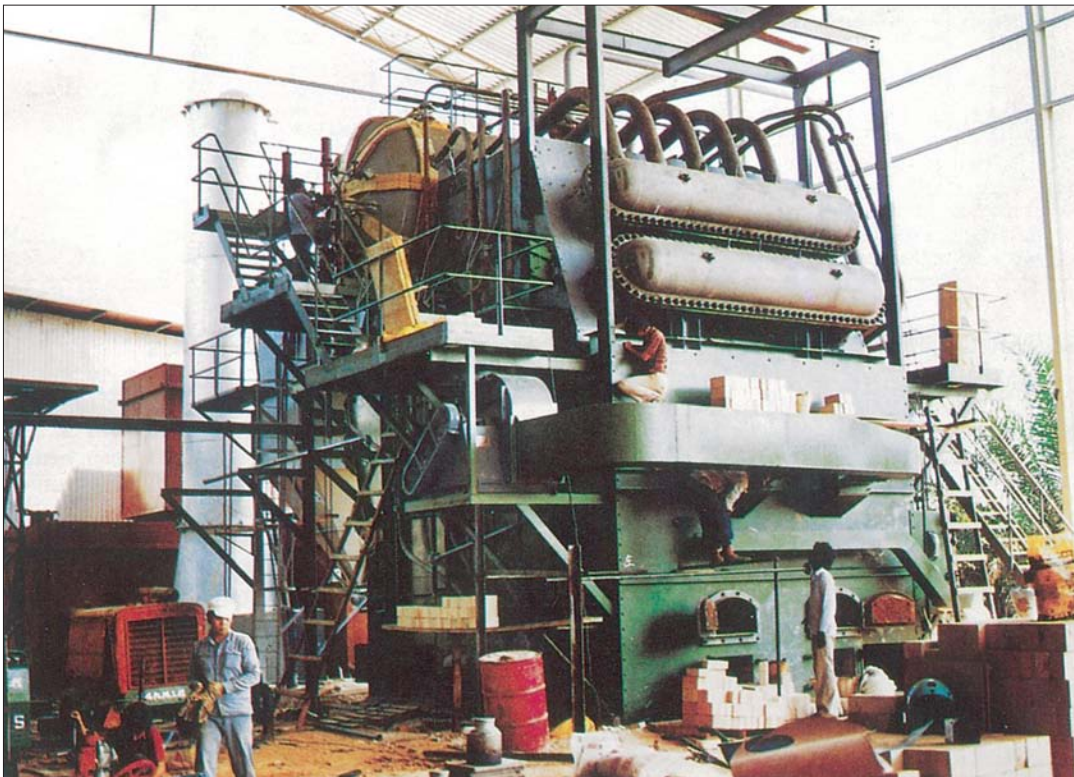




TITAN TOWLER MT

WATER TUBE BOILER



A robust and time proven design suitable for rugged operation, generating steam from combustion of solid fuel.

Basically, the boiler is made up of a steam drum, four headers connecting two tube banks and linked together with circulating pipes. Waterwalls are standard features on certain capacities while optional on others.

