


Industrial/Commercial Division
The Fulton Companies

Fulton FB-H Horizontal Fuel-fired Hot-water Boiler

250,000 Kcal/h-3,000,000Kcal/h (0.3mw-3.5mw)

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 Atmospheric, low pressure operating,
high efficiency, low emission

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Large furnace, large combustion chamber, boiler efficiency up to 92%

Unique large furnace design, the large furnace and large combustion chamber enable the fire fully occupies the furnace, thus the flue gas flows freely and smoothly, that ensures even heat transfer through convection and radiation and achieves great heat exchange result. In the mean time, the turbulator used in the flue pass way further enhances heat exchange, reduces flue temperature, hence lowers the heat loss through venting. The boiler efficiency can reach up to 92%.

Low emission, complys with strict Environmental Standard

Boiler's large furnace and large combustion chamber design makes combustion completely. The combustion intensity is also lowered. Equipped with high quality selected brand burner, no matter what type of fuel, ie., light oil, natural gas, or heavy oil can all reach low emission and comply with strict Environmental standard.

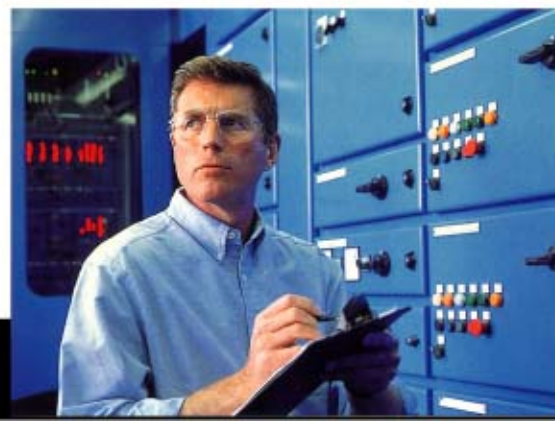


Full wet-back design, small water volume, fast start-up and high operating safety

The boiler adopts the full wet-back design; the combustion chamber is fully surrounded by water, which ensures boiler operating safety. Meanwhile, the unique dynamic heating method with small water volume enables boiler's fast start-up. Hot water can be achieved within minutes. Inner spiral water flow design and turbulator's usage not only strengthen the boiler structure but also make the water flow evenly in the furnace, that eliminates expansion noise and finally enhances operating safety.

High quality and high performance control system

High quality automatic burner control system is easy to operate and maintain, safe and maximally reduces the possibility of boiler shut down and possible lost caused by the down time.



