

POSEIDON SERIES STAINLESS STEEL HEATER INSTRUCTION MANUAL



MODEL: SPDI48-3V-P515

SERIAL NO.: USA-SSDI0717-1

INDEX

Section I - POSEIDON INSTRUCTION MANUAL

- Table of Contents
- Introduction
- Description
- Equipment Specifications
- Environmental Specifications
- Basic Safety Precautions
- Installation Procedures
- · Operating Instructions
- Suggested Spare Parts List
- Controller Parameters
- Quality Control Sheet
- Warranty

Section II - POSEIDON DRAWINGS

- Facility Diagram
- Heater Module Section
- Plumbing Diagram
- Electrical Component Layout
- Electrical Schematic Diagram I
- Electrical Schematic Diagram II

Section III - CONTROLLER MANUALS

- Temperature Controller Manual
- Hi-I imit Controller Manual



MODEL: SPDI48-3V-P515

SERIAL NO.: USA-SSDI0717-1

TABLE OF CONTENTS

Introduction	4
DESCRIPTION	4
EQUIPMENT SPECIFICATIONS	5
Environmental Specifications	6
Basic Safety Precautions	7
Installation Procedures	g
OPERATING INSTRUCTIONS	10
SUGGESTED SPARE PARTS LIST	12
QUALITY CONTROL SHEET	16
HEATEFLEX MATERIAL WARRANTY	17

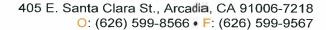


INTRODUCTION

Your Heateflex in-line point of use fluid heating system will accurately heat and maintain the temperature of your process fluid through the use of patented Power-To-Flow heating technologies. To obtain the best results from your unit, it is recommended that the user operating this system read completely through this manual and the accompanying component literature to become familiar with all the functions and features of the system.

DESCRIPTION

Your heating system is an electric heating system designed to be used in an ultra-high purity environment. It is a high tech piece of equipment incorporating many design innovations and precautionary measures to insure safe and reliable operation under normal conditions. This heating system incorporates features that enable it to be used with aggressive fluids, such as de-ionized water or acids, and maintain the purity of those process fluids. The construction of the fluid handling components of this unit use high purity stainless steel components all manufactured from 316L grade material. The safety systems used within the unit incorporate over-temperature protection, low flow protection, over-current protection, and a user-controlled emergency disconnect switch. These safeties combined with proven ultra pure technology provide a unit that effectively reaches and maintains process temperature.





EQUIPMENT SPECIFICATIONS

3 Modules

Model No.: SPDI48-3V-P515 Serial No.: USA-SSDI0717-1

Description: POSEIDON HEATER, 48.0KW, 480VAC, 3-PH, 60Hz

Module Construction:

316L Electropolished Stainless Steel

No. Modules: Kilowatts:

48.0 Kw 480VAC

Voltage: Hertz:

60hz 3-phase

Number of phases: Current per phase: Hot DI Water:

58 Amps 1-1/2" TRC 1-1/2" TRC

Enclosure Drain: Drain Vent:

DI Water Supply:

3/4" MNPT N/A

System Drain: Pressure Relief:

N/A N/A

Incoming Power:

2" CONDUIT

Heater Box Dim. (H x W x D):

29-15/16 x 47-1/4 x 11-3/8

Weight:

225 lbs.

Electrical Box Dim. (H x W x D): 35-7/16 x 29-15/16 x 9-13/16

Weight:

182 lbs.

CONTROL SYSTEM

Temperature Controller:

100-240VAC, SSR DRIVE, RLY

Process Temperature Sensor:

Type J Thermocouple

Limit Controller:

0-160C, Type "J", 120VAC, SPDT

Hi-Limit Sensor:

Type J Thermocouple

Flow Sensor:

N/A



ENVIRONMENTAL SPECIFICATIONS

THIS EQUIPMENT MUST ONLY BE USED WITHIN THE RANGE OF ENVIRONMENTAL CONDITIONS LISTED BELOW.

Operational usage:

Maximum operating pressure:

Minimum operating pressure: Maximum fluid temperature:

Temperature resolution:

Maximum operating altitude:

Ambient temperature range:

Maximum relative humidity:

INDOOR USE ONLY

100PSI @ 95°C.

35PSI

95°C.

+/-1°C.

6,600feet(2,000meters)

5°C. ~ 40°C. (operating)

-40°C. ~ 60°C. (storage)

80% up to 31°C.

76.7% @ 32°C.

73.3% @ 33°C.

