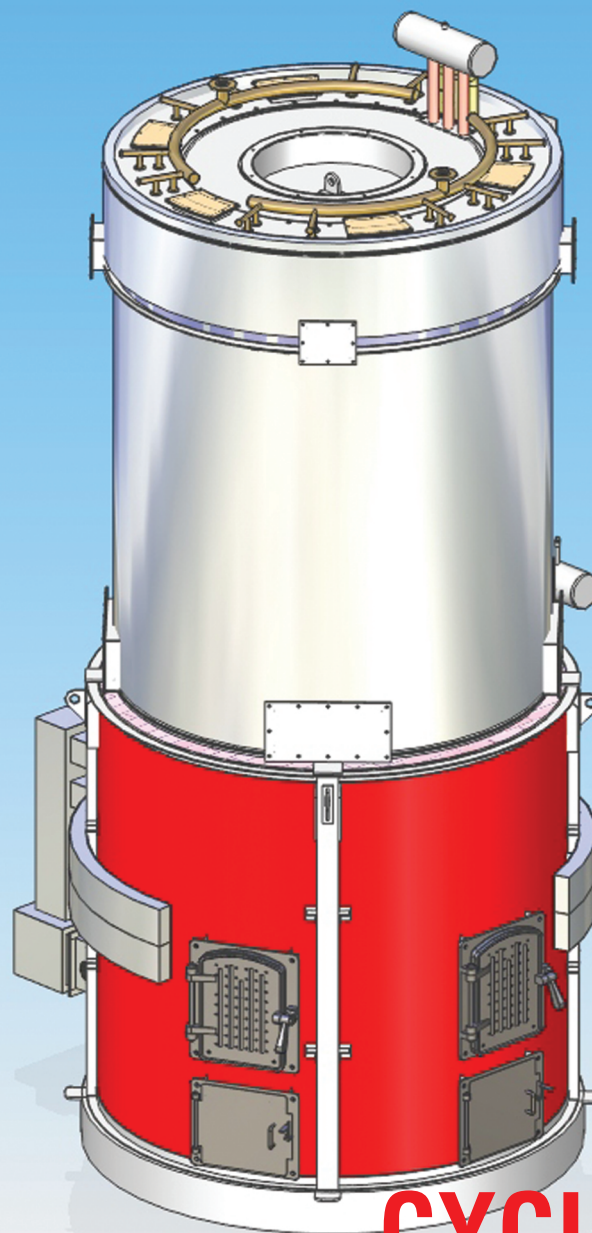


C&H - Heating



CYCLOTHERM

High efficiency solid fuel fired Vertical Thermopac with cyclonic combustor

The new benchmark for performance

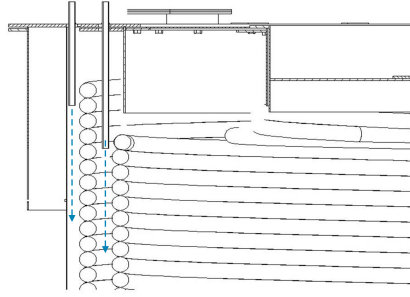
Improving your business is our business

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.

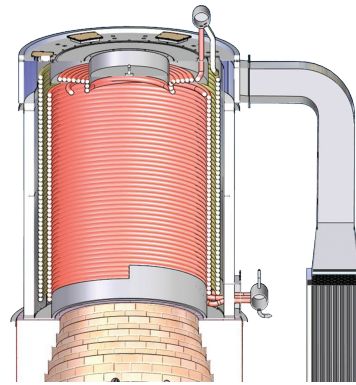
Operating from its headquarters in Pune (Western India), Thermax has built an international sales & service network spread over South East Asia, Middle East, Africa, Russia, UK and the US. It has a full fledged manufacturing set up that is certified for ISO 9001:2000, ISO 14001 and safety management according to OSHAS (ISO 18000).

In **heating**, Thermax 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. Supporting a broad array of industries in generating, transferring and conserving heat across a host of applications, Thermax process heat products and systems are exported to North and South America, South East Asia, Middle East, Africa, Europe, CIS, Australia, Antarctica and SAARC.