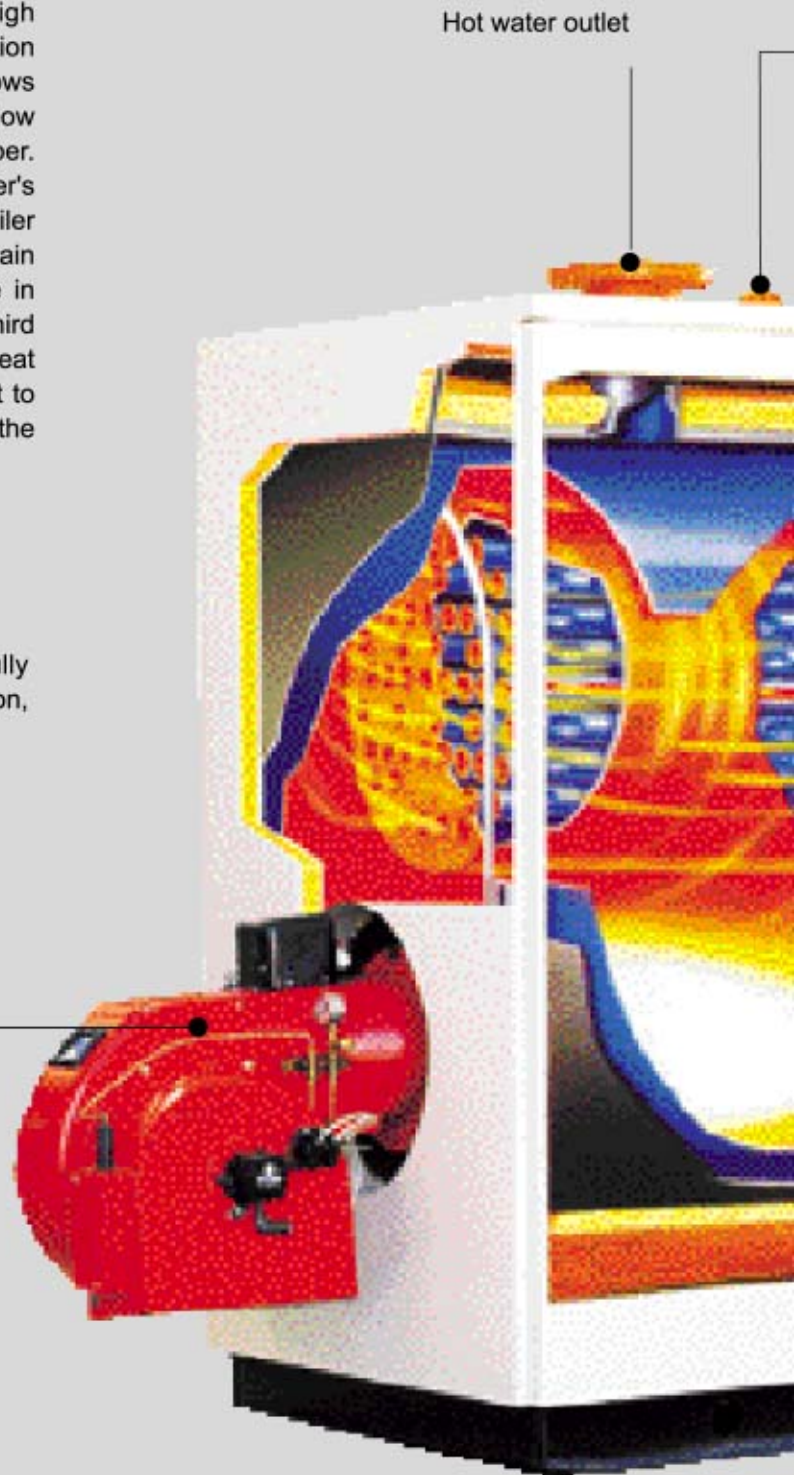
Operating Principal and Structural Features

Fuel is injected from the burner into the combustion chamber and is ignited and burned. The high temperature flue gas flows from the front combustion chamber to the end and then reverses back and flows into the third pass fire tubes. Finally, the cooled low temperature flue gas vents into stack via rear chamber. The lowered temperature return water from customer's heating and hot water system flows back to the boiler from the rear end inlet pipe. It becomes hot water again after it flows through the suspended cylindrical pipe in the combustion chamber and absorbs heat from the third pass fire tubes. This hot water flows out the boiler to heat up the customer's system. Once it transfers the heat to the system and cooled down again, it flows back to the boiler. Thus forms the water circulating system.

Burner - High quality selected brand burner fully matches with the boiler. High efficiency, low emission, comply to strict Environmental Standard.



Panel box



Lifting lug - A pair of lifting lug is set up on the top of the boiler which is convenient for transportation.

Boiler jacket gives a compact and neat appearance for the boiler.

