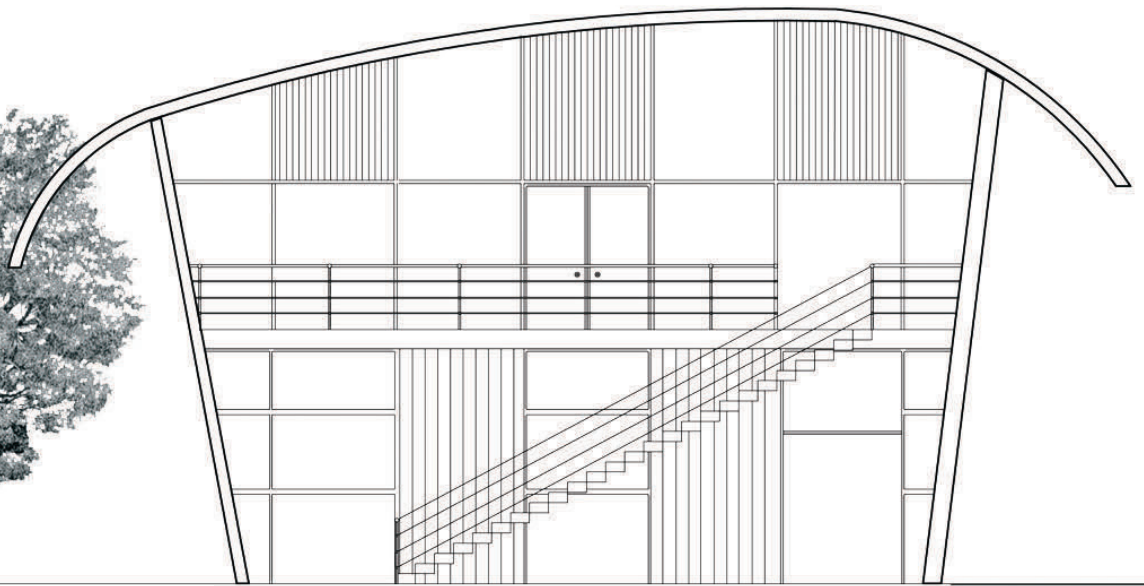


SOLAR  
SOLID FUEL  
HEAT PUMPS  
CONDENSING OIL/GAS

# C230-C330- C630 Eco

G A S C O N D E N S I N G B O I L E R S

PROJECT



## Commercial condensing boilers

- >> Service friendly and energy saving boilers
- >> High precision of the gas burner system
- >> Small footprint

<< [www.dedietrich-heating.com](http://www.dedietrich-heating.com) >>

**De Dietrich**   
*Sustainable Comfort®*



## >> ENERGY SAVINGS AND ENVIRONNEMENT ARE TOP PRIORITY

Whether used in apartment, administrative or office buildings, the condensing technology makes it possible to achieve substantial energy savings: **up to 40%**.  
NO<sub>x</sub> and CO<sub>2</sub> emissions are clearly reduced at the lowest level.

## << I HAVE INSTALLATION CONSTRAINTS >>

System focused technology

- Light weight  
**188 kg for 217 kW**

(for the C230 Eco)

- Very compact  
**footprint 0.54 m<sup>2</sup> for 217 kW**

(for the C230 Eco)



## << I HAVE TO FACE NEW ENVIRONMENTAL REGULATIONS >>

High performances

- Nox emissions  
**less than 60 mg/kWh**

- Noise level  
**from 57 to 63 dB(A) for 350 kW**

- Modulation  
**from 15 to 100%**  
(for the C630 Eco)



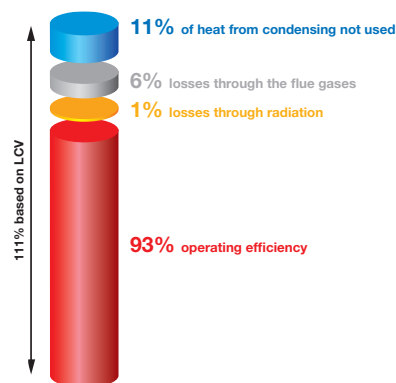
## << CONDENSING SYSTEMS ARE ON THE CUTTING EDGE OF CURRENT BOILER TECHNOLOGY >>

