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Edition-2020



Century Brand Global Trust

World-Class Fire Tube Boiler



Century Brand

Global Trust

Fulton is a global manufacturer of quality heat transfer products, including steam boilers, hot water boilers, thermal fluid heaters, and biomass boilers. Fulton has manufacturing facilities in England, China, and the United States, with distribution in most countries worldwide.

Fulton China LLC is part of the Fulton Companies and plays a very important role in Fulton's globalization strategy. It was set up in 1995 starting with one joint venture. Currently, Fulton China LLC has wholly owned companies in Hangzhou, Ningbo and Shanghai, China. Fulton China's extensive quality control system includes ASME boiler and pressure vessel U, V, S stamps, along with the European PED as well as Chinese A Class Manufacturing Permit. Manufacturing capabilities have expanded to manufacture boilers up to 6000HP and customized pressure vessels to meet ASME, PED and Chinese Code requirements. Since the company's firm commitment to quality, Fulton China's products have been well accepted globally.

The design feature for the standard model form FBA-015 to FBA-060 is a vertical tubeless boiler. With no tubes or coils to scale up, rust or burn out, this design reduces plant operating costs by eliminating downtime and expensive repairs. The boiler features top mounted, down fired power burner. For over 50 years, this standard model has a reputation for years of trouble free operation. It is the No. 1 choice for the process industry.

The standard model from FBA-080 to FBA-150 is a vertical multi-port wet back design boiler. It speeds up boiler start up time and creates overall even heating throughout. The other design feature is the "ribbed" turbulators that extend the full length inside each flue pipe. The top mounted down fired burner is an air pre-heat design enhances the boiler efficiency.

Stainless steel jacket is available for option for both FBA series.



FB-A Steam Boiler

| Model | FB-A | 4 | 6 | 10 | 15 | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 130 | 150 |
|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Steam output | kg/h | 63 | 94 | 157 | 235 | 312 | 470 | 627 | 783 | 939 | 1252 | 1565 | 2034 | 2348 |
| Approximate fuel consumption-applicable under altitude 610m | | | | | | | | | | | | | | |
| Light diesel oil | kg/h | 3.47 | 5.17 | 8.64 | 12.93 | 17.16 | 25.85 | 34.49 | 43.1 | 51.65 | 68.9 | 86.08 | 111.87 | 129.14 |
| Efficiency Light Oil | % | 94.0 | 95.3 | 95.0 | 94.8 | 95.0 | 95.1 | 95.2 | 94.8 | 94.8 | 94.9 | 95.1 | 95.2 | 95.0 |
| Natural Gas | m³/h | 4.10 | 6.0 | 10.0 | 15.0 | 20.0 | 29.90 | 39.9 | 50.10 | 59.70 | 80.10 | 99.50 | 130.20 | 149.30 |
| Efficiency Gas Firing | % | 93.9 | 95.2 | 94.9 | 94.6 | 94.4 | 95.1 | 95.2 | 94.6 | 95.2 | 94.6 | 95.2 | 94.6 | 95.2 |

Dimensions and Weights FB-A approximately

| | | | | | | | | | | | | | | |
|---|----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Heights and widths | | | | | | | | | | | | | | |
| A Boiler Height | IN | 47 | 57 | 63 | 69 | 73 | 82 | 73 | 87 | 93 | 103 | 103 | 114 | 114 |
| | MM | 1194 | 1448 | 1600 | 1753 | 1842 | 2083 | 1854 | 2210 | 2362 | 2609 | 2609 | 2893 | 2893 |
| B Boiler Height With Trim & Fuel Train Assembly | IN | 65 | 75 | 80.5 | 86.5 | 92 | 102 | 94 | 106 | 120 | 116 | 116 | 132 | 132 |
| | MM | 1651 | 1905 | 2045 | 2197 | 2336 | 2591 | 2388 | 2705 | 3045 | 2940 | 2940 | 3348 | 3348 |
| C Overall Depth Stack To Burner Fan Housing | IN | 44 | 44 | 46 | 47 | 60 | 68 | 78 | 78 | 78 | 114 | 100 | 128 | 128 |
| | MM | 1118 | 1118 | 1168 | 1194 | 1524 | 1720 | 1969 | 1969 | 1969 | 2898 | 2543 | 3253 | 3253 |
| D Boiler Diameter | IN | 26 | 26 | 28 | 30 | 39 | 46 | 55 | 55 | 55 | 63 | 69 | 76 | 76 |
| | MM | 660 | 660 | 710 | 762 | 991 | 1168 | 1397 | 1397 | 1397 | 1588 | 1740 | 1943 | 1943 |
| E Overall Width With Water Column | IN | 33 | 33 | 33.5 | 35.5 | 43 | 49 | 57 | 57 | 57 | 67 | 75 | 83 | 84 |
| | MM | 838 | 838 | 851 | 902 | 1091 | 1244 | 1448 | 1448 | 1448 | 1702 | 1905 | 2108 | 2146 |
| F Flue Outlet Diameter | IN | 6 | 6 | 6 | 8 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 16 | 16 |
| | MM | 152 | 152 | 152 | 203 | 254 | 305 | 305 | 305 | 305 | 350 | 350 | 400 | 400 |
| G To Center of Flue Outlet | IN | 42 | 58 | 58 | 63 | 66 | 73 | 62 | 77 | 83 | 95 | 95 | 104 | 104 |
| | MM | 1070 | 1320 | 1473 | 1600 | 1676 | 1854 | 1574 | 1962 | 2114 | 2423 | 2415 | 2641 | 2641 |