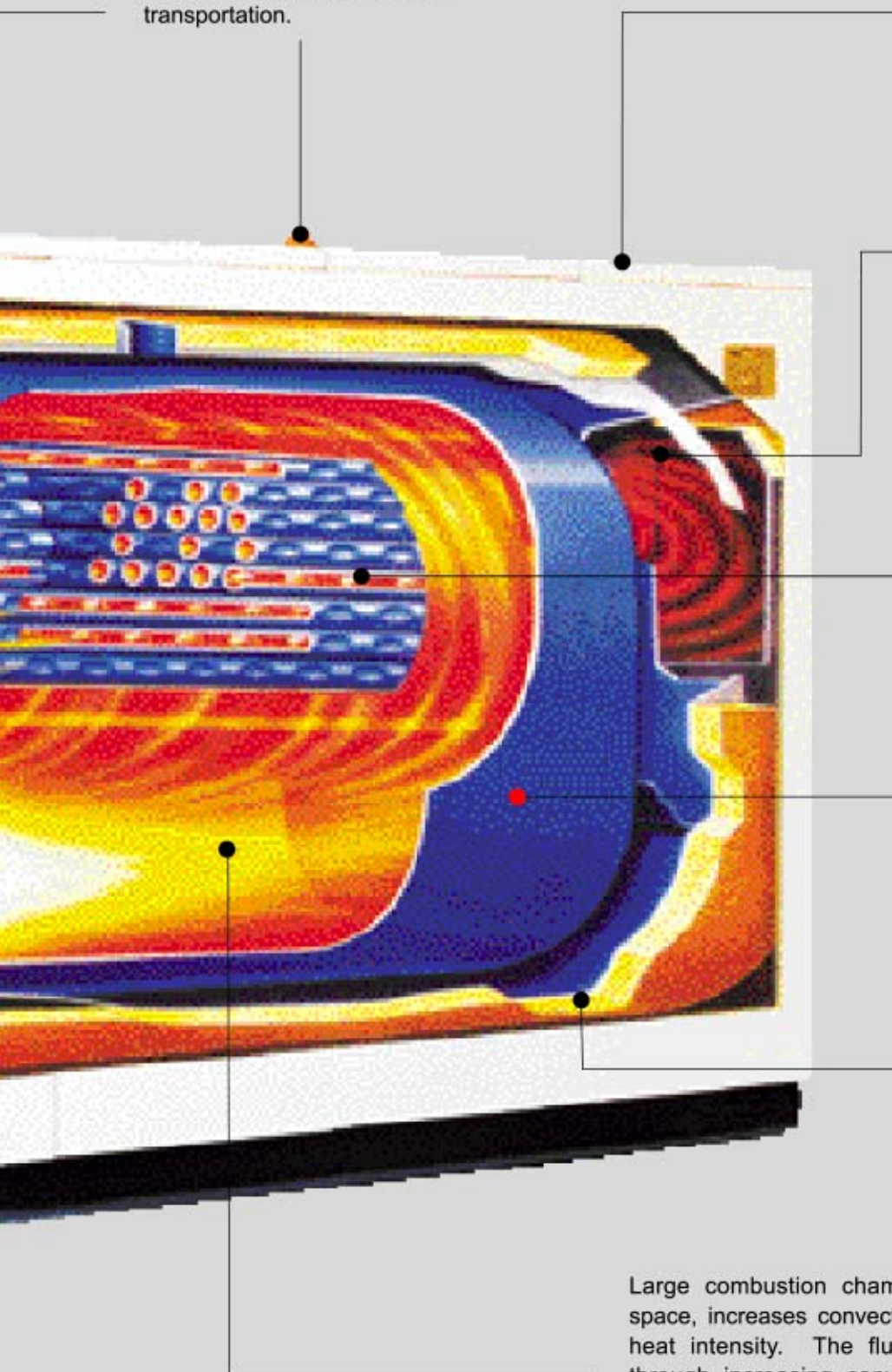
Flue Outlet

Third pass fire-tube structure. Heat transfer is completed by these third pass tubes within a cylindrical pipe suspended horizontally in the combustion chamber.

Unique small water volume, water jacket fully surrounds the oval combustion chamber. Hot water can be achieved minutes after boiler start-up. Inner spiral water flow design combined with the usage of turbulators not only strengthens the boiler structure but also gives even heating transfer and eliminates the noise caused by contraction.

Thick insulation layer - minimizes the exchange heat loss

Large combustion chamber - provides enough burning space, increases convection heat exchange area, reduces heat intensity. The flue stack temperature is lowered through increasing convection and radiation and hence lowers the temperature in the front door.



