



HPB

Haguena Production of Boilers

**High pressure saturated steam
Wet back, 3-pass system.**

High pressure Steam Boiler up to 16 bar:

Steam Boiler



- The HB steam boiler is a semi – fixed horizontal 3-pass type.
- Through Flame and wet back.
- It is built to give the maximum reliability and long term industrial use for which it is intended.
- The large evaporating surface of the boiler prevents the flow of droplets caused by sudden steam intake, which is necessary in some specific industrial process.
- The steam produced is always of a high quality with saturation condition.
- The boiler has a special sized furnace reducing volumetric thermal loads and guaranteeing optimum efficiency with both combustion of liquid and gaseous fuels.

Saturated Steam with 90% Efficiency:

Automatic function:

The main electronic circuit board allows the boiler to function automatically through the use of equipment that controls pressure and levels.

The automatic level regulation that controls the feeding pump and the two conducting safety probes are electronically and mechanically independent one from the other and require manual reactivation as required by the current legislation.

Installation and start up of the boiler is simple as all equipment are already hydraulically and electronically linked.

Working Efficiency:

The HB steam boilers offer a working efficiency of %90 under high or low thermal loads. This is made possible by the generously sized internal heat transfer surface which is coated by 100-mm thick high density rock wool protected with aluminum cladding.

Cleaning and Maintenance:

Internal cleaning and maintenance of the boiler is simple, thanks to the use of double hinged front access doors, which can be easily opened without the removal of the burner.

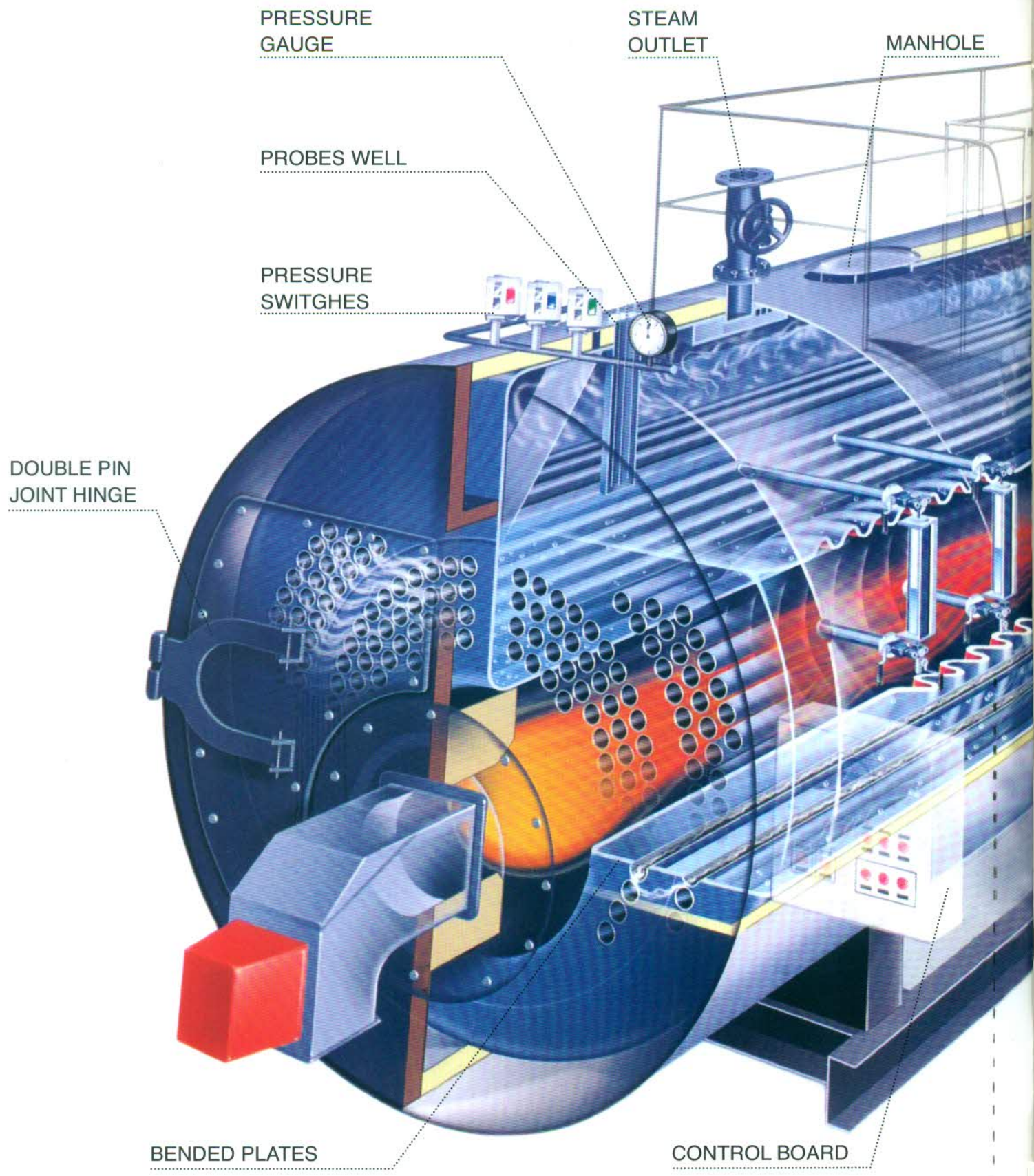
Company Quality System:

