VIVADENS MCR

WALL-HUNG GAS CONDENSING BOILERS

TECHNICAL LEAFLET



Heating and domestic hot water using micro-accumulation or an independant tank

GAS Natural gas
Propane

BRASS Brass hydroblock

Remote control possible

VIVADENS MCR 24
3,1 to 24 kW, for heating only

VIVADENS MCR 32
3,5 to 32 kW, for heating only

VIVADENS MCR 24/35 BIC
3,5 to 34,9 kW, for heating and domestic hot water production

VIVADENS MCR 24/29MI
VIVADENS MCR 32/35MI
3,1 to 32 kW, for heating and micro-accumulated domestic hot water production

De Dietrich



All boilers in the Vivadens MCR range are equipped as standard with the E-Pilot control panel, featuring a clear-text display and providing access to all system control parameters. As an option, the boilers can be connected to the SMART CDI and SMART TC° range of room temperature sensors. A variety of air/flue gas connection configurations are available, including horizontal or vertical balanced flue systems, chimney connections, and collective flue systems (3 CEp).

Hydrogen 20%

Operating conditions

Boiler:
Max. operating pressure: 3 bar
Max. operating temperature: 80 °C
Safety temperature limiter: 110 °C
Power supply: 230 V/50 Hz
Protection: IP X5D

DHW cylinder:
DHW max. operating pressure: 8 bar

Homologations:
B_{23}, B_{23P}, B_{33}, $C_{[10]3X}$, C_{13X}, C_{33X}, C_{43P}, C_{43X}, C_{53}, C_{53X}, C_{63X}, C_{83}, C_{93X}

Gas category
See local regulations
NOx class: 6

CE Identification no.:0085DL0336

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PRESENTATION OF THE RANGE

VIVADENS MCR

Vivadens MCR 24, 32, Vivadens MCR 24/35 BIC and Vivadens MCR… MI boilers are factory tested.
They are pre-equipped to operate with natural gas; they can also be easily adjusted to operate with propane.

Vivadens MCR boilers are supplied equipped with a modulating heating circulating pump with an energy efficiency index (EEI) < 0.23, a heating safety pressure relief valve, an expansion vessel, and a heating/DHW diverter valve.

Two versions are available with DHW cylinders:
• Vivadens MCR 24 or 32 /BS 80: an 80-litre BMR 80 tank is placed either to the left or right of the boiler,
• Vivadens MCR 24 or 32 /BS 130: a 130-litre SRB 130 tank is placed on the ground, underneath the boiler.

The Vivadens MCR… MI versions are combi boilers that provide high domestic hot water output through an oversized plate heat exchanger and fast-reacting electronic controls.

The Vivadens MCR 24/35 BIC version is particularly compact and high-performance: DHW is produced using a built-in 45-litre stainless steel storage tank with a heating coil.

ENHANCED PERFORMANCE

- Efficiency up to 110%,
- Low sound power level,
- NOx class 6, in line with EN 15 502,
- NOx ≤ 25 mg/kWh

MODELS

MODELS		REFERENCE	GENERATOR TYPE
A+ / A			
	Vivadens MCR 24	7910509	Heating and DHW production with separate storage tank
	Vivadens MCR 32	7910511	Heating and DHW production with separate storage tank
	Vivadens MCR 24/29 MI	7910515	Heating and micro-accumulated DHW production
	Vivadens MCR 32/35 MI	7910517	Heating and micro-accumulated DHW production
	Vivadens MCR 24/35 BIC	7910520	Heating and DHW production with integrated storage tank

A+ With SMART CDI room temperature sensor and cloud-based outside temperature or an outside temperature sensor (option)

PRESENTATION OF THE RANGE

STRENGTHS

E-PILOT CONTROL SYSTEM
- Intuitive control system with clear text
- Simplified access to all operating modes
- Permanent water pressure indicator
- Remote control with our smart room temperature sensors
- When using the cloud-connected thermostats, there is no need to install an outside sensor option.
- Integrated energy metering.

DOMESTIC HOT WATER PERFORMANCES
- High DHW performances:
  - micro-accumulation (MI): 13.9 and 16.2 l/mn
  - accumulation (BIC): 19.2 l/mn
- BIC version with 45 L stainless steel tank and scale-resistant heating coil.

ROBUST
- Monocoil stainless steel coiled heat exchanger
- Brass hydraulic hydroblock across the entire range.
- Copper tubes.

EASY TO ASSEMBLE
- Possibility to reduce installation time thanks to the optional wall mounting frame
- Installation and commissioning aids: mounting template, quick guide, inter-active control system.

COMPACT
- Compact and easy to integrate thanks to its smaller dimensions.

NEW-GENERATION BOILER
- Automatic combustion control
- Output modulation from 10% to 100%
- Suitable for G20 gas containing up to 20% Hydrogen (H2)
- Silent operation with soundproofing
- Central flue gas outlet
- Built-in exhaust gas non-return valve.



ROOM THERMOSTATS AND SENSORS (OPTIONS)

Description	Control system class	Reference	Package	Connection	Batteries	Timer programme	Internet connected
SMART CDI connected room temperature sensor	Class VI *	7898724	-	wired or wireless with Gateway IOT	no	✓	✓
SMART CDI RF connected room temperature sensor	Classe VI *	7900088	-	wireless	✓	✓	✓
Gateway LINK WIFI (GTW IoT)		7898722					
SMART TC° connected room temperature sensor (wired)	Class VI *	7691375	AD324	wired	no	✓	✓
Wired modulating room thermostat	Class V Class VI *	7609763	AD304	wired	✓	✓	no
Radio modulating room thermostat	Class V Class VI *	7609762	AD303	wireless	✓	✓	no
Programmable room thermostat (wired)	Class IV Class IV *	7768817	AD337	wired	✓	✓	no
Programmable room thermostat (wireless)	Class IV Class IV *	7768818	AD338	wireless	✓	✓	no
Outside temperature sensor (wired)	-	85757741	FM46	wired	no	no	no

* with wired outside temperature sensor 85757741
** with wired (85757741) or wireless (7776874) outside temperature sensor

TECHNICAL SPECIFICATIONS

VIVADENS MCR

Boiler:

Boiler type: condensing

Burner: modulating total premix

Energy used: natural gas (20% H2) or propane

Combustion evacuation: chimney or balanced flue

Operating temperature:

Min. average operating temperature: 25 °C

Max. average operating temperature: 80 °

MODEL			24	32	24/35 BIC	24/BMR 80 24/SRB 130	32/BMR 80 32/SRB 130	24/29 MI	32/35 MI
Generator type			**Heating only**		**Heating and DHW with built-in 45 L tank**	**Heating and DHW with separate tank**		**Heating and DHW**	
Rated heating capacity	*Prated*	kW	24	32	24	24,7	33	24	32
Useful output	- at rated pressure and high temp. *P4* (1)	kW	24	32	24	24	32	24	32
	- at 30% of rated pressure and low temp. *P1* (2)	kW	8,1	10,8	8,1	8,1	10,9	8,1	10,8
Usable output range at flow/return t°	- 50/30 °C min.-max.	kW	3,2 - 26.1	3,7 - 34,9	3,7 - 26.1	3,3 - 26.1	3,7 - 34,9	3,2- 26.1	3,7 - 34,9
	- 80/60 °C min.-max.	kW	2,9 - 24	3,4 - 32,0	3,4 - 24	3,0 - 24	3,4 - 32,0	2,9 - 24	3,4 - 32
Useful efficiency	- at rated pressure and high temp. *η4* (1)	%	87,9	87,8	88,1	87,9	87,9	87,9	87,8
	- at 30% of rated pressure and low temp. *η1* (2)	%	98,8	98,7	99,0	98,8	98,8	98,8	98,7
Seasonal energy efficiency (without control system) ***ηs***		%	94	94	94	94	94	94	94
Energy efficiency for the DHW (without control system) ***ηwh***		%	-	-	84	82	82	90	89
Declared load profile		-	-	-	XL	XL	XL	XL	XXL
Nitrogen oxide (*NOx*) emissions		mg/kWh	20	22	21	21	30	20	22
Heat loss on standby *Pstby*		kW	0,04	0,04	0,04	40	40	0,04	0,04
Auxiliary electricity consumption	- full load *elmax*	kW	0,023	0,038	0,025	33	52	0,023	0,038
	- part load *elmin*	kW	0,011	0,011	0,011	11	11	0,011	0,011
	- standby *PSB*	kW	0,004	0,004	0,004	4	4	0,004	0,004
Gas consumption	- G20 (min/max*)	m³/h	0,32/3,17	0,37/3,69	0,37/3,69	0,33/3,17	0,37/3,70	0,32/-	0,37/-
	- butane G30 (min/max*)	kg/h	0,24/2,36	0,28/2,75	0,29/2,75	0,24/2,36	0,28/2,75	0,24/-	0,28/-
	- propane G31 (min/max*)	kg/h	0,23/2,33	0,27/2,71	0,27/2,71	0,24/2,33	0,27/2,71	0,23/-	0,27/-
Flue gas mass flow rate (min)		kg/s	0,001	0,002	0,002	0,001	0,002	0,001	0,002
Flue gas mass flow rate (max)		kg/s	0,011	0,015	0,017	0,014	0,016	0,014	0,016
Sound power level, indoors *LWA*		dB(A)	50	51	50	50	53	50	51
Expansion vessel water capacity		l	8	8	10	8	8	8	8
Empty net weight		kg	27,0	28,5	58	Vivadens MCR 24 = 28,5 BMR 80 = 45,2 SRB 130 = 60,6	Vivadens MCR 32 = 28,5 BMR 80 = 45,2 SRB 130 = 60,6	29,0	29,2
Net weight, filled with water		kg	29,5	31,0	100	-	31	31,5	31,7

