



SUBMITTAL DATA

HOT-PAK® SEMI-INSTANTANEOUS WATER HEATER

SH SERIES - STEAM TO WATER - HORIZONTAL DESIGN

SINGLE WALL CONSTRUCTION

Page 1 of 2

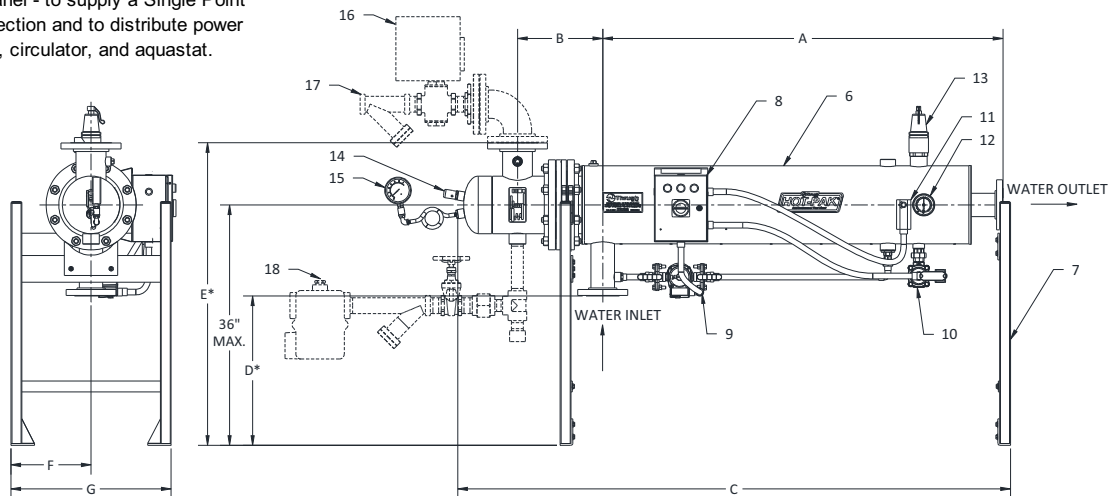
Standard Product Features:

1. Designed and Constructed to ASME Section VIII Division 1 for 150 psig @ 300 F
2. 304 SS Shell and Anticipation Plate
3. Naval Brass Tubesheet
4. 3/4" Copper Tubing
5. Brass Baffles Tube Supports
6. Shell Insulation and Jacket
7. Adjustable Support Legs
8. Electrical Panel - to supply a Single Point Power connection and to distribute power to solenoids, circulator, and aquastat.

9. Copper Piped Ultra Efficient Circulator with isolation valves
10. High Temp. Safety Solenoid Purge Valve
11. High Temp. Limit Aquastat
12. Water Temperature Gauge
13. T & P Relief Valve - ASME Rated at 150 PSIG
14. Vacuum Breaker
15. Steam Pressure Gauge

Optional Equipment:

16. Steam Control Valve/Temperature Regulator with Temperature Probe and Safety Solenoid Shutoff on Steam Pilot or Electrically Actuated Steam Control Valve with Fail Close Capacitor and RTD Temperature Sensor
17. Steam Inlet Y-strainer (Rotated for Clarity)
18. F & T Steam Trap with Y-Strainer (Rotated for Clarity)
19. Electronic Panel w/ 4 - 20 mA Signal
20. Custom Welded Frame (Fixed)



Model Designation

Steam to Water **S** Horizontal Design **H** — Bundle Diameter (IN) **6** Bundle Length (FT) **2** No. of Tube Passes **2**

Dimensions

Model	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	Water Connections	Steam Inlet	Condensate Drain	T&P Valve	Ship Wt. (lbs)
SH622	32.50	9.44	50.68	23.38	44.31	12	24	2" FLG	2.5" FLG	1.25" NPT	1"	475
SH632	44.50	9.44	62.68	23.38	44.31	12	24	2" FLG	2.5" FLG	1.25" NPT	1"	500
SH642	56.50	9.44	74.68	23.38	44.31	12	24	2.5" FLG	2.5" FLG	1.25" NPT	1.25"	525
SH832	48.00	11.94	70.19	22.38	45.31	12	24	3" FLG	4" FLG	1.5" NPT	1.5"	600
SH842	60.00	11.94	82.19	22.38	45.31	12	24	3" FLG	4" FLG	1.5" NPT	1.5"	650
SH1032	47.75	14.19	73.68	21.31	46.38	16	32	4" FLG	6" FLG	2" NPT	2"	850
SH1042	59.75	14.19	85.68	21.31	46.38	16	32	4" FLG	6" FLG	2" NPT	2"	900
SH1232	47.38	16.50	77.19	19.63	48.38	16	32	5" FLG	8" FLG	2.5" NPT	2"	1150
SH1242	59.38	16.50	89.19	19.63	48.38	16	32	6" FLG	8" FLG	2.5" NPT	2"	1300

*Dimensions reflect MAX. height installation, dimensions may vary

Job Name _____

Location _____

Engineer _____

Architect _____

Sales Rep. _____

Contractor _____

Model Number _____

Heat _____ GPM of water

From _____ Deg. F to _____ Deg. F

With _____ PSIG steam to the control valve.

