

Electrical immersion heaters Installation and maintenance instructions



STFX



STIX



SCAX



SMSX

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Before installing:

- ✓ Inspect the heater. Verify it is undamaged after transport, and that there is no damage to the glass, teflon plastic junction box or electric cable.
- ✓ Locate the heater nameplate tag which provides kW, voltage, product identification number and certification.
- ✓ Check the sheath material to be sure it is compatible with the intended bath solution on page 4. If you are even slightly uncertain, contact us!
- ✓ Process tank is equipped with a low solution level detection shut-down device.
- ✓ Confirm the line and heater voltage agree and the cubicle is locked for heating capacity.
- ✓ If voltage or material is incorrect, do not install or operate heater.



Heater selection guideline list

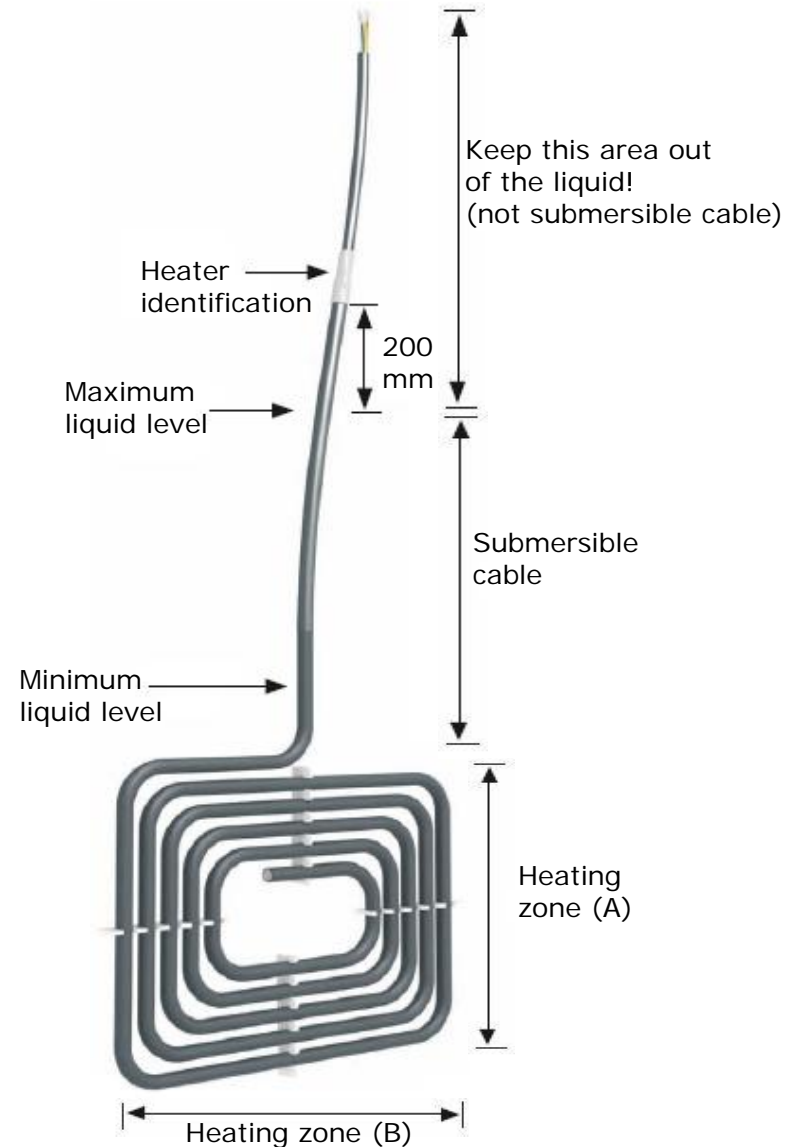
			SFO					SRF							
			STFP	SCAX	STI		SST				STFP	SCAX	STI	SST	
			STFX	SSP	SQG	STIX	MSP				STFX	SSP	SQG	STIX	MSP
Acetic acid	H3COOH	Quartz or teflon	X		X										
Alkaline cleaner		Stainless steel, steel	X				X								
Alkaline soaking cleaners		Stainless steel, steel		X			X								
Aluminum bright		Quartz or teflon	X		X										
Aluminium chloride	ALCL3	Quartz or teflon	X		X										
Aluminum sulfate	AL2SO4	Stainless steel		X											
Ammonium fluoride	NH4F	Quartz or teflon	X		X										
Ammonium chloride	NH4CL	Titan					X								
Ammonium persulfate	(NH4)2S208	Stainless steel		X											
Bonderizing	NA2B4O7 10 H2O	Stainless steel		X											
Black oxide		Stainless steel		X											
Boric Acid	H3BO3	Titanium					X								
Bright nickel	Ni3CO3(OH)4 4H2O	Quartz, PTFE or Titanium	X		X	X									
Bright copper cyanide		Stainless ,steel or steel		X			X								
Bronze		Stainless steel		X											
Brown oxide		Titanium					X								
Butyric acid	CH3CH2CH2-COOH	Titanium					X								
Calcium chloride	CaCL2	Titanium					X								
Carbonic acid	H2CO3	Titanium					X								
Caustics		Steel												X	
Chromic acid no fluorides	H2CRO4	Quartz or teflon	X		X										
Chlorosulphuric acid	HSO 3 CL	Titanium					X								
Chromic baths		Quartz or teflon	X		X										
Chromate baths		Teflon	X												
Copper acid		Teflon	X												
Copper fluoborate		Teflon	X												
Copper strike		Stainless steel		X											
Deionized water		Titanium					X								
Deoxidizer etching		Quartz or teflon	X		X										
Electroless copper		Teflon	X												
Electroless nickel		Teflon	X												
Electroless tin		Teflon	X												
Electro cleaner		Stainless steel		X											
Electro Polishing		Teflon	X												
Ferric Chloride	FeCL3	Quartz or teflon	X		X										
Ferric nitrate	FE(NO3)3	Teflon	X												
Fluoborate baths		Teflon	X												
Formic acid	HCOOH	Stainless steel		X											

