NANEO S EMC-S

WALL-HUNG GAS CONDENSING BOILERS

**EMC-S 24, 34
EMC-S .. MI**

EMC-S ../BS 80

EMC-S ../BS 130

• **EMC-S 24, 34**
from 6.1 to 35.7 kW, for heating only
• **EMC-S ../BS 80** and **EMC-S ../BS 130**
from 6.1 to 35.7 kW, for heating and hot water production
by associated DHW tank, 80 or 130 litres

• **EMC-S .. MI**
from 6.1 to 35.7 kW, for heating and instant domestic hot
water production (with output up to 37.8 kW in DHW mode)

EMC-S ..: for heating only

EMC-S .. MI or **EMC-S ../BS..:**
Heating and domestic hot water micro-accumulated or
by independent calorifier

Condensing

GAS P All natural gases
Propane

Mounting frame delivered
(prefitted with water/gas valves)

SMART TC ° Compatible room thermostat SMART TC°

A+ WITH ROOM SENSOR + OUTDOOR SENSOR With room thermostat AD301, AD303,
AD304, AD288, AD289, AD324 and
outdoor sensor only

CONDITIONS OF US

boiler:
Max. operating pressure: 3 bar
Max. operating temperature: 90°C
Safety thermostat: 110°C
Power supply: 230 V/50 Hz
Protection index: IP X4D

domestic hot water:
Max. operating pressure: 10 bar

homologation
B_{23} - B_{23P} - B_{33} - $C_{10(3)x}$ - $C_{12(3)x}$ - $C_{13(x)}$ - $C_{33(x)}$ - $C_{93(x)}$
- C_{53} - C_{43x} - $C_{63(x)}$

gas category
Fitted and preset to operate on natural gases.
Adaptable to propane.

Very compact boiler in an innovative design: 368 x 674 x 364 mm and
extremely light.
• Boiler fully equipped: delivered with its complete mounting frame (with
automatic filling valve as an option); control panel with backlit screen and
with very easy to use essential functions that can be completed with various
options enabling much broader installation parameters such as: modulating
room temperature thermostats, connected thermostat SMART TC°.
• Equally suited to new installations and the replacement market.
• Various air/flue gas connection configurations are possible: we offer solu-
tions for connection by horizontal or vertical forced flue, to a chimney, in
twin pipe or to a shared flue system.

De Dietrich
SUSTAINABLE COMFORT®

PRESENTATION

EMC-S .. and EMC-S… MI boilers are delivered fully assembled and factory tested. They come ready to operate on natural gas H; adaptable to propane.
- **EMC-S ..** boilers are factory fitted with a heating/DHW reversal valve for connection to an independent hot water calorifier: 2 types of optional DHW calorifiers are available:
  - 80 litres BMR 80, calorifier to be juxtaposed to the right or the left of the boiler: version EMC-S ../BS 80,
  - 130 litres SRB 130 calorifier to be placed on the floor under the boiler: version EMC-S ../BS 130.
- **EMC-S… MI** are combi boilers and produce large quantities of domestic hot water (*** classification according to the standard EN 13203) thanks to an oversized steel plate exchanger and very reactive electronics.

HIGH LEVELS OF PERFORMANCE

- Efficiency at 30% at 50/30°C up to 109.2%.
- NOx ≤ 50 mg/kWh.
- NOx classification: 6 according to pr EN 15502-1-A1.
- Low noise level.

STRONG POINTS

- Wall-hung gas condensing boiler, fully preset.
- **Boiler of innovative design, very compact:** 368 x 674 x 364 mm, extremely light,
- **Compact exchanger, moulded cast alloy aluminium/silicium** high efficiency.
- **Air/gas module** with gas burner, modulating from **24 to 100%** for a perfect adaptation of boiler output to actual needs, with non return valve to run with pressurised evacuation system, the central unit, the venturi, the fan with air intake silencer and the gas supply pipe.
- **Hydraulic module** integrating the modulating heating pump with high efficiency index EEI < 0.23, the heating/DHW reversal valve, stainless steel plate exchanger for instant domestic hot water production by EMC-S… MI, the 3 bar heating safety valve, the flow limiter, the flow detector for EMC-S… MI…
- 8 litre expansion vessel integrated in the support frame,
- **Mounting frame** with prefitted water and gas valves in brass, disconnector, mechanical manometer, flow collector connecting pipes kit and valve for automatic filling in option **ACTIVE REFILL**.
- **Removable control panel with backlit screen**, located under the boiler, can be deported to the wall, connected to the central unit by BUS. Easy to use, it allows settings via 4 keys.
- Various horizontal or vertical air/flue gas connections (homologation C_{13x} and C_{33x}), twin pipe adapter (homologation C_{53}), or shared flue (homologation C_{43x}) are available as options, see page 14.

MODELS AVAILABLE

MODEL		BOILER	CALORIFIER	BOILER/ CALORIFIER CONNECTION KIT	DHW SENSOR	OUTPUT (KW) (HEATING MODE)	
						at 50/30°C	at 80/60°C
EASYLIFE	EMC-S 24 EMC-S 34 For heating only	HP126 HP132	- -	- -	- -	6.1 - 24.8 8.5 - 35.7	5.5 - 23.8 7.7 - 34.7
	EMC-S 24/BS 80 EMC-S 34/BS 80 For heating and DWH by 80 litres calorifier to be placed at the right or at left of the boiler	HP126 HP132	EE53	HR93	AD226	6.1 - 24.8 8.5 - 35.7	5.5 - 23.8 7.7 - 34.7
	EMC-S 24 /BS 130 EMC-S 34 /BS 130 For heating and DWH by 130 litres calorifier to be placed under the boiler	HP126 HP132	EE81	HR92	AD226	6.1 - 24.8 8.5 - 35.7	5.5 - 23.8 7.7 - 34.7
	EMC-S 24/28 MI EMC-S 30/35 MI EMC-S 34/39 MI For heating and instant domestic hot water production	HP125 HP127 HP124	- - -	- - -	- - -	6.1 - 24.8 8.5 - 31.0 8.5 - 35.7	5.5 - 23.8 7.7 - 29.8 7.7 - 34.7

* With room thermostat AD301, AD303, AD304, AD288, AD289, AD324 and outdoor sensor only