70.0% @ 34°C.

66.7% @ 35°C.

63.3% @ 36°C.

60.0% @ 37°C.

56.7% @ 38°C.

53.3% @ 39°C.

50.0% @ 40°C. and above

THIS EQUIPMENT MUST ONLY BE USED WITH SAFETY COMPONENTS (TEMPERATURE CONTROLLER, LEVEL CONTROLLER, HI-LIMIT CONTROLLER, ETC.) THAT IS APPROVED TO EIC/EN STANDARDS.



BASIC SAFETY PRECAUTIONS

Every effort has been made to insure that this unit will run with a minimum of user input or maintenance. However there are still precautions to be taken whenever operating, performing maintenance, or servicing this unit. This unit makes use of heating elements and electrical components, both of which pose inherent burn, fire, and electrical shock hazards. These hazards can result in injury to personnel, plant, and/or process. Please note the following to aid in the operation of your unit and to decrease risk of the above mentioned hazards.

Precautions:

- Carefully read completely through this and all accompanying literature to verify that you
 understand the functionality and features of this system. Please become familiar with the
 integral safeties and controls within this system, and know their function.
- Always disconnect electrical power prior to installing, servicing or replacing electric heating elements and/or assemblies.
- Electrical termination enclosures should be selected to match the application's environment and be able to withstand worst case failures, especially in hazardous locations.
- Avoid fire hazards. Electric heaters and their components can develop temperatures that
 produce an auto-ignition source. Avoid mounting heaters in atmospheres containing
 combustible gases, vapor or dust. Article 501 of the National Electrical Code (NEC)
 requires that the maximum sheath temperature when the heater is continually energized not
 exceed 80 percent of the surrounding atmosphere's auto-ignition temperature.
- Avoid having heaters come in contact with combustible materials. Keep heaters far enough away from combustible materials to prevent ignition.
- Be aware of labeling on the unit, such as a lightning-bolt warning symbol, which alerts you to a safety hazard which could harm you or the unit.
- While servicing or operating this unit it is advisable to remove all metal from your person. This includes metal bracelets, rings and jewelry, as well as metal rim glasses and wristwatches.
- Keep your clothing, hands, and feet dry at all times whenever working with electrical equipment.
- Pull the fuses, open the circuit breakers, or disconnect the circuits from their source of power to protect yourself, the test equipment and the equipment under test.
- Do not trouble shoot or service a circuit with the primary power applied.
- If it becomes necessary to work on the unit with the power applied, keep one hand free at all times (behind you).
- Be certain that there is no power applied to a circuit when making continuity or resistance checks.



- Use the correct tool (i.e. screwdriver, alignment tool, etc.) for the job.
- Do not use metal tools around the connectors when there is power to the unit, as they
 may cause arcing.
- Turn off power before connecting alligator clips to any circuit.
- Do not take anything for granted when working with inexperienced help. Check every operation before they perform it.
- The operation of this unit creates large amounts of heated process fluid. This fluid is likely to be heated to temperatures above the threshold of safety for human contact. Please be advised of this and take the necessary precautions whenever connecting or disconnecting any plumbing from the system. If you are ever in doubt, turn the unit off, and wait an appropriate amount of time before performing any operations or service involving the plumbing.
- The process fluid within this system may also become pressurized from outside flow sources. It is the user's responsibility to verify that pressure within the system has been relieved externally, in order to prevent exposure to hazardous fluid such heated de-ionized water, or heated acids.
- This unit has several safety interlocks integrated within the system. However, it is the
 user's responsibility to verify that incoming power has been disconnected from a remote
 source prior to opening or servicing the unit. This is advised to prevent user exposure to
 high voltage and current, and reduce the risk of electric shock.
- This function of this unit is to heat process fluid for use in ultra-pure operations. Therefore during normal operation unit will become heated within the plumbing and the heater compartment. It is our recommendation that the unit is allowed a sufficient amount of time to cool before any maintenance or inspections are made to the unit in order to prevent user exposure to heated surfaces or air.
- The processes in which this unit is used involve heated fluids. Whenever heated fluids are involved, certain precautions must be taken in order to avoid user injury. This is especially important since it is highly likely that this unit will be used with aggressive fluids which can further harm or injure an individual, such as de-ionized water and process acids. User exposure to these types of materials can result in burning, scalding, and in some cases deep tissue damage. To avoid injury it is the user's responsibility to take the appropriate precautions as outlined above, and in all cases dealing with heated or aggressive materials, to use the appropriate safety equipment, such as but not limited to safety goggles and glasses, and chemically resistant gloves and garments.