Heater selection guideline list

			SFO					SRF							
			STFP	SCAX	STI		SST				STFP	SCAX	STI	SST	
			STFX	SSP	SQG	STIX	MSP				STFX	SSP	SQG	STIX	MSP
Gold acid		Titanium, quartz or teflon	X		X	X									
Hydrochloric acid	HCL	Teflon or quartz	X			X									
Hydrofluoric acid	HF	Teflon	X												
Hydrogen peroxide	H2O2	Quartz or teflon	X		X										
Iron Phosphate	FePO4	Stainless steel								X					
Manganese Phosphate	MnPO4	Stainless steel								X					
Nickel plating (watts)		Titanium, quartz or teflon	X		X	X									
Nickel acetate		Stainless steel								X					
Nickel Chloride	NiCL2	Titanium												X	
Nickel sulfate	NiSO4	Titanium, quartz or teflon	X		X	X									
Nitric acid	HNO3	Quartz or teflon	X		X										
Oil		Steel, stainless steel								X					
Oxalic acid	C2O2(OH)2	Quartz or teflon	X		X										
Paint stripper (alkaline)		Stainless steel								X					
Phosphoric acid	H3PO4	Teflon	X												
Phosphate		Stainless steel								X					
Potassium acid		Teflon	X												
Potassium hydroxide	KOH	Stainless steel								X					
Potassium permanganate	KMnO4	Stainless steel								X					
Ruthenium	Ru	Teflon	X												
Sea water		Titanium												X	
Silver baths		Stainless steel								X					
Sodium bisulfate	NaHSO4	Teflon	X												
Sodium carbonate	Na2CO3	Titanium												X	
Sodium Chlorate	NaCLO3	Titanium												X	
Sodium chloride	NaCL	Titanium												X	
Sodium persulfate	Na2S2O8	Teflon	X												
Sulfuric acid		Quartz or teflon	X		X										
Tin acid baths		Teflon	X												
Tin alkaline baths		Stainless steel								X					
Zinc acetate	Zn(O2CCH3)2	Titanium or teflon	X											X	
Zink ammonium chloride		Titanium												X	
Zink phosphate		Stainless steel								X					
Zincate		Stainless steel								X					

During installation:

- ✓ Installation must be done by a qualified electrician. In a stationary electrical installation an omnipole contact breaker must precede the heater.
- ✓ Confirm all power is disconnected and fuses have been removed at the actual switching point.
- ✓ Heaters without supports have to be installed vertically. The active part should be at least 20 mm from the tank wall, bottom, or sludge accumulation. Otherwise, overheating and/or heater damage can be the consequence.
- ✓ Heaters should be installed for stationary service (anchored) in a bath solution of 95° C max. Min. level and max. level for bath solutions are marked on the heaters. While in service the solution level must be maintained between these markings.
- ✓ For electrical heating, a level control must always be installed. If not, overheating can occur at min. level, which may be a fire hazard.
- ✓ In service, heaters should be protected from contact with moving parts, anodes, cathodes, or any other source of current.



Maintenance and control of immersion heater in service

- ✓Maintain the solution level between the two level Marks (see page 5).
- ✓Clean heaters regularly and check function of level control.
- ✓Check heaters regularly for any sign of potential failure, such as cracks (glass or teflon) or corrosion (metal heater).
- ✓When checking the element, the electricity supply to the heater must be turned off at least 20 minutes prior to exposing the element to air.
- ✓The supply cord cannot be replaced. If the cord is damaged the appliance should be scrapped (flexible heaters).
- ✓If the supply cord is damaged, it must be replaced by manufacturer, its service agent or similarly qualified person in order to avoid a hazard (tubular heaters).

Attach the fastener

✓ Attach the fitting to the plate with both openings at the same direction (make sure that you are using one of the openings on the same side as the hold-up device and that the device side is pointing down). Then insert the submersible cable through the opening and then rotate the fitting 180 degrees to lock the cable inside.



✓ Insert the submersible cable in one of the other openings on the other side of the plate (make sure that the part of the cable are closer to the connection box the pictures shows) and place it on the bath edge.



✓ Be sure that the heating part of the heater is under the solution level before Switch on the heater.



Cleaning of heaters:

- ✓ Turn off the heat electric supply for at least 20 min. prior to exposing the element to air.
- ✓ A soft brush or gloved hands are recommended to remove build-up from the element. Be cautious while cleaning to avoid damage.
- ✓ Do not remove the over heat protection when cleaning the heater.

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