

**Integrated
Solutions**



A



**Output up to
104.5%**

From 20 kW up to 450 kW



Rebuild the future!

**TORRENT**[®]
Cast Iron Boilers

New generation high efficiency boilers

New generation **TORRENT** boilers meet the most recent regulations, both in terms of **fuel oil** as well as **natural gas**, while the product range ensures energy saving and high performance. A boiler's efficiency is rather important for reducing consumption and energy saving. New generation **TORRENT** boilers are suitable both for new installations, as well as for improving/upgrading existing installations.

New generation **TORRENT** boilers meet all requirements and are available from **20kW** up to **450kW**, in four different models, **Sun, Galaxy, Matrix & Star**.



“According to research conducted in the United Kingdom, 22 million households consumed 380 TWh for heating and warm water with fuel oil and gas boilers, while if condensing boilers had been used, a saving of up to 57 TWh per year could have been achieved, while reducing carbon dioxide (CO₂) emissions by 13 million tonnes per year.”¹

¹<http://www.energyadvisoryassociates.co.uk/resources/facts-and-figures/>

High efficiency, energy and cost saving

- ✓ Certification according to ErP 2015, Conformance to the new European Regulations
- ✓ Maximum fuel efficiency
- ✓ Environmentally friendly
- ✓ Rated efficiency over 104%
- ✓ High performance in affordable and competitive prices



Environmental awareness, stability and reliability

- ✓ Fuel oil saving up to 12% and 16% using gas, while protecting the environment.
- ✓ Reduced carbon dioxide (CO₂) emissions, sulfur dioxide (SO₂) reduced up to 80% and nitrogen oxides (NO_x) up to 50%, all pollutants responsible for damaging forest via acid rain.
- ✓ Manufactured in Europe, where environmental standards are more strict and fuel prices are higher, they provide high efficiency and a consistent, reliable solution that **lasts a lifetime**.

**TORRENT**[®]
Cast Iron Boilers

Reliable boilers with **MAXIMUM** energy efficiency

Boiler design, sturdy and user-friendly

- ✓ Easy, fast installation and low operational cost.
- ✓ **GG20 quality cast iron boiler (body)** according to DIN 1691 and three complete exhaust gas routes in every element.
- ✓ **Fins**, their design increases heat exchange surface when operating in low temperatures.
- ✓ The **door of the combustion chamber** can be opened both left and right, in order to facilitate access for cleaning and maintenance.
- ✓ **Resistance to thermal shock** as it has been designed and manufactured with cast iron with elastic properties and extremely high resistance to mechanical stress.
- ✓ Excellent **thermal insulation with ceramic blanket**, between 50mm and 90 mm, ensuring lower heat loss to the environment and increasing boiler efficiency.
- ✓ All models are suitable for use with **fuel oil or gas**
- ✓ Long-term durability
- ✓ **10 year guarantee**

	Seasonal efficiency up to 94%	Class A
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TORRENT boilers have been designed and developed in order to achieve maximum resistance and high thermal efficiency, according to German specifications DIN 1691 & DIN 4702, European Standards EN 304, EN 303-1, EN 303-2 & EN 303-3, as well as European Regulations 811/2013 for Directive 2010/30/EU & 813/213 for Directive 2009/125/EC.



From September 26th, 2015, directive Ecodesign, also known as ErP, has been in effect in the EU, according to regulations 811,812,813 and 814/2013, as well as directives 2009/125/EC and 2010/30/EU of the European Commission. This directive aims at reducing energy consumed for heating and pollutants emitted, as well as proving complete and clearer information to the consumer regarding the performance of the heating products. According to the aforementioned directive, **convective boilers can still be used in existing heating installations, as well as for the replacement of identical boilers.** However, new generation, highly energy-efficient boilers must be used in new installations.



Condensation and exchangers

(only for TORRENT Condensing boilers)



TORRENT Condensing boilers take advantage of latent heat by liquify vapors present in exhaust gasses, thus achieving high efficiency.

Condensing boilers must include an exchanger.

What is condensing technology?

Taking advantage of condensing technology begins with the condensing of vapors in exhaust gas, a procedure that starts when exhaust gas temperature falls under approx. 57°C for natural gas, or approx. 47°C for fuel oils.

This condensing boiler technology aims at reducing exhaust gas temperature as lower as possible below condensation temperatures - also known as "dew point", i.e. "cooling" them in order to maximize energy saving by utilizing the cold water return of the heating circuit, either via a suitable combustion chamber or via an exterior exchanger.

