



Fuel-Fired Vertical Tubeless Boilers

Fulton Classic (4-60HP), The EDGE (6-30HP)
Horizontal and Vertical Condensate Return Systems
and Blow-down Separators

**RUGGED
ROBUST
RELIABLE**



FULTON FUEL-FIRED VERTICAL TUBELESS BOILERS

FULTON: AN INDUSTRY LEADER SINCE 1949

Since Fulton's invention of the vertical tubeless boiler in 1949, Fulton has been the leading U.S. manufacturer of this type of boiler. For over 60 years, more than 100,000 boilers have been produced and distributed world-wide.

Every Fulton boiler is built and stamped to ASME Code and registered with the National Board of Boiler and Pressure Vessel Inspectors. Fulton boilers are UL listed boilers – not just the burner or electrical components – the entire boiler and they are CSA approved.

A vertical tubeless boiler is a relatively simple design, offering years of trouble-free operation

Many Fulton boilers over 30 years of age are still in operation today. There are no tubes or coils to rust or burn out periodically, therefore, no retubing costs, no downtime. No downtime means increased productivity.



Complete control panel box houses all necessary operating components

The 7800 Series Microprocessor based controls are standard. A trouble shooting display module is optional. Fulton's commitment to continuous product improvement is reflected in the efficiency, quality, and ruggedness of these superior standard fuel-fired boilers.

All Fulton Boilers can be ordered with a polished stainless steel jacket

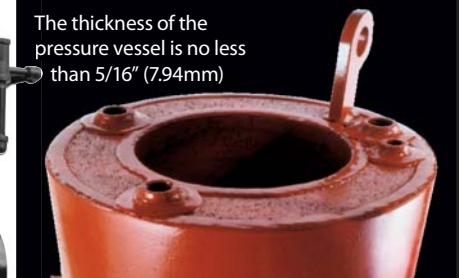
Ask your Fulton distributor how little extra it can cost for stainless.



Unique features begin with simplicity

The furnace (pressure vessel) is, simply stated, a "pipe within a pipe". The top mounted Fulton power burner sends a spinning cyclonic flame into and down the center furnace chamber.

If you want more efficiency with the same vertical tubeless design Fulton has The EDGE

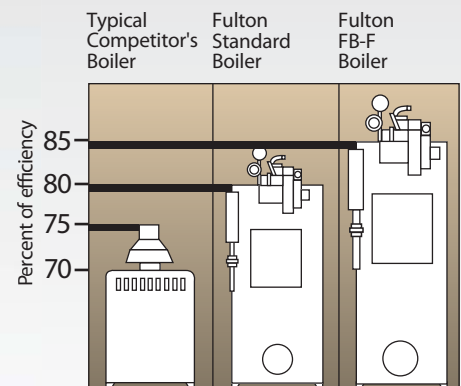


The thickness of the pressure vessel is no less than 5/16" (7.94mm)

and it does have the edge over the Classic. Fuel to steam efficiencies in the low 80's. The EDGE has the same time proven top mounted matched burner with the downward cyclonic flame and features the Fulton engineered Flue Gas Enhancing System (FGE). A highly efficient two pass design, the Fulton FGE system works by using a massive heat transfer surface with high velocity flue gasses traveling over a cylindrical grid of heat convection fins. Through controlled velocities these fins transmit additional heat evenly to the outer side of the water vessel, creating high efficiencies with lower stack temperatures.

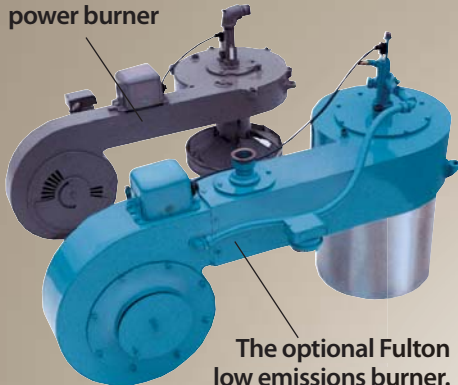
Dramatic stack temp. reductions

With the Fulton FB-F, The EDGE, stack temperatures can be from 100-150°F below standard two pass designs and have cut previous fuel bills in half!