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# TECHNICAL SPECIFICATIONS

DESCRIPTION

EMC-S .. MI

EMCS_Q0006
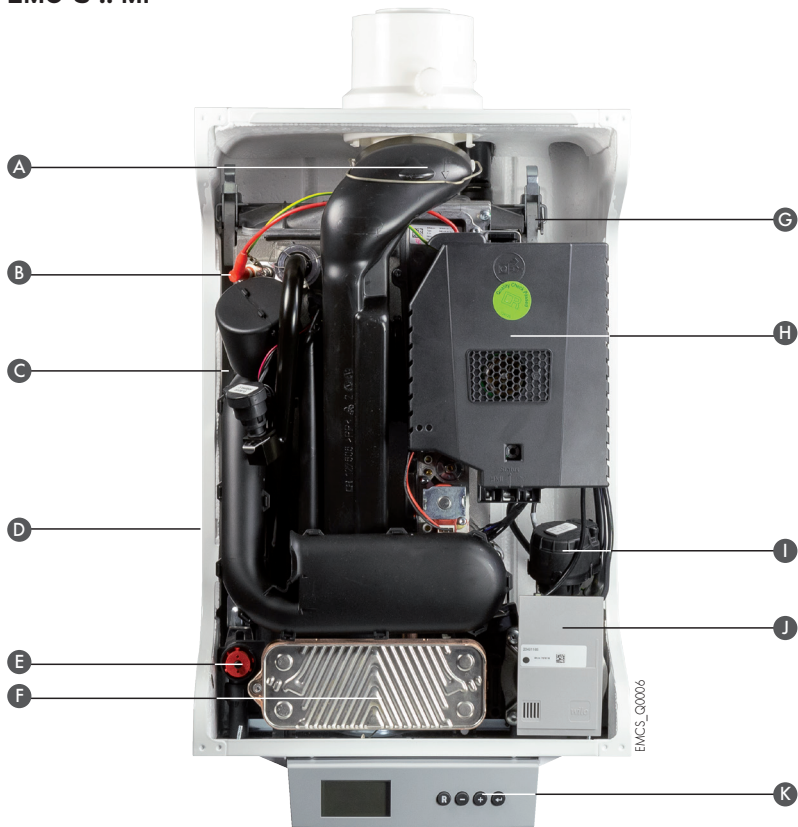
A Flue gas evacuation
B Ignition and ionisation electrodes
C Exchanger in cast aluminium/silicium alloy with complete premixing stainless steel burner, modulating from 24 to 100% output
D Mounting frame with integrated expansion tank
E 3 bar heating safety valve

F Plate exchanger with large exchange surface for the production of micro-storage DHW (EMC-S...MI only)
G Air vent
H Air/gas module
I Heating/DHW reversal valve
J Modulating heating pump with high efficiency index EEI < 0.23
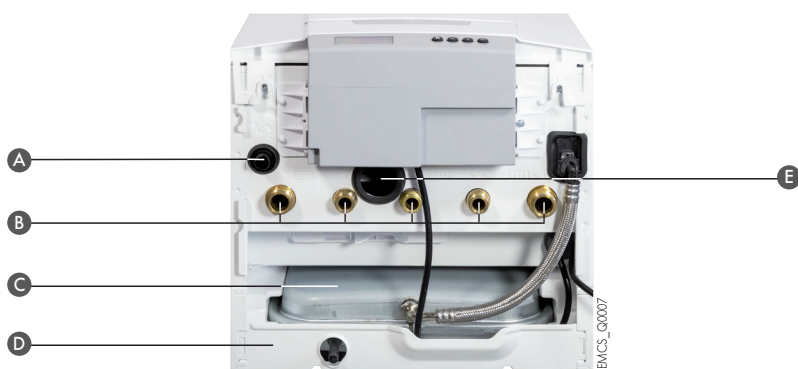K Control panel (see page 6)

DELIVERED MOUNTING FRAME

EMCS_Q0009
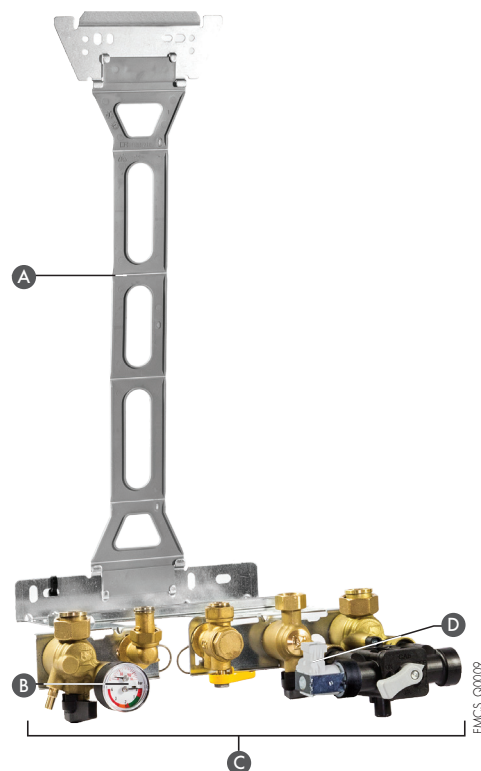
A Foldable mounting frame
B Thermomanometer
C Prefitted water and gas valves including the disconnector
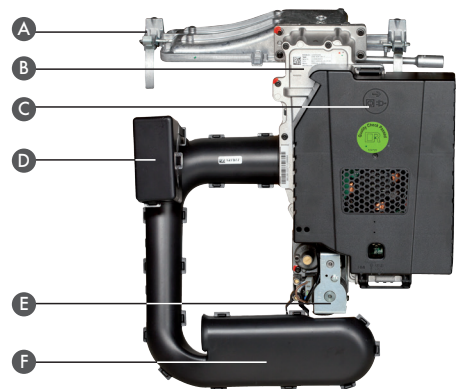D valve for automatic filling (option)

ACTIVE REFILL

VIEW OF THE UNDERNEATH OF THE BOILER

EMCS_Q0007

A Safety valve run off
B Connection points for the «water and gas valve» PCB
C Expansion vessel

D Support frame
E Location for condensates evacuation siphon

AIR/GAS MODULE (IN 3 PARTS)

NANEO_Q0027

A Gas burner modulating from 24 to 100% output
B Air/gas unit
C Fan

D Air intake silencer
E Gas safety unit
F Venturi

ECO SOLUTIONS

Eco-conception by **De Dietrich**

De Dietrich ECO-SOLUTIONS give you the latest generation of multi-energy products and systems: simpler, more efficient and more economical to guarantee your comfort and protect the environment.
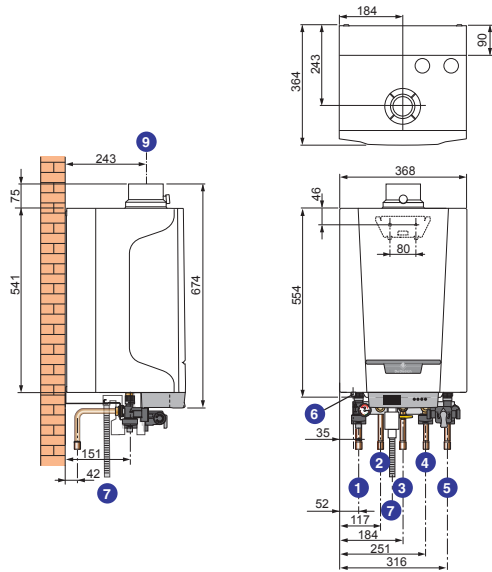
The energy label associated with the ECO-SOLUTIONS label indicates the product performance.
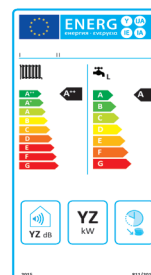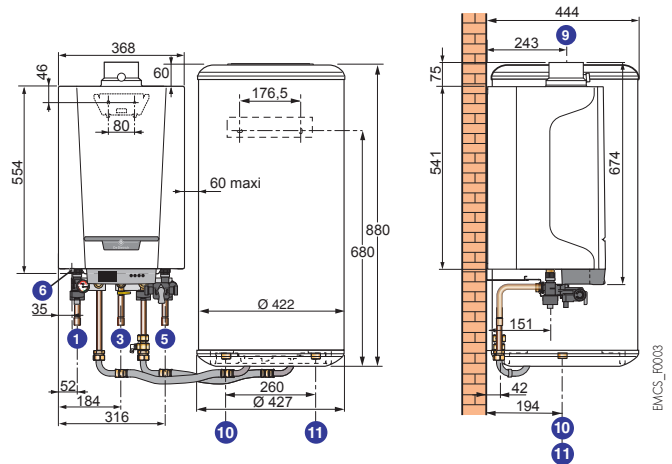
TECHNICAL SPECIFICATIONS