**Aluminium silicium: a perfect compound for optimal generator operation.**

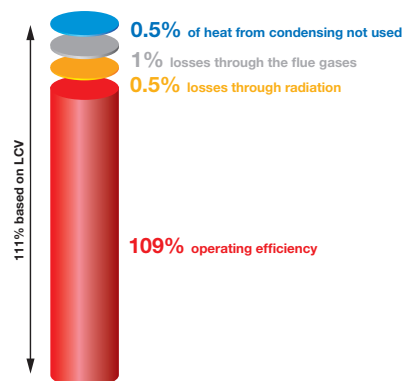
- Unmatched chemical resistance: aluminium silicium is resistant to the acid condensates which are a product of flue gases. Highly resistant to corrosion thanks to auto-passivation on the surface.
- Aluminium is a very good heat conductor (5 times better than steel, for example: heat exchange is therefore optimised).
- Its low weight (3 times lighter than steel) also makes it possible to design boilers which are very easy to manoeuvre.
- High castability of the material allowing complex shapes with large exchange surfaces.
- Lower water volume guaranteeing considerable generator responsiveness.
- An environmentally friendly material. The possibility of recycling this material ad infinitum.

### ENERGY PERFORMANCE

#### LOW TEMPERATURE GAS BOILER



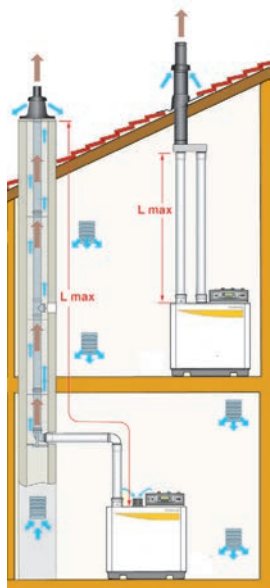
#### GAS CONDENSING BOILER





## >> APPROPRIATE FOR ALL NEEDS

These new range of condensing boilers meets every challenge. They can be adapted to the most varied configurations and their specifications allow to face any installation constraints:



connection examples

- **A broad output range from 18 to 1303 kW** or more in cascade installations
- **A broad modulation capacity** allows to adapt heating production as accurately as possible to the needs of the installation
- **Very compact**, they can be installed both in new buildings and in older buildings where boiler room access may be problematic
- **Their operation is practically silent.** They are in compliance with prevailing acoustic requirements, particularly in residential buildings
- **No minimum return temperature** and no minimum flow required  $< 75^{\circ}\text{C}$
- **Various stove fitting connection options are available with a forced flue** (according to the regulations) and with a chimney with reduced diameter flues.
- **A modulating and evolving regulator** to control the installation's primary circuit and cascades, and as well as the secondary circuits and domestic hot water production (with integrated anti-legionellosis program).

## >> EASY COMMISSIONING

These new condensing boilers offer maximum simplification of handling, installation and commissioning thanks to clever design:

- **As they are very light in relation to their output**, they can be handled easily
- **Fitted with ergonomic handles and/or wheels**, they can be moved around easily. The C330 Eco and C630 Eco models are even fitted with a clever system for lowering them from the pallet: the top part of the packaging acts as a ramp to roll the boiler off the pallet
- **Delivered fully assembled** (body, cladding, control system, etc.), they can be quickly installed and connected
- **Fitted with user friendly colour-coded control systems**, they offer maximum simplification of the electrical connections
- **Delivered preset and tested in the factory**, they can be commissioned simply and quickly
- **Easy dismantling and reassembly of the boiler elements** for greater ease of installation in a confined boiler room.



## >> MULTI-ENERGY SYSTEM SOLUTIONS

### OPERATING PRINCIPLE

Example of two floor standing gas condensing boilers C230 Eco with three mixing valve circuits, DHW plate exchanger circuit with primary storage tank and solar calorifier.

multi-energy  
systems

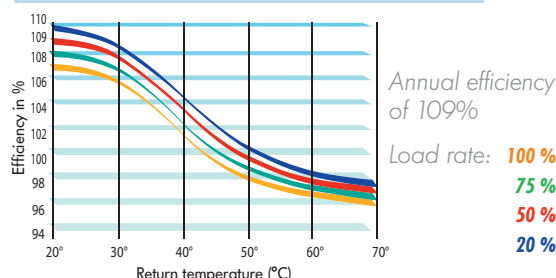
De Dietrich  
Sustainable Comfort®

## >> ECONOMIC AND EASY TO USE

These condensing boilers have been designed for higher sustainable performance, lifetime and easy maintenance:

- **Very high annual operating efficiency** (> 109%) to make significant energy savings
- **Total premix surface combustion burners** which further reduce pollutant emissions (already limited by the principle of condensation). With a very low modulation, shutdowns/start-ups, which are a source of pollutant emissions, are limited to a strict minimum
- **A heating body in cast aluminium silicium, highly resistant to corrosion** and thermal shocks, which provides longer lifetime
- **A self-cleaning heating body** using condensates flowing down, quick access to all components via hatches and removable panels ensures easy maintenance.

