Prestige 50 - 75 - 120 MCBA-5

Installation, operating and maintenance instructions

ISO 9001 CERTIFIED VINÇOTTE

ENGLISH
FRANÇAIS
NEDERLANDS
ESPAÑOL
ITALIANO
DEUTSCH
POLSKI

ENGLISH FRANÇAIS NEDERLANDS ESPAÑOL ITALIANO DEUTSCH POLSKI

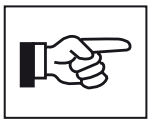
INDEX

WHO SHOULD READ THESE INSTRUCTIONS

These instructions should be read by:
- the specifying engineer
- the user
- the installer
- the service engineer

SYMBOLS

The following symbols are used in this manual:



Essential instruction for the correct operation of the installation.

Essential instruction for the safety of persons and the environment.

Danger of electrocution

Danger of burns

RECOMMENDATIONS

- **Before installing and commissioning the boiler, first carefully read this manual.**
- **It is prohibited to modify the interior of the appliance in any way, without the manufacturer's prior written agreement.**
- **The boiler must be installed by a qualified engineer in accordance with applicable local standards and codes of practice.**
- **Failure to follow the instructions describing test operations and procedures could result in personal injury or a risk of environmental pollution.**
- **In order to ensure the appliance operates safely and correctly, it is important to have it serviced by an approved installer.**
- **If there is a problem please contact your installer for advice.**
- **In spite of the strict quality standards that ACV applies to its appliances during production, inspection and transport, faults may occur. Please immediately notify your approved installer of any faults. Remember to indicate the fault code as it appears on the screen.**
- **Defective parts can only be replaced with original factory parts. You will find a list of spare parts and their ACV reference number at the end of this manual.**
- **Special rule in Belgium: for Prestige Solo 50 - 75**
  The CO2, gas flow, air flow and air/gas supply parameters are factory preset and cannot be changed in Belgium.

- **Before carrying out any work on the boiler, it is important to isolate the electrical supply.**
- **The user must not attempt to gain access to the components inside the boiler or the control panel.**

CERTIFICATION

The appliances bear the "**CE**" mark, in accordance with the standards in force in the various countries [European Directives **92/42/EEC** "Efficiency" and **90/396/EEC** "Gas Appliances"]. These appliances also bear the Belgian quality label "**HR-TOP**" [condensing gas boiler].

IMPORTANT NOTES

IF YOU SMELL GAS:
- Immediately shut off the gas supply.
- Ventilate the room (Open the windows).
- Do not use electrical appliances and do not switch anything on or off.
- Immediately notify your gas supplier and/or your installer.

This manual forms part of the items delivered with the appliance and must be given to the user to keep in a safe place!

The system must be installed, commissioned, serviced and repaired by an approved installer, in accordance with current standards in force.

The manufacturer declines all liability for any damage caused as a result of incorrect installation or in the event of the use of appliances or accessories that are not specified by the manufacturer.

The manufacturer reserves the right to change the technical characteristics and features of its products without prior notice.

The availability of certain models as well as their accessories may vary according to markets.

INTRODUCTION

GENERALITY

Filling water contains elements susceptible to damage boilers heat exchangers in case their concentration goes out of an adequate range.
The risk is growing with the size of the installation since the water content per installed kW increases.

PRINCIPLE OF PREVENTION

OXYGEN

Depending of the volume of the installation, a certain amount of oxygen is introduced in the installation. During the exploitation of the installation, some oxygen can be brought in the system in case of water re-filling and/or presence of hydraulic components without oxygen barrier (PE tubes & connectors).
The oxygen reacts with the steel creating corrosion and generating sludges. While the ACV Prestige heat exchanger is made of stainless steel and is by consequent not sensible to corrosion, the sludges generated in carbon steel part of the installation (radiators, ...) will lay down in the hot parts including the heat exchanger.
The sludges in the heat exchanger have the effect to reduce the water flow rate and to thermically insulate the active parts of the heat exchanger, what could lead to damages.

HOW TO PREVENT AGAINST OXYGEN ?

- mechanical system : an air remover combined to a sludges remover installed following the constructors specifications limits efficiently the risk of oxygen in the installation;
- chemical system : additives allow the oxygen to stay in solution in the water. ACV recommends the additives from Fernox (www.fernox.com) and from Sentinel (www.sentinel-solutions.net).
  note that these products must be used in strictly accordance with the water treatment manufacturer's instructions.

HARDNESS

Depending of the volume of the installation, the hardness of water and the possible re-filling, a certain amount of lime is introduced in the installation. The lime will lay down in the hot parts, including the heat exchanger creating a reduction of the water flow rate and a thermal insulation of the active parts of the heat exchanger. That phenomena can damage the heat exchanger.

Acceptable hardness range:

$mmolCa(HCO3)_2$ / l	°DH	°FH
0,5 - 1	2,5 - 5,6	5 - 10

HOW TO PREVENT ?

the filling and re-filling water must be softened if necessary to match the working range. Additives can be used to keep the calc in solution in the water, ACV recommends the additives from Fernox (www.fernox.com) and from Sentinel (www.sentinel-solutions.net).
note that these products must be used in strictly accordance with the water treatment manufacturer's instructions.
The water hardness must be check regularly and recorded in a file.

OTHER PARAMETERS

In addition to the oxygen and the hardness, some other parameters must be controlled in the water of heating installations.

Acidity	6,6 < pH < 8,5
Conductivity	< 400 µS/cm (a 25°C)
Chloride	< 125 mg/l
Iron	< 0,5 mg/l
Cu	< 0,1 mg/l

Those parameters has to be measured and water needs chemical treatment in case of values out of range. ACV recommends the additives from Fernox (www.fernox.com) and from Sentinel (www.sentinel-solutions.net).
Note that these products must be used in strictly accordance with the water treatment manufacturer's instructions.

INSTALLATION CLEANING

Before filling an installation, it must be cleaned following the standard **EN14868**.
Chemical cleaners can be used, ACV recommends the additives from Fernox (www.fernox.com) and from Sentinel (www.sentinel-solutions.net).
Note that these products must be used in strictly accordance with the water treatment manufacturer's instructions.

In case at least one of those recommendations can not be warranted, the boiler must be hydraulically separated of installation using plate heat exchanger

DESCRIPTION OF THE TECHNICAL SPECIFICATIONS

The **Prestige** is a wall-hung condensing boiler meeting the requirements of current "**HR-Top**" standards in Belgium. The boiler is certified compliant with "**EC**" standards as a connected appliance: **C13(x) - C33(x) - C33s - C43(x) - C53 - C83(x)**, but it can also be connected as an open appliance in category **B23** or as an appliance of category **B23P**, which can operate with a positive pressure.

HOUSING

The boiler is enclosed in a steel housing, which has been treated with a degreasing and phosphatizing process, then spray painted and baked at 220°C. The inside of this housing is lined with a layer of thermal and sound insulation, which minimizes losses.

HEAT EXCHANGER

The core of the **Prestige** features a new stainless steel heat exchanger that is the fruit of exhaustive research and intensive laboratory testing. This exchanger reflects ACV's 80 years of experience in using stainless steel for heating and hot water generation systems. The special shape of the heat exchanger is calculated to obtain a very high Reynolds number throughout all its cycles. The **Prestige** thus achieves an exceptional output that remains stable throughout the boiler's life, given that it causes no oxidation on the exchanger, which is manufactured entirely from high-quality steel.

BURNER

ACV uses its BG 2000-M burner for the **Prestige**: this is a modulating air/gas premix burner providing safe and quiet operation while limiting emissions (NOx and CO) to an incredibly low level. Although the ACV BG 2000-M burner is very modern, it uses proven technology and is manufactured using standard spare parts that are easily available on the market.

TEMPERATURE CONTROL

The basic version of the **Prestige** is fitted with a regulator controlled by an MCBA microprocessor [Micro-Controlled Boiler Automate), which handles the safety functions (ignition, flame monitoring, temperature limitation, etc,) and the temperature control of the boiler. This MCBA also features a regulator governed by outdoor weather conditions. Simply connect the outdoor temperature sensor, available as an option.
However, this regulator can also operate with a standard room thermostat (on/off). Combining this regulator with a room thermostat provides temperature control governed by outdoor weather conditions, with indoor compensation.
The user may access four parameters to adjust all the necessary settings. By entering a specific maintenance code into the unit, qualified installers may access certain parameters, in order to adapt the boiler to special requirements. In principle, these are factory preset for all normal applications.

HOT WATER GENERATION

- It is specially designed to operate only as a heater or in combination with the whole range of ACV water tanks. The Smart Line range is the number one choice for domestic or commercial applications.

FROST PROTECTION

The boiler features a built-in frost protection mechanism: as soon as the flow temperature [NTC1 probe] drops below 7°C, the central heating pump is activated. As soon as the flow temperature is at 3°C, the burner starts up until the flow temperature rises above 10°C. The pump continues to run for around 10 minutes.

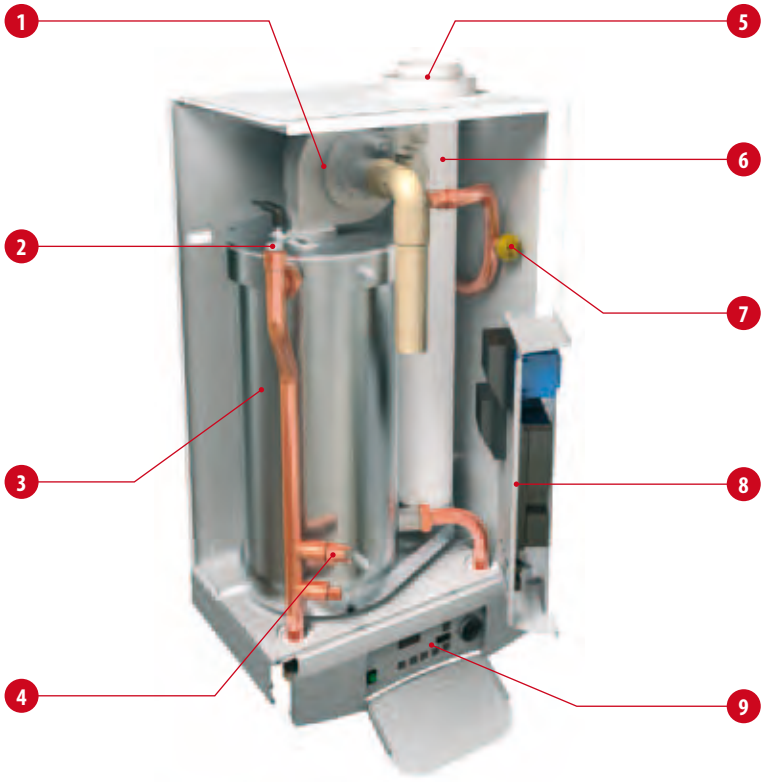
If an outdoor temperature probe is connected, the pump is activated when the outside temperature drops below the preset threshold.

In order to enable the Prestige boiler to protect the whole system against freezing, all the valves of the radiators and the convectors should be completely open.

INTRODUCTION

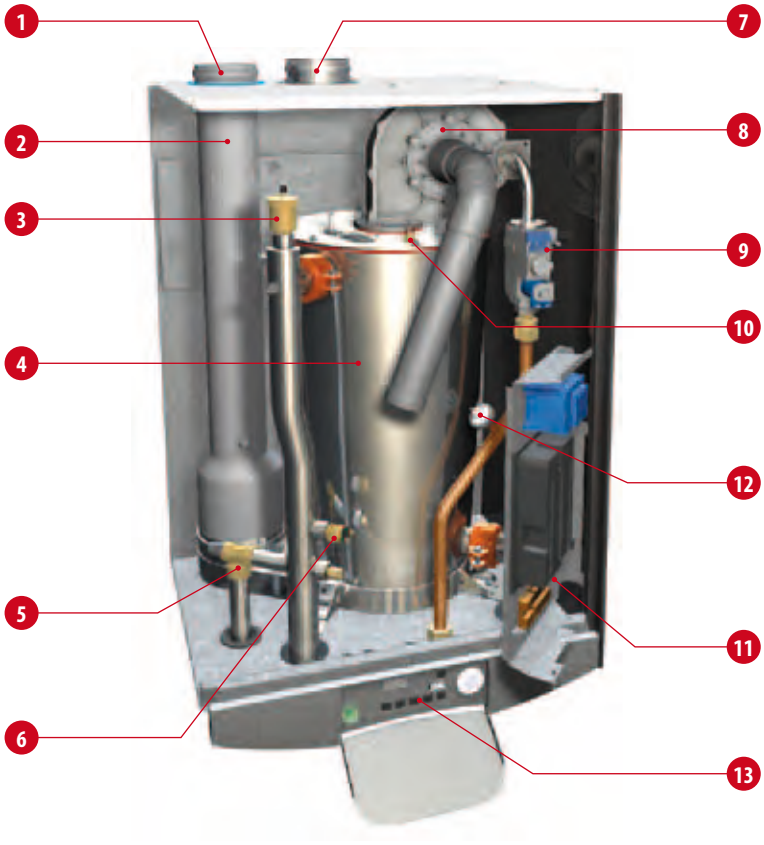
Prestige Solo 50 - 75

1. Modulating Air/Gas premix burner
2. Manual air vent
3. Stainless steel heater body
4. Low-water-level pressure switch
5. Concentric chimney connection Ø 100/150 mm
6. Chimney tube
7. Gas pressure switch
8. Electrical panel
9. Control panel



Prestige Solo 120

1. Chimney connection Ø 100 mm
2. Chimney tube
3. Auto-air vent
4. Stainless steel heater body
5. Safety valve
6. Low-water-level pressure switch
7. Air intake connection Ø 100 mm
8. Modulating Air/Gas premix burner
9. Gas valve
10. Safety thermostat
11. Electrical panel
12. Gas pressure switch
13. Control panel



INSTRUCTIONS FOR USE

Your system must be inspected and serviced once a year by an approved installer.

STARTING THE BURNER

During operation, the burner starts automatically as soon as the temperature of the boiler drops below the set point and turns off as soon as the boiler reaches that temperature.

CONTROL PANEL

HEATING SYSTEM

The heating system must be pressurised [see in the "COMMISSIONING" section how to determine the service pressure]. The pressure is indicated on the gauge on the right-hand side of the display.

In the case of repeated fills, contact your installer.

The heating circuit pressure must be at least 1 bar and must be checked regularly by the user. If the pressure drops below 0.5 bar, the built-in water pressure switch blocks the appliance until the system's pressure goes back to over 0.8 bar. The installer may also fit the system with a separate valve. Make sure that the appliance is always turned off when filling the system. To do so, flip the on/off switch located to the left of the control panel. *(see control panel)*.

For more information, please ask your installer when the system is delivered.

SETTING THE PARAMETERS

DOMESTIC HOT WATER TEMPERATURE SETTING :

(Hot water temperature)

- Press "**MODE**" once: the screen indicates "**PARA**".
- Press "**STEP**".: the first digit is **1** and the last two digits indicate the current hot water temperature setting.
- To change this temperature, press "**+**" or "**—**" keys until the temperature indicated by the last two digits is the desired temperature.
- Press "**STORE**" to save the setting.
- Press "**MODE**" twice to return to normal operating mode [Stand-by).

ENABLING AND DISABLING HOT WATER MODE :

(hot water)

- Press "**MODE**" once: the screen displays "**PARA**"..
- Press "**STEP**" twice: the first digit is **2** and the last two digits indicate the current setting: **00** = disabled; **01** = enabled.
- To change this parameter, press the "**+**" or "**—**" keys until you reach the desired value: **00** = disabled; **01** = enabled.
- Press "**STORE**" to save the setting.
- Press "**MODE**" twice to return to normal operating mode [Standby).

