

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 E304-DZ
FLUID HEATER
300 BHP

CLAYTON FLUID HEATER

SPECIFICATIONS

MODEL E304

	MODEL E304 Standard	MODEL SE304 with Super Economizer	MODEL EG304-FMB with Low NOx Burner	MODEL SE304-FMB with Low NOx Burner and Super Economizer
BOILER HORSEPOWER	300	300	300	300
HEAT INPUT, BTU/hr	12,099,398	11,677,326	NA	NA
Oil				
Gas	12,246,951	11,814,706	12,398,148	11,814,706
NET HEAT OUTPUT, BTU/hr	10,042,500	10,042,500	10,042,500	10,042,500
EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam)	10,350 lbs/hr	10,350 lbs/hr	10,350 lbs/hr	10,350 lbs/hr
DESIGN PRESSURE (see note 1)	15 - 500 psig	15 - 500 psig	15 - 500 psig	15 - 500 psig
STEAM OPERATING PRESSURE (determined by design pressure)	13 - 450 psig	13 - 450 psig	13 - 450 psig	13 - 450 psig
OIL CONSUMPTION	86.1 gph	83.1 gph	N/A	N/A
at maximum steam output (see note 2)				
GAS CONSUMPTION	12,247 cfh	11,815 cfh	12,398 cfh	11,815 cfh
at maximum steam output (see note 3)				
BURNER CONTROLS				
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	Blower Pump	Blower Pump	Blower Pump Cooling	Blower Pump Cooling
design pressure 15-300 psig	15 10	15 10	20 10 5	20 10 5
design pressure 301-500 psig	15 15	15 15	20 15 5	20 15 5
ELECTRIC FLA, based on 460 V (see note 4)				
design pressure 15-300 psig	36	38	52	58
design pressure 301-500 psig	47	47	58	58
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 5)				
Capacity	25 scfm	25 scfm	NA	NA
Minimum pressure	70 psig	70 psig	NA	NA
AIR SUPPLY REQUIRED (FMB -see note 6)	N/A	N/A	5 scfm @ 3 to 150 psig	5 scfm @ 3 to 150 psig
WATER SUPPLY REQUIRED	1,590 gph	1,590 gph	1,590 gph	1,590 gph
HEATING SURFACE	594 sq.ft.	796 sq.ft.	594 sq.ft.	796 sq.ft.
EXHAUST STACK DIAMETER, o.d.	23.88 in.	23.88 in.	23.88 in.	23.88 in.
APPROXIMATE OVERALL DIMENSIONS				
length	114 in.	114 in.	160 in.	160 in.
width	104 in.	104 in.	116 in.	116 in.
height	114 in.	137 in.	121 in.	144 in.
WEIGHT				
installed - wet	10,566 lbs	12,297 lbs	10,766 lbs	12,497 lbs
shipping	9,140 lbs	10,530 lbs	9,340 lbs	10,730 lbs
FW pump skid	1,150 lbs	1,150 lbs	1,150 lbs	1,150 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.³

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.



World Headquarters
17477 Hurley Street
City of Industry, CA 91744
800.423.4585 tel • 626.435.0180 fax
email: sales@claytonindustries.com
www.claytonindustries.com

Europe, Africa & Middle East Headquarters
Rijksweg 30 • B-2880 Bornem, Belgium
32.3.890.5700 tel • 32.3.890.5701 fax
email: sales@clayton.be

Latin America Headquarters
Manuel L. Stampa 54 • Nueva Industrial Vallejo
Mexico D.F., 07700 Mexico
Toll Free: 01.800.888.4422 • (55)55.86.51.00 tel
(55)55.86.23.00 fax • email: claytonmexico@clayton.com.mx
www.claytonmexico.com.mx

ATLANTA • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • KANSAS CITY • NEW YORK/NEW JERSEY • SAN FRANCISCO

Clayton Deutschland GmbH
Clayton Thermal Products Ltd (UK)

Clayton Scandinavia A.S.
Clayton Nederland B.V.

Clayton de France S.A.R.L.
Clayton Sales & Service Canada

World Leaders in Precision Steam Generators, Fluid Heaters, Heat Recovery Systems and Customer Service