(1) High temperature setting: return temperature at the boiler inlet 60 °C and flow temperature at the boiler outlet 80 °C.
(2) Low temperature: return temperature (at the heater inlet) for condensing boilers 30 °C, for low temperature boilers 37 °C, and for other heaters 50 °C

*with domestic hor water tank

DHW

Maximum tank temperature (max): 95 °C
Tank thermostat hysteresis (Δ_base): 5 K

MODEL		24/35 BIC	24/BMR 80	24/SRB 130	24/29MI	32/35MI	32/BMR80	32/SRB130
Minimum water flow	l/min	2,0	-	-	2,0	2,0	-	-
Total tank water capacity (Vtot)	l	45	75	125	-	-	75	125
Power exchanged	kW	34,9	22,1	24	31	34	22,1	24
Flow rate over 10 minutes at Δt = 30 K	l/10 min	192	165	200	-	-	220	310
Hourly flow rate at ΔT = 35 K	l/h	670	543	588	-	-	543	590
Specific flow rate at Δt = 30 K according to EN 13203-1	l/min	19,2	16,5	20,0	14,3	16,7	22	31
Minimum dynamic water pressure	bar	0,15	-	-	0,15	0,15	-	-
Heat loss coefficient (UA_S)	W/K	1,42	1,26	1,09	-	-	1,26	1,09

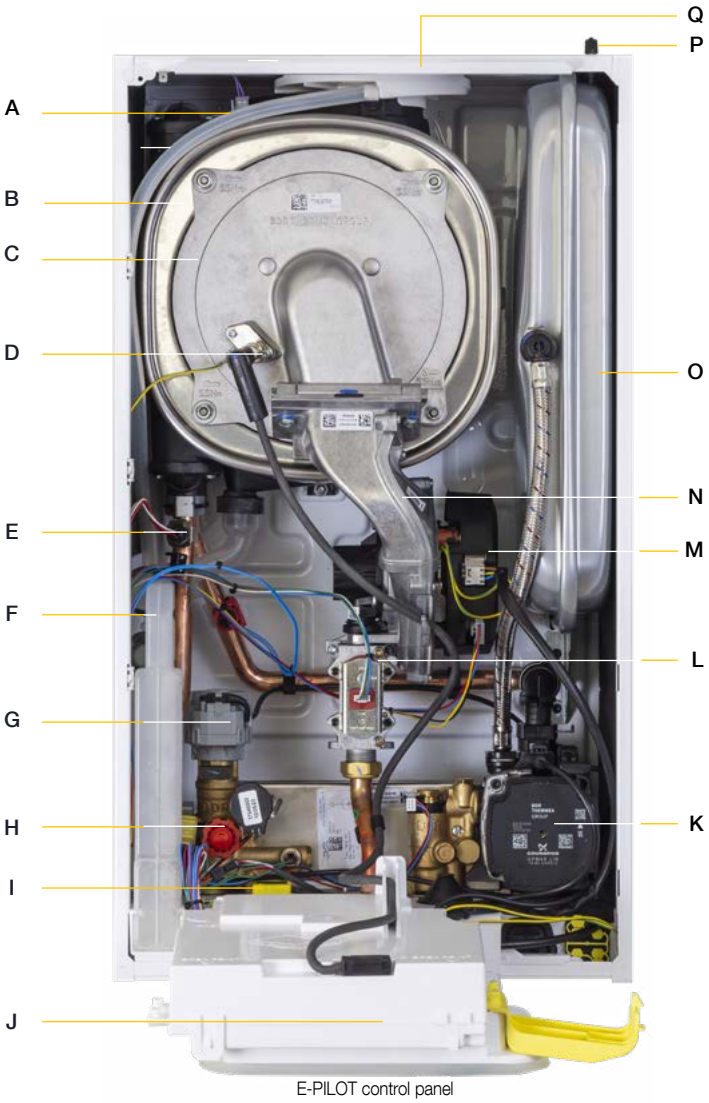
Domestic hot water performances at ambient temp. 20 °C, cold water temp. 10 °C, primary hot water temp. 80 °C, storage temp.
Domestic water performances according to EN13203-1

TECHNICAL SPECIFICATIONS

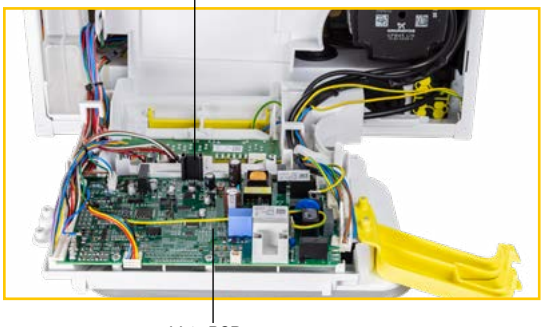
VIVADENS MCR

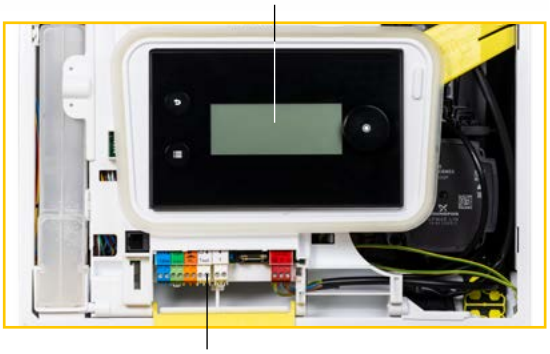
DESCRIPTION

VIVADENS MCR 24 / 32 AND VIVADENS MCR... MI

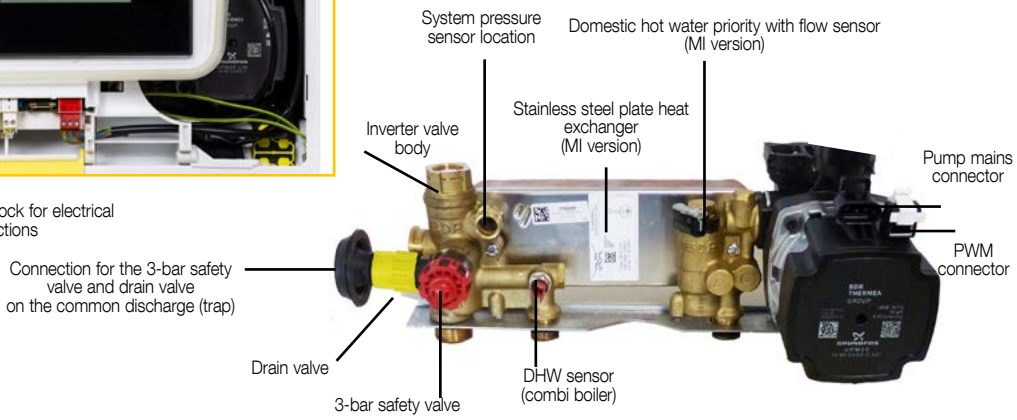


A Flue gas temperature sensor
B Single-coil stainless steel heat exchanger
C Burner door
D Ignition electrode / combustion hygiene probe
E Flow temperature sensor and limit thermostat
F Siphon
G Inverter valve motor
H 3-bar safety valve and drain valve
I Plug and play connection
J Housing for boiler control and safety boards
K PWM controlled pump with LIN-bus communication
L Electronic gas valve
M Modulating fan
N Air/gas manifold pipe
O Heating 8 liter expansion vessel / 1 bar pre-pressure
P Expansion vessel air control/filling valve
Q Connector for flue gas evacuation





BRASS HYDROBLOCK



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TECHNICAL SPECIFICATIONS

VIVADENS MCR

VIVADENS MCR 24/35 BIC



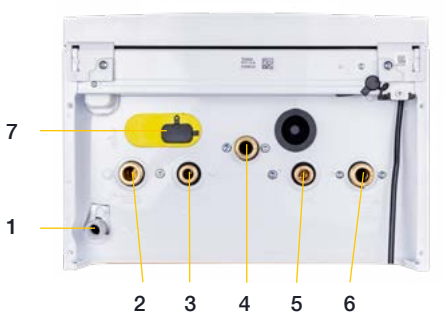
A Control for the expansion vessel
B Heating expansion vessel (10 litres)
C Domestic water tank (45 litres)
D Space for the domestic water expansion vessel (2 litres, option)
E Domestic hot water sensor
F 8-bar domestic water safety pressure relief valve
G PWM controlled pump with LIN-bus communication
H Boiler drain valve
I Pressure sensor
J 3-bar safety valve and drain valve
K Motorised diverter valve
L Electronic gas valve with no adjustment
M Return sensor
N Fan
O Heating circuit water flow temperature sensor and limiter thermostat
P Detection/ignition electrode
Q Burner flange
R Stainless steel coiled heat exchanger
S Flue gas temperature sensor
T Connector for flue gas evacuation

