



# THERMAL & REFRIGERATION ENGINEERING CO., LTD



## VERTICAL WATERTUBE STEAM BOILER

### **HNW** SERIES

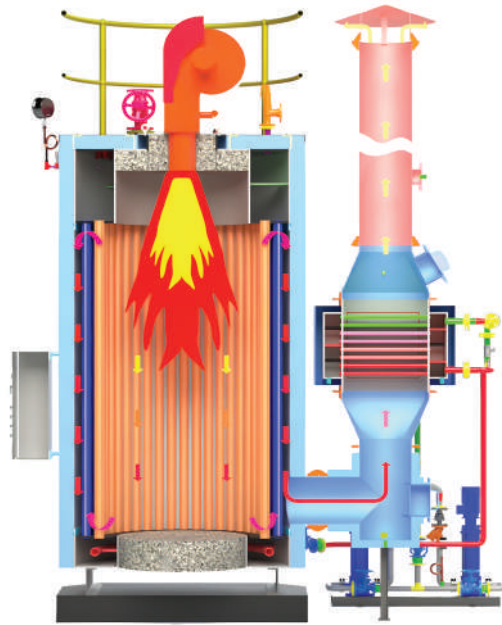
3-PASS DESIGN ALL STEEL WATERTUBE CONSTRUCTION  
Efficiency, Reliability and Durability

Capacities from 60 to 1500 kW  
100 to 2300 Kg/h  
Pressure max 10 Bar



- High efficiency
- Fast economical steam
- Compact design
- Easy operation
- Suitable for oil, gas firing with high efficiency level and excellent heat transfer

## SECTION VIEW



Inspected by  
LLOYDS, SGS



Designed,  
constructed and  
stamped in  
accordance with the  
requirements of the  
ASME Boiler Codes.

## TECHNICAL DATA

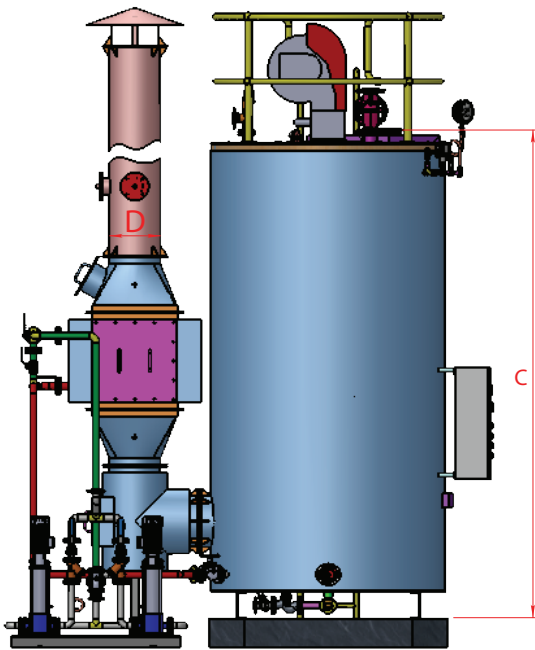
MODEL	HNW 100	HNW 200	HNW 300	HNW 500	HNW 750	HNW 1000	HNW 1500	HNW 2300
FUEL	NG, Light oil, LPG or CNG							
Steam Capacity (Kg/h)	100	200	300	500	750	1000	1500	2300
Heat Output (kW)	60	120	200	300	500	600	1000	1500
Total Heat Surface Area (m <sup>2</sup> )	3	6	8	12	16	21	33	43
Design Pressure (Bar)	10	10	10	10	10	10	10	10
Total Volume (m <sup>3</sup> )	500	300	420	600	800	950	1200	1650
DO Consumption (Kg/h) (*)	7	15	20	35	55	70	105	160
LPG Consumption (Kg/h) (**)	3	5	10	15	20	30	50	75
CNG Consumption (m <sup>3</sup> /h) (***)	7	15	20	40	55	75	110	185
Chimney Diameter (mm)	150	180	200	250	280	320	340	400
Overall Width A (mm)	830	850	1300	1320	1580	1620	1660	1660
Overall Length B (mm)	850	900	1200	1400	1450	1550	1560	1560
Overall Height C (mm)	1570	1750	2100	2400	2450	2650	2850	3700