We do know that the vapors produced contain heat energy. Thus, through the TORRENT heat exchanger and depending on the temperature of the returning exhaust gases of the heating circuit, the exhaust gas temperature is lowered close to the dew point (approximately 50°C).

Exchanger technical characteristics

Type	Nominal power		Water pressure drop under full load (max) mbar	Exhaust gas pressure drop under full load (max) Pa	Water content lt	Operating pressure bar	Length x Width x Height mm	Exchanger output mm	Weight kg
	min	max							
K-energy (INOX 316L) - 70117									
K-energy 1	20	70	-		46.0	4	Φ340x950	150	48
K-energy 2	80	130	-		72.0		Φ420x950	200	60
K-energy 3	140	250	-		114.0		Φ520x950	250	74
K-energy 4	300	400	-		165.0		Φ620x950	300	95
TORRENT Glass (Borosilicate glass) - 70116									
Glass 28	15	28	49	31	3.3	3	442x374x429	80	11
Glass 50	30	50	53	35	6.5		513x409x560	110	19
Glass 75	60	75	98	45	7.5		567x509x560	110	22
Totaleco (INOX 316L) - 70118									
Totaleco 1	95	170	25	30	22.0	4	538x770x995	200	135
Totaleco 2	150	260	50	30	27.0		538x965x1080	200	160
Totaleco 3	230	400	100	30	34.0		538x1245x1175	250	190
Totaleco 4	350	620	75	170	40.0		538x989x1400	300	205

Exchangers have an adjustable mount: 20 cm - 30 cm for TORRENT Glass, 0 - 10 cm for Totaleco & 15 cm - 80 cm for K-energy.

K-energy models include an Inox II wall T-piece & a cleaning cap.

The research and development department of TORRENT boiler industries has looked into and selected the following exchangers for our boilers:

K-Energy Inox Exchanger

3
year
guarantee

Suitable for **23 kW** up to **2300 kW** boilers.

Made entirely of stainless steel (mainly body and gas routes), for greater resistance against corrosion caused by condensates. Includes:

- ✓ **Exterior thermal insulation for maximum efficiency**
- ✓ **Three exhaust gas routes for maximum efficiency**
- ✓ **Three height-adjustable legs for easy connection.**
- ✓ Also provided in **larger dimensions** for compatibility with boilers up to **2300kW**
- ✓ **3 year guarantee**



TORRENT Glass Exchanger

5
year
guarantee

Suitable for **20.5 kW** up to **71.0 kW** boilers.

Consists of 30 to 50 **DURAN borosilicate glass tubes**, with or without integrated vacuum fan, which:

- ✓ **is extremely resistant** to corrosion, acids and combustion residues, this provides an **increased life cycle**.
- ✓ **Reduces noise level up to 10dB** and, thus, in time the sound of the boiler is reduced further, as do fuel and pollutants.
- ✓ **Includes an adjustable mount for easy installation.**
- ✓ **is made of durable materials**, such as glass and plastic, hence requiring **almost no maintenance**.
- ✓ **5 year guarantee**



Totaleco Inox Exchanger

3
year
guarantee

Suitable for **88.0 kW** up to **400.0 kW** boilers.

- ✓ **Made of high quality materials**, such as stainless AISI 316 L steel-chromium-nickel-molybdenum alloy, with high resistance to corrosion, even in an acidic environment. Exhaust gasses pass through a series of pipes made of smooth stainless steel, where their temperature is reduced and vapors are condensed.
- ✓ **Includes high-quality 40 mm mineral wool insulation** and a cover with superior-quality oven paint, which contribute to its **maximum efficiency and resistance**.
- ✓ **Includes an adjustable mount for easy installation.**
- ✓ **3 year guarantee**



Control Panels

New generation **TORRENT** boilers offer a wide selection of control panels, which ensure full control and safe operation, according to the needs of each individual heating installation. Control panels are certified according to European specifications EN 60730-1:1993 and EN 60730-2-1:1989.



One-stage control panel

Provides full control and safe operation at low cost. Includes two distance thermostats (for the burner and the circulator) with operation indicators, a safety thermostat, a thermometer and an on-off switch with light indicator.



Two-stage control panel

Includes all necessary equipment for full control and safe operation of the heating installation, in two-stage partial or full operation. Includes integrated hour meters and exhaust gas and water thermometers, as well as an overheating test switch, in order to meet most needs.



Comfort Control Panel

Provides central heating control with environmental temperature compensation, by directly acting on the boiler via an ON-OFF control switch. Moreover, it provides scheduling features with 6 special time periods, as well as an ECO/NIGHT function for even more cost efficient operation. Can be connected with up to three inlet sensors, providing the ability to take advantage of dynamically variable energy sources, such as fireplaces, solar collectors, etc.