CONDENSING BOILER EFFICIENCY CURVE



## >> A TAILOR-MADE CONTROL SYSTEM

Depending on the type of installation, two levels of control are available:

### INICONTROL BASIC CONTROL

For simple needs or in renovation projects with existing control systems: an LCD display for setting the boiler parameters.

### DIEMATIC ISYSTEM HIGH PERFORMANCE CONTROL SYSTEM

For comprehensive management of the primary and secondary circuits based on the Diematic structure, which incorporates all of the intelligence needed for optimal installation management.

#### Diematic iSystem, the intelligent control system

To meet requirements on performance and reduction of energy consumption, the C230-C330-C630 boilers range is fitted with a new generation control system, which is more user friendly and more intuitive: Diematic m3 and Diematic iSystem.

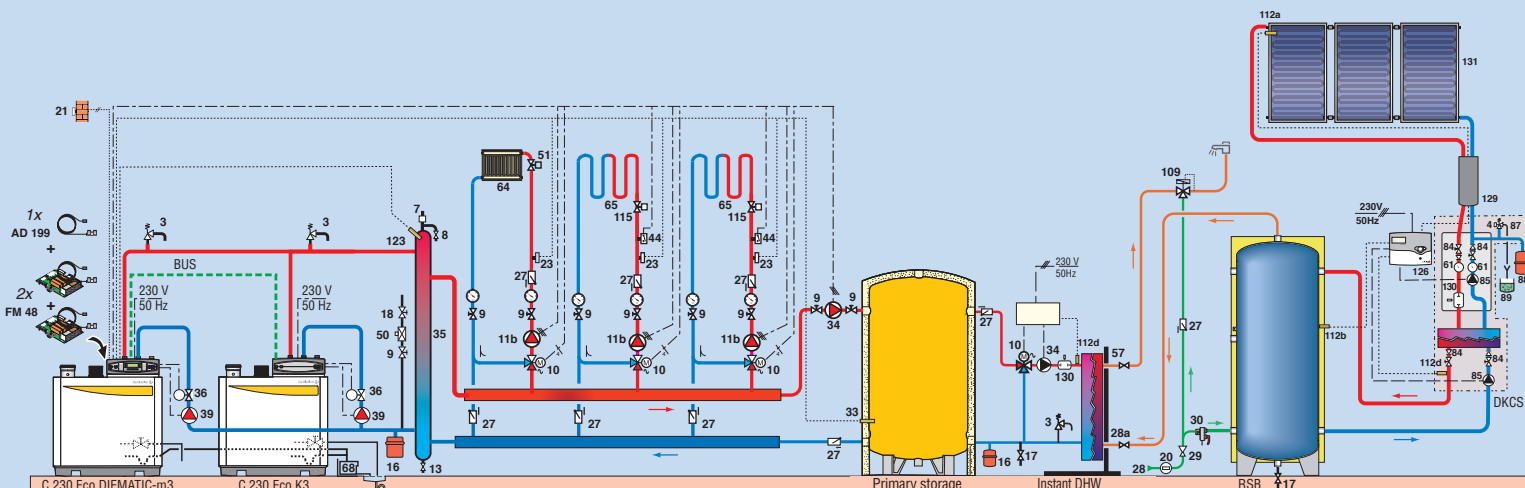
With its integrated control panel, it comes complete with new, more user friendly, faster programming ergonomics, thanks in particular to the replacement of the control buttons by a single rotary turn/push button.

Its new large LCD screen enables quick, intuitive access to:

- An integrated summary of instructions
- A conversational clear text system
- The allocation of names to the circuits and generators
- Handy troubleshooting assistance for maintenance and after sales service

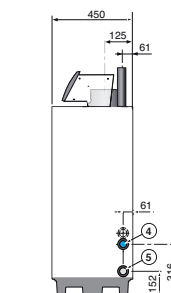
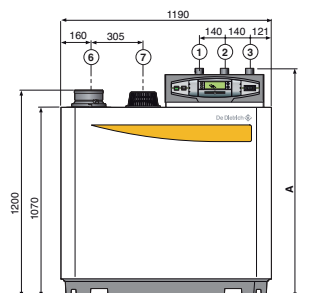
#### A control system designed for the integrated management of multi-energy systems

The multifunction nerve centre of the C230-C330-C630 boilers, the Diematic iSystem control system is fitted with open intelligence capable of managing the diversity of modern heating solutions. By incorporating several heating circuits, it will thus enable you to optimise operation of a combined condensing boiler + solar or condensing boiler + heat pump system.