INSTALLATION PROCEDURES

Installation of this unit consists of first verifying that the minimum facility requirements for normal operation can be met. For facility requirements, refer to the included facility diagram, F483V03, which includes mounting, bolting, and clearance requirements for the unit. Once the mounting requirements are completely understood and it has been verified that they can be met, the next step would be locating where the unit will be used.

The unit should then be fastened in a manner consistent with the accompanying documentation with the appropriate mounting hardware and then a final check should be made to ensure that all venting and clearance requirements are met before connecting incoming power. It is also recommended that the minimum safety requirements be met, prior to initial unit power-on. The unit must be mounted in such a position that it does not exceed a tilt of 10° in either the vertical or horizontal directions. For ergonomics and user friendliness, the unit should be mounted with the top of the cabinet mounted 66 inches from the floor.

Once the unit is secured in its operational position, the water lines can be introduced. The input can be brought directly to the appropriately labeled connector on the left side of the cabinet. For the types of fittings included, refer to the Equipment Specifications on page 3. Once the appropriate plumbing has been connected, water should be run through the system without the power connected to check for leaks. If no leaks are present, incoming power and the appropriate signals may be brought in.

Incoming power should be brought in through the conduit fitting located on the top right of the cabinet. Also, an appropriately sized external disconnect switch should be used with the unit to protect the operator during servicing. Incoming power can be brought into the unit, after the appropriate externally fused disconnect switch, or circuit breaker. For the incoming power requirements, refer to the Equipment Specifications on page 3. Please insure that the external disconnect is in the off position while you are attaching the incoming power, and refer and review the "Basic Safety Precautions" section of this manual on pages 5-6 before attempting any electrical work. Once the incoming power connections are secure, be sure that the cabinet door is closed and locked before activating the external disconnect. Once these conditions are met, refer to the section of this manual titled "Basic Operation," on pages 8-9.



STAINLESS STEEL HEATING SYSTEM OPERATING INSTRUCTIONS

Prior to any operation of this unit, it is highly recommended that the operator read completely through and understands the Basic Safety Precautions on pages 5-6 of this manual. After understanding these items, the procedure below details the basic operation of the unit.

Basic operation of the unit consists of verifying that all safety conditions are met, and then setting the operational parameters. Once these two steps are complete, the unit should provide process fluid at the required temperature, and run with no normal user intervention.

Ensuring that safety conditions are met prior to initial unit power-on consists of checking that fluid is actually flowing to the unit, and verifying that all minimum safety requirements are met. Once this has been established, the unit can be powered on for the first time. Once all the conditions are met, and the unit is powered on, it will return a low flow condition and a high limit failure by default. Press the "Low Flow Reset" button for three seconds. The unit will check for an adequate flow condition, and if one exists it will begin to bring the temperature to the set point. Then the "Hi-Limit Reset" button should be depressed, in a fashion similar to the "Low Flow Reset". If the condition is safe the unit will begin to bring the fluid temperature to setpoint. Every time the unit is powered on, the "Low Flow Reset" and "Hi-Limit Reset" buttons will need to be depressed. The next step then is to set the process set point to the required temperature. This is accomplished by the following:

- Refer to the temperature controls panel.
- Verify that it is displaying the process temperature in the proper units. If it is not, refer to the accompanying temperature controller manual, pages 12, 15, 18 and 19.
- Once the controller is displaying the proper units, the set point can be adjusted by first
 momentarily pressing either the up or down key on the controller to view the current set
 point.
- Momentarily pressing either the up or down key on the controller will then change which numerical position is to be adjusted. The flashing digit is the highlighted digit.
- Pressing and then holding either the up arrow key, or the down arrow key will either increment or decrement the highlighted value.
- By momentarily pressing the up or down key on the controller, you can select the next value
 of the temperature you wish to adjust. Repeat the procedure in step five to adjust the next
 value of the temperature you have selected.
- After approximately 10 seconds of user inactivity, the controller will return to operation, and will try to control the temperature to the current set point.
- The first time the unit is powered up, it is also recommended that the Auto Tune procedure be run. Once the set point has been adjusted to normal operating conditions, the Auto Tune procedure can be run. To start the Auto Tune procedure, press and hold the up arrow and down arrow keys simultaneously for 3.2 seconds, then release. The display will begin flashing, and will continue to flash throughout the Auto Tune process. For more details of the Auto Tune process, refer to page 20 of the accompanying controller manual.

