



Submittal Sheet

HSWV 600 Series

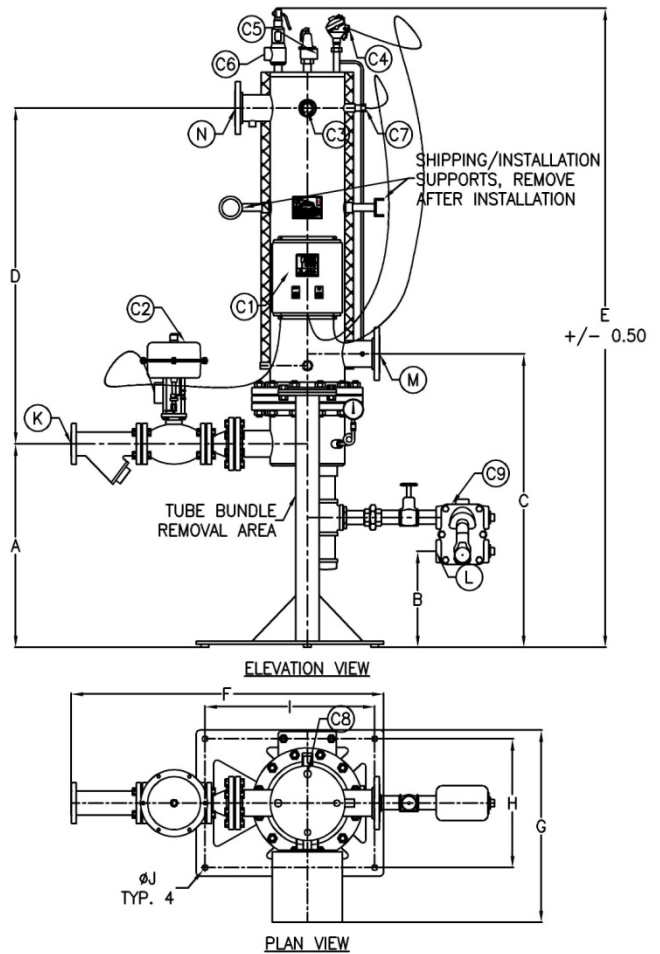
Instantaneous Water Heater

Steam to Water, Vertical Orientation

Single Wall Construction

Standard Product Features:

1. Designed, manufactured, tested and stamped in accordance with the ASME Code, Section VIII, Division 1, current Edition
2. Type 316/L stainless steel shellside construction
3. Type 316/L stainless steel tubesheet construction
4. Seamless copper tube construction
5. Pressure vessel quality carbon steel channel construction
6. Teflon baffles with stainless steel tie-rods/spacers
7. 1.5" thick insulation with stainless steel jacket
8. Internal load anticipator
9. Mechanical thermostat for over temperature protection
10. Over temperature safety solenoid purge valve
11. Water thermometer
12. ASME Code Section VIII pressure relief valve
13. ASME Code Section IV temperature and pressure relief valve
14. Steam control valve (accessories included)
 - a. Electric, fail safe, 8 second full stroke
 - b. Pneumatic, fail safe, 8 seconds full stroke
 - c. Electro-pneumatic, fail safe, 8 seconds full stroke
 - d. Self contained, fail safe, 8 seconds full stroke
15. Steam vacuum breaker
16. Steam pressure gauge
17. Float and thermostatic steam trap
18. Single power supply of 100-240 VAC, 50/60 hertz, to the control panel required
19. Recirculation pump (*optional*)
20. Feedwater pre-heater/economizer (*optional*)



Howard's **S**tream to **W**ater **V**ertical **6**00 Series **06** Shell Size **36** Bundle Size **2** Pass

Sales Rep: _____ Model Number: _____
 Job Name: _____ To Heat: _____ GPM of Water
 Location: _____ From: _____ °F To _____ °F
 Notes: _____ Using: _____ PSIG steam to the control valve



Dimensions (inches)

Model Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Weight
HSWV 606-362	34.75	14.25	44.00	57.38	104.00	54.00	27.50	16.00	23.00	0.75	2-150	1½NPT	3-150	3-150	500
HSWV 608-362	34.75	15.00	46.00	57.38	106.00	54.00	29.50	18.00	25.00	0.75	2-150	1½NPT	3-150	3-150	600
HSWV 610-362	34.75	15.75	48.00	57.38	108.00	54.00	31.50	20.00	27.00	1.00	2-150	2NPT	4-150	4-150	900
HSWV 612-362	34.75	16.38	50.00	57.38	110.00	54.00	33.50	22.00	29.00	1.00	3-150	2½NPT	4-150	4-150	1,350
HSWV 614-362	34.75	16.38	50.00	57.38	110.00	54.00	35.50	24.00	31.00	1.00	4-150	3NPT	6-150	6-150	1,650

