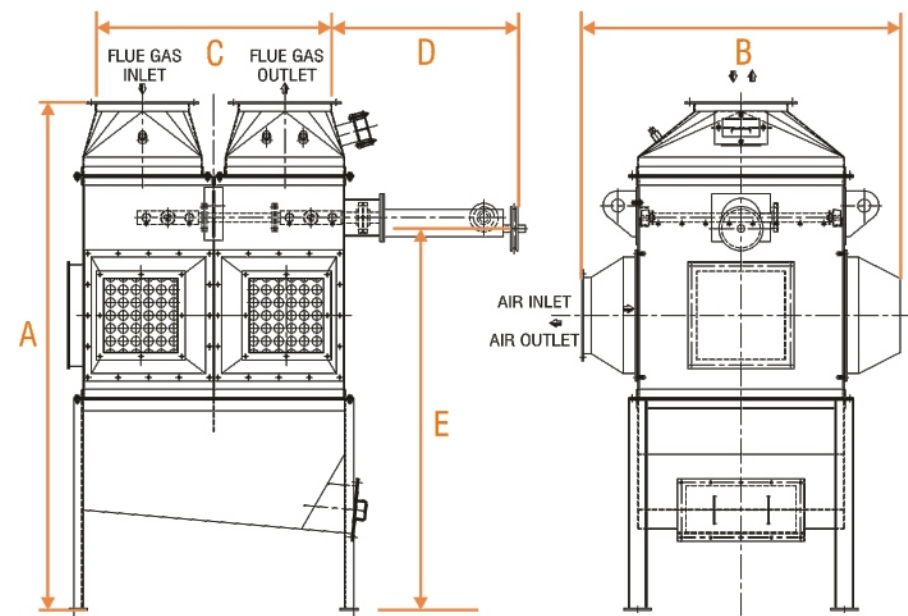
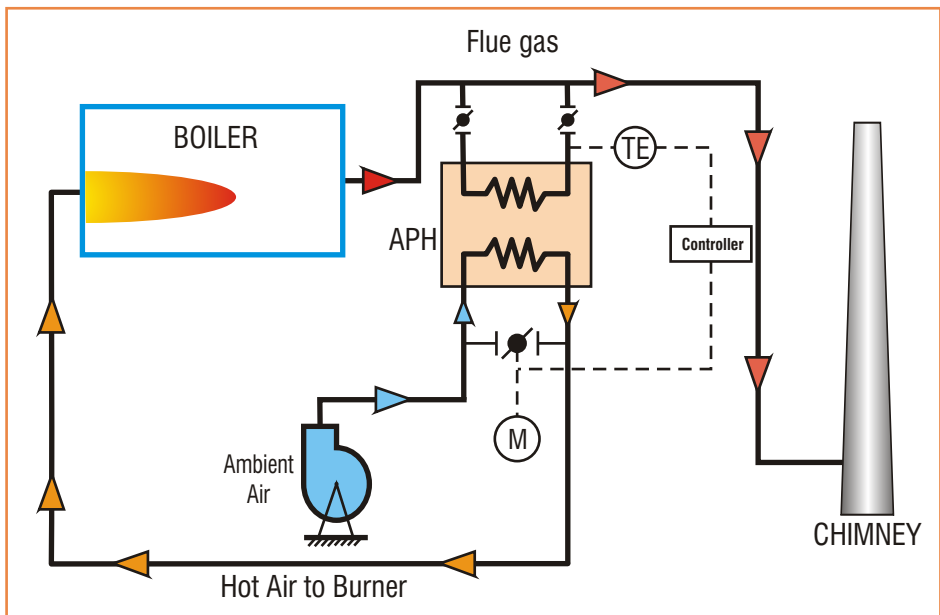


