



**STANDARDKESSEL ITALIANA
STANDARDKESSEL INTERNATIONAL**

STEAM
FORCED CIRCULATION



CONDOR RAPID

*Design pressure 11,76 bar
Steam production from 45 to 4.000 Kg/h*

CONDOR RAPID/V

*Design pressure 11,76 bar
Steam production from 45 to 2.000 Kg/h*

INDUSTRIAL BOILER ITALY S.R.L.

Offices and Production Unit: Via E. Fermi, 64/66 - 24050 GRASSOBBIO (BG)

Cod. Fisc. / P.IVA 04024170161 REA: BG-428870

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Description

Condor Rapid and Condor Rapid/V are forced circulation steam boilers designed according to the "Lamont" principle, where a circulation pump ensures flow of the water through the tubes; the water thus circulates inside the tubes constituting the heating surface. The motive force in the natural-circulation systems instead is guaranteed by the difference in density of the liquid.

Condor Rapid and Condor Rapid/V are pressurized generators, three-pass design, composed of a double rank of juxtaposed tubes, spirally wound in two concentric cylinders.

The smaller cylinder constitutes the combustion chamber while the other forms the convective bundle. A shielding on the bottom is made of a spirally tube connecting in series the two coils.

The advantage of the forced circulation steam generators is the rapidity of the starting up as well as the absolute security against the bursting.

The steam generator is built according to the European Pressure Directive P.E.D. 97/23/CE.

In addition, the Condor Rapid and Condor Rapid/V steam generators have the followings features:

- High efficiency, thanks to the generous dimensioning of the heat exchange surface.
- Easy maintenance and internal inspection thanks the easy demountable plugs.
- Effective three-pass design in both the vertical and the horizontal versions.
- Reliability and long longevity thanks to the rich equipment with securities in the smoke, water and

steam sides and the use of accessories supplied from leading brands.

- Feeding water at 105°C, thanks to the piston pumps at low rpm and the anti-cavitation pump.
- High steam quality thanks to the particular construction of the coil, composed by the economizer, vaporizer and dryer bundles and thanks to the possibility to adjust the water flow.
- Easily maintenance due to fully openable front and back hatches.
- Horizontal or vertical version, according to the available space.
- Reliability and long service life due to the standard equipments (only leading brands), with safety controls on smokes, water and steam sides.
- Feeding water up to 105°C thanks to the anticavitation and low run number piston pumps.
- High steam title thanks to the coil special construction.



Condor Rapid/V



Condor Rapid

Boiler supply

The forced circulation steam generator is exonerated from the stoker.

Boiler body:

Composed by a tube bundle, at increasing section wound in a continuous spiral, made of carbon steel tubes accompanied with iron foundry certificates, chemical analysis and mechanical testing mod. 3.1.1.B, welded according to TIG process.

Steam header:

With moisture separation system allowing in this way to have the production of saturated steam at high steam quality. The steam header is composed by:

- Main inlet steam;
- Safety valve;
- Start up drain valve.

Boiler shell:

The cylindrical shell plating containing the pressure body is made of carbon steel shell completed with suitably reinforced heads, lifting eyes and flanged flue connection.

The insulation casing is made of rock wool mattress (thickness 10 mm) with high insulating properties. External shell is realized with painted steel sheet.

Supporting structure:

Is made of carbon steel profiles. This structure supports the generator and all the supplied accessories. The front tailgate and removable swab are bolted, complete with lifting handles, lined with insulating-refractory material.

Feedwater group including:

- Feedwater piston pumps, connected to electric motor through coupling. The multi-cylindrical pumps prevent the

pulsation and the consequent need of amortized lungs.

- Feedwater check valve.
- Safety backwash valve with end run, boiler and burner stop.
- Anti-cavitation invaded pump for feedwater pumps with safety pressure switch.

Automatic start/stop device including:

- Pneumatic inlet steam valve ON/OFF with end run;
- Pneumatic start-up drain valve ON/OFF with end run;
- Daily/weekly programmable timer;
- Temperature probe with thermo-regulator for the inlet steam valve opening regulation;
- PLC filling time programming and burner starting;

Regulating and control equipment including:

- Steam gauge;
- Water gauge;
- Steam pressure electronic transducer;
- Steam pressure electronic regulator / indicator with luminous display;
- Inverter for flow water regulation.