TECHNICAL SPECIFICATIONS

VIVADENS MCR

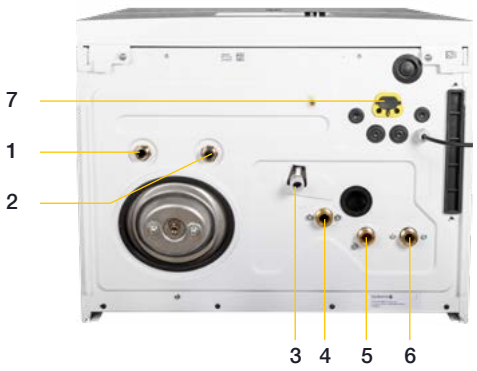
MAIN DIMENSIONS (IN MM AND INCHES)

VIVADENS MCR 24 / 32 AND VIVADENS MCR... MI



1 Condensate/safety pressure relief valve outlet
2 Heating circuit flow [3/4"]
3 DHW outlet [1/2"] on MI models or primary cylinder flow [1/2"] on 24/32 models
4 Gas inlet [3/4"]
5 DHW inlet [1/2 "] / system filling [1/2"]
6 Heating circuit return [3/4"] on MI models or return heating circuit / primary cylinder return [3/4"] on models 24/32
7 Plug and play connector with service and L-bus connection

Vivadens Smart_Q0019

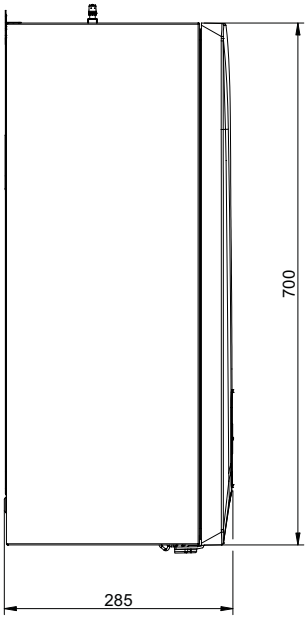


1 Domestic hot water (DHW) outlet connector (1/2")
2 Domestic cold water inlet connector (1/2")
3 Ø 21.8 mm adapter for system/condensate drain
4 Gas inlet connector (3/4")
5 Heating circuit flow connector (3/4")
6 Heating circuit return connector [3/4"]
7 Plug and play connector with service and L-bus connection

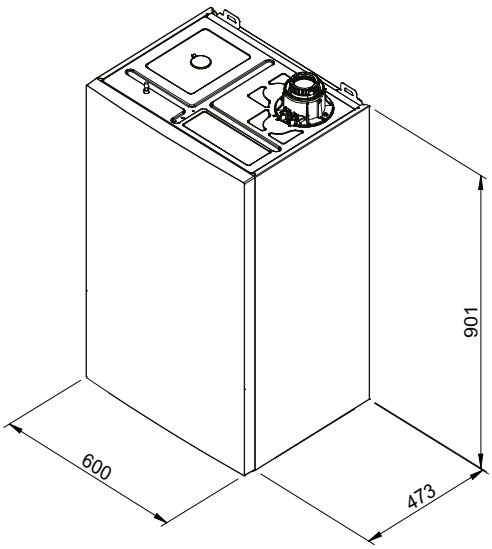
Vivadens SmartBIC_Q0016

VIVADENS MCR 24/35 BIC





Vivadens Smart_F0010



Vivadens SmartBIC_F0010

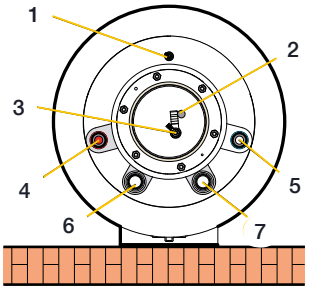
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TECHNICAL SPECIFICATIONS

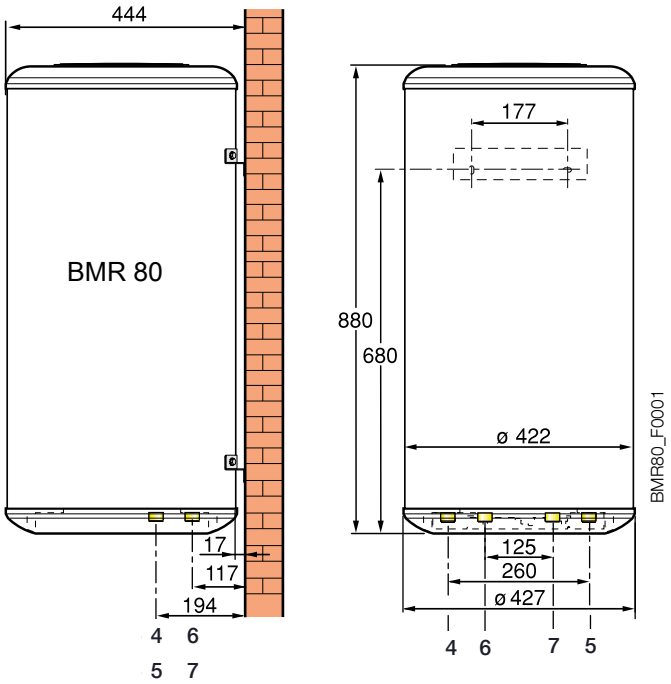
VIVADENS MCR

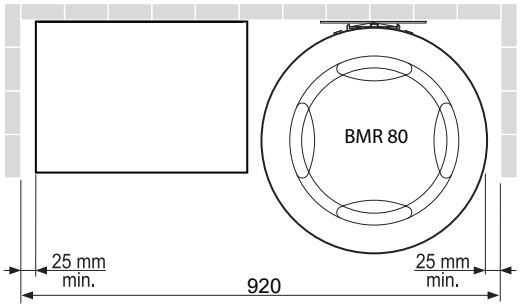
MAIN DIMENSIONS (IN MM AND INCHES)

BMR 80 DHW CYLINDER

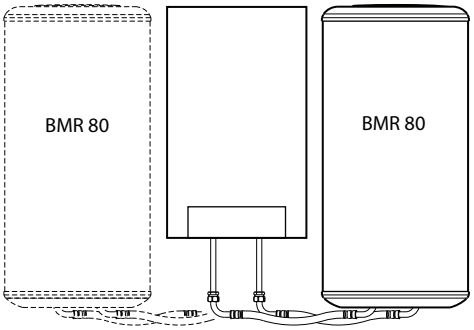


1 Heat exchanger bleed valve
2 Sensor pocket for domestic hot water sensor
3 Magnesium anode
4 Domestic hot water outlet - R 3/4"
5 Domestic cold water inlet - R 3/4"
6 Exchanger inlet - G 3/4"
7 Exchanger outlet - G 3/4"

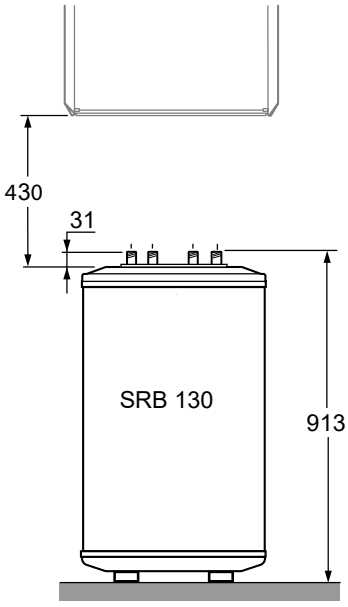


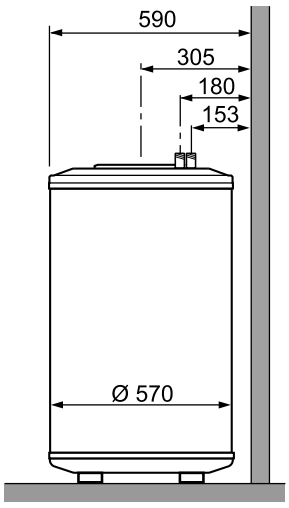


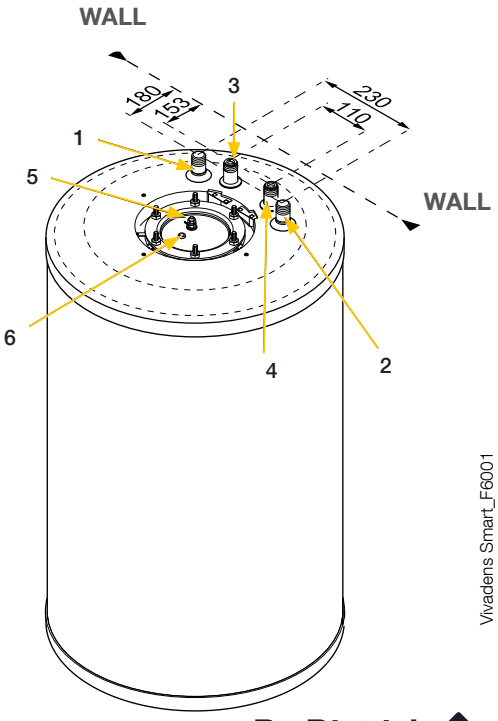
BMR 80 CYLINDER ON LEFT OR RIGHT



SRB 130 DHW CYLINDER







1 Primary inlet - G 3/4"
2 Primary outlet - G 3/4"
3 Domestic hot water outlet - R 3/4"
4 Domestic cold water inlet - R 3/4"
5 Magnesium anode
6 Sensor pocket