ENABLING AND DISABLING CENTRAL HEATING MODE :

(central heating)

- Press "**MODE**" once: the screen displays "**PARA**"..
- Press "**STEP**" three times: the first digit is **3** and the last two digits indicate the current setting: **00** = disabled; **01** = enabled.
- To change this parameter, press the "**+**" or "**—**" keys until you reach the desired value: **00** = disabled; **01** = enabled.
- Press "**STORE**"" to save the setting.
- Press "**MODE**" twice to return to normal operating mode [Standby).

SETTING THE TEMPERATURE OF THE CENTRAL HEATING :

(the maximum temperature for the heating circuit)

- Press"**MODE**" once: the screen displays "**PARA**"..
- Press "**STEP**" four times: the first digit is **4** and the last two digits indicate the current temperature setting for the central heating.
- To change this temperature, press the "**+**" or "**—**" keys until the temperature indicated by the last two digits is the desired temperature.
- Press "**STORE**" to save the setting.
- Press "**MODE**" twice to return to normal operating mode [Standby).

FAULT :

The temperature setting of the appliance and the safety functions of its various parts are constantly monitored by a regulator controlled by the microprocessor (MCBA). If a fault occurs, the MCBA turns the unit off and indicates an error code: the display flashes and the first character is an "**E**" followed by the code of the fault (see list of faults)

TO RESET THE UNIT :

- Press "**RESET**" on the screen.
- If the fault code appears again, contact your installer.

TECHNICAL CHARACTERISTICS

		Prestige Solo 50 - 75			
		Natural Gas		Propane	
Central heating		**50**	**75**	**50**	**75**
Max heat input [Input]	**kW**	49,9	72	49,9	72
Min. heat input [Input]	**kW**	15	18,3	15	18,3
Max output 80/60°C	**kW**	48,4	69,9	48,4	69,9
Min. output 80/60°C	**kW**	14,7	17,9	14,7	17,9
Efficiency at 30% load [EN677]	**%**	107,8	107,8	107,8	107,8
Flue gas					
CO emission (max / min output power)	**mg/kWh**	45 / 20	52 / 20	89 / 37	118 / 37
NOx emissions [max / min output power]	**mg/kWh**	66 / 30	62 / 38	70 / 53	71 / 60
NOx class [EN483]		5	5	5	5
Flue gas temperature - Max output power 80/60°C	**°C**	82	82	80	80
Flue gas temperature - Max. output power 50/30°C	**°C**	40	40	39	39
Mass flow rate of combustion products	**kg/h**	79	115	79	115
Flue-gas duct - max. pressure drop	**Pa**	150	150	150	150
Concentric flue gas channel max length Ø 100 / 150 mm	**m**	20	20	20	20
Gas					
Gas flow rate G20 - 20 mbar	**m^3/h**	5,28	7,6	—	—
Gas flow rate G25 - 25 mbar	**m^3/h**	6,14	8,8	—	—
Gas flow rate G31 - 30/37/50 mbar	**m^3/h**	—	—	2,0	2,9
CO_2 [max output power] *(with front panel closed)*	**% CO_2**	9,4	9,4	10,8	10,8
CO_2 [max power] *(with front panel open)*	**% CO_2**	9,2	9,2	10,5	10,5
CO_2 [min power] *(with front panel closed)*	**% CO_2**	9,3	9,3	10,4	10,4
Gas connection (male)	**Ø**	3/4"	3/4"	3/4"	3/4"
Hydraulic parameters					
Max operating temperature	**°C**	90	90	90	90
Heating circuit capacity	**L**	20	17	20	17
Max operating temperature of the heating circuit	**bar**	4	4	4	4
Heat exchanger pressure drop [ΔT = 20°C]	**mbar**	30	74	30	74
Heating connection (male)	**Ø**	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Electrical connection					
Class	**IP**	30	30	30	30
Supply voltage	**V/Hz**	230 / 50	230 / 50	230 / 50	230 / 50
Maximum absorbed electrical power	**A**	0,8	1,1	0,8	1,1
Drained weight	**kg**	54	58	54	58

TECHNICAL CHARACTERISTICS

		Prestige Solo 120			
		Natural Gas		Propane	
Central heating		**G20 20 mbar**	**G25 25 mbar**	**G30 28-30-50 mbar**	**G31 30-37-50 mbar**
Max. rated heat input	**kW**	80 - 120	80 - 120	80 - 126	80 - 126
Min. rated heat input	**kW**	22	22	31	31
Max. output 80/60°C	**kW**	78,1 - 116,8	78,1 - 116,8	78,1 - 122,6	78,1 - 122,6
Min. output 80/60°C	**kW**	21,6	21,6	30,4	30,4
Max. output 50/30°C	**kW**	84,8 - 127,2	84,8 - 127,2	84,8 - 133	84,8 - 133
Min. output 50/30°C	**kW**	23,5	23,5	33,2	33,2
Efficiency at 30% load [EN677]	**%**	108	108	108	108
Flue gas					
CO emission (max / min output power)	**mg/kWh**	77 - 27	77 - 10	138 - 34	138 - 34
NOx emissions [max / min output power]	**mg/kWh**	70 - 21	70 - 21	54 - 24	25 - 21
Flue gas temperature - Max output power 80/60°C	**°C**	83	83	81	81
Flue gas temperature - Max. output power 50/30°C	**°C**	65	65	63	63
Mass flow rate of combustion products	**kg/h**	114 - 171	114 - 171	120 - 190	120 - 190
Flue-gas duct - max. pressure drop	**Pa**	150	150	150	150
Vertical concentric flue gas channel max. length Ø 100 / 150 mm	**m**	6	6	6	6
Concentric flue gas channel with 1 bend 90° max. length Ø 100 / 150 mm	**m**	4	4	4	4
Gas					
Max rated gas flow rate	**m^3/h**	8,5 - 12,7	9,8 - 14,4	2,5 - 3,9	3,3 - 5,1
Min. rated gas flow rate	**m^3/h**	2,32	2,74	0,96	1,24
CO_2 [max output power] (with front panel closed)	**% CO_2**	9	9	10,3	10,3
CO_2 [max power] (with front panel open)	**% CO_2**	8,8	8,8	10,1	10,1
CO_2 [min power] (with front panel closed)	**% CO_2**	8,5 - 9,5	8,5 - 9,5	10 - 10,5	10 - 10,5
Gas connection (male)	**Ø**	1"	1"	1"	1"
Hydraulic parameters					
Max operating temperature	**°C**	90	90	90	90
Heating circuit capacity	**L**	28	28	28	28
Max operating temperature of the heating circuit	**bar**	4	4	4	4
Heat exchanger pressure drop [$\Delta T = 20°C$]	**mbar**	80	80	85	85
Heating connection (male)	**Ø**	1"1/2	1"1/2	1"1/2	1"1/2
Electrical connection					
Class	**IP**	30	30	30	30
Supply voltage	**V/Hz**	230 / 50	230 / 50	230 / 50	230 / 50
Maximum absorbed electrical power	**A**	1,1	1,1	1,1	1,1
Drained weight	**kg**	83	83	83	83

TECHNICAL CHARACTERISTICS

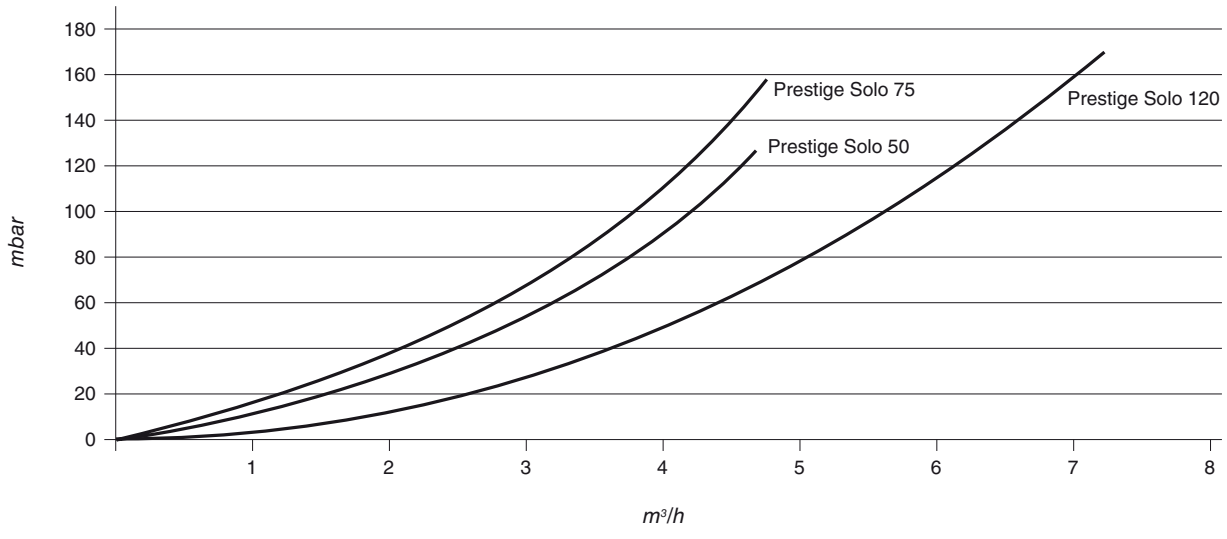
Gas categories Prestige Solo 50 - 75 - 120

		I2E(S)B * I2E(R)B **	II2H3B/P	II2H3P	II2E3B/P	II2Er3P	II2L3B/P	II2L3P	I3P
G20		**20 mbar**	**20 mbar**	**20 mbar**	**20 mbar**	**20 mbar**			
G25		**25 mbar**				**25 mbar**	**25 mbar**	**25 mbar**	
G30			**30 - 50 mbar**		**30 - 50 mbar**		**30 - 50 mbar**		
G31			**30 - 50 mbar**	**37 - 50 mbar**	**30 - 50 mbar**	**37 - 50 mbar**	**30 - 50 mbar**	**37 - 50 mbar**	**37 mbar**
BE	Belgium	●							●
CH	Switzerland		●	●					
CZ	Czech republic		●	●					
DE	Germany				●				
DK	Denmark		●						
EE	Estonia		●						
ES	Spain			●					
FR	France			●		●		●	
GB	Great Britain			●					
GR	Greece		●	●					
IE	Ireland			●					
IT	Italy **		●	●					
LU	Luxembourg				●				
LT	Lithuania		●						
NL	Netherlands						●	●	
PL	Poland				●				
PT	Portugal			●					
SI	Slovenia		●	●					
SK	Slovakia		●	●					
SE	Sweden		●						