Fulton FB-A Fuel Fired
Steam Boiler

FB-A FULTON
BOILER

Note: Fuel consumption based on: light oil 11200 kcal/kg, Natural gas 8900kcal/m³, Propane gas 22500kcal/m³, Town gas 3500kcal/m³. Specifications are approximate. We reserve the right to change specifications, please refer to Fulton's most current drawings. (Efficiency Calculated Inclusive Economizer)

Fulton RB Fuel Fired Steam Boiler

The philosophy of the RB boiler is to manufacture the "best" horizontal reverse flame, three pass, wet-back steam & hot water boiler in the boiler industry. The two designers with over seventy years of combined experience in designing and manufacturing set out to incorporate proven engineering principle with modern design and construction methods.

Design Features:

- Designed and constructed to BS2790 or ASME code, with standard maximum operating pressure of 1.0MPa other pressure upon to customer's request.
- Equipped with Nu-way (Special for RB series with Fulton brand) oil, gas or dual fuel automatic high/low burner, modulating burner is optional according to customer requirement.

- Large furnace volume, large furnace surface area, better combustion and higher efficiency.
- Large number of the tubes and large tube total cross-sectional area.
- Large water content, low sensitivity to load change.
- Compact design, smaller than boiler of equal capacity.
- 100% Non-Destructive Test on all major pressure vessel welds.
- Deviated front door, easy access and inspection of welds.
- 3 year warranty on pressure vessel backed by Fulton world wide service and spare system.



Fulton RB Fuel Fired Steam Boiler

RB

FULTON
BOILER

RB Steam Boiler

| Model | RB | 600 | 750 | 1000 | 1250 | 1500 | 1850 | 2100 | 2500 | 3000 |
|---|--------------------|------|------|------|-------|-------|-------|-------|-------|-------|
| Steam Output | kg/hr | 1000 | 1200 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 5000 |
| Approximate fuel consumption-applicable under altitude 610m | | | | | | | | | | |
| Light diesel oil | kg/hr | 55.0 | 66.0 | 82.5 | 110.0 | 137.5 | 165.0 | 192.5 | 220.0 | 275.0 |
| Efficiency Light oil Firing | % | 94.0 | 95.0 | 95.0 | 94.8 | 95.0 | 95.1 | 95.1 | 94.8 | 95.0 |
| Heavy diesel oil | kg/hr | 57.0 | 68.4 | 85.5 | 114.0 | 142.5 | 171.0 | 199.5 | 228.0 | 285.0 |
| Efficiency Heavy oil Firing | % | 93.5 | 94.0 | 94.0 | 93.6 | 93.8 | 94.0 | 94.0 | 93.5 | 94.5 |
| Natural Gas | m ³ /hr | 63.8 | 76.7 | 95.7 | 128.0 | 160.0 | 192.6 | 224.0 | 256.0 | 319.0 |
| Efficiency Gas Firing | % | 94.9 | 94.8 | 94.9 | 94.6 | 94.6 | 94.3 | 94.6 | 94.6 | 94.9 |
| Boiler length | mm | 2445 | 2545 | 3045 | 3435 | 3435 | 3745 | 3745 | 3795 | 3895 |
| Boiler width | mm | 1960 | 1960 | 1960 | 2150 | 2150 | 2280 | 2280 | 2450 | 2450 |
| Boiler height | mm | 2100 | 2100 | 2100 | 2250 | 2250 | 2400 | 2400 | 2616 | 2616 |

Note: Consumption based on Natural gas 8900kcal/m³; Town gas 3600kcal/m³; Light diesel oil 11200 kcal/kg; Heavy diesel oil 10960 kcal/kg.
Specifications and Dimensions are approximate. The Fulton Companies reserve the right to change, please refer to company's most current drawings. (Efficiency Calculated Inclusive Economizer)

Fulton
FB-C Fuel Fired Steam Boiler



FB-C boiler is designed and manufactured to comply with ASME code and Chinese boiler Standard, with standard maximum working pressure of 1.0 MPa (150 PSI) or 1.25 MPa (185PSI). The standard model is three pass, wet back, and corrugated furnace. The factory also supplies 4-pass, wet back corrugated furnace boiler or higher pressure boiler upon customer's request.