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CONTROL PANEL

VIVADENS MCR

THE E-PILOT CONTROL PANEL

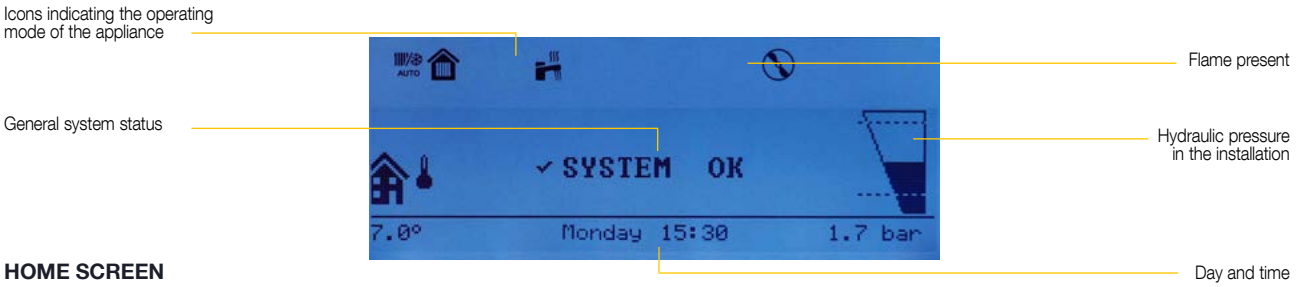
Vivadens MCR boilers are fitted with the E-Pilot electronic control system which adapts the heating output to the actual needs of the installation, based on the outside temperature.
The control system allows management of a direct circuit which can be a radiator circuit or 1 low temperature underfloor heating circuit.
E-PILOT can be connected up to the SMART TC° and SMART CDI room temperature sensors.
E-PILOT is Bluetooth compatible using our GTW-IOT communication gateway.



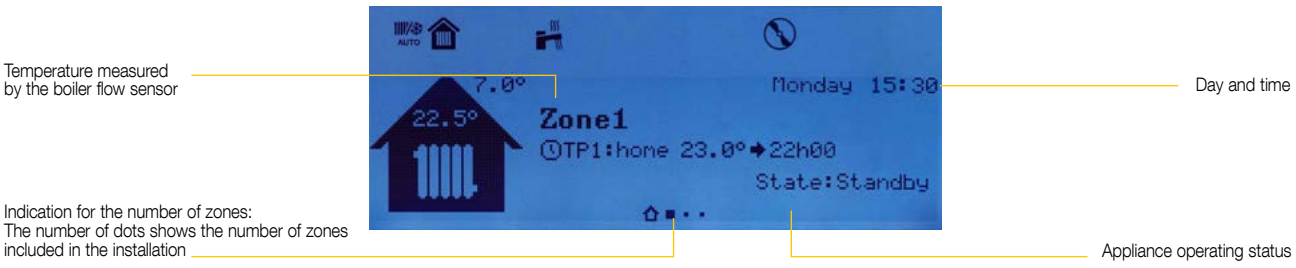
DESCRIPTION OF THE DISPLAY

Access to the various menus allows configuration of the parameters in the boiler's different operating modes (heating, heating + DHW, DHW only). The screen allows the boiler status and operating mode to be viewed at a glance.

STANDBY SCREEN



HOME SCREEN



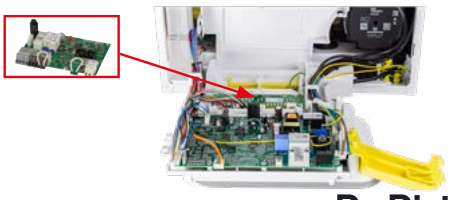
MULTIZONE MANAGEMENT

Two solutions are possible for multizone management:

VIVADENS MCR HYDRAULIC SHARING MODULE EQUIPPED WITH THE SCB-17B PCB



SCB-17B PCB CAN ONLY BE INTEGRATED INTO THE BOILER CONTROL PANEL



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THE APPLICATIONS

VIVADENS MCR

App DE DIETRICH SMART for remote control



A+ The system's energy efficiency class will be A+.

When combined with its application, the SMART TC or SMART CDI room thermostats, available as an option, combines the height of comfort with ease of installation and use. The temperature of your home and your domestic hot water can be controlled wherever you are, both at home and remotely, and programmed hours entered to suit your lifestyle or requirements.

- "User friendly" with room thermostat with attractive design
- Remote heating management via the application
- Quick and easy programming aid
- Monitoring of heating and DHW consumption *
- Fault alert
- Operates as a room temperature sensor
- Controls your heating with voice commands

* depending on the model





Download on the App Store

GET IT ON Google Play

Control your heating wherever you are in the world.
The SMART TC° functions in tandem with your Vivadens MCR boiler to give you new ways of using your system.

App DE DIETRICH START for professional commissioning

The DE DIETRICH START application is used with the GTW-IOT option to guide you step-by-step through the commissioning of De Dietrich products. You configure the products by answering questions – simple and intuitive, with no parameter codes to remember.

With this application, you can:

- Configure De Dietrich products
- Program the zone temperatures
- Save an installation configuration
- Send an installation report by e-mail
- Duplicate an installation configuration



App DE DIETRICH PRO for diagnostics

The De Dietrich PRO application is used with the GTW-IOT gateway, and is designed for professionals.
This application is a practical tool which can be used for all types of work: installation, maintenance and troubleshooting.
The local Bluetooth connection ensures quick and easy access to all of the control system parameters:

- The status of the generator
- The values and measurements
- Viewing and resetting of errors
- Viewing and resetting of meters
- Fault messages in clear text format
- Viewing and resetting of service messages



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BOILER OPTIONS

VIVADENS MCR

THE E-PILOT CONTROL PANEL OPTIONS



SMART_CDI_Q1003 / SMART_CDI_Q1002

SMART CDI room temperature sensor
Ref. 7898727

SMART CDI RF room temperature sensor (with support)
Ref. 7900088
+ Gateway LINK WIFI (GTW IoT)
Ref. 7898722

Smart CDI is a room sensor that connects to all DE DIETRICH appliances equipped with a Diematic Evolution or E-Pilot panel. SMART CDI RF in combination with WiFi Link (GTW IoT), the system can be remotely connected and controlled.

AD324



SMARTTC_Q007

SMART TC° smart room temperature sensor

R-BUS (wired) - Ref. 7691375

Equipped with a backlit colour screen and a dropdown menu for simplified use, it enables remote control of the heating and domestic hot water via a free application to download application easy for the user to learn, with the option of providing a professional with access to their installation (via authorisation). It enables precise remote control of temperatures and modulation, incorporates various timer programmes with programming help, and provides access to the installation's parameters, including monitoring of consumption, with data backup. While the SMART TC° can operate as a classic remote control without Wi-Fi or the app, it is nevertheless recommended to connect it to the internet to benefit from the latest updates.
For further details, see the dedicated technical leaflet.

FM46



AD_Q0050

Wired outside temperature sensor
Ref. 85757741 / FM46

The wireless outside temperature sensor is only compatible with the Smart TC RF communication gateway (Ref. 7691377).

AD304



AD303



isense_Q0004 + isense_Q0003

“Opentherm” modulating programmable room thermostat, wired Ref. 7609763 / AD304

wireless - Ref. 7609762 / AD303

These thermostats are used for controlling and programming the heating and the domestic hot water. They integrate the setting parameters for the boiler: heating gradient, max. boiler temperature, fan speed, and the estimated energy metering (number of pump, DHW, and total operating hours, etc., in accordance with the RE 2020 specifications). The control system adapts the boiler output to the actual requirements.

Three operating modes are possible:
- **AUTOMATIC**: based on the set weekly programming; the setpoint temperature can be indicated for each programmed period.
- **PERMANENT**: used to permanently maintain the selected temperature for the day, night or frost protection.
- **HOLIDAY**: designed for absences of a long duration. Used to enter start and end dates for an absence and for the temperature to be maintained.

For operation based on the outside temperature, an outside temperature sensor (Ref. 85757741) can be added. The "wireless" version is delivered with a sender-receiver box to be mounted on the wall close to the boiler.

AD301



NANEO_Q0043A

"Opentherm" modulating remote control with room temperature sensor (non-programmable)
Ref. 7612097

This remote control uses its room temperature sensor to regulate the temperature of a reference room, adapting the boiler output to obtain the setpoint temperature set by the user. It also regulates the DHW temperature. It integrates the setting parameters for the boiler: temperature display and setting including the DHW temp. and max. heating temp., counter functions (number of start-ups, number of pump, DHW or total operating hours, etc.), display of the "error codes", etc

AD337



AD338



TH_Q0001 / Trasmettitore_termostato

Programmable room thermostat (wired) - Ref. 7768817

Programmable room thermostat (wireless) - Ref. 7768818

These thermostats are used to regulate the heating according to various operating modes:

AUTOMATIC: according to the timer programming, the setpoint temperature automatically switches from Comfort to Economy and vice versa. It is also possible to remain in permanent comfort mode, reduced mode or frost protection mode

- **ABSENT**:This mode allows a permanent temperature of between 5° and 15° to be set
- **MANUAL**: this mode is used to switch from comfort to economy (or vice versa) until the next programme change
- **OFF**: this mode is used to stop the heat demand, for example in summer.

SCB 17



PdC_Q0116

SCB-17B expansion PCB kit
Ref. 7800385

This PCB can be installed to provide additional functions such as the management of multiple zones.

