



# TITAN AS

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## PACKAGE STEAM BOILER



Titan AS package steam boilers are the most popular range of boilers in the region.

- Suitable for fuel oils and gas
- High/ Low or Modulating firing controls
- High efficiency with excellent heat transfer capabilities
- High steam output against volume and weight
- Capable of starting from cold without thermal stress
- Design and manufactured to British Standard specifications

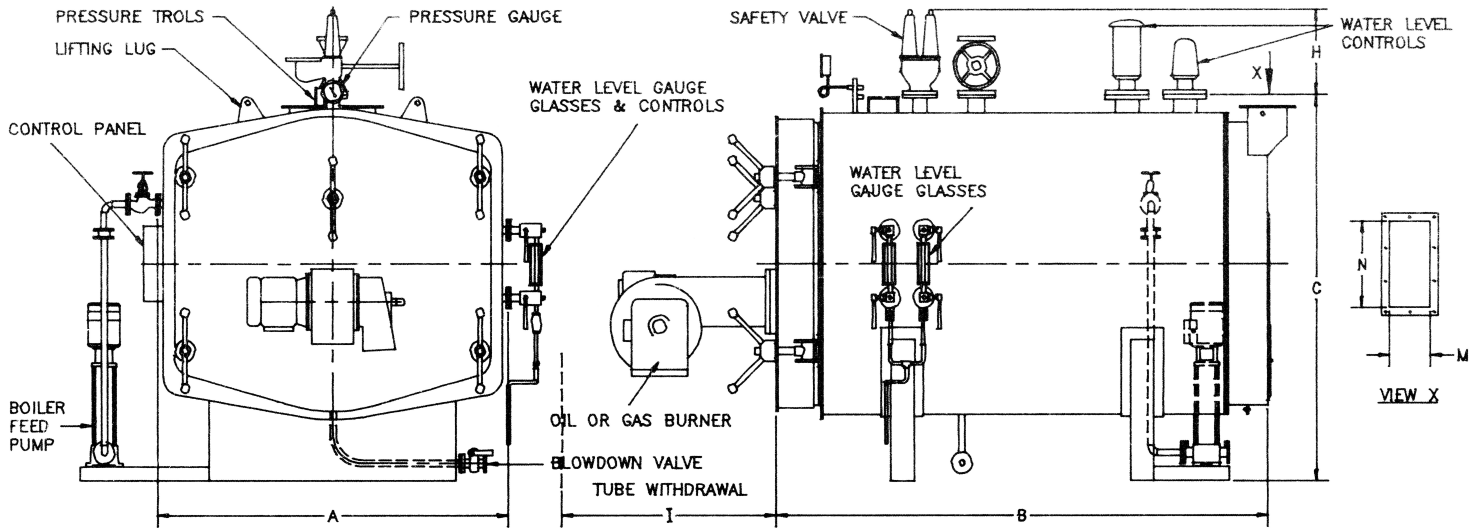
### Construction Features

1. Reverse flame, wetback steam 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

<b>Steam Capacities</b>	<b>560 kg/hr to 10800 kg/hr</b>
<b>Working Pressure (max)</b>	<b>10.34 bar / 17.24 bar</b>



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Boiler Capacity (F & A 100 Cel.)	lbs/hr	1250	2000	3500	5000	6500	8000	10000	12000	14000	16000	20000	24000
	kg/hr	567	907	1587	2268	2948	3628	4535	5442	6349	7256	9070	10884
Dimension	A	1424	1570	1870	2000	2185	2330	2360	2430	2490	2800	2790	3100
	B	2213	2358	2643	3148	3369	3634	4127	4148	4247	4412	4766	5354
	C	1670	1840	1973	2164	2376	2497	2655	2789	3144	3403	3431	3761
	M	180	205	216	306	330	330	400	405	408	445	538	535
	N	305	380	457	560	630	770	850	990	1118	1168	1222	1510
	H	527	527	527	527	527	616	616	616	635	635	851	851
	I	2285	2285	2590	2100	3434	3555	3960	3960	4270	4270	4875	5000
Main Steam Valve Size	N.B	50	50	80	80	100	100	125	125	125	125	150	150
Main Steam Valve Outlet	N.B	50	50	80	80	100	100	125	125	125	125	150	150
Safety Valve Size		40	40	40	40	40	50	50	50	65	65	80	80
Safety Valve Outlet	N.B	65	65	65	65	65	80	80	80	100	100	125	125
Blowdown Valve Size	N.B	25	25	25	40	40	40	40	40	50	50	50	50
Feed Pump Inlet Size	N.B	25	25	25	25	25	32	32	32	40	40	40	40
Fuel Oil – Pump Inlet	BSP	25	25	25	25	25	25	25	25	25	25	25	25
–Return	BSP	20	20	20	20	20	20	20	20	20	20	20	20
– Supply Pipe	BSP,(MIN.)	40	40	40	50	65	65	65	65	80	80	80	80
Burner – Fan & Oil Pump Motor Comb.	kW	1.1	2.2	4	4	5.5	7.5	–	–	–	–	–	–
– Fan Motor	kW	–	–	–	–	–	–	11	15	11	11	11	15
– Pil Pump Motor	kW	–	–	–	–	–	–	1.5	1.5	3	3	3	3
– Oil Preheater	kW	3	4.5	6	6	7.5	9	9	12	21	24	30	36
Fuel Consumption – Oil	kg/hr	35	57	99	142	184	227	284	341	397	454	568	681
– Gas	std. cu. m/hr	39.8	63.7	111.5	159.3	207.1	254.9	318.6	382.3	446.0	509.8	637.2	746.6
Chimney Diameter	min	254	305	355	457	510	558	635	710	750	770	910	970
Vol. of Water at NWL	m3	0.94	1.30	1.89	2.83	3.69	3.95	5.49	5.52	6.28	8.98	9.03	12.707
Boiler Weight – Dry	kg	2400	3200	4000	5800	7299	8500	11460	13150	14100	17000	19000	23000
Boiler Weight at NWL	kg	3339	4497	5891	8625	10987	12450	16948	18674	20377	25980	28029	35707
Boiler Weight at H.T.	kg	3678	5026	6499	9712	12507	13997	19453	21302	23794	28458	30428	42207

