

# Specifications

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

## CLAYTON STEAM GENERATORS 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 E804 STEAM GENERATOR 800 BHP



**Clayton**  
INNOVATIVE STEAM SOLUTIONS

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# SPECIFICATIONS

## MODEL E804

	MODEL E804 Standard	MODEL SE804 with Super Economizer	MODEL E804-FGR with Flue Gas Recirculation	MODEL SE804-FGR with Flue Gas Recirculation and Super Economizer
<b>BOILER HORSEPOWER</b>	800	800	800	800
<b>HEAT INPUT, BTU/hr</b>				
Oil	32,265,060	31,139,535	32,265,060	31,139,535
Gas	32,658,537	31,505,882	32,658,537	31,505,882
<b>NET HEAT OUTPUT, BTU/hr</b>	26,780,000	26,780,000	26,780,000	26,780,000
<b>EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam)</b>	27,600 lbs/hr	27,600 lbs/hr	27,600 lbs/hr	27,600 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>	229 gph	221 gph	229 gph	221 gph
<b>GAS CONSUMPTION at maximum steam output (see note 3)</b>	32,659 cfm	31,506 cfm	32,659 cfm	31,506 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	75   50	75   50	75   50   7.5	75   50   7.5
design pressure 301-500 psig	75   60	75   60	75   60   7.5	75   60   7.5
<b>ELECTRIC FLA, based on 460 V (see note 5)</b>				
design pressure 15-300 psig	194	194	205	205
design pressure 301-500 psig	207	207	218	218
<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>	4,240 gph	4,240 gph	4,240 gph	4,240 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	151 in.	151 in.	159 in.	159 in.
width	133 in.	133 in.	140 in.	140 in.
height	198 in.	224 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	3,200 lbs	3,200 lbs	3,200 lbs	3,200 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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