BOILTe®
engineered trust

BOILTE TRINITY

FOR THOSE WHO MEASURE HEAT IN MEGAWATTS

POWER: 1000–20000 kW
TEMPERATURE: up to 115°C
PRESSURE: 10 bar

Boilte Trinity

FUEL: GAS / DIESEL / HEAVY FUEL OIL / HEATING OIL / WASTE OIL

Absolute power for maximum loads

When it comes to heating large industrial complexes, residential districts, or strategic facilities, solutions of a different level are required. Industrial gas-fired boilers Boilte Trinity are the flagship series, created for tasks where measurement is in megawatts, and reliability is an unconditional requirement. These are not just boilers – they are central heating stations in a compact housing, setting new standards for efficiency and durability.

The key advantage: The three-pass design as a benchmark of reliability and efficiency. Three consecutive passes of flue gases ensure almost complete transfer of thermal energy to the water.

The core feature of Trinity: it is the flagship series, created for tasks where measurement is in megawatts, and reliability is an unconditional requirement. Choosing a gas-fired boiler Boilte Trinity means making a strategic investment in the basic infrastructure of your enterprise for decades to come.

Fuel flexibility: Capability to operate on natural gas, diesel fuel, heavy fuel oil, light fuel oil, and waste oil. This is strategic flexibility, allowing you to instantly respond to changes in the energy market and ensure uninterrupted operation.

Key advantages (6 reasons to choose Trinity)

1. Power range – from 1000 to 20000 kW. Covers the needs of the largest production facilities, logistics hubs, or residential districts.
2. Record efficiency up to 96% – the three-pass gas-tube design maximises the flue gas path, extracting almost all heat from them. Every percentage point of efficiency means significant fuel-cost savings each heating season.
3. High operating pressure up to 10 bar – capability for integration into high-pressure complex heating and steam supply systems.
4. Heat transfer fluid temperature up to 115°C – guaranteed compliance with temperature schedules for any modern heating and DHW systems.
5. Three-pass design with internal turning chamber – three consecutive passes of flue gases ensure maximum heat transfer. The combustion chamber is centrally located.
6. Unprecedented reliability – cylindrical pressure components and proper distribution of thermal loads minimise thermal stresses, extending the unit's service life many times over.

Engineering excellence: monolithic integrity confirmed by protocols

The reliability of the Trinity boiler begins at the molecular level. Our production philosophy is to create not a welded structure, but a monolithic product with controlled reinforced joint zones.

- Structural identity. We create a fine-grained structure in the weld zone identical to the base metal, guaranteeing isotropy of mechanical properties and eliminating weak points. Precise selection of welding materials ensures identical expansion coefficients, eliminating local overstressing during thermal cycling (start-ups and shutdowns).
- Zero defect tolerance. Every critical weld undergoes validation by radiography and ultrasonic testing. We do not allow pores, lack of fusion, or zones with brittle phases. Quality is confirmed not visually but by quantitative metrological data in the protocols.
- Cyclic endurance. The design for compensation of thermal stresses during starts and stops prevents fatigue failures characteristic of smaller boilers.

Built-in flexibility for variable loads

Unlike boilers that lose efficiency outside their nominal range, Trinity maintains stable performance across a wide operating window (30–100% load). The three-pass gas-tube design, combined with a fully modulating burner and PID control logic, allows the boiler to follow load changes smoothly without stepwise fluctuations. This is critical for facilities with highly variable daily or seasonal heat demand, such as district heating networks, where unnecessary cycling is eliminated and thermal inertia is minimised.

Robust casing and low surface temperature

The Trinity casing is designed with a rigid, vibration-damped outer shell and a dense, non-combustible mineral wool insulation layer of sufficient thickness to reduce external surface temperature to below 45°C even

at full load. This not only eliminates the need for additional protective barriers in most installations but also significantly reduces standby heat losses, contributing to the boiler's overall net efficiency.

Fields of application

- Large industrial enterprises. Chemical, metallurgical, engineering, food processing plants – process heat and workshop heating.
- District heating and municipal utilities. Heat supply for residential neighbourhoods, housing complexes, social facilities.
- CHP plants and generation facilities. Peak-load hot water boilers, backup sources.
- Large greenhouse complexes. Year-round heat supply with high reliability.
- Logistics hubs and warehouses. Heating of huge areas with high ceilings.

Technical specifications

Model, Trinity	Power, kW**	Efficiency, %	Boiler resistance, mbar	Water volume, L	Flue gas flow, m^3/h	Gas consumption, m^3/h	H, mm	B, mm	L, mm	Dry weight, kg
1000	1000	93,4	5,4	2030	0,46	102	1842	1550	3091	3204
1500	1500	93,1	5,1	2980	0,66	161	1842	1550	3491	3605
2000	2000	93,1	4	2980	0,87	218	2126	1800	3829	4860
2200	2200	92,9	5,1	3160	0,96	239	2126	1800	3929	5060
2500	2500	93,6	7	3380	1,09	271	2126	1800	4229	6350
3000	3000	94,0	6,4	4410	1,31	327	2346	2000	4529	6720
3200	3200	94,4	7,6	4740	1,4	352	2346	2000	4729	7030
3500	3500	94,8	9,8	5590	1,42	382	2346	2000	4929	7220
4000	4000	94,4	7,6	6280	1,81	438	2610	2230	5128	8870
4500	4500	94,1	10	6680	2,03	491	2610	2230	5130	9845
5000	5000	92,2	5	6850	2,13	549	2690	2300	5088	10515
5500	5500	93,2	9,5	7250	2,32	606	2690	2300	5328	10847
6000	6000	92,8	7,7	7990	2,58	658	2690	2300	5528	12515
6500	6500	92,4	4,8	8250	2,83	711	3073	2640	5580	13573
7000	7000	92,5	5,8	8470	3,01	771	3073	2640	5790	13580
7500	7500	92,4	7,9	8990	3,23	822	3073	2640	5990	14302
8000	8000	92,4	7,4	9870	3,41	879	3140	2780	6067	16443
8500	8500	92,9	8,1	10850	3,72	933	3140	2780	6160	17302
9000	9000	92,5	9,8	11840	4,04	987	3200	2780	6460	18031
10000	10000	94,4	12,1	12880	4,25	1112	3200	2780	6867	20357
11000	11000	93,7	8,4	14120	4,99	1208	3565	3060	6770	20843
12000	12000	93,8	10,3	16730	5,27	1321	3565	3060	6970	21028
13000	13000	93,9	12,5	17940	5,73	1433	3565	3060	7170	21989
14000	14000	93,8	10,8	18570	6,05	1544	3600	3100	7760	22889
15000	15000	93,9	12,8	20890	6,52	1648	3600	3100	7960	26751
16500	16500	95,1	16,1	21630	7,19	1811	3600	3100	8265	28051
18000	18000	93,8	15,6	24790	7,59	1982	3850	3320	8570	29398
20000	20000	94,5	14,8	25930	8,47	2211	3850	3320	8670	31227

**Power: The values shown correspond to operation on methane (natural gas). When using diesel fuel or heavy fuel oil (mazut), a power adjustment (reduction) may be required in accordance with design standards and fuel-specific calculations.
Boilte reserves the right to modify dimensions and design without prior notice.
Dimensional tolerance: ±0.1–0.2% for all Boilte equipment.

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