FB-C boiler is equipped with high efficient industrial Combustion burner. This quality forced draft burner has a reputation for long life, trouble free performance and high efficient operation. Full modulation provides optimum performance to meet varying load demand. Multi-fuel versatility is available by just the trip of a switch to select between gas or oil in combination burners. For oil fuel, the burner utilizes low pressure air atomizing design for proper oil atomization, maximum combustion efficiency and low maintenance. For gas fuel multi-port burner design for high gas velocities, and complete fuel/air mixing provide combustion efficiency. Microprocessor based burner control provides high level of safety, reliability, functional capability and features beyond those of conventional controls to perform automatic burner sequencing, system status function, system or self diagnostics and trouble shooting.



Fulton FB-C Fuel
Fired Steam Boiler

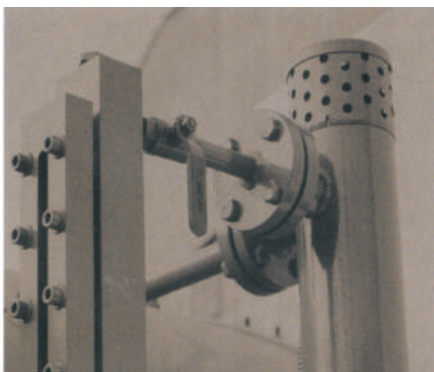
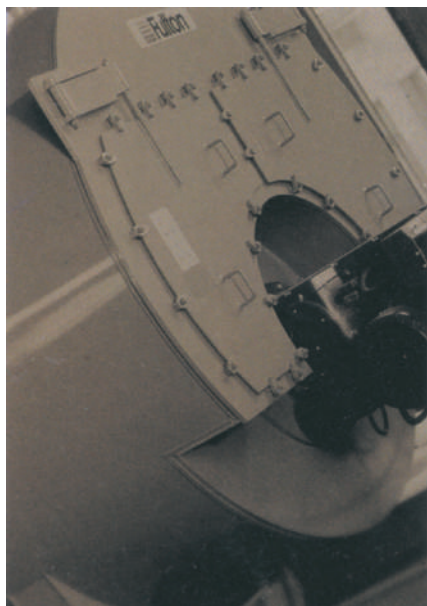
FB-C FULTON
BOILER