# TECHNICAL SPECIFICATIONS



	2 TPH	3 TPH	4 TPH	5 TPH	6 TPH	8 TPH	10 TPH	12 TPH
Heating Surface Area (m2)	13.45	16.7	22.5	28.7	35.6	46.3	51.2	74.2
DIMENSIONS								
A	2479	2526	2646	2766	3140	2956	3120	3312
B	1452	1640	1722	1733	1630	1972	1922	2058
C	1078	1102	1258	1426	1584	1802	2091	2380
D	880	905	955	985	925	1105	1165	1225
E	1786	1788	1958	2078	2510	2325	2475	2624
Approx. Weight (kg)	1713	1320	1550	1795	2300	2580	4490	3680
Steam inlet size for Sootblower	25 NB	25 NB	25 NB	40 NB	40 NB	40 NB	40 NB	40 NB

# TYPICAL P & I DRAWING



NOTE : Near full load operation, Boiler may require a large size FD fan. For details please contact our representatives. Our engineers will be able to assist you in ascertaining the condition of your existing Burner/Fan & suggest a suitable solution.

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.

JUNE 2006



THERMAX

Sustainable Solutions in  
Energy & Environment

## COOLING & HEATING DIVISION

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Thailand, UAE, Kenya, Nigeria, Brazil, UK, USA

## Thermax Business Portfolio

Water & Waste Solutions

Air Pollution Control

Chemicals

Boilers & Heaters

Absorption Cooling

Captive Power



# Cooling & Heating Division



EconAir - B

AIR PREHEATER FOR OIL / GAS FIRED BOILERS

Improving your business is our business

Thermax offers products, systems and solutions in energy and environment engineering to industrial and commercial establishments around the world. Its business expertise covers heating, cooling, waste heat recovery, captive power, water treatment & recycling, air pollution control & waste management and performance chemicals.

Thermax brings to customers extensive experience in industrial applications and expertise through technology partnerships and strategic alliances.

Operating from its Head Quarters in Pune (Western India), Thermax has built an international sales & service network spread over South East Asia, Middle East Africa, Russia, UK and the US. It has a full-fledged ISO 9001, 2000 and ISO 14000 accredited manufacturing setup.

Cooling & Heating Division

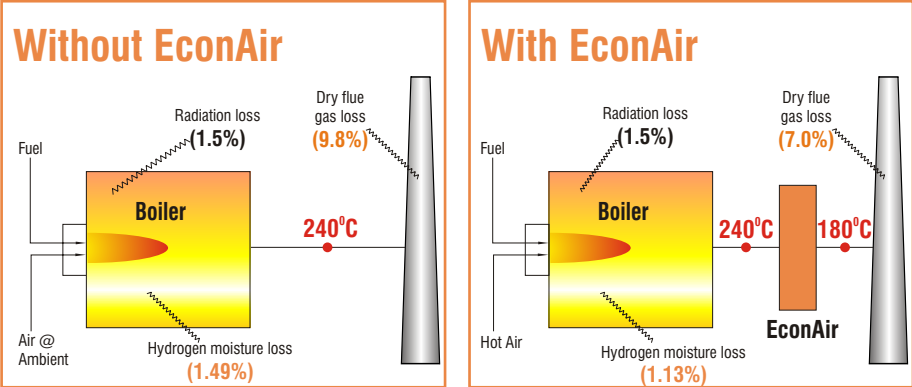
Offers a wide range of steam boilers, thermal oil heaters and hot water generators. It has expertise in a wide range of fuels - oil, gas, solid and agro - waste/biomass fuels. Supporting a broad array of industries to generate, transfer and conserve heat for a host of applications, the divisions products are exported to South East Asia, Middle East, Africa, Europe, CIS and SAARC.

FOCUS ON OPERATIONAL COST REDUCTION SOLUTIONS

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 75 - 80% of total losses of any oil/gas fired boilers. Reducing stack temperature can reduce these losses. Air preheater is a simple gas to gas heat exchanger, where flue gas is used to preheat combustion air, thereby reducing the stack temperature.