A LOOK INSIDE FULTON'S VERTICAL TUBELESS BOILER

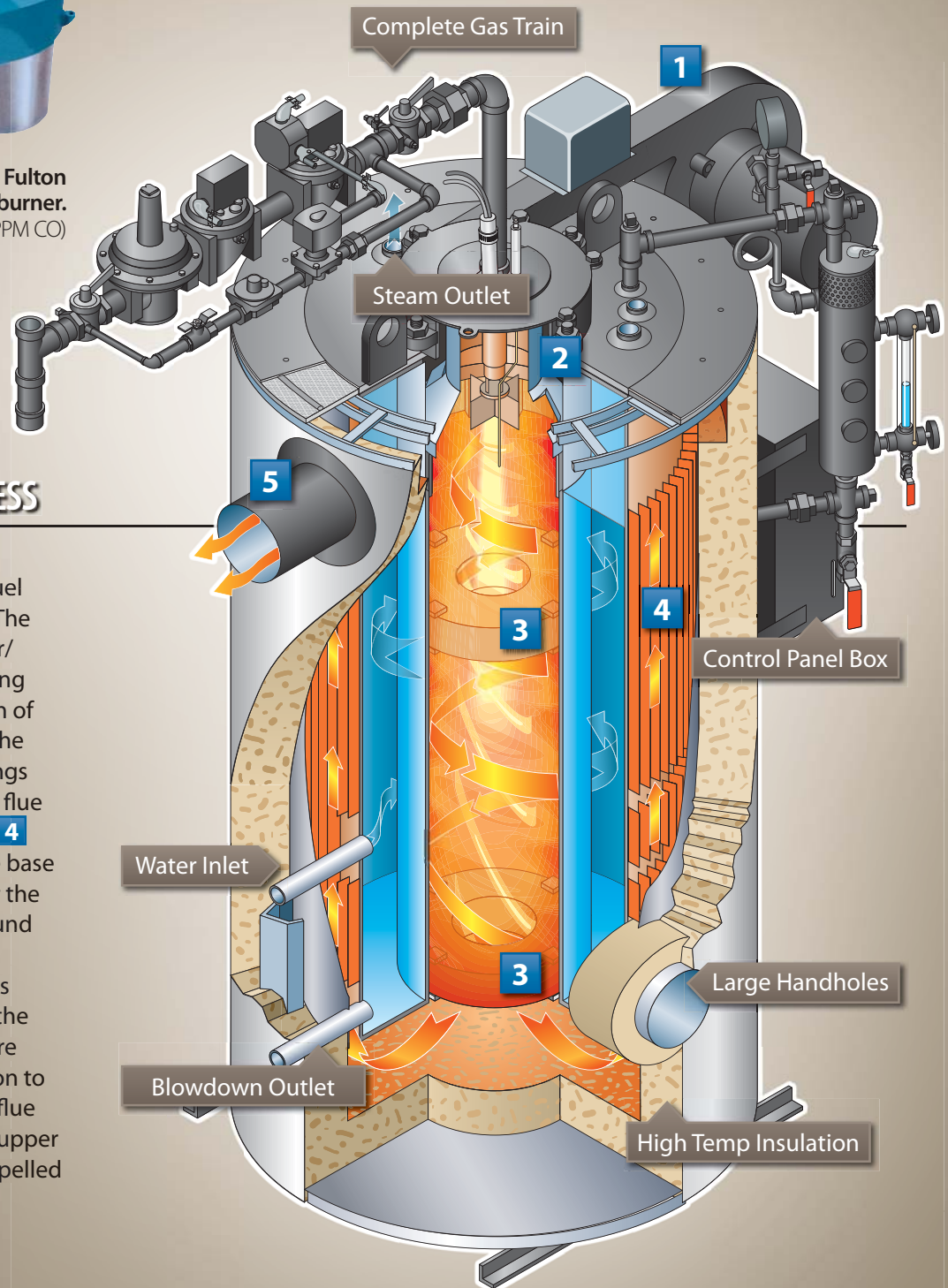
The Fulton standard top fired power burner



The optional Fulton low emissions burner.
($< 20\text{PPM NO}_x$ and $< 60\text{PPM CO}$)

Fulton fuel-fired boilers can be ordered with combination fuel capabilities or be converted to combination fuels simply and economically.