FB-C Steam Boiler

| Model | FBC | FBC-300 | FBC-350 | FBC-400 | FBC-500 | FBC-650 | FBC-800 | FBC-1000 | FBC-1300 | FBC-1650 | | | | | | | | | |
|--|------|---------|---------|---------|---------|---------|---------|----------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rated Steam Output | t/h | 4.7 | 5.5 | 6 | 7.8 | 10 | 12 | 15 | 20 | 25 | | | | | | | | | |
| Maximum fuel consumption-applicable under altitude 610m(2000 ft) | | | | | | | | | | | | | | | | | | | |
| | | 3P | | | | | | | | | | | | | | | | | |
| | | 3P | 4P | 3P | 4P | 3P | 4P | 3P | 4P | 3P | 4P | 834 | 4P | 3P | 4P | 3P | 4P | | |
| Light oil | kg/h | 258 | 258 | 302 | 302 | 330 | 330 | 429 | 429 | 550 | 550 | 660 | 660 | 825 | 825 | 1100 | 1100 | 1375 | 1375 |
| Efficiency Light oil Firing | % | 94.0 | 94.0 | 95.0 | 95.0 | 95.0 | 95.0 | 94.8 | 94.8 | 95.0 | 95.0 | 95.1 | 95.1 | 95.1 | 95.1 | 94.8 | 94.8 | 95.0 | 95.0 |
| Natural Gas | m³/h | 299.9 | 299.9 | 351.5 | 351.5 | 384.0 | 384.0 | 496.9 | 496.9 | 636.0 | 636.0 | 769.2 | 769.2 | 963.0 | 963.0 | 1288 | 1288 | 1595 | 1595 |
| Efficiency Gas Firing | % | 94.9 | 94.9 | 94.8 | 94.8 | 94.6 | 94.6 | 95.1 | 95.1 | 95.2 | 95.2 | 94.5 | 94.5 | 94.3 | 94.3 | 94.0 | 94.0 | 94.9 | 94.9 |
| Heavy oil | kg/h | 263 | 263 | 308 | 308 | 336 | 336 | 437 | 437 | 560 | 560 | 672 | 672 | 840 | 840 | 1120 | 1120 | 1400 | 1400 |
| Efficiency Heavy oil Firing | % | 93.5 | 93.5 | 94.0 | 94.0 | 94.0 | 94.0 | 93.6 | 93.6 | 93.8 | 93.8 | 94.0 | 94.0 | 94.0 | 94.0 | 93.5 | 93.5 | 94.5 | 94.5 |
| Boiler length | mm | 7405 | 6681 | 6550 | 6500 | 6530 | 6530 | 7262 | 7680 | 8352 | 7682 | 9140 | 8200 | 8655 | 8655 | 10460 | 10605 | 11000 | 11000 |
| Boiler width | mm | 2401 | 2390 | 2830 | 2880 | 2850 | 2930 | 3037 | 3080 | 3068 | 3161 | 3058 | 3200 | 3520 | 3500 | 3620 | 3640 | 3770 | 3820 |
| Steam outlet to floor | mm | 2470 | 2459 | 3114 | 3164 | 3214 | 3246 | 3100 | 3264 | 3146 | 3314 | 3144 | 3386 | 3516 | 3556 | 3916 | 3814 | 4015 | 4040 |
| Maximum water capacity | m³ | 11 | 11 | 12.2 | 12.6 | 13.57 | 13.57 | 17.7 | 17.7 | 17.8 | 18.1 | 20 | 20 | 23 | 23 | 29 | 29 | 30 | 32 |
| Weight | t | 15 | 15 | 16 | 16 | 16.8 | 16.8 | 23 | 23 | 25 | 28 | 30 | 31 | 40 | 40 | 48 | 48 | 52 | 55 |

Note: Fuel consumption based on light oil 11200 kcal/kg ; Heavy oil 10960 kcal/kg; Natural gas 8900kcal/m³. Specifications and Dimensions are approximate, The Fulton Companies reserve the right to change.(Efficiency Calculated Inclusive Economizer)

Fulton
FB-S Fuel Fired Steam Boiler



FB-S boiler is a three-pass wet back corrugated furnace boiler.

Design Features:

- Large furnace heating surface, sufficient heat transfer area, good load change tolerance and high efficiency.
- Furnace located well below the water level, large safety margin.
- The large steam vaporization area, high quality steam.
- Equipped with Nuway (Special for FB-S) burner with high./lo firing rate control feature.
- Fully automated boiler control system with the part for customers to connect to the Building Automation System.



FB-S Steam Boiler

| Model FB-S | | FBS-60 | FBS-100 | FBS-125 | FBS-150 | FBS-200 | FBS-250 | FBS-300 | FBS-400 |
|---|-------------------|--------|---------|---------|---------|---------|-----------|----------|----------|
| Nominal steam output ¹ | kg/hr | 939 | 1566 | 1958 | 2350 | 3133 | 3916 | 4699 | 6266 |
| Operating pressure | psi | 150 | 150 | 150 | 150 | 150 | 150 (185) | 150(185) | 150(185) |
| Fuel consumption at rated output-applicable under altitude 610m | | | | | | | | | |
| Light diesel oil | kg/h | 51.6 | 86.1 | 107.7 | 129.3 | 172.2 | 215.4 | 258.4 | 344.6 |
| Efficiency Light Oil Firing | % | 94.0 | 95.3 | 95.0 | 94.8 | 95.0 | 95.1 | 95.2 | 94.8 |
| Heavy diesel oil | kg/h | 53.1 | 88.5 | 110.7 | 132.8 | 177.1 | 221.3 | 265.5 | 354.2 |
| Efficiency Heavy oil Firing | % | 93.5 | 94.0 | 94.0 | 93.6 | 93.8 | 94.0 | 94.0 | 93.5 |
| Natural Gas | m ³ /h | 60.6 | 99.6 | 124.9 | 150.4 | 200.0 | 249.4 | 298.9 | 401.0 |
| Efficiency Gas Firing | % | 93.9 | 95.2 | 94.9 | 94.6 | 94.9 | 95.1 | 95.2 | 94.6 |
| Dimension | | | | | | | | | |
| Boiler length (IC) | mm | 4830 | 5050 | 5450 | 5450 | 5710 | 6040 | 7415 | 7800 |
| | inch | 190 | 199 | 215 | 215 | 225 | 237 | 292 | 307 |
| Boiler length (NUWAY) | mm | 4610 | 4900 | 5300 | 5315 | 5570 | 5815 | 7010 | 7340 |
| | inch | 181 | 193 | 209 | 209 | 219 | 229 | 275 | 289 |
| Boiler width | mm | 2040 | 2140 | 2162 | 2162 | 2140 | 2350 | 2350 | 2440 |
| | inch | 80 | 84 | 85 | 85 | 84 | 93 | 93 | 96 |
| Boiler height | mm | 2080 | 2230 | 2190 | 2190 | 2180 | 2420 | 2420 | 2430 |
| | inch | 82 | 88 | 86 | 86 | 86 | 95 | 95 | 96 |