INCREASE IN BOILER EFFICIENCY FROM 3 - 4% DEPENDING ON FUEL AND OPERATING LOADS

SAVINGS

SAMPLE CALCULATION

PARTICULARS	UNITS	
Design capacity, f & @100°C	Kg/hr	4000
Fuel used		FO
NCV	Kcal/Kg	9650
Ambient temperature	°C	30

Considering the boiler running at full load		Without EconAir	With EconAir
Stack temperature	°C	240	180
Dry flue gas losses	%	9.8	7.0
Hydrogen losses	%	1.48	1.13
Moisture losses	%	0.01	0.01
Radiation losses	%	1.5	1.5
Efficiency	%	87.21	90.36
Fuel consumption per annum	tons	1232	1189
Fuel cost per annum	Rs. Lacs	234	226
SAVINGS per annum (approx.)	Rs. Lacs		8

ASSUMPTIONS

Working days	300
Operating hours	16
Cost of FO	Rs. 19/ Kg

FEATURES & BENEFITS

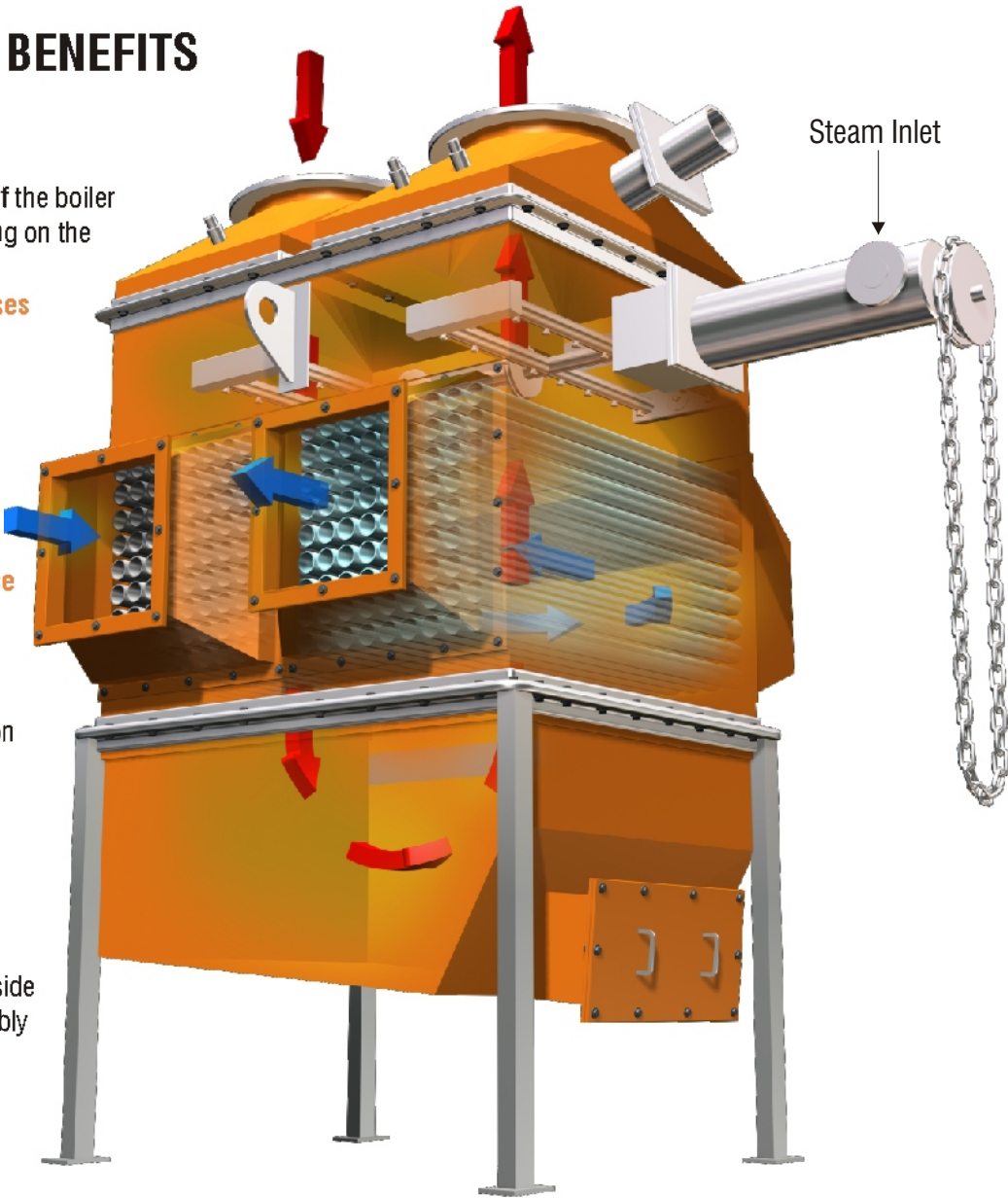
Increasing thermal efficiency of the boiler to the tune of 3 - 4 % depending on the operating loads