AD 199



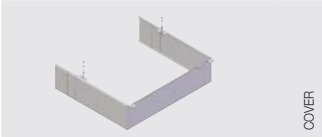
GT220_Q0002

Flow sensor after mixing valve
Ref. 88017017

BOILER OPTIONS

VIVADENS MCR

ACCESSORIES



Valve Cover

- Equipped for Vivadens MCR (heating only and MI) - Height 100 mm
  Ref. 7776960
- Equipped for Vivadens MCR BIC - Height 155 mm - **Ref. 7859367**

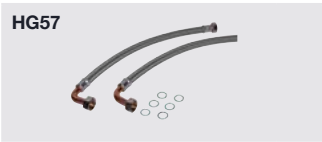


Spacer frame with tubes

- Equipped for Vivadens MCR (heating only and MI) - Depth 40 mm - **Ref. 7776961**
- Equipped for Vivadens MCR BIC - Depth 40 mm - **Ref. 7860330**



Pipes for boiler / DHW TANK BMR80 Connection Kit
Ref. 100011287 / HG56



Boiler / DHW TANK SRB130 Connection Kit
Ref. 100011288 / HG57



1/2" - 3/4" offset wrench
Ref. C71414101



Wall-mounted frame with pre-installed water and gas connections MCR 24/32
Ref. 7911726



Wall-mounted frame with pre-installed water and gas connections MCR 24/29 MI - 32/35 MI
Ref. 7911727



Wall-mounted frame with pre-installed water and gas connections MCR 24/35 BIC
Ref. 7911728

BOILER OPTIONS

VIVADENS MCR

THE HYDRAULIC SHARING MODULES



2-zone sharing module
(1 Direct+1 Mixed) - Ref. 7801430

This module with compact dimensions (700 mm x 450 mm x 210 mm) is supplied with the following:

- 2 self-modulating pumps
- 1 mixing valve
- 1 safety temperature limiter
- 1 negative temperature flow sensor for the mixed circuit
- 2 non-return valves
- SCB-17B expansion PCB.





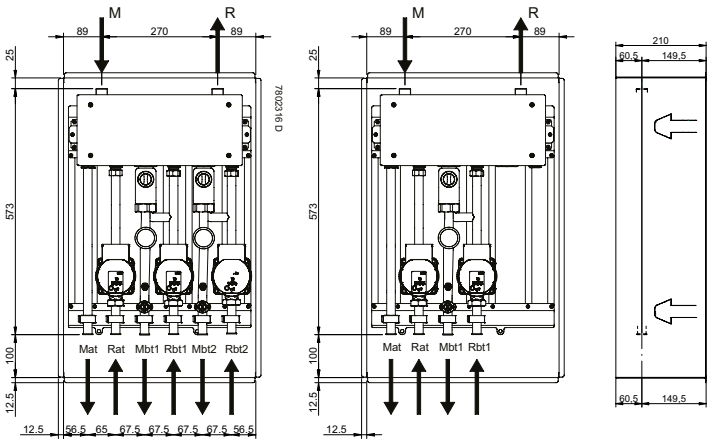
3-zone sharing module
(1 Direct+2 Mixed) - Ref. 7801432

This module with compact dimensions (700 mm x 450 mm x 210 mm) is supplied with the following:

- 3 self-modulating pumps
- 2 mixing valves
- 2 safety temperature limiters
- 2 negative temperature flow sensors for the mixed circuit
- 3 non-return valves
- SCB-17B and SCB-04.

Casing for the sharing module
Ref. 7222565

DIMENSIONS OF THE SHARING MODULES (IN MM)



CHOICE OF OPTIONS DEPENDING ON THE CIRCUITS CONNECTED WITH THE E-PILOT CONSOLE

TYPE OF CIRCUIT		DHW	1 direct circuit	1 direct circuit + 1 mixed circuit		1 direct circuit + 2 mixed circuits
Boiler	**Options**					
Vivadens MCR 24/32	Control system (1)	100000030 DHW sensor	✓	7801430 (Sharing module with control system PCB included)	O 7800385 (SCB-17B expansion PCB) + 88017017 (flow sensor) + External hydraulic module	7801432 (Sharing module with control system PCB included)
	Hydraulic system	✓	✓			
Vivadens MCR ... MI **Vivadens MCR 24/35 BIC**	Control system (1)	✓	✓	7801430 (Sharing module with control system PCB included)	O 7800385 (SCB-17B expansion PCB) + 88017017 (flow sensor) + External hydraulic module	7801432 (Sharing module with control system PCB included)
	Hydraulic system	✓	✓			

(1) Each of the **"heating"** circuits can be completed with either a sensor or a room thermostat from those listed in the options.

✓ : function included as standard.

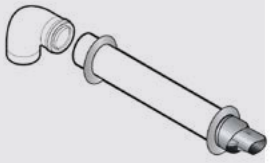
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BOILER OPTIONS

VIVADENS MCR

FLUE SYSTEM ACCESSORIES

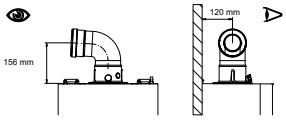
DY871



DY871_F0001

PPS horizontal flue terminal, ø 60/100 mm l=800 mm - Ref. 100008296 / DY871





Contains:
- 60/100 mm flow elbow
- Interior and exterior escutcheon plates
- 800 mm horizontal flue terminal

DY920



NANEO_Q0023A

Connecting kit for shared flue system 3 CEP, Ø 80/125 mm Ref. 100019963 / DY920

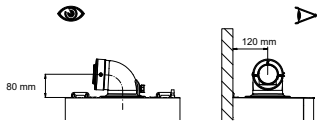
NG1



NG1_Q0001

PPS compact elbow Ø 60/100 mm Ref. 7220862 / NG1



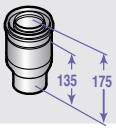




INI_Q7755080

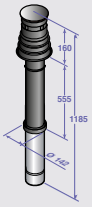
Flue gas outlet Ø 80/125 mm Ref. 7755080

DY708



DY708_F0001

Adapter Ø 60/100 mm - Ø 80/125 mm Ref. 84887708 / DY708



DY843_F0001

PPS vertical flue terminal ø 80/125 mm

- **Black - Ref. 100002732**
- **Red - Ref. 100002733**



Gomito_7802898

MCR replacement elbow Ø 60/100 mm Ref. 7802898



INI_Q7220861

Bi-flue adapter 2 x 80 mm Ref. 7220861.
Allows C53 parallel pipe installation



INI_Q7782188

Reduced elbow for horizontal forced flue terminal Ref. 7782188
Saves space at heights up to 66 mm.



INI_Q7683812

PPS reduction piece Ø 80 to Ø 60 mm Ref. 7683812



INI_Q7683812

PPS reduction piece Ø 80 to Ø 50 mm Ref. 7735536

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INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

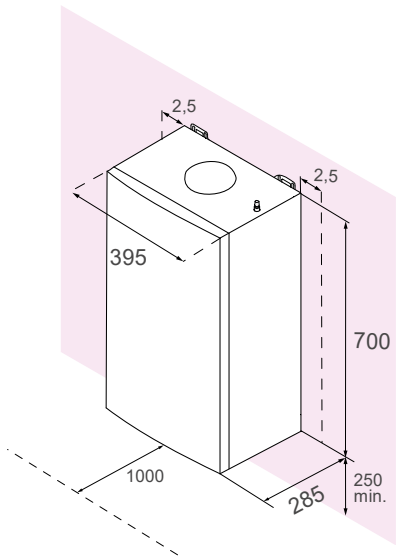
STATUTORY INSTRUCTIONS ON INSTALLATION AND MAINTENANCE

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

LOCATION

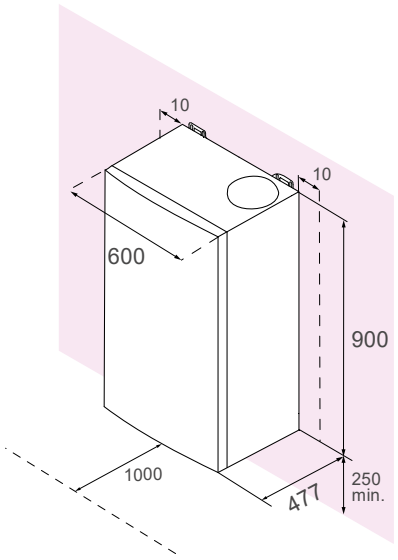
Virtuens MCA condensing boilers must be installed in a frost-free location, which can also be ventilated. Under no circumstances may they be installed above a heat source or cooking appliance.
The IP X5D protection index enables them to be installed in kitchens and bathrooms, with the exception of volume areas 1 and 2. The wall to which the boiler is secured must be capable of bearing the weight of the boiler when filled with water.
To ensure adequate access to the boiler, we recommend the minimum dimensions indicated below are respected.

VIVADENS MCR / VIVADENS MCR MI



Vivadens Smart_F0003

VIVADENS MCR BIC



Vivadens SmartBIC_F0003

VENTILATION

Ventilation must comply with the applicable regulations.

GAS CONNECTION

Comply with all applicable national or local instructions and regulations. In all cases, an isolation valve must be fitted as close as possible to the boiler. This valve is prefitted to the hydraulic connection plate delivered with Virtuens MCA boilers. A gas filter must be fitted to the boiler inlet.
Gas supply pressure:
- 20 mbar for natural gas H, G20,
- 25 mbar for natural gas L, G25,
- 37 mbar for propane, G31.

This appliance is designed to operate with natural gas containing up to 20% hydrogen (H_2).