(*) : I2E(S)B = Prestige Solo 50-75

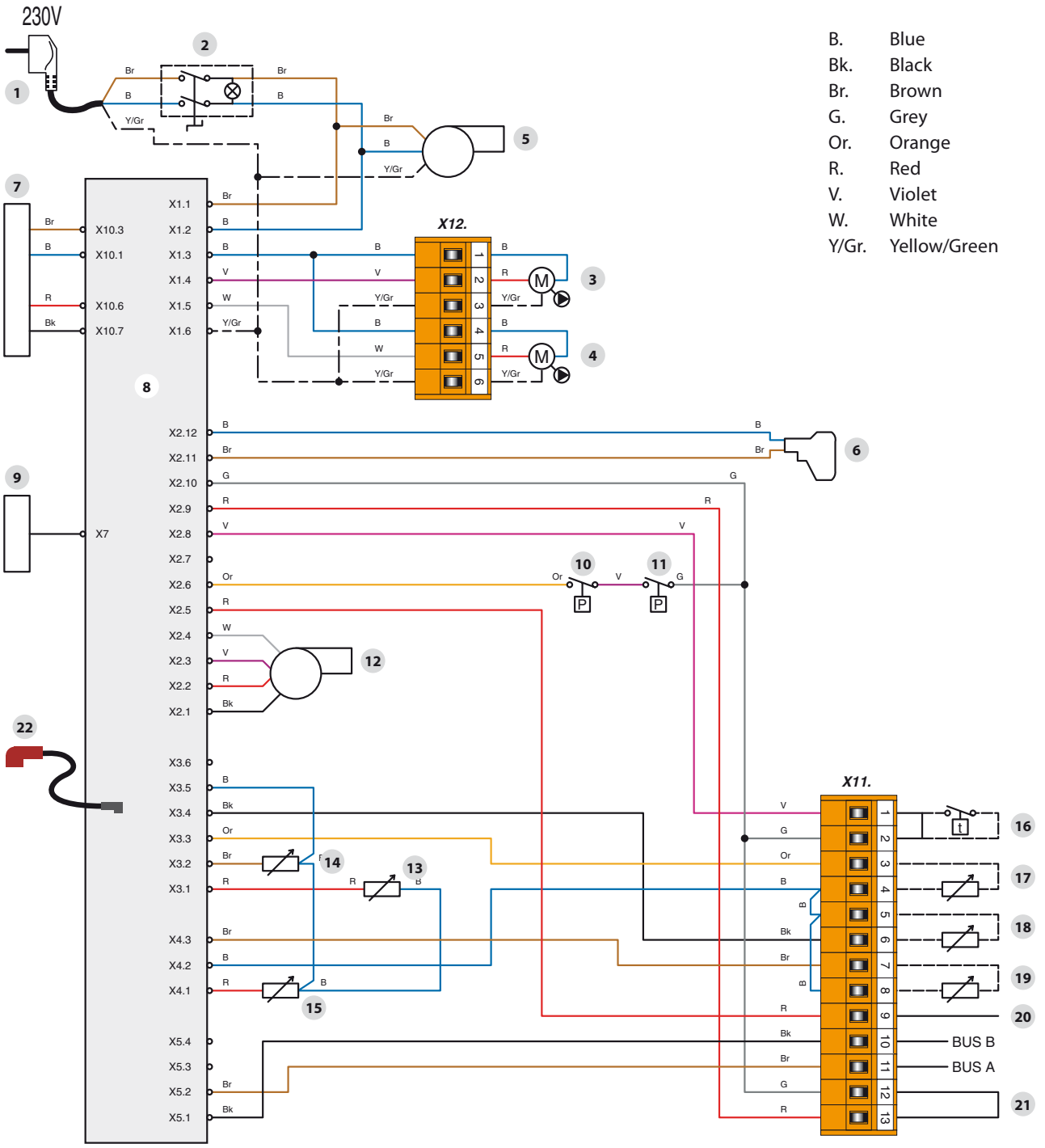
(**) : I2E(R)B = Prestige Solo 120

PRESSURE DROP DIAGRAM FOR PRESTIGE SOLO 50 - 75 - 120



WIRING DIAGRAM: PRESTIGE SOLO 50 - 75

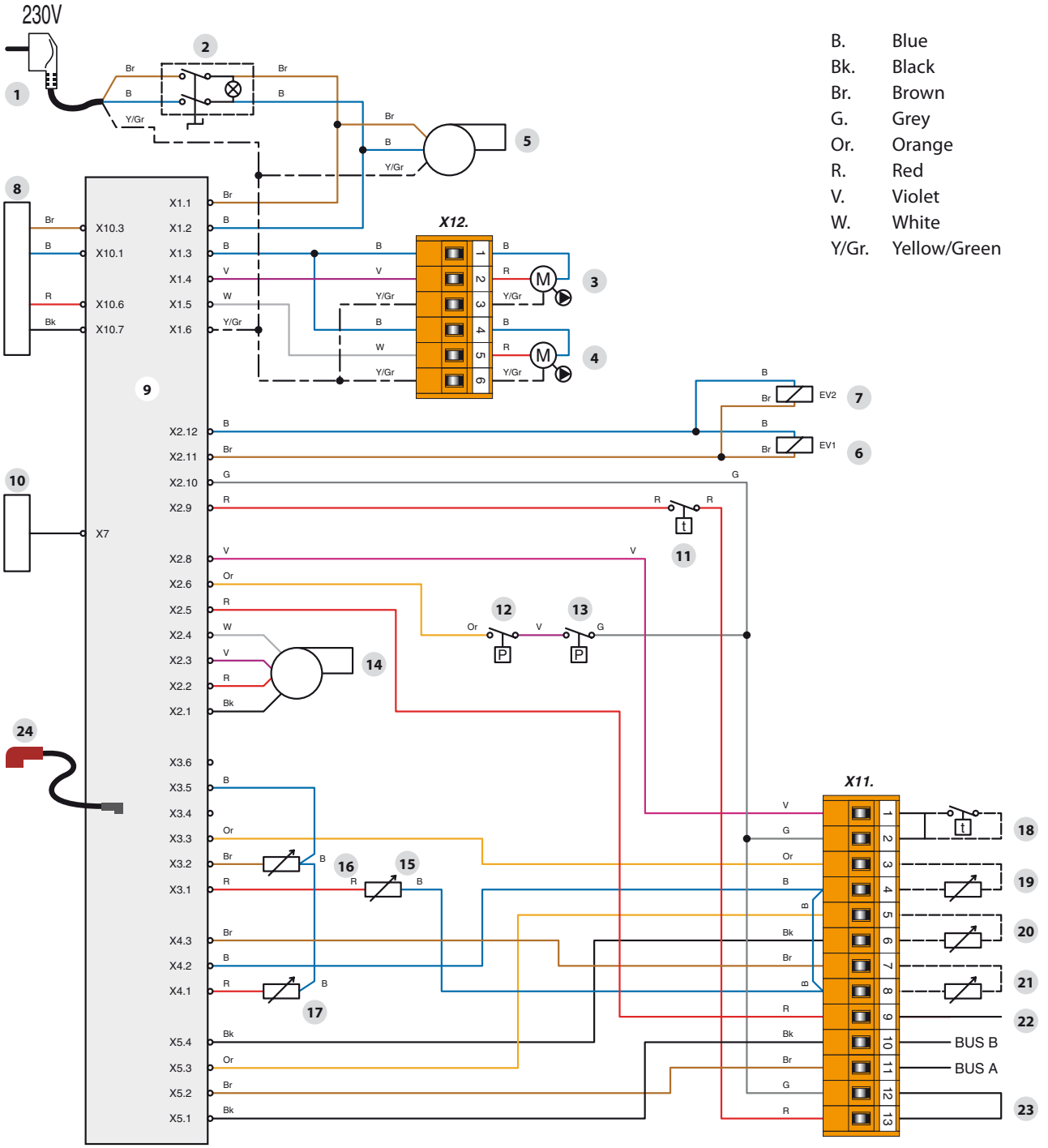
1. 230V power cord
2. On/Off switch
3. Heating circulator (optional)
4. Domestic hot water circulator (optional)
5. Burner feed
6. Gas valve rectifier
7. 230 Volt - 24 Volt transformer
8. MCBA
9. Display
10. Gas pressure switch
11. Low-water-level pressure switch
12. Burner PWM plug
13. NTC1 flow sensor
14. NTC2 return sensor
15. NTC5 flue-gas temperature sensor
16. Room thermostat (optional)
17. NTC3 hot water sensor (optional)
18. NTC4 outside temperature sensor (optional)
19. Flow sensor of second NTC6 heating circuit (optional)
20. Zero volt of 24V circuit
21. RAM high limit thermostat (optional)
22. Ignition and ionisation cable



B.	Blue
Bk.	Black
Br.	Brown
G.	Grey
Or.	Orange
R.	Red
V.	Violet
W.	White
Y/Gr.	Yellow/Green

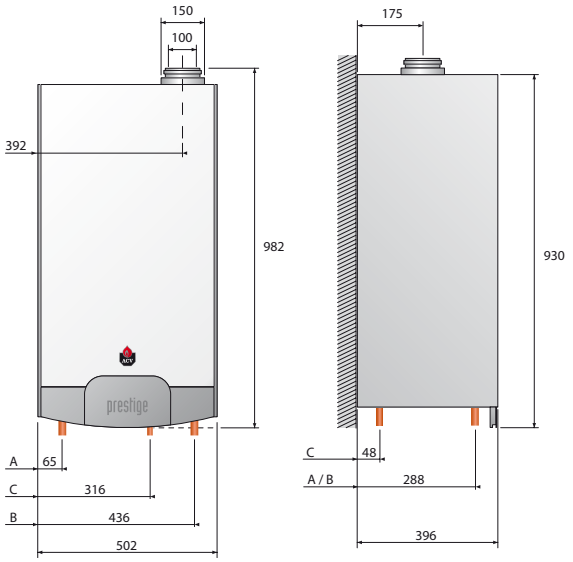
WIRING DIAGRAM: PRESTIGE SOLO 120

1. 230V power cord
2. On/Off switch
3. Heating circulator (optional)
4. Domestic hot water circulator (optional)
5. Burner feed
6. Gas valve 1
7. Gas valve 2
8. 230 Volt - 24 Volt transformer
9. MCBA
10. Display
11. Safety thermostat
12. Gas pressure switch
13. Low-water pressure switch
14. Burner PWM plug
15. NTC1 flow sensor
16. NTC2 return sensor
17. NTC5 flue-gas temperature sensor
18. Room thermostat (optional)
19. NTC3 domestic hot water sensor (optional)
20. NTC4 Outside temperature sensor (optional)
21. NTC6 flow sensor for second heating circuit (optional)
22. Zero volt of the 24 Volt circuit
23. RAM high limit thermostat (optional)
24. Ignition and ionisation cable



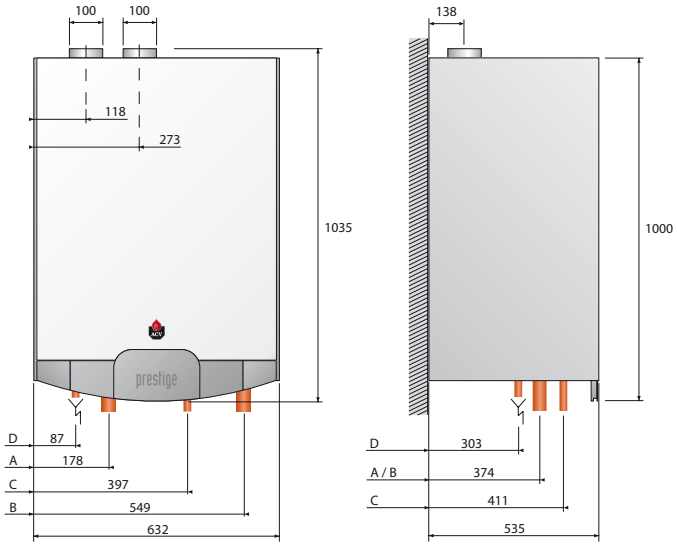
B. Blue
Bk. Black
Br. Brown
G. Grey
Or. Orange
R. Red
V. Violet
W. White
Y/Gr. Yellow/Green

PRESTIGE SOLO 50 - 75 DIMENSIONS



A. Heating outlet 1"1/4 [M]
B. Heating return 1"1/4 [M]
C. Gas connection 3/4" [M]

PRESTIGE SOLO 120 DIMENSIONS

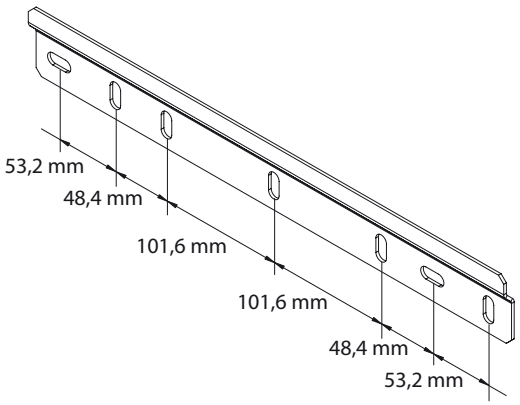


A. Heating outlet 1"1/2 [M]
B. Heating return 1"1/2 [M]
C. Gas connection 1" [M]
D. Safety valve drain Ø 1" unthreaded

INSTALLATION AREA

- Make sure that any ventilation openings remain clear at all times.
- Do not store any flammable materials in this room.
- Do not store any corrosive materials, paint, solvents, salts, chlorine products or any other detergent products in the vicinity of this appliance.
- If you smell gas, do not turn on any lights, close the gas valve on the meter, ventilate the rooms and contact your installer.

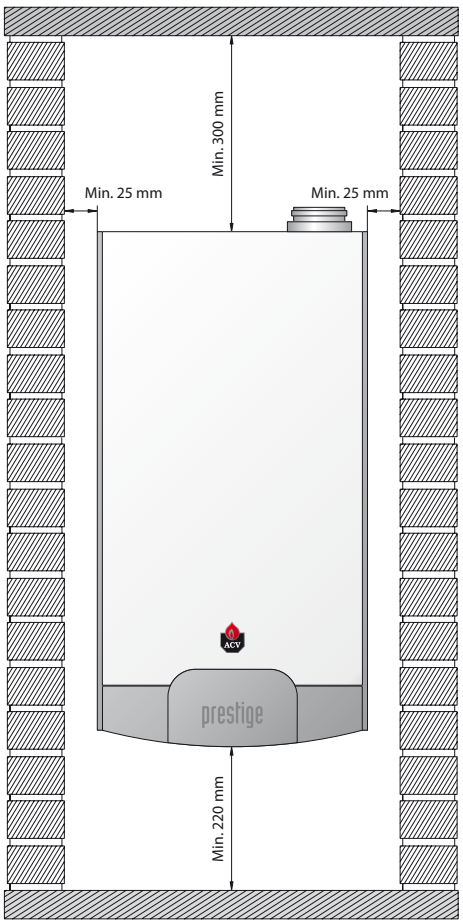
WALL MOUNTING



- The boiler must be mounted on a non-flammable surface.
- Drill two holes with a depth of 75 mm using a 10 mm drill bit, following the spacing given above.
- Fasten the wall mount using the supplied lag screws.
- Attach the boiler to the wall mount.

ACCESSIBILITY

The appliance must be placed in such a way that it is always easily accessible. Furthermore, the unit must have the following minimum clearance around it.



INSTALLATION

CHIMNEY CONNECTION

- The chimney connections must comply with the NBN D51-003 standard and in accordance with current regulations.
- Thanks to its built-in gas/air ratio regulator, the Prestige is, to a large extent, independent of pressure drops in the air intake and flue-gas exhaust systems. However, the maximum pressure drop of this system may not be exceeded; otherwise, the pressure would diminish. However, the gas/air ratio regulator always guarantees optimal combustion with very low emissions.
- The **Prestige** Solo 120 can be connected with a concentric flue gas system 100/150 mm up to a maximum length of 4m with one 90° bend or 6m, if straight vertical connected. For longer fluegassystem a parallel system should be used with a concentric terminal.
- The horizontal flue gas exhaust ducts must be installed with a sufficient degree of slope towards the boiler: 3° of slope = 5 mm per meter of duct.
- There must be no obstructions or inlets to other appliances within a radius of 0.5 meters around the terminal of the Prestige.
- **The maximum pressure drop of the chimney is 150 Pascal**. You can calculate this value using the following table: *(please see sample calculation as well)*.
- The **C33s** configuration enables airtight operation in a pre-existing chimney. The combustion air crosses the space between the tubing and the pre-existing chimney. Make sure to clean the pre-existing chimney thoroughly prior to installation, especially if there is soot or tar residue. Make sure that there is a clearance area for the combustion air at least equivalent to the area that would have been provided by separate concentric ducts or air intake ducts.

SAMPLE CALCULATION PRESTIGE SOLO 50/75:

The diagram below consists of the following parts: pipe with a monitoring section + 2 90° pipe bends + 2 meters of horizontal pipe + 2 45° pipe bends + (2 + 1 + 1) meters of vertical and sloped pipe + one vertical terminal unit.

The resistance of this system is as follows: **3 + (2 x 12) + (2 x 6) + (2 x 5,5) + (4 x 6) + 25 = 99 Pa.**

As this value is lower than the maximum authorised resistance, this installation is compliant.

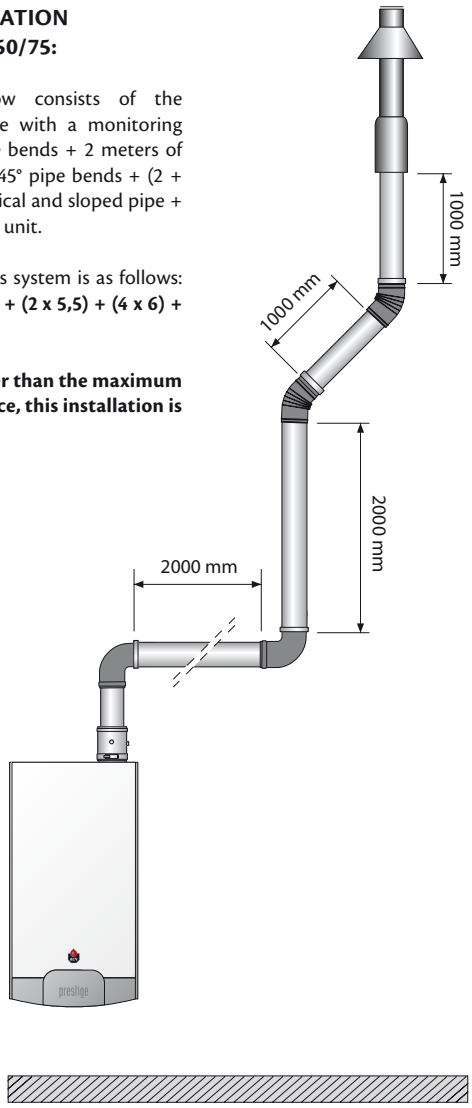
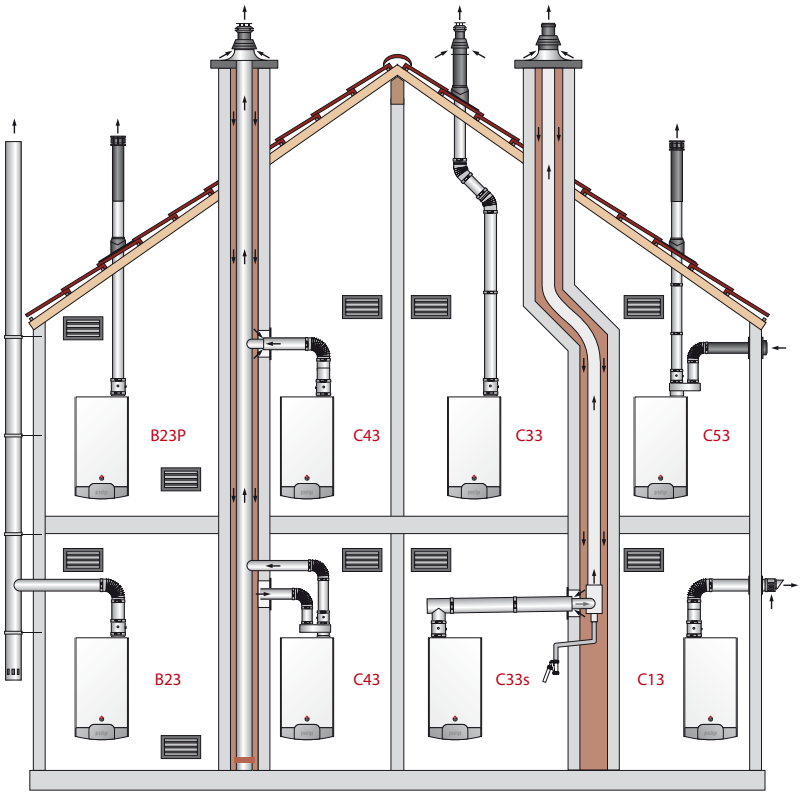


