

# 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 E704 STEAM GENERATOR 700 BHP**



**Clayton**  
INNOVATIVE STEAM SOLUTIONS

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# SPECIFICATIONS

## MODEL E704

|   | MODEL E704<br>Standard | MODEL SE704<br>with Super Economizer | MODEL EG704-FMB<br>with Low NOx Burner | MODEL SEG704-FMB<br>with Low NOx Burner<br>and Super Economizer |
|---|------------------------|--------------------------------------|--|---|
| BOILER HORSEPOWER   | 700                    | 700                                  | 700                                    | 700   |
| HEAT INPUT, BTU/hr  | 28,231,928             | 27,247,093                           | NA                                     | NA  |
| Oil   | 28,576,220             | 27,567,647                           | 28,929,012                             | 27,567,647  |
| Gas   | 23,432,500             | 23,432,500                           | 23,432,500                             | 23,432,500  |
| NET HEAT OUTPUT, BTU/hr   |                        |                                      |  |   |
| EQUIVALENT OUTPUT (from and at 212°F<br>feedwater and 0 PSIG steam) | 24,150 lbs/hr          | 24,150 lbs/hr                        | 24,150 lbs/hr                          | 24,150 lbs/hr   |
| DESIGN PRESSURE (see note 1)  | 65 - 500 psig          | 65 - 500 psig                        | 65 - 500 psig                          | 65 - 500 psig   |
| STEAM OPERATING PRESSURE<br>(determined by design pressure)         | 60 - 450 psig          | 60 - 450 psig                        | 60 - 450 psig                          | 60 - 450 psig   |
| OIL CONSUMPTION<br>at maximum steam output (see note 2)             | 200.8 gph              | 193.8 gph                            | NA                                     | NA  |
| GAS CONSUMPTION<br>at maximum steam output (see note 3)             | 28,576 cfh             | 27,568 cfh                           | 28,929 cfh                             | 27,568 cfh  |
| BURNER CONTROLS<br>modulating                                       | 5 to 1 Turndown        | 5 to 1 Turndown                      | 4 to 1 Turndown                        | 4 to 1 Turndown   |
| EFFICIENCY  |                        |                                      |  |   |
| oil-fired efficiency %  | 83%                    | 86%                                  | NA                                     | NA  |
| gas-fired efficiency %  | 82%                    | 85%                                  | 81%                                    | 85%   |
| ELECTRIC MOTORS, HP (see note 4)                                    | Blower   Pump          | Blower   Pump                        | Blower   Pump   Cooling                | Blower   Pump   Cooling   |
| design pressure 15-300 psig   | 60   40                | 60   40                              | 75   40   7.5                          | 75   40   7.5   |
| design pressure 301-500 psig  | 60   40                | 60   40                              | 75   50   7.5                          | 75   50   7.5   |
| ELECTRIC FLA, based on 460 V (see note 5)                           |                        |                                      |  |   |
| design pressure 15-300 psig   | 155                    | 155                                  | 190                                    | 190   |
| design pressure 301-500 psig  | 155                    | 155                                  | 204                                    | 204   |
| 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                              | N/A                                    | N/A   |
| Minimum pressure  | 70 psig                | 70 psig                              | N/A                                    | N/A   |
| AIR SUPPLY REQUIRED (FMB -see note 7)                               | N/A                    | N/A                                  | 5 scfm @ 3 to 150 psig                 | 5 scfm @ 3 to 150 psig  |
| WATER SUPPLY REQUIRED   | 3,710 gph              | 3,710 gph                            | 3,710 gph                              | 3,710 gph   |
| HEATING SURFACE   | 1,523 sq.ft.           | 1,701 sq.ft.                         | 1,523 sq.ft.                           | 1,701 sq.ft.  |
| EXHAUST STACK CONNECTION, o.d.                                      | 36 in.                 | 36 in.                               | 36 in.                                 | 36 in.  |
| APPROXIMATE OVERALL DIMENSIONS                                      |                        |                                      |  |   |
| length  | 157 in.                | 157 in.                              | 160 in.                                | 160 in.   |
| width   | 151 in.                | 151 in.                              | 151 in.                                | 151 in.   |
| height  | 176 in.                | 216 in.                              | 176 in.                                | 216 in.   |
| WEIGHT  |                        |                                      |  |   |
| 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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