

Unical

TERNOX D 2P



STEEL PRESSURIZED GENUINE THREE-PASS HOT WATER BOILER

OUTPUT RANGE

from 2000 to 22000 kW

WORKING TEMPERATURE

up to 104°C (max. design temperature)
up to 110°C (max. safety temperature)

FUEL

natural gas, LPG, light oil, heavy oil jet burners

MODELLS

2000	2500	3000	4000	4600	6000	7000
8000	10000	13000	15000	18000	20000	22000

CERTIFICATION IN OUTPUT RANGE / Low NO_x emissions

DESCRIPTION

Hot water boiler, with 3 effective smoke passes, wet bottom, horizontal design.

The TERNOX D 2P series is a family of hot water boilers designed for a maximum safety pressure of up to 6 bar or higher on request. The range includes various models with an output from 2000 to 22000 kW.

General features:

The generator with 3 effective smoke passes is made up of a cylindrical furnace with a wet bottom in which the flame develops and runs through the furnace (1st smoke pass) and, at the bottom, through the inversion chamber, enters the tube bundle of the 2nd smoke pass. The fumes return to the front where they enter the tube bundle of the 3rd smoke pass.

Exiting the tube bundle, the fumes are collected in the rear smoke chamber and conveyed to the chimney.

■ **Boiler body:** the components of the boiler body, outer shell, furnace, inversion chamber, tube plates and tube bundle are made of quality steel in accordance with current regulations. The materials used are accompanied by manufacturing certificates certifying the chemical and mechanical characteristics and the controls during the production cycle and therefore their suitability for use. The inversion chamber is made with flat tube plates. The welded joints are carried out according to procedures approved by suitably qualified personnel. Once manufacturing is complete, each pressure carrying part is subjected to testing by carrying out the hydraulic test.

■ **Smoke pipes:** making up the quality steel tube bundle, are welded to the tube plates by means of qualified automatic procedures. Finally, the pipes are headed by counterbore eliminating the protrusions from the plate.

■ **Front doors:** made of steel sheet, hermetically sealed against

fumes leakage, they are internally lined with refractory insulating concrete. The burner is fixed on a dedicated independent flange, with lifting eyebolts.

■ **Rear smoke chamber:** made of steel sheet, is insulated by casting of suitable material, it is complete with horizontal flanged connection for flue gas evacuation and with inspection and cleaning doors.

■ **Base:** it consists of a frame in steel profiles electro-welded to the tube plates.

■ **Insulation of the outer shell:** thermal insulation is ensured by a mineral wool mattress, 100 mm thick, externally protected by an aluminum foil (stainless steel on request).

Composition of the standard supply: ⁽¹⁾

- Plate for burner mounting, complete with sight flame (with drilling on request)
- Boiler lifting eyebolts
- Standard documentation containing:
 - Installation, Use and Maintenance Manual.
 - Data sheet relating to the quality of the operating water, with the parameters that must be subjected to periodic checks, maximum and minimum limits of acceptability, frequency of checks and required interventions (information contained in the manual).

(1) The quantity and the model may vary according to the offered configuration.

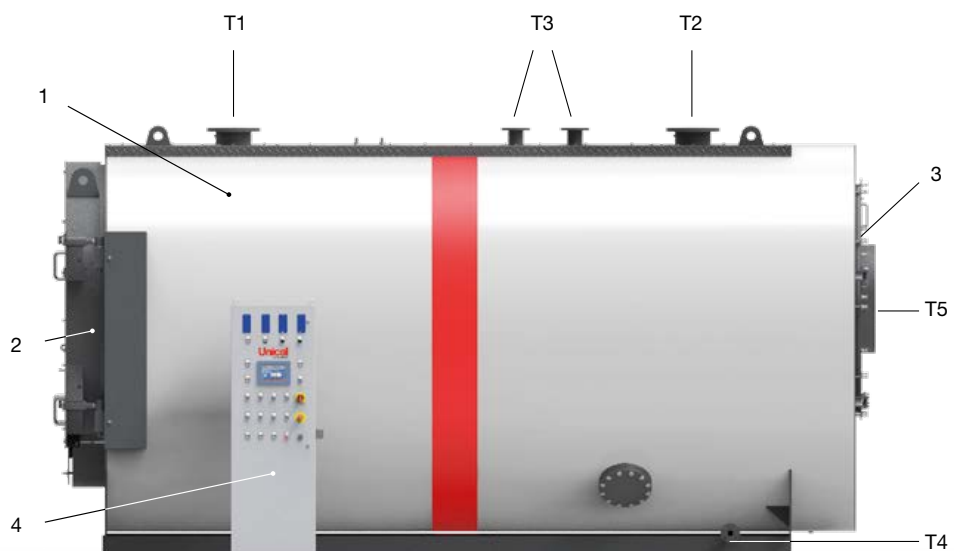
Optional components:

- Economizers for the recovery of the residual heat of the fumes leaving the boiler, available in the versions for gas or light oil.
- Condensers for the recovery of the latent heat of the fumes leaving the boiler, available only in the gas versions.
- Other accessories: see from page. 16

MAIN COMPONENTS

1. Boiler body
2. Front doors
3. Rear smoke chamber
4. Electric panel board

- T1. Flow
T2. Return
T3. Expansion vessel connection
T4. Boiler drain
T5. Chimney connection