TABLE OF CHIMNEY PRESSURE DROP IN PASCAL (1 Pascal= *0.01 mbar)*

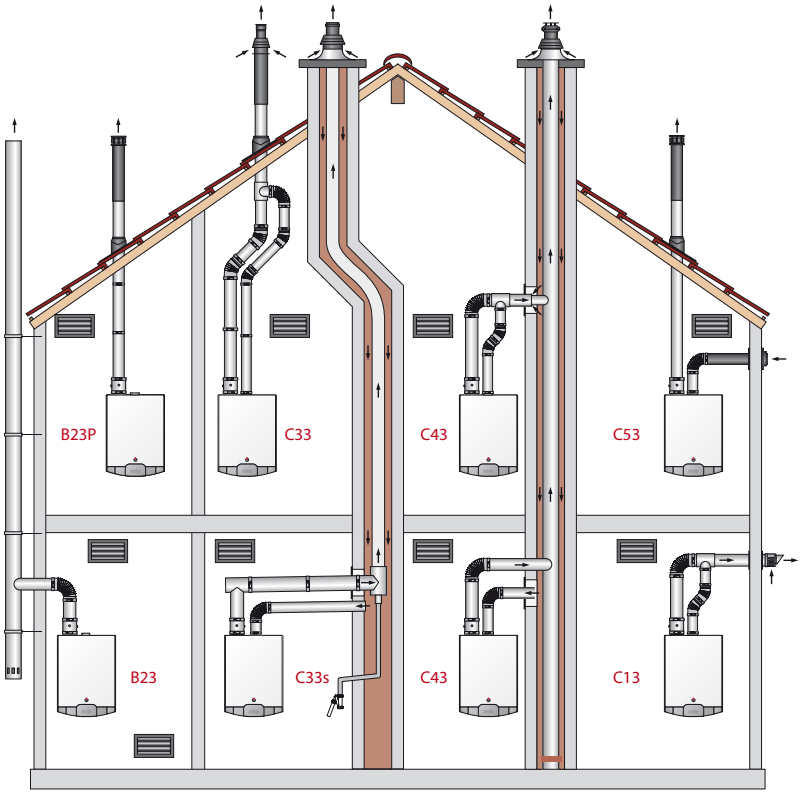
	Prestige Solo 50 - 75			Prestige Solo 120				
	Concentric pipe Ø 100 / 150 mm	**Separate air inlet Ø 100 mm**	**Separate flue gas exhaust Ø 100 mm**	**Concentric pipe Ø 100 / 150 mm**	**Separate air inlet Ø 100 mm**	**Separate flue gas exhaust Ø 100 mm**	**Separate flue gas exhaust Ø 150 mm**	**Concentric pipe Ø 150 / 225 mm**
Straight pipe 1 m	6	1,7	2,5	10	4,0	6,0	2,1	—
Pipe with monitoring feature	3	—	1,3	5	—	3,0	1,1	—
90° bend	12	5,1	7	31	13	18	4,6	—
45° bend	5,5	2,1	3	—	5,4	8,0	3,4	—
Vertical terminal	25	—	—	65	25	50	20	30
Horizontal terminal	20	—	—	65	20	50	20	15

This table is based on ACV equipment and cannot be applied elsewhere.

Chimney connection options:



Prestige Solo 50 - 75



Prestige Solo 120

B23 : Connection to an exhaust duct venting the combustion products outside of the installation area, with the combustion air being drawn directly from this area.

B23P : Connection to an exhaust system of the combustion products designed to operate with positive pressure.

C13 : Connection by pipes with horizontal terminal units that simultaneously intake the combustion air and discharge the combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions.

C33 : Connection by pipes with vertical terminal units that simultaneously intake fresh air and discharge the combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions.

C33s : Connection with an individual system of which the exhaust duct for the combustion products is installed in an exhaust pipe that is part of the building. The appliance, the exhaust duct and the terminal units are certified as an assembly that cannot be dissociated.

C43 : Connection by two ducts to a collective duct system serving more than one appliance; this system of collective ducts features two ducts connected to a terminal unit that simultaneously intakes fresh combustion air and discharges the combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions.

C53 : Connection to separate ducts for the supply of combustion air and for venting the combustion products; these ducts may end in zones with different pressure levels.

INSTALLATION

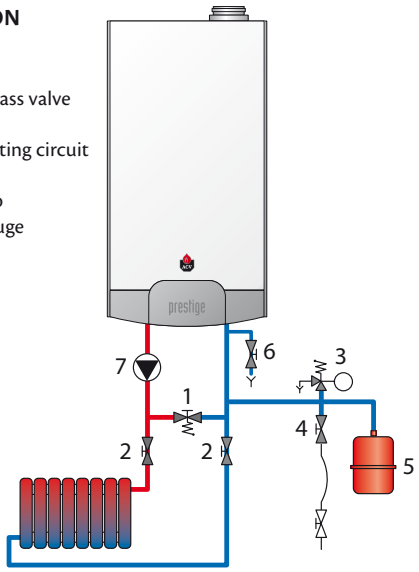
CENTRAL HEATING CONNECTIONS

RECOMMENDATIONS

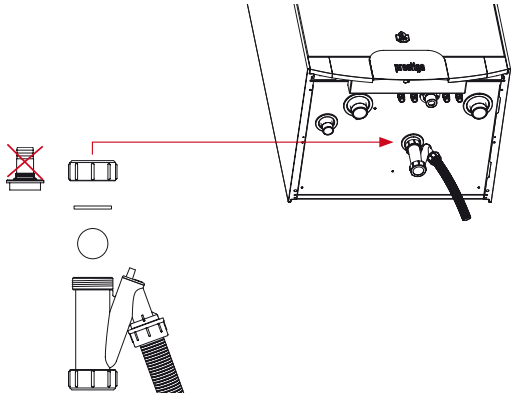
- The whole central heating system must be thoroughly flushed with clean water before being connected to the appliance.
- Level the appliance using the provided support bracket.
- Noise may be amplified when the appliance is mounted on a wall made of wood or other lightweight construction. Using rubber dampers may reduce this effect.
- The heating connections are Ø 1"1/4 male [**Prestige Solo 50 - 75**] and Ø 1"1/2 male [**Prestige Solo 120**].
- Fit the heating system with a safety valve set to max. 3.0 bar, connected to the drain, using a connection with an open section (for inspection purposes), a suitable circulator according to the pressure drops [boiler + system] and to the flow rate of the system.
- The **Prestige Solo 120** boiler is fitted with a safety valve set to 3.0 bar. Connect this to the drain, using a connection with an open section (for inspection purposes) and a suitable circulator according to the pressure drops [boiler + system] and to the flow rate of the system.
- Fill the system with fresh tap water. Contact your ACV representative about the use of inhibitors.
- The heating circuit must be designed so as to ensure a continuous flow in the boiler; this flow may be obstructed if all the thermostatic valves are closed. In this case, install a bypass.
- Fit the condensate trap and connect the hose to the drain using a connection that can be inspected. Fill the trap with clean water. Make sure to prevent any risk of the condensates freezing.

HEATING CONNECTION EXAMPLE

1. Differential pressure bypass valve
2. Isolating valve in the heating circuit
3. Safety valve calibrated to 3.0 bar, with pressure gauge
4. System filling kit
5. Expansion vessel
6. Drain valve
7. Heating pump



ASSEMBLING THE BALL CONDENSATE TRAP (PRESTIGE SOLO 120)



GAS CONNECTION

- Our Prestige boilers are fitted with a gas connection [Ø 3/4" male **Prestige Solo 50 - 75**] [Ø 1" male **Prestige Solo 120**] for connection to a gas supply valve.
- The gas connections must comply with all applicable standards **(in Belgium: NBN D51-003)**.
- If there is a risk of dirt stemming from the gas network, place a gas filter upstream from the connection.
- Purge the gas pipe and check in minute detail that all the boiler's internal and external pipes are sealed.
- Check the system's gas pressure. Please refer to the table with the technical data.
- Check the gas pressure and consumption when commissioning the appliance.

SETTING THE POWER (PRESTIGE SOLO 120)

The power of the boiler may be adjusted from 80 to 120 kW for natural gas and from 80 to 126 kW for propane gas.

Adjust the power by setting the speed parameters of the fan as shown in the table below.

For the CO_2 setting, please refer to the technical data.

Indicate the Qset heatinput setting in the data plate.

Prestige Solo 120

	Heat input Q		80 kW	100 kW	115 kW*	120 kW	126 kW
G20 - G25 CO_2 = 9% RPM min. = 1500	Fan speed	**rpm**	4300	5400	6200	6500	NA
	Mass flow rate of combustion products	**kg/sec.**	0,0324	0,0405	0,0465	0,0486	NA
G30 - G31 CO_2 = 10,3% RPM min. = 2000	Fan speed	**rpm**	4100	5200	5900	6200	6500
	Mass flow rate of combustion products	**kg/sec.**	0,0336	0,042	0,048	0,050	0,053

(*) Factory setting

PROPANE CONVERSION

As indicated on the data plate, the boiler is factory preset to operate with G20 gas and G25 gas.

To convert the boiler to G30 gas or G31 type gas, it is necessary to:

- change the orifice
- adjust the CO_2
- adjust parameters 22 to 28 of the MCBA (see MCBA parameters for the specialist).

The CO_2 parameters to be set are indicated in the technical data table.

CHANGING THE ORIFICE:

1. Turn off the gas and electric power supplies.
2. Unscrew the three-piece connection (**A**) of the gas pipe below the valve.
3. Unplug the gas valve (**B**).
4. Disassemble the gas valve-venturi assembly (**C**).
5. Remove the gas valve from the venturi (**D**) and change the orifice (**F**).

Important: make sure to position the seal(s) (E) of the orifice correctly.

6. Reassemble the gas valve-venturi assembly, following the same procedure in reverse order.

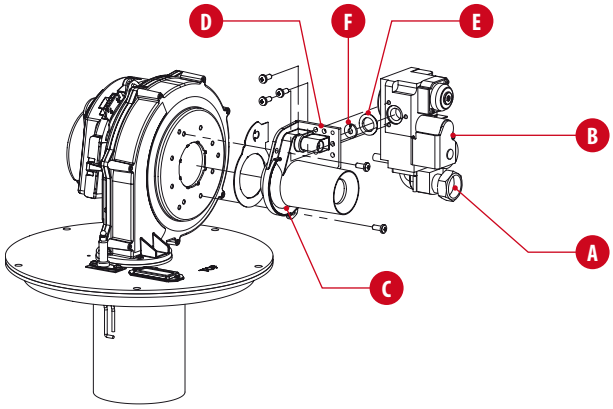
7. Stick the yellow sticker "**Propane**" (**617G0152**) on the gas valve (**B**).

Check that the boiler has no gas leaks while operating.

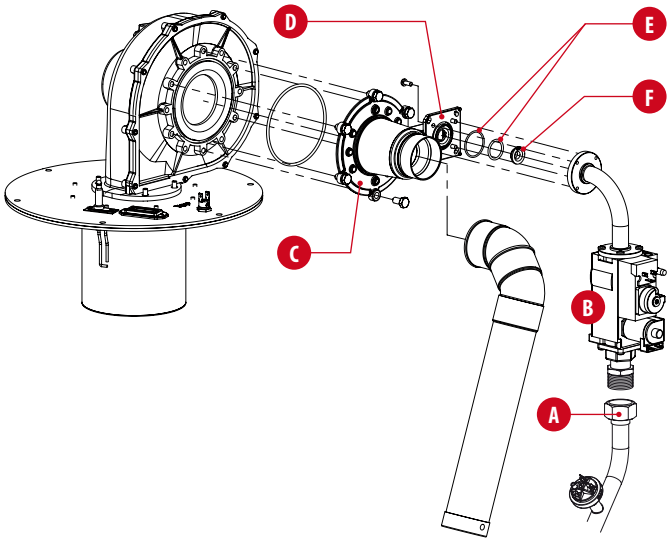
Changing from natural gas to propane is forbidden in some countries, e.g. Belgium. Please refer to the gas category table.

Before adjusting the CO_2, it is important to set the fan speeds as indicated in the following table.
(see also MCBA parameters for the specialist).

PROPANE CONVERSION PRESTIGE SOLO 50 - 75



PROPANE CONVERSION PRESTIGE SOLO 120



Orifice

	Prestige Solo 50	Prestige Solo 75	Prestige Solo 120
G20	—	—	**8,6**
G25	—	—	—
G30	**6,0**	**6,8**	**6,7**
G31	**6,0**	**6,8**	**6,7**

		Prestige Solo 50		Prestige Solo 75		Prestige Solo 120	
Parameter with front panel closed		**G20 - G25**	**G30 - G31**	**G20 - G25**	**G30 - G31**	**G20 - G25**	**G30 - G31**
CO_2 [max power]	**% CO_2**	9,4	10,8	9,4	10,8	9,0	10,3
Maximum fan speed	**rpm**	5600	5300	6500	6500	6200	5900
CO_2 [min power]	**% % CO_2**	9,3	10,4	9,3	10,4	8,5 - 9,5	10 - 10,5
Minimum fan speed	**rpm**	1700	2000	1700	2000	1500	2000
Parameter with front panel open							
CO_2 [max power]	**%% CO_2**	9,2	10,5	9,2	10,5	8,8	10,1
CO_2 [min power]	**% CO_2**	9,1	10,1	9,1	10,1	8,3 - 9,2	10 - 10,5

INSTALLATION

CONFIGURATION 1:

INSTALLING A HEATING CIRCUIT AND, OPTIONALLY, A DOMESTIC HOT WATER TANK WITH REGULATION BY A ROOM THERMOSTAT AND AN OUTDOOR SENSOR.

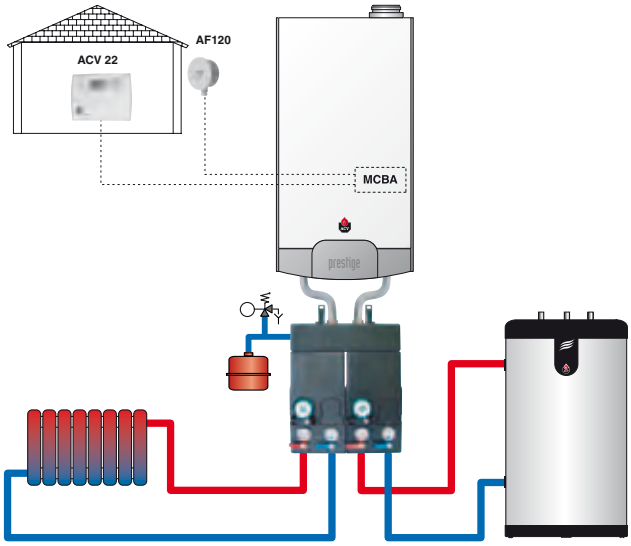
BLOCK DIAGRAM

The heating system (radiators or floor) is controlled by an On/Off room thermostat.
The domestic hot water tank is controlled by an intermediate NTC sensor.
The domestic hot water priority is always active.

In this configuration, the boiler constantly adapts its operation to the outdoor temperature, if an outside temperature sensor is connected.

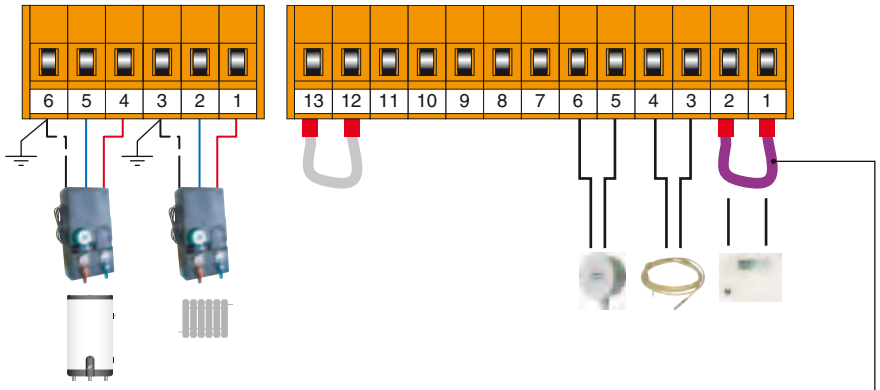
The circulator is triggered as soon as the room thermostat generates a heat demand.

