

Cooling & Heating Division

HydroMax

WATER PREHEATER FOR SOLID FUEL FIRED BOILERS

Increasing thermal efficiency of the boiler to the tune of 3 - 4 % depending on the operating loads

Reduction in dry flue gas losses resulting in Fuel cost savings

Increased feed water temperature

Improved boiler output

Atmospheric deaeration (save up to 30% oxygen scavenging chemicals)

Simple and Compact design

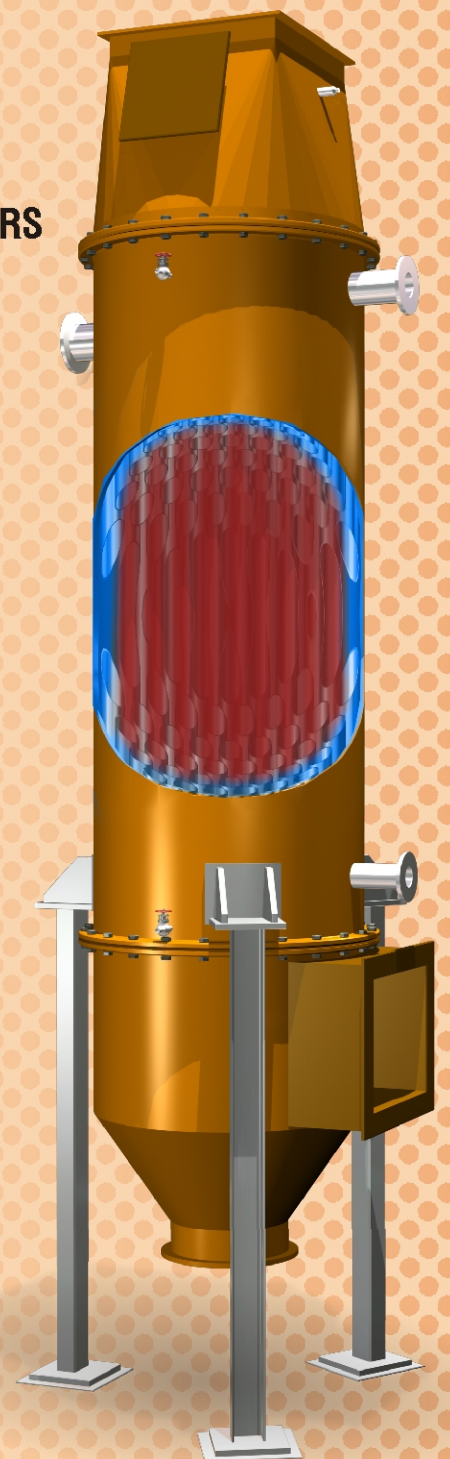
Low installed cost

Not a pressure part

No IBR formalities

Flue gas inside tubes

Easier cleaning



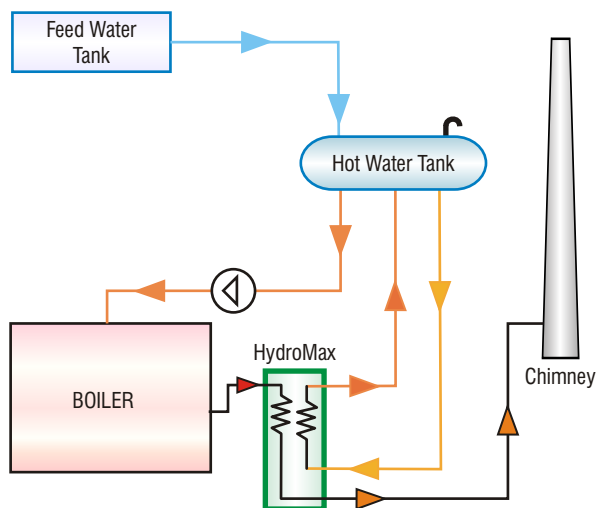
OPERATIONAL COST REDUCTION

With a view to reduce the overall cost of ownership of a utility, we are focusing on providing application specific energy conservation solutions to industries in India and abroad.

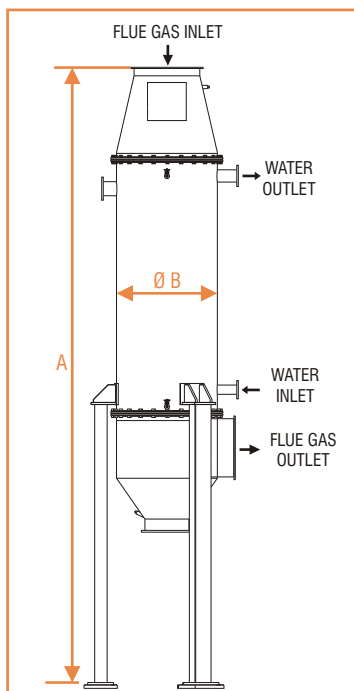
RECOVERING DRY-FLUE GAS LOSSES

Dry flue gas losses form close to 70 - 80% of total losses of any solid fuel fired boilers. Reducing stack temperature can reduce these losses. Water preheater is a gas to water heat exchanger, where flue gas is used to preheat the feed water, thereby reducing the losses.

TECHNICAL SPECIFICATIONS



TYPICAL P & I DIAGRAM



MODEL	HYDROMAX 10	HYDROMAX 20	HYDROMAX 30	HYDROMAX 40	HYDROMAX 50
Heating surface area (m ²)	10.5	21.6	32.1	33.6	64.2
Height (A)	3600	3900	4150	5805	5805
Diameter (B)	580	790	920	910	990
Approximate bare Weight (kg)	635	932	1213	1685	2025
Water inlet nozzle	50 NB	50 NB	50 NB	50 NB	80 NB
Water outlet nozzle	80 NB	80 NB	80 NB	80 NB	100 NB
Flue gas inlet nozzle	310 SQ	425 SQ	530 SQ	660 SQ	730 SQ
Flue gas outlet nozzle	400 X 425	600 X 525	700 X 620	550 X 620	550 X 770

NOTE : All dimensions are in mm. Above dimensions are representations. For exact details please refer to GA diagrams.

SAVINGS

SAMPLE CALCULATION

PARTICULARS	UNITS		
Design capacity, F & A 100°C	Kg/hr	4000	
Fuel used		Coal	
Considering the boiler running at full load		Without HYDROMAX	With HYDROMAX
Stack temperature	°C	240	170
Dry flue gas losses	%	13.9	9.7
Hydrogen losses	%	5.6	5.3
Unburnt losses	%	9.2	9.2
Radiation losses	%	1.5	1.5
Efficiency	%	69.8	74.3
Fuel consumption per annum	tons	3858	3625
Fuel cost per annum	Rs. Lacs	135	127
SAVINGS per annum (approx.)	Rs. Lacs		8.0

ASSUMPTIONS

Cost of Coal	Rs. 3.5 / Kg	GCV of Coal	3850
Working days	300	Operating hours	16

In view of our constant endeavor to improve the quality of our products, we reserve the right to alter or change specifications without prior notice.



THERMAX

Sustainable Solutions in Energy & Environment

COOLING & HEATING DIVISION

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