

# TECHNICAL SPECIFICATIONS

## CLAYTON HIGH TEMPERATURE FLUID HEATERS:

### \* **SAVE FUEL**

The unique counter flow, controlled flow design provides higher fuel to steam efficiencies than traditional boilers.

### \* **ARE SAFE FOR PERSONNEL & EQUIPMENT**

The Clayton units inherently eliminate the potential for hazardous steam explosions due to their smaller physical size and low water volume.

### \* **PROVIDE RAPID RESPONSE**

With low water volume and physical size, Clayton units can respond very quickly to load changes

### \* **PROVIDE FAST START-UP AND LOAD RESPONSE**

The units will provide full output from a cold start within ten minutes, without thermal stress.

### \* **ARE COMPACT AND LIGHTWEIGHT**

The Clayton design typically occupies one-third of the floor space and is 75% lighter than a conventional boiler.

### \* **ENSURE HIGH QUALITY STEAM**

Provide greater than 99.5% quality steam.

### \* **AFFORD FUEL VERSATILITY**

Natural gas, propane, light or heavy oil burners are available or in combination.

### \* **HAVE ADVANCED CONTROLS**

Programmable Logic Controllers (PLC) are standard for accurate and reliable operation.

### \* **ARE AVAILABLE WITH LOW NOx**

Industry leading Low NOx burners are available to meet strict environmental regulations.

- **ARE BACKED BY** Fast, Expert Factory-Direct service that is available 24 hours per day throughout the U.S., Canada, Mexico, Europe, Asia and service distributors worldwide.



MODEL E704-DZ  
FLUID HEATER  
700 BHP

# CLAYTON FLUID HEATER

# SPECIFICATIONS

## MODEL E704

	MODEL E704 Standard	MODEL SE704 with Super Economizer	MODEL EG704-FMB with Low NOx Burner	MODEL SEG704-FMB with Low NOx Burner and Super Economizer
<b>BOILER HORSEPOWER</b>	700	700	700	700
<b>HEAT INPUT, BTU/hr</b>				
Oil	28,231,928	27,247,093	NA	NA
Gas	28,576,220	27,567,647	28,929,012	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	NA	NA
<b>GAS CONSUMPTION at maximum steam output (see note 3)</b>	28,576 cfh	27,568 cfh	28,929 cfh	27,568 cfh
<b>BURNER CONTROLS</b>				
modulating	5 to 1 Turndown	5 to 1 Turndown	4 to 1 Turndown	4 to 1 Turndown
<b>EFFICIENCY</b>				
oil-fired efficiency %	83%	86%	NA	NA
gas-fired efficiency %	82%	85%	81%	85%
<b>ELECTRIC MOTORS, HP</b>				
design pressure 15-300 psig	Blower 60   Pump 40	Blower 60   Pump 40	Blower 75   Pump 40   Cooling 7.5	Blower 75   Pump 40   Cooling 7.5
design pressure 301-500 psig	Blower 60   Pump 50	Blower 60   Pump 50	Blower 75   Pump 50   Cooling 7.5	Blower 75   Pump 50   Cooling 7.5
<b>ELECTRIC FLA, based on 460 V (see note 4)</b>				
design pressure 15-300 psig	155	155	190	190
design pressure 301-500 psig	170	170	205	205
<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 5)</b>				
Capacity	30 scfm	30 scfm	N/A	N/A
Minimum pressure	70 psig	70 psig	N/A	N/A
<b>AIR SUPPLY REQUIRED (FMB -see note 6)</b>	N/A	N/A	5 scfm @ 3 to 150 psig	5 scfm @ 3 to 150 psig
<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 DIAMETER, o.d.</b>	35.75 in.	35.75 in.	35.75 in.	35.75 in.
<b>APPROXIMATE OVERALL DIMENSIONS</b>				
length	141 in.	141 in.	160 in.	160 in.
width	140 in.	140 in.	149 in.	149 in.
height	205 in.	215 in.	205 in.	215 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) 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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