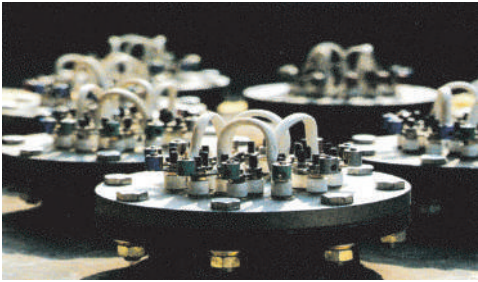
Fulton FB-S Fuel Fired Steam Boiler

FB-S

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Note: 1) All steam output rating from 0 Psi at 212°F. Fuel consumption based on light oil 20,160Btu/Lb (11200 kcal/kg), heavy oil 19,728Btu/Lb (10960kcal/ kg), Natural gas 1,000 Btu / ft3(8900kcal/ m³).
2) Specifications and dimensions are for your reference only. The Fulton Company reserves the right to change specifications and/or dimensions. Please refer to the factory's most current drawings. (Efficiency Calculated Inclusive Economizer)

Fulton
FB-L/FB-W Electric Steam and Hot Water Boiler



Fulton's vertical design is a full packaged boiler built to ASME specifications and applicable standards and codes. They are very efficient because the heating elements are totally immersed in water and the pressure vessel is fully insulated. Radiation loss are minimal. Electrical boilers have no wasted fuel going out the stack as associated with fossil fuels, therefore, electric boilers are environmentally friendly. No Nox are being transmitted to the atmosphere.

Features and advantages

- Nearly 100% efficient
- Quiet clean
- No Nox emissions
- Ideal choice where fossil fuels are not available or where electricity rates are favorable.
- Built to ASME Code
- Vertical design requires minimal floor space.
- Completely wired control panel box located in front of the boiler.
- Safe. Solid state relays. All wiring meets NEC specifications.
- Second (auxiliary) low water water cut-off probe is standard.



Fulton FB-L
Electric Steam Boiler

FB-L FULTON
BOILER

FB-L Electric Steam Boiler

| Model | FB-L | 012 | 015 | 018 | 024 | 030 | 036 | 050 | 075 | 100 | 150 | 200 | 300 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 |
|---------------|------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Boiler output | KW | 12 | 15 | 18 | 24 | 30 | 36 | 50 | 75 | 100 | 150 | 200 | 300 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 |
| Output | 1000KCal/h | 10 | 13 | 15 | 21 | 26 | 31 | 43 | 64 | 86 | 129 | 172 | 258 | 430 | 645 | 860 | 1075 | 1290 | 1505 | 1720 |
| Steam output | kg/h | 18 | 23 | 27 | 37 | 46 | 55 | 77 | 115 | 153 | 230 | 306 | 460 | 765 | 1148 | 1530 | 1913 | 2295 | 2678 | 3060 |
| Boiler height | mm | 762 | 762 | 762 | 762 | 762 | 762 | 1651 | 1651 | 1651 | 1651 | 1803 | 2032 | 2032 | 2032 | 2032 | 2388 | 2388 | 2388 | 2388 |
| Boiler width | mm | 762 | 762 | 762 | 762 | 762 | 762 | 899 | 899 | 899 | 991 | 1168 | 1168 | 1442 | 1575 | 2108 | 2108 | 2600 | 2600 | 2600 |
| Boiler length | mm | 838 | 838 | 838 | 838 | 838 | 838 | 889 | 1067 | 1067 | 1168 | 1321 | 1422 | 1625 | 1829 | 2311 | 2311 | 2515 | 2515 | 2512 |

Dimensions are approximate, We reserve the right to change. Please refer to factory's most current drawings. (Efficiency Calculated Inclusive Economizer)

Fulton
FB-H Hot Water Boiler

Design Features:

- Normal or low operating pressure operation
- 250,000KCAL/HR to 3,000,000KCAL/HR(0.3MW-3.6MW) totally 15 models.
- Equipped with Nu-way (special for FB-H) oil, gas or dual fuel automatic high/low burner, modulating burner is optional according to customer requirement.
- Full automatic burner control.
- Packaged boiler with all operating and safety controls
- Compact design requires minimal floor space.

