



# COMBIPAC<sup>TM</sup>

Multi Solid Fuel Fired, Hybrid Steam Boiler with Stationary Combustor

## Capacity Range

From 2000 to 10000 kg/hr

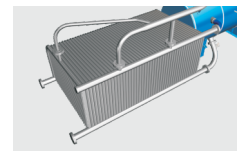
## Standard Design Pressure

10.54 & 17.5 kg/cm<sup>2</sup> g

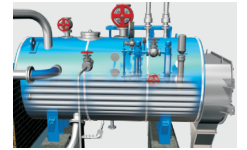


## Unique design features

- **Unique four side water wall design:** Higher heat transfer in radiation zone, reduced refractory work and lower flue gas entry temperature in convective zone ensure longer life and better efficiency.
- **Combustor suitable for firing wide variety of solid fuels:** Specially designed combustors like stationary grate, bubbling bed and combination grate to ensure compatibility with various fuels like coal, wood, husk, bagasse, petcoke and other agro fuels.
- **Single pass convective design:** Compared to two pass design, single pass avoids tube-end erosion and refractory requirement in the smoke chamber. It also lowers foot print area, thereby reducing ducting required to connect downside accessories.



Four side water wall



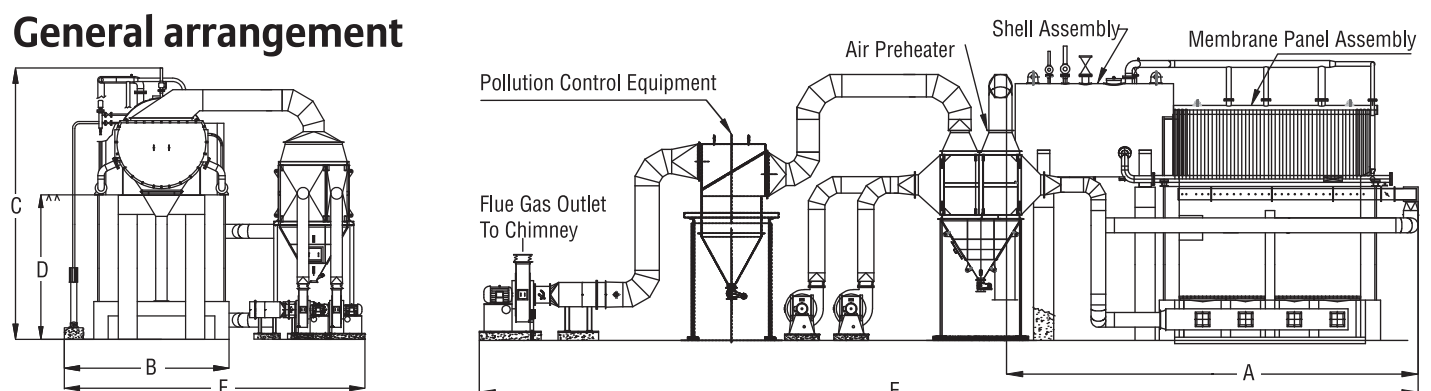
Shell

## Technical specifications

Description	Unit	CPD-20	CPD-30	CPD-40	CPD-50	CPD-60	CPD-80	CPD-100
Capacity (F&A 100°C)	kg / hr	2000	3000	4000	5000	6000	8000	10000
Design Pressure (SVLOP)	kg / cm <sup>2</sup> g	10.54 / 17.5						
Efficiency (APH / APH + WPH)		As per BS 845 Part 1 NCV Basis						
Husk / Husk Briquette	%	82 / 85						
Baggase / Baggase Briquette	%	80.5 / 84						
Lignite	%	81.5 / 84.5					NA	
Coal / Wood	%	82.5 / 85.5					NA	
Petcoke (Only with APH)	%	80						
Fuel		Husk / Coal / Lignite / Bagasse / Wood / Petcoke						
Fuel firing system		Auto - Husk / Bagasse / Petcoke, Manual - Wood / Coal / Lignite						
Combustion Grate		Stationary Grate / Bubbling Bed						
Fuel Consumption		APH / APH+ WPH						
Coal	kg / hr	304 / 294	457 / 441	609 / 588	761 / 734	913 / 881	NA	NA
Wood	kg / hr	449 / 428	674 / 642	898 / 588	1123 / 1070	1348 / 1285	NA	NA
Petcoke	kg / hr	169 / NA	253 / NA	338 / NA	422 / NA	506 / NA	675 / NA	844 / NA
Connected Electrical Load		With APH & MDC						
Coal / Lignite	kW	15 / 16	17 / 20	23 / 30	27 / 31	33 / 38	NA	
Wood	kW	22 / 23	24 / 27	33 / 36	44 / 48	48 / 52	NA	
Dimensions & Weight								
A X B X D	m	8X3.5X3.5	8.2X3.5X3.5	8.8X3.8X3.5	9.6X3.8X3.5	10.2X3.8X3.5	10.5X4.3X3.8	11.5X4.5X4
E X F X C	m	21.6X6.6X6	21.7X6.7X6	22.2X7.0X6.5	23.4X7.3X6.5	24X7.4X6.5	24.2X8.3X7.5	25X8.7X7.5
Chimney Top Diameter	mm	550	650	750	800	900	1050	1150
Dry Weight		10.54 / 17.5						
Boiler Shell	tonne	3.5 / 4	4.5 / 5	5.5 / 6.5	6 / 7	7 / 8	9.5/11.5	13 / 14
Furnace (Husk / Bagasse / Lignite)	tonne	23	26.5	31	34	39	56	59
Flooded Weight		10.54 / 17.5						
Boiler Shell	tonne	7 / 7.5	9.5 / 10	11.0 / 12.0	12.5 / 13.5	14.5 / 15.5	19.5 / 21.5	27 / 28
Furnace (Husk / Bagasse / Lignite)	tonne	23.5	27	32	35	40	57	60

Note: Design Standard-IBR. Efficiency is calculated based on NCV of Husk as 2900 kcal/kg, Coal as 4300 kcal/kg, Lignite as 3450 kcal/kg, Bagasse as 2300 kcal/kg, Wood as 2950 kcal/kg and Petcoke as 8000kcal/kg. Other pollution control equipment such as Cyclomax and Bagfilter are available as optional accessories. Above mentioned weight and dimensions may vary with actuals. Please refer to offer document for more details.

## General arrangement



### THERMAX LIMITED

Heating SBU, C&H Division

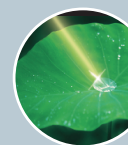
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