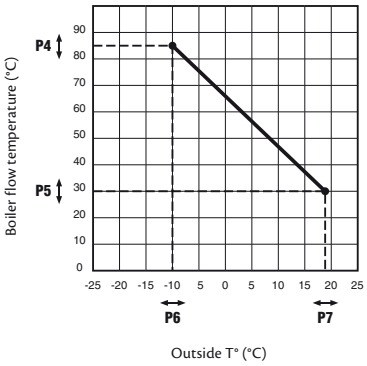
Advantages for the user:
- Comfort
- Maximum output
- Simplicity of the system



Equipment required as options

ITEM	CODE	DESCRIPTION		
	**10800018**	**Room thermostat ACV 22**	**1x**	**1x**
	**10510100**	**Outside temperature sensor, 12kΩ — AF120**	**1x**	**1x**
	**10800104**	**2 circuit manifold DN32 :** With built-in wall mounts.	—	**1x**
	**10800107**	**High temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve and two thermometers.	**1x**	**2x**
	**10800142**	**Manifold connection kit DN32 :** Includes: two stainless steel hoses Ø 6/4" with two reducers Ø 5/4"	**1x**	**1x**
	**5476G003**	**Sensor NTC 12kΩ :** Monitors the external domestic hot water tank.	—	**1x**





PARA initial	PARA	PARA	DESCRIPTION
1.60	1.67	1.80	Temperature set point for domestic hot water **(adjustable from 60 to 80°C).**
2.00	2.00	2.01	**00** : Domestic hot water "OFF" **01** : Domestic hot water "ON"
3.01	3.01	3.01	**00** : Heating mode "OFF" **01** : Heating mode "ON"
4.85	4.85	4.85	Temperature set point for the water in the heating circuit **(adjustable from 30 to 90°C).**
P.10 .30	P.10 .30	P.10 .30	Minimum temperature for the water in the heating circuit **(adjustable from 15 to 60°C).**
P.11 .-10	P.11 .-10	P.11 .-10	Minimum outside [T4] temperature **(adjustable from -20 to 10°C).**
P.12 .18	P.12 .18	P.12 .18	Maximum outside [T4] temperature **(adjustable from 15 to 25°C).**
P.20 .10	P.20 .10	P.20 .10	The central heating system will only decrease the temperature at night (°C) if a clock is connected between **1** and **2** and "**P. 45**" is set to **01**.
P.21 .20	P.21 .20	P.21 .20	Increase of the primary temperature set point to generate hot water
P.45 .00	P.45 .00	P.45 .00	**00** : Use of an outside temperature sensor and of a room thermostat **01** : Use of an outdoor sensor and a clock; in this case the circulator runs continuously.
P.46 .13	P.46 .13	P.46 .12	**12** : if there is a tank with an NTC sensor **13** : if there is a tank with a thermostat

INSTALLATION

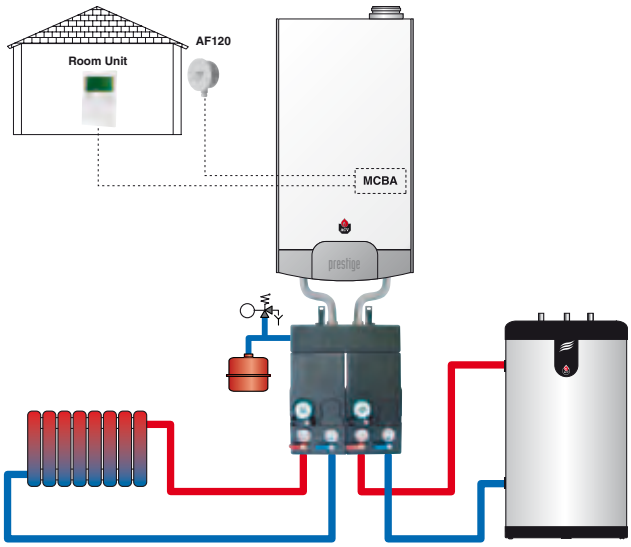
CONFIGURATION 2:

INSTALLING A HEATING CIRCUIT AND, OPTIONALLY, A DOMESTIC HOT WATER TANK WITH REGULATION BY A ROOM UNIT AND AN OUTDOOR SENSOR.

BLOCK DIAGRAM

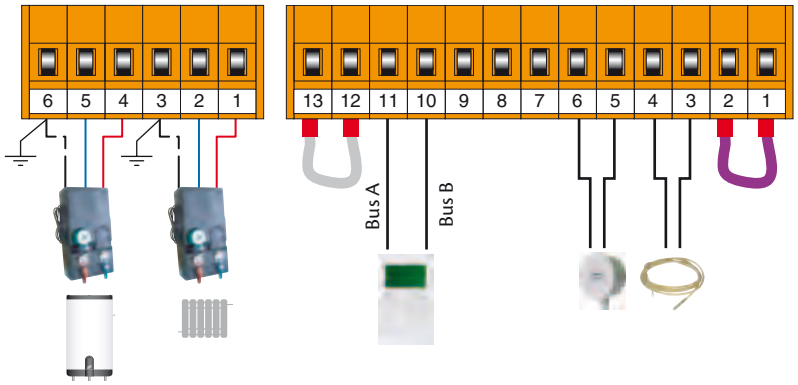
The Room Unit controls the heating and the domestic hot water tank. This unit combines the functions of remote control of the boiler and of the heating circuits and the room thermometer. The Room Unit displays all the information on the status of the system, so that you can choose from various heating functions. The unit enables up to 3 weekly schedule programs both for heating and for domestic hot water.

In this configuration, the boiler continuously adapts its operation to the outside temperature while taking the indoor temperature into account.



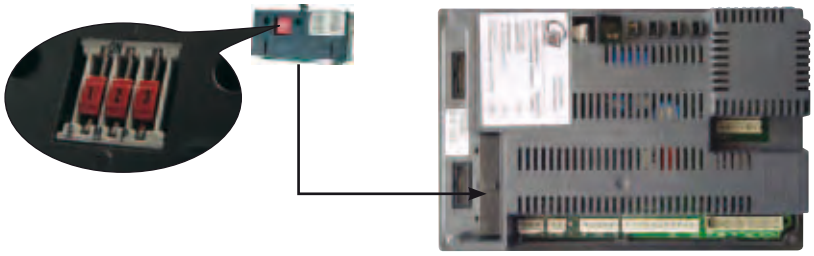
Equipment required as options

ITEM	CODE	DESCRIPTION		
	10800034	**Room Unit RSC :** Delivered with outdoor sensor	1x	1x
	10800036	**Clip-in interface RMCIEBV3 :** Enables communication between the MCBA and the Room Unit RSC.	1x	1x
	10510100	**Outside temperature sensor, 12kΩ — AF120**	1x	1x
	10800104	**2 circuit manifold DN32 :** With built-in wall mounts.	—	1x
	10800107	**High temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve and two thermometers.	1x	2x
	10800142	**Manifold connection kit DN32 :** Includes: two stainless steel hoses Ø 6/4" with two reducers Ø 5/4"	1x	1x
	5476G003	**Sensor NTC 12kΩ :** Monitors the external domestic hot water tank.	—	1x



10800036: Address of the interface "0"

= 0 = 4
= 1 = 5
= 2 = 6
= 3 = 7



PARA initial	PARA	PARA	DESCRIPTION
1.60	1.67	1.80	Maximum temperature set point for the domestic hot water. The actual temperature set point is given from the Room Unit.
2.00	2.00	2.01	**00** : Domestic hot water "OFF" **01** : Domestic hot water "ON"
3.01	3.01	3.01	**00** : Heating mode "OFF" **01** : Heating mode "ON"
4.85	4.85	4.85	Temperature set point for the water in the heating circuit (adjustable from 30 to 90°C).
P.10 .30	P.10 .30	P.10 .30	Minimum temperature for the water in the heating circuit (adjustable from 15 to 60°C).
P.21 .20	P.21 .20	P.21 .20	Increase of the primary temperature set point to generate hot water
P.46 .13	P.46 .13	P.46 .12	**12** : if there is a tank with an NTC sensor **13** : if there is a tank with a thermostat

CONFIGURATION 3:

INSTALLING TWO HEATING CIRCUITS AND, OPTIONALLY, A DOMESTIC HOT WATER TANK WITH REGULATION BY A ROOM THERMOSTAT AND AN AM3-11 MODULE.

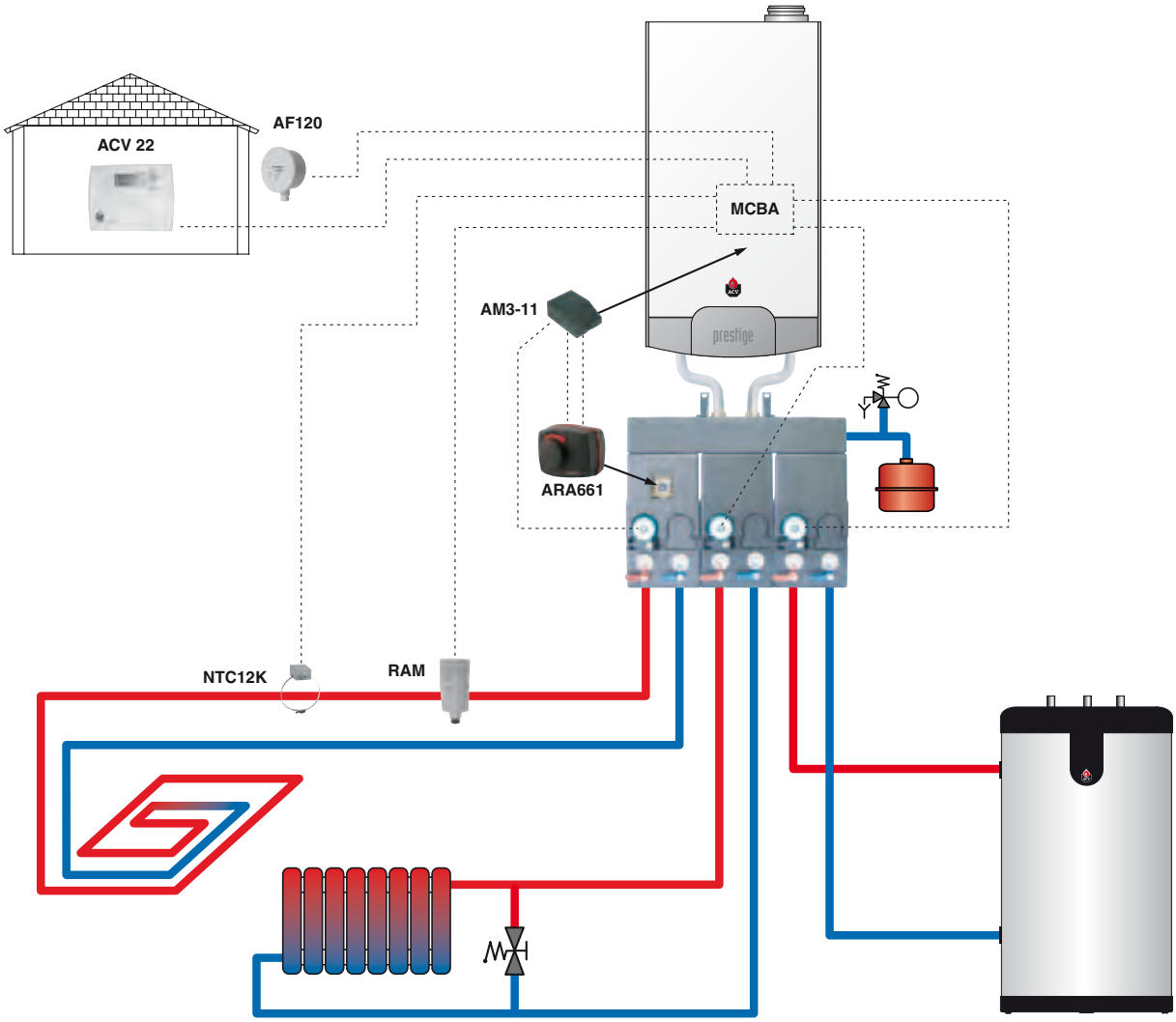
BLOCK DIAGRAM

This is a simple way of controlling two heating circuits (radiators or floor heating).

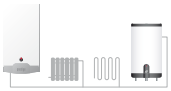
These circuits may be set differently according to weather conditions.

This configuration is ideal for a basic system of floor heating with supplementary heating provided by radiators.

The floor circuit runs continuously according to a first heating curve, while the radiator circuit follows a second heating curve, with a booster function if needed.

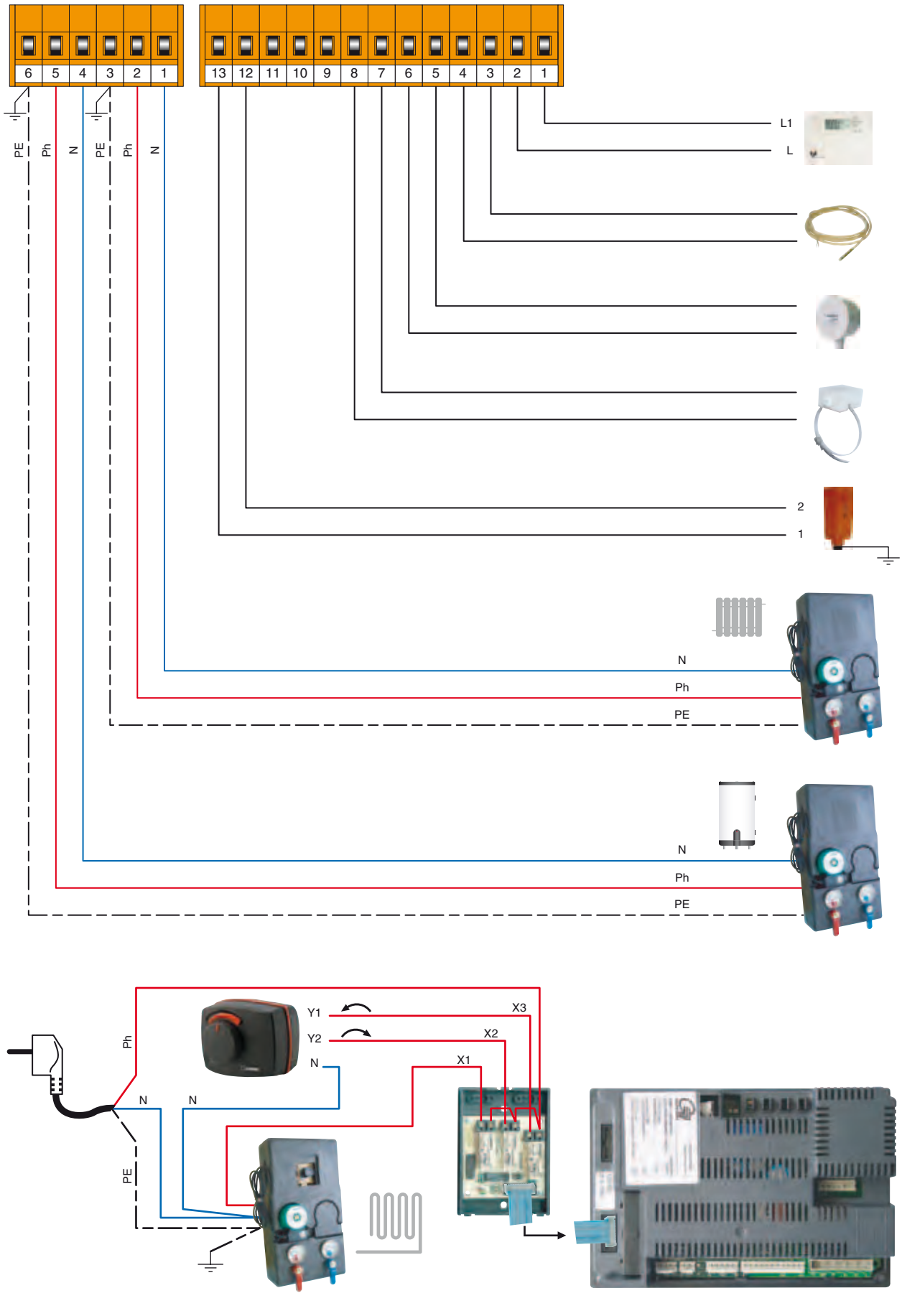


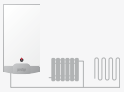
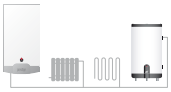
Equipment required as options