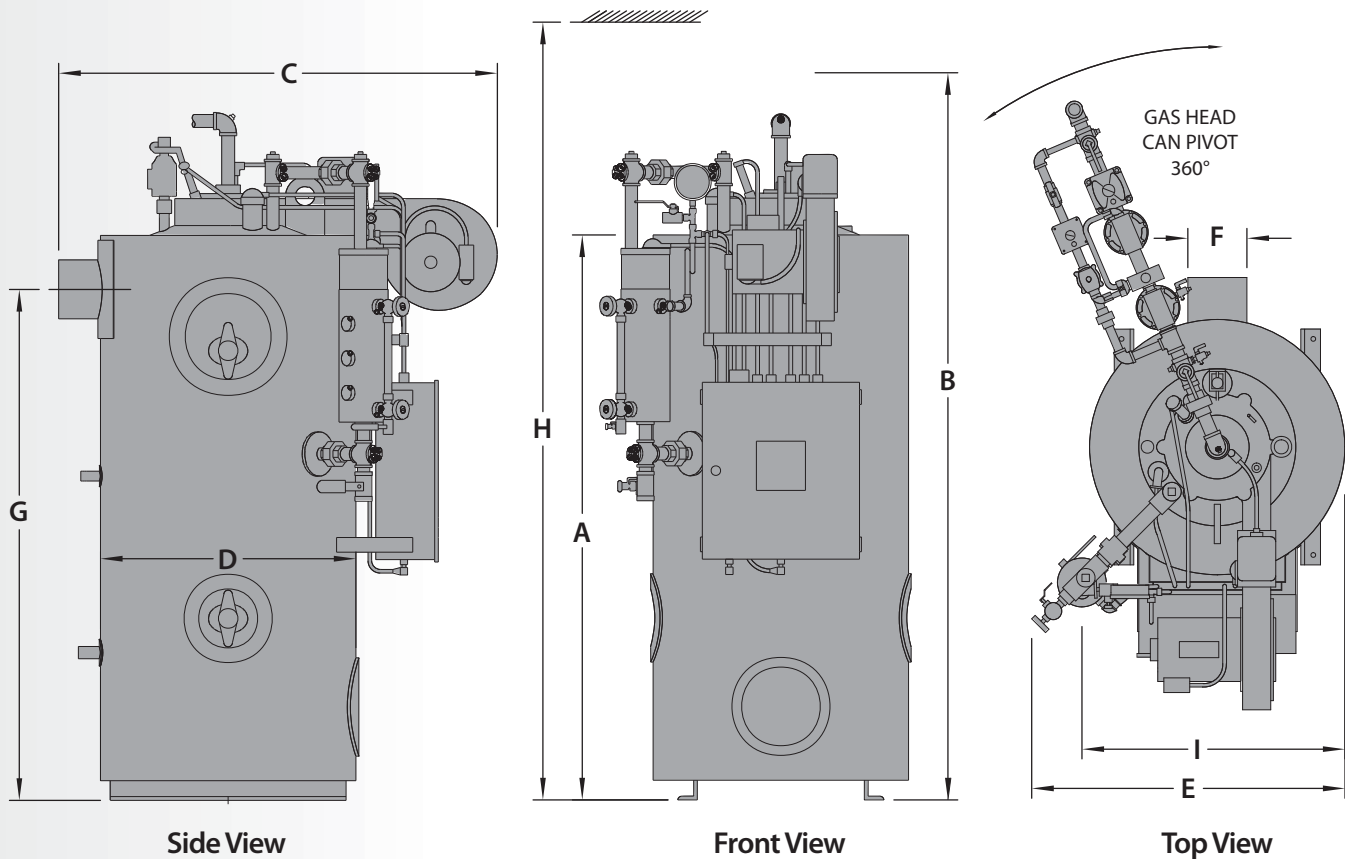
All fuel-fired boilers feature the Fulton designed and manufactured top mounted down fired forced draft burner.



THE COMBUSTION PROCESS

1 Air is drawn into the power burner where it is mixed with fuel for optimum combustion. **2** The ignition assembly ignites the air/fuel mixture and sends a spinning cyclonic flame down the length of the furnace chamber, forming the first pass. **3** Flame retainer rings increase occupancy time of the flue gases increasing heat transfer. **4** The flue gases are turned at the base of the chamber and return over the heat convection fins that surround the entire water jacket. This is the second pass, which transfers additional heat to the water in the vessel. The Edge model has more fins and an enhanced orientation to improve heat transfer. **5** The flue gases are then collected at the upper portion of the boiler and are expelled through the flue outlet.

