



# Cochrane Engineering



# Cochrane Engineering (Pvt) Ltd

## STIRLING MK 7

THE STIRLING MK7 steam boiler is a modern, efficient, packaged unit.



It comes to you with all the Cochrane manufacturing experience and design expertise.

## INTRODUCTION

We are pleased to introduce our latest fully wetback boiler. This boiler has been designed to compliment our popular efficient range of semi-wetback Greenock boilers which were introduced in 1982 to satisfy local demand.

The Stirling MK7 boiler is built to British Standard 2790:1992 with latest amendments ensuring the quality and reliability. It is a three pass shell boiler design, coal fired with a fully water cooled combustion chamber. The boiler comes in eight models ranging from 4500kg/hr to 20 000kg/hr, with a standard working pressure of 1000kPa. Boilers of a higher working pressure can also be offered.

The boilers are manufactured in our Tilbury road works in Willowvale, Harare under the supervision of an international third party inspection authority ensuring compliance to the latest regulations.

## FEATURES AND BENEFITS

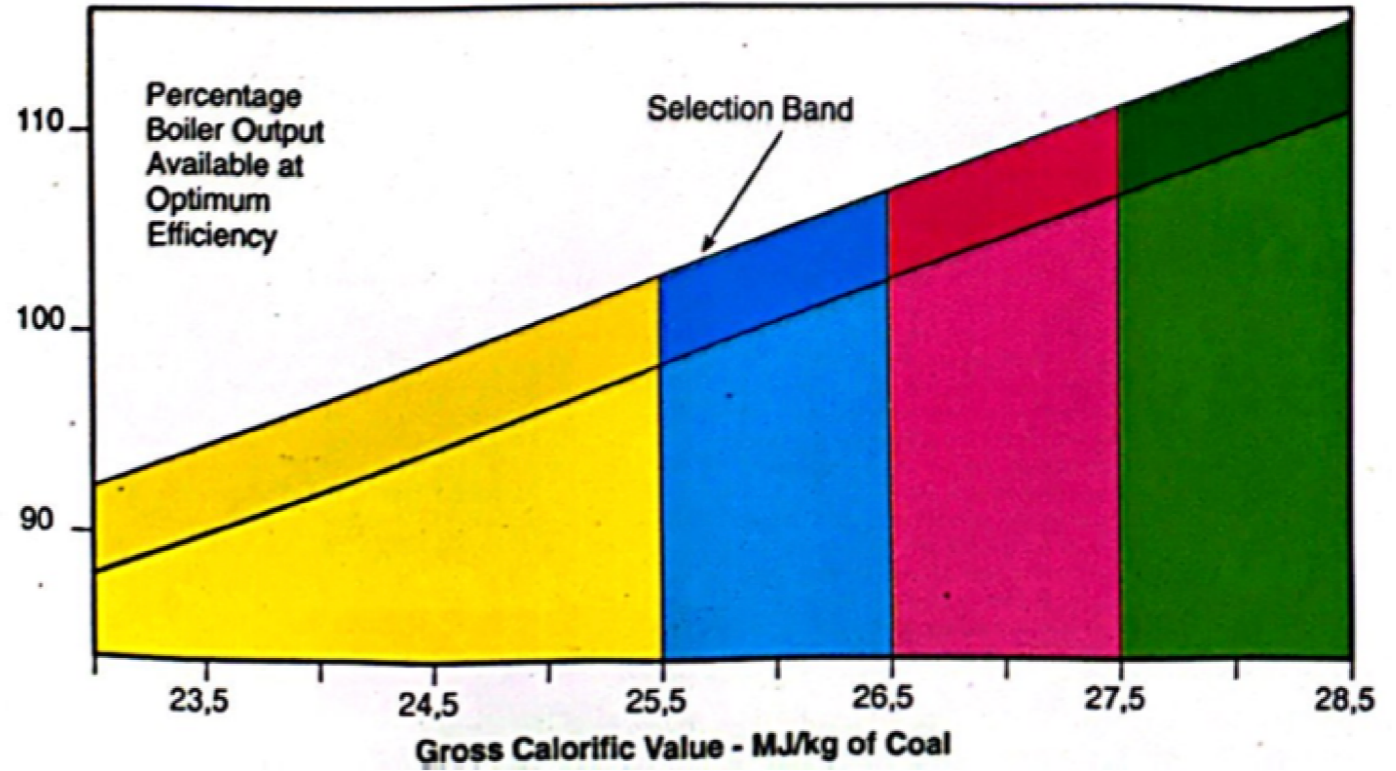
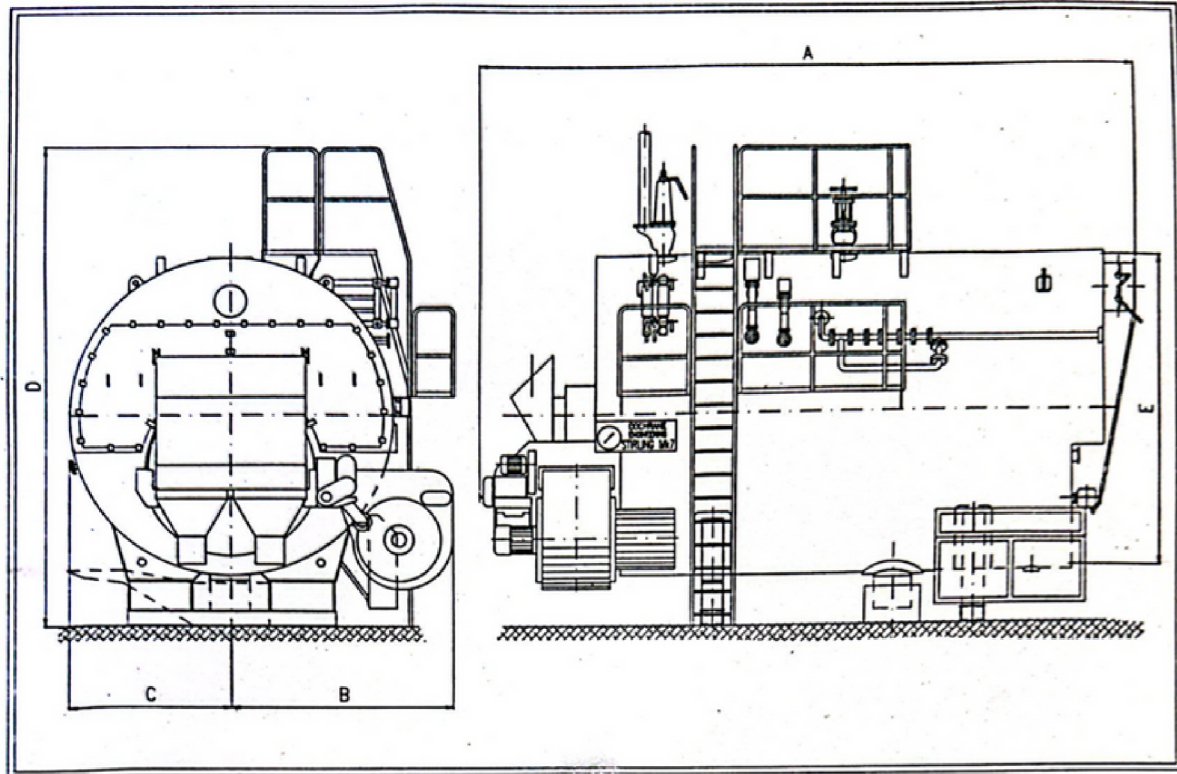
The boiler is fitted with a proven **chaingrate stoker** of rugged design. The stoker unit being one of the hardest worked components of any shell boiler, is fitted with wide links for improved combustion performance. Combustion air is provided by means of balanced draught equipment controlled by either a single lever control unit, or as an optional extra, a solid state type electronic controller.