Safety equipments including:

- Safety valve;
- Safety pressure switch for max steam pressure;
- Safety thermostat for max steam temperature with temperature indicator;
- Water safety flow switch;

- Safety thermostat for max smokes temperature with temperature indicator;
- Pressure switch for max coil water pressure;
- Anti-cavitation pressure switch for min. pressure water header

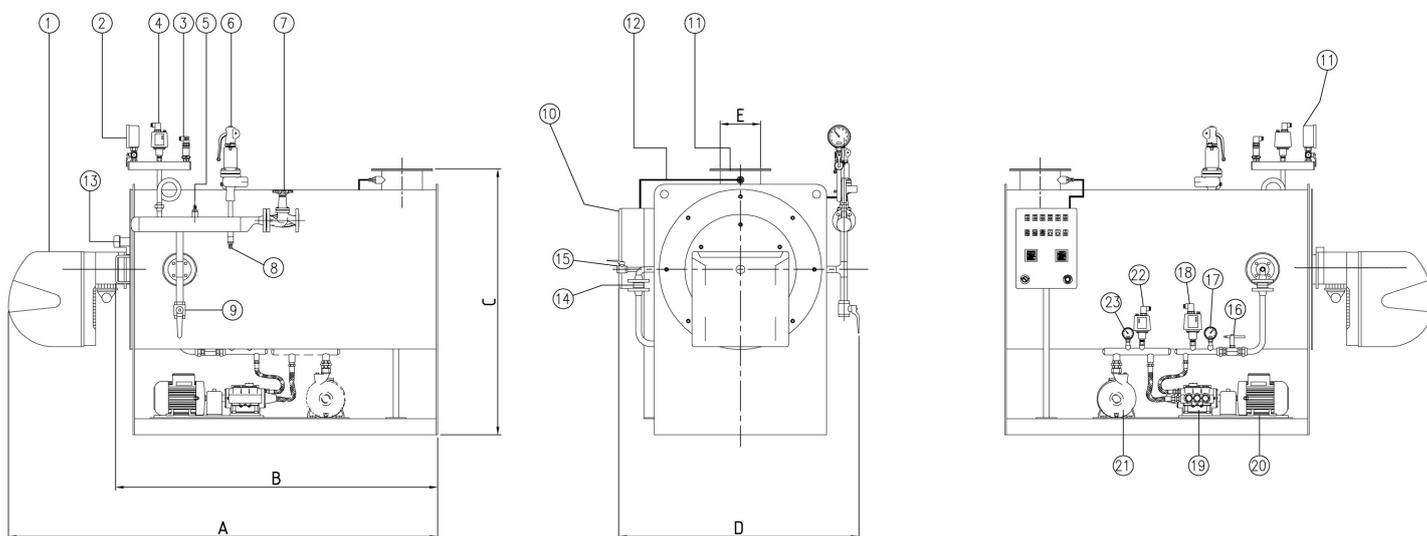
In case of the boiler blocking due to a safety devices intervention, the reset is manually done after the elimination of the trouble cause.

Control panel including:

- Box made of steel sheet finely painted IP54 execution;
- Main switch with mechanical block device against the opening of the panel door when in tension;
- Burner start switch;
- Pump group start switch;
- Remote control switch feedwater pumps motor;
- Transformer for the auxiliary circuit 24V control at low voltage;
- PLC for the sequence generator management, automatic start and stop;
- Safety fuses;
- Indicator lamps;
- Release button for safety devices;
- Run button;
- Numbered terminal board and wiring in protection cable duct;
- Clean contacts and/or 4-20A status relay signals.

