

# 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 E504-DZ  
FLUID HEATER  
500 BHP

# CLAYTON FLUID HEATER

# SPECIFICATIONS

## MODEL E504

	MODEL E504 Standard	MODEL SE504 with Super Economizer	MODEL EG504-FMB with Low NOx Burner	MODEL SEG504-FMB with Low NOx Burner and Super Economizer
<b>BOILER HORSEPOWER</b>	500	500	500	500
<b>HEAT INPUT, BTU/hr</b>				
Oil	20,165,663	19,462,209	NA	NA
Gas	20,411,585	19,691,176	20,663,580	19,691,176
<b>NET HEAT OUTPUT, BTU/hr</b>	16,737,500	16,737,500	16,737,500	16,737,500
<b>EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam)</b>	17,250 lbs/hr	17,250 lbs/hr	17,250 lbs/hr	17,250 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</b>				
at maximum steam output (see note 2)	143.4 gph	138.4 gph	N/A	N/A
<b>GAS CONSUMPTION</b>				
at maximum steam output (see note 3)	20,412 cfh	19,691 cfh	20,664 cfh	19,691 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 25   Pump 20	Blower 25   Pump 20	Blower 50   Pump 20   Cooling 7.5	Blower 50   Pump 20   Cooling 7.5
design pressure 301-500 psig	Blower 25   Pump 30	Blower 25   Pump 30	Blower 50   Pump 30   Cooling 7.5	Blower 50   Pump 30   Cooling 7.5
<b>ELECTRIC FLA, based on 460 V (see note 4)</b>				
design pressure 15-300 psig	66	66	108	108
design pressure 301-500 psig	79	79	122	122
<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	NA	NA
Minimum pressure	70 psig	70 psig	NA	NA
<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>	2,650 gph	2,650 gph	2,650 gph	2,650 gph
<b>HEATING SURFACE</b>	912 sq.ft.	1,207 sq.ft.	912 sq.ft.	1,207 sq.ft.
<b>EXHAUST STACK DIAMETER, o.d.</b>	31.75 in.	31.75 in.	31.75 in.	31.75 in.
<b>APPROXIMATE OVERALL DIMENSIONS</b>				
length	133 in.	133 in.	156 in.	156 in.
width	131 in.	131 in.	142 in.	142 in.
height	131 in.	157 in.	135 in.	161 in.
<b>WEIGHT</b>				
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.<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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