* more sizes available upon request

** additional nozzle configurations available on request

Item	Description	Optional Materials of Construction	
C1	Control Panel	Shell	--
C2	Steam Control Valve	Channel	Type 316/L Stainless steel
C3	Water Thermometer	Tubesheet	Brass
C4	Resistance Temperature Detector	Tubes	Titanium
C5	Temperature and Pressure Relief Valve		90/10 Copper Nickel
C6	Pressure Relief Valve		Type 316/L Stainless steel
C7	Mechanical Thermostat		Brass
C8	Water Solenoid Valve		70/30 Copper Nickel
C9	Float and Thermostatic Steam Trap	Baffles	Type 316/L Stainless steel

Benefits of Howard's Engineering Fully Controlled Water Heaters:

1. Heat exchanger is designed to meet performance criteria and is provided with a thermal guarantee.
2. All components are engineering to meet performance criteria, no wasted time sourcing parts to work in conjunction with one another.
3. Industrial quality and commercial price.
4. Increased system efficiency due to a properly sized heat exchanger.
5. Peace of mind knowing that you will be receiving the most highly engineered heat exchanger available.

Specifications:

1. Instantaneous water heater shall be Howard's Engineering HSWV 600 series factory controlled, insulated and packaged
2. Instantaneous water heater shall be ASME Code Stamped for 150 PSI at 350°F on the shell and channel side and registered with the National Board of Boiler and pressure vessel inspectors
3. Instantaneous water heater shell to be made of type 316/L stainless steel, minimum schedule 10S for the shell thickness
4. Instantaneous water heater channel to be made of pressure vessel quality carbon steel
5. Instantaneous water heater tubesheet to be made of type 316/L stainless steel
6. Instantaneous water heater tubes to be made of seamless copper
7. Shellside insulation to be 1.5" thick fiberglass with a stainless steel jacket
8. All carbon steel exterior parts to be enameled
9. Controls to include:
 - a. PID controller with factory recommended settings
 - b. Internal load anticipator
 - c. Mechanical thermostat for over temperature protection
 - d. Over temperature safety solenoid purge valve
 - e. Water thermometer
 - f. ASME Code Section VIII pressure relief valve
 - g. ASME Code Section IV temperature and pressure relief valve
 - h. Steam control valve (choose one, accessories included)
 - i. Electric, fail safe, 8 second full stroke



- ii. Pneumatic, fail safe, 8 seconds full stroke
- iii. Electro-pneumatic, fail safe, 8 seconds full stroke
- iv. Self contained, fail safe, 10 seconds full stroke
- i. Steam vacuum breaker
- j. Steam pressure gauge
- k. Float and thermostatic steam trap
- l. Single power supply of 100-240 VAC, 50/60 hertz, to the control panel required

10. Manufacturer will assume responsibility for the correct sizing of all control components

** complete construction specifications available upon request.

Sizing Table, 40°F inlet temperature, 140°F outlet temperature (for reference only)									
St. Inlet	2	5	10	15	25	40	50	75	100
St. Outlet	1	3	7	11	18	28	35	53	70
GPM									
10	606-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36
20	606-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36
30	608-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36	606-36
40	608-36	608-36	608-36	608-36	606-36	606-36	606-36	606-36	606-36
50	608-36	608-36	608-36	608-36	608-36	608-36	606-36	606-36	606-36
60	610-36	610-36	608-36	608-36	608-36	608-36	608-36	606-36	606-36
70	610-36	610-36	610-36	608-36	608-36	608-36	608-36	608-36	608-36
80	610-36	610-36	610-36	610-36	608-36	608-36	608-36	608-36	608-36
90	612-36	612-36	610-36	610-36	610-36	608-36	608-36	608-36	608-36
100	612-36	612-36	612-36	612-36	610-36	610-36	608-36	608-36	608-36
125	612-36	612-36	612-36	612-36	612-36	610-36	610-36	610-36	608-36
150	612-36	612-36	612-36	612-36	612-36	612-36	610-36	610-36	610-36
175	614-36	614-36	614-36	614-36	614-36	612-36	612-36	612-36	610-36
200	614-36	614-36	614-36	614-36	614-36	614-36	612-36	612-36	612-36