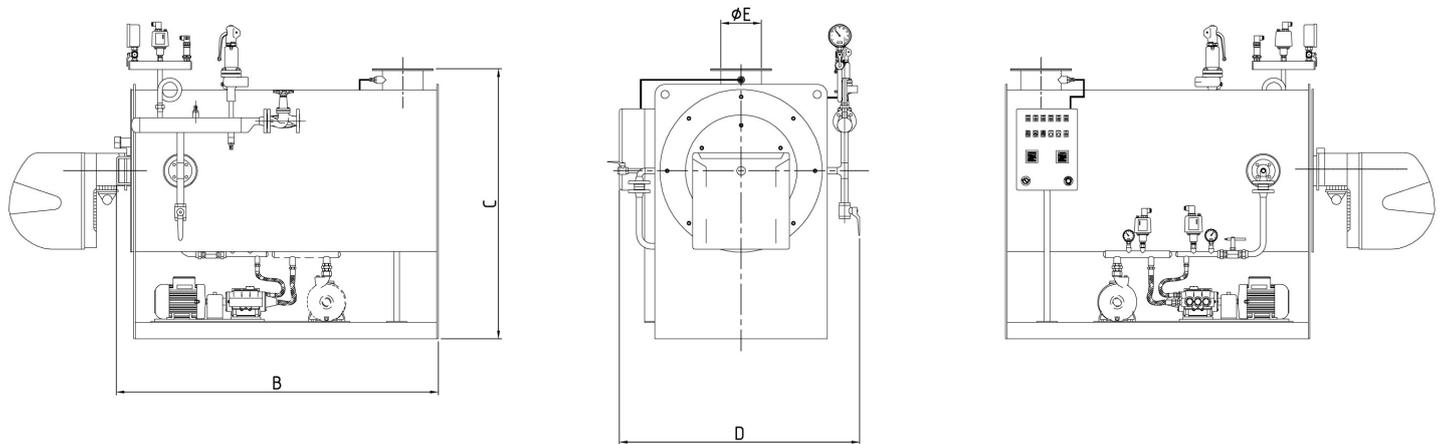
All our boilers are constructed in accordance with European rules P.E.D. (Pressure Equipment Directive).

Equipments



Pos.	Description	Pos.	Description
1	Burner	13	Flame control indicator
2	Pressure steam gauge	14	Check valve
3	Pressure transducer	15	Counter washing valve with opening microswitch
4	Safety pressure switch	16	Flow switch
5	Steam temperature probe	17	Water gauge
6	Safety valve	18	Feedwater group
7	Steam valve	19	Feed pump
8	Steam temperature probe	20	Pump electric motor
9	Start-up drain valve	21	Anticavitation pump
10	Control panel	22	Anticavitation safety pressure switch
11	Smoke chimney	23	Pressure gauge
12	Smoke temperature probe		

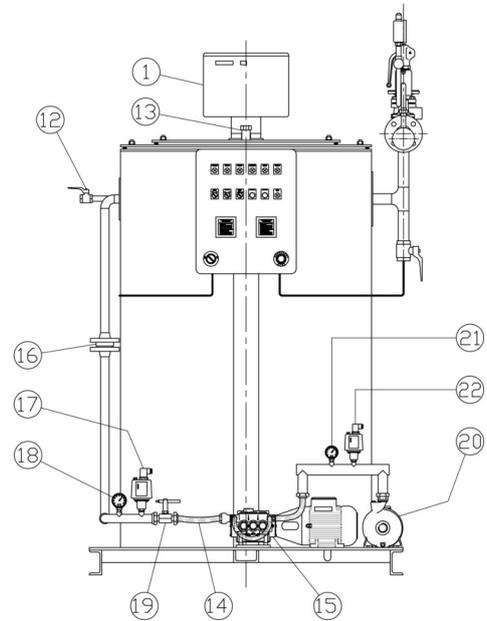
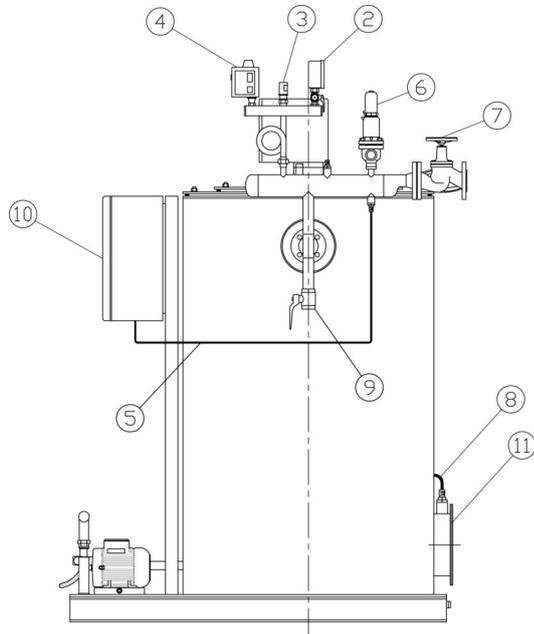
Boiler dimensions



