

VERTICAL SEMI-INSTANTANEOUS WATER HEATER**GENERAL DESCRIPTION**

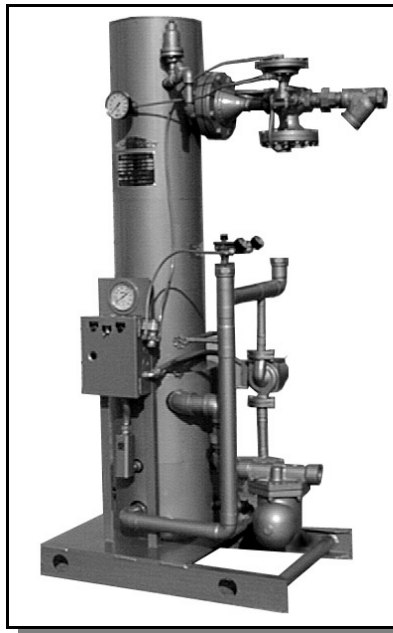
The Sellers Vertical Quick Heat Water Heater utilizes steam or hot water to generate hot water fast. The unit is built in accordance with Section VIII of the ASME code and "U" stamped for 150 psi. The unit is completely factory packaged. It can produce large volumes of hot water while occupying little floor space. A stainless steel mixing chamber eliminates corrosion and erosion while assuring uniform temperatures at any flow rate.

STANDARD FEATURES

- ◆ Minimum floor space requirements.
- ◆ Outlet water temperature is held within 5 degrees F. of the set point.
- ◆ A pneumatic, electric or self operated ANSI valve rated for industrial steam service control the steam or boiler water flow.

All water wetted surfaces are stainless steel or copper. All stainless steel construction is available for deionized water.

Solid copper piping with lead free solder protects the water supply. Temperature and pressure gauges are console mounted. A control panel with two indicator lights and an on-off switch holds the electronic controls. A steam trap removes the condensate. A sturdy metal jacket covers both the steam and water chambers with a high density insulation. A pump maintains high velocity in the exchanger tubes. The high velocity water effectively scours the scale from inside the tube to increase heat transfer. This maintains like new heat exchanger efficiency. Low volume steam in the shell prevents overheating even with no flow.

**WARRANTY**

One year heat exchanger and pressure vessel warranty with 18 month parts coverage. Optional five and ten year extended warranties are also available.

Controls

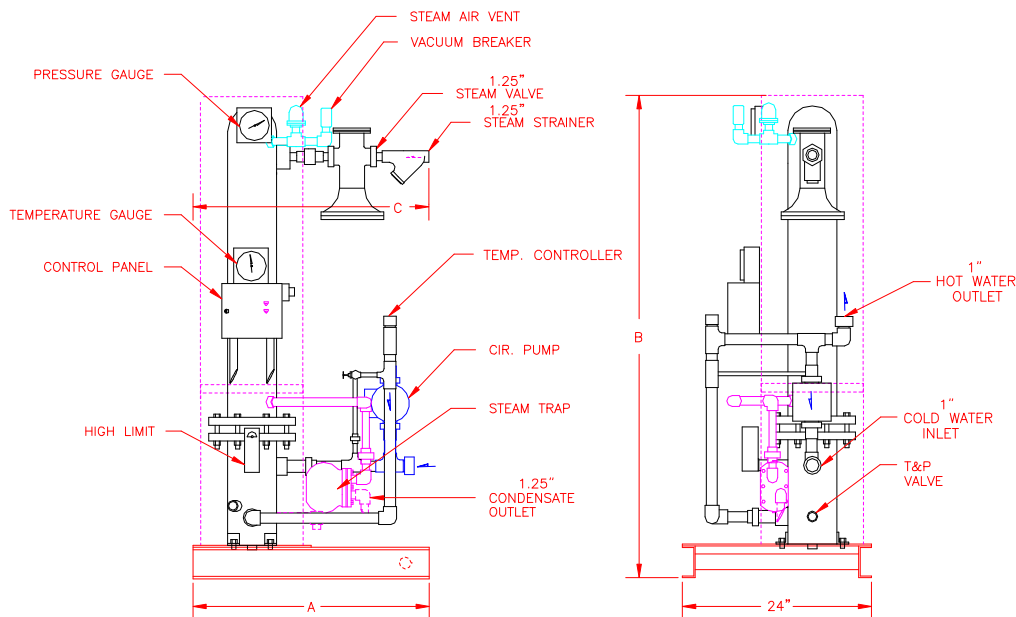
The fail safe pneumatic steam valve responds quickly to temperature and flow changes. Outlet temperature changes of one half degree or less