The boiler is built with materials and procedures that comply with current directives. The Company Quality System controls and authorizes the use of materials, production and final testing.

Particularly:

- Ultrasonic testing of sheet metal.
- Radiographic testing of welded parts.
- Hydrostatic test.
- The correct functioning of the electric control panel (to be approved by controlling bodies) regulation and safety.
- Final test by authorized inspector (Lloyd's Office –optional).

Steam Boiler



SAFETY VALVES

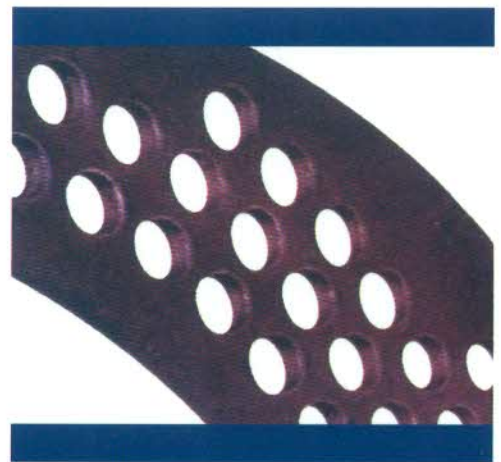
NON- RETURN VALVES

PLAN FURNACE FOR CAPACITIES ≤ 4 . TON/H, AND CORRUGATED FURNACE FOR CAPACITIES ≥ 6 . TON/H

FEED WATER PUMP

FILTER

The HB steam boiler is supplied with a booklet that contains all the certificates of approval in terms of materials and testing.



The drilling of both front and rear tube plates are performed by special machine.



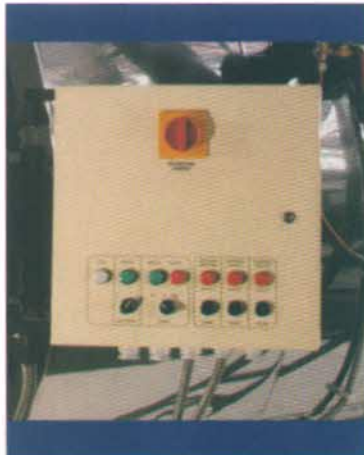
The welding of tubes into the tube plate is done according to the high international standards.

CORRUGATED OPTION

Instruments, Safety Measures, and Approvals

The incorporated accessories to the boiler are those requested by regulation. They include:

- 2 forged steel level indicators with direct reading reflection box.
- 2 approved spring safety valves.
- 1 main steam valve.
- 1 pressure gauge.
- 1 limit pressure switch.
- 1 safety pressure switch.
- 1 thermometer for exhaust gas in stack.
- 1 feed water pump unit complete with centrifugal electro – pump, two stop valves, and one filter.
- 1 draining level valve.
- 1 flange discharge unit.
- 1 automatic level regulator complete with two conducting probes and electronic relay for Water pump.
- 2 independent minimum safety level control systems complete with two conducting Probes and two electronic relays for safety level .
- One electric panel with IP54 protection complete with: main on/off switch, pump and burner switch, motor starter, electronic relays for level control, pump selector, energy saving switches, warning lights and acoustic alarm and counter, PVC covered, silicone Insulated cored wiring on the top of the boiler links the electric equipment to the control panel.