Model	Steam production Kg/h	Capacity kW	Length B (mm)	Width D (mm)	Height C (mm)	Chimney diameter E (mm)	Empty weight Kg
45	45	31	850	1100	1000	150	600
100	100	70	850	1100	1000	150	650
150	150	105	1000	1100	1000	200	700
200	200	140	1000	1100	1000	200	750
300	300	203	1250	1200	1000	200	850
400	400	279	1500	1200	1250	200	900
500	500	349	1500	1200	1250	200	950
600	600	419	1750	1450	1250	250	1250
800	800	558	1750	1450	1500	250	1450
1000	1000	689	2000	1700	1500	300	1650
1250	1250	872	2250	1700	1500	300	1850
1500	1500	1047	2500	1700	1500	350	2250
2000	2000	1395	3000	1700	1500	350	2500
2500	2500	744	3250	2165	1840	400	3300
3000	3000	2093	3700	2165	1840	450	3500
3500	3500	2442	3750	2165	1840	500	3700
4000	4000	2791	4750	2165	1840	550	4000

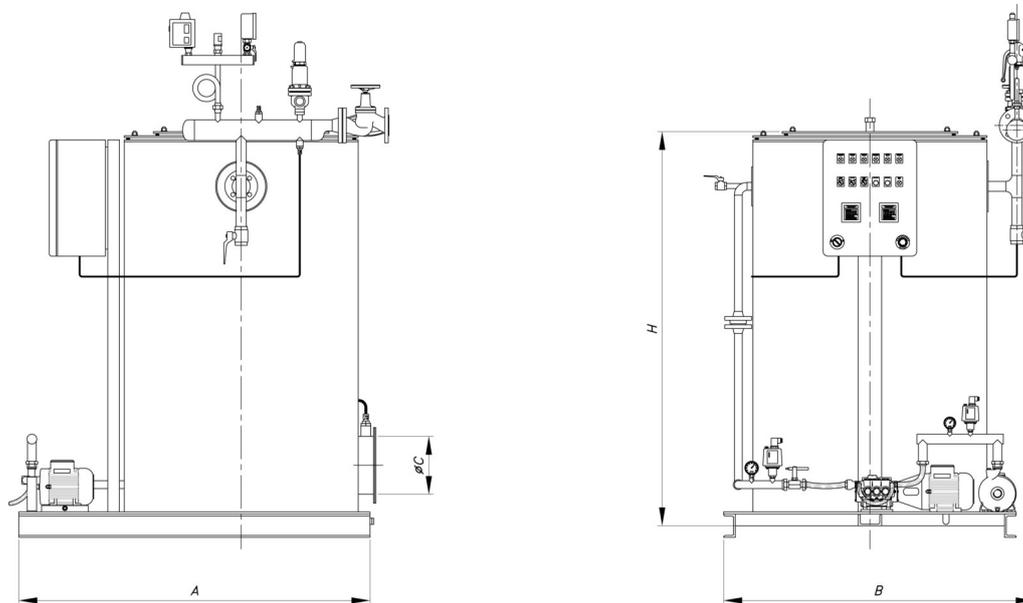
Industrial Boiler Italy reserves the right to make the necessary changes to improve the production

Equipments



Pos.	Description	Pos.	Description
1	Burner	12	Counter washing valve with opening microswitch
2	Steam manometer	13	Flame control indicator
3	Pressure transducer	14	Flexible tube
4	Safety pressure switch	15	Feedwater pump
5	Steam temperature probe	16	Valves
6	Safety valve	17	Water pressure switch
7	Steam valve	18	Water manometer
8	Smoke temperature probe	19	Flow switch
9	Start-up drain valve	20	Anticavitation pump
10	Control panel	21	Water manometer
11	Outlet smoke chimney	22	Water pressure switch

Boiler dimensions



Model	Steam production Kg/h	Capacity kW	Length A (mm)	Width B (mm)	Height H (mm)	Chimney diameter C (mm)	Empty weight Kg
45	45	31	1250	1250	880	150	650
100	100	70	1250	1250	880	150	700
150	150	105	1250	1250	1130	200	750
200	200	140	1250	1250	1130	200	800
300	300	209	1250	1250	1380	200	850
400	400	279	1500	1250	1430	200	900
500	500	349	1500	1250	1430	200	950
600	600	419	1500	1600	1650	250	1250
800	800	558	1500	1600	1750	250	1450
1000	1000	689	1750	1750	1990	300	1650
1250	1250	872	1750	1750	2250	300	1850
1500	1500	1047	1750	1750	2250	350	2250
2000	2000	1395	1750	1750	2950	350	2500

Industrial Boiler italy reserves the right to make the necessary changes to improve the production



From the commitment in the technological research of Standardkessel Italiana and Standardkessel International, always specialized in the high powered industrial boilers, are born the SKI generators which are carried out by means of innovative processes that ensure a high efficiency and a long lifespan.

Water-tube, smoke-tube, diathermal-oil industrial boilers and complete thermal power plants.



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