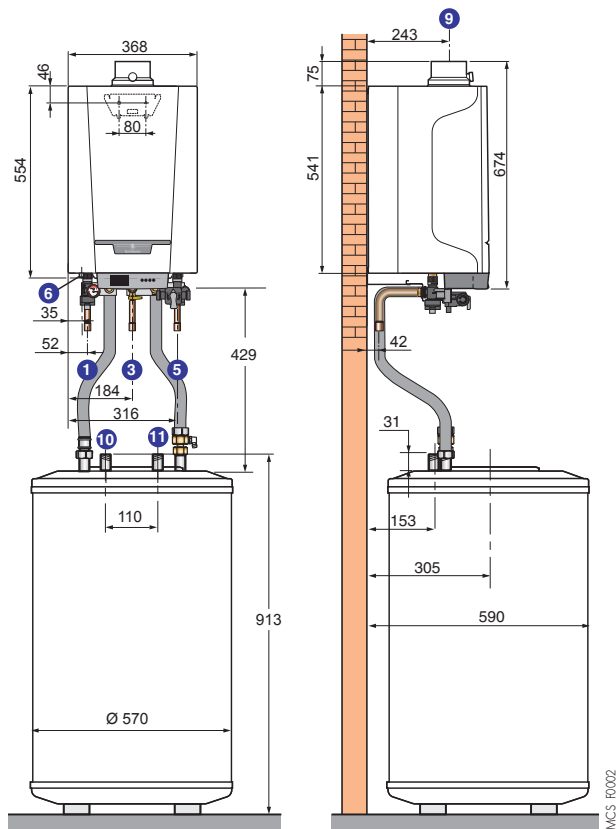## MAIN DIMENSIONS (in mm and inches)

EMC-S .., EMC-S… MI

EMC-S ../BS 80

EMC-S ../BS 130

KEY

① Heating flow Ø 18 mm interior
② EMC-S ..: primary tank outlet Ø 16 mm interior (if exist)
    EMC-S… MI: DHW outlet Ø 16 mm interior
③ Gas inlet Ø 18 mm interior
④ EMC-S ..: primary tank return Ø 16 mm interior (if exist)
    EMC-S… MI: domestic cold water inlet Ø 16 mm interior
⑤ Heating return Ø 18 mm interior

⑥ Safety valve outlet pipe Ø 15 mm
⑦ Condensates drain Ø 25 mm
⑨ Evacuation of combustion products and air inlet pipe Ø 60/100 mm
⑩ EMC-S ../BS…: DHW outlet R 3/4"
⑪ EMC-S ../BS…: domestic cold water inlet R 3/4"

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A+ WITH
ROOM SENSOR
+ OUTDOOR SENSOR

With room thermostat AD301, AD303, AD304, AD288, AD289, AD324 and outdoor sensor only

TECHNICAL SPECIFICATIONS

BOILER

Boiler type: condensing
Burner: modulating with complete premixing

Energy used: natural gas or propane
Combustion evacuation: chimney or sealed

Min. flow temperature: 30°C

BOILER SPECIFICATIONS

MODEL	EMC-S	24	34	24/BS 80 24/BS 130	34/BS 80 34/BS 130	24/28 MI	30/35 MI	34/39 MI
Useful output at 50/30°C Pn (heating mode)	kW	6.1-24.8	8.5 - 35.7	6.1-24.8	8.5 - 35.7	6.1-24.8	8.5-31.0	8.5-35.7
Nominal output at 80/60°C (DHW mode)	kW	-	-	-	-	27.5	33.9	37.8
Efficiency at…% output and …°C water temperature • 100% Pn at average temp. 70°C	%	99.1	99.3	99.1	99.3	99.1	99.3	99.3
• 100% Pn at return temp. 30°C	%	103.3	102.4	103.3	102.4	103.3	103.3	102.4
• 30% Pn at return temp. 30°C	%	110.5	110.4	110.5	110.4	110.5	110.4	110.4
Seasonal space heating energy efficiency without contribution of regulation(1)	%	94	94	94	94	94	94	94
Nominal water flow at Pn, Δt = 20 K	m³/h	1.03	1.50	1.03	1.50	1.03	1.25	1.50
Min. - max. useful output at 80/60°C (heating mode)	kW	5.5-23.8	7.7 - 34.7	5.5-23.8	7.7 - 34.7	5.5-23.8	7.7-29.8	7.7-34.7
Manometric height available heating circuit at Pn	mbar	212	144	212	144	203	267	144
Water content	l	1.4	1.5	1.4	1.5	1.6	1.7	1.7
Gas flow max. (15°C, 1013 mbar) • natural gas H/L	m³/h	2.54/2.95	3.68 - 4.28	2.54/2.95	3.68 - 4.28	2.98/3.47	3.68/4.28	4.13/4.80
• propane	m³/h	0.98	1.42	0.98	1.42	1.15	1.42	1.60
Flue gas temperature max. at 80/60°C	°C	78	82	78	82	84	82	86
Min. - max. flue gas mass flowrate	kg/h	9.4-38.7	13.1 - 56.2	9.4-38.7	13.1 - 56.2	9.4-45.5	13.1-56.2	13.1-62.9
Flue gas pressure available	Pa	80	105	80	105	116	105	120
Stand-by losses at Δt = 30 K	W	35	45	35	45	35	45	45
Auxiliary electrical power (ex. heating pump) at Pn	W	37	56	37	56	37	43	56
Electrical power heating pump (2)	W	21	28	21	28	23	28	28
Electrical power in stand by	W	3	3	3	3	3	3	3
Acoustic power level at nominal output	dB(A)	48	50	48	50	46	50	50
Net weight	kg	25	28	75/95	78/98	26	29	29

(1) According to commission regulation (EU) n°813/2013
(2) One speed circulating pump

DOMESTIC HOT WATER SPECIFICATIONS

MODEL	EMC-S	24/BS 80	34/BS 80	24/BS 130	34/BS 130	24/28 MI	30/35 MI	34/39 MI
DHW calorifier capacity	l	75	75	125	125	-	-	-
Exchanged power	kW	20.6	22.1	22.5	24	27.5	33.9	37.8
Flow per hour at Δt = 35 K	l/h	505 (1)	544 (1)	560 (1)	589 (1)	-	-	-
Flow over 10 min at Δt = 30 K	l/10 min	162 (2)	162 (2)	201 (2)	210 (2)	-	-	-
Spec. flow at Δt = 30 K (compliance with EN 13203-1)	l/min	16.2 (2)	16.2 (2)	20 (2)	21.0 (2)	14	17	19
Water heating energy efficiency Eta_wh	%	82	74	82	82	86	85	85
Coefficient of heat losses	W/K	1.26	1.26	1.09	1.09	-	-	-
Declared load profile		XL	L	XL	XL	XL	XXL	XXL

(1) Domestic performance at room temp.: 20°C, cold water temp.: 10°C, primary hot water temp.: 80°C.
(2) Domestic performance at room temp.: 20°C, cold water temp.: 10°C, primary hot water temp.: 85°C, storage temp.: 60°C.

