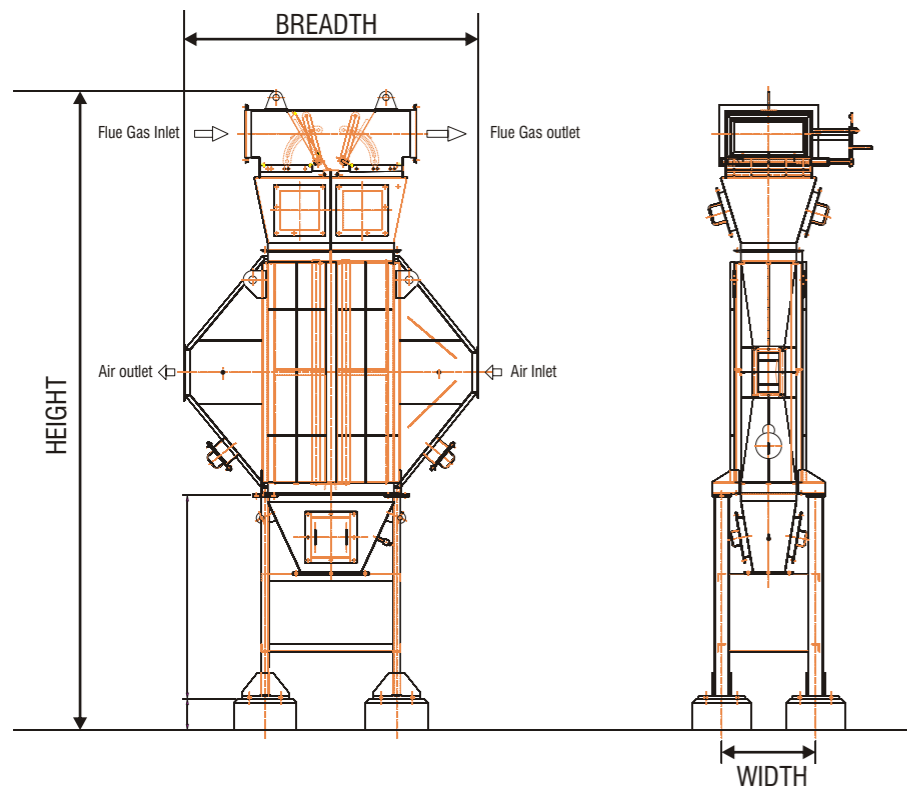
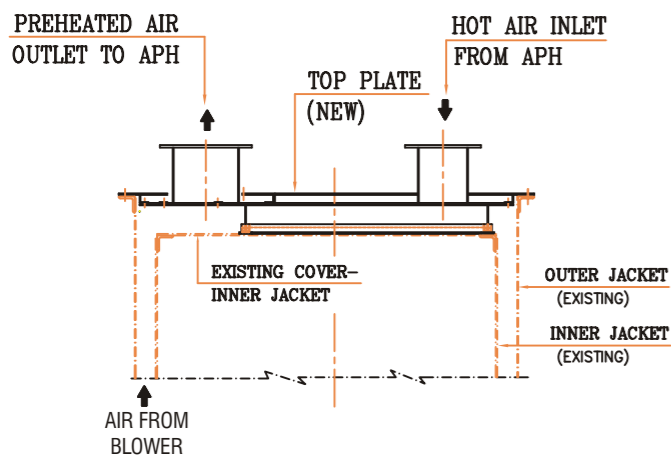


## TECHNICAL SPECIFICATIONS



	EconAir T - 06	EconAir T - 10	EconAir T - 15	EconAir T - 20	EconAir T - 25
<b>DIMENSIONS</b>					
HEIGHT	4080	4130	4330	4230	4330
BREADTH	1880	2800	2400	3040	3180
WIDTH	600	665	795	925	925
Approx. Weight (kg)	1200	1850	1900	2750	3000
<b>FLANGE DETAILS</b>					
Flue gas inlet flange	550x300	300x300	370x370	390x390	410x410
Flue gas outlet flange	550x300	300x300	370x370	390x390	410x410
Air inlet flange	295x150	330x215	330x260	300x300	325x325
air outlet flange	160x150	330x215	330x320	300x300	400x400

## TOP PLATE MODIFICATION ON HEATER



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.