Fulton's FB-H hydraulic boiler is a compact boiler with normal operating pressure. It adopts the E type combustion method that is popular in Western Europe. It has unique large furnace, small water space and wet back design. It is a packaged boiler with all operating and safety controls.



Fulton FB-H
Fuel Fired Hot Water
Boiler

FB-H FULTON
BOILER

FB-H Boiler

| | | | | | | | | | | | | | | | |
|---|------------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 |
| Approximate fuel consumption-applicable under altitude 610m | | | | | | | | | | | | | | | |
| Light diesel oil | kg/h | 24.2 | 29.1 | 34 | 38.8 | 48.5 | 63.1 | 77.6 | 97 | 121.3 | 145.6 | 174.7 | 203.8 | 242.6 | 291.1 |
| Efficiency Light oil Firing | % | 94.9 | 94.8 | 95.1 | 95.0 | 95.1 | 95.2 | 94.8 | 94.9 | 95.1 | 95.1 | 95.0 | 94.8 | 95.1 | 95.0 |
| Natural gas | m³/h | 28.06 | 33.6 | 40.2 | 44.9 | 56.2 | 73.04 | 89.89 | 112.3 | 140.4 | 168.5 | 202.2 | 236.0 | 280.8 | 337.0 |
| Efficiency Gas Firing | % | 94.0 | 94.6 | 94.8 | 94.3 | 94.9 | 94.1 | 94.5 | 94.0 | 94.7 | 95.0 | 94.9 | 94.2 | 95.0 | 95.0 |
| Hot water output | t/h | 12.5 | 15 | 17.5 | 20 | 25 | 32.5 | 40 | 50 | 62.5 | 75 | 90 | 105 | 125 | 150 |
| Boiler length | mm | 1730 | 1730 | 2010 | 2010 | 2340 | 2340 | 2668 | 2668 | 3012 | 3012 | 3412 | 3412 | 3852 | 3852 |
| Boiler width | mm | 802 | 802 | 870 | 870 | 962 | 962 | 1058 | 1058 | 1210 | 1210 | 1366 | 1366 | 1564 | 1564 |
| Boiler height | mm | 1295 | 1295 | 1403 | 1403 | 1647 | 1647 | 1809 | 1809 | 2105 | 2105 | 2317 | 2317 | 2635 | 2635 |

Note: Hot water output designed by inlet water 95°C,reture water 75°C, and 20°Ctemperature difference. Fuel consumption based on light oil 11200 kcal/kg, heavy oil 10960kcal/ kg, Natural gas8900kcal/m³, Town gas 3600kcal/m³. (Efficiency Calculated Inclusive Economizer)



High efficiency four pass design

The Combustion air enters the burner fan inlet, travels upward between the inner and outer jacket, preheating the air before it enters the top mounted burner. Hot gases travel down the full length of the vessel creating the first (radiant) pass. The gases then travel back across the inner row of coils, creating the second (convection) pass. The third (convection) pass is created as the continue back down between the inner and outer coil. The last pass is upward between the outer coil and inner jacket to the flue outlet, creating the fourth (convection) pass.

Combination Expansion/Deaerator/ Thermal Buffer Tank

- Designed to work as an open system where applicable, eliminating the expense of an inert gas blanket.
- Continue deaeration of steam and other non-condensibles.
- Protects fluid from oxidation
- Ease of installation
- Simplification of pipe work.