Super Comfort Control Panel

Provides central heating control with environmental temperature compensation, by acting on a three-way or four-way progressive mode valve, or directly on the boiler. It also provides scheduling features with 6 special time periods, as well as an ECO/NIGHT function for even more cost efficient operation. Can be connected with up to three inlet sensors, providing the ability to take advantage of dynamically variable energy sources, such as fireplaces, solar collectors, etc.

Type No. of elements	Weight	Water content	Boiler length	Nominal power according to ErP 2015	Maximum power output according to EN 303-2 ¹	Totaleco Exchanger, INOX 316L	TORRENT Glass Exchanger	K-energy Exchanger
	kg	lit		kW	kW	Type	Type	Type
SUN								
SUN 3	141	12.0	455	20.5	36.63	-	No. 28	No. 1
SUN 4	170	16.0	555	30.0	47.98	-	No. 50	No. 1
SUN 5	199	19.0	655	40.2	59.55	-	No. 50	No. 1
SUN 6	226	23.0	755	56.0	71.06	-	No. 75	No. 1
SUN 7	256	25.0	855	70.0	81.21	-	No. 75	No. 1
GALAXY								
GLX 3	172	17.0	540	30.0	44.46	-	No. 50	No. 1
GLX 4	212	23.0	661	40.0	58.73	-	No. 50	No. 1
GLX 5	249	29.0	782	57.0	72.67	-	No.75	No. 1
GLX 6	290	35.0	903	71.0	86.75	-	No. 75	No. 1
GLX 7	330	41.0	1024	88.0	106.04	No. 1	-	No. 2
GLX 8	369	47.0	1145	105.0	125.49	No. 1	-	No. 2
MATRIX								
MTX 5	529	67.0	925	135.0	150.50	No.1	-	No. 3
MTX 6	610	80.0	1055	170.0	191.90	No. 2	-	No. 3
MTX 7	863	93.0	1185	205.0	230.60	No. 2	-	No. 3
MTX 8	760	106.0	1315	240.0	266.90	No. 2	-	No. 3
MTX 9	834	119.0	1445	270.0	302.40	No. 3	-	No. 4
MTX 10	907	132.0	1575	305.0	337.30	No. 3	-	No. 4
STAR								
STAR 6	726	73.0	998	196.0	217.44	No. 2	-	No. 3
STAR 7	832	85.0	1131	249.0	276.84	No. 3	-	No. 3
STAR 8	931	97.0	1264	302.0	336.04	No. 3	-	No. 4
STAR 9	1.029	109.0	1397	361.0	401.48	No. 3	-	No. 4
STAR 10	1.127	121.0	1530	408.0	453.48	No. 4	-	No. 4
STAR 11	1.225	138.0	1663	450.0	500.00	No. 4	-	No. 4

Seasonal efficiency up to 94%.

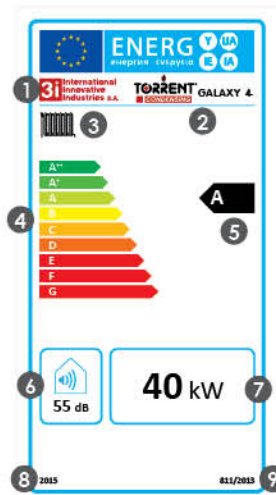
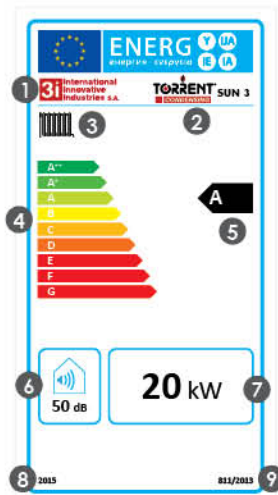
Operating pressure: Sun 3 bar, Galaxy/ Matrix/ Star 4 bar.

For optimal performance with TORRENT condensing boilers, we suggest using Comfort or Super Comfort control panels with compensation.

Boiler width x height (mm): Sun 480x760, Galaxy 520x880, Matrix 770x1168 & Star 818x1028.

¹For use only for the replacement of boilers in existing installations.

Label instructions



1. Manufacturer
2. Trademark, boiler model & type
3. Heating function
4. Energy rating
5. Energy class
6. TORRENT boiler noise level
7. TORRENT boiler heat output
8. Regulation validity date
9. Directive No.



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