	5FLS12419-**	(13.6)
18000	240	26	5FLS18226-**	33
	480	(660)	5FLS18426-**	(15)
24000	240	33	5FLS24233-**	37
	480	(838)	5FLS24433-**	(16.8)
30000	240	41	5FLS30241-**	40
	480	(1041)	5FLS30441-**	(18.1)
36000	240	49	5FLS36249-**	43
	480	(1245)	5FLS36449-**	(19.5)

6" 150 LBS. SS FLANGE 12 STAINLESS STEEL ELEMENTS

WATTS	VOLTS	OVERALL	MODEL	SHIP
		LENGTH	NUMBER	WGT.
		In./(mm)		Lbs./(kg)
12000	240	9	6FLS12209-**	48
	480	(229)	6FLS12409-**	(21.8)
18000	240	13	6FLS18213-**	54
	480	(330)	6FLS18413-**	(24.5)
24000	240	19	6FLS24219-**	60
	480	(483)	6FLS24419-**	(27.2)
36000	240	26	6FLS36226-**	67
	480	(660)	6FLS36426-**	(30.4)
48000	240	33	6FLS48233-**	76
	480	(838)	6FLS48433-**	(34.5)
60000	240	41	6FLS60241-**	84
	480	(1041)	6FLS60441-**	(38.1)
72000	240	49	6FLS72249-**	111
	480	(1245)	6FLS72449-**	(50.3)



*Except 600V



For complete information on the FLS Series, Flanged Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/FLS.html>

Aquaculture Heaters

EasyPlug Aquaculture Heaters

Aquaculture Heater Benefits

- Over-temperature protection is provided on all Aquaculture over the side and L shaped heaters.
- Compact, durable design to fit your process.
- 316 Stainless steel for freshwater and titanium for salt water tanks.



Immersion Heaters



For complete information on the EasyPlug Series, Aquaculture Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/EA.html>

RESISTIVE STYLE EASYPLUG™ OVER-THE-SIDE HEATERS

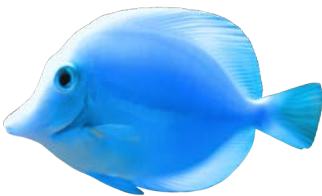
WATTS	VOLTS	HOT ZONE In./(mm)	OVERALL LENGTH In./(mm)	316 STAINLESS		TITANIUM		SHIP WGT. Lbs./(kg)
				MODEL NUMBER (FOR FRESH WATER)		MODEL NUMBER (FOR SALT WATER)		
1000	120	7	11	ESA1111-P1	ETA1111-P1			6
	240	(178)	(279)	ESA1211-P1	ETA1211-P1			(2.7)
1800	240	12	17	ESA1.8217-P1		ETA1.8217-P1		9
		(305)	(432)					(4.1)

RESISTIVE STYLE EASYPLUG™ BOTTOM HEATERS

WATTS	VOLTS	LENGTH		316 STAINLESS		TITANIUM		SHIP WGT. Lbs./(kg)
		HORIZONTAL In./(mm)	STANDARD VERTICAL In./(mm)	MODEL NUMBER (FOR FRESH WATER)		MODEL NUMBER (FOR SALT WATER)		
1000	120	11	24	ELSA1111-R24S-P1	ELTA1111-R24S-P1			8
	240	(279)	(610)	ELSA1211-R24S-P1	ELTA1211-R24S-P1			(3.6)
1800	240	16	24	ELSA1.8216-R24S-P1		ELTA1.8216-R24S-P1		11
		(406)	(610)					(5)

AQUACULTURE RESISTIVE SINGLE TUBE OVER THE SIDE HEATERS

WATTS	VOLTS	HOT ZONE In./(mm)	OVERALL LENGTH In./(mm)	316 STAINLESS		TITANIUM		SHIP WGT. Lbs./(kg)
				MODEL NUMBER (FOR FRESH WATER)		MODEL NUMBER (FOR SALT WATER)		
1000	120	7	11	SA1111-P1	TA1111-P1			5
	240	(178)	(279)	SA1211-P1	TA1211-P1			(2.3)
1800	240	12	17	SA1.8117-P1*	TA1.8117-P1*			8
		(305)	(432)	SA1.8217-P1*	TA1.8217-P1*			(3.6)
2500	240	17	23	SA2.5223-P1*	TA2.5223-P1*			10
		(432)	(584)					(4.5)
3500	240	23	29	SA3.5229-P1*	TA3.5229-P1*			13
		(584)	(737)					(5.9)
5000	240	32	39	SA5239-P1*	TA5239-P1*			16
		(813)	(991)					(7.3)
6000	240	40	47	SA6247-P1*	TA6247-P1*			19
		(1016)	(1194)					(8.6)



For complete information on the Resistive Series, Aquaculture Heater, click on the link or scan the QR code.

<https://www.processtechnology.com/ASeries.html>

AQUACULTURE RESISTIVE SINGLE TUBE BOTTOM HEATERS

WATTS	VOLTS	LENGTH		316 STAINLESS		TITANIUM		SHIP WGT. Lbs./(kg)
		HORIZONTAL In./(mm)	STANDARD VERTICAL In./(mm)	MODEL NUMBER (FOR FRESH WATER)		MODEL NUMBER (FOR SALT WATER)		
1000	120	11	24	LSA1111-R24S-P1	LTA1111-R24S-P1			7
	240	(279)	(610)	LSA1211-R24S-P1	LTA1211-R24S-P1			(3.2)
1800	240	16	24	LSA1.8116-R24S-P1*	LTA1.8116-R24S-P1*			10
		(406)	(610)	LSA1.8216-R24S-P1*	LTA1.8216-R24S-P1*			(4.5)
2500	240	21	24	LSA2.5221-R24S-P1*	LTA2.5221-R24S-P1*			12
		(533)	(610)					(5.4)
3500	240	27	24	LSA3.5227-R24S-P1*	LTA3.5227-R24S-P1*			15
		(686)	(610)					(6.8)
5000	240	36	48	LSA5236-R48S-P1*	LTA5236-R48S-P1*			18
		(914)	(1219)					(8.2)
6000	240	44	48	LSA6244-R48S-P1*	LTA6244-R48S-P1*			21
		(1118)	(1219)					(9.5)

AQUACULTURE RESISTIVE 1-1/4" NPT SCREW PLUG HEATERS

WATTS	VOLTS	OVERALL LENGTH In./(mm)	316 STAINLESS		TITANIUM		SHIP WGT. Lbs./(kg)
			MODEL NUMBER (FOR FRESH WATER)		MODEL NUMBER (FOR SALT WATER)		
1000	120	10	STA1110	TTA1110			6
	240	(254)	STA1210	TTA1210			(2.7)
1800	120	15	STA1.8115*	TTA1.8115*			8
	240	(381)	STA1.8215*	TTA1.8215*			(3.6)
2500	240	20	STA2.5220*	TTA2.5220*			11
		(508)					(5)
3500	240	26	STA3.5226*	TTA3.5226*			13
		(660)					(5.9)
5000	240	35	STA5235*	TTA5235*			15
		(889)					(6.8)
6000	240	43	STA6243*	TTA6243*			18
		(1092)					(8.2)

Fluoropolymer Coils

All fluoropolymer wetted parts provide excellent chemical compatibility

Immersion Coil Benefits

- Excellent chemical compatibility and rugged design for your heating or cooling applications.
- All of our immersion coils can be customized to fit your tank.
- Available in FEP (30 PSI max.) and PFA (60 PSI max.) designs.

X SERIES, FLUOROPOLYMER HEATING AND COOLING COILS

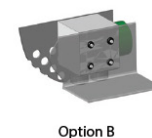
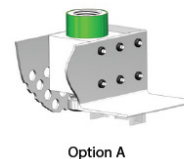
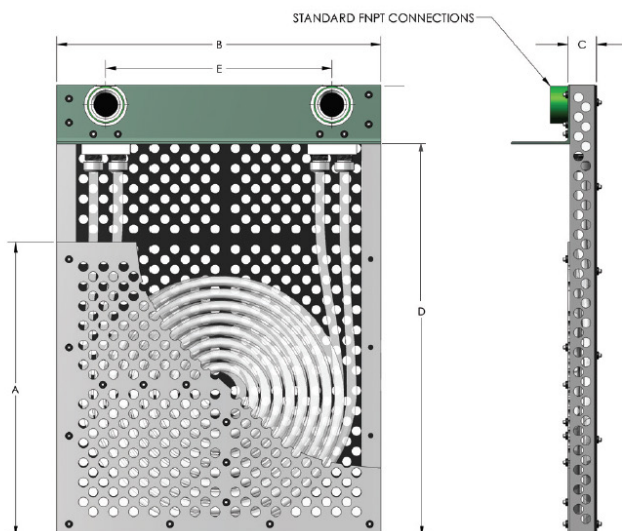
EXCHANGE AREA Sq. Ft.	CONNECTIONS In.	DIMENSIONS					MODEL NUMBER	SHIP WT. Lbs./kg)
		A In./mm)	B In./mm)	C In./mm)	D In./mm)	E In./mm)		
2.25*	1/2" FNPT	11½ (292)	11½ (292)	1½ (38)	17½ (445)	9 (229)	X1-12-12-18-F	10 (4.5)
4.50	1/2" FNPT	11½ (292)	11½ (292)	2 (51)	17½ (445)	8 (203)	X2-12-12-18-F	11 (5)
4.50	1/2" FNPT	15½ (394)	15½ (394)	1½ (38)	21½ (546)	12 (305)	X2-16-16-22-F	13 (6)
9.25*	1/2" FNPT	15½ (394)	15½ (394)	2 (51)	21½ (546)	12 (305)	X4-16-16-22-F	14 (6.5)
6.00	1" FNPT	17½ (445)	17½ (445)	2 (51)	23½ (597)	12½ (318)	X2-18-18-24-F-LP	18 (8)
12.00	1" FNPT	17½ (445)	17½ (445)	3¼ (82.5)	23½ (597)	12½ (318)	X4-18-18-24-F-LP	22 (10)
18.00	1½ FNPT	17½ (445)	17½ (445)	4½ (114)	23½ (597)	12½ (318)	X6-18-18-24-F-LP	26 (12)
24.00	1½ FNPT	17½ (445)	17½ (445)	5¼ (146)	23½ (597)	12½ (318)	X8-18-18-24-F-LP	30 (13.5)
11.50	1" FNPT	23½ (597)	23½ (597)	2 (51)	29½ (750)	18½ (470)	X2-24-24-30-F-LP	24 (11)
23.00	1" FNPT	23½ (597)	23½ (597)	3¼ (82.5)	29½ (750)	18½ (470)	X4-24-24-30-F-LP	30 (13.5)
34.50	1½ FNPT	23½ (597)	23½ (597)	4½ (114)	29½ (750)	18½ (470)	X6-24-24-30-F-LP	36 (16.5)
46.50	1½ FNPT	23½ (597)	23½ (597)	5¼ (146)	29½ (750)	18½ (470)	X8-24-24-30-F-LP	42 (19)



Immersion Coils



For complete information on the X Series, Fluoropolymer Immersion Coils, click on the link or scan the QR code.
<https://www.processtechnology.com/FEPexchanger.html>



Metal Immersion Coils

Designed for the high demands of corrosive chemical heating or cooling



For complete information on the Grid Series, Immersion Coils, click on the link or scan the QR code. <https://www.processtechnology.com/GRID.html>