The **C230 Eco** range consists of floor-standing gas condensing boilers with forced flue or chimney operation and fitted with a Diematic iSystem - iniControl - Diematic m3 or k3 control panel allowing to manage up to 10 boilers in cascade.

## >> C230 Eco - from 18 to 217 kW



- ① Heating outlet
- ② Heating return
- ③ Gas inlet R 1 1/4
- ④ Filling and drainage valve / connection for second return R 1 1/4
- ⑤ Condensates outlet siphon delivered for PVC pipe Ø 32 mm
- ⑥ Flue nozzle Ø 150 mm
- ⑦ Combustive air inlet

	C230-85 ECO	C230-130 ECO	C230-170 ECO	C230-210 ECO
<b>A</b>	1309	1309	1309	1324
①	R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/2
②	R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/2

A heating body in cast aluminium silicium which is highly resistant to corrosion and without constraints on flow or return temperature.

- Condensing, classification \*\*\*\*CE in accordance with European Directive 92/42 EEC
- Maximum operating efficiency: 109%

A cylindrical gas burner with metal fibre coating, with total premix via SMI (Integrated Mixing System), modulating from 18 to 100%.

- Optimal combustion hygiene and minimal NOx and CO emissions
- Low noise level (57 to 63 dBA) max, depending on the model

A very compact boiler: 0.54 m<sup>2</sup> for 217 kWh.

A light boiler: 188 kg for 217 kWh.

Delivered fully assembled and tested in the factory.

- Easy commissioning

A self-cleaning body using condensates run-off between the studs in the exchanger where the flue gases circulate.

A clipped-on front cover for quick access to the burner.

An inspection hatch for quick access to the exchanger.

- Practical access for easy maintenance

The **C330 Eco** and **C630 Eco** ranges consist of floor-standing gas condensing boilers with a single body (C330 Eco) or a double body (C630 Eco), fitted with a control panel allowing to manage up to 10 boilers in cascade.

A heating body in cast aluminium silicium highly resistant to corrosion and without constraints on flow or return temperature.

- Condensing, classification \*\*\*\*CE in accordance with European Directive 92/42 EEC
- Maximum operating efficiency: 109%

A cylindrical total premix gas burner with metal fibre coating, modulating from 20 to 100% (C330 Eco) and 15 to 100% (C630 Eco).

- Optimal combustion hygiene and minimal NOx and CO emissions (NOx < 60 mg/kWh and CO < 20 mg/kWh)
- Low noise level, less than 65 dB(A)

A very compact boiler: 1.53 m² for 651 kWh.

A light boiler: 568 kg for 651 kWh.

Delivered fully assembled and tested in the factory.

- Easy commissioning

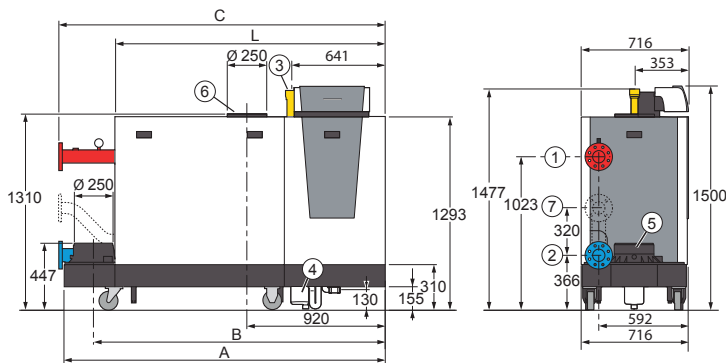
A self-cleaning body using condensates flowing down between the studs in the exchanger where the flue gases circulate.

Removable covers for quick access to the burner.

An inspection hatch for quick access to the exchanger.

- Practical access for easy maintenance

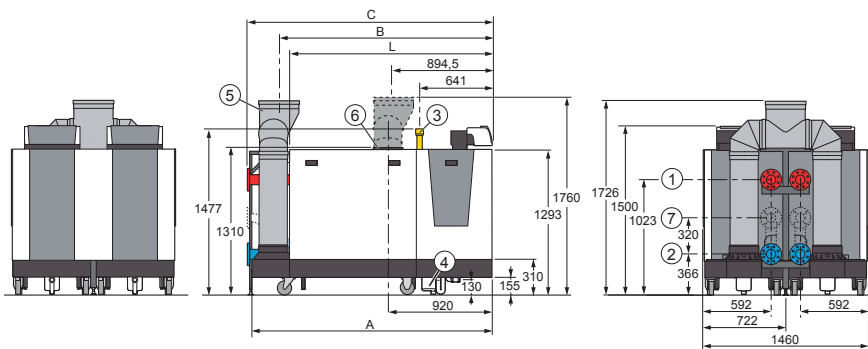
## >> C330 Eco – from 56 to 651 kW



- ① Heating outlet DN 80 (Standard DIN 2576)
- ② Heating return DN 80 (Standard DIN 2576)
- ③ Gas inlet G2" (Female thread)
- ④ Condensates siphon outlet delivered for PVC pipe Ø 32 mm
- ⑤ Flue nozzle Ø 250 mm
- ⑥ Combustive air inlet Ø 250 mm
- ⑦ Second return nozzle DN 65 (optional) (Standard DIN 2576)