cause the steam valve to respond to bring the temperature back to the set point. A unique sensing system checks the water temperature before it is heated. A signal is fed forward to the steam valve to set the steam flow to match the incoming cold water temperature and volume. Cold "slugs" are eliminated. Hot "slugs" at sudden flow stoppage are prevented. The feed forward sensor provides accurate temperature control. A safety back-up high limit control monitors the exit water temperature. A double safety solenoid system causes the steam valve to shutdown and a dump valve drains the hot water if the water temperature exceeds the high limit set point. A bronze water pressure ASME relief valve is provided.

INSTALLATION

The Quick Heat Water Heater requires steam, air, water, condensate and electrical connections to begin operation. Provide condensate drainage by gravity to a vented receiver. (Steam traps are sized with zero back pressure) If moderate lifts are expected, consult the factory. Provide 115 volt electrical power supply and 20 psi pneumatic air signal to operate the controls. A storage tank may be piped in series to reduce boiler loading if large intermittent load swings are expected.

VERTICAL QUICK HEAT STEAM WATER HEATER



STANDARD EQUIPMENT FURNISHED

Modulating steam control valve with strainer.
 Pneumatic Temperature controller.
 Temperature Gauge
 Steam pressure gauge.
 ASME certified pressure relief valve.
 2" insulation with metal jacket.
 Control panel with on-off switch.
 Two indicating lights

Vacuum breaker.
 High limit temperature control.
 Double safety solenoid circuit.
 Bronze circulating pump with copper piping.
 Stainless steel tube sheet.
 Stainless steel mixing chamber.
 Steam trap.
 Skid type base.

HOW TO SIZE

1. Determine the peak hot water requirements (See Sellers Sizing Guide)
2. Determine the steam pressure available at the heater location.
3. Determine the temperature of the incoming cold water (see cold water correction factor chart below if is greater than 40 degrees F.).
4. Choose the correct model by applying the required capacity (GPM) and the available steam pressure to the respective chart (consult factory for pricing and sizing confirmation, double wall, glycol or different temperature range application).

EXAMPLE

Requirement: 45 GPM @ 60 to 120 deg. F. using 15 psi steam.

$$45 \text{ gpm} \times .76 \text{ (correction factor for 60 deg. Water)} = 34 \text{ gpm.}$$

Apply 34 gpm to the 40 to 120 deg. Chart.
 The correct model selection is QHV15 -120.

If a shorter model is required, a model could have been selected. As you read the charts, the first model encountered is usually the most economical.

COLD WATER CORRECTION FACTOR CHART

Cold Water Supply Temperature (Deg. F)	40	50	60	70
Correction Factor Multiplier	1.00	.88	.76	.65