Immersion Coils

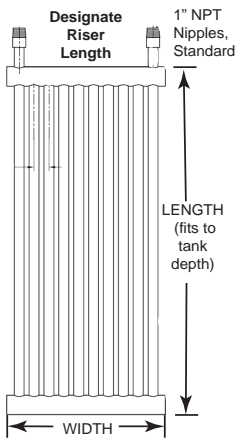
G SERIES, GRID COILS

12" WIDTH (8 tubes)					18" WIDTH (12 tubes)				
VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)	VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)
4.5	3.8	24 (610)	*8G-24**	12 (5.4)	6.8	5.6	24 (610)	*12G-24**	15 (6.8)
5.6	4.8	30 (762)	*8G-30**	14 (6.4)	8.4	7.2	30 (762)	*12G-30**	18 (8.2)
6.6	5.8	36 (914)	*8G-36**	16 (7.3)	9.9	8.8	36 (914)	*12G-36**	21 (9.5)
8.7	7.9	48 (1219)	*8G-48**	18 (8.2)	13.1	11.9	48 (1219)	*12G-48**	26 (11.8)
10.8	10.0	60 (1524)	*8G-60**	23 (10.4)	16.2	15.1	60 (1524)	*12G-60**	32 (14.5)
12.9	12.1	72 (1829)	*8G-72**	28 (12.7)	19.4	18.2	72 (1829)	*12G-72**	37 (16.8)
15.0	14.2	84 (2134)	*8G-84**	31 (14.1)	22.5	21.3	84 (2134)	*12G-84**	42 (19.1)
17.1	16.3	96 (2438)	*8G-96**	34 (15.4)	25.7	24.5	96 (2438)	*12G-96**	47 (21.3)
19.2	18.4	108 (2743)	*8G-108**	38 (17.2)	28.8	27.6	108 (2743)	*12G-108**	53 (24)
21.3	20.5	120 (3048)	*8G-120**	41 (18.6)	31.9	30.8	120 (3048)	*12G-120**	58 (26.3)
23.4	22.6	132 (3353)	*8G-132**	46 (20.9)	35.1	33.9	132 (3353)	*12G-132**	64 (29)
25.5	24.7	144 (3658)	*8G-144**	49 (22.2)	38.2	37.0	144 (3658)	*12G-144**	69 (31.3)

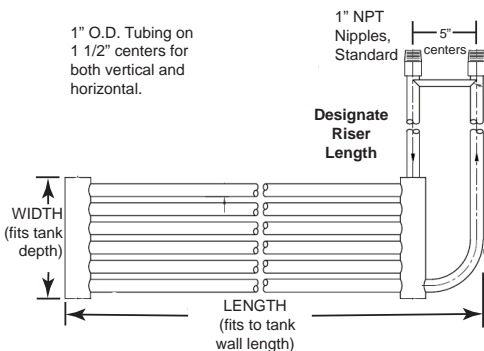
24" WIDTH (16 tubes)					30" WIDTH (20 tubes)				
VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)	VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)
9.1	7.5	24 (610)	*16G-24**	19 (8.6)	11.3	9.4	24 (610)	*20G-24**	22 (10)
11.2	9.6	30 (762)	*16G-30**	23 (10.4)	14.0	12.0	30 (762)	*20G-30**	28 (12.7)
13.3	11.7	36 (914)	*16G-36**	28 (12.7)	16.6	14.6	36 (914)	*20G-36**	33 (15)
17.5	15.9	48 (1219)	*16G-48**	33 (15)	21.8	19.9	48 (1219)	*20G-48**	40 (18.1)
21.6	20.1	60 (1524)	*16G-60**	40 (18.1)	27.1	25.1	60 (1524)	*20G-60**	48 (21.8)
25.8	24.3	72 (1829)	*16G-72**	47 (21.3)	32.3	30.3	72 (1829)	*20G-72**	58 (26.3)
30.0	28.4	84 (2134)	*16G-84**	54 (24.5)	37.5	35.6	84 (2134)	*20G-84**	68 (30.8)
34.2	32.6	96 (2438)	*16G-96**	61 (27.7)	42.8	40.8	96 (2438)	*20G-96**	75 (34)
38.4	36.8	108 (2743)	*16G-108**	69 (31.3)	48.0	46.0	108 (2743)	*20G-108**	83 (37.7)
42.6	41.0	120 (3048)	*16G-120**	76 (34.5)	53.2	51.3	120 (3048)	*20G-120**	92 (41.7)
46.8	45.2	132 (3353)	*16G-132**	82 (37.2)	58.5	56.5	132 (3353)	*20G-132**	100 (45.4)
51.0	49.4	144 (3658)	*16G-144**	88 (39.9)	63.7	61.7	144 (3658)	*20G-144**	109 (49.4)

36" WIDTH (24 tubes)					42" WIDTH (28 tubes)				
VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)	VERTICAL SQUARE FEET	HORIZONTAL SQUARE FEET	LENGTH IN. / (mm)	MODEL NUMBER	SHIP WT. LBS. / (kg)
13.6	11.3	24 (610)	*24G-24**	28 (12.7)	15.9	13.1	24 (610)	*28G-24**	32 (14.5)
16.8	14.4	30 (762)	*24G-30**	31 (14.1)	19.5	16.8	30 (762)	*28G-30**	38 (17.2)
19.9	17.5	36 (914)	*24G-36**	38 (17.2)	23.2	20.5	36 (914)	*28G-36**	45 (20.4)
26.2	23.8	48 (1219)	*24G-48**	48 (21.8)	30.5	27.8	48 (1219)	*28G-48**	56 (25.4)
32.5	30.1	60 (1524)	*24G-60**	57 (25.9)	37.9	35.1	60 (1524)	*28G-60**	68 (30.8)
38.7	36.4	72 (1829)	*24G-72**	68 (30.8)	45.2	42.5	72 (1829)	*28G-72**	80 (36.3)
45.0	42.7	84 (2134)	*24G-84**	79 (35.8)	52.5	49.8	84 (2134)	*28G-84**	92 (41.7)
51.3	49.0	96 (2438)	*24G-96**	89 (40.4)	59.9	57.1	96 (2438)	*28G-96**	103 (46.7)
57.6	55.2	108 (2743)	*24G-108**	99 (44.9)	67.2	64.4	108 (2743)	*28G-108**	115 (52.2)
63.9	61.5	120 (3048)	*24G-120**	109 (49.4)	74.5	71.8	120 (3048)	*28G-120**	126 (57.2)
70.2	67.8	132 (3353)	*24G-132**	119 (54)	81.9	79.1	132 (3353)	*28G-132**	140 (63.5)
76.4	74.1	144 (3658)	*24G-144**	129 (58.5)	89.2	86.4	144 (3658)	*28G-144**	150 (68)

VERTICAL STYLE



HORIZONTAL STYLE



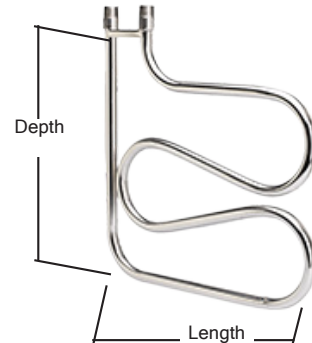
Metal Immersion Coils

Designed for the high demands of corrosive chemical heating or cooling

SP SERIES, SERPENTINE COILS

EXCHANGE AREA (Sq. Ft.)	LENGTH In./(mm)	DEPTH In./(mm)	NO. OF PASSES	STEEL	316 SS	TITANIUM	SHIP WGT. Lbs./(kg)
2.6	24 (610)	36 (914)	4	SP4-24P-R*	SP4-24S-R*	SP4-24T-R*	10 (4.5)
3.6	36 (914)	36 (914)	4	SP4-36P-R*	SP4-36S-R*	SP4-36T-R*	12 (5.4)
4.6	48 (1219)	36 (914)	4	SP4-48P-R*	SP4-48S-R*	SP4-48T-R*	14 (6.4)
5.7	60 (1524)	36 (914)	4	SP4-60P-R*	SP4-60S-R*	SP4-60T-R*	16 (7.3)
7.3	78 (1981)	36 (914)	4	SP4-78P-R*	SP4-78S-R*	SP4-78T-R*	20 (9.1)
8.8	96 (2438)	36 (914)	4	SP4-96P-R*	SP4-96S-R*	SP4-96T-R*	24 (10.9)
3.5	20 (508)	48 (1219)	6	SP6-20P-R*	SP6-20S-R*	SP6-20T-R*	12 (5.4)
4.8	30 (762)	48 (1219)	6	SP6-30P-R*	SP6-30S-R*	SP6-30T-R*	14 (6.4)
6.1	40 (1016)	48 (1219)	6	SP6-40P-R*	SP6-40S-R*	SP6-40T-R*	17 (7.7)
7.4	50 (1270)	48 (1219)	6	SP6-50P-R*	SP6-50S-R*	SP6-50T-R*	20 (9.1)
8.7	60 (1524)	48 (1219)	6	SP6-60P-R*	SP6-60S-R*	SP6-60T-R*	24 (10.9)
10	70 (1778)	48 (1219)	6	SP6-70P-R*	SP6-70S-R*	SP6-70T-R*	27 (12.2)

No. of Passes	Pass Depth Standard	Pass Depth Low Profile
2	8.5" (216 mm)	8.5" (216 mm)
4	23.5" (597 mm)	17" (432 mm)
6	38.5" (978 mm)	25.5" (648 mm)
8	53.5" (1359 mm)	34" (864 mm)
10	68.5" (1740 mm)	42.5" (1080 mm)

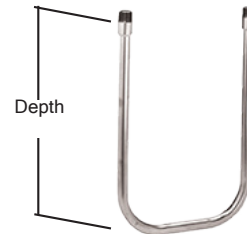


For complete information on the Serpentine Series, Immersion Coils, click on the link or scan the QR code.
<https://www.processtechnology.com/Serpentine.html>

Immersion Coils

UC SERIES, U COILS

EXCHANGE AREA (Sq. Ft.)	DEPTH In./(mm)	WIDTH In./(mm)	STEEL	316 SS	TITANIUM	SHIP WGT. Lbs./(kg)
.75	18 (460)	12 (305)	UC18P	UC18S	UC18T	3 (1.5)
1.00	24 (610)	12 (305)	UC24P	UC24S	UC24T	4 (2)
1.25	30 (760)	12 (305)	UC30P	UC30S	UC30T	5 (2.5)
1.50	36 (915)	12 (305)	UC36P	UC36S	UC36T	6 (3)
1.75	42 (1065)	12 (305)	UC42P	UC42S	UC42T	7 (3)
2.00	48 (1220)	12 (305)	UC48P	UC48S	UC48T	8 (3.5)
2.25	54 (1370)	12 (305)	UC54P	UC54S	UC54T	9 (4)
2.50	60 (1525)	12 (305)	UC60P	UC60S	UC60T	10 (4.5)



For complete information on the U Series, Immersion Coils, click on the link or scan the QR code.
<https://www.processtechnology.com/UCoil.html>

Metal Helical Immersion Coils

- Custom designed to your specifications
- 3/8" diameter through 1 1/4" diameter tubing (.035 - .065 wall)
- Coil ODs as small as 3 1/4" and as large as 10' diameter (dependent upon tube diameter and wall thickness)
- Materials: Steel, 304 and 316 stainless steel and titanium. Other grades and materials available upon request
- Single and multiple layer coils



For complete information on the Helical Series, Immersion Coils, click on the link or scan the QR code.
<https://www.processtechnology.com/Helical.html>

DTX 2400 Series DC Power Supplies

Packs 2400 watts of power into a compact enclosure!

New!



For complete information on the DTX 2400 Series power supplies, click on the link or scan the QR code.
<https://www.processtechnology.com/DTX2400.html>



Benefits

- Compact Footprint: 2U high, ½ rack wide due to switchmode technology.
- Rugged Design: Environmentally-sealed enclosure & connectors.
- User-Friendly Display: Multi-button, menu driven 4.3" full color display.
- Control: Ampere time & real time cycle control.
- Multiple Modes: Constant current, constant voltage, & cross-over regulation modes.
- Safety: Electronic overload, over-temperature, and short circuit protection.

DTX SERIES: 2400 WATT POWER SUPPLIES

MODEL	VOLTAGE (DC) (DC)	CURRENT AMPS	WATTS	VOLTMETER RESOLUTION	AMP METER RESOLUTION
DTX12-10	12	10	120	0.01 V	0.01 A
DTX12-50	12	50	600	0.01 V	0.01 A
DTX24-100	24	100	2400	0.01 V	0.01 A
DTX48-50	48	50	2400	0.01 V	0.01 A
DTX100-24	100	24	2400	0.01 V	0.01 A

*Input voltage of 110-120 VAC will limit output power to a maximum of 1200 watts

AC Input: 100-240 VAC, Single Phase, 47-63 Hz
 Size: 3.43" x 8.45" x 18" (HWD)
 Weight: 11 lbs.