	C330-280 ECO	C330-350 ECO	C330-430 ECO	C330-500 ECO	C330-570 ECO	C330-650 ECO
A	1833	1833	1833	2142	2142	2142
B	1635	1635	1635	1944	1944	1944
C	1862	1862	1862	2172	2172	2172
L	1490	1490	1490	1800	1800	1800

## >> C630 Eco – from 74 to 1303 kW



- ① Heating outlet DN 80 (Standard DIN 2576)
- ② Heating return DN 80 (Standard DIN 2576)
- ③ Gas inlet G2" (Female thread)
- ④ Condensates siphon outlet delivered for PVC pipe Ø 32 mm
- ⑤ Flue nozzle Ø 350 mm
- ⑥ Combustive air inlet Ø 250 mm  
Air intake collector (optional) Ø 350 mm
- ⑦ Second return nozzle DN 65 (optional) (Standard DIN 2576)

	C630-560 ECO	C630-700 ECO	C630-860 ECO	C630-1000 ECO	C630-1140 ECO	C630-1300 ECO
A	1582	1582	1582	1892	1892	1892
B	1635	1635	1635	1944	1944	1944
C	1862	1862	1862	2172	2172	2172
L	1490	1490	1490	1800	1800	1800

## C 230 Eco Condensing boiler

Modulation from 20 % to 100 %



### Type of boiler

Max. nominal output at 50/30°C (Pn) (natural gas H)	kW
Efficiency in % LCW	%
on load... % Pn	%
and water temp. ...°C	%
Max. flue gas temperature at 40/30°C	°C
Pressure at boiler outlet	Pa
Floor space	m <sup>2</sup>
Weight empty	kg

85	130	170	210
93	129	179	217
97.4	97.5	97.5	97.6
104.3	104.7	105.2	105.7
107.9	108.1	108.3	108.4
43	43	43	43
130	130	130	130
0.54	0.54	0.54	0.54
115	135	165	188

## C 330 Eco Condensing boiler

Modulation from 20% to 100 %



### Type of boiler

Max. nominal output at 50/30°C (Pn)	kW
Efficiency in % LCW	%
on load... % Pn	%
and water temp. ...°C	%
Max./Min. flue gas temperature	°C
Pressure at boiler outlet	Pa
Floor space	m <sup>2</sup>
Weight empty	kg

280	350	430	500	570	650
279	350	425	497	574	651
98	98.1	98.2	98.3	98.4	98.5
104.8	105.2	105.6	106	106.4	106.8
109	109	108.6	108.3	107.9	107.6
80	80	80	80	80	80
130	120	130	150	150	150
1.31	1.31	1.31	1.53	1.53	1.53
364	398	433	495	531	568

## C 630 Eco Condensing boiler

Modulation from 15 % to 100 %



### Type of boiler

Max. nominal output at 50/30°C (Pn)	kW
Efficiency in % LCW	%
on load... % Pn	%
and water temp. ...°C	%
Max./Min. flue gas temperature	°C
Pressure at boiler outlet	Pa
Floor space	m <sup>2</sup>
Weight empty	kg

560	700	860	1000	1140	1300
558	700	850	994	1148	1303
98	98.1	98.2	98.3	98.4	98.5
104.8	105.2	105.6	106	106.4	106.8
109	109	108.6	108.3	107.9	107.6
80	80	80	80	80	80
130	120	130	130	130	150
2.68	2.68	2.68	3.13	3.13	3.13
707	771	837	957	1025	1095

## A MARK OF EXCELLENCE

For 300 years, De Dietrich's success was based on some key fundamental values: quality, reliability, durability. Through its concern for the environment and for your comfort, De Dietrich has now a comprehensive understanding of the various renewable energies through multi-energy systems that protect the planet. Therefore, heating appliances which bear the De Dietrich name are at the cutting-edge of innovation and have the advantage as they benefit from the commitment and the on-going expertise of their 2400 employees.

*De Dietrich: choosing Sustainable Comfort®*