CERTIFICATE OF CONFORMITY

The installer is required to draw up a certificate of conformity in line with article 21 of the order dated 23rd February 2018.

ELECTRICAL CONNECTION

The electrical safety of the equipment is only ensured when it is correctly connected to an effective earthing system in accordance with the applicable safety standards for installations.
The boiler must be electrically connected to a 230 V single-phase + earth mains supply.

This must comply with the applicable standard.
The boiler must be powered by an electrical circuit comprising an all-pole switch with an opening distance > 3 mm. Protect the connection to the mains with a 6 A fuse.

IMPORTANT: Condensing boilers are based on the principle of recovering the energy contained in the steam from the flue gases (latent heat from vaporisation). As a result, to achieve an annual operating efficiency of around 109%, the heating surfaces must be sized so as to obtain low return temperatures, below the dewpoint (for example, underfloor heating, low temperature radiators, etc.). This must be ensured throughout the heating period.

INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

WATER CONNECTIONS

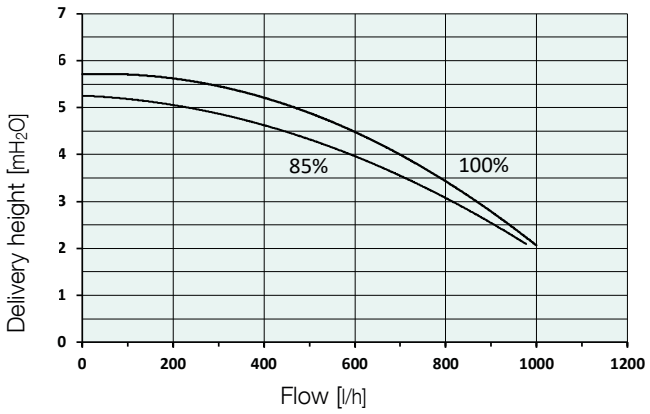
CONNECTION TO THE HEATING CIRCUIT

Virtuens MCA boilers must only be used in closed-circuit heating installations. The central heating systems must be cleaned to remove the debris resulting from installation of the system (copper, strands, brazing flux) and any deposits that could cause malfunctions (noise in the system, chemical reaction between metals). More specifically, if fitting a boiler within an existing installation, it is strongly recommended that sludge is eliminated from 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, underfloor heating, PER).
The water treatment products used must comply with regulations.

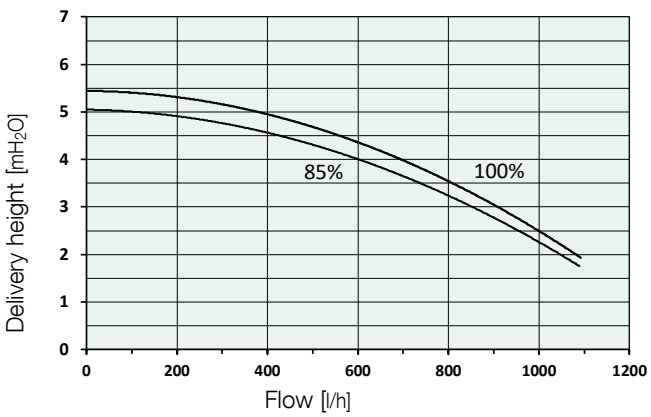
CHARACTERISTICS OF THE CIRCULATING PUMP

The pump used is a modulating type pump with high head suitable for use on any type of single or two-pipe heating system. The automatic air vent valve built into the pump body enables fast venting of the heating installation.
To prevent flow noise, you must pay attention to the hydraulic design of the heating installation.

VIVADENS MCR 24 AND VIVADENS MCR 24/29 MI



VIVADENS MCR 32 -32/35MI AND VIVADENS MCR 24/35 BIC



Output of the pump in DHW mode —> fixed at 100%.
Output of the pump in heating mode —> modulating from 85% to 100%.

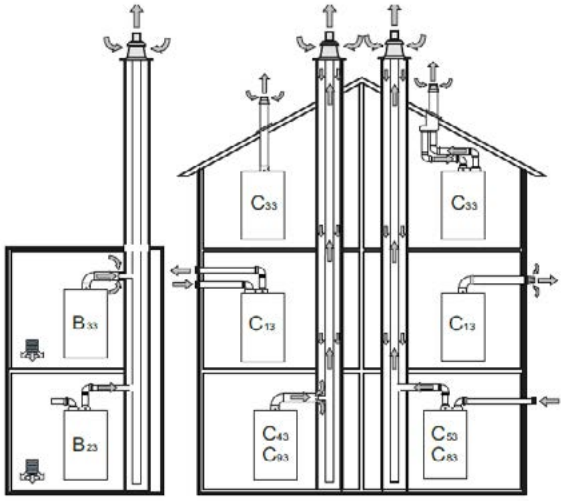
CONDENSATE DRAIN

The trap provided must be connected to the wastewater discharge system. The connection must be removable and the flow of condensates visible. The connections and pipes must be made from corrosion-resistant material. An optional condensate neutralisation system is available.

INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

AIR/FLUE GAS CONNECTION



Configuration

The Virtuens MCA boiler is an appliance which includes the fan upstream of the combustion chamber/heat exchanger.

TYPE B CONFIGURATIONS:

Appliance designed to be connected to an exhaust pipe for the evacuation of combustion products outside of the room in which it is installed. The combustion air is taken directly from the room.

B_{23} Appliance designed to be connected to a chimney for the evacuation of combustion products outside of the room in which it is installed. The combustion air is taken directly from the room.
B_{23P} The B_{23P} appliance is designed to be connected to an exhaust system which operates with positive pressure.
B_{33} Appliance designed for connection to a collective flue. This system consists of a single natural draught channel. The boiler exhaust pipe is contained inside a pipe for the intake of the combustion air, which is taken from inside the room. The combustion air penetrates through the openings in the surface of the appliance's concentric pipe.

TYPE C CONFIGURATIONS:

Appliance with a combustion circuit (air supply, combustion chamber, heat exchanger and evacuation of combustion products) which is sealed off from the room in which it is installed.

$C_{(10)3X}$ Appliance designed for connection to an exhaust system which operates with positive pressure.
$C_{(11)3X}$ Appliance designed for connection to an exhaust system which operates with positive pressure, provided by the manufacturer.
C_{13X} Appliance designed to be connected via its pipes to a horizontal terminal, which supplies fresh air to the burner while simultaneously evacuating the combustion products to the outside, through openings which are concentric or which are close enough to be exposed to comparable wind conditions. The terminals for the split exhaust must be located within a square measuring 50 x 50 cm. Detailed instructions are provided together with the individual accessories
C_{33X} Appliance designed to be connected via its pipes to a vertical terminal, which supplies fresh air to the burner while simultaneously evacuating the combustion products to the outside through openings which are concentric or which are close enough to be exposed to comparable wind conditions. The terminals for the split exhaust must be located within a square measuring 50 x 50 cm. Detailed instructions are provided together with the individual accessories.
C_{43X} Appliance designed for connection to a system with a common pipe used by more than one device, via its two supply pipes. This system with a common pipe consists of two pipes connected to a terminal, which supplies fresh air to the burner while simultaneously evacuating the combustion products to the outside through openings which are concentric or which are close enough to be exposed to comparable wind conditions.
C_{43P} The C_{43} appliance is designed for connection to an exhaust system which operates with positive pressure.
C_{53X} Appliance connected, via its separate pipes, to two distinct terminals for drawing in the combustion air and evacuating the combustion products. These pipes may end in areas with different pressures, but not on different walls of the building.
C_{63X} Appliance designed for connection to an approved exhaust system (sold separately) for the intake of combustion air and the evacuation of the combustion products. The maximum pipe pressure loss must not exceed 100 Pa. The pipes must be certified for the specific use and for a temperature exceeding 100°C. The chimney terminal used must be certified according to standard EN 1856-1.
C_{93} Appliance connected, via its exhaust pipe, to a vertical terminal and, via its combustion air intake pipe, to an existing chimney. The terminal supplies fresh air to the burner while simultaneously evacuating the combustion products to the outside through openings which are concentric or which are close enough to be exposed to comparable wind conditions.