You will not need to run the Auto Tune procedure again unless you significantly change the value of the set point, or if system stability is unacceptable.



Once you have completed the above mentioned procedures, the unit is ready to heat fluid to the required temperature. No further calibration or set up is necessary for the controls in order to process the fluid at the correct temperature.

The automatic temperature controller included with this unit uses a combination of PID and fuzzy logic. Due to the manner in which this unit operates, it does not require regular recalibration or maintenance. The only sort of calibration that is required is the Auto-Tuning process. This process is used to provide the controller with the reference values for the P, I, and D parameters of the controller. The Auto-Tuning process only needs to be completed upon the initial operation of the unit, if the set-point of the unit has been changed by a large amount, or if system stability is unacceptable. To Auto-Tune your unit please refer to page 20 of the accompanying controller manual for the details of this procedure.



SUGGESTED SPARE PARTS LIST SPDI48-3V-P515

ITEM#	QTY.	PART NO.	DESCRIPTION
1.	2	840101	Heater Element, 24KW, 480VAC, 3-PH.
2.	1	306551	Temp Ctrl, 100-240VAC, SSR Drive RLY.
3.	2	306021	Limit Controller, 0-160C, T/C "J", 120VAC.
4.	1	1000832	Contactor, AF65, 3P, NO-NC, 24-60VAC COIL.
5.	4	307101	Clamp, Sanitary Fitting, TRC, 1".
6.	2	307106	Clamp, Sanitary Fitting, 3", 316SS.
7.	4	307102-U	Gasket, PTFE, TRC, 1-1/2" W/EPDM.
8.	2	307107-U	Gasket, PTFE, TRC, 3" W/EPDM.
9.	1	306265	Thermocouple 316SS, Type "J".
10.	6	301409	Fuse, HSJ, 600VAC, 40AMPS, 27mm x 60mm.
11.	1	301010	Fuse, 5 Amp, 250VAC, Dual Element.
12.	4	301007	Fuse, 0.5 Amp, 250VAC, 5mm x 20mm.
13.	1	301008	Fuse, 2.5 Amps, 250VAC, 5mm x 20mm.
14.	1	305110	Circuit Breaker, 2A, 480VAC, 2Poles.
15.	1	309810	Transformer, 380V-480V/120V, 24V, 12VAC.
16.	2	300377	Contactor, B7, 24VAC Coil, 3 Pole.
17.	4	300839	Relay, SS, State, Type RM 48, 480VAC, 100A, DC.
18.	2	300108	Relay, DPDT, 24VAC Coil.
19.	1	300109	Relay Bridge, 500mm Grey, for 300108.
20.	1	304711A	Safety Interlock Switch, 2N/C.
21.	2	304350-A1	PB, MOM, 16mm, RED SPDT.
22.	3	304342-A1	Indicating Light, 16mm, RED, 24 AC/DC.
23.	1	304349-A1	PB, Illuminated, MOM, 16mm, Green, SPDT, 24V.
24.	1	304355-A1	PB, MOM, 16mm, RED SPDT, Round.
25.	1	304361	EMO Name Plate, Emergency Stop Protective Cover.
26.	1	304369	EMO Push Button, 2N/C.
27.	1	209504	Fitting Conduit, Compression Type, 2".
28.	1	311705	Cooling Fan, 120VAC, 50/60Hz, 70SCFM.
29.	1	307305	Transmitter, Flow, 4-20mA, signet 9900, 11-35VDC.



BASIC CONTROLLER PARAMETERS Temperature Controller (PN: 306551)