ENERGY LABEL

Each boiler comes with its energy label, which incorporates various items of information: energy efficiency, annual energy consumption, manufacturer's name, noise level…

If you combine your boiler, for instance, with a solar system, a DHW storage tank, a control device or another generator, you can improve your system's performance and generate the corresponding «system» label: go to our website « www.dedietrich-heating.com »

CONTROL PANEL

NANEO S CONTROL PANEL

The control panel with backlit screen fitted to NANEO S boilers is very easy to use. It is detachable: located under the boiler, it can also be mounted on the wall.
As standard, it enables basic settings to be made using the 4 keys.
A control system option according to the room temperature and/or the outside temperature and allowing access to other parameters such as electric consumption is also available: see below.

Backlit screen with display of:
- the menus
- the current functions
- the current values
- the counters
- the « error » codes

EMCS_Q0008

« Reset » key ①

Validation key of selection or value ③

Access key to the set DHW temperature ②

Access key to the set heating temperature ④

① + ②: Simultaneous pressing of this 2 keys activates the « chimney sweep » mode
③ + ④: Simultaneous pressing of this 2 keys gives access to the available menus
② + ④: Simultaneous pressing of this 2 keys allows to move in the menus to access the configurable parameters

CONTROL PANEL OPTIONS

8575G034

OUTSIDE TEMPERATURE SENSOR - PACKAGE FM46

The outside sensor can be used alone or in combination with room thermostat

MCR_Q0018

DOMESTIC HOT WATER SENSOR - PACKAGE AD226

The domestic hot water sensor is used to apply priority regulation to DHW production by an independent tank.

AD137

AD140

AD200

AD247

AD248

AD248_Q0001/8666Q120A/8801G003/8801G002

PROGRAMMABLE ROOM THERMOSTAT (WIRE) - PACKAGE AD137
PROGRAMMABLE ROOM THERMOSTAT (WIRE) - PACKAGE AD247
PROGRAMMABLE ROOM THERMOSTAT (WIRELESS) - PACKAGE AD200
PROGRAMMABLE ROOM THERMOSTAT (WIRELESS) - PACKAGE AD248
NON PROGRAMMABLE ROOM THERMOSTAT - PACKAGE AD140

The programmable thermostats handle the control and weekly programming of the heating by activating the burner in accordance with the various operating modes: "**Automatic**" according to the programme, "**Permanent**" at a set temperature or "**Holidays**". The "wireless" versions are delivered with a receiver box to be affixed to the wall close to the boiler. The programmable thermostats AD137/AD200 are equipped with: a telephone remote control, a selection of the installation type (heating or air conditioning) and a selection of the adjustment mode (On/Off or proportional).
The non-programmable thermostat is used to regulate the room temperature according to the instruction given by activating the burner.

AD301

NANEO_Q0043A

NON PROGRAMMABLE MODULATING ROOM THERMOSTAT "OPENTHERM" (WIRE) – PACKAGE AD301

This thermostat handles the regulation of the room temperature adapting the boiler power according to the preset temperature. Handles also the regulation of the DHW temperature. It includes adjustment parameters for the NANEO S boilers: read out and setting DHW temperature, max. heating temperature…., energy counters (number of startings, number of heating pump, DHW or total operating hours, …), service alerts, etc…

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CONTROL PANEL

AD304/AD289

AD303/AD288

isense_Q0004/isense_Q0003

MODULATING ROOM THERMOSTAT "OPENTHERM" *:
· **WIRE - PACKAGE AD304**
· **WIRELESS - PACKAGE AD303**

PROGRAMMABLE ROOM THERMOSTAT MODULATING "OPENTHERM" **
· **WIRE - PACKAGE AD289**
· **WIRELESS - PACKAGE AD288**

These thermostats handle the regulation and programming of the heating and of DHW. They include adjustment parameters for the NANEO S boiler: heating curve maxi temperature boiler, fan speed,… and an energy metering estimate (number of heating pump, DHW or total operating hours). The regulator adapts the power boiler to the needs. 3 modes of operating are possible:
· **AUTOMATIC**: according the weekly programming used: for each programmed period, we can indicate the set temperature.
· **PERMANENT**: maintains the set temperature chosen for the day, night or antifreeze.
· **VACATION**: intended for absences of long duration. Allows to bring in the dates of beginning and end of the vacation as well as the desired temperature.
For operation according to the outside temperature, a outside sensor (package FM46) can be added. The version « wireless » is delivered with a transmitter-receiver to be fixed to the wall near the boiler.
* Languages: PL, RO, BG, RU, SL, DA
** Languages: for eastern Europe, NL, GB, FR, DE, ES, IT, HU, CZ

SMART TC° CONNECTED ROOM THERMOSTAT (WIRED) - PACKAGE AD324

SMART TC° enables remote control of the heating and domestic hot water via a free to download application easy for the user to learn, with the option of providing a professional with access to their installation.
It enables a precise remote temperature and modulation control, integrates several timer programs with programming help, gives access to the installation parameters including energy consumption indicators with data saving.
If the SMART TC° can operate as a classic remote control, without Wifi or application, it is recommended to connect it to the internet to benefit from the latest updates.

principle of installation
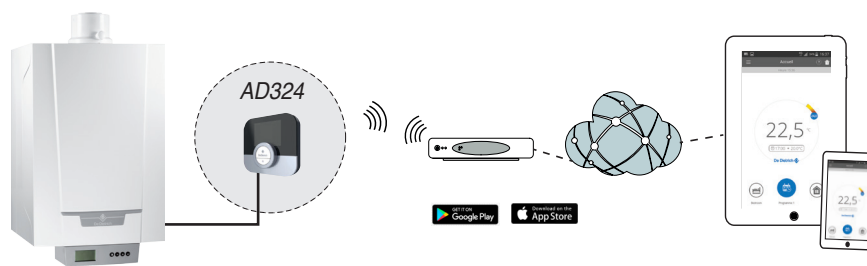
SMARTTC_Q007

EMCS_F0011

HYDRAULIC ACCESSORIES
OF HYDRAULIC CONNECTION

Below the list of hydraulic connection accessories to be ordered in the following cases:

NEW INSTALLATION

STANDARD	WITH RISING COLUMN

NOTA:
· For EMC-S boilers, hydraulic connection accessories: mounting frame with water and gas connection pipes
  are delivered with the boiler
 	
OPTION:
· For EMC-S-24, 34:
  valve for automatic filling: **package HP137**
· For EMC-S.. MI:
  valve for automatic filling: **package HP138**
	Package to order:
	· For EMC-S.. and EMC-S.. MI
	  Height adjustment frame: **package HR79**
	
	· Hydraulic connection pipe
	  for height adjustment frame: **package HR80**

Valve for automatic filling

EMCS_Q0009

NANEO_Q0022

NANEO_Q0017

OPTION:
Pipe cover: **package HP139**
Provides a neat finish underneath the boiler

EMCS_Q0010

CALORIFIER BMR 80 - PACKAGE EE53
CONNECTION KIT BMR 80/EMC-S .. - PACKAGE HR93
CALORIFIER SRB 130 - PACKAGE EE81
CONNECTION KIT SRB 130/EMC-S .. - PACKAGE HR92

BMR 80 and SRB 130 domestic hot water tanks are high performance tanks. They are protected by a lining in food quality standard high quartz content vitrified enamel and a magnesium anode.
The specifications of these tanks in combination with EMC-S boilers are given on page 5.
The boiler/tank connection kits available include rigid and/or flexible connection pipes between the boiler and the tank.

