

# 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 E704-DZ FLUID HEATER 700 BHP*



**Clayton**  
INNOVATIVE STEAM SOLUTIONS

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# SPECIFICATIONS

## MODEL E704

	MODEL E704 Standard	MODEL SE704 with Super Economizer	MODEL E704-FGR with Flue Gas Recirculation	MODEL SE704-FGR with Flue Gas Recirculation and Super Economizer
<b>BOILER HORSEPOWER</b>	700	700	700	700
<b>HEAT INPUT, BTU/hr</b>	Oil 28,231,928 Gas 28,576,220	27,247,093 27,567,647	28,231,928 28,576,220	27,247,093 27,567,647
<b>NET HEAT OUTPUT, BTU/hr</b>	23,432,500	23,432,500	23,432,500	23,432,500
<b>EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam)</b>	24,150 lbs/hr	24,150 lbs/hr	24,150 lbs/hr	24,150 lbs/hr
<b>DESIGN PRESSURE (see note 1)</b>	65 - 500 psig	65 - 500 psig	65 - 500 psig	65 - 500 psig
<b>STEAM OPERATING PRESSURE (determined by design pressure)</b>	60 - 450 psig	60 - 450 psig	60 - 450 psig	60 - 450 psig
<b>OIL CONSUMPTION at maximum steam output (see note 2)</b>	200.8 gph	193.8 gph	200.8 gph	193.8 gph
<b>GAS CONSUMPTION at maximum steam output (see note 3)</b>	28,576 cfm	27,568 cfm	28,576 cfm	27,568 cfm
<b>BURNER CONTROLS modulating</b>	5 to 1 Turndown	5 to 1 Turndown	4 to 1 Turndown	4 to 1 Turndown
<b>EFFICIENCY</b>				
oil-fired efficiency %	83%	86%	83%	86%
gas-fired efficiency %	82%	85%	82%	85%
<b>ELECTRIC MOTORS, HP (see note 4)</b>	Blower   Pump	Blower   Pump	Blower   Pump   Cooling	Blower   Pump   Cooling
design pressure 15-300 psig	60   40	60   40	60   40   7.5	60   40   7.5
design pressure 301-500 psig	60   40	60   40	60   40   7.5	60   40   7.5
<b>ELECTRIC FLA, based on 460 V (see note 5)</b>				
design pressure 15-300 psig	155	155	166	166
design pressure 301-500 psig	155	155	166	166
<b>GAS SUPPLY PRESSURE REQUIRED</b>	5 to 10 psig	5 to 10 psig	5 to 10 psig	5 to 10 psig
<b>ATOMIZING AIR REQUIRED (see note 6)</b>				
Capacity	30 scfm	30 scfm	30 scfm	30 scfm
Minimum pressure	70 psig	70 psig	70 psig	70 psig
<b>AIR SUPPLY REQUIRED (FMB -see note 7)</b>	N/A	N/A	N/A	N/A
<b>WATER SUPPLY REQUIRED</b>	3,710 gph	3,710 gph	3,710 gph	3,710 gph
<b>HEATING SURFACE</b>	1,523 sq.ft.	1,701 sq.ft.	1,523 sq.ft.	1,701 sq.ft.
<b>EXHAUST STACK CONNECTION, o.d.</b>	36 in.	36 in.	36 in.	36 in.
<b>APPROXIMATE OVERALL DIMENSIONS</b>				
length	141 in.	141 in.	159 in.	159 in.
width	140 in.	140 in.	140 in.	140 in.
height	205 in.	215 in.	227 in.	237 in.
<b>WEIGHT</b>				
installed - wet	28,535 lbs	32,244 lbs	28,835 lbs	32,544 lbs
shipping	24,500 lbs	27,800 lbs	24,800 lbs	28,100 lbs
FW pump skid	2,400 lbs	2,400 lbs	2,400 lbs	2,400 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.<sup>3</sup>

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

5) 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

6) Atomizing air required for oil burner.

7) 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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