Technical Specifications

The Next Generation of Clayton Steam Generators

Available in the following configurations:

- Standard configuration for most installations.
- Super Economizer (SE) for increased efficiency.
- Low NOx Fiber Metal Burner (FMB) for NOx levels below 12 ppmv.
- Step-fired and fully modulating burners.
- Fuel Options: Natural Gas, Propane, #2 Fuel Oil, Biogas and Hydrogen

Clayton SigmaFire™

The *SigmaFire*:

- SAVES FUEL
  The unique counter flow design provides higher fuel-to-steam efficiency than traditional boilers.
- IS SAFE FOR PERSONNEL AND EQUIPMENT
  Inherently safe, the Clayton design eliminates hazardous steam explosions.
- PROVIDES RAPID RESPONSE
  The Clayton design responds rapidly to sudden or fluctuating load demands.
- STARTS FAST
  The Clayton design will provide full output from a cold start within five minutes, without thermal stress.
- IS COMPACT AND LIGHTWEIGHT
  The Clayton design typically occupies one-third of the floor space and weighs 75% less than a traditional boiler.
- ENSURES HIGH QUALITY STEAM
  Clayton offers a 99.5% quality separator to minimize moisture in the steam.
- OFFERS ADVANCED CONTROLS
  Digital controllers, PLC's and a linkage-less servo controlled burner management system is available.
- INCLUDES OUTSTANDING SUPPORT
  Every Steam Generator is backed by Clayton factory direct sales and service plus full service feedwater treatement.

SigmaFire™ 150 BHP Steam Generator

SPECIFICATIONS

MODEL SF150

	MODEL SF150 Standard	MODEL SF150-SE with Super Economizer	MODEL SF150-FMB with Low NOx FMB Burner	MODEL SF150-SE-FMB with Low NOx FMB Burner and Super Economizer
BOILER HORSEPOWER	150	150	150	150
HEAT INPUT, BTU/hr Oil	6,049,699	5,838,663	NA	NA
Gas	6,123,476	5,907,353	6,199,074	5,907,353
NET HEAT OUTPUT, BTU/hr	5,021,250	5,021,250	5,021,250	5,021,250
EQUIVALENT OUTPUT (from and at 212°F feedwater and 0 PSIG steam)	5,175 lbs/hr	5,175 lbs/hr	5,175 lbs/hr	5,175 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 at maximum steam output (see note 2)	43.0 gph	41.5 gph	NA	NA
GAS CONSUMPTION at maximum steam output (see note 3)	6,123 cfh	5,907 cfh	6,199 cfh	5,907 cfh
BURNER CONTROLS				
step-fired	100% / 50% / Off	100% / 50% / Off	N/A	N/A
modulating (see note 4)	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	7.5 / 5	7.5 / 5	10 / 5 / 3	10 / 5 / 3
design pressure 301-500 psig	7.5 / 7.5	7.5 / 7.5	10 / 7.5 / 3	10 / 7.5 / 3
ELECTRIC FLA, based on 460 V (see note 5)				
design pressure 15-300 psig	19	19	21	21
design pressure 301-500 psig	21	21	25	25
GAS SUPPLY REQUIRED	2 psig	2 psig	2 psig	2 psig
AIR SUPPLY REQUIRED (FMB - see note 6)	NA	NA	5 scfm @ 3 to 150 psig	5 scfm @ 3 to 150 psig
WATER SUPPLY REQUIRED	795 gph	795 gph	795 gph	795 gph
HEATING SURFACE	230 sq.ft.	314 sq.ft.	230 sq.ft.	314 sq.ft.
EXHAUST STACK DIAMETER, o.d.	17.88 in.	17.88 in.	17.88 in.	17.88 in.
APPROXIMATE OVERALL DIMENSIONS				
length	81 in.	81 in.	85 in.	85 in.
width	81 in.	81 in.	101 in.	101 in.
height	93 in.	112 in.	93 in.	112 in.
WEIGHT				
installed - wet	5,134 lbs	5,675 lbs	5,214 lbs	5,755 lbs
shipping	4,600 lbs	4,975 lbs	4,680 lbs	5,055 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) On dual fuel units only gas fired is modulating, oil fired is step fired. Switching fuels requires a manual change of burners
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) Compressed air required for FMB only.

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.

Clayton
INNOVATIVE STEAM SOLUTIONS

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 Scandinavia A.S. | Clayton de France S.A.R.L.
Clayton Thermal Products Ltd (UK) | Clayton Nederland B.V. | Clayton Sales & Service Canada

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