CLEANING TOOL PLATE EXCHANGER - PACKAGE HR82

For EMC-S… MI only.

FLUE GAS TEMPERATURE SENSOR KIT - PACKAGE HR71

Shuts down the boiler when the flue gas temperature exceeds 110°C.
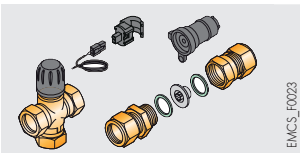
SOLAR KIT - CODICE 7695138

Enables connection of a solar DHW tank to an EMC-S...MI boiler. When domestic hot water is drawn off, the boler will provide the additional temperature to satisfy set point (See example on page 13).

CONDENSATE NEUTRALISATION STATION DN1 - PACKAGE SA1
WALL BRACKET FOR NEUTRALISATION STATION DN1 - PACKAGE SA2
GRANULE REFILL FOR NEUTRALISATION STATION DN1 (10 KG)* - REF. 94225601

The materials used for the condensates flow pipes must be appropriate; otherwise the condensates must be neutralised. An annual check of the neutralisation system and particularly the effectiveness of the granules by measuring the pH is necessary. If need be, the granules must be replaced.

*To order at the spare parts department.

THERMOSTATIC MIXING VALVE 1" - PACKAGE EC60

Used to keep the draw-off temperature in the solar tank constant between 30 and 65°C. Mandatory in solar DHW preparation installations

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BOILER OPTIONS

AIR/FLUE GAS CONNECTION FOR NANEO EMC-S

The EMC-S... boilers can be connected to:
• a horizontal wall terminal PPS Ø 60/100 mm (package DY871) - configuration C_{13x},
• a vertical terminal PPS Ø 80/125 mm, black (package DY843) or red (DY844) + adapter (package HR68) - configuration C_{33x},
It is also possible to connect the boiler to a chimney (configuration B_{23p} or C_{93x}), in twin pipe (configuration C_{53}) or to a shared flue system (configuration C_{43x}). All these flue systems must be ordered separately.

DY871
DY928 DY843 DY844

MCX_F007B/FUMI_DY928/MCS5E_F005I A
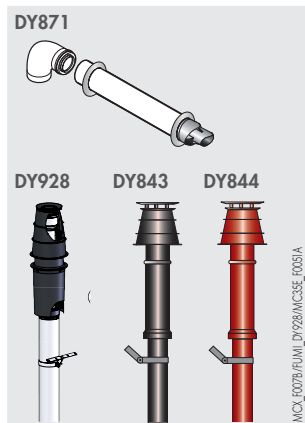
HORIZONTAL WALL TERMINAL PPS Ø 60/100 mm WITH INSPECTION ELBOW - PACKAGE DY871

VERTICAL TERMINAL PPS Ø 80/125 mm - PACKAGE DY844 (RED) OR DY843 (BLACK)

VERTICAL TERMINAL PPS Ø 60/100 mm - PACKAGE DY928 (BLACK) OR DY929 (RED)

NANEO_Q0023A

HORIZONTAL WALL TERMINAL PPS Ø 60/100 MM WITHOUT ELBOW - PACKAGE DY920

MCX_F0008
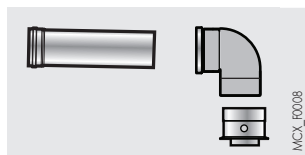
CONNECTING KIT FOR SHARED FLUE SYSTEM - PACKAGE DY921

If connected to a collective duct, the adapter Ø 60/100 mm delivered with the boiler should be removed and replaced by package DY921 presented opposite, which incorporates the adapter Ø 80/125 mm as standard. To determine the position of the connection to the shared flue system, see diagram on the next page.

NANEO_Q0009

FLUE GAS ADAPTER Ø 80/125 mm - PACKAGE HR68

Is fitted instead and in the place of the Ø 60/100 mm fitting delivered mounted on the boiler.

NANEO_Q0010

TWIN PIPE ADAPTER - PACKAGE HR70

For connection with separate air and flue gas pipes (C_{53}).

NANEO_Q0008

ADAPTER LOW PROFILE FOR HORIZONTAL FORCED FLUE - PACKAGE HR67

Allows a height saving of 66 mm.

STATUTORY INSTRUCTIONS ON INSTALLATION AND MAINTENANCE

The installation and maintenance of the appliance in both residential buildings and establishments open to the public must be carried out by a qualified professional in compliance with the statutory texts of the codes of practice in force.

LOCATION

NANEO S condensing boilers must be installed in premises protected from frost, which can also be ventilate, they must in no event be installed above a heat source or a cooking appliance.

The IP X4D protection index enables them to be installed in kitchens and bathrooms, excluding protection volumes 1 and 2, however. The wall to which the boiler is secured must be capable of bearing the weight of the boiler when full of water.
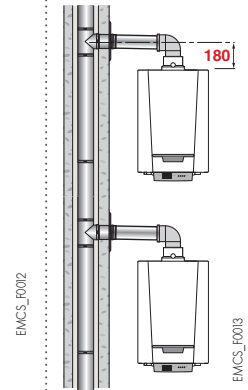
In order to ensure adequate accessibility around the boiler, particularly if the boiler is installed in a closed casing we recommend that you respect the minimum dimensions given opposite.

VENTILATION

This must comply with prevailing regulations.
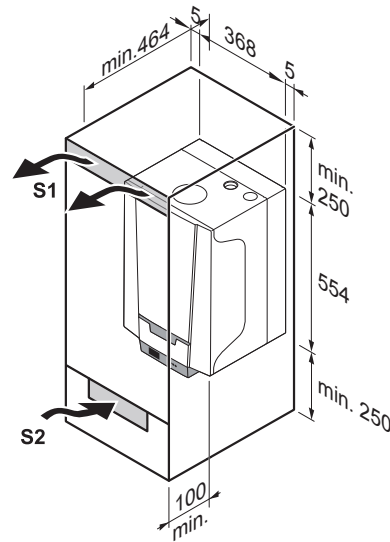
connection to a shared flue system with kit DY921

$S_1 + S_2$:
- 600 cm² (in configuration B_{23P}/B_{33})
- 150 cm² (in configuration C_{13x}, C_{33x}, C_{93x}, C_{53})

⚠ In order to avoid damage to boilers, it is necessary to prevent the contamination of combustion air by chloride and/or fluoride compounds, which are particularly corrosive.

These compounds are present, for example, in aerosol spray cans, paints, solvents, cleaning products, washing powders/liquids, detergents, glues, snow clearing salts, etc.

It is therefore necessary:
- To avoid sucking in air discharged from premises using such products: hairdressers, dry cleaners, industrial premises (solvents), premises containing refrigeration systems (risk of leaking refrigeration fluid), etc.
- To avoid the storage of such products close to boilers.

Please note that, if the boiler and/or its peripherals become corroded by chloride and/or fluoride compounds, our contractual warranty cannot be invoked.

GAS CONNECTION

Comply with prevailing national or even local instructions and regulations. In all cases, a sectional valve is fitted as close as possible to the boiler. This valve is delivered prefitted to the hydraulic connection plate delivered with NANEO S boilers. A gas filter must be fitted to the boiler inlet.

Gas supply pressure:
- 20 mbar on natural gas H, 25 mbar on natural gas L,
- 37 on propane.

ELECTRICAL CONNECTION

This must comply with the prevailing standard.

The boiler must be powered by an electrical circuit comprising a omnipole switch with an opening distance > 3 mm. Protect the connection to the mains with a 6 A fuse..