Dimension & Specification

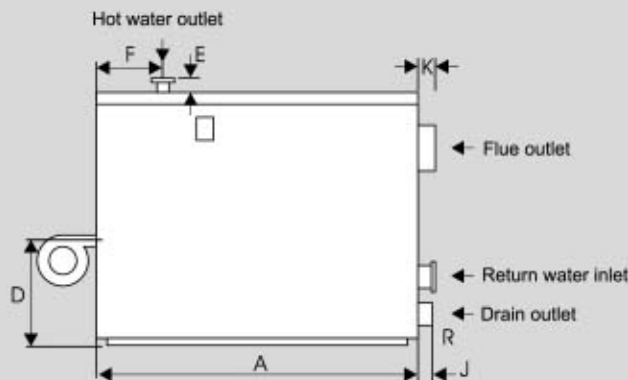
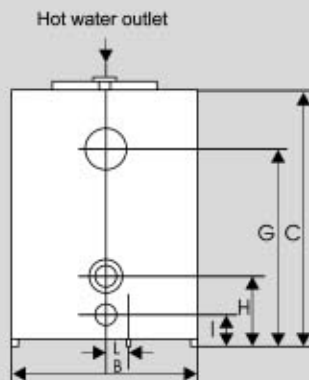
Model:	FB-H	0.30	0.35	0.42	0.47	0.60	0.76	0.95	1.16	1.45	1.75	2.10	2.44	2.95	3.50
A Boiler length	mm	1730	1730	2010	2010	2340	2340	2668	2668	3012	3012	3412	3412	3852	3852
B Boiler width	mm	802	802	870	870	962	962	1058	1058	1210	1210	1366	1366	1564	1564
C Boiler height	mm	1305	1305	1413	1413	1651	1651	1819	1819	2109	2109	2327	2327	2645	2645
D Floor to burner center	mm	480	480	524	524	588	588	651	651	720	720	780	780	940	940
E Boiler top to steam outlet	mm	75	75	100	100	99	99	100	100	121	121	133	133	120	120
F Boiler foreside to steam outlet	mm	405	405	429	429	469	469	518	518	556	556	656	656	724	724
G Floor to flue center	mm	900	900	974	974	1168	1168	1286	1286	1500	1500	1640	1640	1860	1860
H Floor to return water inlet	mm	430	430	474	474	538	538	590	590	670	670	790	790	840	840
I Floor to drain center	mm	50	50	60	60	70	70	76	76	70	70	110	110	110	110
J Boiler surface to drain outlet	mm	78	78	80	80	80	80	84	84	100	100	100	100	100	100
K Boiler surface to flue	mm	100	100	120	120	150	150	134	134	160	160	150	150	156	156
L Boiler center to flue outlet center	mm	180	180	180	180	200	200	200	200	200	200	250	250	300	300
Hot water outlet diameter		DN80	DN80	DN100	DN100	DN125	DN125	DN150	DN150	DN200	DN200	DN200	DN200	DN250	DN250
Return water inlet diameter		DN80	DN80	DN80	DN80	DN100	DN100	DN125	DN125	DN150	DN150	DN200	DN200	DN200	DN200
Drain diameter	mm	25	25	25	25	25	25	40	40	40	40	40	40	40	40
Flue diameter	mm	250	250	280	280	360	360	450	450	550	550	650	650	750	750
Flue outlet	mm	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Shipping weight	kg	880	880	1240	1240	1880	1880	2800	2800	4200	4200	5880	5880	8980	8980
Water content	kg	305	305	385	385	560	560	950	950	1450	1450	2100	2100	3100	3100