Specifications

System Output:	DC
Output Capabilities:	0-100 volts and 0-100 amperes
Maximum Output:	208 volts to 480 volts, single or three phase
Cooling:	Forced air
Ripple:	<1% RMS from 10%-100% of max. rated output
Power Factor Correction:	0.99 typical at 115VAC and 230VAC
Efficiency:	>91% at full load (2400 watts)
Communications:	Ethernet/IP
Certifications:	ETL, CSA, and CE
Options (Consult Factory):	<ul style="list-style-type: none"> • Analog interface • Bail kit for adjustable viewing angle

Pro Series Power Supplies

Customize to your exact needs!

Benefits

- Customizable configurations and programmability with multiple output channels.
- Highly regulated outputs within a small footprint using linear technology.
- Multiple methods for monitoring & control:
 - Onboard microprocessor using a web-based HTML graphic interface
 - Windows™-based host control software through host ports
 - PLC using formatted ASCII command strings
- Numerous controls & monitoring available:
 - Real Time Cycle (RTC) control & alarms
 - Ampere Time Cycle (ATC) control & Alarms
 - Ampere time totalizer
 - Manual control settings
 - Recipe control settings
 - Recipe creation & storage
 - Process data logging
 - Constant current, constant voltage, & cross-over regulation modes
 - Electronic overload, over-temperature, & short circuit protection



For complete information on the Pro Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/PROSERIESPULSE.html>



Specifications

System Output: DC, High Frequency Pulse, & Pulse Reverse

Current Outputs: 0.001 to 50 amperes

Voltage Outputs: 1 to 350 volts

Ripple: <1% RMS of maximum rated output voltage

- Options
- Multiple cell configurations
 - Multiple channels of output
 - Individual channel control
 - Extended Range™ capability
 - Windows™-based control software (DynaComm II)
 - Automatic calibration software (DynaCal II)
 - Bias Control
 - Trickle current
 - Arbitrary waveform control

DC Power Supplies

Diamond DHP Series Tons of power in a small package!



For complete information on the Diamond DHP Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/DIAMONDDHP.html>



DIAMOND DHP (9-18V) SERIES POWER SUPPLIES						
MODEL	VOLTAGE (DC)	CURRENT AMPS	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
9 VOLTS						
DHP9-150	0-9	0-150	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP9-300	0-9	0-300	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP9-500	0-9	0-500	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP9-1000	0-9	0-1000	0.01 V	1 A	A, B	10.5"H x 17"W x 24.75"D
12 VOLTS						
DHP12-200	0-12	0-200	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-300	0-12	0-300	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-400	0-12	0-400	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-500	0-12	0-500	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-600	0-12	0-600	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-750	0-12	0-750	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP12-1500	0-12	0-1500	0.01 V	1 A	A, B	15.7"H x 17"W x 28"D
DHP12-3000	0-12	0-3000	0.01 V	1 A	A, B	34"H x 17"W x 28"D
18 VOLTS						
DHP18-300	0-18	0-300	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP18-500	0-18	0-500	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP18-1000	0-18	0-1000	0.01 V	1 A	A, B	15.7"H x 17"W x 28"D
DHP18-2000	0-18	0-2000	0.01 V	1 A	A, B	34"H x 17"W x 28"D
24 VOLTS						
DHP24-200	0-24	0-200	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP24-400	0-24	0-400	0.01 V	0.1 A	A, B	10.5"H x 17"W x 24.75"D
DHP24-750	0-24	0-750	0.01 V	1 A	A, B	15.7"H x 17"W x 28"D
DHP24-1500	0-24	0-1500	0.01 V	1 A	A, B	34"H x 17"W x 28"D
30 VOLTS						
DHP30-600	0-30	0-600	0.01 V	1 A	A, B	15.7"H x 17"W x 28"D
DHP30-1200	0-30	0-1200	0.01 V	1 A	A, B	34"H x 17"W x 28"D
36 VOLTS						
DHP36-1000	0-36	0-1000	0.01 V	1 A	A, B	34"H x 17"W x 28"D
48 VOLTS						
DHP48-375	0-48	0-375	0.01 V	0.1 A	A, B	15.7"H x 17"W x 28"D
DHP48-750	0-48	0-750	0.01 V	0.1 A	A, B	34"H x 17"W x 28"D

Minimum suggested setting: 10% of maximum rated output.

AC Input Options:

A: 180-264 VAC, 50-60 Hz, 3 Phase

B: 342-528 VAC, 50-60 Hz, 3 Phase

MicroStar DC Precise Ideal for general metal finishing & lab applications.



For complete information on the MicroStar DC Precise Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARDC.html>



MICROSTAR DC PRECISE SERIES POWER SUPPLIES					
MODEL	VOLTAGE (DC)	CURRENT (AMPS)	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT
DC12-1 XR	0-12	0-1	*0.1/0.01V	0.0 - 99.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 100 - 1000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B
DC12-3 XR	0-12	0-3	*0.1/0.01V	0.0 - 299.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 300 - 3000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B

*Meter readings below 10 volts will show 0.01 Volt Resolution

Minimum suggested setting: 1% of maximum rated output

AC Input Options:

A: 110-120 VAC, 50-60 Hz, 1 Phase

B: 208-240 VAC, 50-60 Hz, 1 Phase

Physical Size of All Models:

5.85" x 12" x 13.5" (H x W x D)

DC Power Supplies

MicroStar CRS Series
Simple to use, yet packed with features!

MICROSTAR CRS 10 - 300 AMPERES SERIES POWER SUPPLIES					
MODEL	VOLTAGE (DC)	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
9 VOLTS					
CRS9-150	0-9	0.01 V	0.1 A	B, C	7"H x 17"W x 22"D
CRS9-200	0-9	0.01 V	0.1 A	B, C	7"H x 17"W x 22"D
CRS9-250	0-9	0.01 V	0.1 A	B, C	7"H x 17"W x 22"D
CRS9-300	0-9	0.01 V	0.1 A	B, C	7"H x 17"W x 22"D
12 VOLTS					
CRS12-150	0-12	*00.1/0.01V	0.1 A	B, C	7"H x 17"W x 22"D
CRS12-200	0-12	*00.1/0.01V	0.1 A	B, C	7"H x 17"W x 22"D
CRS12-250	0-12	*00.1/0.01V	0.1 A	B, C, D	7"H x 17"W x 22"D
CRS12-300	0-12	*00.1/0.01V	0.1 A	B, C, D	7"H x 17"W x 22"D
18 VOLTS					
CRS18-150	0-18	*00.1/0.01V	0.1 A	B, C	7"H x 17"W x 22"D
CRS18-200	0-18	*00.1/0.01V	0.1 A	B, C	7"H x 17"W x 22"D
24 VOLTS					
CRS24-150	0-24	*00.1/0.01V	0.1 A	B	7"H x 17"W x 22"D

*Meter readings below 10 volts will show 0.01 Volt Resolution
Minimum suggested setting: 10% of maximum rated output

AC Input Options:

- A: 110 VAC, 50-60 Hz, 1 Phase
- B: 208-240 VAC, 50-60 Hz, 1 Phase
- C: 208-240 VAC, 50-60 Hz, 3 Phase



For complete information on the MicroStar CRS 10-300 amp Series power supplies, click on the link or scan the QR code.
<https://www.processtechnology.com/MICROSTARCRS10-300.html>



MICROSTAR CRS 500 - 1000 AMPERES SERIES POWER SUPPLIES						
MODEL	VOLTAGE (DC)	CURRENT AMPS	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
10 VOLTS						
CRS10-500	0-10	0-500	*0.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D
CRS10-750	0-10	0-750	*0.1/0.01 V	0.1 A	B	10.5"H x 17"W x 23"D
CRS10-1000	0-10	0-1000	*0.1/0.01 V	1 A	A, B	10.5"H x 17"W x 23"D
12 VOLTS						
CRS12-500	0-12	0-500	*0.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D
CRS12-1000	0-12	0-1000	*0.1/0.01 V	1 A	B	10.5"H x 17"W x 23"D
18 VOLTS						
CRS18-600	0-18	0-600	*0.1/0.01 V	0.1 A	B	10.5"H x 17"W x 23"D
20 VOLTS						
CRS20-500	0-20	0-500	*0.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D

*Meter readings below 10 volts will show 0.01 Volt Resolution
Minimum suggested setting: 10% of maximum rated output

AC Input Options:

- A: 208-240 VAC, 50-60 Hz, 3 Phase
- B: 480 VAC, 50-60 Hz, 3 Phase



For complete information on the MicroStar CRS 500-1000 amp Series power supplies, click on the link or scan the QR code.
<https://www.processtechnology.com/MICROSTARCRS500-1000.html>



Power Supplies

Pulse Power Supplies

MicroStar DuPR & DuP Series Simple to use, yet packed with features!



MICROSTAR DuPR SERIES POWER SUPPLIES (FORWARD OR REVERSE)					
MODEL	VOLTAGE (DC)	MAX AVG/PEAK CURRENT	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS
DuPR10-1-3 XR	0-10	0.1/0.3 A	*0.1/0.01 V	0.0-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	A, B
DuPR10-1-3 XR	0-10	1/3 A	*0.1/0.01 V	0.0-299.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 300-1000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B
DuPR10-3-6 XR	0-10	3/6 A	*0.1/0.01 V	0.0-599.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 600-3000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B

*Meter readings below 10 volts will show 0.01 Volt Resolution

Meter resolution: Forward or effective

Minimum suggested setting: 1% of peak current rating

AC Input Options:

A: 110 VAC, 50-60 Hz, 1 Phase

B: 208-240 VAC, 50-60 Hz, 1 Phase

Physical Size of All Models:

5.85" High x 12" Wide x 13.5" Deep

For complete information on the MicroStar DuPR Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARDuPR10.html>



MICROSTAR DuP SERIES POWER SUPPLIES (FORWARD ONLY)					
MODEL	VOLTAGE (DC)	MAX AVG/PEAK CURRENT	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS
DuP10-1-3 XR	0-10	0.1/0.3 A	*0.1/0.01 V	0.0-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	A, B
DuP10-1-3 XR	0-10	1/3 A	*0.1/0.01 V	0.0-299.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 3000-1000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B
DuP10-3-6 XR	0-10	3/6 A	*0.1/0.01 V	0.0-599.9 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS 600-3000 MILLIAMPS (AVERAGE) IN 1 MILLIAMP INCREMENTS	A, B

*Meter readings below 10 volts will show 0.01 Volt Resolution

AC Input Options:

A: 208-240 VAC, 50-60 Hz, 3 Phase

B: 480 VAC, 50-60 Hz, 3 Phase

For complete information on the MicroStar DuP Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARDuP10.html>



Pulse Power Supplies

MicroStar DPR & DP Series



For complete information on the MicroStar DPR Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARDPR.html>



For complete information on the MicroStar DP Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARDP.html>



Power Supplies

MICROSTAR DPR SERIES POWER SUPPLIES						
MODEL	VOLTAGE (DC)	MAX AVG/PEAK CURRENT	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
20 VOLTS						
DPR20-5-10 XR	0-20	5/10 A	*0.1/0.01V	0.000-0.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 1.00-5.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DPR20-15-30 XR	0-20	15/30 A	*0.1/0.01V	0.000-2.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 3.00-15.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DPR20-30-100 XR	0-20	30/100 A	*0.1/0.01V	0.000-9.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 10.00-30.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	B
DPR20-50-200 XR	0-20	50/200 A	*0.1/0.01V	0.00-19.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 20.00-50.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	B	C
DPR20-100-400 XR	0-20	100/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C
DPR20-150-300 XR Water Cooled	0-20	150/300 A	*0.1/0.01V	0.00-29.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 30.00-150.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C
DPR20-250-400 XR Water Cooled	0-20	250/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-250.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C
40 VOLTS						
DPR40-5-10 XR	0-40	5/10 A	*0.1/0.01V	0.000-0.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 1.00-5.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	B	A
DPR40-15-30 XR	0-40	15/30 A	*0.1/0.01V	0.000-2.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 3.00-15.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DPR40-30-100 XR	0-40	30/100 A	*0.1/0.01V	0.000-9.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 10.00-30.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	B, C	B
DPR40-50-200 XR Water Cooled	0-40	50/200 A	*0.1/0.01V	0.00-19.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 20.00-50.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C	C
DPR40-100-400 XR Water Cooled	0-40	100/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C

*Meter readings below 10 volts will show 0.01 Volt Resolution. Minimum suggested setting: 1% of peak current rating.