August 2006



**THERMAX**

Sustainable Solutions in  
Energy & Environment

### COOLING & HEATING DIVISION

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International offices at  
Indonesia, Russia, Kazakstan, Saudi Arabia,  
Malaysia, Bangladesh, Sri Lanka, Hong Kong, China  
Thailand, UAE, Kenya, Nigeria, Brazil, UK, USA

### Thermax Business Portfolio

Boilers & Heaters

Absorption Cooling

Air Pollution Control

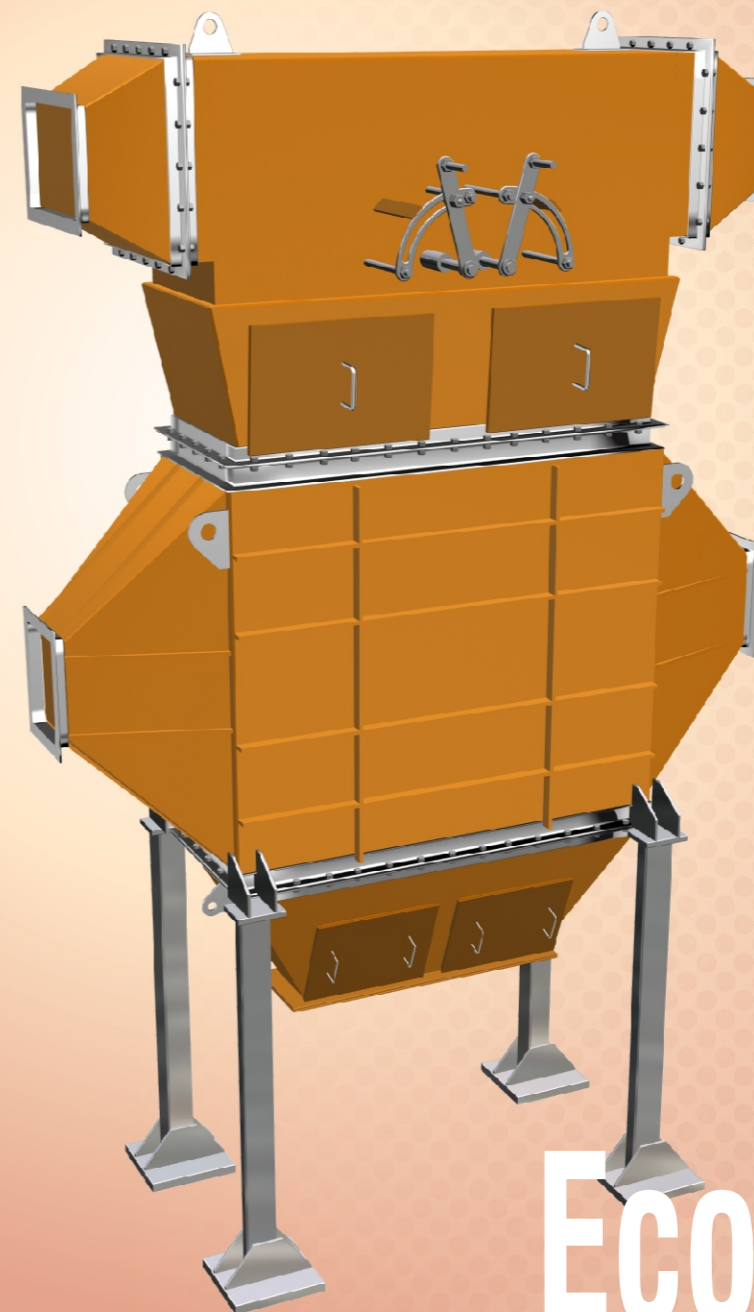
Captive Power

Chemicals

Water & Waste Solutions



## Cooling & Heating Division



# EconAir - T

**AIR PREHEATER**

For Oil / Gas Fired Thermic Fluid Heaters

**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**

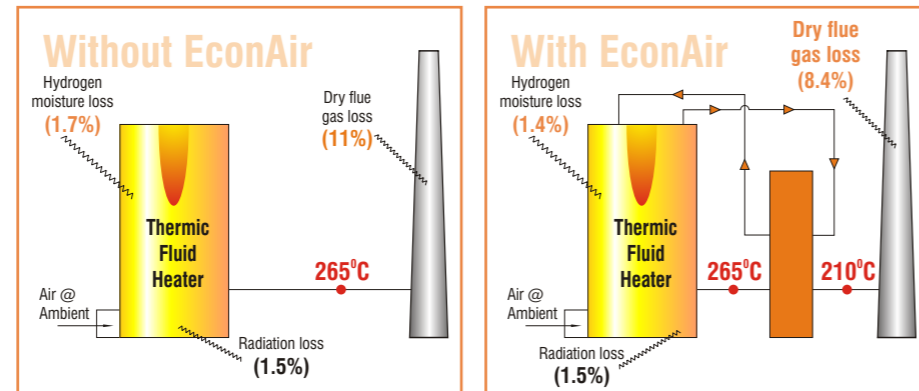
Offers a wide range of steam boilers, thermal oil heaters and hot water generators. It has expertise in a wide range of fuels - oil, gas, solid and agro - waste/biomass fuels. Supporting a broad array of industries to generate, transfer and conserve heat for a host of applications, the divisions products 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 fired Thermic Fluid Heater. 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 HEATER EFFICIENCY UPTO 3%**