Engineering Parameters

	unction	Symbol	Setting	Function	Symbol	Setting
1.	F10	SPCH	1	46. F43	ES3	0
2.	F10	dE	1	47. F43	Eho3	0
3.	F10	Deut	100	48. F43	E1L3	0
4.	F10	dSoP	0	49 . F43	EH3	2.0
5.	F11	Fn1	0	50. F43	EVT3	0.0
6.	F11	Fn2	0	51 . F43	EEo3	0
7.	F11	Fn3	0	52 . F44	ES4	0
8.	F11	Fn	1	53 . F44	Eho4	0
9.	F21	lnP	1	54 . F44	E1L4	0
	F21	UnIT	0 [°C]	55. F44	EH4	2.0
	F21	PGdP	1	56. F44	EVT4	0.0
	F21	PGSH	100.0	57 . F44	EEo4	0
	F21	PGSL	0.0	58 . F45	CTr1	800
	F21	PoV	105.0	59 . F45	CTA1	0
	F21	Pun	-5.0	60 . F45	HbS1	1
	F21	boS	0	61 . F45	HbC1	5
	F21	sQr	0	62 . F46	CTr2	800
	F21	PFrQ	1 [60Hz]	63 . F46	CTA2	0
	F21	SMP	1	64 . F46	HbS2	1
20.		rlnP	15 [4-20mA]	65 . F46	Hbc2	5
	F23	dlsL	6	66 . F50	Pd	0
	F30	LoGC	2	67. F50	PdA	3
	F30	oTT1	0.0	68 . F 5 0	CAm	0
	F30	oTT2	0.0	69 . F50	MCH	0
	F30	oTT3	0.0	70 . F50	TrK	1
		oTT4	0.0	71. F50	MVTS	0
	F30	EXC	0000	72 . F50	PVTS	0
	F30	ALC1	1111	73. F51	oS	1
	F30	ALC2	0011	74. F51	1 ddP	0
	F30	55	0011	75 . F51	DGA	6.0
	F33	Ao	l	76 . F51	оНН	1.0
	F33	AHS	100.0	77. F51	oHL	1.0
	F33	ALS	0.0	78 . F51	AoVE	0
34.	F41	ES1	5	79 . F51	AunE	0
35.	F41	EHo1	0	80 . F51	PSM	0.0
36.	F41	E1L1	0	8 1. F51	rMV1	-5.0
37.	F41	EH1	2.0	82 . F51	rMV2	-5.0
38.	F41	EVT1	0.0	83. F51	orU	0.0
39.	F41	Eeo1	0	84. F51	ord	0.0
	F42	ES2	0	85. F51	oLH	105.0
41.	F42	Eho2	0	86. F51	oLL	-5.0
42.	F42	E1L2	0	87. F51	orU2	0.0
43.	F42	EH2	2	88. F51	ord2	0.0
44.	F42	EVT2	0.0	89. F51	oLH2	105.0
45.	F42	EEo2	0	90. F51	oLL2	-5.0



BASIC CONTROLLER PARAMETERS

(CONTINUED)

Temperature Controller (PN: 306551)

Engineering Parameters (Continued)

	C	
Function 551	Symbol	Setting 0
91. F51	PFF	1.00
92. F51	PFFS	0
93. F51	dTP	
94. F51	US	1.000 0
95. F52	ATB	1
96. F52	ATC	10.0
97. F52	ATH	
98. F52	ATon AToF	105.0 -105.0
99. F52	PLH	50.0
100. F52		0
101. F52	PLL	3600
102. F52	1LH	
103. F52	1LL	0
104. F52	dLH	3600
105. F52	dLL	0
106. F52	PcLH	50.0
107. F52	PcLL	1.0
108. P52	1cLH	3600
109. F52	1cLL	0
110. F52	dcLH	3600
111. F52	dcLL	0
112. F52	PAJ	1.00
113. F52	1AJ	1.00
114. F52	dAJ	1.00
115. F52	PcAJ	1.00
116. F52	1cAJ	1.00
117. F52	dcAJ	1.00
118. F53	Ydb	2.0
119. F53	YHS	1
120 . F53	Ybr	0
1 21 . F53	PoS	AdJ
1 22 . F53	moT	10
123. F53	oLA	150.0
124. F53	VAL	0
125. F54	STS	0
126. F54	STPK	1.00
127. F54	ST1K	1.00
128. F54	STdK	1.00
129. F55	CHrG	0
130. F55	rSG	0
131. F55	CHrd	10.0
132. F55	CHrT	1.0
133. F60	CmP1	0
134. F60	CmP2	2

135 . F70	SVrT	60
136. F70	STdP	1
137. F71	SLH	100,0
138. F71	SLL	0.0

Operation Parameters

	Symbol		Setting
1.	ATU	Off	
	*Note: Au Flow of 1		ne done at Temp. S.P. of 40°C, M water.
2.	STU	oFF	
3.	A-M	Auto	
4.	r-L	LoC	
5.			changed to STOP when entering

Parameter Settings

	Symbol		Setting
1,	EV1	100	
2.	Р	12.7	
3.	1	28	
4.	d	7	
5.	rPT	1	
6.	SVrU	oFF	
7.	SVrd	oFF	
8.	AST	0	
9.	LnKA	oFF	