Fulton FT-C
Coil Design Thermal
Fluid Heater

FT-C FULTON
BOILER

FT-C Thermal Fluid Heater

| Model | FT-C | 0080 | 0120 | 0160 | 0240 | 0320 | 0400 | 0600 | 0800 | 1000 | 1200 | 1400 |
|---|------------|-------|------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| Output | 1000kac/hr | 200 | 300 | 400 | 600 | 800 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 |
| Thermal Fluid Content | L | 38 | 80 | 72 | 116 | 258 | 288 | 500 | 648 | 1097 | 1450 | 1741 |
| Recommended Flow rate | m3/hr | 11.4 | 17 | 22.7 | 34 | 56.8 | 56.8 | 85.2 | 113 | 139 | 167 | 182 |
| Typical Circulation Pump Motor kw | | 5.6 | 7.5 | 7.5 | 11.2 | 14.9 | 14.9 | 22.4 | 29.8 | 37.3 | 37.3 | 45 |
| Typical Burner Motor | kw | 1.1 | 2.2 | 2.2 | 2.2 | 5.8 | 5.6 | 5.6 | 11.2 | 14.9 | 14.9 | 33.3 |
| Approximate fuel consumption-applicable under altitude 610m | | | | | | | | | | | | |
| Light Oil | kg/h | 27 | 40.6 | 54.1 | 81 | 108.8 | 136 | 201 | 263.7 | 329.6 | 395.5 | 461.5 |
| Efficiency Light Oil Firing | % | 95.1 | 95.3 | 95.0 | 94.9 | 95.3 | 95.5 | 95.2 | 95.3 | 95.8 | 95.2 | 95.3 |
| Natural gas | m³/h | 26.03 | 39.0 | 51.98 | 78.10 | 104.14 | 130.18 | 195.31 | 260.36 | 325.49 | 390.63 | 455.8 |
| Efficiency Gas Firing | % | 95.0 | 95.1 | 94.9 | 94.8 | 95.2 | 95.3 | 95.0 | 95.0 | 95.4 | 95.1 | 95.0 |
| Overall Height | mm | 1524 | 1930 | 1930 | 2184 | 2559 | 2793 | 3531 | 3531 | 3645 | 3658 | 4144 |
| Diameter | mm | 635 | 865 | 865 | 1015 | 1252 | 1245 | 1450 | 1805 | 2285 | 2745 | 2746 |
| Overall Depth | mm | 965 | 1422 | 1422 | 1525 | 2030 | 1780 | 2007 | 2615 | 3302 | 3772 | 3894 |
| Dry Weight | kg | 680 | 953 | 1150 | 1550 | 2400 | 2400 | 3750 | 5200 | 8750 | 9850 | 10455 |

Voltage 3 Phase for Burner and Pump-Each unit has an incorporated stepdown transformer. Fuel up to No. 6 Oil Available for Large Units, (FT-0600-C and larger) Efficiency up to 80% minimum Based on High Heating Value of the Fuel (No. 2 Oil @14,000BTU/GHHV; Natural Gas @ 1000BTU/ft3 HHV. Modulation 3 to 1 Turn Down Ratio. Optional on FT-0080,0120 and 0160-Standard on all others. Circulating pump motor sizes based on standard pressure (55PSIG and viscosity 1 cs, specific gravity 0.7, with 25-37 PSID available head for installation. We reserve the right to change, please consult factory for the most current drawings. (Efficiency Calculated Inclusive Economizer)

Fulton

"PulsePak" Pulse Combustion Gas Fired Hot Water Boiler

A Pulse Pak boiler operates with a standard efficiency of approximately 84-90%. For optimum performance. Fulton's Pulse Pak can be ordered with modulation which results in efficiencies of up to 98% Fulton Model PHW-1400 is supplied with modulation as standard equipment. Unlike conventional power burners, pulse boilers are modulation by using a standard butterfly valve in the gas line and a butterfly valve in the exhaust line. The result is a boiler that offers 5:1 turndown for precise load matching capability. Sound deadening features bring the DBA to less than 70 on all PulsePak.

Benefits with pulse

- Standby losses are nearly zero.
- Small footprint allow the installation in multiple buildings or in isolated areas of large plants.
- Fit through standard door openings.
- The replacement of burners with pulse computation. results in the lowest maintenance requirements in this industry.
- No primary/secondary loop is required to maintain minimum return water temperature
- Pulse combustion produces inherently lower Nox levels than conventional boilers.
- No minimum or maximum flow requirements.



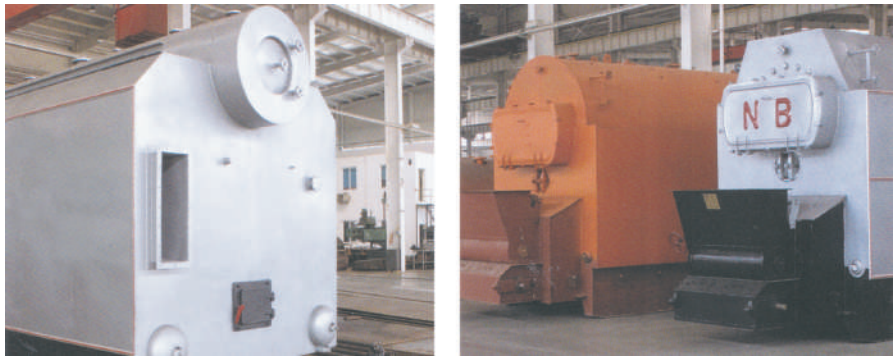
Fulton "PulsePak" Pulse Combustion Gas Fired Hot Water Boiler