These devices correctly adjust the induced draught dampers, forced draught damper and stoker motor speed for the most efficient combustion conditions. Efficiencies at full rated capacity of up to 79% are attainable with washed pea coal having a gross calorific value of 29000kJ/kg (29MJ/hg)

**The graph below indicates how the boiler output is affected by the change in the calorific value of the fuel. The burning of fibrous fuels can also be accommodated.**

A specially developed high efficiency low power input **Induced Draught Fan** is fitted to the STIRLING MK7 range of boiler. It has curved radially tipped blades for minimum fly ash build up. The fan impellor is statically and dynamically balanced at the assembly stage for smooth operation in service. with low fan speeds ensuring the longevity. The **forced draught fans** fitted to the stoker are of the motor mounted type and are fitted with silencers.

Direct coupled twin multistage **boiler feed pumps** are mounted on the boiler sub-frame, ensuring 100% standby for boiler feed water. **The control panel** houses all the associated electrical equipment, and is mounted on the boiler subframe in accordance with the packaged boiler concept. High quality mountings and level control equipment are fitted, as well as **sootblowing equipment** to lengthen the intervals between tube cleaning.



**STIRLING MK7**  
**FULLY WET BACK BOILER GENERAL DATA**

MODEL		4500	6000	8000	10000	12000	14000	17000	20000
EVAPORATION RATE F & AT 100DEG(C)	KG/HR	4700	6250	8450	10500	12450	14300	17500	21000
DESIGN PRESSURE	KPA	1100	1100	1100	1100	1100	1100	1100	1100
WORKING PRESSURE	KPA	1000	1000	1000	1000	1000	1000	1000	1000
BOILER DIMENSIONS in mm									
Overall length of boiler	A	6750	6900	7000	7100	6900	6900	7700	7800
Max. WIDTH on right from boiler center	B	1900	2050	2375	2375	2500	2625	2850	3400
Max. WIDTH on left from boiler center	C	1750	1750	1875	1875	2500	2625	2850	3400
Max. HEIGHT from floor to handrails top	D	4225	4525	5250	5250	5500	5750	6100	6600
Boiler shell diameter	E	2400	2700	3350	3350	3600	3850	4200	4700
NUMBER OF FUELS		1	1	1	1	2	2	2	2
BOILER WEIGHT EMPTY (DRY)	Tonnes	25	30	35	45	55	65	75	90
BOILER WEIGHT UPTO AWL (WET)		36	45	55	65	75	90	110	130
COAL CONSUMPTION	KG/HR	480	640	865	1060	1280	1460	1740	2150
TOTAL POWER REQUIRED	KW	33	43	62	70	84	87	91	99

NOTE: All dimensions and weights are approximate ONLY. Please refer to engineering drawings for detailed information.

Standard operating pressure ranges are 1000, 1380 and 1650 kPa ONLY.

An oil fired option can be offered for the above range.

## Head Office

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Willowvale, Harare.

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## Contact us

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Over

**65 years**  
experience