AC Input Options:

- A: 110-120 VAC, 50-60 Hz, 1 Phase
- B: 208-240 VAC, 50-60 Hz, 1 Phase
- C: 208-240 VAC, 50-60 Hz, 3 Phase
- D: 480 VAC, 50-60 Hz, 3 Phase

Physical Sizes:

- A: 8.75" High x 17" Wide x 23" Deep
- B: 8.75" High x 17" Wide x 26" Deep
- C: 10.5" High x 22" Wide x 26" Deep

MICROSTAR DP SERIES POWER SUPPLIES						
MODEL	VOLTAGE (DC)	MAX AVG/PEAK CURRENT	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
20 VOLTS						
DP20-5-10 XR	0-20	5/10 A	*0.1/0.01V	0.000-0.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 1.00-5.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DP20-15-30 XR	0-20	15/30 A	*0.1/0.01V	0.000-2.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 3.00-15.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DP20-30-100 XR	0-20	30/100 A	*0.1/0.01V	0.000-9.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 10.00-30.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	B
DP20-50-200 XR	0-20	50/200 A	*0.1/0.01V	0.00-19.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 20.00-50.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	B	C
DP20-100-400 XR	0-20	100/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C	C
DP20-150-300 XR Water Cooled	0-20	150/300 A	*0.1/0.01V	0.00-29.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 30.00-150.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C	C
DP20-250-400 XR Water Cooled	0-20	250/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-250.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C
40 VOLTS						
DP40-5-10 XR	0-40	5/10 A	*0.1/0.01V	0.000-0.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 1.00-5.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	B	A
DP40-15-30 XR	0-40	15/30 A	*0.1/0.01V	0.000-2.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 3.00-15.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	A, B	A
DP40-30-100 XR	0-40	30/100 A	*0.1/0.01V	0.000-9.999 MILLIAMPS (AVERAGE) IN 0.001 MILLIAMP INCREMENTS 10.00-30.0 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS	B, C	B
DP40-50-200 XR Water Cooled	0-40	50/200 A	*0.1/0.01V	0.00-19.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 20.00-50.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C	C
DP40-100-400 XR Water Cooled	0-40	100/400 A	*0.1/0.01V	0.00-39.99 MILLIAMPS (AVERAGE) IN 0.01 MILLIAMP INCREMENTS 40.00-100.0 MILLIAMPS (AVERAGE) IN 0.1 MILLIAMP INCREMENTS	C, D	C

*Meter readings below 10 volts will show 0.01 Volt Resolution. Minimum suggested setting: 1% of peak current rating.

AC Input Options:

- A: 110-120 VAC, 50-60 Hz, 1 Phase
- B: 208-240 VAC, 50-60 Hz, 1 Phase
- C: 208-240 VAC, 50-60 Hz, 3 Phase
- D: 480 VAC, 50-60 Hz, 3 Phase

Physical Sizes:

- A: 8.75" High x 17" Wide x 23" Deep
- B: 8.75" High x 17" Wide x 26" Deep
- C: 10.5" High x 22" Wide x 26" Deep

MICROSTAR LFP SERIES POWER SUPPLIES						
MODEL	VOLTAGE (DC)	CURRENT AMPS	VOLTMETER RESOLUTION	AMP METER RESOLUTION	AC INPUT OPTIONS	SIZE
10 VOLTS						
LFP10-500	0-10	0-500	*00.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D
LFP10-750	0-10	0-750	*00.1/0.01 V	0.1 A	B	10.5"H x 17"W x 23"D
LFP10-1000	0-10	0-1000	*00.1/0.01 V	1 A	A, B	10.5"H x 17"W x 23"D
12 VOLTS						
LFP12-500	0-12	0-500	*00.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D
LFP12-750	0-12	0-750	*00.1/0.01 V	0.1 A	B	10.5"H x 17"W x 23"D
LFP12-1000	0-12	0-1000	*00.1/0.01 V	1 A	B	10.5"H x 17"W x 23"D
18 VOLTS						
LFP18-500	0-18	0-500	*00.1/0.01 V	0.1 A	B	10.5"H x 17"W x 23"D
20 VOLTS						
LFP20-500	0-20	0-500	*00.1/0.01 V	0.1 A	A, B	10.5"H x 17"W x 23"D

*Resolution read out automatically adjusts to output.

Minimum suggested setting: 10% of maximum rated output

AC Input Options:

- A: 208-240 VAC, 50-60 Hz, 3 Phase
- B: 480 VAC, 50-60 Hz, 3 Phase

MicroStar LFP Series



For complete information on the MicroStar LFP Series power supplies, click on the link or scan the QR code.

<https://www.processtechnology.com/MICROSTARLFP.html>



Branch Fusing Enclosures

Branch Fusing Enclosures

New!

Branch Fusing Benefits

- Branch fusing is required in the field when installing electric heaters and controls.
- It provides a safe alternative to wiring multiple heaters into one contactor.
- Our enclosures adhere to UL requirements (508) and NEC codes.

Specifications

Amperages: 0 to 48FLA (per branch)

Voltages: 120 volts to 480 volts

Certifications: cULus



MAXIMUM NUMBER OF BRANCHES PER BOX

BOX	CC FUSES		HSJ 31-60A FUSES		HSJ 61-100A FUSES	
	1-PHASE	3-PHASE	1-PHASE	3-PHASE	1-PHASE	3-PHASE
PROTEC	3	2	1	1		1
14" x 12"	5	4	2	2		1
16" x 14"	6	4	3	2		2
18" x 16"	7	5	3	2		2

For complete information on branch fusing enclosures, click on the link or scan the QR code.

<https://www.processtechnology.com/BranchFusing.html>

Temperature Controls

Controls for Aquaculture heaters

Temperature Control Benefits

- Provide precise control for consistent temperatures in all applications.
- Vapor resistant enclosures.
- Custom configurations with digital timers and liquid level controls available.



EASYPLUG™ DIGITAL THERMOSTATS

VOLTS	MAX. AMPS	MODEL NUMBER	SENSOR LENGTH (INCLUDED)	TEMP. RANGE	REPLACEMENT SENSOR P/N (VINYL SLEEVED)	SHIP WGT. Lbs./(kg)
120	15	T-DRA15E-1	8' (2.4 m)	-30°-220°F (-34°-104°C)	DRA-8L	3 (1.4)
240	8	T-DRA8E-2	8' (2.4 m)	-30°-220°F (-34°-104°C)	DRA-8L	3 (1.4)



AQUACULTURE DIGITAL THERMOSTATS

VOLTS	MAX. AMPS	MODEL NUMBER	SENSOR LENGTH (INCLUDED)	TEMP. RANGE	REPLACEMENT SENSOR P/N	SHIP WGT. Lbs./(kg)
120	15	T-DRA15-1	8' (2.4m)	-30°- 220°F	DRA-8L	3 (1.5)
240	8	T-DRA8-2	8' (2.4m)	(-34°- 104°C)	DRA-8L	3 (1.5)



AQUACULTURE B-DRA SERIES, DIGITAL CONTROLS

VOLTS	MAX. AMPS	MODEL NUMBER (WITH TRANSFORMER)	REPLACEMENT SENSOR P/N	SHIP WGT. Lbs./(kg)
120	30	B-DRA301	DRA-8L	15 (6.8)
240	30	B-DRA302	DRA-8L	15 (6.8)

AQUACULTURE C-DRA SERIES, DIGITAL COMBINATION CONTROLS

VOLTS	MAX. AMPS	MODEL NUMBER (WITH TRANSFORMER)	REPLACEMENT SENSOR P/N	SHIP WGT. Lbs./(kg)
240	20	C-DRA202	DRA-8L	15 (6.8)
240	40	C-DRA402	DRA-8L	16 (7.3)



For complete information on the Aquaculture Series, Temperature controls, click on the link or scan the QR code.

<https://www.processtechnology.com/Controllers-Product-Overview.html>



Controls

Temperature Controls

Precise, single set-point controls



For complete information on the DE Series, Temperature controls, click on the link or scan the QR code. <https://www.processtechnology.com/Controllers-Product-Overview.html>

T-DE SERIES, 1/8 DIN DIGITAL THERMOSTATS

MODEL NUMBER	VOLTS	MAX. AMPS	TEMP. RANGE	SENSOR LENGTH Ft./m)	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
T-DE20	100-240V +/- 10%	20	0-500°F (0-260°C)	10' (3m)	RTD1000	3 (1.4)

B-DE SERIES, DIGITAL CONTROLS

MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
B-DE301	120	30	PRD-30-1	RTD1000	16
B-DE302	240	30	PRD-30-2	RTD1000	(7.3)

C-DE SERIES, DIGITAL COMBINATION CONTROLS

MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. TRANS.	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
C-DE202	240	20	AHD-20-1	HDD50 2-4/1	RTD1000	16
C-DE204	480	20	AHD-20-1	HDD50 2-4/1	RTD1000	(7.3)
C-DE402	240	40	AHD-40-1	HDD50 2-4/1	RTD1000	17
C-DE404	480	40	AHD-40-1	HDD50 2-4/1	RTD1000	(7.7)
C-DE802	240	80	AHD-80-1	HDD100 2-4/1	RTD1000	25
C-DE804	480	80	AHD-80-1	HDD100 2-4/1	RTD1000	(11.3)
C-DE1252	240	125	AHD-125-1	HDD300 2-4/1	RTD1000	33
C-DE1254	480	125	AHD-125-1	HDD300 2-4/1	RTD1000	(15)

DLC SERIES, DIGITAL THERMOSTATS

MODEL NUMBER	VOLTS	MAX. AMPS	TEMP. RANGE	SENSOR LENGTH Ft./m)	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
T-DLC16-1	120	16	-58-302°F (-50-150°C)	10' (3m)	DLC-10L	3 (1.4)
T-DLC16-2	240	16	-58-302°F (-50-150°C)	10' (3m)	DLC-10L	3 (1.4)

B-DLC SERIES, DIGITAL CONTROLS

MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
B-DLC301	120	30	PRD-30-1	DLC-10L	16
B-DLC302	240	30	PRD-30-2	DLC-10L	(7.3)

C-DLC SERIES, DIGITAL COMBINATION CONTROLS

MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. TRANS.	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
C-DLC202	240	20	AHD-20-1	HDD50 2-4/1	DLC-10L	16
C-DLC204	480	20	AHD-20-1	HDD50 2-4/1	DLC-10L	(7.3)
C-DLC402	240	40	AHD-40-1	HDD50 2-4/1	DLC-10L	17
C-DLC404	480	40	AHD-40-1	HDD50 2-4/1	DLC-10L	(7.7)
C-DLC802	240	80	AHD-80-1	HDD100 2-4/1	DLC-10L	25
C-DLC804	480	80	AHD-80-1	HDD100 2-4/1	DLC-10L	(11.3)
C-DLC1252	240	125	AHD-125-1	HDD300 2-4/1	DLC-10L	33
C-DLC1254	480	125	AHD-125-1	HDD300 2-4/1	DLC-10L	(15)



For complete information on the DLC Series, Temperature Controls, click on the link or scan the QR code. <https://www.processtechnology.com/Controllers-Product-Overview.html>

Temperature Controls

Heat and cool with our dual set-point controls

DQ SERIES, 1/4 DIN DIGITAL THERMOSTATS						
MODEL NUMBER	VOLTS	MAX. AMPS	TEMP. RANGE	SENSOR LENGTH Ft./m)	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
T-DQ15D	100-240 +/- 10%	15	-40-999°F (-40-538°C)	10' (3m)	RTD1000	3 (1.4)