DIMENSIONS, WEIGHTS



CLASSIC MODELS FB-A, EDGE MODELS FB-F

Classic Models FB-A		4	6	9.5	10	15	20	25	30	50	60
The EDGE Models FB-F		N/A	6	N/A	10	15	20	N/A	30	N/A	N/A
Unit Size:	HP	4	6	9.5	10	15	20	25	30	50	60
Heights and Widths											
(A) Boiler Height	IN	47.5	57.5	67.5	63.5	69	72.5	75	82.5	87	93.5
	MM	1207	1461	1715	1613	1753	1842	1905	2069	2210	2375
(B) Boiler Height With Trim and Fuel Train	IN	63.5	73.5	83	80	86	91.5	93.5	101	106.5	118.5
	MM	1613	1867	2108	2032	2184	2324	2375	2565	2705	3010
(C) Overall Depth Stack	IN	44	44	44	45	47	59.5	60	66.5	77	77
to Burner Fan Housing	MM	1118	1118	1118	1143	1194	1511	1524	1689	1956	1956
(D) Boiler Diameter	IN	26	26	26	28	30	39	39	46	55	55
	MM	660	660	660	710	760	990	990	1170	1400	1400
(E) Overall Width	IN	35.5	35.5	35.5	37	39	46.5	47	52.5	60	60
with Water Column	MM	902	902	902	940	990	1181	1194	1333	1524	1524
(F) Flue Outlet Diameter	IN	6	6	6	6	8	10	10	12	12	12
	MM	152	152	152	152	203	254	254	305	305	305
(G) To Center of Flue Outlet	IN	42	52	62	58	63	65	66	73.5	79	85
	MM	1070	1320	1575	1473	1600	1651	1676	1867	2007	2159
Minimum Clearances											
(H) Clearance for Burner Removal * ✱	IN	72	82	92	86	92	96	98	106	114	124
	MM	1828	2083	2337	2184	2337	2438	2489	2692	2896	3150
(I) Opening Required for Installation	IN	26	26	26	28	30	39	39	46	55	55
With Water Column Removed	MM	660	660	660	710	760	990	990	1170	1400	1400
Front of Boiler	IN	41	41	41	41	41	41	41	41	41	41
	MM	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041
Sides & Rear of Boiler	IN	18	18	18	18	18	18	18	18	18	18
	MM	914	914	914	914	914	914	914	914	914	914
Weights											
Approx. Shipping Weight	LB	1400	1700	1900	2000	2280	3400	3500	4780	6526	7280
	KG	635	773	862	910	1036	1545	1588	2168	2960	3302

* This dimension is 6" less for oil-fired units 6-50 HP and 12" less for oil-fired units 60 HP. ✱ Add 6" for low emissions burner removal.

AND SPECIFICATIONS

Classic Models FB-A		4	6	9.5	10	15	20	25	30	50	60
The EDGE Models FB-F		N/A	6	9.5	10	15	20	N/A	30	N/A	N/A
Unit Size:	HP	4	6	9.5	10	15	20	25	30	50	60
Ratings* (Sea level to 3000 ft.)											
Output	1,000 BTUHR	134	201	318	335	503	670	838	1,005	1,674	2,009
	1,000 KCAL/HR	33.8	50.7	80.1	84.4	127	169	211	253	422	506
Steam Output	LB/HR	138	207	328	345	518	690	863	1,035	1,725	2,070
	KG/HR	63	94	149	157	235	313	392	470	785	942
Approximate Fuel Consumption at Rated Capacity+											
Light Oil (Classic Only)	GPH	1.2	1.8	2.8	3.0	4.5	6	7.5	9	15.0	17.9
	LPH	4.5	6.8	10.6	11.4	17.0	22.7	28.4	34.1	56.8	67.8
Propane Gas (Classic)	FT3/HR	67.2	100	159	168	251	335	419	502	837	1,004
	M3/HR	1.9	2.8	4.5	4.8	7.1	9.5	11.9	14.2	23.7	28.4
Natural Gas (Classic)	FT3/HR	168	257	398	419	628	837	1,047	1,256	2,093	2,511
	M3/HR	4.8	7.1	11.3	11.9	17.8	23.7	29.7	35.4	59.3	71.1
Propane Gas (EDGE)	FT3/HR	N/A	97	N/A	161	242	323	N/A	484	N/A	N/A
	M3/HR	N/A	2.7	N/A	4.6	6.9	9.1	N/A	13.7	N/A	N/A
Natural Gas (EDGE)	FT3/HR	N/A	242	384	403	606	837	N/A	1,210	N/A	N/A
	M3/HR	N/A	6.9	10.8	11.4	17.2	23.7	N/A	34.4	N/A	N/A
Nat. Gas Boiler Connection Size	IN	1	1	1	1	1	1.25	1.25	1.5	1.5**	2
	MM	25	25	25	25	25	32	32	38	38	51
Burner Motor HP	3450 RPM/60 CY						1/3 gas	1/3 gas		1.5 gas	1.5 gas
	2850 RPM/50 CY	1/3	1/3	1/3	1/3	1/3	3/4 oil	3/4 oil	3/4	2 oil	2 oil
Electric Power Requirements (in Amps)											
120V,60 CY, 1 Phase		7.2	7.2	7.2	7.2	7.2	7.2 gas	7.2 gas	13.8	20	20
							13.8 oil	13.8 oil		24 oil	24 oil
240V, 50/60 CY, 1 Phase		3.6	3.6	3.6	3.6	3.6	3.6 gas	3.6 gas	6.9	10 gas	10 gas
							6.9 oil	6.9 oil		12 oil	12 oil
208V, 50/60 CY, 3 Phase		2.4	2.4	2.4	2.4	2.4	2.4 gas	2.4 gas	3.7	6.9 gas	6.9 gas
							3.7 oil	3.7 oil		7.8 oil	7.8 oil
240V, 50/60 CY, 3 Phase		2.2	2.2	2.2	2.2	2.2	2.2 gas	2.2 gas	3.2	6.0 gas	6.0 gas
							3.2 oil	3.2 oil		6.8 oil	6.8 oil
480V, 50/60 CY, 3 Phase		1.1	1.1	1.1	1.1	1.1	1.1 gas	1.1 gas	1.6	3.0 gas	3.0 gas
							1.6 oil	1.6 oil		3.4 oil	3.4 oil
Water Content											
GALLONS		14	16	16	24	39	77	82	170	245	270
	LITERS	53	61	61	91	148	292	310	644	927	1,022