**Note:** All dimensions and weights are based on 150 psi models.

**SALES OFFICE:**



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**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.

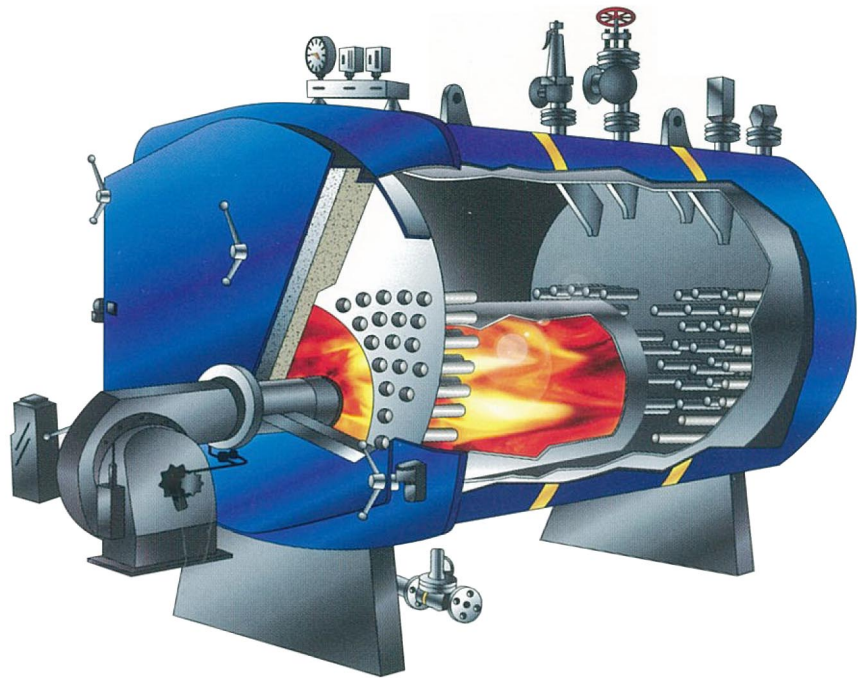
The products are developed and marketed by **MECHMAR COCHRAN BOILERS (M) SDN BHD**, another wholly owned subsidiary of **MECHMAR CORPORATION (M) BHD**.