20,000 - 60,000 tbs steam/hr
5,862 - 17,585 kw

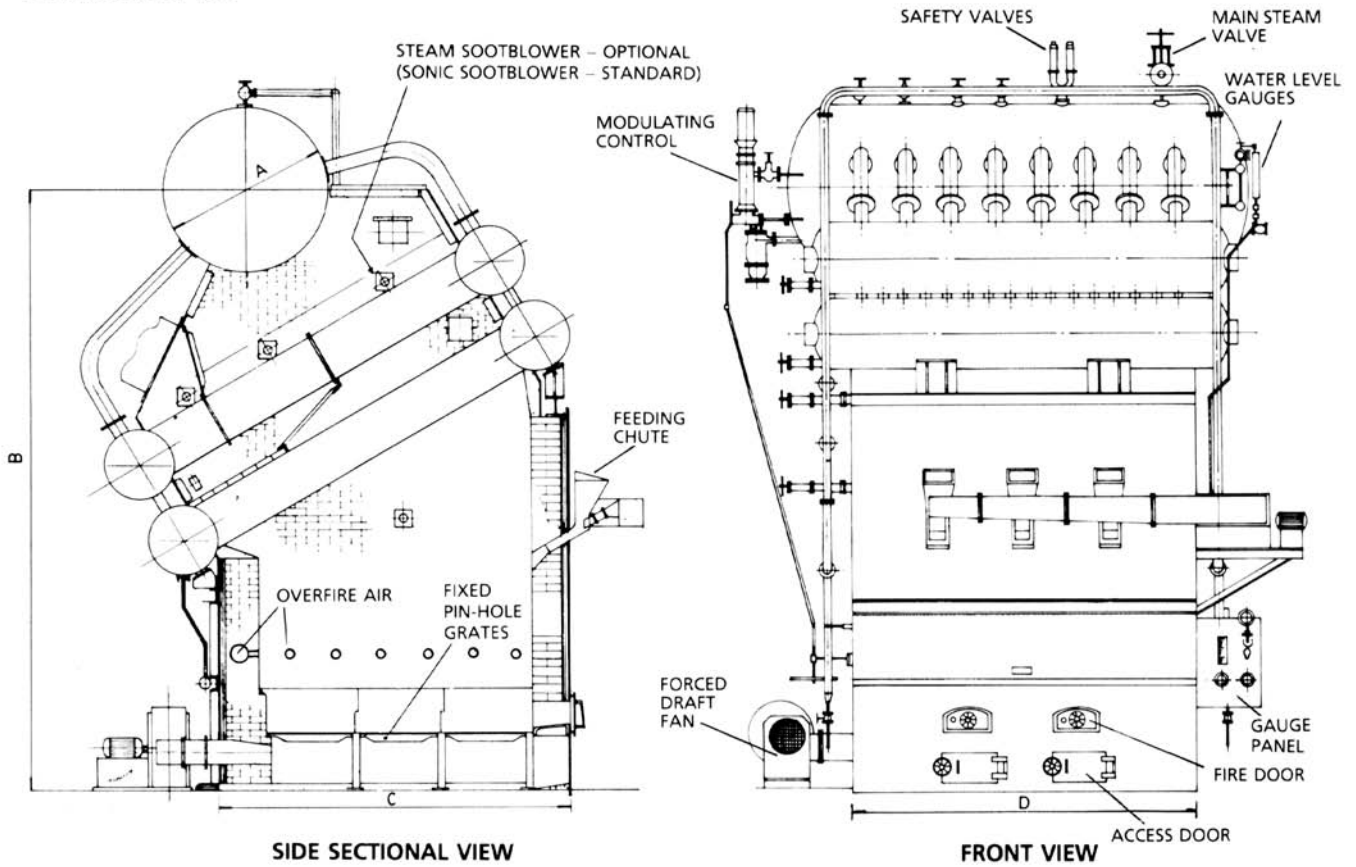
Construction Features

1. Reverse flame, wetback boiler
2. Compact design
3. Easily accessible internals
4. Manufactured under high standards and inspected under Lloyd's Register of Shipping

After Sales Services

1. Backed by a strong team of service technicians
2. Services include commissioning, servicing, breakdowns and routine maintenance
3. Comprehensive spare parts available at local warehouse

BOILER TITAN 'MT'