+ Consumption based on Light Oil 140,000 BTU/G/ Natural Gas 1010 BTU/ft³; Propane 2530 BTU/ft³.
 * All ratings from 0 PSIG and at 212°F. • * Consult Factory • ** 2"/51mm IRI and CSA • N/A-Not Available
 Specifications and Dimensions are approximate. We reserve the right to change specifications and/or dimensions without notice. Diagram for guidance purposes only. Comprehensive details of dimensions, connections, etc. for each model are given on product dimension data sheets available from Fulton.

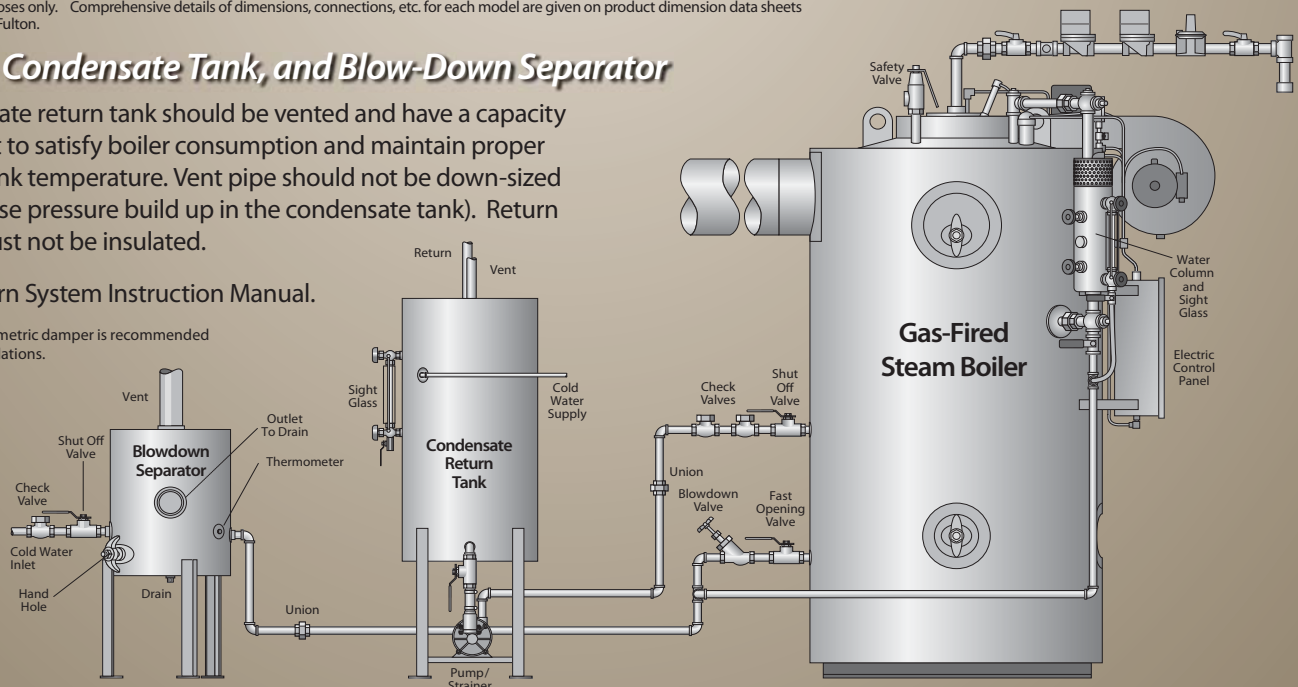
Note: High pressure boilers ordered with an extra pressure control for night heating have less than rated output while operating at low pressure.