B-DQ SERIES, DIGITAL CONTROLS					
MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
B-DQ301	120	30	PRD-30-1	RTD1000	16
B-DQ302	240	30	PRD-30-2	RTD1000	(7.3)

DQ SERIES, DIGITAL COMBINATION CONTROLS						
MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. TRANS.	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
C-DQ202	240	20	AHD-20-1	HDD50 2/1	RTD1000	16
C-DQ204	480	20	AHD-20-1	HDD50 4/1	RTD1000	(7.3)
C-DQ402	240	40	AHD-40-1	HDD50 2/1	RTD1000	17
C-DQ404	480	40	AHD-40-1	HDD50 4/1	RTD1000	(7.7)
C-DQ802	240	80	AHD-80-1	HDD100 2/1	RTD1000	25
C-DQ804	480	80	AHD-80-1	HDD100 4/1	RTD1000	(11.3)
C-DQ1252	240	125	AHD-125-1	HDD300 2/1	RTD1000	33
C-DQ1254	480	125	AHD-125-1	HDD300 4/1	RTD1000	(15)

DSL SERIES, 1/16 DIN DIGITAL THERMOSTATS						
MODEL NUMBER	VOLTS	MAX. AMPS	TEMP. RANGE	SENSOR LENGTH Ft./m)	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
T-DSL3	85-265	3	-100-500°F (-73-260°C)	10' (3 m)	RTD1000	2 (1)

B-DSL SERIES, DIGITAL CONTROLS					
CONTROL MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
B-DSL301	120	30	PRD-30-1	RTD1000	16
B-DSL302	240	30	PRD-30-2	RTD1000	(7.3)

DSL SERIES, DIGITAL COMBINATION CONTROLS						
CONTROL MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. TRANS. P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
C-DSL202	240	20	AHD-20-1	HDD50 2/1	RTD1000	16
C-DSL204	480	20	AHD-20-1	HDD50 4/1	RTD1000	(7.3)
C-DSL402	240	40	AHD-40-1	HDD50 2/1	RTD1000	17
C-DSL404	480	40	AHD-40-1	HDD50 4/1	RTD1000	(7.7)
C-DSL802	240	80	AHD-80-1	HDD100 2/1	RTD1000	25
C-DSL804	480	80	AHD-80-1	HDD100 4/1	RTD1000	(11.3)
C-DSL1252	240	125	AHD-125-1	HDD300 2/1	RTD1000	33
C-DSL1254	480	125	AHD-125-1	HDD300 4/1	RTD1000	(15)



For complete information on the DQ Series, Temperature controls, click on the link or scan the QR code. <https://www.processtechnology.com/Controllers-Product-Overview.html>



Controls



For complete information on the DSL Series, Temperature controls, click on the link or scan the QR code. <https://www.processtechnology.com/Controllers-Product-Overview.html>

Liquid Level Controls

Increase your process safety by adding liquid level controls

Liquid Level Control Benefits

- Liquid level controls add protection against fires and tank damage associated with low-level conditions.
- Low level events may trip high-temperature safety devices, cause heater burn out, or create fire hazards. Shutting off electric immersion heaters can save the expense of replacement over-temperature safety devices and/or replacement heaters and can eliminate the risk of fire loss.



LC SERIES, LIQUID LEVEL CONTROLS

PROBE MODEL NUMBER	PROBE LENGTH In./(mm)	NUMBER OF PROBES	CIRCUIT BOARD ONLY	OR ELECTRONICS IN ENCLOSURE	SHIP WGT. Lbs./ (kg)
LP-2(*)6	6 (152)	2	LC	LCBA5	3 (1.5)
LP-2(*)12	12 (305)	2	LC	LCBA5	3 (1.5)
LP-2(*)18	18 (457)	2	LC	LCBA5	4 (2)
LP-2(*)24	24 (610)	2	LC	LCBA5	4 (2)
LP-2(*)30	30 (762)	2	LC	LCBA5	5 (2.5)
LP-2(*)36	36 (915)	2	LC	LCBA5	5 (2.5)
LP-2(*)48	48 (1220)	2	LC	LCBA5	6 (3)
LP-3(*)6	6 (152)	3	LC	LCBE5	3 (1.5)
LP-3(*)12	12 (305)	3	LC	LCBE5	3 (1.5)
LP-3(*)18	18 (457)	3	LC	LCBE5	4 (2)
LP-3(*)24	24 (610)	3	LC	LCBE5	4 (2)
LP-3(*)30	30 (762)	3	LC	LCBE5	5 (2.5)
LP-3(*)36	36 (915)	3	LC	LCBE5	5 (2.5)
LP-3(*)48	48 (1220)	3	LC	LCBE5	6 (3)

For complete information on the LC Series, Conductive liquid level control, click on the link or scan the QR code.
<https://www.processtechnology.com/LLC.html>

Controls



ESP SERIES, CAPACITIVE TYPE LIQUID LEVEL CONTROLS



MODEL NUMBER	VOLTS	CONTACTS	MAX. LOAD	MAX. AMB. TEMP.	SHIP WT. LBS. / (kg)
ESP	20-250	Field Selectable	500 MA	176° F (80° C)	1 (.45)

For complete information on the ESP Series, capacitive liquid level control, click on the link or scan the QR code.
<https://www.processtechnology.com/ESP.html>

Digital timers and thermowells

DTS SERIES, DIGITAL TIMERS

MODEL NUMBER	VOLTAGE	SWITCHING CAPACITY	SHIP WGT. Lbs./ (kg)
DTS-1	120	20A	1 (.5)



For complete information on the DTS Series, Digital timer, click on the link or scan the QR code.
<https://www.processtechnology.com/DTS.html>

W SERIES, THERMOWELLS

OVER THE SIDE WELLS

THERMOWELL MATERIAL	DIA.	MODEL NO. 12" LENGTH (305mm)	MODEL NO. 24" LENGTH (610mm)	MODEL NO. 36" LENGTH (915mm)	SHIP WGT. Lbs./ (kg)
Quartz	1/2"	WQ12	WQ24	WQ36	2 (1)
304 SS	1/2"	WF12	WF24	WF36	2 (1)
316 SS	1/2"	WS12	WS24	WS36	2 (1)
Titanium	1/2"	WT12	WT24	WT36	2 (1)
Fluoropolymer (FEP)	1/2"	WX12	WX24	WX36	2 (1)
1/2" NPT THREADED WELLS					
304 SS	1/2"	WFT12	WFT24	WFT36	2 (1)
316 SS	1/2"	WST12	WST24	WST36	2 (1)
Titanium	1/2"	WTT12	WTT24	WTT36	2 (1)
Fluoropolymer (FEP)	1/2"	WXT12	WXT24	WXT36	2 (1)



For complete information on the W Series, Thermowell, click on the link or scan the QR code.
<https://www.processtechnology.com/Thermowell.html>

Immersion Coil Accessories

For use with all metal and fluoropolymer immersion coils



For complete information on the S*S Series, Solenoid valves, click on the link or scan the QR code.

<https://www.processtechnology.com/SVS.html>



For complete information on the STR Series, Strainer, click on the link or scan the QR code.

<https://www.processtechnology.com/STR.html>



For complete information on the IX Series, Insulator, click on the link or scan the QR code.

<https://www.processtechnology.com/IX.html>



For complete information on the VB Series, Vacuum breaker, click on the link or scan the QR code.

<https://www.processtechnology.com/VB.html>

S SERIES, SOLENOID VALVES

Water Service				
MODEL NUMBER	NPT SIZE	ORIFICE SIZE	CV FACTOR	SHIP WGT. Lbs./(kg)
S-5-W	1/2"	5/8"	4	3 (1.4)
S-3-W	3/4"	3/4"	5	4 (1.8)
S-1-W	1"	1"	13	6 (2.7)
S-1-1/4-W	1 1/4"	1-1/8"	15	8 (3.6)
S-1-1/2-W	1 1/2"	1-1/4"	22.5	10 (4.5)
S-2-W	2"	1-3/4"	43	12 (5.4)
Steam Service				
MODEL NUMBER	NPT SIZE	ORIFICE SIZE	CV FACTOR	SHIP WGT. Lbs./(kg)
S-5-S	1/2"	5/8"	4.7	3 (1.4)
S-3-S	3/4"	3/4"	8.8	4 (1.8)
S-1-S	1"	1"	11.5	6 (2.7)
S-1-1/4-S	1 1/4"	1-1/8"	15	8 (3.6)
S-1-1/2-S	1 1/2"	1-1/4"	22.5	10 (4.5)
S-2-S	2"	1-3/4"	43	12 (5.4)

ST SERIES, STRAINERS

SIZE (NPT)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1/2"	ST5	3 (1.5)
3/4"	ST3	3 (1.5)
1"	ST1	4 (2)
1 1/4"	ST1-1/4	5 (2.5)
1 1/2"	ST1-1/2	6 (3)
2"	ST2	10 (4.5)

IX SERIES, INSULATORS

SIZE (NPT)	LENGTH In./(mm)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1/2"	2" (51)	IX-5-*	1 (.5)
3/4"	2" (51)	IX-3-*	1 (.5)
1"	2-1/2" (63.5)	IX-1-*	1 (.5)
1 1/4"	2-1/2" (63.5)	IX-1-1/4-*	1 (.5)
1 1/2"	2-1/2" (63.5)	IX-1-1/2-*	1 (.5)
2"	2-1/2" (63.5)	IX-2-*	1 (.5)

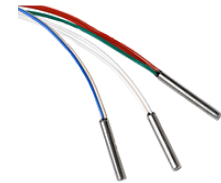
VB SERIES, VACUUM BREAKERS

SIZE (NPT)	MODEL NUMBER	SHIP WGT. Lbs./(kg)
1/2"	VB-5	1 (.5)

Replacement over temperature protectors and reset components

For complete information on the Protector Series, click on the link or scan the QR code.

<https://www.processtechnology.com/Protectors.html>



REPLACEABLE THERMAL PROTECTORS

MODEL NUMBER	ITEM #	HEATER MATERIAL	HEATER STYLE	WIRE COLOR	TEMPERATURE RANGE
P1	6021-18-R	Metal	over the side	white	up to 180°F (82°C)
P4	6022-18-R	Metal	over the side	blue	180 to 230°F (82 - 110°C)
P5	6023-18-R	Metal	over the side	red	230 to 300°F (110 - 150°C)
P1	6021-85-R	Metal	L-shaped	white	up to 180°F (82°C)
P4	6022-85-R	Metal	L-shaped	blue	180 to 230°F (82 - 110°C)
P5	6023-85-R	Metal	L-shaped	red	230 to 300°F (110 - 150°C)
P1	6032-26-R	Fluoropolymer	over the side	red	up to 190°F (88°C)
P1	6032-48-R	Fluoropolymer	L-shaped	red	up to 190°F (88°C)
P1	6032-26-R	Quartz	over the side	red	up to 180°F (82°C)
P4	6033-26-R	Quartz/Fluoropolymer	over the side	blue	180 to 230°F (82 - 110°C)

RESETTABLE THERMAL PROTECTORS

MODEL NUMBER	ITEM #	HEATER MATERIAL	HEATER STYLE	WIRE COLOR	TEMPERATURE RANGE
P2	2804-18-R	Metal	over the side	white	up to 180°F (82°C)
P6	4047-18-R	Metal	over the side	blue	180 to 230°F (82 - 110°C)
P7	2805-18-R	Metal	over the side	red	230 to 300°F (110 - 150°C)
P2	2804-85-R	Metal	L-shaped	white	up to 180°F (82°C)
P6	4047-85-R	Metal	L-shaped	blue	180 to 230°F (82 - 110°C)
P7	2805-85-R	Metal	L-shaped	red	230 to 300°F (110 - 150°C)
P2	4575-26-R	Fluoropolymer	over the side	white	up to 190°F (88°C)
P8	5163-120-R	Fluoropolymer	over the side	brown	190 to 210°F (88 - 99°C)
P2	4575-48-R	Fluoropolymer	L-shaped	white	up to 190°F (88°C)
P8	5163-120-R	Fluoropolymer	L-shaped	brown	190 to 210°F (88 - 99°C)
P2	4575-26-R	Quartz	over the side	white	up to 180°F (82°C)
P6	5580-48-R	Quartz/Fluoropolymer	over the side	blue	180 to 230°F (82 - 110°C)

CONTROL OPTIONS

P2-1/P2-2	120V/240V	P2 loose components. Manual reset, audible alarm and latching relay.
P2D-1/P2D-2	120V/240V	P2 DIN RAIL loose components. Manual reset, audible alarm and latching relay.
P3-1/P3-2	120V/240V	P3 loose components. Manual reset, audible alarm and latching relay and preset thermostat circuit board.
P3D-2/P3D-2	120V/240V	P3 DIN RAIL loose components. Manual reset, audible alarm and latching relay and preset circuit board.

