



## THERMAL ENHANCED OIL RECOVERY STEAM GENERATORS

Steam Pressures up to 3000 psi

# AT THEIR BEST WHEN THE GOING GETS TOUGH

### Over 50 Years Experience in Oil Recovery

Enhanced oil recovery (EOR) using Thermal technology is the most widely employed EOR method. The two main methods for Thermal EOR (TEOR), cyclic and steamflood, have the greatest certainty of success and potential application in about 70% of enhanced oil recovery worldwide. Thermal methods also give the highest recoveries at the lowest costs.

The Clayton TEOR Steam Generator is a complete, self-contained, automatic generating unit ready for operation when connected to the heating system, fuel and power supply. The basic design is a once through, forced circulation, spirally wound smooth tube heat exchanger. The Clayton design offers significant fuel savings and size/weight advantages. The Clayton design is inherently safe, with no possibility of a hazardous steam explosion.

Specifically tailored to oil field thermal recovery specifications, the Clayton TEOR Steam Generator is truly a portable heater. The compact design allows the unit to be skid mounted, trailer mounted or containerized. This portability means that they are versatile and adaptable to a variety of field conditions and applications.



*Steam Generators Range From  
25 BHP to 750 BHP  
Packages up to 1500 BHP*

The Clayton TEOR Steam Generator delivers more usable BTUs to the formation at a considerably lower cost than any combination of available components.

Compared with conventional steam boilers, Clayton Steam Generators are notable for their compact size, light weight and low emissions. They are prized for their reliability, fuel economy, fully automatic PLC controls, plus the ability to start-up and follow load cycles quickly.

### The Clayton Advantages

**Rapid Start-up**  
**Compact Design**

**Fuel Efficiency**  
**Low Emissions**

**Unsurpassed Safety**  
**Packaged Systems**

# SPECIFICATIONS



Skid Mounted



Containerized Steam Generators for mobile operation.

## COMPLETE BOILER ROOM PACKAGES

	Model	SF25	SF50	SF75	SF100	SF125	E154	E204	E254	E304	E354	E404	E504
BHP		25	50	75	100	125	150	200	250	300	350	400	500
Equivalent Output, lbs./hr.		1,100	2,200	3,300	4,400	5,500	6,600	8,800	11,000	13,200	15,400	17,600	22,000
Heat Input, BTU/hr.	Oil	1,033,179	2,066,358	3,061,737	4,082,317	5,102,896	5,907,353	7,970,238	9,962,798	11,955,357	13,947,917	16,132,530	20,165,663
	Gas	1,046,093	2,092,187	3,138,281	4,184,375	5,230,469	6,049,699	8,164,634	10,205,793	12,246,951	14,288,110	16,329,268	20,411,585
Net Heat Output, BTU/hr.		836,875	1,673,750	2,510,625	3,347,500	4,184,375	5,021,250	6,695,000	8,368,750	10,042,500	11,716,250	13,390,000	16,737,500

	Model	E604	E654	E704	E754	2XE404	E504/E404	2XE504	E504/E604	2XE604	E604/E704	2XE704	2XE754
BHP		600	650	700	750	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Equivalent Output, lbs./hr.		26,400	28,600	30,800	33,000	35,200	39,600	44,000	48,400	52,800	57,200	61,600	66,000
Heat Input, BTU/hr.	Oil	23,629,412	25,903,270	27,695,830	29,536,764	32,265,060	36,298,193	40,331,326	43,795,075	47,258,824	51,325,242	55,391,660	59,073,528
	Gas	24,198,795	26,535,060	28,576,220	30,248,493	32,658,536	36,740,853	40,823,170	44,610,380	48,397,590	52,775,015	57,152,440	60,496,986
Net Heat Output, BTU/hr.		20,085,000	22,425,000	23,432,500	25,106,250	26,780,000	30,127,500	33,475,000	36,822,500	40,170,000	43,517,500	46,865,000	50,212,500

### Notes:

Oil data based on No.2 fuel oil with a High Heat Value (HHV) of 140,600 BTU/U.S. Gal.

Gas data based on natural gas with a High Heat Value (HHV) of 1,000 BTU/Ft<sup>3</sup>.

Optional fuel sources include heavy oil (selected sizes), propane, biogas, boil fuels and blends.

Low Nox burners available for natural gas and propane only.

Standard voltages include 380V, 460V and 575V. Others available on request.

Typical steam quality of 80%

Equivalent output based on from and at 200°F feedwater and 0 psig.

**Clayton**  
**INDUSTRIES**

*Your Single Source for Steam Technology Since 1930*

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