Boiler, Condensate Tank, and Blow-Down Separator

Condensate return tank should be vented and have a capacity sufficient to satisfy boiler consumption and maintain proper return tank temperature. Vent pipe should not be down-sized (may cause pressure build up in the condensate tank). Return pipes must not be insulated.

See Return System Instruction Manual.

Optional barometric damper is recommended for most installations.



HORIZONTAL CONDENSATE RETURNS SYSTEMS

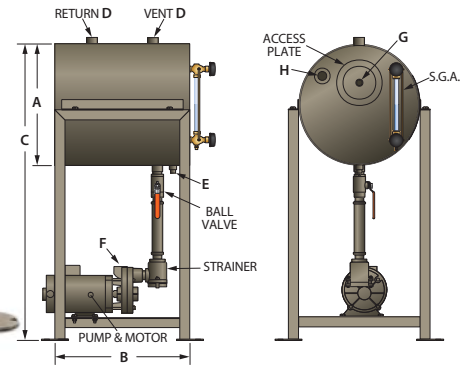
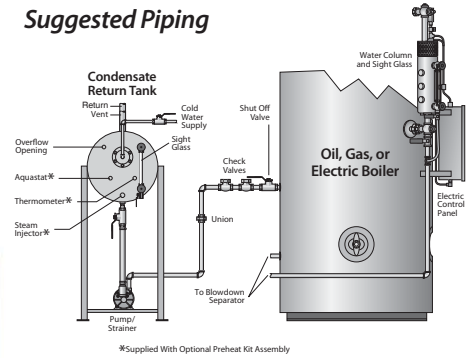
FEATURES

Fulton condensate return systems are completely assembled with tank, stand, high pressure pump, motor strainer float valve, shut-off valve, gauge glass assembly, with overflow and drain openings.

- Heavy gauge properly sized tanks built for quick installation and removal or replacement
- Heavy duty feed water pump
- Rigid welded support frame

Designed For All Boilers From 4 HP up to 400 HP

Suggested Piping



SPECIFICATIONS & DIMENSIONS

Model HT		10	20	30	50	60	80	100	150	200	250	300	350	400
For Boiler Size	HP	4-12.5	13-21	22-30	31-50	51-60	61-80	81-100	101-150	151-200	201-250	251-300	301-350	351-400
Full Capacity	GALLONS	33	40	46	71	94	128	147	220	220	317	317	432	432
	LITERS	125	151	174	269	356	485	556	833	833	1200	1200	1635	1635
Weight	LBS	160	180	195	325	465	560	650	1190	1190	1430	1430	1670	1670
	KGS	73	82	89	148	211	254	295	540	540	649	649	757	757
DIMENSIONS														
(A) Tank Diameter	IN	18	18	18	24	24	28	30	30	30	36	36	42	42
	MM	457	457	457	610	610	711	762	762	762	914	914	1067	1067
(B) Tank Length	IN	30	36	42	36	48	48	48	72	72	72	72	72	72
	MM	762	914	1067	914	1219	1219	1219	1829	1829	1829	1829	1829	1829
(C) Overall Height	IN	45	45	45	52	52	56	80	80	80	86	86	92	92
	Floor-Top Of Tank MM	1143	1143	1143	1321	1321	1422	2032	2032	2032	2185	2185	2337	2337
(D) Vent/Return	IN	1.25	1.25	1.25	2	2	2	3	3	3	3	3	3	3
	MM	32	32	32	51	51	51	76	76	76	76	76	76	76
(E) Drain	IN	.50	.50	.50	1	1	1	1	1	1	1.25	1.25	1.25	1.25
	MM	13	13	13	25	25	25	25	25	25	32	32	32	32
(F) Pump Outlet	IN	1	1	1	1	1	1	1	1.25	1.25	2	2	2	2
	MM	25	25	25	25	25	25	25	32	32	51	51	51	51
(G) Cold Water Inlet	IN	.50	.50	.50	.75	.75	.75	.75	.1	1	1	1	1.25	1.25
	MM	13	13	13	19	19	19	19	25	25	25	25	32	32
(H)* Overflow Opening	IN	1	1	1	1	1	1	1	1	1	1	1	1.25	1.25
	MM	25	25	25	25	25	25	25	25	25	25	25	32	32
(I) Pump HP	1 Ph. Motor	.50	.75	2	2	*	*	3	5	7.5	7.5	7.5	*	*
	3 Ph. Motor	.50	.75	2	2	5	5	3	5	7.5	7.5	7.5	15	15
(J) Pump Motor:	RPM	3450	3450	3450	3450	3450	3450	1725	X	X	X	X	X	X