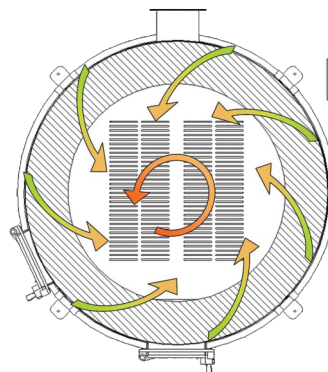
THE PERFECT SOLUTION



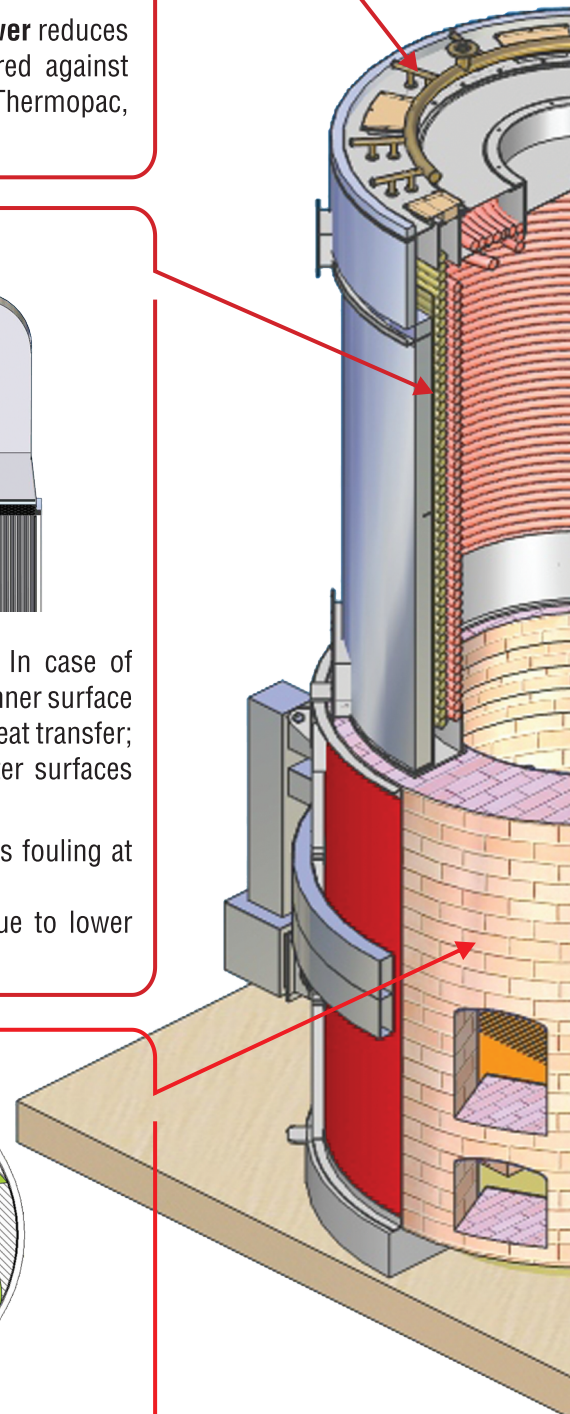
Automatic cleaning with soot blower reduces efficiency variation, when compared against the manually cleaned conventional Thermopac, over one cleaning cycle (1 week)



- **Enhanced heat transfer area:** In case of conventional Thermopac, only inner surface of the radiant coil takes part in heat transfer; in the VTcy both inner and outer surfaces contribute in the heat transfer
- **High radiation surface** counters fouling at convective coil
- **Reduction in radiation loss** due to lower surface area