VERTICAL QUICK HEAT STEAM WATER HEATER

CAPACITIES AND DIMENSIONS – SINGLEWALL

QUICK HEAT MODEL	40 TO 120 DEG F																						
	STEAM SUPPLY PRESSURE (PSI)																						
	BASE SIZE A	UNIT HT. B	5 PSI			10 PSI			15 PSI			25 PSI			50 PSI			75 PSI			100 PSI		
			CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.
QHV(*)A2-120	30	50	6	31	382	8	31	375	9	31	375	10	29	371	13	28	375	15	28	370	17	28	370
QHV(*)A3-120	30	62	18	41	485	20	35	439	22	36	439	25	33	427	31	32	420	33	32	425	36	30	422
QHV(*)A4-120	30	74	30	46	588	33	47	547	36	38	501	40	38	501	40	36	482	40	34	482	40	33	478
QHV(*)B2-120	36	50	11	37	489	13	34	489	15	34	475	18	34	475	23	34	470	26	32	476	29	32	473
QHV(*)B3-120	36	62	31	48	644	35	46	608	38	43	608	44	40	563	55	40	573	58	38	689	65	38	552
QHV(*)B4-120	36	74	54	61	792	60	51	723	65	51	719	72	51	678	72	43	644	72	41	753	72	41	652
QHV(*)C2-120	48	50	17	46	702	21	40	659	23	41	659	28	41	665	37	38	655	40	37	640	46	37	653
QHV(*)C3-120	48	62	50	63	886	57	54	817	62	54	813	70	54	772	88	52	907	94	46	885	104	48	842
QHV(*)C4-120	48	74	89	77	1125	98	65	963	105	60	991	118	60	922	118	56	1002	118	54	953	118	48	996
QHV(*)D2-120	48	50	23	53	896	28	45	860	31	45	860	37	45	815	50	45	855	55	43	964	62	41	919
QHV(*)D3-120	48	62	69	71	1192	78	60	1025	85	58	1047	98	56	988	122	56	1140	131	54	1140	145	56	1093
QHV(*)D4-120	48	74	124	80	1401	138	71	1396	147	68	1229	165	67	1377	173	58	1263	173	58	1263	173	56	1266

QUICK HEAT MODEL	40 TO 140 DEG F																						
	STEAM SUPPLY PRESSURE (PSI)																						
	BASE SIZE A	UNIT HT. B	5 PSI			10 PSI			15 PSI			25 PSI			50 PSI			75 PSI			100 PSI		
			CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.
QHV(*)A2-140	30	50	2	27	371	3	27	371	4	27	366	5	27	366	8	27	370	9	27	370	10	27	369
QHV(*)A3-140	30	62	10	35	439	11	32	436	12	32	424	15	32	424	19	32	417	21	30	417	24	30	417
QHV(*)A4-140	30	74	18	44	534	20	38	499	22	38	499	26	38	501	33	36	492	35	32	479	38	34	481
QHV(*)B2-140	36	50	4	33	472	5	32	465	7	32	465	9	32	465	13	32	468	15	30	465	17	31	487
QHV(*)B3-140	36	62	17	46	600	20	40	600	22	40	555	26	40	558	34	38	567	37	37	538	42	37	545
QHV(*)B4-140	36	74	30	50	707	34	49	723	37	49	682	43	49	672	54	43	759	58	40	753	64	41	652
QHV(*)C2-140	48	50	6	37	646	8	36	646	11	36	631	13	36	632	19	37	635	23	35	633	25	35	635
QHV(*)C3-140	48	62	27	58	801	32	52	765	36	52	765	42	52	765	56	43	852	60	43	872	68	41	827
QHV(*)C4-140	48	74	53	63	969	60	58	976	66	54	898	77	54	908	96	54	992	102	52	953	115	54	925
QHV(*)D2-140	48	50	8	42	842	10	40	807	14	40	797	19	40	810	28	39	825	31	39	811	37	39	804
QHV(*)D3-140	48	62	38	60	1025	45	56	966	50	56	956	59	56	934	77	54	1059	83	48	1019	95	50	991
QHV(*)D4-140	48	74	74	79	1310	84	67	1143	92	62	1147	106	62	1306	135	58	1368	144	58	1263	160	58	1267

Notes:

(*) Insert steam supply pressure.
 Water pressure drop through heater does not exceed 3 psi.
 Consult factory for pricing, glycol or other temperature selections.
 Cap GPM = Capacity in U.S. gallons per minute.
 Multiply by 3.8 for liter per minute.
 Steam assembly may project beyond the base where "C" exceeds "A".
 Openings 4" and larger are 150 psi flanged.
 All dimensions are in inches.

Hot and Cold Opening Sizes

0 to 16 GPM 1.0"
 17 to 24 GPM 1.25"
 25 to 34 GPM 1.50"
 35 to 60 GPM 2.0"
 61 to 90 GPM 2.50"
 91 to 130 GPM 3.0"
 131 to 220 GPM 4.0"