PulsePak^{FULTON} BOILER

PHW Pulse Combustion Boiler

| Model | PHW | PHW300 | PHW500 | PHW750 | PHW1000 | PHW1400 | PHW2000 |
|------------------------------------|-------------------|-------------------------|---------|---------|-----------|-----------|-----------|
| Fuel | Type | Natural gas/Propane gas | | | | | |
| Input | Btu/h | 300,000 | 500,000 | 750,000 | 1,000,000 | 1,400,000 | 2,000,000 |
| | kcal/h | 75,600 | 126,000 | 189,000 | 252,000 | 352,644 | 503,992 |
| Output | Btu/h | 270,000 | 440,000 | 637,500 | 840,000 | 1,204,000 | 1,680,000 |
| | kcal/h | 68,000 | 110,885 | 160,698 | 211,700 | 303,420 | 423,353 |
| Gas consumption-under rating power | | | | | | | |
| Natural gas | cubic inch/h | 300 | 500 | 750 | 1000 | 1400 | 2000 |
| | m ³ /h | 8.5 | 14.2 | 21.2 | 29.3 | 39.6 | 56.6 |
| Propane gas | cubic inch/h | 120 | 200 | 300 | 400 | 560 | N/A |
| | m ³ /h | 3.4 | 5.7 | 8.5 | 11.4 | 15.9 | N/A |

Note: Fuel consumption based on Natural gas 8900kcal/m³, Propane gas 22500kcal/m³. *Output is based on 49°C Input and 60°C Output. **Consult factory. (Efficiency Calculated Inclusive Economizer)



Fulton's coal fired boiler ranges from 1t/hr to 45t/hr. The small sizes are fire-tube boilers. While the large ones are water-tube boilers. The newly designed corner-type boilers have a lot of advantage over the traditional coal-fired boilers. All time coal-fired are manufactured in Fulton's Ningbo factory. This factory has over 50 years of manufacturing coal-fired boiler experience with Chinese A class Manufacturing Permit.



Corner type coal fired steam boiler specification and dimension

| Boiler Model | DZL10-1.25 | DZL15-1.25 | DZL15-1.6 | DZL15-2.45/400 | DZL15-2.45 | DZL20-1.6 | DZL20-2.45/400 | DZL20-2.45 | DZL30-1.25 | DZL35-1.6/350 | DZL45-1.25/300 | DZL50-3.0/300 |
|-------------------------------------|----------------------------------|---------------|-----------|----------------|------------|-----------|----------------|------------|----------------------------------|---------------|----------------------------------|---------------|
| | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) | -AII(III) |
| Type | Semi-packaged/ field assembly | Semi-packaged | | | | | | | Semi-packaged/ field assembly | Semi-packaged | Semi-packaged/ field assembly | |
| Nominal Output t/h | 10 | 15 | 15 | 15 | 15 | 20 | 20 | 20 | 30 | 35 | 45 | 50 |
| Working pressure MPa | 1.25 | 1.25 | 1.6 | 2.45 | 2.45 | 1.6 | 2.45 | 2.45 | 1.25 | 1.6 | 1.25 | 3.0 |
| Coal Type Bituminous coal | II, III | | | | | | | | | | | |
| Total weight t | 90 | 105 | 110 | 120 | 125 | 145 | 180 | 160 | 170 | | | |
| Boiler dimension after installation | | | | | | | | | | | | |
| Length m | 9.25 | 11.2 | 11.2 | 11.7 | 11.2 | 10.5 | 11.2 | 10.5 | 13 | 12.1 | 11 | 12 |
| Width m | 3.34 | 3.3 | 3.3 | 4.8 | 3.3 | 5.5 | 7.4 | 5.5 | 11.5 | 7.1 | 7.4 | 12.4 |
| Height m | 5.75 | 7.4 | 7.4 | 7.4 | 7.4 | 7.7 | 9.7 | 7.9 | 15.6 | 12.5 | 12.5 | 12.52 |

(Efficiency Calculated Inclusive Economizer)

Fulton
Coal Fired Boiler

DZL FULTON
BOILER

Improving Life through Heat Transfer Solutions



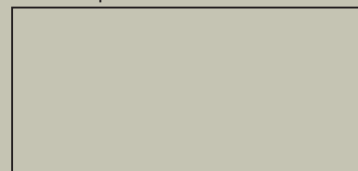
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