



**COCHRANE NEI ENGINEERING
(PVT) LIMITED**

Composite

Coal and Refuse Fired
Industrial Composite Steam Boilers
7000 to 25000 kg/h



Composite

Composite

Introduction

As an addition to the current range of shell boilers Cochrane NEI Engineering (Pvt) Ltd has developed the COMPOSITE range of boilers. The design philosophy of the COMPOSITE is based on the perceived need in developing countries, to find a viable alternative to the use of oil firing for process heating and energy requirements.

Cochranes have developed the COMPOSITE since 1983 and can now offer the full range of units from 7 T/hr to 25 T/hr. The design complies with British Standards BS2790 and BS1113.

Features

Application

The COMPOSITE is most effective in situations where there are relatively large quantities of fibrous/cellulose refuse available from agro-industrial enterprises. This refuse has considerable potential even if it has a high relevant moisture content.

The COMPOSITE can also be fired on more conventional fuels such as coal, oil and gas.

Efficiency

The COMPOSITE, when fired on a typical fibrous fuel such as wood bark, having a GCV of 11,3 MJ/kg and typically 45% moisture, will achieve an efficiency of up to and including 72%.

Steam Quality

The COMPOSITE is designed for working pressures of 1035 kPa up to a maximum of 3200 kPa. The steam may be saturated for direct process heating or superheated for use in turbo-generation.