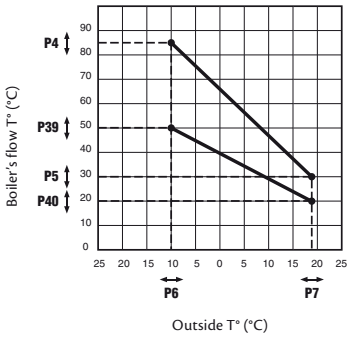
ITEM	CODE	DESCRIPTION		
	**10800018**	**Room thermostat ACV 22**	**1x**	**1x**
	**10800095**	**Module AM3-11 :** Manages the second heating circuit - communicates directly with the MCBA	**1x**	**1x**
	**537D3040**	**Contact sensor, 12kΩ :** For outlet on controlled circuit.	**1x**	**1x**
	**10510900**	**Contact thermostat RAM 5109 :** Obligatory to protect all floor heating circuits.	**1x**	**1x**
	**10510100**	**Outside temperature sensor, 12kΩ — AF120**	**1x**	**1x**
	**10800104**	**2 circuit manifold DN32 :** With built-in wall mounts.	**1x**	—
	**10800105**	**3 circuit manifold DN32 :** With built-in wall mounts.	—	**1x**
	**10800107**	**High temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve and two thermometers.	**1x**	**2x**
	**10800106**	**Low temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve, two thermometers, a 3-way valve with built-in bypass.	**1x**	**1x**
	**10800142**	**Manifold connection kit DN32 :** Includes: two stainless steel hoses Ø 6/4" with two reducers Ø 5/4"	**1x**	**1x**
	**10800199**	**Servomotor ARA661 :** Motor for valve provided in the low-temperature kit	**1x**	**1x**
	**5476G003**	**Sensor NTC 12kΩ :** Monitors the external domestic hot water tank.	—	**1x**

INSTALLATION

Block diagram for wiring in compliance with applicable standards.



PARA initial	PARA 	PARA 	DESCRIPTION
1.60	1.67	1.80	Temperature set point for domestic hot water **(adjustable from 60 to 80°C).**
2.00	2.00	2.01	**00** : Domestic hot water "OFF" **01** : Domestic hot water "ON"
3.01	3.01	3.01	**00** : Heating mode "OFF" **01** : Heating mode "ON"
4.85	4.85	4.85	Temperature set point for the water in the heating circuit **(adjustable from 30 to 90°C).**
P.10 .30	P.10 .30	P.10 .30	Minimum temperature for the water in the heating circuit **(adjustable from 15 to 60°C).**
P.11 .-10	P.11 .-10	P.11 .-10	Minimum outside [T4] temperature **(adjustable from -20 to 10°C).**
P.12 .18	P.12 .18	P.12 .18	Maximum outside [T4] temperature **(adjustable from 15 to 25°C).**
P.21 .20	P.21 .20	P.21 .20	Increase of the primary temperature set point to generate hot water
P.45 .00	P.45 .20	P.45 .20	• **High T° circuit :** operates according to outside temperatures. The circulator is controlled by the room thermostat. • **Low T° circuit :** operates according to outside temperatures. The circulator runs continuously. • **Low T° circuit :** during generation of domestic hot water, set "**P. 45**" to **60**.
	P.45 .21	P.45 .21	• **High and low T° circuits :** operate according to outside temperatures. Both circulators run continuously. Night time reduction on the high T° circuit. • **Low T° circuit :** active during generation of domestic hot water, set "**P. 45**" to **61**.
P.46 .13	P.46 .13	P.46 .12	**12** : if there is a tank with an NTC sensor **13** : if there is a tank with a thermostat
P.15 .50	P.15 .50	P.15 .50	Maximum temperature of the second heating circuit
P.16 .20	P.16 .20	P.16 .20	Minimum temperature of the second heating circuit



CONFIGURATION 4:

INSTALLING TWO HEATTING CIRCUITS AND, OPTIONALLY, A DOMESTIC HOT WATER TANK WITH REGULATION BY A ROOM UNIT AND A ZMC-2 — 230 Volt MODULE.

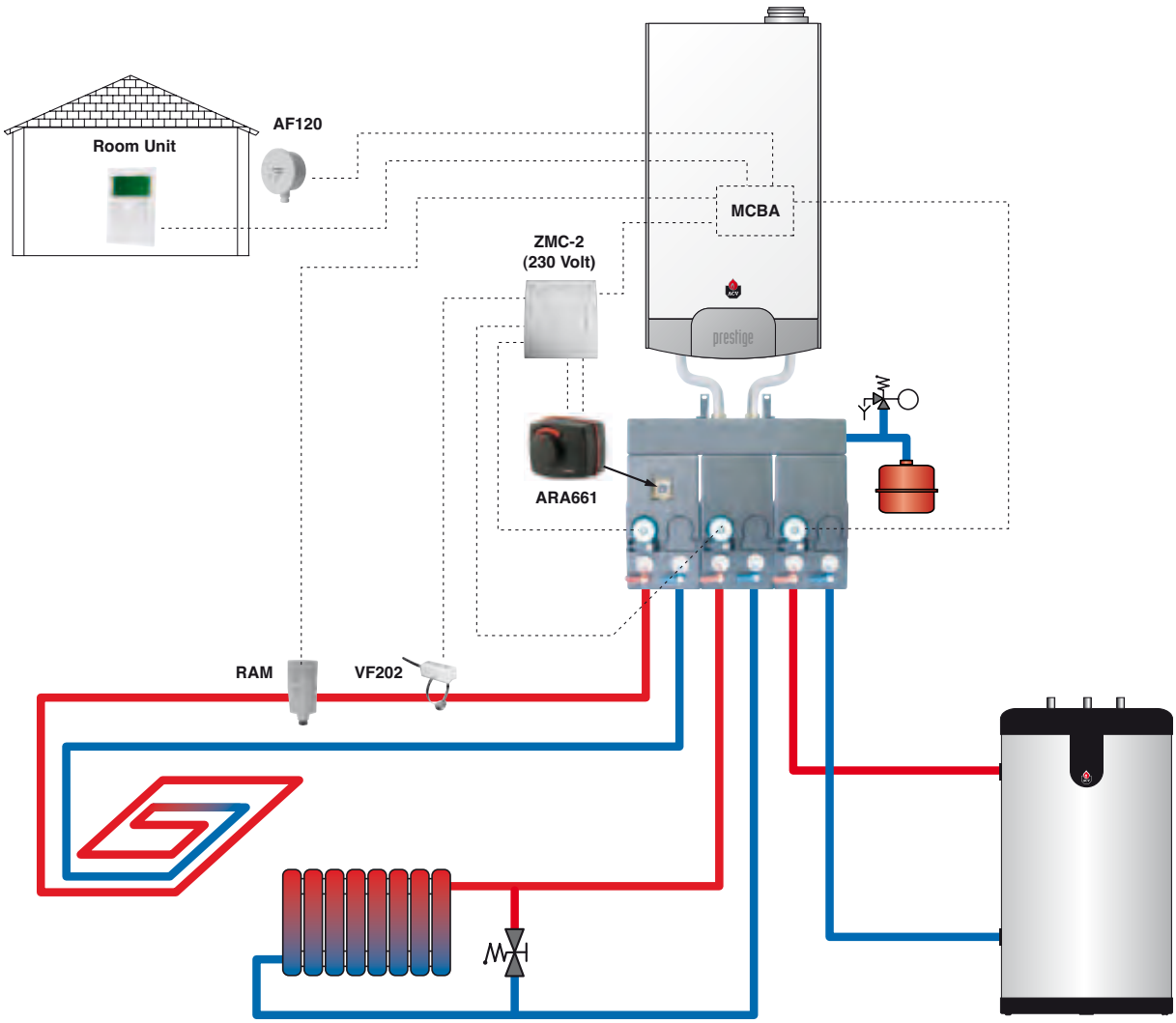
BLOCK DIAGRAM

This is a simple way of controlling two heating circuits (radiators or floor heating) while benefiting from the Room Unit, which offers remote management of both circuits.

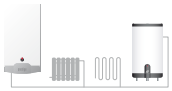
These circuits may be set differently according to weather conditions.

The Room Unit displays all the information on the status of the system, so that you can choose from various heating functions. The unit enables up to 3 weekly schedule programs both for heating and for domestic hot water. Furthermore, when combined with the module ZMC-2, the Room Unit enables you to program several operating modes for the domestic hot water priority: parallel, strict priority, restricted priority and priority according to outside temperature.

In this configuration, the boiler continuously adapts its operation to the outside temperature while taking the indoor temperature into account.

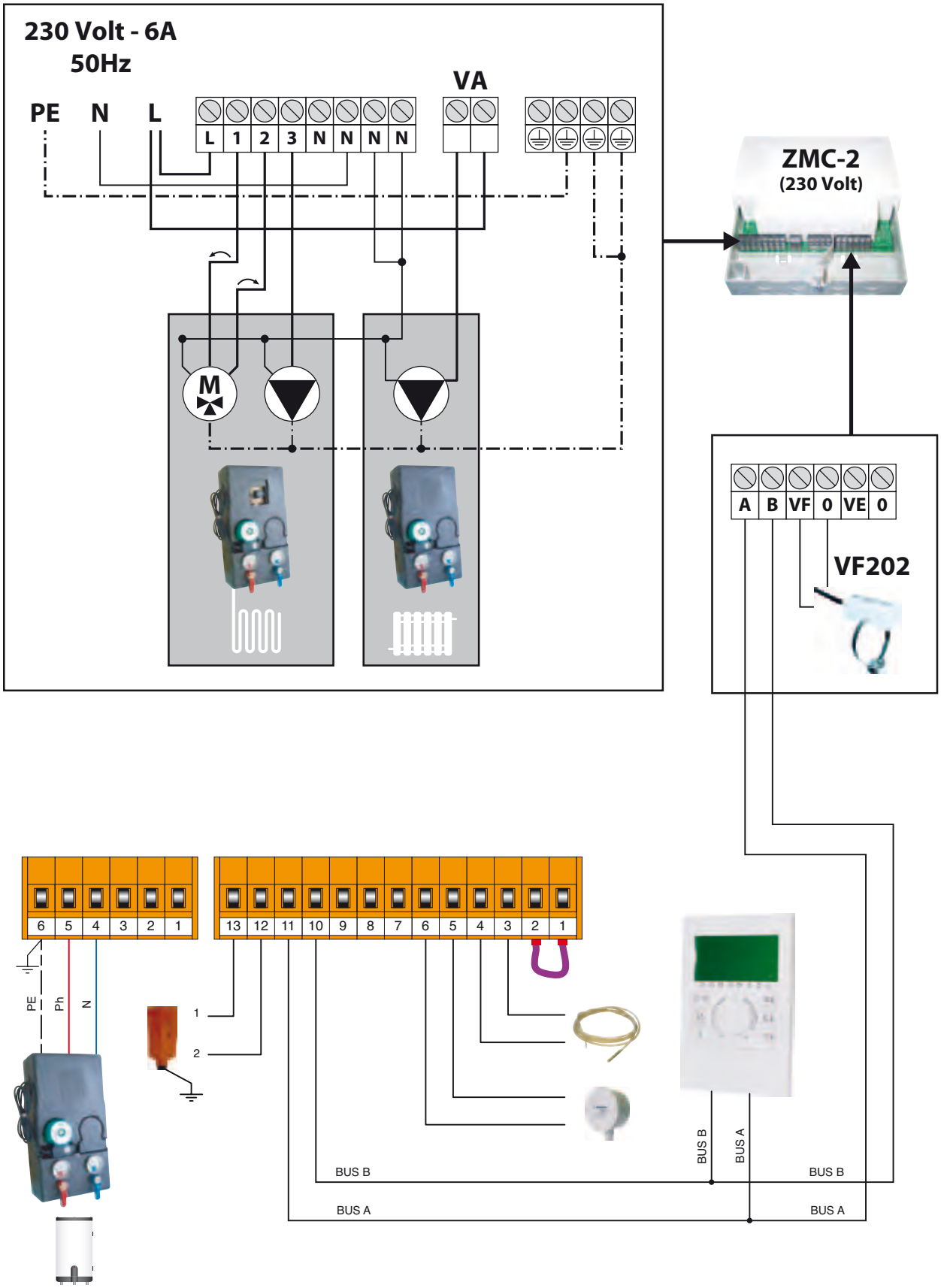


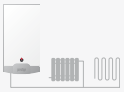
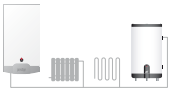
Equipment required as options

ITEM	CODE	DESCRIPTION		
	**10800034**	**Room Unit RSC :** Delivered with outdoor sensor	**1x**	**1x**
	**10800218**	**ZMC-2 module (kit) :** Manages the second heating circuit - alarm contact - only functions in conjunction with the Room Unit RSC.	**1x**	**1x**
	**10800036**	**Clip-in interface RMCIEBV3 :** Enables communication between the MCBA and the Room Unit RSC.	**1x**	**1x**
	**10800045**	**Contact sensor, 2kΩ — VF202 :** For outlet on controlled circuit.	**1x**	**1x**
	**10510900**	**Contact thermostat RAM 5109 :** Obligatory to protect all floor heating circuits.	**1x**	**1x**
	**10510100**	**Outside temperature sensor, 12kΩ — AF120**	**1x**	**1x**
	**10800104**	**2 circuit manifold DN32 :** With built-in wall mounts.	**1x**	—
	**10800105**	**3 circuit manifold DN32 :** With built-in wall mounts.	—	**1x**
	**10800107**	**High temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve and two thermometers.	**1x**	**2x**
	**10800106**	**Low temperature kit DN32 :** Includes: a circulator, two isolation valves, the check valve, two thermometers, a 3-way valve with built-in bypass.	**1x**	**1x**
	**10800142**	**Manifold connection kit DN32 :** Includes: two stainless steel hoses Ø 6/4" with two reducers Ø 5/4"	**1x**	**1x**
	**10800199**	**Servomotor ARA661 :** Motor for valve provided in the low-temperature kit	**1x**	**1x**
	**5476G003**	**Sensor NTC 12kΩ :** Monitors the external domestic hot water tank.	—	**1x**

INSTALLATION

Block diagram for wiring in compliance with applicable standards.