* Overflow opening must be piped to drain. * Consult Factory

VERTICAL CONDENSATE RETURNS SYSTEMS

FEATURES

Both the horizontal and the vertical condensate return systems are available in heavy gauge "long lasting" steel only. Vertical tanks have all the same assembly components that the horizontal tanks do.

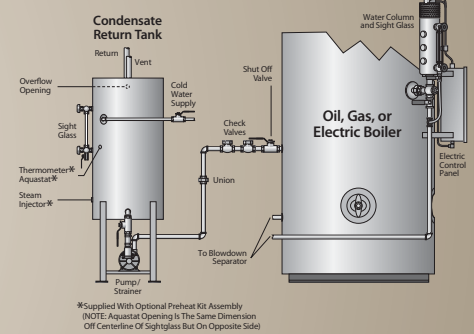
- Increased pump life under normal operation because of higher head pressure
- Vertical return systems can be ordered separately or skid-mounted and piped to your boiler
- Easily serviced from the top
- Complete float assembly can be removed without draining tank

Standard pump is good for 180°F maximum water temperature. Pumps for higher temperature water are available upon request.



Vertical Condensate Return Systems Designed For Compact Space Saving Applications For Boilers From 1 HP up to 100 HP

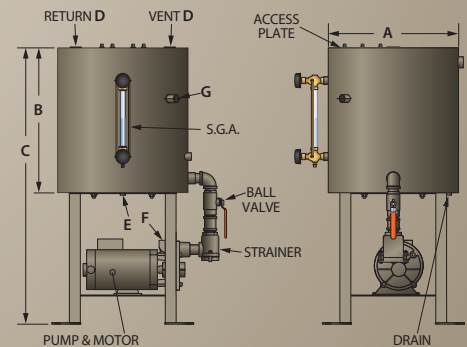
Suggested Piping



SPECIFICATIONS & DIMENSIONS

Model	VT	10	20	30	50	60	80	100
For Boiler Size	HP	4 - 12.5	13 - 21	22 - 30	31 - 50	51 - 60	61 - 80	81 - 100
Full Capacity	GALLONS	33	40	46	71	94	128	147
	LITERS	125	151	174	269	356	485	556
Weight	LBS	160	180	195	325	465	560	650
	KGS	73	82	89	148	211	254	295
DIMENSIONS								
(A) Tank Diameter	IN	18	18	18	24	24	28	30
	MM	457	457	457	610	610	711	762
(B) Tank Height	IN	30	36	42	36	48	48	48
	MM	762	914	1067	914	1219	1219	1219
(C) Overall Height	IN	51	57	63	59	71	71	71
	Floor-Top Of Tank	MM	1295	1448	1600	1499	1803	1803
CONNECTIONS								
(D) Vent/Return	IN	1.25	1.25	1.25	2	2	2	2
	MM	32	32	32	51	51	51	51
(E) Drain	IN	.50	.50	.50	1	1	1	1
	MM	13	13	13	25	25	25	25
(F) Pump Outlet	IN	1	1	1	1	1	1	1
	MM	25	25	25	25	25	25	25
(G) Cold Water Inlet	IN	.50	.50	.50	.75	.75	.75	.75
	MM	13	13	13	19	19	19	19
(H)* Overflow Opening	IN	1	1	1	1	1	1	1
	MM	25	25	25	25	25	25	25
(I) Pump HP	1 Ph. Motor	.50	.75	2	2	NA	NA	3
	3 Ph. Motor	.50	.75	2	2	5	5	3
(J) Pump Motor:	RPM	3450	3450	3450	3450	3450	3450	1725

* Overflow opening must be piped to drain.