ELECTRIC HEATER SIZING INFORMATION

		TEMPERATURE ° F												
		100	110	120	130	140	150	160	170	180	190	200	210	
GALLONS	50	1	1	1	2	2	2	2	3	3	4	4	5	
	100	2	2	3	3	3	4	4	5	6	6	8	8	
	200	4	4	5	6	6	7	8	9	10	11	12	14	
	300	6	6	7	8	8	9	10	12	14	15	16	18	20
	400	8	8	9	10	12	14	16	19	20	21	24	26	
	500	9	10	12	13	15	18	20	24	24	27	30	32	
	600	11	12	15	16	18	21	24	28	30	32	36	38	
	700	13	14	17	18	21	24	28	32	36	38	42	44	
	800	15	16	19	21	24	28	32	36	40	44	48	52	
	900	17	18	21	24	27	32	36	40	44	48	54	58	
1000	18	21	24	27	30	36	40	44	48	54	58	64		

This chart provides an easy reference to estimate the kW required to heat a tank. Heat loss from the surface of the solution and from the sides of the tank have been taken into account. Find the gallons at the left, move to the right to the column with the temperature at which you will be heating the solution. The number indicated here is the kW required to do the heating job. This kW figure assumes a heat-up period of six hours; for a twelve hour heat-up time, simply divide the kW figure in half.

CAUTION: This chart is for quick *estimates* only. Use formula below for determining actual heat requirement.

DETERMINING SPECIFIC HEATING REQUIREMENTS FOR ELECTRIC HEATERS

To determine the heating requirement of a tank, first obtain the following information:

- 1) Total cubic feet of tank. (Multiply the inside dimensions of the tank in feet - length x width x depth.)
One m³ = 35.3 ft³
- 2) Total gallons of solution. Multiply by 7.48 the cubic feet of the tank occupied by solution. (If the solution is normally 6" below the top of the tank, allow for this when figuring.)
- 3) Average ambient (room) temperature at which tank will be used.
- 4) Temperature level at which solution is to be held.
- 5) Heat up time desired.

Losses due to agitation, ventilation and work loads should be considered in calculating total kW requirements. After this information is known, the following calculations can be made:

$$\frac{A \times 1.0^* \times 8.35^{**} \times B}{3412 \times C} = \underline{\hspace{2cm}}$$

$$D \times E = \underline{\hspace{2cm}}$$

Add the results of both calculations. The total is the Kilowatt requirement of the tank.

- A = Total gallons of solution. One liter = .264 gallons.
 B = Difference from ambient temperature and desired solution temperature in degrees F.
 C = Desired heat up time (hours).
 D = Heat loss of tank. Refer to charts below
 E = Square feet of top of tank. Multiply length x width.
 * = Specific heat of water. Insert specific heat of your solution here.
 ** = Weight of water in pounds. Insert specific weight of your solution here. One kilogram = 2.2 pounds.

Losses due to agitation, ventilation, and work loads should be considered in calculating total kW requirements.

SURFACE LOSSES IN KILOWATTS FROM OPEN HOT WATER TANK (°F)

75°	.01	125°	.14	175°	.45
80°	.01	130°	.16	180°	.50
85°	.01	135°	.18	185°	.55
90°	.02	140°	.21	190°	.60
95°	.04	145°	.24	195°	.66
100°	.05	150°	.27	200°	.72
105°	.07	155°	.30	205°	.80
110°	.09	160°	.34	210°	.87
115°	.10	165°	.37	215°	.95
120°	.12	170°	.41	220°	1.04

SURFACE LOSSES IN KILOWATTS FROM OPEN HOT WATER TANK WITH MILD AIR AGITATION/VENTILATION (120 FPM, °F)

80°	.03	130°	.30	180°	1.10
85°	.05	135°	.35	185°	1.30
90°	.07	140°	.41	190°	1.60
95°	.09	145°	.45	195°	1.95
100°	.11	150°	.51	200°	2.35
105°	.13	155°	.58	205°	2.80
110°	.15	160°	.65	210°	3.25
115°	.18	165°	.73	-	-
120°	.21	170°	.83	-	-
125°	.25	175°	.95	-	-

AMP CALCULATION FOR CONTROL SELECTION

Heater Watts	Single Phase						Three Phase (Balanced)					
	120V	208V	230V	240V	460V	480V	208V	230V	240V	460V	480V	
1,000	8.4	4.8	4.4	4.2	2.2	2.1	2.8	2.6	2.5	1.3	1.2	
2,000	16.7	9.7	8.7	8.4	4.4	4.2	5.6	5.1	4.9	2.6	2.5	
3,000	25.0	14.5	13.1	12.5	6.6	6.3	8.4	7.6	7.3	3.8	3.7	
4,000	33.4	19.3	17.4	16.7	8.7	8.4	11.2	10.1	9.7	5.9	4.9	
6,000	50.0	28.9	26.1	25.0	13.1	12.5	16.7	15.1	14.5	7.6	7.3	
8,000	66.7	38.5	34.8	33.4	17.4	16.7	22.3	20.2	19.3	10.1	9.7	
9,000	75.0	43.3	39.2	37.5	19.6	18.8	25.1	22.7	21.7	11.4	10.9	
12,000	100.0	57.7	52.2	50.0	26.1	25.0	33.4	30.2	29.0	15.1	14.5	
18,000	150.0	86.6	78.3	75.0	39.2	37.5	50.1	45.3	43.4	22.7	21.7	
27,000	225.0	129.9	117.4	112.5	58.7	56.3	75.1	67.9	65.1	34.0	32.6	
36,000	300.0	173.1	156.6	150.0	78.3	75.0	100.1	90.5	86.8	45.3	43.4	

For single phase or two wire power supplies to heaters.

$$\text{AMP RATING PER POLE}^* = \frac{\text{Total capacity (watts)}}{\text{line voltage}}$$

Example: $\frac{4000 \text{ watts}}{240 \text{ volts}} = 16.67 \text{ Amps}$

For three phase balanced power supplies (Delta or Wye connections) to heaters using a three-pole contactor.

$$\text{AMP RATING PER POLE}^* = \frac{\text{Total capacity (watts)}}{\text{line voltage} \times 1.73}$$

Example: $\frac{4000}{240 \times 1.73} = 9.63 \text{ Amps}$

Contactor sizing:

*Amp rating per pole X 1.25 = contactor rating

COIL SIZING INFORMATION

FORMULA FOR STEAM HEATING MEDIA

$$\frac{\text{Gallons to be Heated} \times \text{Temperature Rise Required} \times \text{Steam Pressure Factor (See Chart A)}}{1000} = \text{Square feet of area required for one hour heat-up}$$

$$\frac{A \times B \times C}{1000} = \text{Square feet of area required for one hour heat-up}$$

Calculation process:

- 1) Determine gallons in tank. Enter this amount at (A).
- 2) Subtract the temperature of the solution to be heated from the temperature to which it must be heated. Enter this amount in (B).
- 3) Locate your useable steam pressure in the Steam Pressure Factor (see chart A) and find the factor number. Enter this at (C).
- 4) Multiply (A) times (B) times (C) and divide by 1000. This is the square foot area you require for a one hour heat-up. If more time is available, coil surface area may be reduced by dividing the square foot area by the heat-up time available, up to 4 hours, maximum.

NOTE: For operating temperatures over 170°F, consult factory.

CHART A							
Steam Pressure Available (PSI)	5#	10#	15#	20#	25#	30#	Above 30#
Steam Pressure Factor (Fluoropolymer)	2.2	2	1.7	1.5	1.3	1.1	Consult Factory
Steam Pressure Factor (Metal)	.55	.50	.42	.37	.30	.27	Consult Factory

FORMULA FOR HOT WATER HEATING MEDIA

$$\frac{\text{Gallons in tank} \times \text{Temperature Rise Required} \times 8.33}{U \times (\text{Hot Water Temperature} - \text{Required Tank Temperature})} = \text{Square feet of area required for one hour heat-up}$$

$$\frac{A \times B \times 8.33}{U \times D} = \frac{C}{E} = \text{Square feet of area required for one hour heat-up}$$

- 1) Determine gallons in tank. Enter at (A).
- 2) Subtract temperature of solution to be heated from the temperature to which it is to be heated. Enter at (B).
- 3) Multiply (A) times (B) times 8.33. Enter answer at (C).
- 4) Subtract the required tank temperature from the temperature of your hot water supply. Enter this figure at (D).
- 5) Multiply (D) by (U) and enter answer at (E).
- 6) Divide line (C) by line E to determine square feet of area required. If more time is available, coil surface area may be reduced by dividing the square foot area by the heat-up time, up to 4 hours, maximum.

NOTE: For operating temperatures over 170°F, consult factory.

U Factor for Metal Coils = 100
U Factor for FEP Coils = 30

FORMULA FOR COOLING WITH ANY MEDIUM

$$\frac{\text{Volts} \times \text{Amps} \times 3.412}{U \times (\text{Required Tank Temperature} - \text{Cooling Liquid Temperature})} = \text{Square feet of surface area required}$$

$$\frac{A}{U \times B} = \frac{A}{C} = \text{Square feet of surface area required}$$

U Factor for Metal Coils = 100
U Factor for FEP Coils = 30

This formula assumes that all electrical energy is dissipated in the tank as heat. In more efficient electrochemical conversions, the energy dissipated as heat may be less.

- 1) Determine watts by multiplying voltage times amperage delivered by the tank rectifier. Multiply this product times 3.412 to determine BTUs. Enter answer at (A).
- 2) Subtract cooling liquid temperature from required tank temperature. Enter at (B). Caution: If this number is less than 15, consult factory for assistance in determining proper coil size.
- 3) Multiply (B) times (U) and enter answer at (C).
- 4) Divide line (A) by line (C) to determine square feet of surface area required.

Check solution guide for proper sheath material selection.