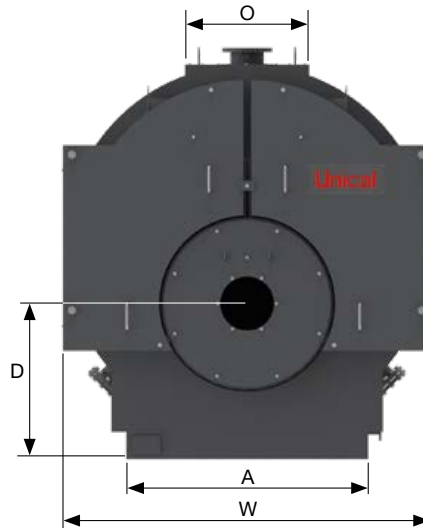
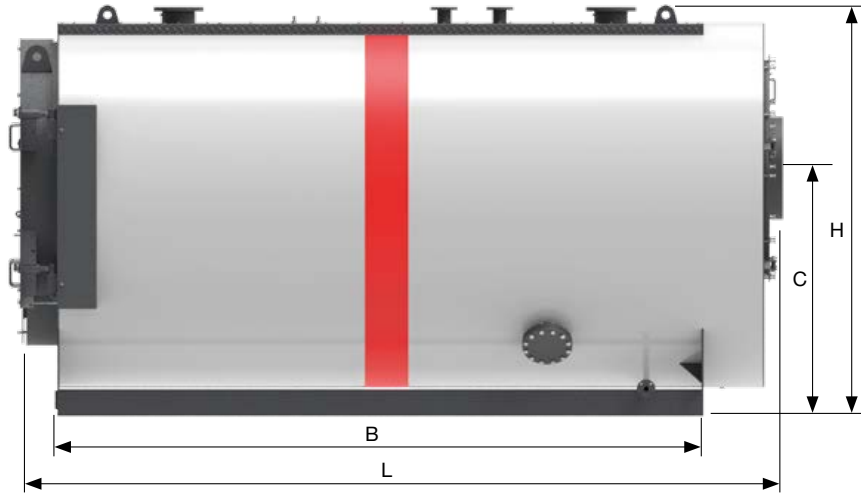
TECHNICAL DATA

TERNOX D 2P	Nominal output	Nominal input	Efficiency at full load	Water content	ΔP smoke side	ΔP water side	Empty weight	CONNECTIONS (\varnothing)			
	kW	kW	%	l	mbar	mbar	kg	T1/T2 \varnothing mm	T3 \varnothing mm	T4 \varnothing mm	T5 \varnothing mm
2000	2000	2174	92	5400	5.5	50	6200	150	50	1"	504
2500	2500	2717	92	5700	5.5	75	6500	150	50	1"	504
3000	3000	3261	92	7000	6	70	8900	200	65	1"	504
4000	4000	4348	92	10800	7	135	10800	200	65	1"	604
4600	4600	5000	92	11100	8	170	12000	250	65	1"	604
6000	6000	6522	92	12450	10	130	14400	250	80	1"	704
7000	7000	7609	92	17200	11	150	16800	250	100	1"	704
8000	8000	8696	92	18500	11.5	210	19400	300	100	50	804
10000	10000	10870	92	19800	12.5	190	24600	300	100	50	904
13000	13000	14130	92	24800	14	250	30900	350	125	50	1004
15000	15000	16304	92	27500	16	250	36800	400	125	50	1004
18000	18000	19565	92	32800	17	250	43300	400	125	50	1104
20000	20000	21739	92	34500	19	300	47400	500	150	50	1204
22000	22000	23913	92	36200	22.5	300	51200	500	150	50	1204

PRODUCT PLUS VALUES

- FLEXIBILITY**
 thanks to the certification in output range
- LOW EMISSIONS $NO_x < 80$ mg/kWh**
 thanks to the reduction of the specific thermal load for Low NO_x version and in combination with low-emission burners (available on request)
- EMISSIONS $NO_x < 50$ mg/kWh**
 in combination with burners equipped with flue gas recirculation (FGR)
- TWO FRONT DOORS**
 tube bundles cleaning facility
- TWO HAND HOLES**
 for easier inspection
- DOOR INTERNAL INSULATION**
 in super light recyclable refractory concrete
- BODY INSULATION**
 with anti-tearing mineral wool mattress (100 mm)
- BOARD PANEL OR ELECTRICAL CABINET**
 thermo-mechanical or electronic
- POSSIBLE COMBINATION**
 with one/two stage or modulating burners, operated on gas/LPG, light oil or heavy oil
- EASY TRANSPORTATION**
 thanks to the upper lifting lugs and the strong frame side members

DIMENSIONS



TERNOX D 2P	W	L	H	A	B	C	D	O
	mm	mm	mm	mm	mm	mm	mm	mm
2000	2030	4274	2364	1250	3372	1760	926	1000
2500	2030	4474	2364	1250	3572	1760	926	1000
3000	2170	5005	2500	1310	4100	1850	1080	1000
4000	2430	5377	2763	1570	4475	2100	1080	1000
4600	2610	5410	2973	1700	4614	2000	1165	1000
6000	2610	5910	2973	1700	4814	2000	1165	1000
7000	2970	5824	3300	1915	4882	2100	1250	1000
8000	2970	6174	3300	1915	5332	2100	1250	1000
10000	2970	6524	3300	1915	5582	2200	1250	1120
13000	3326	7423	3766	2510	4726	2460	1434	1420
15000	3440	8106	3900	2600	5410	2540	1504	1420
18000	3596	8550	4000	2600	5850	2460	1476	1420
20000	3596	8900	4000	2600	6200	2460	1476	1420
22000	3596	9250	4000	2600	6550	2460	1476	1420

The company reserves the right to modify / adapt the technical and dimensional information of the products included in this catalog, even without notice, in order to improve the quality of the products themselves.