Reduction in dry flue gas losses resulting in Fuel cost savings

Hot air for combustion  
Better quality of combustion  
Increases overall performance

Parallel cross flow configuration ensuring a better Logarithmic Mean Temperature Difference  
Compact design

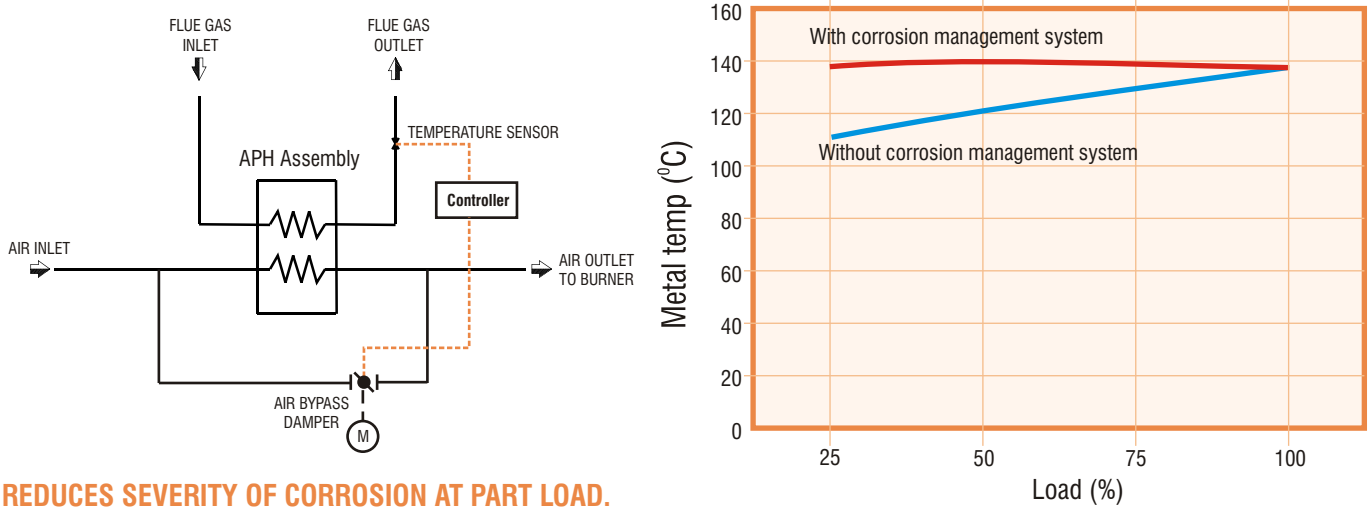
Air inside tube and smoke outside  
Tube with soot blowing assembly  
Ease of spot cleaning on the tube surfaces



WHAT HAPPENS AT PART LOAD?

At part load conditions, as the flue gas heat transfer coefficient decreases significantly, metal temperature can go down to the dew point limit of flue gas increasing the chances of downstream ducting and chimney corrosion.

These problems can be reduced with **Corrosion Management System**. This system maintains the flue gas temperature at safe levels by bypassing the inlet air to the APH assembly.



REDUCES SEVERITY OF CORROSION AT PART LOAD.