



BOILTE CORE DUO

**TWO BOILERS IN ONE MODULE.
FULL REDUNDANCY**

POWER: 140–2000 kW
TEMPERATURE: up to 115°C
PRESSURE: 6 bar



Boilte Core Duo

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

The ideal solution for your boiler room

Twin steel boilers Boilte Core Duo are a ready-to-use technological complex where two fire-tube boilers of the Core series are combined into a single vertical energy module. A solution for designers and technical directors who need to increase thermal power without expanding the boiler room footprint.

The key advantage: Full fault tolerance. Two boilers in one module – an N+1 mutual redundancy system. The technological cycle is protected from the commercial risks of downtime.

The core feature of Core Duo: vertical binary arrangement. Two independent thermodynamic circuits in a common load-bearing frame with unified piping. Specific power per unit area increases dramatically.

Maximum efficiency through adaptive control

A cascade controller based on a PLC provides:

- Dynamic load distribution between modules (operation in the maximum efficiency zone of each boiler)
- Rotation of the lead module (equalizing runtime and service life)
- Flexible heating schedules with energy savings of up to 25%

Engineering excellence: calculated reliability, not empirical

- Finite element analysis of thermal and mechanical stress distribution
- Thermo-hydraulic calculation of combustion chamber geometry and convective tube bundle
- Non-destructive testing of welded joints with full traceable reports

Key advantages (6 reasons to choose Core Duo)

1. Wide power range – from 140 kW to 2 MW for medium and high energy demand facilities.
2. Fuel flexibility – compatibility with dual-fuel and combination burners. Protection against energy price volatility.
3. Fuel savings up to 25% – PLC-based cascade weather-compensated control with dynamic load distribution.

4. Heat transfer fluid parameters – 60–115°C, pressure up to 0.6 MPa (6 bar) for closed heating systems.
5. Compact footprint – vertical modularity. Installation in tight and expensive spaces.
6. Full redundancy – failure of one module does not stop heat supply. Continuous process operation.

Standard scope of supply

1. Pre-insulated block casing (mineral wool + steel cladding)
2. Front removable door with adjustable hinges (opens to either side)
3. Rear door (smoke chamber) bolted design
4. Turbulators for fire tubes (full set)
5. Lifting lugs for crane installation
6. Flame inspection port with heat-resistant glass
7. Hydraulic connections: flow, return, drain
8. Flame inspection port with heat-resistant glass
9. Passport, instruction manual, certificates, warranty card

Note: Burners, pump group, and PLC automation are selected separately according to your technical specifications.

Intelligent load forecasting

The PLC-based cascade controller not only responds to current heat demand but also uses predictive algorithms. By analyzing external temperature trends and historical load patterns, the system pre-emptively adjusts the operating mode of each boiler. This prevents inefficient short-cycling, reduces mechanical wear on start-up components, and further improves seasonal efficiency by 5–7% compared to reactive control systems.

Unified hydraulic module with minimal pressure losses

The Core Duo piping system is engineered with a common hydraulic manifold that ensures equal flow distribution to both boilers regardless of their individual firing rates. Specially calculated pipe diameters and streamlined internal geometry reduce local hydraulic resistance. This allows the use of smaller circulation pumps (up to 15% less power) without compromising performance, cutting electricity consumption for pumping and simplifying the overall hydraulic design.

Silent operation and vibration damping

The twin-boiler arrangement on a single rigid frame with integrated vibration dampers significantly reduces structural vibration transmission to the building foundation. The double-layer casing with mineral wool insulation acts as an acoustic barrier. As a result, Core Duo operates with lower noise levels than two separate single-boiler installations, making it suitable for roof-mounted and built-in boiler rooms adjacent to occupied spaces.

Fields of application

- Industry. Chemical, metallurgical, food, woodworking industries – process heat for production.
- Energy. Peak and backup sources in heating schemes, mini-CHP, small distributed generation boiler plants.
- Commercial infrastructure. Large shopping centres, hotel complexes, business centres.
- Social infrastructure. Hospital complexes, educational clusters, swimming pools, sports facilities.

- Housing and utilities. Heating and DHW for multi-storey residential complexes, neighbourhoods, cottage settlements.
- Agriculture. Greenhouse complexes, grain dryers, livestock farms, poultry farms, mushroom cultivation facilities.

Why choose Boilte Core Duo?

- Lifetime warranty on the heat exchanger and main load-bearing components – an unconditional manufacturer's obligation, legally confirmed.
- Full certification package (GOST, TR EAEU, EN, optionally ASME, PED) for trouble-free commissioning and inspection by any regulatory authority.
- Factory pre-integration – you receive a ready-to-install module, not a set of components for on-site assembly. Installation time reduced by 2–3 times.
- Documented quality – every welded joint has a test report. Full traceability of materials and operations.
- Engineering support at every stage – selection, site supervision, commissioning, start-up, staff training, and ongoing service.

Technical specifications

Model, Core Duo	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
70/70	140	92,11	0,3	240	302,82	16,33	1984	1168	983	632
100/100	200	92,12	0,4	280	343,10	22,55	1984	1238	983	664
150/150	300	92,02	1,2	340	514,06	36,56	1984	1353	983	725
200/200	400	92,14	2,5	400	681,34	42,95	1984	1468	983	781
250/250	500	92,11	4,6	640	854,66	54,34	1984	1718	983	906
300/300	600	92,13	3,1	720	1025,56	64,81	2232	1724	1158	1271
350/350	700	92,11	4,6	870	1217,35	76,51	2232	1824	1158	1338
400/400	800	92,11	5,6	980	1433,68	86,90	2232	1924	1158	1406
500/500	1000	92,12	4,8	1060	1709,40	108,69	2483	2022	1244	1692
600/600	1200	92,12	6,9	1240	2023,14	130,47	2473	2324	1244	1934
700/700	1400	92,12	5,7	1700	2406,66	144,03	2473	2474	1244	2107
800/800	1600	92,12	3,9	1810	2823,44	176,58	3208	2186	1494	2791
900/900	1800	92,11	5,1	2010	3177,32	193,59	3208	2286	1494	2905
1000/1000	2000	92,11	6,7	2430	3730,81	216,38	3208	2486	1494	3145

****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.

BOILTE[®]
engineered trust