Specification

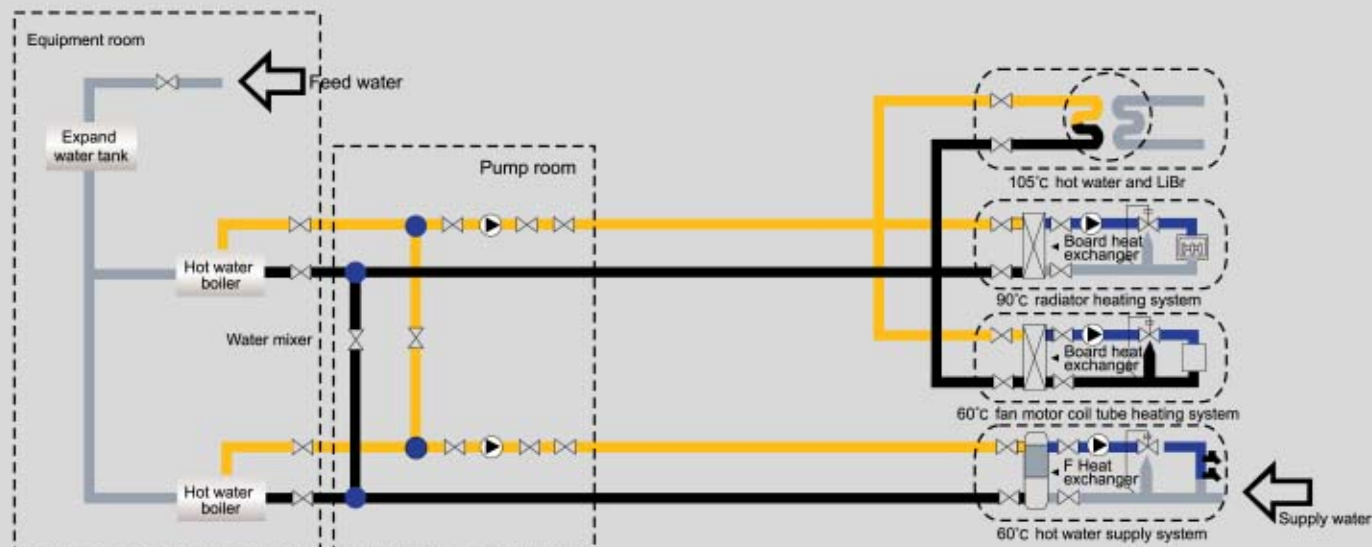
Model:	FB-H	0.30	0.35	0.42	0.47	0.60	0.76	0.95	1.16	1.45	1.75	2.10	2.44	2.95	3.50
Nominal output	mw	0.30	0.35	0.42	0.47	0.60	0.76	0.95	1.16	1.45	1.75	2.10	2.44	2.95	3.50
	1000kcal/h	250	300	350	400	500	650	800	1000	1250	1500	1800	2100	2500	3000
Boiler output	%	> 90													
Maximum fuel consumption															
Light diesel oil	kg/h	24.8	29.8	34.7	39.7	49.6	64.5	79.4	99.2	124.0	148.8	178.6	208.3	248.0	297.6
Heavy oil	kg/h	25.3	30.4	35.5	40.6	50.7	65.9	81.1	101.4	126.7	152.1	182.5	212.9	253.4	304.1
Natural gas	m3/h	31.2	37.5	43.7	49.9	62.4	81.1	99.9	124.8	156.1	187.3	224.7	262.2	312.1	374.5
Town gas	m3/h	77.2	92.6	108.0	123.5	154.3	200.6	246.9	308.6	385.8	463.0	555.6	648.1	771.6	925.9
Hot water output	t/h	12.5	15	17.5	20	25	32.5	40	50	62.5	75	90	105	125	150
Fuel inlet-light oil connection		DN15	DN15	DN15	DN15	DN15	DN15	DN15	DN20	DN20	DN20	DN20	DN25	DN25	DN25
Power 220/380V															
Oil fired	kw	0.46	0.46	0.65	1.2	1.2	1.2	1.5	1.5	2.3	3.2	4.0	7.6	7.6	8.4
Gas fired	kw	0.46	0.48	0.67	1.2	1.2	1.3	1.6	2.3	2.5	3.7	7.6	7.6	9.2	9.4

Note: Hot water output designed by water supply 95°C, return water 75°C, and difference in temperature 20°C.

Fuel consumption based on Light diesel oil 11200 kcal/kg, Heavy oil 10960 kcal/kg, Natural gas 8900kcal/m3, Town gas 3600 kcal/m3.



The following is a typical schematic diagram of heating and hot water supply system of FB-H hot water boiler



Design Features

- 250,000 Kcal/h - 3,000,000 Kcal/h (0.3mw-3.5mw) total 14 models
- Boiler can be equipped with oil, gas or dual fuel automatic high/low burner, modulating burner is optional according to customer requirement
- High quality high performance control system
- Compact design, smaller boiler size



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Fulton China LLC is part of The Fulton Companies, manufactures of high grade industrial/commercial heat transfer products