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INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

AIR/FLUE GAS CONNECTION

TABLE OF MAXIMUM PERMISSIBLE AIR-FLUE GAS DUCT LENGTHS BASED ON THE BOILER TYPE

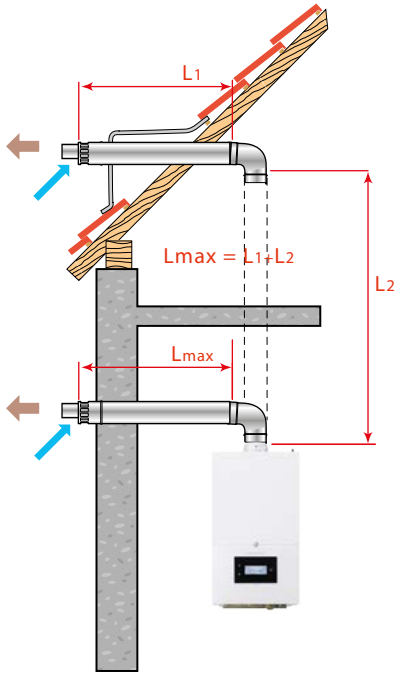
TYPE OF AIR-FLUE GAS CONNECTION			L_{MAX}: EQUIVALENT MAXIMUM LENGTH OF THE CONNECTION DUCTS (IN m)				
			VIVADENS MCR 24	VIVADENS MCR 32	VIVADENS MCR 24/29 MI	VIVADENS MCR 32/35 MI	VIVADENS MCR 24/25 BIC
1 Flue gas/air supply ducts connected to a horizontal flue terminal **(PPS)**	C_{13}	Ø 60/100 mm	10	10	10	10	10
		Ø 80/125 mm	25	25	25	25	25
2 Flue gas/air supply ducts connected to a vertical terminal **(PPS)**	C_{33}	Ø 60/100 mm	10	10	10	10	10F
		Ø 80/125 mm	25	25	25	25	25
3 Duct(s): - concentric in boiler room, - single **rigid or flexible** in the chimney (combustion air in counter-current) **(PPS)**	C_{93}	Ø 60/100 mm Ø 80 mm	1 30	1 30	1 30	1 20	1 20
		Ø 60/100 mm Ø 60 mm	1 30	1 30	1 30	1 20	1 20
		Ø 60/100 mm Ø 50 mm	1 30	1 30	1 30	1 20	1 20
		Ø 80/125 mm Ø 80 mm	2 30	1 30	2 30	2 20	2 20
4 Duct(s): - concentric in boiler room, - single **rigid or flexible** in the chimney (combustion air taken from within the premises)	B_{23P}/B_{33}	Ø 60/100 mm Ø 80 mm	1 30	1 30	1 30	1 20	1 20
		Ø 60/100 mm Ø 60 mm	1 30	1 30	1 30	1 20	1 20
		Ø 60/100 mm Ø 50 mm	1 30	1 30	1 30	1 20	1 20
		Ø 80/125 mm Ø 80 mm	2 30	2 30	2 30	2 20	2 20
4 Duct(s): - concentric in boiler room, - single **rigid or flexible** in the chimney (combustion air taken from within the premises)	B_{23}	Ø 60/100 mm 40 mm	- -	- -	- -	3 25,2	3, 25,2
5 Separate air and flue gas pipes with bi-flow adapter (combustive air taken from outside)	C_{53}	Ø 60/100 mm su 2 x 80 mm	80	80	80	80	80

INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

AIR/FLUE GAS CONNECTION

1 CONFIGURATION C_{13} - ALUMINIUM/PPS CONCENTRIC HORIZONTAL FORCED FLUE
(connection to outside wall or with roof outlet)



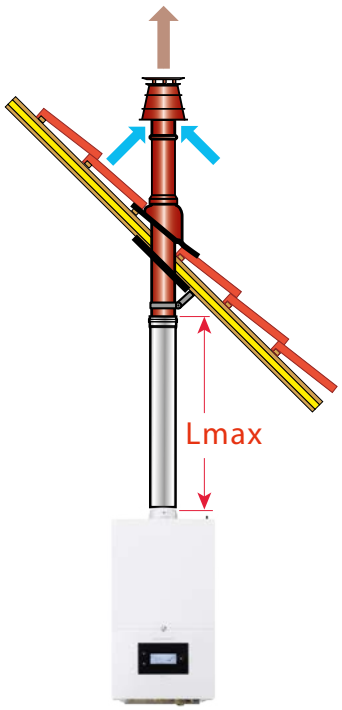
	Lmax (m)	Lmax (m)
CONNECTION Ø (mm) ▶	60/100	80/125
▼ BOILER TYPE		
Vivadens MCR 24	10	25
Vivadens MCR 32	10	25
Vivadens MCR 24/29 MI	10	25
Vivadens MCR 32/35 MI	10	25
Vivadens MCR 24/35 BIC	10	25

FUMI_F0003E

	EQUIVALENT LENGTH (m)	
CONNECTION Ø (mm) ▶	60/100	80/125
87° elbow	1,0	1,0
45° elbow	0,5	0,25

AIR/FLUE GAS CONNECTION

2 CONFIGURATION C_{33} - ALUMINIUM/PPS CONCENTRIC VERTICAL FORCED FLUE
(connection to sloping or flat roof)



	Lmax (m)	Lmax (m)
CONNECTION Ø (mm) ▶	60/100	80/125
▼ BOILER TYPE		
Vivadens MCR 24	10	25
Vivadens MCR 32	10	25
Vivadens MCR 24/29 MI	10	25
Vivadens MCR 32/35 MI	10	25
Vivadens MCR 24/35 BIC	10	25

FUMI_F0110B

	EQUIVALENT LENGTH (m)	
CONNECTION Ø (mm) ▶	60/100	80/125
87° elbow	1,0	1,0
45° elbow	0,5	0,25

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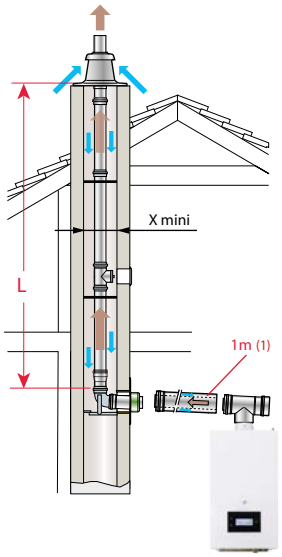
INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

AIR/FLUE GAS CONNECTION

3 CONFIGURATION C_{93} - ALUMINIUM/PPS FLUE GAS/AIR SUPPLY DUCTS IN THE BOILER ROOM, SINGLE "RIGID" PPS DUCTS IN THE CHIMNEY

(combustion air in counter-current)



CONNECTION Ø (mm):		L_{MAX} (m)		
IN THE BOILER ROOM ▶		80/125	60/100	60/100
IN THE CHIMNEY ▶		80 RIGID	60 RIGID	50 RIGID
▼ BOILER TYPE				
Vivadens MCR 24		30	30	30
Vivadens MCR 32		30	30	30
Vivadens MCR 24/29 MI		35	30	30
Vivadens MCR 32/35 MI		20	20	20
Vivadens MCR 25/35 BIC		20	20	20
X min	⊟	140	140	140
	Ø	160	160	160

	EQUIVALENT LENGTH (m)				
CONNECTION Ø (mm) ▶	60/100	80/125	80	60	50
87° elbow	1,0	1,0	0,5	2	3
45° elbow	0,5	0,25	0,25	-	-

FUMI_F0111B

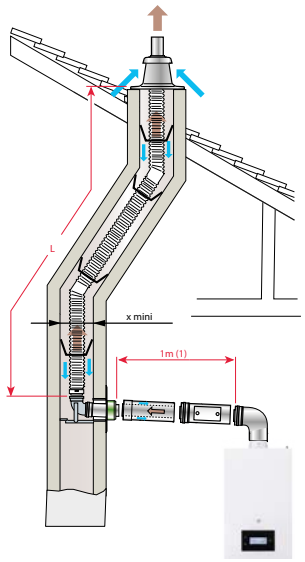
BOILER SHOWN:
Virtuens MCA connected to the Ø 80/125 mm pipe in the boiler room and a rigid Ø 80 mm pipe in the chimney

(1) For each additional metre of horizontal pipe, subtract 1.2 m from the vertical length Lmax indicated in the table above.

AIR/FLUE GAS CONNECTION

3 CONFIGURATION C_{93} - ALUMINIUM/PPS FLUE GAS/AIR SUPPLY DUCTS IN THE BOILER ROOM, SINGLE "FLEXIBLE" PPS DUCTS IN THE CHIMNEY

(combustion air in counter-current)



CONNECTION Ø (mm):		L_{MAX} (m)		
IN THE BOILER ROOM ▶		80/125	60/100	60/100
IN THE CHIMNEY ▶		80 FLEX	60 FLEX	50 FLEX
▼BOILER TYPE				
Vivadens MCR 24		30	30	30
Vivadens MCR 32		30	30	30
Vivadens MCR 24/29 MI		35	30	30
Vivadens MCR 32/35 MI		20	20	20
Vivadens MCR 24/29 MI		25	20	20
X min	⊟	140	140	140
	Ø	160	160	160

	EQUIVALENT LENGTH (m)				
CONNECTION Ø (mm) ▶	60/100	80/125	80	60	50
87° elbow	1,0	1,0	0,5	2	3
45° elbow	0,5	0,25	0,25	-	-

FUMI_F0112B

BOILER SHOWN:
Virtuens MCA connected to the Ø 80/125 mm pipe in the boiler room and a flexible Ø 80 mm pipe in the chimney

(1) For each additional metre of horizontal pipe, subtract 1.2 m from the vertical length Lmax indicated in the table above.