Technical - Electric Heater Solution Guide

Chemistry	Steel	304 Stainless	316 Stainless	Titanium	Fluoropolymer	Quartz	Specific Heat	Specific Weight	Notes
Acetic Acid			✓	✓	✓	✓	0.48	8.43	No chlorides for metals
Acetic Anhydride				✓	✓	✓			≤ 200F for metals
Acid Sulfate					✓	✓			
Actane 70, 80					✓				PTFE Only
Actane Salt					✓	✓			PTFE Only
Alcorite					✓	✓			
Alkaline Cleaners (Electrified)		✓							
Alkaline Soaking Cleaners		✓							
Alodine (Most formulas)			✓						
Alistan		✓							
Aluminum Acetate		✓	✓	✓					
Aluminum Anodizing					✓	✓			
Aluminum Bright Dip					✓	✓			
Aluminum Chloride				✓	✓	✓			≤ 5 % concentration and ≤ 150F for metals
Aluminum Cleaners		✓							Derated heater required
Aluminum Sulfate		✓	✓	✓	✓	✓			≤ 50% concentration and ≤ 200F for metals
Ammonia		✓					1.1	7.56	
Ammonium Acetate			✓		✓	✓			≤ 200F for metals
Ammonium Bifluoride					✓	✓			
Ammonium Chloride				✓	✓	✓			
Ammonium Hydroxide				✓	✓	✓			≤ 30% concentration and ≤ 200F for metals
Ammonium Nitrate		✓	✓	✓	✓	✓			≤ 50% concentration and ≤ 200F for metals
Ammonium Persulfate		✓	✓	✓	✓	✓			≤ 5 % concentration for the metals
Ammonium Sulfate		✓	✓	✓	✓	✓			≤ 40% concentration and ≤ 200F for metals
Amyl Acetate		✓	✓	✓	✓	✓			≤ 200F for metals
Aniline		✓	✓	✓	✓	✓	0.51	8.53	≤ 200F for metals
Anodizing (Aluminum)					✓	✓			≤ 200F for metals
ARP 28, 80					✓	✓			
Arsenic		✓			✓	✓			
Barium Chloride			✓	✓	✓	✓			
Beer		✓	✓	✓	✓	✓			≤ 200F for metals
Benzoic Acid				✓	✓	✓			≤ 70% concentration and ≤ 200F for metals
Black Nickel					✓	✓			Derated heater required
Black Oxide (Hi Temp)		✓							Derated heater required
Black Oxide (Low Temp)				✓	✓	✓			
Bonderizing			✓						Derated heater required
Boric Acid				✓	✓	✓			Derated heater required
Brass Cyanide		✓			✓	✓			
Bright Nickel				✓	✓	✓			
Bright Copper Cyanide		✓	✓	✓	✓	✓			
Bronze		✓			✓	✓			
Brown Oxide				✓	✓	✓			
Burnite					✓	✓			
Butyric Acid				✓	✓	✓	0.51	8.05	
Cadmium Black					✓	✓			
Cadmium (Alkaline)		✓			✓	✓			
Cadmium Fluoborate					✓	✓			
Calcium Chloride				✓	✓	✓			
Calcium Hydroxide			✓		✓	✓			≤ 20% concentration for metals
Calcium Hypochlorite				✓	✓	✓			
Carbonic Acid			✓	✓	✓	✓			
Caustic Etch	✓								Derated heater required
Caustics	✓								
Caustics (>20% concentration)	✓								Derated heater required
Chlorine/Wet					✓	✓			
Chloride				✓	✓	✓			
Chlorosulfuric Acid					✓	✓			
Chromic Acid				✓	✓	✓			≤ 30% concentration and ≤ 200F for metals
Chromic Anodizing					✓	✓			
Chromic Acetate					✓	✓			
Chromic Nickel					✓	✓			
Chromium (No Fluorides)				✓	✓	✓			
Chromium (Fluorides)					✓	✓			
Citric Acid				✓	✓	✓			
Clear Chromate					✓	✓			
Cobalt Nickel				✓	✓	✓			
Cobalt Plating		✓			✓	✓			
Cobra Etch					✓	✓			
Copper Acid					✓	✓	0.9	9.69	
Copper Bright Acid					✓	✓	0.9	9.69	
Copper Cyanide		✓			✓	✓			
Copper Fluoborate					✓	✓			
Copper Pyrophosphate		✓			✓	✓			
Copper Strike		✓			✓	✓			
Copper Sulfate				✓	✓	✓			≤ 30% concentration and ≤ 200F for metals
Cyanide		✓			✓	✓			
Deionized water			✓	✓	✓	✓			
Deoxidizer (Etching)					✓	✓			
Deoxidizer (Non Chromated)			✓		✓	✓			
Dichromic Seal			✓		✓	✓			
Diethylene Glycol		✓			✓	✓			
Diversey 511, 514					✓	✓			
Dow Therm			✓						Derated heater required
Dye Solutions		✓			✓	✓			
Ebonal C				✓	✓	✓			
Electroless Copper					✓	✓			Derated heater required
Electroless Nickel				✓	✓	✓			Derated heater required
Electroless Tin (Acid)					✓	✓			
Electroless Tin (Alkaline)			✓		✓	✓			
ElectroCleaner		✓			✓	✓			
Electropolishing					✓	✓			
Ethone 80 Acid					✓	✓			
Ethylene Glycol	✓						0.58	9.27	Derated heater required
Ferric Ammonium Oxide	✓								
Ferric Chloride				✓	✓	✓			
Ferric Nitrate		✓			✓	✓			
Ferric Sulfate		✓			✓	✓			
Formic Acid			✓		✓	✓	0.53	9.35	≤ 5 % concentration and ≤ 150F for metals

Technical - Electric Heater Solution Guide

Chemistry	Steel	304 Stainless	316 Stainless	Titanium	Fluoropolymer	Quartz	Specific Heat	Specific Weight	Notes
Fuel Oil			✓		✓	✓			
Fruit Juices			✓		✓	✓			
Glycerine (Glycerol)		✓			✓	✓			Derated heater required
Gold Acid				✓	✓	✓			
Gold Cyanide		✓			✓	✓			
Grey Nickel				✓	✓	✓			
Hot Seal Dichromate			✓		✓	✓			
Hydrochloric Acid					✓	✓			≤ 30% ≤ 160F for metals
Hydrofluoric Acid					✓	✓			≤ 50% ≤ 120F for metals
Hydrogen Peroxide					✓	✓			Derated heater required
Immersion Gold		✓			✓	✓			
Indium					✓	✓			
Iridite (4 75, 4 73, 14, 14 2, 14 9)			✓		✓	✓			
Iridite (1, 2, 3, 4 C, 7, 8, 15)					✓	✓			
Iron Fluoborate					✓	✓			
Iron Phosphate			✓						Derated heater required
Isoprep (186, 187, 188)			✓						
Isoprep Acid Salts					✓				
Jetal		✓							
Lead Acetate		✓							
Lime Saturated Water (Alkaline)			✓						Derated heater required
Linseed Oil		✓					0.44	7.76	
Lactic Acid			✓	✓	✓	✓			≤50 % concentration and ≤150F for metals
Lye (caustic)			✓		✓	✓			≤30% concentration aqueous solutions and ≤200F for metals
Magnesium Hydroxide		✓							Derated heater required
Magnesium Nitrate			✓		✓	✓			
Manganese Phosphate			✓						Derated heater required
Manganese Chloride			✓	✓	✓	✓			10 50% aqueous solution for metals
McDermid 629 (contains F)					✓	✓			
Mercuric Chloride				✓	✓	✓			
Methane Sulfonic Acid					✓	✓			
Muriatic Acid					✓	✓			
Naptha		✓	✓	✓	✓	✓			≤200F for metals; 100% concentration
Nickel (Plating Solution) (Watts)			✓	✓	✓	✓			
Nickel Acetate Seal			✓						
Nickel Chloride				✓	✓	✓			
Nitric Acid				✓	✓	✓			≤ 50% concentration for metals
Nitric Hydrochloric Acids					✓	✓			
Nitric Phosphoric					✓	✓			Derated heater required
Oils	✓								Derated heater required
Oleic Acid			✓		✓	✓			≤ 10% concentration for metals
Oxalic Acid					✓	✓			≤ 10% concentration for metals
Paint Stripper (Alkaline)		✓							Derated heater required
Parrarin			✓		✓	✓			Molten
Perchloroethylene		✓							Derated heater required
Phenolic Resins			✓		✓				
Phosphate Cleaner		✓							Derated heater required
Phosphate			✓						Derated heater required
Phosphoric Acid (No Fluoride)				✓	✓				Derated heater required
Potassium Acid Sulfate					✓	✓			
Potassium Cyanide		✓			✓	✓			
Potassium Hydroxide		✓	✓		✓	✓			≤25% concentration for Zirconium
Potassium Hydrochloric					✓	✓			
Potassium Nitrate			✓		✓	✓			≤5% concentration for metals
Potassium Permanganate				✓	✓	✓			Derated heater required
Rhodium					✓	✓			
Rochelle Salt Cyanide		✓							
Ruthenium					✓	✓			
Salt (Actine)				✓	✓	✓	0.94	8.6	
Sea Water					✓	✓			
Silver Bromide			✓		✓	✓			
Silver Cyanide		✓			✓	✓			
Silver Lume		✓			✓	✓			
Sodium Bisulfate			✓		✓	✓			
Sodium Carbonate				✓	✓	✓			
Sodium Chlorate				✓	✓	✓			
Sodium Chloride				✓	✓	✓			
Sodium Cyanide		✓			✓	✓			
Sodium Dichromate (Hot Seal)			✓		✓	✓			
Sodium Hydroxide	✓		✓	✓	✓	✓	0.84	11.11	<40% concentration and ≤150F for metals ≤ 120F for metals
Sodium Hypochlorite					✓	✓			
Sodium Nitrate					✓	✓			
Sodium Persulfate					✓	✓			
Stannate	✓								
Stannosar					✓	✓			
Stannic Chloride				✓	✓	✓			≤5% concentration and room temperature for metals
Stearic Acid			✓		✓	✓			≤ 200F for metals
Sulfamic Acid				✓	✓	✓			
Sulfamate Nickel				✓	✓	✓			
Sulfur				✓	✓	✓			
Sulfur Peroxide				✓	✓	✓			
Sulfuric Acid				✓	✓	✓	0.84	9.6	
Sulphamic Acid				✓	✓	✓			
Tin Nickel					✓	✓			
Tin Plating (Acid) (Stanus/Sulphate)					✓	✓			
Tin Plating Acid (Fluoborate)					✓	✓			
Tin Plating (Alkaline)		✓							
Trichloroethylene			✓				0.23	12.27	Derated heater required
Trioxide (Pickle)					✓	✓			
Turco (4181, 4338)			✓						Derated heater required
Unichrome					✓	✓			
Water			✓		✓	✓			
Wood's Nickel Strike					✓	✓			
Yellow Dichromate					✓	✓			
Zinc Acid				✓	✓	✓			
Zinc Ammonium Chloride				✓	✓	✓			
Zincate		✓							
Zinc Chloride				✓	✓	✓			≤ 5% for metals
Zinc Cyanide		✓							
Zinc Phosphate			✓						Derated heater required
Zinc Phosphate (Fluoride)					✓	✓			
Zinc Sulfate			✓						

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Technical - Immersion Coil Solution Guide