VERTICAL QUICK HEAT STEAM WATER HEATER

CAPACITIES AND DIMENSIONS – DOUBLEWALL

QUICK HEAT MODEL	40 TO 120 DEG F																						
	STEAM SUPPLY PRESSURE (PSI)																						
	BASE SIZE A	UNIT HT. B	5 PSI			10 PSI			15 PSI			25 PSI			50 PSI			75 PSI			100 PSI		
			CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.
QHV(*)A2-120	30	50	11	35	393	13	33	386	14	33	386	16	32	382	19	32	386	19	30	381	19	29	381
QHV(*)A3-120	30	62	19	38	496	19	36	450	19	36	450	19	36	438	23	32	431	25	30	436	29	30	433
QHV(*)A4-120	30	74	23	46	599	26	44	558	29	38	512	33	38	512	41	36	493	41	36	493	41	34	489
QHV(*)B2-120	36	50	11	37	502	13	34	500	15	34	486	18	34	486	23	34	481	26	32	487	29	32	484
QHV(*)B3-120	36	62	31	48	657	35	46	619	38	43	619	44	40	574	55	40	584	58	38	700	65	38	563
QHV(*)B4-120	36	74	54	61	805	60	51	734	65	51	730	72	51	689	72	43	655	72	41	764	72	41	663
QHV(*)C2-120	48	50	30	58	722	34	52	670	38	52	670	44	52	676	57	46	666	57	46	651	57	44	664
QHV(*)C3-120	48	62	57	60	906	57	56	828	57	54	824	57	54	783	67	42	918	73	46	896	84	48	853
QHV(*)C4-120	48	74	67	67	1145	76	65	974	84	60	1002	98	60	933	122	56	1013	122	54	964	122	54	1007
QHV(*)D2-120	48	50	40	65	931	46	56	871	51	56	871	60	56	826	78	54	866	82	48	975	82	48	930
QHV(*)D3-120	48	62	82	67	1227	82	62	1036	82	58	1058	82	58	999	91	56	1151	100	54	1151	117	56	1104
QHV(*)D4-120	48	74	93	80	1436	108	71	1407	119	68	1240	139	67	1388	175	62	1274	175	58	1274	175	58	1277

QUICK HEAT MODEL	40 TO 140 DEG F																						
	STEAM SUPPLY PRESSURE (PSI)																						
	BASE SIZE A	UNIT HT. B	5 PSI			10 PSI			15 PSI			25 PSI			50 PSI			75 PSI			100 PSI		
			CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.	CAP. GPM	C	WT.
QHV(*)A2-140	30	50	5	31	382	6	29	382	7	29	377	9	29	377	13	29	381	14	28	381	16	28	380
QHV(*)A3-140	30	62	15	44	450	17	38	447	19	36	435	19	36	435	19	34	428	19	33	428	19	31	428
QHV(*)A4-140	30	74	15	44	545	17	38	510	19	36	510	19	36	512	19	34	503	19	33	490	19	31	492
QHV(*)B2-140	36	50	9	38	485	11	35	476	13	34	476	15	34	476	21	34	479	24	33	476	27	33	498
QHV(*)B3-140	36	62	27	55	613	31	49	611	34	49	566	35	43	569	35	41	578	35	40	549	35	40	556
QHV(*)B4-140	36	74	35	51	720	35	49	734	35	43	693	35	43	683	46	40	770	50	38	764	58	38	663
QHV(*)C2-140	48	50	14	49	666	17	43	657	20	43	642	25	43	643	33	41	646	37	39	644	43	37	646
QHV(*)C3-140	48	62	44	63	821	50	58	776	55	54	776	58	54	776	58	46	863	58	46	883	58	44	838
QHV(*)C4-140	48	74	58	60	989	58	56	987	58	54	909	58	56	919	77	52	1003	84	46	964	96	48	936
QHV(*)D2-140	48	50	19	53	877	23	51	818	27	45	808	33	45	821	46	45	836	51	43	822	59	43	815
QHV(*)D3-140	48	62	60	71	1060	70	62	977	77	62	967	83	56	945	83	54	1070	83	48	1030	83	48	1002
QHV(*)D4-140	48	74	83	67	1345	83	62	1154	83	58	1158	83	58	1317	106	63	1379	117	61	1274	135	56	1278

Notes:

(*) Insert steam supply pressure.

Water pressure drop through heater does not exceed 3 psi.

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Cap GPM = Capacity in U.S. gallons per minute.

Multiply by 3.8 for liter per minute.

Steam assembly may project beyond the base where "C" exceeds "A".

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