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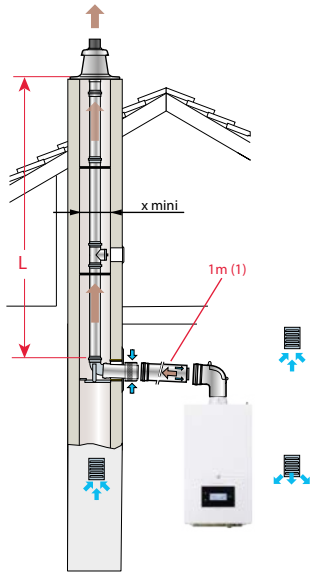
INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

AIR/FLUE GAS CONNECTION

4 CONFIGURATION B_{23P}/B_{33} - CONNECTED TO A CHIMNEY BY ALUMINIUM/PPS FLUE GAS/AIR SUPPLY DUCTS IN THE BOILER ROOM, SINGLE PPS DUCTS IN THE CHIMNEY

(combustion air taken from the boiler room or in the installation room)



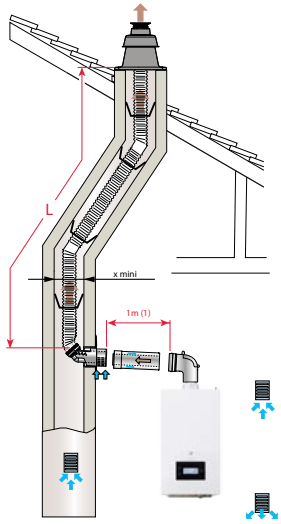
CONNECTION Ø (mm):		L_{MAX} (m)		
IN THE BOILER ROOM ▶		80/125	60/100	60/100
IN THE CHIMNEY ▶		80 RIGID	60 RIGID	50 RIGID
▼ BOILER TYPE				
Vivadens MCR 24		30	30	30
Vivadens MCR 32		30	30	30
Vivadens MCR 24/29 MI		30	30	30
Vivadens MCR 32/35 MI		20	20	20
Vivadens MCR 24/35 BIC		20	20	20
X min	⊟	140	140	140
	∅	160	160	160

	EQUIVALENT LENGTH (m)				
CONNECTION Ø (mm) ▶	60/100	80/125	80	60	50
87° elbow	1,0	1,0	0,5	2	3
45° elbow	0,5	0,25	-	-	-

FUMI_F0114B

(1) For each additional metre of horizontal pipe, subtract 1.2 m from the vertical length Lmax indicated in the table above.

PIPE OF RIGID CHIMNEY



CONNECTION Ø (mm):		L_{MAX} (m)		
IN THE BOILER ROOM ▶		80/125	60/100	60/100
IN THE CHIMNEY ▶		80 FLEX	60 FLEX	50 FLEX
▼ BOILER TYPE				
Vivadens MCR 24		30	30	30
Vivadens MCR 32		30	30	30
Vivadens MCR 24/29 MI		30	30	30
Vivadens MCR 32/35 MI		20	20	20
Vivadens MCR 24/35 BIC		20	20	20
X min	⊟	140	140	140
	∅	160	160	160

	EQUIVALENT LENGTH (m)				
CONNECTION Ø (mm) ▶	60/100	80/125	80	60	50
87° elbow	1,0	1,0	0,5	2	3
45° elbow	0,5	0,25	0,25	-	-

FUMI_F0115B

(1) For each additional metre of horizontal pipe, subtract 1.2 m from the vertical length Lmax indicated in the table above.

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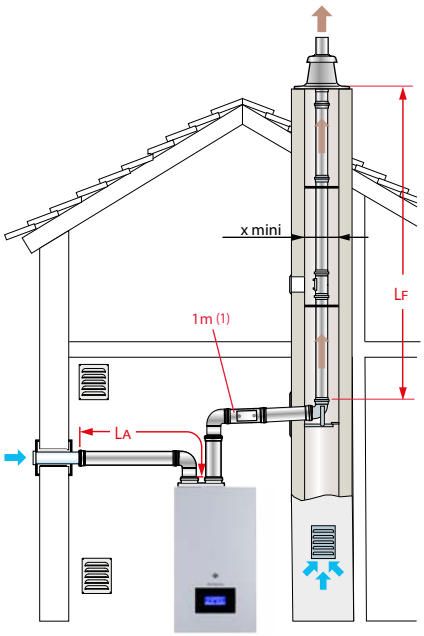
INFORMATION REQUIRED FOR INSTALLATION

VIVADENS MCR

FOR INSTALLATION OF THE VIRTUENS SMART

5 CONFIGURATION C_{53} - SEPARATE AIR AND FLUE GAS PIPES WITH BI-FLOW ADPATER
(combustive air taken from outside)

PIPE OF RIGID CHIMNEY



CONNECTION Ø (mm):			
IN THE BOILER ROOM ▶	60/100 MM TO 2X80 MM		
IN THE CHIMNEY ▶	L (M)	LF (M)	LA (M)
▼ BOILER TYPE			
Vivadens MCR 24	80	70	10
Vivadens MCR 32	80	65	15
Vivadens MCR 24/29 MI	80	70	10
Vivadens MCR 32/35 MI	80	65	15
Vivadens MCR 24/35 BIC	80	70	10
X min □		140	
X min Ø		160	

FUMI_C53

(1) For each additional metre of horizontal pipe, subtract 1.2 m from the vertical length Lmax indicated in the table above.

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INSTALLATION EXAMPLE

VIVADENS MCR

The examples shown below cannot include all of the possible installation scenarios that may be encountered. They are intended to draw attention to the basic rules to be respected. A number of safety and control components (including some built into Vivadens MCR... boilers as standard) are shown, though ultimate responsibility for providing the final safety and control components in the boiler room, based on its individual requirements, lies with the installers, consultant engineers and design offices. In every case, it is important to comply with the applicable regulations and adhere to good industry practice.
Caution: When connecting the domestic hot water system, if the distribution pipes are made of copper, a dielectric coupling must be installed between the hot water outlet and these pipes in order to prevent any corrosion at the connection points.

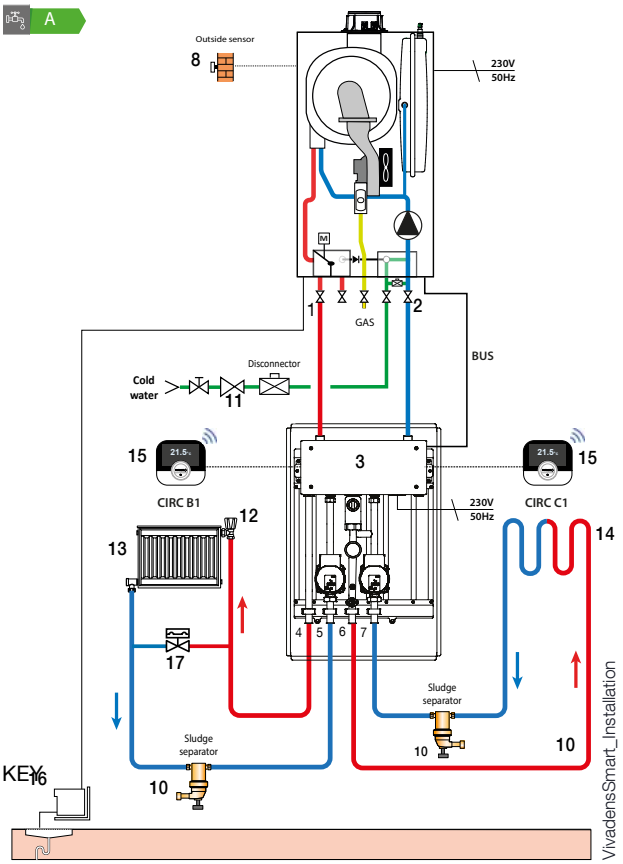
VIVADENS MCR 24 WITH 2 HEATING CIRCUITS

- 1 direct "radiator" circuit
- 1 direct "underfloor heating" circuit
- 1 DHW production with a BMR 80 tank

SYSTEM

A+ With SMART CDI room temperature sensor and cloud-based outside temperature **or** an outside temperature sensor (option)

A



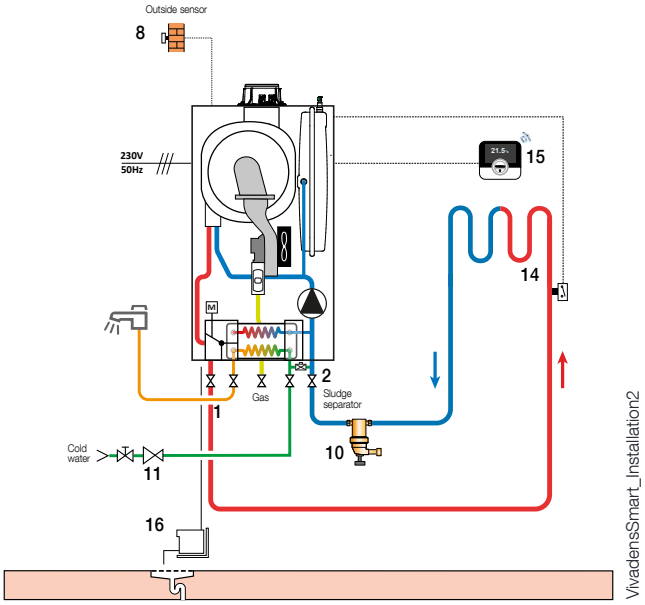
VIVADENS MCR 24 ...MI

- 1 direct underfloor heating circuit and DHW production, controlled by 1 SMART TC° connected room thermostat + outside temperature sensor

SYSTEM

A+ With SMART CDI room temperature sensor and cloud-based outside temperature **or** an outside temperature sensor (option)

A



1 Heating flow
2 Heating return
3 2-zone sharing module including:
- SCB 17 PCB
- Heating accelerators
- Three-way mixing valve
- Flow sensor after valve
- Safety temperature limiter

4 Heating flow direct circuit
5 Heating return direct circuit
6 Heating flow mixed circuit
7 Heating return mixed circuit
9 Optional outside temperature sensor (if you are not using a cloud connected outside temperature)
10 Dirt separator
11 Pressure reducer

12 Radiator valve
13 Radiator circuit
14 Low temperature circuit
15 SMART TC° smart room thermostat
16 Condensate neutralisation system
17 Pressure actuated bypass valve

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