**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.



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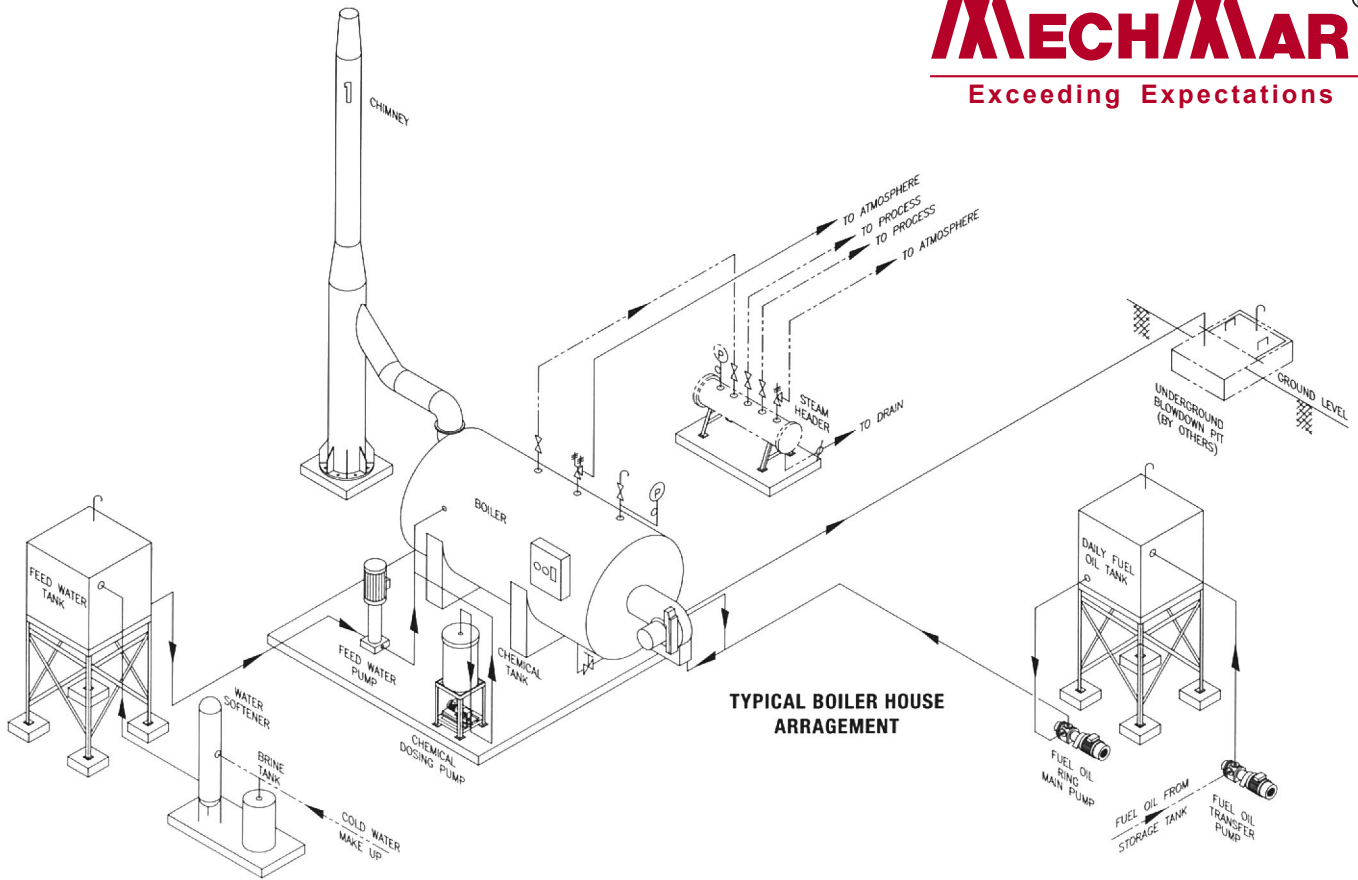
## Package Steam Boiler



THE TITAN PACKAGE STEAM BOILER MODEL 'AS' IS DESIGNED TO THE LATEST BRITISH STANDARD 2790. THE BOILER ADOPTS THE REVERSE-FLAME PRINCIPLE OF COMBUSTION WHERE THE HOT GASES MAKE 2 PASSES WITHIN THE PRESSURISED COMBUSTION CHAMBER AND THE THIRD AND FINAL PASS THROUGH THE FIRE TUBES ON ITS EXIT TO THE CHIMNEY.

THE COMBUSTION CHAMBER IS SUPPORTED BY STAY BARS AT ITS REAR END. (IT STANDS CLEAR OF THE BOILER DRUM BACK PLATE, THUS GIVING RISE TO THE WET-BACK DESIGN.) THIS DESIGN FEATURE NOT ONLY INCREASES THE HEATING SURFACE, BUT ALSO REDUCES UNNECESSARY REFRACTORY-WORK.

- Full wet back design without refractory lining on the rear portion of the boiler — minimise the radiation heat loss and refractory maintenance.
- Big combustion chamber allows the flame to make two complete passes inside the chamber maximises the heat transfer by radiation inside the furnace making it more responsive to load fluctuations.
- Spirals in the convection side enhance the heat transfer rate.
- Bigger furnace volume to minimise unburned combustible loss thus ensure high combustion efficiency.



## CONSTRUCTION FEATURES

- Although the boiler is compact in construction, it possesses a large space above the top row of fire-tubes for easy access during internal inspection.
- Accessibility to the fire-side is by way of the hinge-mounted front door. When the door is swung open, the combustion chamber and the fire-tubes are full view for cleaning and inspection. Unlike other conventional three pass boilers, the combustion chamber is built larger so that there is flexibility in the choice of using either fuel oil or gas burner.
- The boiler is manufactured with the approval of the factory and machinery department under the stringent third party inspection Lloyd's Register of Shipping, hence ensuring a high standard of quality and reliability.

## BURNER

- Boilers are supplied with high/low or modulating burners to burn fuel oil, gases or dual fuel. Burner is pressure jet atomising type.

## AFTER SALES SERVICES

- All steam boilers are backed by our nationwide team of service technicians.
- Services include commissioning, service contracts, breakdown calls, boiler/burner servicing and routine maintenance.
- Spare parts for all boiler types are available through our service department.