Optional preheat kits available. Preheat kit consist of sparge tube, ball valve, pressure reducing valve, self-actuated valve, thermometer, strainer, and steam gauge assembly.

HT/VT 50-200 require two (2) sparge injector tubes.

BLOW-DOWN SEPARATORS

FEATURES

Constructed with the finest quality materials, all compact Fulton Blow-Down Separators meet or exceed ASME Code and include special features to insure safe boiler blow-down. Fulton Blow-Down Separators also operate with minimum maintenance.

- Baffle plate absorbs steam flash and pressure
- Steam is expelled safely through vent
- Water and sludge pass through drain to sewer
- 3" x 4" handhole for cleaning and inspection
- Welded to ASME Pressure Vessel Code
- Fast, easy hook-up to boiler

Fulton's full line of heat transfer products includes:

- Fuel-fired vertical tubeless steam and hot water boilers
- New VMP 2000 vertical flue pipe design boilers
- Electric steam and hot water boilers
- Pulse combustion steam and hot water boilers
- Fuel-fired and electric thermal fluid heaters

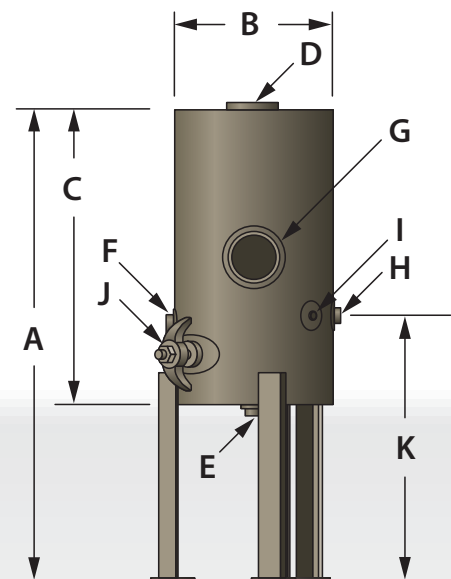
Larger blow-down separators are available. Consult factory.

Optional cooling kits available. Cooling kit consist of ball valve, strainer, thermometer and self-actuated valve.

See Fulton VMP Brochure for the 40, 50, 60, 80, 100, 130 and 150 HP Pipe Design and Vertical Boilers.

SPECIFICATIONS/DIMENSIONS/CONNECTIONS

Model F		10	20	30	50	75	100	150
For Boiler Size	HP	4 - 10	11 - 20	21 - 30	31 - 50	51 - 75	76 - 100	101 - 150
Max. Boiler Pressure	PSI	150	150	150	150	150	150	150
Capacity	GALLONS	7.9	17.4	22	35.6	40.8	58.75	70.5
	LITERS	30	66	83	135	154	222	267
Weight	LBS	110	190	200	255	295	415	450
	KGS	50	86	91	116	134	188	204
DIMENSIONS								
(A) Height	IN	32	34	34	40	44	44	50
	MM	813	864	864	1016	1118	1118	1270
(B) Diameter	IN	10.75	16	18	20	20	24	24
	MM	254	406	457	508	508	610	610
(C) Tank Height	IN	20	20	20	26	30	30	36
	MM	508	508	508	660	762	762	914
(D) Vent	IN	3	3	3	3	4	4	4
	MM	76	76	76	76	102	102	102
(E) Drain	IN	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	MM	38	38	38	38	38	38	38
(F) Water Supply	IN	.75	1	1	1	1	1	1
	MM	19	25	25	25	25	25	25
(G) Outlet	IN	3	3	3	3	3	3	3
	MM	76	76	76	76	76	76	76
(H) Inlet	IN	1	1.25	1.25	1.50	2	2	2
	MM	25	32	32	38	51	51	51
(I) Thermometer	IN	.50	.50	.50	.50	.50	.50	.50
	MM	13	13	13	13	13	13	13
(J) Handhole	IN	3 x 4	3 x 4	3 x 4	3 x 4	3 x 4	3 x 4	3 x 4
	MM	76 x 102	76 x 102	76 x 102	76 x 102	76 x 102	76 x 102	76 x 102
(K) Inlet Height	IN	16	18	18	18	18	18	18
	MM	406	457	457	457	457	457	457



The heat transfer innovators.

Fulton Boiler Works, Inc.

972 Centerville Road, Pulaski, NY 13142
Call: (315) 298-5121 • Fax: (315) 298-6390



www.fulton.com

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