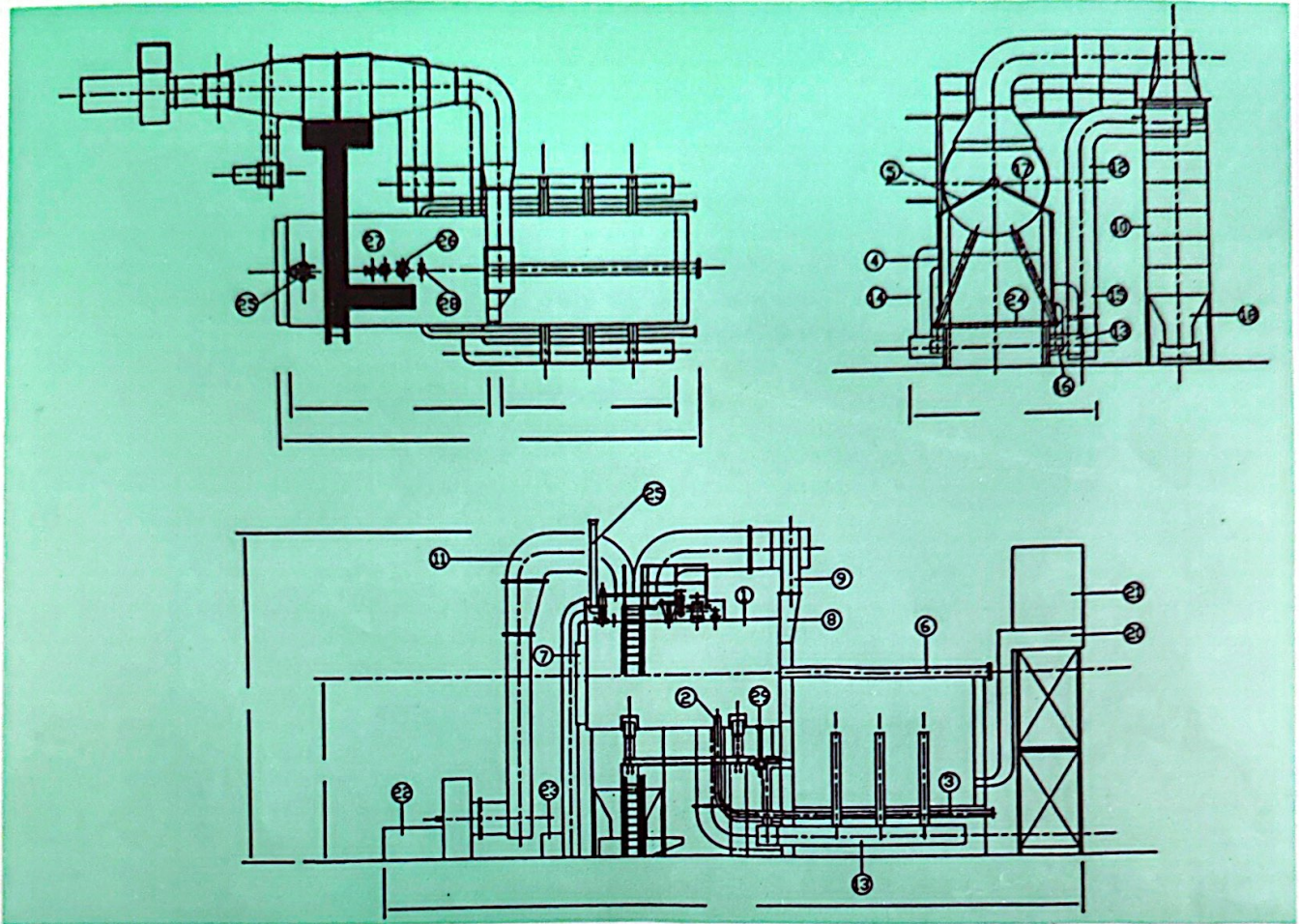
Concept

The design of the COMPOSITE is based on a radiant water tube furnace connected to a convective shell boiler section of 2 passes.

Where moisture content of the fuel exceeds 35% an air pre-heater is included thereby allowing fuels of up to 55% moisture to be burnt effectively.

Composite

Boiler General Data



Model		CB7	CB10	CB15	CB20	CB25
Evaporation from and at 100°C	kg/hr	7560	10000	15000	20000	25000
Working pressure	kPa	1035	1035	1035	1035	1035
Dimension mm	A	10300	11100	11250	13100	13250
	B	4800	4800	4800	5120	5120
	C	4660	5075	5440	6250	6400
	D	4600	4600	5100	5600	6300
	E	4500	4500	4600	4600	4850
	F	8000	8000	8250	8250	8350
	G	18000	18000	19000	10800	21000
Recommended chimney diameter	mm	1000	1100	1400	1700	1900
Safety valve escape pipe diameter	mm	90	150	150	150x2	150x2
Main steam stop valve diameter	mm	150	150	200	200	250
Blowdown valve diameter	mm	50x3	50x3	50x3	50x3	50x3
Feedwater inlet diameter	mm	63,5	63,5	63,5	63,5x2	63,5x2
Boiler weight - empty	Tonne	16	25	44	63	82
	- to NWL	Tonne	33	50	84	118
	- full	Tonne	39	56	90	124
Fuel consumption:						
Wood (GCV 11,35 MJ/hr) 45% H ₂ O	kg/hr	2278	3100	4650	6200	7750
Coal (optional) (GVC 39,00 GJ/hr)	kg/hr	766	1014	1520	2030	2540
Installed power	kW	70	85	125	160	200

After Sales Service

The Client Package

With Cochrane NEI Engineering (Pvt) Ltd the boiler is only part of the overall client package. In addition to boilers, associated plant including coal and ash handling, steam and water pipework, chimney and duct work and feedwater treatment can be supplied. The after sales service includes on-site operator training, a maintenance scheme, spare parts and a comprehensive technical advisory service.

Operator Training

To ensure the correct operation of a COMPOSITE boiler, a training scheme is available for the boiler attendants. The training takes place using the client's own boilers to ensure complete coverage of any particular unit. Our experienced instructors provide 24 hour training programmes with a competence test on completion.

The Maintenance Scheme

COMPOSITE boilers and auxilliary equipment are designed to give long and trouble-free service. Regular maintenance by experts can ensure that this is achieved. Boiler breakdowns can cause serious production losses and correct maintenance can prevent difficulties before they arise. From years of experience Cochrane NEI Engineering (Pvt) Ltd have developed a preventative maintenance scheme for the COMPOSITE boilers. On request, the service staff make regular inspections and maintain boilers in good working order to achieve optimum performance.

Spares

Spare parts for boilers are supplied from the Commercial Sales department. The most common spares can be obtained directly from our stocks. A recommended spares list is provided with each boiler so that the client can ensure that all essential parts are readily available.



COCHRANE NEI ENGINEERING (PVT) LIMITED

Head Office & Douglas Works:
Tilbury Road, Willowvale
P.O. Box ST 361, Southerton
Harare, Zimbabwe
Telephone: 63700/9
Telex 4107 ZW

Bulawayo Division:
Newport Road, Belmont
Telephone: 64354
Telex 3371 ZW