NOTES

- The sensor cables must be separated from the 230 V circuits by at least 10 cm.
- In order to protect the pump antifreeze and cleaning functions, we recommend not switching off the boiler at the mains switch.

HYDRAULIC CONNECTIONS

IMPORTANT: The principle of a condensing boiler is to recycle the energy contained in the water vapour in the combustion gases (latent vaporisation heat). Consequently, to achieve an annual operating efficiency in the order of 109%, it is necessary to size the heating surfaces in such a way as to obtain low return temperatures, below the dew point (e.g. underfloor heating, low temperature radiators, etc.) during the entire heating period.

CONNECTION TO THE HEATING CIRCUIT

NANEO S boilers must only be used in closed circuit heating installations. The central heating systems must be cleaned to eliminate the debris (copper, strands, brazing flux) linked to the installation of the system and deposits that can cause malfunctions (noise in the system, chemical reaction between metals). More particularly, if fitting a boiler to an existing installation, it is strongly recommended that you clear sludge out of the system before installing the new boiler.
Furthermore, it is important to protect central heating installations against the risk of corrosion, scaling and microbiological growth by using a corrosion inhibitor adapted to all types of systems (steel, cast iron radiators, heated floor, PER).
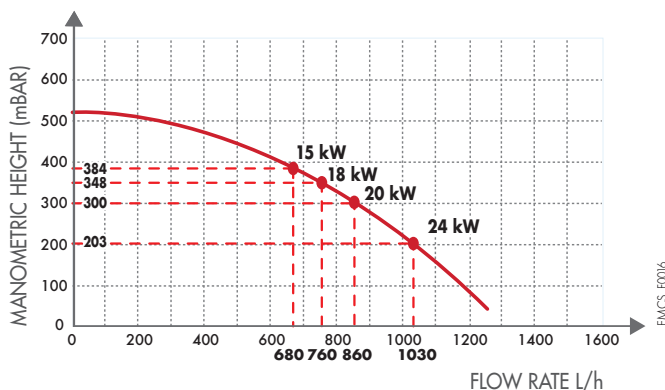The water treatment products used must comply with regulations.

MANOMETRIC HEIGHT OF THE HEATING CIRCULATING PUMP
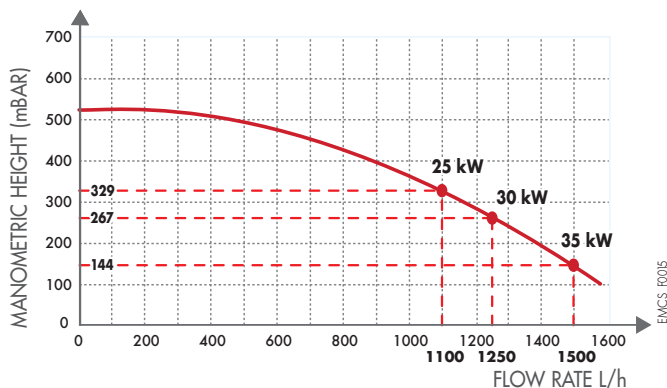### TYPE WILO YONOS PARA RS 15/6 FITTED TO NANEO BOILERS

EMC-S 24
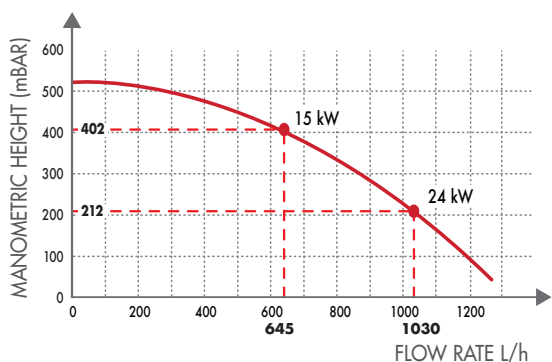
EMC-S 24/28 MI

EMC-S 34, 30/35 MI AND 30/39 MI


CONDENSATES DISCHARGE

The siphon provided must be connected to the waste water discharge system. The connection must be removable and the flow of condensates visible. The connections and pipes must be in corrosion-resistant material. An optional condensates neutralisation system is available (package SA1 see page 8).

INSTALLATION EXAMPLES

The examples presented below cannot cover the full range of installation scenarios which may be encountered.
Their purpose is to draw the attention to the basic rules to be followed. A certain number of control and safety devices (some of which are already integrated as standard in NANEO S boilers) are represented but it is ultimately up to installers, experts, consultant engineers and design departments to take the final decision on the safety and control devices to be used in the boiler room according to its specificities. In all cases, it is necessary to abide by the codes of practice and prevailing regulations.
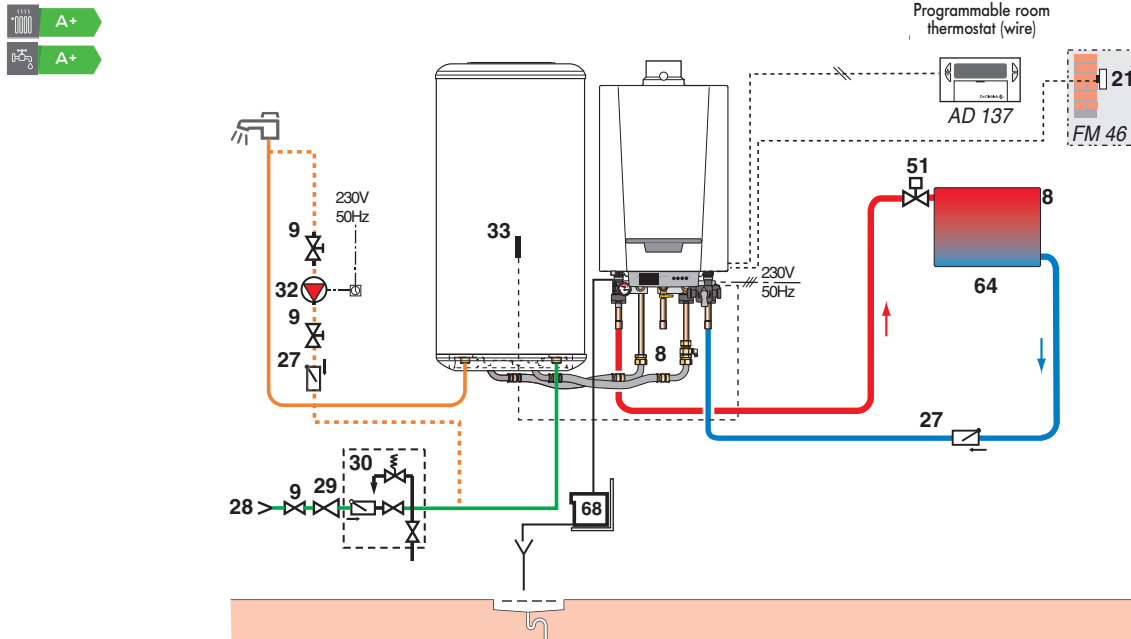
EMC-S... MI
with 1 direct underfloor heating circuit and DHW production, controlled by 1 controlled by 1 SMART TC° connected room thermostat + outdoor temperature sensor
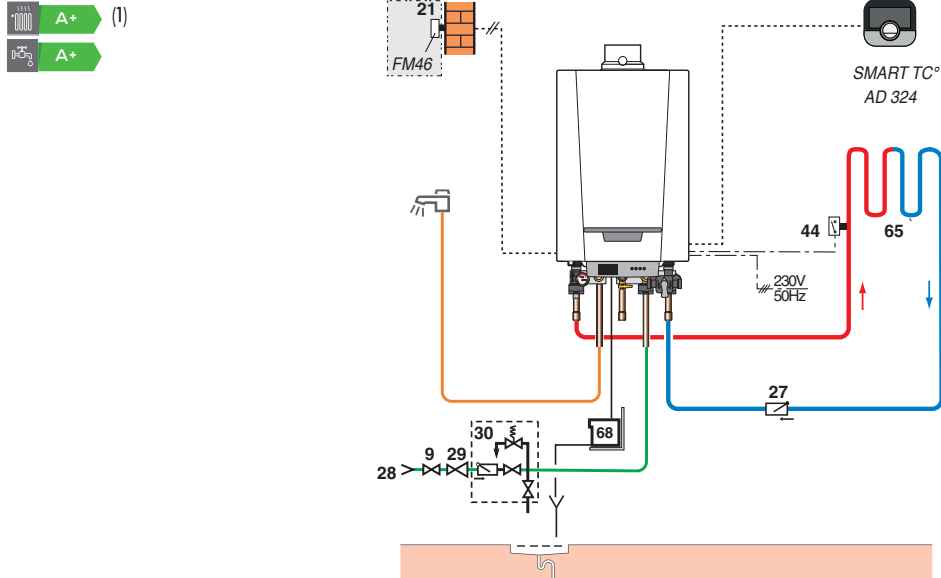
(1) With outside sensor FM46 and room thermostat AD301,AD303,AD304, AD288, AD289 or SMART TC° AD324