Notes _____



SUBMITTAL DATA

HOT-PAK® SEMI-INSTANTANEOUS WATER HEATER
SH SERIES - STEAM TO WATER - HORIZONTAL DESIGN
SINGLE WALL CONSTRUCTION

Materials of Construction - Heat Exchanger

Item	Standard	Optional
Head	Carbon Steel	N/A
Shell	304 Stainless Steel	316 Stainless Steel
Tubesheet	Naval Brass	304 Stainless Steel
	(300°F MAX)	316 Stainless Steel
3/4" OD Tubes	20 Ga. Copper	18 Ga. Copper
		18 Ga. 90/10 CU-NI
		18 Ga. 304 Stainless Steel
		18 Ga. 316 Stainless Steel
Baffles	Brass	Stainless Steel
		PTFE
Tube Supports	Brass	Stainless Steel

T&P Relief Valve Size Info

T&P Valve Size	ASME rating BTU/HR @ 150 PSIG
3/4"	1,601,000
1"	4,200,000
1.25"	4,586,000
1.5"	7,763,000
2"	9,262,000

Maximum Operating Conditions

Designed & Constructed to ASME Section VIII, Division 1

Maximum Tubeside Working Pressure	150 PSIG
Maximum Shellside Working Pressure	150 PSIG
Hydrostatic Test Pressure - Tubeside	195 PSIG
Hydrostatic Test Pressure - Shellside	195 PSIG
*Maximum Temperature	300°F

*Maximum Temperature can be increased to 375° F with the use of S.S. Tubesheet

For additional relief valve capacity, additional relief valves should be installed on the discharge piping

Quick Sizing Table - With Armstrong OB-2000 Temperature Regulator

40 Deg.F to 140 Deg. F Temperature Rise (100 Deg. F Delta T) with 15 PSIG steam to Control Valve

Model Number	Steam to Valve (PSIG)	Steam out of Valve (PSIG)	Maximum Flow (GPM)	Steam Load BTU/HR	Steam Required (LBS/HR)	Steam Valve Size	Steam Trap Size	Water Pressure Drop (FT HD)
SH622	15	8	10	500,000	529	1.5"	1.25"	0.1
SH632	15	8	21	1,050,000	1111	2"	1.5"	0.4
SH642	15	8	32	1,600,000	1693	2.5"	1.5"	1.4
SH832	15	8	41	2,050,000	2169	2.5"	1.5"	0.5
SH842	15	8	62	3,100,000	3280	3"	2" std	1.2
SH1032	15	8	68	3,400,000	3598	4"	2" hi-cap	0.4
SH1042	15	8	100	5,000,000	5291	6"	2.5"	1.0
SH1232	15	8	92	4,600,000	4868	6"	2.5"	0.3
SH1242	15	8	134	6,700,000	7090	6"	2.5"	0.5

Quick Sizing Table - With Spence E2T14 Temperature Regulator

40 Deg.F to 140 Deg. F Temperature Rise (100 Deg. F Delta T) with 15 PSIG steam to Control Valve

Model Number	Steam to Valve (PSIG)	Steam out of Valve (PSIG)	Maximum Flow (GPM)	Steam Load BTU/HR	Steam Required (LBS/HR)	Steam Valve Size	Steam Trap Size	Water Pressure Drop (FT HD)
SH622	15	12	12	600,000	635	1.25"	1.25"	0.1
SH632	15	12	23	1,150,000	1217	2"	1.5"	0.5
SH642	15	12	36	1,800,000	1905	2.5"	1.5"	1.7
SH832	15	12	46	2,300,000	2434	3"	1.5"	0.6
SH842	15	12	69	3,450,000	3651	4"	2" std	1.5
SH1032	15	12	75	3,750,000	3968	4"	2" hi-cap	0.5
SH1042	15	12	110	5,500,000	5820	5"	2.5"	1.2
SH1232	15	12	102	5,100,000	5397	5"	2.5"	0.3
SH1242	15	12	148	7,400,000	7831	6"	2.5"	0.6

Note: Maximum Working Pressure for the E2T14 Valve is 15 PSIG.

For Sizing Requirements for Alternate Valve or Different Temperature Ranges, refer to the **HOT-PAK™** Sizing Tables.