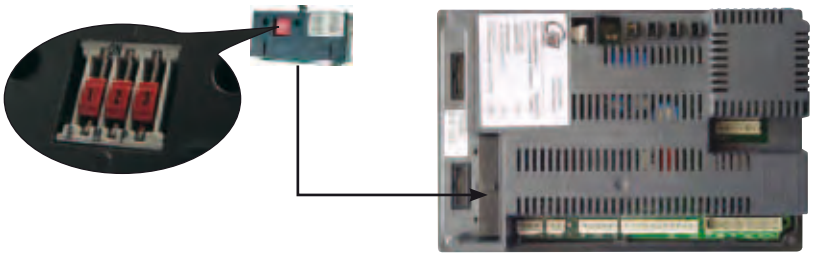
PARA initial	PARA 	PARA 	DESCRIPTION
1 60	1 67	1 80	Temperature set point for domestic hot water **(adjustable from 60 to 80°C).**
2 00	2 00	2 01	**00** : Domestic hot water "OFF" **01** : Domestic hot water "ON"
3 01	3 01	3 01	**00** : Heating mode "OFF" **01** : Heating mode "ON"
4 85	4 85	4 85	Temperature set point for the water in the heating circuit **(adjustable from 30 to 90°C).**
P 10 30	P 10 30	P 10 30	Minimum temperature for the water in the heating circuit **(adjustable from 15 to 60°C).**
P 21 20	P 21 20	P 21 20	Increase of the primary temperature set point to generate hot water
P 46 13	P 46 13	P 46 12	**12** : if there is a tank with an NTC sensor **13** : if there is a tank with a thermostat

Hydraulic
Parameter 6 = 23

Hot water
Parameter 7 = 1: parallel
Parameter 7 = 2: hot water priority
Parameter 7 = 3 : restricted hot water priority

10800036: Address of the interface "0"

= 0 = 4
= 1 = 5
= 2 = 6
= 3 = 7



COMMISSIONING AND MAINTENANCE

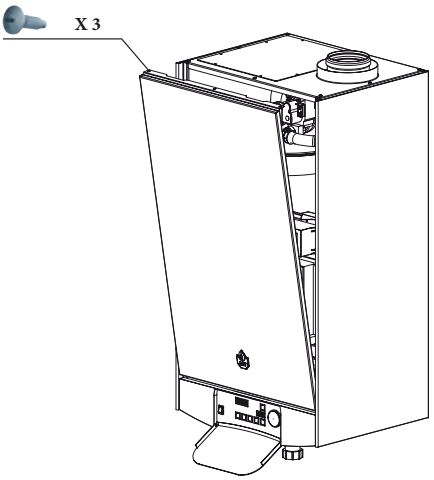
COMMISSIONING THE SYSTEM

- If a hot water tank is installed, fill the tank slowly and purge it by opening a hot water outlet. Purge all the outlets and make sure there are no leaks in the domestic hot water system.
- Fill the whole installation to at least 1.5 bar using the system's filling kit . Fill the system slowly and bleed it using the manual air vent of the flow pipe. Check for leaks in the central heating system.
- Purge the circulator(s).
- Open the gas valve, purge the pipe and check for leaks in the system.
- Check that the condensate trap is full.
- Switch on the appliance at the isolator. Where appropriate, put the room thermostat at its highest setting. The boiler starts up. Check the gas pressure and allow the boiler to heat up for a few minutes.
  Set the boiler to high power mode and check the CO_2. *(see table of technical characteristics)*. Next, set the boiler to minimum power mode and check the CO_2 *(see table of technical characteristics)*.
- Set the central heating and hot water temperatures according to the values indicated in the instructions for use.
- Bleed the central heating system again, and, if needed, fill to reach the desired pressure.
- Make sure that the heating system is properly balanced, and, if needed, adjust the valves to prevent certain circuits or radiators from getting a flow rate that is far above or below the set rate.

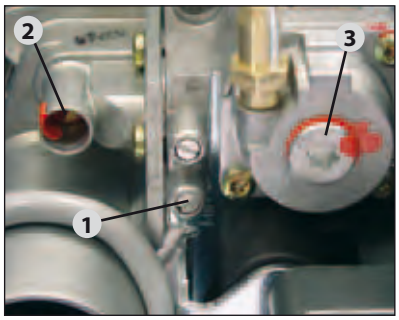
CHECKING THE SETTINGS

- Check if the parameters are set to meet the user's requirements.
- Checking the boiler's settings: only an ACV-trained installer or the ACV maintenance department can perform this task.
- Set the appliance to maximum power mode by pressing simultaneously the **MODE** and "**+**" keys.
- Check the dynamic gas pressure at the gas valve (see diagram below, ref.1). This must be at least 18 mbar.
  Let the appliance heat for a few minutes until it reaches at least 60 °C. Check the CO_2 setting of the appliance using a measuring instrument. The optimal value is indicated in the table of technical characteristics. To increase the CO_2 value, turn the venturi screw counter-clockwise , and turn it clockwise to decrease this value *(see diagram below, ref. 2)*.
  Next, set the appliance to minimum power mode by pressing simultaneously on the **MODE** and "**—**" keys.
  Let the appliance stabilize for a few minutes. Check the CO_2 value. It should be either equal to the value at full power or a maximum of 0.5 % less than it. If you observe a significant deviation, please contact ACV's maintenance department.

SPECIAL RULE IN BELGIUM:
FOR THE PRESTIGE SOLO 50 - 75
The CO_2, gas flow, air flow and air/gas supply parameters are factory preset and cannot be changed in Belgium.

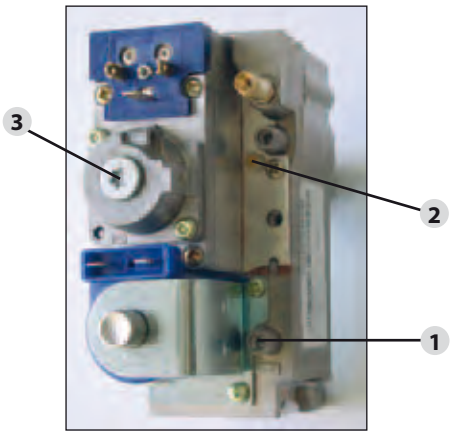


Prestige Solo 50 - 75



The OFFSET setting (3) of the gas valve is set at the factory and sealed. It cannot be modified!!!

Prestige Solo 120



Adjust the CO_2 setting by turning the throttle's adjusting screw (2). Depending on the position of the throttle in the valve, turn the adjusting screw either clockwise or counter-clockwise to increase the CO_2.
The offset (3) is factory-adjusted and must not be modified on-site.

BOILER MAINTENANCE PRESTIGE SOLO 50 - 75

ACV recommends that you have your boiler inspected, and cleaned, if needed, at least once a year.

Isolate the appliance before undertaking any work on it, even if you are simply taking measurements and making adjustments.

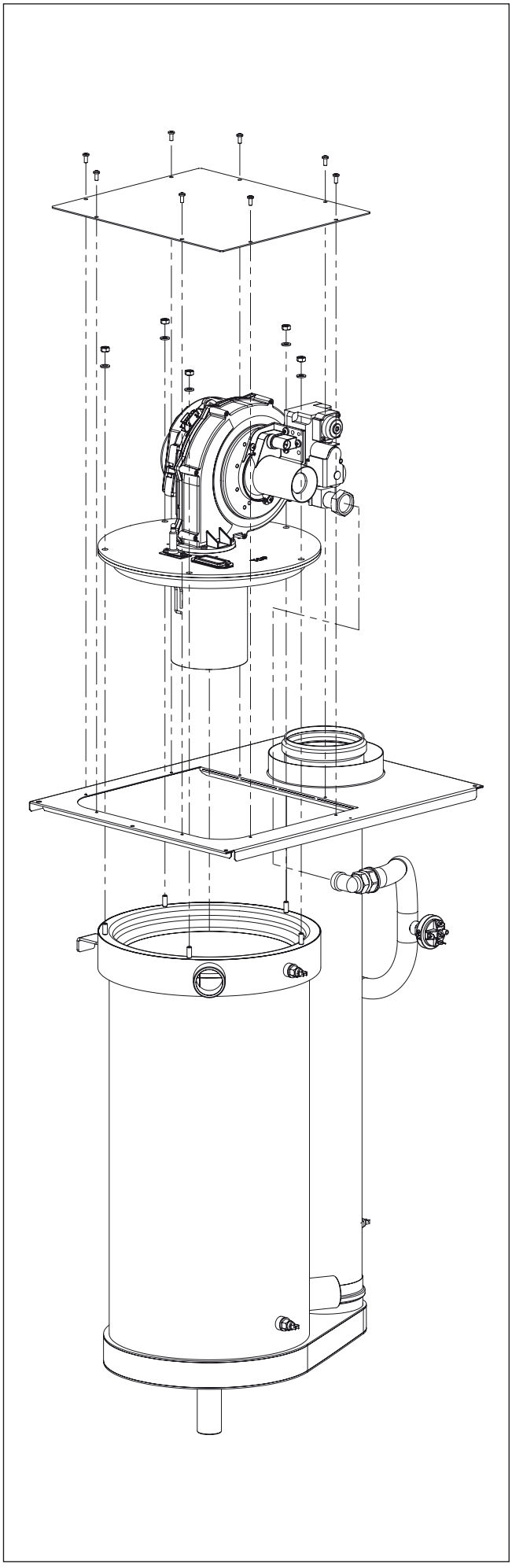
- Check that the condensate trap is not clogged, fill it as required and check for leaks.
- Check that the safety valves are in good working order.
- Bleed the whole system and refill the appliance if needed until it reaches 1.5 bar.

In the case of repeated fills, contact your installer.

- Check the boiler's pressure in maximum power mode.
  If this value is very different from the original setting, this deviation may indicate an obstruction in the air intake ducts or flue gas exhaust pipes, or that the exchanger is clogged.

DISASSEMBLING THE BURNER PRESTIGE SOLO 50 - 75

- Close the gas supply valve.
- Isolate the electric power supply
- Open the front panel of the boiler.
- Disconnect the fan plugs (PWM & 230V), the ignition cable, the gas valve control and the ignition electrode earth.
- For easier access, you can also remove the boiler's top panel.
- Unscrew the three-piece connection of the gas pipe.
- Using a ratchet wrench, unscrew the burner's 5 nuts.
- Lift the burner, the fan and the gas valve out in one piece and remove them from the exchanger. Take care not to damage the burner's insulation, which is inside of the exchanger.
- Check the condition of the insulation and the seals and replace them if needed, then put the burner back, following the above procedure in reverse order.



COMMISSIONING AND MAINTENANCE

BOILER MAINTENANCE PRESTIGE SOLO 120

ACV recommends that you have your boiler inspected, and cleaned, if needed, at least once a year.

Isolate the appliance before undertaking any work on it, even if you are simply taking measurements and making adjustments.

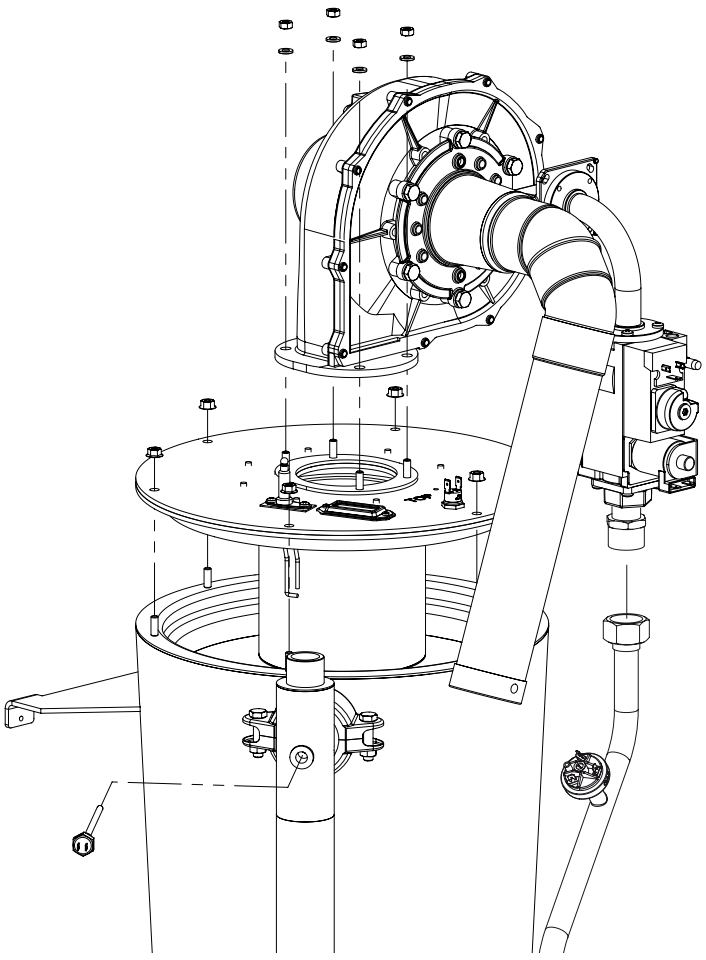
- Check that the condensate trap is not clogged, fill it as required and check for leaks.
- Check that the safety valves are in good working order.
- Bleed the whole system and refill the appliance if needed until it reaches 1.5 bar.

In the case of repeated fills, contact your installer.
Why do we say this here?

- Check the boiler's pressure in maximum power mode.
  If this value is very different from the original setting, this deviation may indicate an obstruction in the air intake ducts or flue gas exhaust pipes, or that the exchanger is clogged.

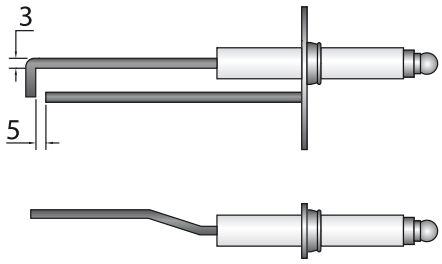
DISASSEMBLING THE BURNER PRESTIGE SOLO 120

- Close the gas supply valve.
- Isolate the electric power supply.
- Open the front panel of the boiler.
- Disconnect the fan plugs (PWM & 230V), the ignition cable, the gas valve control and the ignition electrode earth.
- Unscrew the three-piece connection of the gas pipe.
- Unscrew the fan's 4 nuts and remove the fan, venturi and gas valve assembly.
- Unscrew the 6 nuts of the chamber plate, using a ratchet wrench.
- Lift up the chamber plate with the burner manifold, taking care not to damage the insulation of the burner, which is inside of the exchanger.
- Check the condition of the insulation and the seals and replace them if needed, then put the burner back, following the above procedure in reverse order.



DISASSEMBLING AND INSPECTING THE ELECTRODE

- Dismantle the ignition cable.
- Unscrew the two retaining screws.
- Disconnect the earth connection from the electrode, but make sure that the lock washer is fastened between the earth cable and the electrode during assembly.
- Check the seals and replace them if needed, then reassemble the electrode by following the above procedure in reverse order.



DISASSEMBLING THE EXCHANGER

- Use the system's drain valve to drain the water from the central heating system.
- Let the appliance empty completely.
- Dismantle the electric connections located downstream from the burner, as well as the NTCs.
- Dismantle the exchanger's flow and return pipes.
  Use caution while disassembling: residual water may escape from the exchanger.
- Dismantle the condensate trap connection.
- Lift up the exchanger in a single piece, standing upright. The exchanger detaches from its hook and is completely released.
- Check the condition of the seals and replace them if necessary, then reassemble the exchanger, following the same procedure in reverse order.

CLEANING THE EXCHANGER

- Disassemble the burner.
- Remove the burner's insulation.
- Use a vacuum cleaner to clean out the chamber.
- Disconnect the chimney from the exchanger.
- Check if the condensate collector is dirty and clean it if necessary.
- Check the burner's insulation and seal. Replace them if needed.
- Check the electrode and replace it if needed.
- Reassemble the burner and check for any leaks.
- Power the appliance on again. Set the appliance to maximum Power mode and check for leaks.
- Check the gas pressure and the CO_2 setting as described in the previous section.