**SAVINGS**

**SAMPLE CALCULATION**

PARTICULARS	UNITS	
Design capacity	KCal/hr	150000
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	265	210
Dry flue gas losses	%	11	8.4
Hydrogen & Moisture losses	%	1.7	1.4
Radiation losses	%	1.5	1.5
Efficiency	%	85.85	88.72
Fuel consumption per annum	tons	869	841
Fuel cost per annum	Rs. Lacs	165	160
<b>SAVINGS per annum (approx.)</b>	<b>Rs. Lacs</b>		<b>5</b>

**ASSUMPTIONS**

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

**FEATURES & BENEFITS**

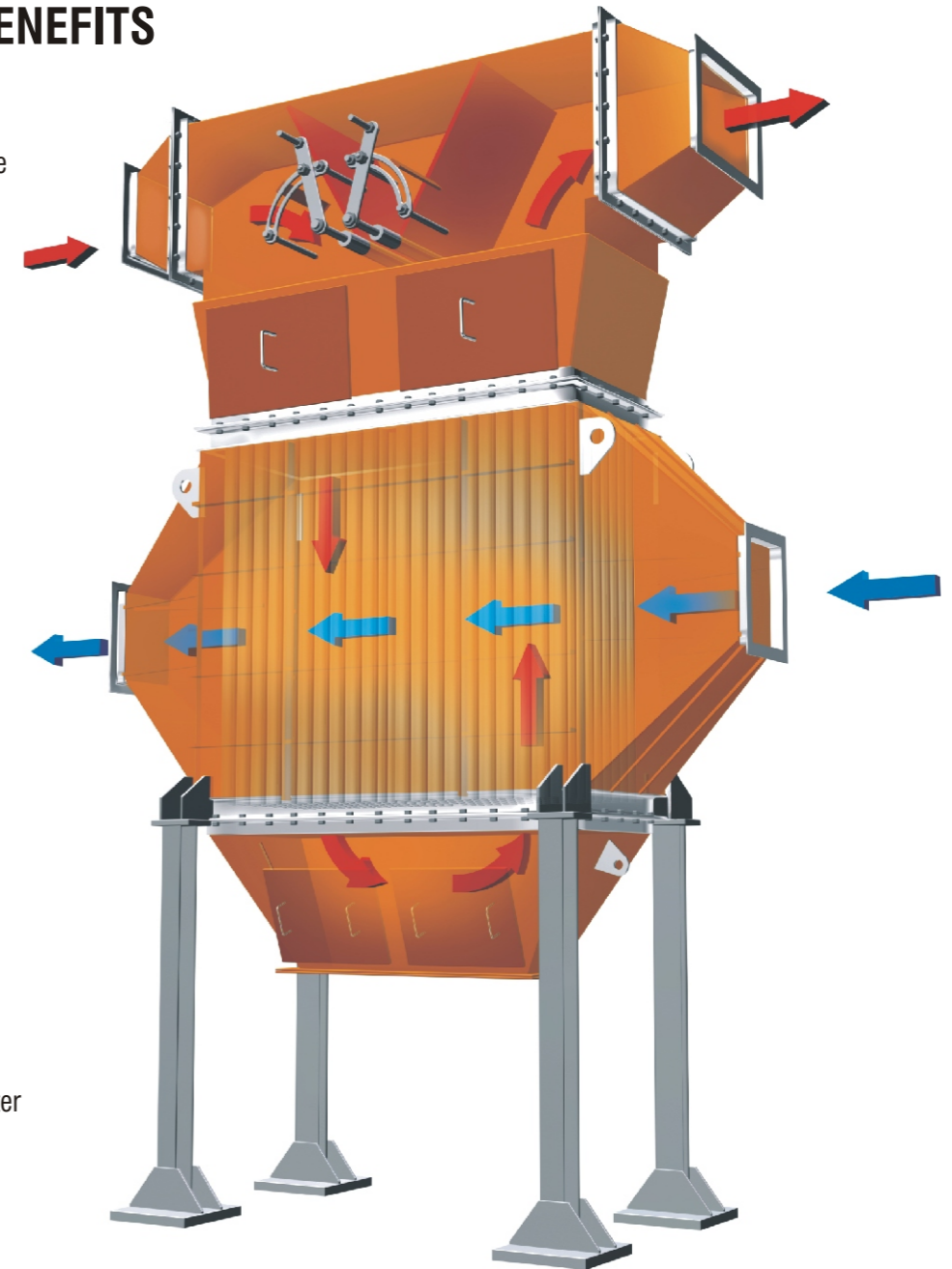
Increasing thermal efficiency of the Thermic Fluid Heater upto 3%  
**Reduction in dry flue gas losses resulting in Fuel cost savings**

Hot air for combustion  
**Better quality of combustion**  
**Increases overall performance**

Counter cross flow configuration  
**Better life of equipment**

Diverter Damper Assembly  
**No need for separate flue gas bypass duct.**  
**Compact design**

Preheated air at inlet to Air Preheater assembly  
**No fear for low end corrosion**



**TYPICAL P & I DRAWING**