BOILER MODEL 'MT'			31	36	41	46	51	61	71
CAPACITY		lb/hr	20000	25000	30000	35000	40000	50000	60000
DIMENSION	A	mm	1868	1868	2173	2173	2173	2173	2197
	B	mm	6544	7070	7265	7265	8000	9000	9000
	C	mm	3812	4000	4179	4179	4565	6500	6500
	D	mm	4032	4386	4641	4641	5314	5010	5320
HEATING SURFACE		m ²	471	576	591	595	681	851	1020
FURNACE WIDTH		mm	3.15	3.53	3.53	3.53	4.45	4.15	4.45
GRATE WIDTH		mm	2.2	2.75	2.89	2.89	3.2	3.54	3.93
GRATE LENGTH		mm	2.54	2.54	2.85	2.85	3.43	3.48	3.77
GRATE AREA		m ²	5.59	6.98	8.24	8.24	10.98	12.3	14.82
OPERATING WEIGHT		tonnes	150	155	170	180	190	200	210
DRY WEIGHT		tonnes	136	138.6	150.3	159	163	177	181
FUEL CONSUMPTION PER HOUR:									
PALM OIL REFUSE (APPROX.) (CALORIFIC VALUE 5,000 BTU/LB)		lb	6140	7670	9210	10130	12280	15350	18420
		kg	2785	3479	4178	4595	5570	6963	8355
WOOD CHIP (APPROX.) (CALORIFIC VALUE 6,000 BTU/LB)		lb	5120	6390	7676	8440	10230	12788	15345
		kg	2322	2899	3479	3828	4640	5800	6960

SALES OFFICE:



MECHMAR (PTE) LTD

56, Kian Teck Road, Singapore 628791
 Tel: +65 6268 3048 Fax: +65 6261 4049
 Email: mechmar@singnet.com.sg
 www.mechmar.com.sg



MECHMAR BOILERS SDN BHD a wholly owned subsidiary of **MECHMAR CORPORATION (M) BERHAD**, the market leader in Malaysia for boiler manufacturing achieved yet another distinction with the award of ISO 9002 certification Lloyd's Registration Quality Assurance making it the first boiler manufacturing company in Malaysia to attain this recognition.

With Lloyd's Class I certification for its product and ISO 9002 certification for its quality management system, **MECHMAR BOILERS SDN BHD** is now among the elite group of boiler manufacturing company in the world. For its high quality workmanship and consistency in quality, **MECHMAR BOILERS SDN BHD** is already a holder of CLASS I fabricator licence for pressure vessel manufacturing from Lloyd's Register of Shipping since 1985.

MECHMAR BOILERS SDN BHD started operation at Lot 14, Jalan Timah, Pasir Gudang Industrial Estate, Johore in 1977 and to date have produced more than 3000 units of boilers ranging from 500 lb to above 132,000 lb capacity of steam per hour. It also manufactures Hot Water Boilers, Thermal Fluid Heaters and other pressure vessel.

The products are developed and marketed by **MECHMAR COCHRAN BOILERS (M) SDN BHD**, another wholly owned subsidiary of **MECHMAR CORPORATION (M) BHD**.

MECHMAR COCHRAN BOILERS (M) SDN BHD markets a wide range of boilers, thermal oil heaters, steam plant and power plant installation. It operate from offices and service centres in Shah Alam, Johore ann Prai to ensure excellent after sales service and prompt supply of spares.



TITAN TOWLER MT

Water Tube Boiler



A 35,000 PPH boiler installed in a large timber drying plant in Klang

SPECIAL FEATURES (OPTIONAL)