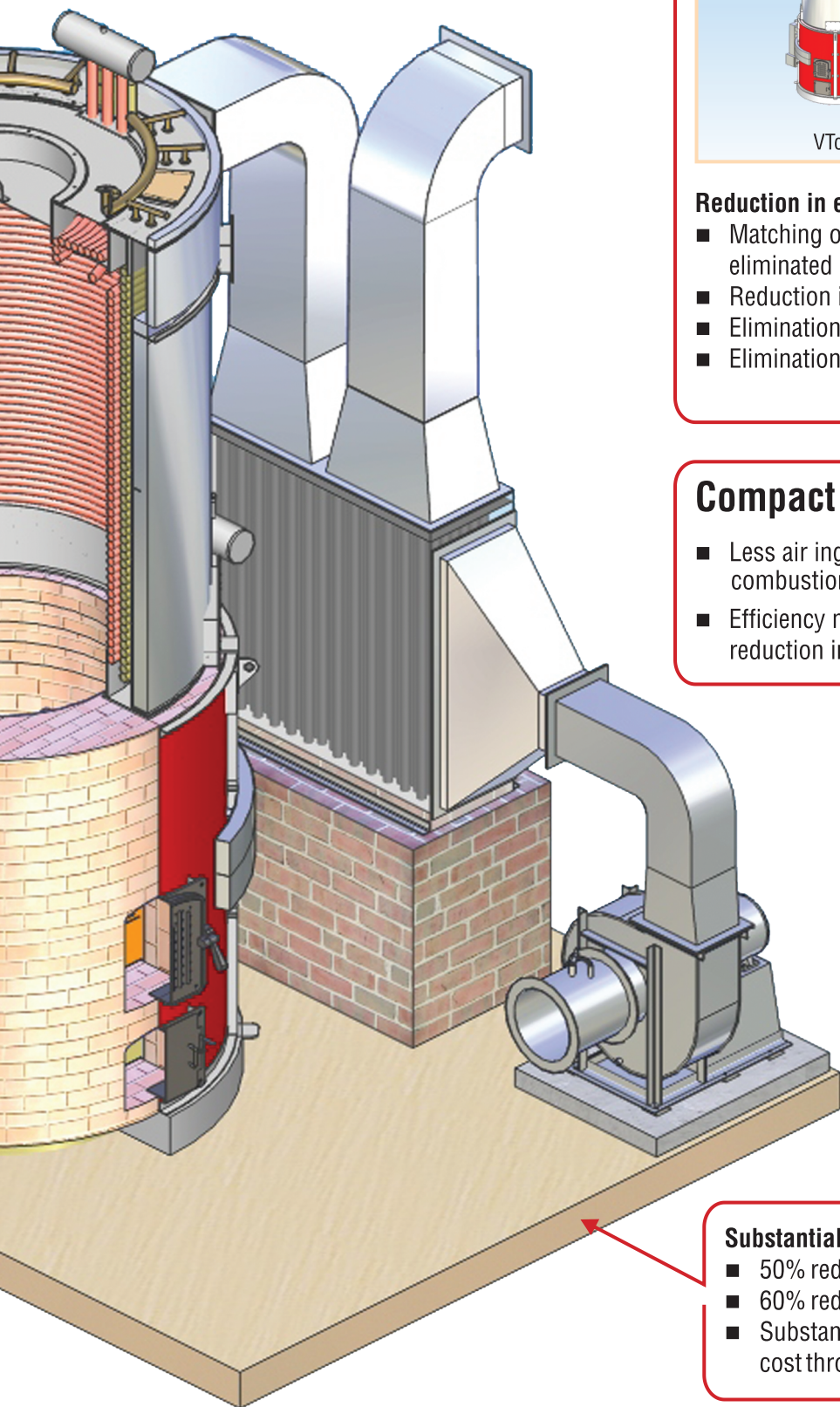
Cycloidal air injection leads to high residence time, less excess air and minimised combustion losses



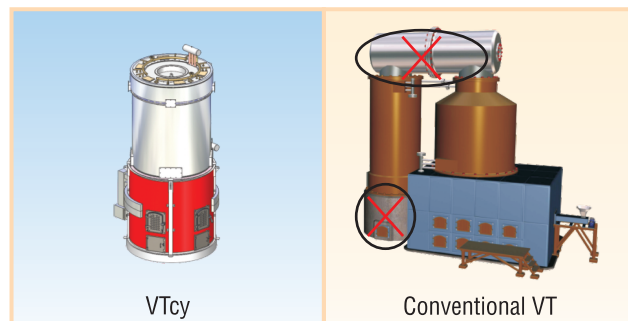
FOR EVERY INDIRECT HEATING REQUIREMENT

Product highlights

- Vertical closed loop thermal oil heating with cyclonic combustor
- Fuel - Coal, wood & briquette
- Capacity - 1,00,000 to 15,00,000 kcal/hour
- Operating temperature - 280 deg. C



How Cyclotherm scores over the conventional Thermopac



Reduction in erection activity

- Matching of convective and radial coils (leveling) eliminated
- Reduction in overall insulation work
- Elimination of ash room below convective coil
- Elimination of connecting duct and hence its refractory