EMC-S ../BS 80
with 1 direct circuit + DHW production circuit, controlled by a programmable room thermostat (wire) + outdoor sensor
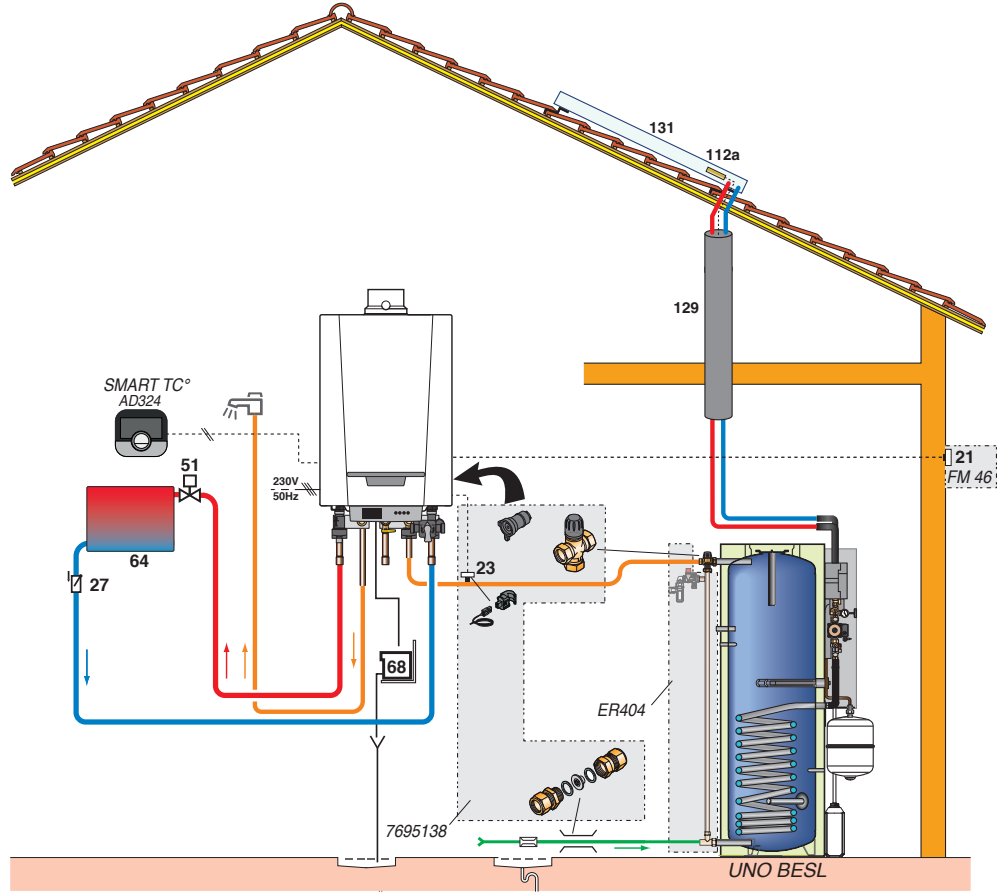
De Dietrich

EMC-S... MI

with 1 direct circuit, controlled by 1 SMART TC° connected room thermostat,
dhw produced by a solar calorifier with solar kit (package ER417) + outdoor sensor

(1) With outside sensor FM46 and room thermostat AD301,AD303,AD304, AD288, AD289 or SMART TC° AD324
(2) With 2 solar collectors DIETRISOL PRO D230

KEY

|							
1	Heating outlet	28	Domestic cold water inlet	44	65°C limiter thermostat with manual reset for underfloor heating	65	Low temperature circuit (underfloor heating, for example)
2	Heating return	29	Pressure reducer			68	Condensates neutralisation system
3	Safety valve 3 bar	30	Sealed safety device calibrated to 7 bars (mandatory, in compliance with safety directives)				
8	Manual air vent			51	Thermostat valve	112a	Collector sensor
9	Isolation valve	32	(Optional) DHW loop pump	64	Radiator circuit (gentle heat radiators, for example)	129	Duo-Tube
21	Outside sensor	33	DHW temperature sensor			131	Collector field
27	Non-return valve						

AIR/FLUE GAS CONNECTION

For the use of the air/flue gas connection pipes and the rules on installation, see details of the various configurations in the current product catalogue.

CLASSIFICATION
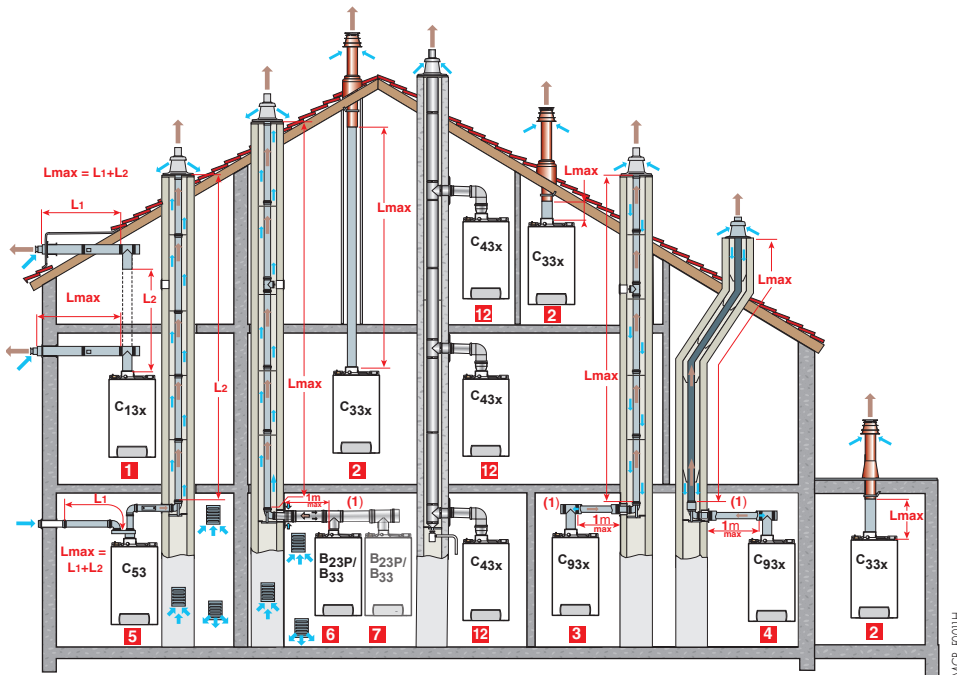
1 Configuration C_{13x}: Air/flue gas connection by means of concentric pipes to a horizontal terminal (so-called forced flue)

