

Specifications

*Advanced Steam Boiler Technology
that is Safe, Efficient and Reliable*

CLAYTON FLUID HEATERS OFFER:

- **COMPACT SIZE**

Clayton steam generators will normally fit in any available area while also reducing construction costs on new building installations.

- **FUEL EFFICIENT**

High efficiency which is inherent with the clayton design translates into lower operating costs and improved overall system operation

- **RESPONSIVE**

Very rapid response to changing steam loads. Clayton steam generator will automatically modulate to match your steam load profile while maintaining system steam pressure

- **SAFE**

Our once through design eliminates the possibility of a steam or water side explosion. The Clayton steam generator is simply the safest steam boiler on the market.

- **LESS WATER WASTE**

Clayton's design concentrates TDS blow down significantly which reduces wasted fuel, water and chemical costs.

- **FAST START**

Full steam pressure and output in minutes from a cold start-up saves fuel and labor cost over conventional designs. Eliminates wasted fuel from idling.

- **AUTOMATIC**

Operation is automatically controlled and the Clayton steam generator can be started from a single switch or remotely using an automatic start option.

- **LOW WEIGHT**

The relatively light weight means that all sizes of Clayton steam generators can be easily moved and installed even in areas with limited structural support.

- **RELIABLE**

Reliability of the Clayton steam generator is field proven and unsurpassed. This results in greatly reduced maintenance and attendance.

- **HIGH QUALITY STEAM**

Steam Quality in excess of 99.5% dry is assured at all times. This is the highest steam quality of any competitive design. Less water and impurities further increase your energy efficiency.

MODEL E504-DZ FLUID HEATER 500 BHP



Clayton
INNOVATIVE STEAM SOLUTIONS

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SPECIFICATIONS

MODEL E504

| | MODEL E504 Standard | MODEL SE504 with Super Economizer | MODEL E504-FGR with Flue Gas Recirculation | MODEL SE504-FGR with Flue Gas Recirculation and Super Economizer |
|---|------------------------|--------------------------------------|---|--|
| BOILER HORSEPOWER | 500 | 500 | 500 | 500 |
| HEAT INPUT, BTU/hr | 20,165,663 | 19,462,209 | 20,165,663 | 19,462,209 |
| | Oil | | | |
| | 20,411,585 | 19,691,176 | 20,411,585 | 19,691,176 |
| | Gas | | | |
| NET HEAT OUTPUT, BTU/hr | 16,737,500 | 16,737,500 | 16,737,500 | 16,737,500 |
| EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam) | 17,250 lbs/hr | 17,250 lbs/hr | 17,250 lbs/hr | 17,250 lbs/hr |
| DESIGN PRESSURE (see note 1) | 65 - 500 PSIG | 65 - 500 PSIG | 65 - 500 PSIG | 65 - 500 PSIG |
| STEAM OPERATING PRESSURE (determined by design pressure) | 60 - 450 PSIG | 60 - 450 PSIG | 60 - 450 PSIG | 60 - 450 PSIG |
| OIL CONSUMPTION at maximum steam output (see note 2) | 143.4 gph | 138.4 gph | 143.4 gph | 138.4 gph |
| GAS CONSUMPTION at maximum steam output (see note 3) | 20,412 cfh | 19,691 cfh | 20,412 cfh | 19,691 cfh |
| BURNER CONTROLS modulating | 5 to 1 Turndown | 5 to 1 Turndown | 4 to 1 Turndown | 4 to 1 Turndown |
| EFFICIENCY | | | | |
| oil-fired efficiency % | 83% | 86% | 83% | 86% |
| gas-fired efficiency % | 82% | 85% | 82% | 85% |
| ELECTRIC MOTORS, HP (see note 4) | Blower Pump | Blower Pump | Blower Pump Cooling | Blower Pump Cooling |
| design pressure 15-300 psig | 25 20 | 25 20 | 25 20 7.5 | 25 20 7.5 |
| design pressure 301-500 psig | 25 30 | 25 30 | 25 30 7.5 | 25 30 7.5 |
| ELECTRIC FLA, based on 460 V (see note 5) | | | | |
| design pressure 15-300 psig | 74 | 74 | 85 | 85 |
| design pressure 301-500 psig | 85 | 85 | 96 | 96 |
| GAS SUPPLY PRESSURE REQUIRED | 5 to 10 psig | 5 to 10 psig | 5 to 10 psig | 5 to 10 psig |
| ATOMIZING AIR REQUIRED (see note 6) | | | | |
| Capacity | 30 scfm | 30 scfm | 30 scfm | 30 scfm |
| Minimum pressure | 70 psig | 70 psig | 70 psig | 70 psig |
| AIR SUPPLY REQUIRED (FMB -see note 7) | N/A | N/A | N/A | N/A |
| WATER SUPPLY REQUIRED | 2,650 gph | 2,650 gph | 2,650 gph | 2,650 gph |
| HEATING SURFACE | 912 sq.ft. | 1,207 sq.ft. | 912 sq.ft. | 1,207 sq.ft. |
| EXHAUST STACK CONNECTION, o.d. | 32 in. | 32 in. | 32 in. | 32 in. |
| APPROXIMATE OVERALL DIMENSIONS | | | | |
| length | 133 in. | 133 in. | 156 | 156 |
| width | 131 in. | 131 in. | 142 | 142 |
| height | 131 in. | 157 in. | 155 | 181 |
| WEIGHT | | | | |
| installed - wet | 17,408 lbs | 20,400 lbs | 17,708 lbs | 20,700 lbs |
| shipping | 14,790 lbs | 17,190 lbs | 15,090 lbs | 17,490 lbs |
| FW pump skid | 2,000 lbs | 2,000 lbs | 2,000 lbs | 2,000 lbs |

1) Design pressures are available up to 3000 psig. Consult factory for details.

2) Based on No. 2 fuel oil with a High Heat Value (HHV) of 140,600 BTU/Gal.

3) Based on Natural Gas with a High Heat Value (HHV) of 1,000 BTU/Ft.³

4) Oil fired units also use a separate motor driven fuel oil pump - 3/4 HP

4) Continuous running. For 575 V multiply by 0.8; for 380 V multiply by 1.1; for 230 V multiply by 2.0; for 208 V multiply by 2.2.

5) Atomizing air required for oil burner.

6) Compressed air required for FMB.

The description and specifications shown were in effect at the time this publication was approved for printing. Clayton Industries, whose policy is one of continuous improvement, reserves the right to discontinue models, or change specifications or design, without notice.



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