Chemistry	Steel	304 Stainless	316 Stainless	Titanium	Zirconium	Fluoropolymer	Quartz	Bath Efficiency	Specific Heat	Specific Weight	Notes
Acetic Acid			✓	✓	✓	✓	✓		0.48	8.43	No chlorides for metals
Acetic Anhydride				✓		✓	✓				≤ 200F for metals
Acid Sulfate						✓	✓				
Actane 70, 80						✓					PTFE Only
Actane Salt						✓	✓				PTFE Only
Alcorite						✓					
Alkaline Cleaners (Electrified)	✓										
Alkaline Soaking Cleaners	✓										
Alodine (Most formulas)			✓								
Alstan	✓										
Aluminum Acetate	✓		✓	✓							
Aluminum Anodizing						✓	✓				
Aluminum Bright Dip						✓	✓				
Aluminum Chloride				✓	✓	✓	✓				≤5 % concentration and ≤150F for metals
Aluminum Cleaners	✓										
Aluminum Sulfate	✓		✓	✓	✓	✓	✓				≤ 50% concentration and ≤ 200F for metals
Ammonia	✓								1.1	7.56	
Ammonium Acetate			✓			✓	✓				≤ 200F for metals
Ammonium Bifluoride						✓	✓				
Ammonium Chloride				✓		✓	✓				
Ammonium Hydroxide				✓	✓	✓	✓				≤ 30% concentration and ≤ 200F for metals
Ammonium Nitrate	✓		✓	✓	✓	✓	✓				≤ 50% concentration and ≤ 200F for metals
Ammonium Persulfate	✓		✓	✓	✓	✓	✓				≤ 5 % concentration for the metals
Ammonium Sulfate	✓		✓	✓	✓	✓	✓				≤ 40% concentration and ≤ 200F for metals
Amyl Acetate	✓		✓	✓	✓	✓	✓				≤ 200F for metals
Aniline	✓		✓	✓	✓	✓	✓		0.51	8.53	≤ 200F for metals
Anodizing (Aluminum)						✓	✓				≤ 200F for metals
ARP 28, 80						✓	✓				
Arsenic	✓					✓	✓				
Barium Chloride			✓	✓		✓	✓				
Beer	✓		✓	✓		✓	✓				≤ 200F for metals
Benzoic Acid				✓	✓	✓	✓				≤70% concentration and ≤ 200F for metals
Black Nickel						✓	✓		75		
Black Oxide (Hi Temp)	✓					✓	✓				
Black Oxide (Low Temp)				✓		✓	✓				
Bonderizing			✓								
Boric Acid				✓		✓	✓				
Brass Cyanide	✓					✓	✓		50		
Bright Nickel				✓		✓	✓		50		
Bright Copper Cyanide	✓					✓	✓				
Bronze	✓					✓	✓				
Brown Oxide				✓		✓	✓				
Burnite						✓	✓				
Butyric Acid				✓		✓	✓		0.51	8.05	
Cadmium Black						✓	✓				
Cadmium (Alkaline)	✓					✓	✓		50		
Cadmium Fluoborate						✓	✓		50		
Calcium Chloride				✓		✓	✓				
Calcium Hydroxide			✓			✓	✓				≤ 20% concentration for metals
Calcium Hypochlorite			✓	✓		✓	✓				
Carbonic Acid			✓	✓		✓	✓				
Caustic Etch	✓										
Caustics	✓										
Caustics (>20% concentration)	✓										
Chlorine/Wet						✓	✓				
Chloride				✓		✓	✓				
Chlorosulfuric Acid						✓	✓				
Chromic Acid				✓		✓	✓				≤ 30% concentration and ≤ 200F for metals
Chromic Anodizing						✓	✓				
Chromic Acetate						✓	✓				
Chromic Nickel						✓	✓				
Chromium (No Fluorides)				✓		✓	✓				
Chromium (Fluorides)						✓	✓				
Citric Acid				✓		✓	✓				
Clear Chromate						✓	✓				
Cobalt Nickel				✓		✓	✓		50		
Cobalt Plating	✓					✓	✓		50		
Cobra Etch						✓	✓				
Copper Acid						✓	✓		50	0.9	9.69
Copper Bright Acid						✓	✓		75	0.9	9.69
Copper Cyanide	✓					✓	✓		75		
Copper Fluoborate						✓	✓		75		
Copper Pyrophosphate	✓					✓	✓		75		
Copper Strike	✓					✓	✓		75		
Copper Sulfate				✓		✓	✓		75		≤ 30% concentration and ≤ 200F for metals
Cyanide	✓					✓	✓				
Deionized water			✓	✓		✓	✓				
Deoxidizer (Etching)						✓	✓				
Deoxidizer (Non Chromated)			✓			✓	✓				
Dichromic Seal			✓			✓	✓				
Diethylene Glycol	✓					✓	✓				
Diversey 511, 514						✓	✓				
Dow Therm			✓								
Dye Solutions	✓					✓	✓				
Ebonal C				✓		✓	✓				
Electroless Copper						✓	✓				
Electroless Nickel				✓		✓	✓				
Electroless Tin (Acid)						✓	✓				
Electroless Tin (Alkaline)			✓			✓	✓				
ElectroCleaner	✓					✓	✓				
Electropolishing						✓	✓				
Ethone 80 Acid						✓	✓				
Ethylene Glycol	✓								0.58	9.27	
Ferric Ammonium Oxide	✓										
Ferric Chloride				✓		✓	✓				
Ferric Nitrate		✓									
Ferric Sulfate		✓									
Formic Acid			✓		✓	✓	✓		0.53	9.35	≤5 % concentration and ≤150F for metals

Technical - Immersion Coil Solution Guide

Chemistry	Steel	304 Stainless	316 Stainless	Titanium	Zirconium	Fluoropolymer	Quartz	Bath Efficiency	Specific Heat	Specific Weight	Notes
Fuel Oil			✓			✓	✓				
Fruit Juices			✓			✓	✓				
Glycerine (Glycerol)		✓				✓	✓				
Gold Acid				✓		✓	✓				
Gold Cyanide		✓				✓	✓				
Grey Nickel				✓				50			
Hot Seal Dichromate			✓								
Hydrochloric Acid					✓	✓	✓				≤ 30%, ≤ 160F for metals
Hydrofluoric Acid						✓	✓				≤ 50%, ≤ 120F for metals
Hydrogen Peroxide						✓	✓				
Immersion Gold		✓									
Indium						✓	✓				
Iridite (4 75, 4 73, 14, 14 2, 14 9)			✓								
Iridite (1, 2, 3, 4 C, 7, 8, 15)						✓	✓				
Iron Fluoborate						✓		50			
Iron Phosphate			✓								
Isoprep (186, 187, 188)			✓								
Isoprep Acid Salts						✓					
Jetal		✓									
Lead Acetate		✓									
Lime Saturated Water (Alkaline)			✓								
Linseed Oil		✓						0.44	7.76		
Lactic Acid			✓	✓	✓	✓	✓				≤50 % concentration and ≤150F for metals
Lye (caustic)			✓			✓	✓				≤30% concentration aqueous solutions and ≤200F for metals
Magnesium Hydroxide		✓									
Magnesium Nitrate			✓			✓	✓				
Manganese Phosphate			✓								
Manganese Chloride			✓	✓		✓	✓				10 50% aqueous solution for metals
McDermid 629 (contains F)						✓	✓				
Mercuric Chloride				✓		✓	✓				
Methane Sulfonic Acid						✓	✓				
Muriatic Acid						✓	✓				
Naptha		✓	✓	✓	✓	✓	✓				≤200F for metals; 100% concentration
Nickel (Plating Solution) (Watts)			✓								
Nickel Acetate Seal			✓								
Nickel Chloride				✓				50			
Nitric Acid				✓	✓	✓	✓				≤ 50% concentration for metals
Nitric Hydrochloric Acids						✓	✓				
Nitric Phosphoric						✓	✓				
Oils	✓										
Oleic Acid			✓			✓	✓				≤ 10% concentration for metals
Oxalic Acid					✓	✓	✓				≤ 10% concentration for metals
Paint Stripper (Alkaline)		✓									
Parrafin			✓			✓	✓				Molten
Perchlorethylene		✓									
Phenolic Resins			✓			✓					
Phosphate Cleaner		✓									
Phosphate			✓								
Phosphoric Acid (No Fluoride)				✓	✓	✓					
Potassium Acid Sulfate						✓	✓				
Potassium Cyanide		✓					✓				
Potassium Hydroxide		✓	✓		✓	✓	✓				≤25% concentration for Zirconium
Potassium Hydrochloric						✓	✓				
Potassium Nitrate			✓			✓	✓				≤5% concentration for metals
Potassium Permanganate				✓		✓	✓				
Rhodium						✓	✓				
Rochelle Salt Cyanide		✓									
Ruthenium						✓	✓				
Salt (Actine)						✓	✓				
Sea Water				✓		✓	✓	0.94	8.6		
Silver Bromide			✓			✓	✓				
Silver Cyanide		✓				✓	✓				
Silver Lume		✓									
Sodium Bisulfate			✓			✓	✓				
Sodium Carbonate				✓		✓	✓				
Sodium Chlorate				✓		✓	✓				
Sodium Chloride				✓		✓	✓				
Sodium Cyanide		✓				✓	✓				
Sodium Dichromate (Hot Seal)			✓								
Sodium Hydroxide	✓		✓	✓	✓	✓	✓	0.84	11.11		<40% concentration and ≤150F for metals, Sludge 3"
Sodium Hypochlorite				✓	✓	✓	✓				≤ 120F for metals
Sodium Nitrate						✓	✓				
Sodium Persulfate						✓	✓				
Stannate	✓										
Stanostar						✓	✓				
Stannic Chloride				✓	✓	✓	✓				≤5% concentration and room temperature for metals
Stearic Acid			✓	✓		✓	✓				≤ 200F for metals
Sulfamate Nickel				✓		✓	✓	25			
Sulfur						✓	✓				
Sulfur Peroxide						✓	✓				
Sulfuric Acid						✓	✓	0.84	9.6		
Sulphamic Acid						✓	✓				
Tin Nickel						✓	✓	50			
Tin Plating (Acid) (Stanus/Sulphate)						✓	✓				
Tin Plating Acid (Fluoborate)						✓					
Tin Plating (Alkaline)		✓						50			
Trichloroethylene			✓					0.23	12.27		
Trioxide (Pickle)						✓	✓				
Turco (4181, 4338)			✓								
Unichrome						✓	✓				
Water			✓								
Wood's Nickel Strike						✓	✓	50			
Yellow Dichromate						✓	✓				
Zinc Acid				✓		✓	✓				
Zinc Ammonium Chloride				✓		✓	✓				
Zincate		✓									
Zinc Chloride				✓	✓	✓	✓	50			≤ 5% for metals
Zinc Cyanide		✓						50			
Zinc Phosphate			✓								
Zinc Phosphate (Fluoride)						✓					
Zinc Sulfate			✓					50			

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Warranty

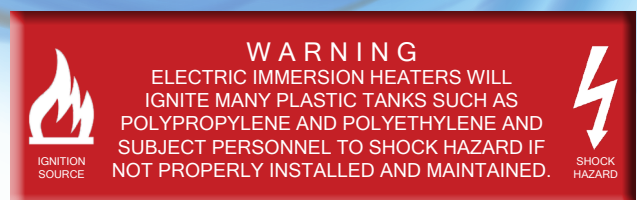
All Process Technology equipment, heaters, power supplies, and controls have been carefully inspected before shipping and are warranted to be free from defects in workmanship and material for a period of one year, two years for power supplies, and 90 days for power supplies repair work from date of shipment on a pro-rated basis. At its option, Process Technology will repair or replace any defects which are exhibited under proper and normal use. Process Technology disclaims any responsibility for misuse, misapplication, negligence or improper installation of equipment. Process Technology makes no warranty or representation regarding the fitness for use or the application of its products by the purchaser.

Please ensure applicability of heater before installation since we cannot guarantee heaters against premature failure due to corrosion or chemical destruction caused by unusual conditions over which we have no control such as:

- Excessively high solution temperatures
- The concentration of the solution
- The presence of inhibitors
- The presence of other acids causing a secondary reaction
- Flux floating on the surface
- The presence of dissolved gases
- Excessive sludge build-up
- Stagnant or turbulent flow of the solution
- Aeration
- Presence of oxygen or an oxidizing agent in the solution.
- Erosion
- Stray electrical currents

All heaters must be equipped with a thermal overtemperature device such as a Protector 1, 2 or 3 and tank must have a liquid level control to reduce the potential of fire. It is the customer's responsibility to purchase thermal and level control protection.

Process Technology is not liable for costs incurred in removal, reinstallation, or unauthorized repair of the product, or for damage of any type whatsoever including incidental or consequential damage.



Return/repair inquiries

Please direct all in- and out-of-warranty repairs to Process Technology's Customer Service Department. Before returning any equipment, please contact the Customer Service Department to obtain a Return Material Authorization (RMA) number and form. The designated RMA number should then be marked on the outside of the return package and completed forms returned with the product. To avoid processing delays, please be sure to include:

1. Completed RMA form and Material Safety Data Sheet (MSDS)
2. Purchase order number and invoice number
3. Returnee's name, address and phone number
4. Model and serial number
5. Repair instructions

Process Technology is not liable for costs incurred in removal, reinstallation, or unauthorized repair of the product or for damage of any type whatsoever including incidental or consequential damage.

Items returned to Process Technology for any reason shall be via freight prepaid, unless prior arrangements have been made.

Notice of Incorporated Terms

All sales of our Goods are subject to our standard terms and conditions of sale which are incorporated herein by reference from our website at <http://www.processtechnology.com/termsconditions.html> as if fully set forth herein.

The logo for Process Technology features the words "PROCESS" and "TECHNOLOGY" in a bold, red, sans-serif font. The text is contained within a metallic, rounded rectangular shape with a brushed metal texture and a slight 3D effect. The logo is set against a background of flowing, wavy blue and white lines that create a sense of motion and depth.

**PROCESS
TECHNOLOGY**

**PROCESS
TECHNOLOGY**

*Innovation and Excellence
in Advanced Heating and
Cooling Solutions*

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ISO 9001:2015 with Design certified

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