

## **HUSKPAC**<sup>TM</sup>ULTRA

3 Pass Wet Back, Integral Furnace, Packaged, Husk Fired Boiler



### **Heating Business**

#### Improving your business is our business

Thermax is an engineering major providing sustainable solutions in the areas of energy and environment. Spanning over 86 countries, clients make use of Thermax's business-to-business solutions for heating, cooling, power and cogeneration plants; waste heat recovery units; systems for water & wastewater management and air pollution control; performance improving chemicals.

Thermax's operations are supported by ongoing Research & Development, tie-ups with global technology majors, an international sales & service network spread over 27 countries and state-of-the-art manufacturing facilities in 14 locations including India, Indonesia, China, Poland, Denmark and Germany.

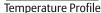
As a part of Thermax, Heating business - a strategic business unit offers packaged boilers, thermal oil heaters, waste heat recovery boilers, hot water and air generators. These are available in modular construction as a standard package configuration or a custom design for specific requirements. Innovated by a strong R&D that focuses on customer applications, we offer a range of heating systems designed to combust wide range of solid, oil & gas fuels including biomass and heavy liquid fuels. Heating SBU helps small and medium firms & fortune 500 companies to reduce energy cost with a worldwide presence of oil & gas based systems in Middle East and Europe, biomass and solid fuel fired equipment in South East Asia and Africa.

#### **Unique Design Features**

- Top fuel feeding with independent fuel feeding fan: Avoids fuel carryover and unburnt loss.
- Bubbling bed combustion: Turbulent mixing of fuel and air increases combustion efficiency and reduces ash settling.
- Pressure part design validation by Finite Element Analysis: Sophisticated design and analysis software helps to simulate the strength of pressure parts at all locations.
- Bubbling bed nozzle design by CFD Analysis: Sophisticated advanced flow analysis software helps to simulate the flow of gases & liquids, heat & mass transfer and fluid structure interaction. Thus, nozzles designed using CFD ensure proper cooling and longer life.

#### **Bubbling Bed**









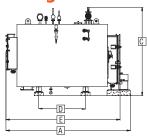


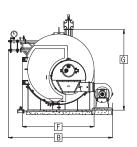
#### **Technical Specifications**

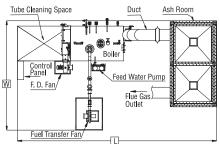
Description	Unit	HP 20 BB	HP 30 BB	HP 40 BB	HP 50 BB	HP 60 BB	
Capacity (F & A 100 °C)	kg / hr	2000	3000	4000	5000	6000	
Design Pressure (SVLOP)	kg / cm²g		10.54/17.5 10.54				
Efficiency (Husk)	%			79%			
Fuel				Husk			
Fuel Firing System			Automatic (With Independent Fuel Feeding Fan)				
Fuel Consumption	kg / hr	469	703	938	1172	1406	
Connected Electrical Load		10.54 / 17.5					
With out Cyclomax (FOR DOMESTIC							
MARKET)	kW	10 / 11	15 / 17	17 / 19	22 / 31	25	
With Cyclomax (FOR DOMESTIC							
MARKET)	kW	18 / 19	26 / 29	32 / 35	41 / 50	52	
With out Cyclomax(FOR EXPORT							
MARKET)	kW	11 / 12	16 / 18	18 / 20	21 / 33	25	
With Cyclomax (FOR EXPORT							
MARKET)	kW	19 / 20	27 / 30	33 / 36	43 / 52	54	
Dimensions & Weight							
Unit Assembly ( $A \times B \times C \times D$ )	m	4.5x3.6x3.4x1.6	5.3x4.2x3.7x2.0	5.4x4.4x4.2x2.3	6.3x4.5x4.4x2.3	7.2x7.1x4.4x2.9	
Transport (E x F x G)	m	4.3x2.4x3.0	4.8x2.8x3.1	5.0x2.9x3.4	5.6x3.1x3.8	6.2x3.3x4.0	
Layout (L x W)	m	12x5	14x7	15x7	16x7	18x7	
Chimney Top Diameter	mm	500	600	700	850	850	
Dry Weight (10.54 / 17.5)	Tonne	10/11	12/15	18/22	23/25	26/30	

Note: Design Standard-IBR. Efficiency is calculated "As per BS-845 Part 1 NCV basis" based on NCV of Husk as 2900 kcal/kg. Above mentioned weight and dimensions may vary with actuals. Please refer to offer document for more details.

#### General Arrangement





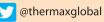


# **THERMAX** www.thermaxglobal.com

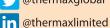


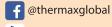
#### **Registered Office**

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#### **Thermax Business Portfolio**

- Heating
- Cooling
- Power
- Air Pollution Control
- Chemicals
- Water and Wastewater Solutions
- Solar
- Specialised Services