2 Configuration C_{33x}: Air/flue gas connection by means of concentric pipes to a vertical terminal (roof outlet)
or

3 Configuration C_{93x}: Air/flue gas connection using concentric pipes in the boiler room and single pipes in the chimney (combustive air with counter current in the chimney)
or

4 Air/flue gas connection using concentric pipes in the boiler room and single "flex" pipes in the chimney (combustive air with counter current in the chimney)

5 Configuration C_{53}: Separate air and flue gas connection using a twin pipe adapter and single pipes (combustive air taken from outside)

6 Configuration B_{23P}/B_{33}: Connection to a chimney (combustive air taken from the boiler room)

7 Configuration B_{23P}: For cascade installations

12 Configuration C_{43X}: Connection to a collective shared flue system

(1) For each additional metre of horizontal pipe, remove 1.2 m from the vertical length **Lmax** shown in the table below.

TABLE OF MAXIMUM AIR/FLUE GAS PIPE LENGTHS ADMISSIBLE ACCORDING TO BOILER TYPE

TYPE OF AIR/FLUE GAS CONNECTION			L_{MAX} OF THE CONNECTING PIPES IN m NANEO EMC-S				
			24	34	24/28 MI	30/35 MI	34/39 MI
Concentric pipes connected to a horizontal terminal (**PPs**)	C_{13x}	Ø 60/100 mm	9	5	9	5	5
		Ø 80/125 mm	20	20	20	20	20
Concentric pipes connected to a vertical terminal (**PPs**)	C_{33x}	Ø 60/100 mm	9	5	9	5	5
		Ø 80/125 mm	20	20	20	20	20
Pipes • concentric in the boiler room, • single in the chimney (combustive air with counter current) (**PPs**)	C_{93x}	Ø 80/125 mm Ø 80 mm	20	20	20	20	20
Pipes • concentric in the boiler room, • "flex" in the chimney (combustive air with counter current) (**PPs**)	C_{93x}	Ø 80/125 mm Ø 80 mm	20	20	20	20	20
Twin pipe adapter and separate single air/flue gas pipes (combustive air taken from outside)(**PPs**)	C_{53}	Ø 60/100 mm to 2 x 80 mm	35	28	40	28	38
In the chimney (rigid or flex) (combustive air taken from the premises) (**PPs**)	B_{23P}/B_{33}	Ø 80 mm (rigid)	40	40	40	40	40
		Ø 80 mm (flex)	40 (1)	40 (1)	40 (1)	40 (1)	40 (1)
Collective **3 CEp** conduit for sealed boiler	C_{43x}	To size such a system, contact the supplier of the 3 CEp duct					

(1) ⚠: Max. height in the flue pipe (configuration B_{23P}/B_{33}), from the support elbow to the outlet mustn't exceed 25 m for flex PPS. In case of higher lengths, holding collars must be added by slices of 25 or 30 m.

DESCRIPTION

NANEO EMC-S..

WALL-HUNG GAS CONDENSING BOILER FOR CONNECTION TO A CHIMNEY OR A FORCED FLUE

Brand: De Dietrich
Model:
  • EMC-S 24, 34 for heating only
  • EMC-S 24, 34/BS 80 or BS 130 for heating and domestic hot water preparation by associated DHW tank
  • EMC-S 24/28, 30/35, 34/39 MI: for heating and instant domestic hot water production
Homologation: B_{23} - B_{23P} - B_{33} - $C_{10(3)x}$ - $C_{12(3)x}$ - $C_{13(x)}$ - $C_{33(x)}$ - $C_{93(x)}$ - C_{53} - C_{43x} - $C_{63(x)}$
Protection index: IP X4D
Power supply: 230 V/50 Hz
Gas category: all natural gases, propane
Useful output in heating mode at 50/30°C: _____ kW

Nominal output in DHW mode at 80/60°C:
  • EMC-S 24/BS…: _____ kW
  • EMC-S 34/BS…: _____ W
  • EMC-S 24/28 MI: 27.5 kW
  • EMC-S 30/35 MI: 33.9 kW
  • EMC-S 34/39 MI: 37.8 kW

Specific flow in DHW mode:
  • EMC-S 24/28 MI: 14 l/min
  • EMC-S 30/35 MI: 17 l/min
  • EMC-S 34/39 MI: 19 l/min
  • EMC-S/BS…: _____ l/min

Max. operating temperature: 90°C
Max. operating pressure: 3 bar
Safety thermostat: 110°C
Dimensions: 368 x 674 x 364 mm
Weight empty: _____kg

DESCRIPTION

Complies with the requirements of European Directives
New compact and ultra-responsive exchanger in cast aluminium/silicium alloy.
Stainless steel gas burner with complete premixing, modulating from 24 to 100% output, fitted with a silencer on the air intake
Removable control panel located under the boiler can be deported to the wall. As delivered, it can be used to control and regulate a direct circuit and 1 DHW circuit (sensor optional).
Boiler delivered with a mounting frame with prefitted water, gas valves, disconnector, manometer, flow collector, 1 modulating heating pump with energy efficiency index EEI < 0.23, 3 bar safety valve, 8 litres expansion tank, heating/DHW reversal valve, plate exchanger with large exchange surface for the production of DHW (for EMC-S… MI only), automatic air vent.
• EMC-S/BS…: with enamelled 80 litre DHW calorifier placed to the right or to the left of the boiler, or 130 litres DHW calorifier placed under the boiler. Boiler/tank connecting pipes and DHW sensor have to be ordered separately.
• EMC-S…MI: the plate exchanger produces large quantities of instant hot water. Model is equipped with a flow limiter.
Air/flue gas connection Ø 60/100 mm with measuring point.

CONTROL PANEL OPTIONS
• Domestic hot water sensor
• Programmable room thermostat (wire and wireless)
• Modulating room thermostat (wire and wireless)
• Connected room thermostat SMART TC°
• Outside temperature sensor

BOILER OPTIONS
• Valve for automatic filling
• Height adjustment frame, connecting pipe kit for height adjustment frame
• Pipe cover, connection pipe kit for replacing an existing boiler
• Flue gas temperature sensor, brush cleaning heat exchanger (only for EMC-S… MI)
• Condensate neutralisation tank
• Wall bracket for neutralisation tank
• Granule refill for neutralisation tank
• Solar kit with mixing valve
• Twin pipe adapter 2 x Ø 80 mm, flue gas adapter low profile
• Horizontal terminal PPS Ø 60/100 mm
• Flue gas adapter Ø 80/125 mm
• Vertical flue terminal Ø 80/125 mm (black and red).

De Dietrich ◆

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BDR THERMEA GROUP