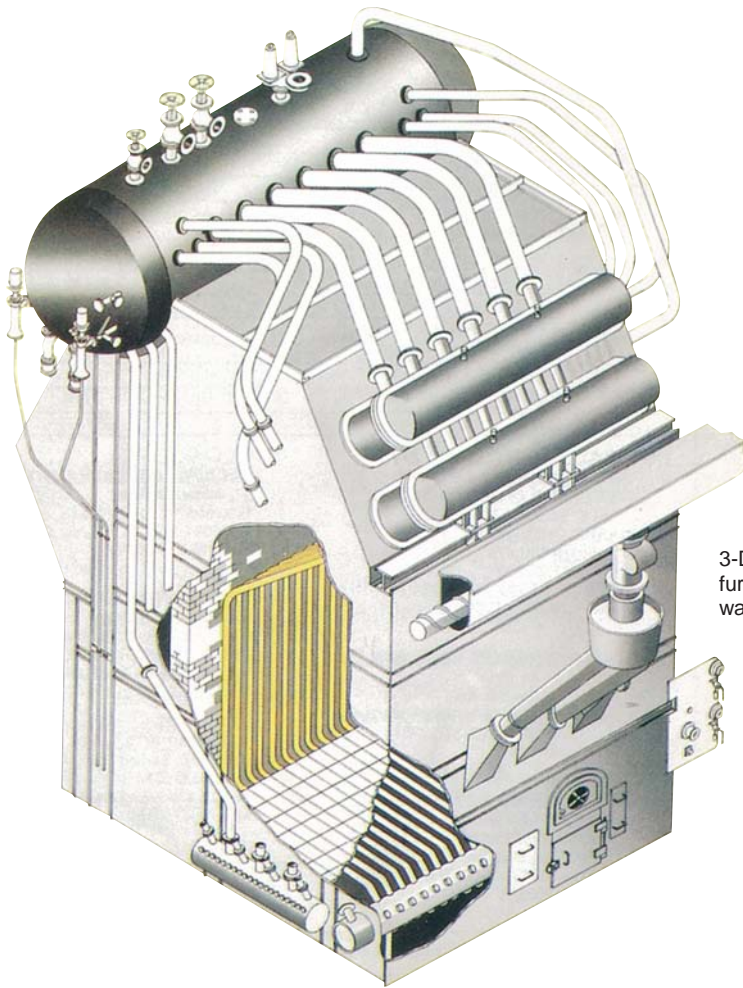
WATER COOLED GRATES

One bank of cooling tubes form the platform for the fire grates and also the rear waterwall, thereby enhancing radiant heat transmission of this boiler.

Pin-hole type C.I. fire grates, individually clamped on to the tubes, allow uniform distribution of forced draught air through the grate area irrespective of fuel ditribution.

DISTINCT ADVANTAGES

- The water-cooled grates enjoy a longer life span, hence reducing running cost.
- Clinker formation is greatly reduced due to the lower grate temperature.
- An even forced draught air distribution can be maintained through the grates.
- Higher efficiency achievable.



3-D view showing
furnace with
water-cooled grates

STEAM DEASHING SYSTEM

The required number of rows of stainless steel nozzles are located on the water cooled fire grates and connected to a steam supply line. Deashing is carried out by opening this steam line and the ashes are pushed forward towards the front of the boiler thereby making removal easy.

This consists of 2 sets of steam lance, each set covering one half of the grate.

Each lance carries a series of nozzles where the issuing steam will sweep across the grate from the rear to the front of the furnace.

Deashing is carried out by opening the steam isolating valve to each steam lance at a time. By the sweeping effect of the steam, ashes are pushed forward towards the furnace front where the ash may be raked out and disposed.

SONIC SOOTBLOWER

Sonic cleaning is based on the use of vibrating energy in the form of sound waves. The sound waves are generated by a special sound emitter specially built to withstand high temperature. Powered by compressed air and automatically controlled, the sonic sootblower has a high level of operational reliability.

DISTINCT ADVANTAGES

- **Very Economical**
Investment cost is low. No steam wastage.
- **Continuous Cleaning**
Heating surface and super heaters are kept clean continuously, enabling full boiler output and maximum efficiency.
- **No Wear On Heating Surface**
Mechanical wear on heating surfaces is eliminated.
- **No Moisture Is Brought To The Surface**
Reduce condensation in the cooling parts of the boiler.
- **Areas (which cannot be reached by conventional cleaning methods are kept clean.)**
The sound waves penetrate and clean inaccessible tube areas.
- **Minor Service Requirements**
The cost of both operation and maintenance is considerably reduced.
- **System Can Be Automated**
Frequency of operation is controlled by timer, hence no labour is involved.