Setup Parameters

Symbol		Setting
1.	Pb	0
2.	dF	oFF
3.	Pr	1.000
4.	rb	0.000
5.	dF2	oFF
6.	rr	1.000
7.	Т	002.0
8.	LCK	0000



Flow Transmitter (PN: 307305)

DISPLAY	<u>SETTING</u>
System Setup Menu	
1. Type	Flow
Calibration Menu	
 Hold Output 	No
2. K-Factor	99.5
(Calibrated to W	· · · · · · · · · · · · · · · · · · ·
3. TF	1.0
Input Menu	ГI
1. Name	Flow
 Sensor Flow Units 	Freq
4. Units	GPM Gallons
5. Average	Medium
6. Sensitivity	3.0gal.
Loop Menu 4-20Ma	J.ogai.
1. 4mA	0
2. 20	13
3. Error Value	22 (Default)
4. Adjust Low	4
5. Adjust High	20
Relay Menu	20
1. R1	Normally Open
2. R1 Mode	Off
3. R2 Mode	Low
R2 Set Point	2.0GPM
5. R2 Hvs	0.0GPM
6. R2 Delay	10s
7. R3 Mode	Off
Option Menu	
1. Contrast	3
2. Auto	BACK
3. GPM	0
a. Set Bar Min	0
b. Set Bar Max	50
 Flow Decimal Total Decimal 	<u>-</u> _
6. Total Lock	
7. Pass word Type	STD
8. Memo	010
9. Remote Setup	No
10. Generation III	9900



07/19/17

CUSTOMER: PROCESS SYSTEMS



CUSTOMER PO. NO.:

JOB ORDER NO.:

QUALITY CONTROL SHEET

170038-9913

21705090

DATE:

	MODEL NO.: SPDI48-3V-P515 SERIAL NO.: USA-SSDI0717-1 MODEL DESCRIPTION: POSEIDON HEATER, 48.0KW, 480VAC, 3-PH, 60Hz					
II.	HEATER PACKAGE TEST					
	Pressure Test: 60 Psi @ 40 °C_	TEST BY:	AR	_DATE: <u>7/19/</u> 17		
	FLOW SENSOR:	TEST BY:	AR	_DATE: 17/19/17		
	HI-LIMIT T/C CHECK:	TEST BY:	AR	_DATE: <u>7/19/1</u> 7		
	Process T/C Check:	Теѕт Вү:	AR	_DATE: <u>17/19/1</u> 7		
	INSPECTOR:	DATE:	7/19/17	7		
II.	ELECTRICAL POWER & CONTROL PANEL		,			
	HI-POT TEST:	Теѕт Вү:		DATE:		
	HI-LIMIT CONTROL TEST:	Теѕт Вү:	AR	_DATE: <u>7/19/1</u> 7		
	LEAK SENSOR TEST: NA	Теѕт Вү:		_Date:		
	Process Temperature Control:	TEST BY:	AR	_DATE: 7/19/17		
	INSPECTOR:	DATE:	7/20/17			
III.	PACKING CHECK LIST					
	LABELS:	Снеск Вү:	J.W.	_DATE: 7/30/17		
	HEATER:		J.N.	_DATE: 7/20/17		
	CONTROLLER:					
	Drawings & Instructions:			•		
	FINAL CHECK BY:			•		



January 03, 2017

HEATEFLEX MATERIAL WARRANTY

Heateflex warranties the equipment offered to be free from defects in material and workmanship, under normal handling and proper usage, for a period of one year from the date of shipment. All products purchased from manufacturers by Heateflex will carry that manufacturer's warranty period. This expressed warranty is in lieu of, and excludes all other representations made by advertisements or by agents. There are no implied warranties for the equipment.

Heateflex agrees to correct any defect in workmanship or material which may develop under normal handling and proper usage during a period of one year from the date of shipment or, by its option, to repair or replace the defective equipment F.O.B. Arcadia, California, USA. Purchaser's remedies shall be limited exclusively to the right of repair or replacement. Heateflex shall not be liable for any expenses incurred by the purchaser or any other person by reason of the use, misuse, sale, or fabrication of the equipment regardless of whether the equipment conforms to the specifications.

Items returned for warranty repair must be prepaid and insured for shipment. Warranty claims are processed on the condition that prompt notification of a defect is given within the warranty period. Heateflex shall have the sole right to determine whether, in fact, a warranty situation exists.







Section II POSEIDON DRAWINGS







Section III CONTROLLER MANUAL(S)