Side Electric / Electronic control panel

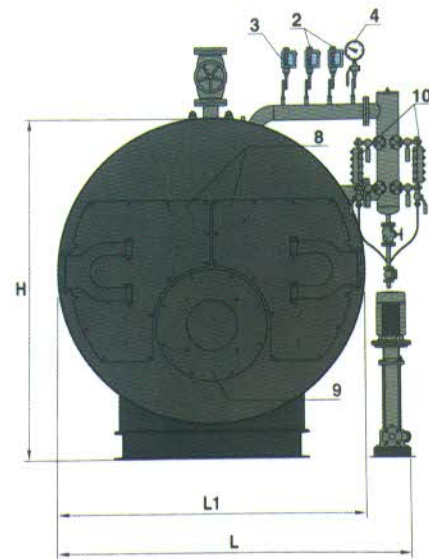
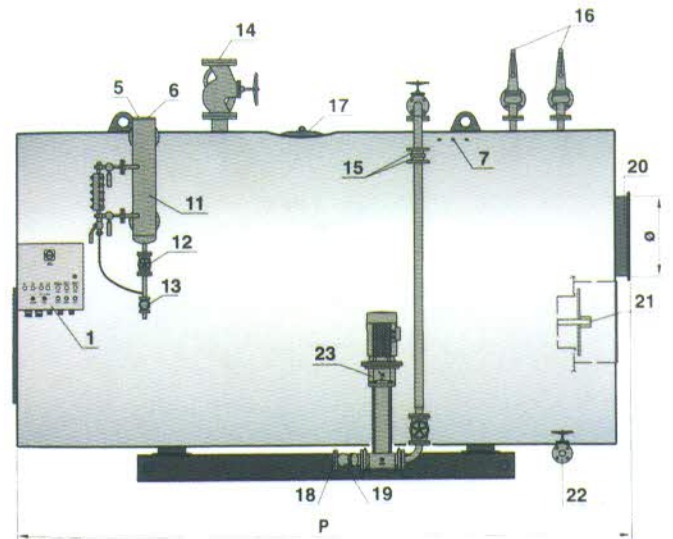


Side Water Level Indicator With Its Stop and Discharge Taps

Options:

- Automatic draining unit according to T.D.S
- Continuous saline control
- Burner (Heavy Oil – Natural Gas – Dual Fuel).
- Thermometer and digital thermostat for stack.
- PLC Control.

- 1- Control Panel
- 2- Regulation Pressure Switch
- 3- Safety Pressure
- 4- Pressure Gauge
- 5- 1st Safety Level Probe
- 6- Level Regulation Probe
- 7- 2nd Safety Level Probe
- 8- Front Access Door
- 9- Burner Plate
- 10- Level Indicators
- 11- Probe Housing
- 12- Drain Valve
- 13- Water Flow Indicator (option)
- 14- Main Steam Valve
- 15- Non- return Valve
- 16- Safety Valves
- 17- Manhole
- 18- Filter
- 19- Feeding Valve
- 20- Stack Mounting Flange
- 21- Flame View Window
- 22- Blowdown Valve
- 23- Feed Pump



Boiler Model		HB500	HB1000	HB2000	HB4000	HB6000	HB8000	HB10000	HB12000
Steam Production	Kg/h	500	1000	2000	4000	6000	8000	10000	12000
Nominal capacity max. load	Kcal/h	300000	600000	1200000	2400000	3500000	4800000	6000000	7000000
	kW	349	698	1395	2790	4070	5582	6977	8140
Rated output	hp	33	66	132	264	396	528	660	792
Fuel consumption	Light oil kg/h	29	59	118	237	345	473	592	690
	Natural gas m ³ /h	35	70	140	279	407	559	698	814
Dry weight	kg	3000	3600	5800	11500	14600	---	---	---
Steam outlet	DN	50	50	80	100	125	---	---	---
Dimensions (mm)									
	L	1750	1800	2050	2550	2850	---	---	---
	L1	1550	1600	1850	2300	2600	---	---	---
	H	1850	1900	2150	2600	2900	---	---	---
	P	2500	3500	4100	4750	5300	---	---	---
	∅	350	400	450	500	550	---	---	---

Based on feed water temperature 80°C and working pressure of 12 bar.



Haguena Production of Boilers

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