



# Customer Startup Checklist

## Customer Information

Customer (Company):		Phone	
Customer Contact:		Email	

## Customer Responsibilities before arrival of Ultraflex Service Technician

Refer to the “Operation and Maintenance Instructions” manual and Installation drawing(s) supplied for detailed installation information or contact the Ultraflex Service Department at [support@ultraflexpower.com](mailto:support@ultraflexpower.com) for assistance.

Step	Category	Instruction	Date Complete	Completed By (initials)
1	Scheduling	Contact Ultraflex Service at <a href="mailto:support@ultraflexpower.com">support@ultraflexpower.com</a> , a minimum of two weeks in advance, to schedule the date for Start-up Service/Technical Support.		
2	Set-Up	Uncrate and inspect all items for shipping damage. Notify Ultraflex immediately if any problems are found.		
3	Set-Up	Move all equipment to its final installation location and level it if necessary. Leave enough room for the Power Supply front doors to be widely opened and rear panels to be removed if necessary.		
4	Plumbing	Review the Ultraflex Water Quality Recommendations (see page 3).		
5	Plumbing	Connect all plumbing lines to the Power Supply, Heat Station and/or coil per supplied Installation Drawing(s). a. Ensure the Heat Station and power supply are plumbed in PARALLEL. b. Use plumbing tape or thread sealer to seal all water connections. c. <b>Do not use ferrous metal pipes and fittings.</b>		
6	Plumbing	Turn on water. Inspect all water connections for leaks. Check water pressure. a. Ensure incoming pressure is between 60 and 80 psi. b. Pressure differential in to out must be 25 psi or greater.		
7	Electrical	<b>Turn off Electrical Power before making electrical connections.</b>		
8	Electrical	Equipment Connections: a. Connect a suitable earth ground wire to the earth ground lug on the Power Supply and/or optional heat exchanger/chiller. b. Ground the remote Heat Station by connecting the included grounding cable between the Power supply and the Heat Station grounding points. c. Connect the 3-phase wiring from the Customer supplied disconnect switch to the Power Supply and/or optional heat exchanger / chiller. d. Connect the RF power cable, control cable(s), external flow switch cable(s) (if applicable) between the Power Supply and the Remote Heat Station. e. Connect optional equipment such as closed loop temperature controllers, pendant stations, and customer supplied PLC, etc. to the appropriate terminals on the Power Supply.		
9	Electrical	Once all connections are complete, turn Electrical Power back on.		
10	Mechanical	Position Power Supply, Remote Heat Station and Coil in their permanent locations.		
11	Scheduling	Take photos of the following: a. The front of the power supply (with the door open, if applicable). b. The Heat Station (with the coil attached). c. The left side of the power supply. d. The rear of the power supply.		
12	Scheduling	Email photos to: <a href="mailto:Support@Ultraflexpower.com">Support@Ultraflexpower.com</a> (provide a minimum of 2 days before service visit).		



# Customer Startup Checklist

## Ultraflex Service Technician Responsibilities

Step	Category	Instruction	Date Complete	Completed By (initials)
1	Pre-Visit	Answer any questions from the customer related to the installation of the equipment.		
2	Pre-Visit	A minimum of 1 week before the visit, contact the customer to review status and answer questions.		
3	Pre-Visit	Once the photos have been received, contact the customer for a final review.		
4	Onsite Inspection & Test	Inspect all mechanical, plumbing and electrical connections.		
5	Onsite Inspection & Test	Start-up unit and verify performance without a part being heated. Record operational data. Perform any necessary troubleshooting.		
6	Onsite Inspection & Test	Verify that the system meets the heating requirements of the customer's part(s), as specified on the Sales Order. Record operational data.		
7	Onsite Inspection & Test	Verify the operation and performance of any optional equipment supplied by Ultraflex.		
8	Onsite Inspection & Test	Provide training in the operation, maintenance and trouble-shooting of the equipment.		

## Customer Acceptance

The System meets requirements  Yes  No

Identify any open issues below. Attach additional documentation if needed.

Additional Comments or Suggestions:

\_\_\_\_\_  
*Customer Signature*

\_\_\_\_\_  
*Ultraflex Signature*

## Ultraflex Water Quality Recommendations

The following are recommendations for water quality for use with UPT induction Systems to ensure a long service life of the equipment.

As many as 80% of problems with Induction Heating equipment can be traced to water related issues, so maintaining the water system is critical to ensure high reliability. Failure to meet these water guidelines can void the warranty of the equipment. Ultraflex Power Technologies recommends the use of isolated water loops for our Induction Heating equipment. Use of plant water directly in our products can void the warranty. Water to Air, Chillers, and Water to Water systems are available from UPT, please contact your sales associate for more details.

- 1) Use clean distilled water, if possible. The following are the recommended water quality specifications:

Specification	Ideal	Not to Exceed
Total Hardness (CaCO <sub>3</sub> )	15 ppm	100 ppm
Total Dissolved Solids	25 ppm	200 ppm
Conductivity*	20-50 micro-mho / cm	20-50 micro-mho / cm
Max Suspended Solids	10 ppm	10 ppm
pH**	7.0-7.5	7.0-7.5

\* Water conductivity that is too low is not recommended, such as found with DI water.

\*\* If the pH falls below 4.0 or rises above 9.0, the system should not be used and a system flush/fill should take place as soon as possible.

- a. Never use de-ionized (DI) water. It will damage the aluminum, copper and bronze fittings. Recommend distilled water only.
  - b. Glycol can help keep the water from becoming too aggressive. If used, recommend 30% ethylene glycol (nonconductive type) mixture with clean water as defined above.
  - c. Phosphate based corrosion inhibitors are recommended to control the amounts of active ions and help form protective oxide layers on metals.
- 2) The Ultraflex Power Technology water circuits contains aluminum, brass, copper, rubber and plastic hose.
- a. Ensure dissimilar metals are not used in the water system. The water system should be designed with compatible metals to avoid contamination from items that may rust. Never use ferrous materials in the water loop such as carbon steel, which will increase conductivity and cause rust and corrosion.
  - b. While Nonmagnetic Stainless Steel can be used in the water system, it should be located sufficient distance from the induction heating system to avoid galvanic corrosion between the other metals in the systems such as Aluminum.
  - c. Water should not be used for other equipment or processes to avoid contamination. In particular, do not use process water for cooling work pieces which are exposed to the environment and contaminants. If some minor contaminants are possible, customer should install an in-line strainer to capture suspended particles (> 304 microns).
- 3) Good water quality requires regular maintenance.
- a. PH and conductivity levels should be checked quarterly and adjusted as needed.
  - b. The water system should be flushed and filters cleaned to remove sediment and treated with an anti -algae treatment as needed.
  - c. The water in the closed loop should be changed at least annually and more often if quality deteriorates.
  - d. Additional maintenance per the manufacturer’s recommendation should be followed. See system manuals for additional maintenance recommendations.