(\*) : Calorific Value 10.200 Kcal/kg

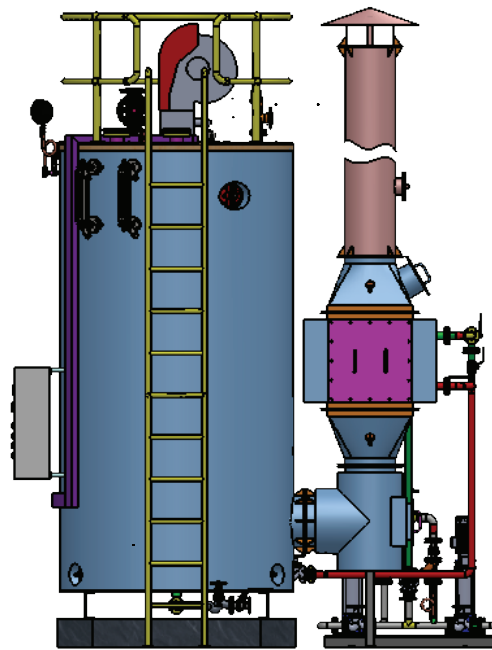
(\*\*) : Calorific Value 11.800 Kcal/kg

(\*\*\*) : Calorific Value 8.800 Kcal/m<sup>3</sup>

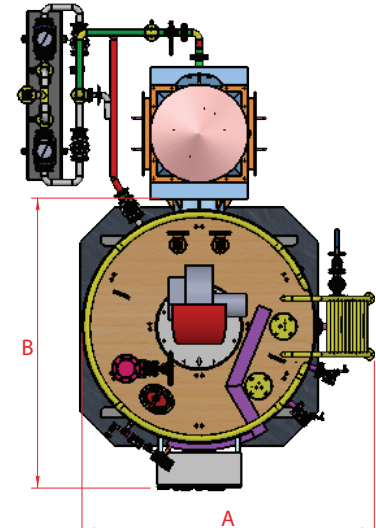
# TECHNICAL DRAWINGS



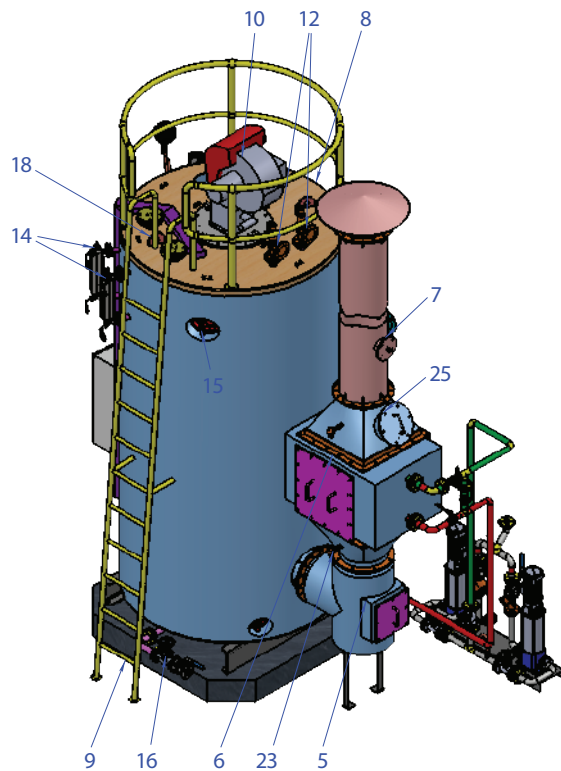
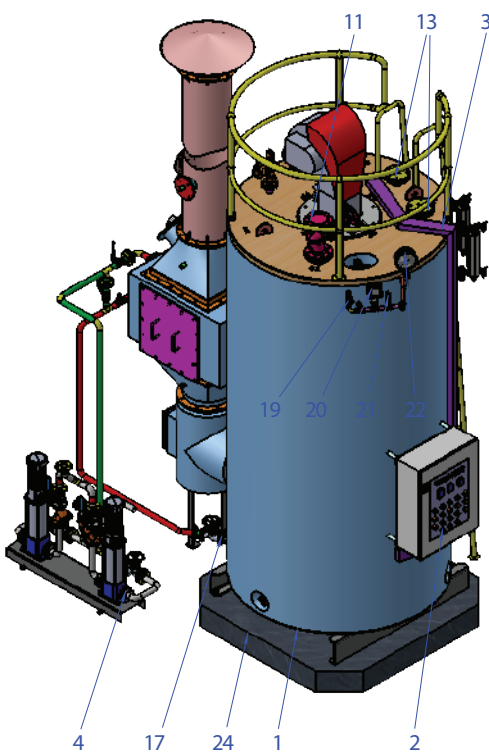
LEFT VIEW



RIGHT VIEW



TOP VIEW



## ANNOTATION:

- |                      |                    |                        |                          |
|----------------------|--------------------|------------------------|--------------------------|
| 1. Boiler body       | 7. Chimney         | 13. Water level probe  | 19. Air vent             |
| 2. Control panel     | 8. Access platform | 14. Water level gauge  | 20. Pressure switch      |
| 3. Cable tray        | 9. Ladder          | 15. Inspection opening | 21. Pressure transmitter |
| 4. Pump set          | 10. Burner         | 16. Blowdown           | 22. Pressure gauge       |
| 5. Stack tee         | 11. Main steam out | 17. Feedwater inlet    | 23. RTD                  |
| 6. Economizer & duct | 12. Safety valve   | 18. Lifting lug        | 24. Plinth               |
|                      |                    |                        | 25. Inspection opening   |

## PRODUCT OVERVIEW

- Efficient 3 - Pass Design
- Flexibility - Capable of burning natural gas, fuel oil, digester gas & various other gaseous fuels
- ASME Code Constructed & Stamped
- Competitively Priced, Easily Maintained, Designed for Efficiency
- Large Furnace Volume for Ultimate Combustion Efficiency
- Low Heat Release
- Factory Insulated - 3" Mineral Wool
- Factory Jacketed & Stainless Steel
- Easy to maintaining and operating
- Ample Waterside Clean - Out Openings
- Fully Automatic Operation
- Factory Test Fired

The vertical watertube steam boilers are convenient as they are easier to install in areas where space is limited. All units are factory packaged with operating controls, relief valves, burner and fuel train. Installation is made simple in that only service connections are needed to place in operation. Flexible burner systems are available for firing natural gas, LP gas, #2 oil, or combinations. High density 3" mineral wool insulation assures lower radiant heat loss.