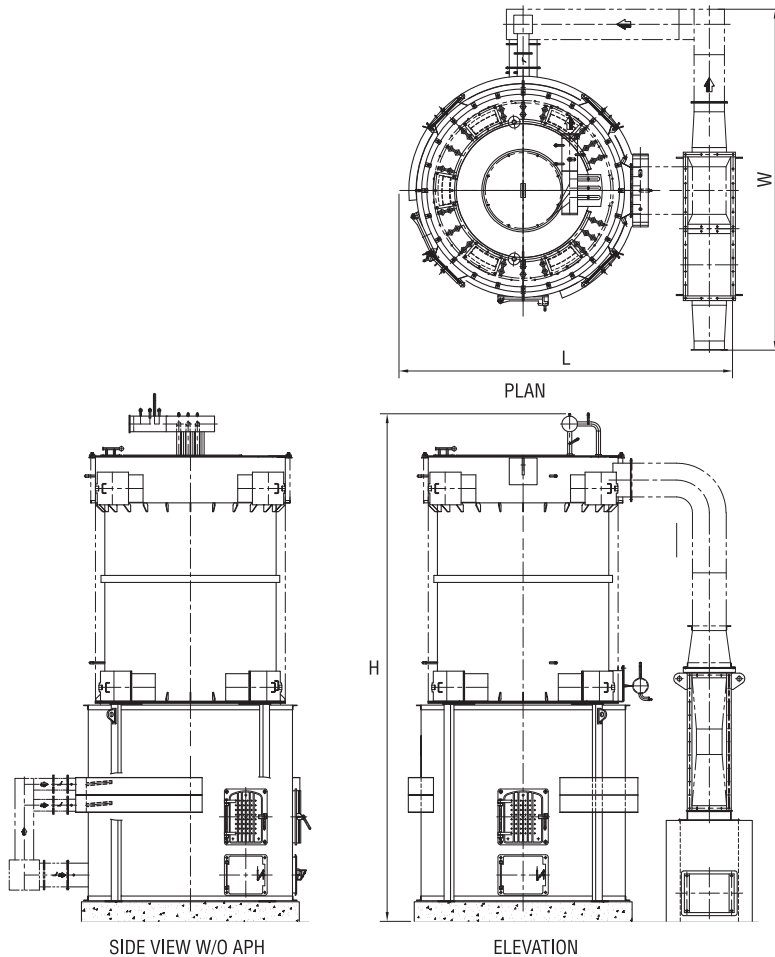
Compact furnace

- Less air ingress leading to reduction in unwanted combustion air
- Efficiency maintained for a prolonged period due to reduction in refractory damage

Substantial reduction in erection costs due to:

- 50% reduction in footprint area
- 60% reduction in refractory cost (material + labour)
- Substantial reduction in boiler house construction cost through 10% reduction in overall height

General arrangement



Technical specifications

Description	Units	VTcy 01	VTcy 02	VTcy 04	VTcy 06	VTcy 10	VTcy 15
Heater Performance							
Heat load	kcal/hr	1,00,000	2,00,000	4,00,000	6,00,000	10,00,000	15,00,000
Max. T.F. Outlet Temperature (Std.)	°C	280	280	280	280	280	280
Efficiency*							
Indian Coal (GCV-4500)	%	77	77	77	77	77	77
Indian Coal (GCV-3500)	%	76	76	76	76	76	76
Wood Logs (25% moisture)	%	72	72	72	72	72	72
Bagasse Briquette (GCV - 3800)	%	74	74	74	74	74	74
Connected Load							
Indian Coal/ Bagasse Briquette/ Wood without PCE	kw	5.5	8.6	9.5	15.0	21.0	32.0
Indian Coal/ Bagasse Briquette/ Wood with MDC	kw	NA	NA	11.5	17.5	25.0	36.0
Fuel Consumption							
Indian Coal of 4500 kCal/kg GCV	kg/ hr	29	58	115	173	289	433
Indian Coal of 3500 kCal/kg GCV	kg/ hr	38	75	150	226	376	564
Wood of 3400 kcal/kg GCV	kg/ hr	41	82	163	245	408	613
Bagasse Briquette of 3800 kCal/kg GCV	kg/ hr	142	142	142	213	356	533
Overall dimension							
- Length (L)	mm	1600	1600	3200	3500	3600	4300
- Width (W)	mm	1400	1400	2800	3300	3800	4500
- Height (H)	mm	2100	2100	5500	5500	5700	6400

*Efficiency calculated as per BS: 845 part I indirect method.



*Customised/ non-standard offerings available on request.
In view of our constant endeavour to improve the quality of our products, we reserve the right to alter or change specifications without prior notice. All photographs shown in this publication are representative in purpose, and to be used for reference only. For actual details and specifications, please refer to Thermax offer document.



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