RESISTANCE OF THE TEMPERATURE SENSORS

T° [°C]	R Ω	T° [°C]	R Ω	T° [°C]	R Ω
- 20	98200	25	12000	70	2340
- 15	75900	30	9800	75	1940
- 10	58800	35	8050	80	1710
- 5	45900	40	6650	85	1470
0	36100	45	5520	90	1260
5	28600	50	4610	95	1100
10	22800	55	3860	100	950
15	18300	60	3250		
20	14700	65	2750		

MCBA PARAMETERS FOR THE SPECIALIST

STANDBY MODE

STANDBY MODE 

When the boiler is powered on, it starts up in Stand-by mode, as shown in the figure above.

This is the standard mode of the MCBA. The MCBA automatically returns to this mode after 20 minutes if no key is pressed on the display. The modified parameters then become active.

The first digit indicates the boiler's current status, depending on the situation of the boiler and the burner. The last two digits indicate the temperature.

Status	Boiler function
	Standby, no heat demand
	Fan pre-purge / post-purge
	Ignition
	Operation of the boiler's burner for heating
	Operation of the boiler's burner for domestic hot water
	Waiting for signal from the air pressure switch or to obtain number of start revolutions.
	The burner turns off once the set value has been reached. There is a heat demand nonetheless.
	Circulator time delay after the heating demand.
	Circulator time delay after the hot water demand.
	Blocked burner: To refer in the paragraph **"MCBA bloking and error codes"** on pages **44**, **45** and **46**

If the burner is blocked for one of the above reasons, the screen displays, in turn, "**9**" followed by the temperature (last two digits) and "**b**" with the error code.

If the burner is blocked for one of the above reasons, the screen displays, in turn, "**9**" followed by the temperature (last two digits) and "**b**" with the error code.

Status	Boiler function
	Internal inspection — Three-way valve
	Boiler's burner in temperature maintenance function
	Test function: max central heating power
	Test function : min. central heating power
	Test function: boiler with fixed number of revolutions

SETTING THE PARAMETERS

PARAMETER MODE 

To access Parameter mode when the installation is in Standby mode, press "**MODE**" once.

You can scroll through the list of parameters by pressing "**STEP**" each time. To modify the value of the parameter, use the "**+**" or "**—**" keys.

Next, press "**STORE**" to record the modified value.
The screen will flash once to confirm that the value has been stored.

To activate the modified parameters, press "**MODE**" again (this will switch you to Info mode).
However, if you do not press any key, the system returns to Standby mode after 20 minutes and activates the changes.

Key	Display
 MODE	

Key	Display	Description of the parameters		Factory setting Prestige 50	Prestige 75	Prestige 120
 STEP		Setting the hot water temperature				
 STEP		Hot water generation	**00** = Off **01** = On			
 STEP		Switching heating On/ Off	**00** = Off **01** = On			
 STEP		Maximum temperature in central heating mode				

MCBA PARAMETERS FOR THE SPECIALIST

INFORMATION ON THE INSTALLATION

INFO MODE 

To switch from Standby mode to Info mode, press twice on "**MODE**"

Key	Display
 MODE	
 MODE	

Press the "**STEP**" key until you see the desired information.
The dot located behind the first position flashes to indicate that the boiler is in **INFO** mode.

Key	Display	Description of the parameters
 STEP		Flow temperature T1 in °C
 STEP		Return temperature T2 in °C
 STEP		Domestic hot water temperature T3 in °C
 STEP		Outside temperature T4 in °C
 STEP		Flue gas temperature T5 in °C
 STEP		Flow temperature calculated in °C
 STEP		Rate of increase of flow temperature in °C/s
 STEP		Rate of increase of return temperature in °C/s
 STEP		Rate of increase of hot water temperature in °C/s
 STEP		Flow temperature of 2nd central heating circuit

Key	Display	Description of the parameters
 STEP		**NA**
 STEP		**NA**
 STEP		**NA**
 STEP		Ionisation current
 STEP		**NA**
 STEP		**NA**
 STEP		MCBA internal temperature
 STEP		Ignition counter CH [x 10000]
STEP		Ignition counter CH [x 100]
STEP		Ignition counter CH [x 1]

Key	Display	Description of the parameters
STEP	J. 0.0	Burner-hours (flame) CH [x 10000]
STEP	1. 07	Burner-hours (flame) CH [x 100]
STEP	1. 38	Burner-hours (flame) CH [x 1]
STEP	L. 0.0	Ignition counter DHW [x 10000]
STEP	1. 00	Ignition counter DHW [x 100]
STEP	1. 00	Ignition counter DHW [x 1]
STEP	n. 0.0	Burner-hours (flame) DHW [x 10000]
STEP	1. 00	Burner-hours (flame) DHW [x 100]
STEP	1. 00	Burner-hours (flame) DHW [x 1]

ENTERING THE CODE

CODE MODE CodE

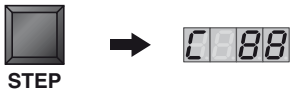
You can access the following parameters by entering the service code:

- Parameters 10 through 113
- Communication mode
- Fan speed mode
- ERROR mode

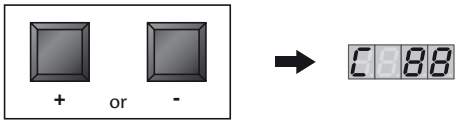
StbY

To access Code mode, press simultaneously on the **MODE** and **STEP** keys. (only in Standby mode!]

Press **STEP** once and the screen indicates "**C**" in the first position, then random characters in the third and fourth positions.



Press "+" or "—" to change the code.



Press **STORE** and the screen flashes briefly to indicate that the code has been accepted.

Press **MODE** until the desired mode appears.

Only ACV approved installers know the access code.

For more information, please contact our after-sales service.

MCBA PARAMETERS FOR THE SPECIALIST

SETTING THE PARAMETERS:
only accessible with the code

Key	Display	Description of the parameters	Factory setting Prestige 50	Prestige 75	Prestige 120
STEP	P. 10	Minimum central heating temperature using outdoor sensor	. 20	. 20	. 20
STEP	P. 11	Minimum outdoor temperature [setting the heating curve]	.- 10	.- 10	.- 10
STEP	P. 12	Maximum outdoor temperature [setting the heating curve]	. 18	. 18	. 18
STEP	P. 13	Frost protection temperature.	. 01	. 01	. 01
STEP	P. 14	Correction based on the outdoor temperature.	. 00	. 00	. 00
STEP	P. 15	Maximum flow temperature of the 2nd circuit	. 50	. 50	. 50
STEP	P. 16	Minimum flow temperature of the 2nd circuit	. 20	. 20	. 20
STEP	P. 17	2nd circuit temperature hysteresis.	. 03	. 03	. 03
STEP	P. 18	Blocking T : If the calculated set temperature is lower then "**P. 18**" then the heat demand is ignored.	. 00	. 00	. 00
STEP	P. 19	Acceleration time lag **00** = Stop [minute].	. 10	. 10	. 10
STEP	P. 20	Night time central heating reduction (°C)	. 10	. 10	. 10
STEP	P. 21	Increase of the primary temperature set point to generate hot water	. 20	. 20	. 20

MCBA PARAMETERS FOR THE SPECIALIST

Key	Display	Description of the parameters		Factory setting Prestige 50	Prestige 75	Prestige 120
 STEP	P.22	Max. fan speed in central heating mode [rpm x 100]	Natural gas	56	65	62
			Propane	53	65	59
 STEP	P.23	Max. fan speed in central heating mode [rpm /min.].	Natural gas	00	00	00
			Propane	00	00	00
 STEP	P.24	Max. fan speed in domestic hot water mode (rpm x 100)	Natural gas	56	65	62
			Propane	53	65	59
 STEP	P.25	Max. fan speed in domestic hot water mode [rpm /min.].	Natural gas	00	00	00
			Propane	00	00	00
 STEP	P.26	Min. fan speed [rpm x 100]	Natural gas	17	17	15
			Propane	20	20	20
 STEP	P.27	Min. fan speed [rpm /min.].	Natural gas	00	00	00
			Propane	00	00	00
 STEP	P.28	Speed of the fan during ignition [tr/min. x 100].	Natural gas	40	40	34
			Propane	40	40	34
 STEP	P.29	Fanspeed during forced low time [rpm x 100]		34	34	34
 STEP	P.30	Force burner low after CH-start [sec. x 9.0].		00	00	00
 STEP	P.32	CH pump over-run **00** = 10 sec. [1 minute]		05	05	05
 STEP	P.33	Domestic hot water pump over-run time [sec. x 10,2].		16	16	16
 STEP	P.34	Central Heating modulation hysteresis enabled.		03	03	03

MCBA PARAMETERS FOR THE SPECIALIST

Key	Display	Description of the parameters	Factory setting		
			Prestige 50	Prestige 75	Prestige 120
 STEP	P.35	Central Heating modulation hysteresis disabled.	.03	.03	.03
 STEP	P.36	Domestic hot water modulation hysteresis enabled.	.00	.00	.00
 STEP	P.37	Domestic hot water modulation hysteresis disabled.	.06	.06	.06
 STEP	P.38	Detection of domestic hot water hysteresis enabled.	.10	.10	.10
 STEP	P.39	Detection of domestic hot water hysteresis disabled.	.00	.00	.00
 STEP	P.40	Central Heating blockage time sec. x 10,2].	.05	.05	.05
 STEP	P.41	Domestic hot water blockage time [sec. x 10,2].	.00	.00	.00
 STEP	P.42	Domestic hot water ➙ Central Heating blockage time [sec. x 10,2].	.24	.24	.24
 STEP	P.43	DHW time-out (Maximum time for DHW request) [min.]	.120	.120	.120
 STEP	P.45	1st position: 2nd central heating circuit: **0** = disabled **1** = enabled [slave] **2** = enabled [master] 2nd position: the heat demand comes from: **0** = room thermostat **1** = outdoor sensor	.00	.00	.00
 STEP	P.46	1st position: **1** = DHW circulator **2** = Dividing valve 2nd position: **2** = Tank with NTC3 sensor **3** = Tank with thermostat	.13	.13	.13

MCBA PARAMETERS FOR THE SPECIALIST

Key	Display	Description of the parameters	Factory setting		
			Prestige 50	Prestige 75	Prestige 120
 STEP	P.47	Manual fanspeed	.-01	.-01	.-01
 STEP	P.53	1st position: Special pump [**0** = disabled] 2nd position: Minimum disable cycle [**0** = disabled]	.00	.00	.00
 STEP	P.57	Pre-glow time [sec.]	.03	.03	.03
 STEP	P.64	Extended prepurge time [sec.]	.00	.00	.00
 STEP	P.65	Postpurge time [sec.]	.30	.30	.30
 STEP	P.66	Postpurge fanspeed [rpm x 100]	.25	.25	.25
 STEP	P.76	Valvetime 2nd CH-circuit [sec. x 15]	.10	.10	.10
 STEP	P.77	**I**-factor 2nd CH-circuit	.10	.10	.10
 STEP	P.78	"**I**" up factor fan.	.10	.10	.10
 STEP	P.79	"**I**" down factor fan.	.10	.10	.10
 STEP	P.83	Temperature limit T5 max. [°C].	.120	.120	.120
 STEP	P.84	Temperature limit T6 max. [°C]	.60	.60	.60

MCBA PARAMETERS FOR THE SPECIALIST

Key	Display	Description of the parameters	Factory setting		
			Prestige 50	Prestige 75	Prestige 120
 STEP	P.087	Maximum dT1/dt [x 0,1 °C/sec.]	.015	.015	.015
 STEP	P.089	Maximum dT3/dt [x 0,1 °C/sec.]	.020	.020	.020
 STEP	P.090	Difference T1-T2 for modulating back	.025	.025	.025
 STEP	P.096	Impulses per rotation / PWM Frequency	.092	.092	.092
 STEP	P.097	External ignition / start attempts	.005	.005	.005
 STEP	P.100	Maximum swap time NTC1-NTC2 [sec. x 15]	.006	.006	.006
 STEP	P.101	Minimum to maximum time CH [sec.]	.060	.060	.060
 STEP	P.105	System Options 1	.008	.008	.008
 STEP	P.106	System Options 2	.116	.116	.116
 STEP	P.109	Protection Options 2	.032	.032	.032
 STEP	P.113	Additional parameter **0** [Value + 256]	.-09	.-09	.-09

COMMUNICATION MODE [with code]

This mode displays communication between the boiler and the control module, the optional interface kit or the optional programmable room thermostat

Key	Display
MODE	CONN

Key	Display	Description of the parameters
STEP	0	No communication
	1	Communication only between the boiler module and the optional control module.
	11	Communication between all the connected appliances.

FAN MODE [with code]

Key	Display	Description of the parameters
MODE	FAN	Fan speed
STEP	5500	The fan's current speed is 5,500 rpm.

ERROR MODE [with code]

ERROR indicates the last error, as well as the status of the boiler and the current values of this error.

Key	Display
MODE	ERR0

Key	Display	Description of the parameters
STEP	136	Code of last error
STEP	200	Status of the boiler at the time of the error
STEP	300	Flow temperature T1 at the time of the error
STEP	400	Return temperature T2 at the time of the error
STEP	500	Hot water temperature T3 at the time of the error
STEP	600	Outdoor temperature T4 at the time of the error

MCBA BLOKING AND ERROR CODES

LIST OF ERROR CODES + SOLUTIONS [in ERROR mode]

If a fault occurs during operation, the system locks down and the screen starts flashing.
The first character is an "**E**" or "**b**" and the following two indicate the code of this fault, as indicated in the table below.

To unlock the system:
- **Press "RESET" on the screen.**
- **If the fault reoccurs, contact your installer.**

Codes	Description of the fault	Remedying the fault
E 00	Abnormal flame signal	1. Check the wiring (short-circuit in the 24V wiring) 2. Check the electrode 3. Replace the MCBA (water damage)
E 02	No flame signal after five attempts at firing the boiler	1. Check the ignition cable 2. Check the electrode and the position of the electrode 3. Check that there is gas at the burner
E 03	Rectifier or gas valve error	Replace the rectifier or gas valve
E 04	Persistent lock	Press "RESET"
E 05	No flame detection or electric network perturbated	1. Control the gap of the electrode 2. Check the resistance kΩ in the electrode gap 3. Stabilisation of electric supply
E 06	Input fault detected	Check the input and RESET the MCBA
E 07	Gas valve relay error	If the problem persists after two RESET attempts, replace the MCBA
E 08	Air Pressure Switch did not close	Check the air pressure switch
E 11	EPROM error	If the problem persists after two RESET attempts, replace the MCBA
E 12	Max input, thermostat open or 24V fuse gone	1. Check the high limit 2. Check the 24V fuse on the MCBA 3. Shunt 12-13 missing
E 13	Internal error	If the problem persists after two RESET attempts, replace the MCBA
E 14	Water present in the 24 Volt circuit	Check and dry if necessary the 24 Volt circuit [sensors, terminals, …]
E 15	Internal error	If the problem persists after two RESET attempts, replace the MCBA
E 16	Internal error	If the problem persists after two RESET attempts, replace the MCBA
E 17	Internal error	If the problem persists after two RESET attempts, replace the MCBA
E 18	T1 > 110°C	1. Check the NTC sensor wiring and replace if necessary 2. If NTC 1 is OK, please verify that the water flows trough the boiler
E 19	T2 > 110°C	Check the NTC sensor wiring and replace if necessary
b 24	NTC 1 and NTC 2 sensor changed the place	Change the place of NTC 1 and NTC 2 sensor
E 25	T1 gradient too high	1. Check that the pump is turning 2. If there is no problem with the pump, drain the system

MCBA BLOKING AND ERROR CODES

Codes	Description of the fault	Remedying the fault
	Minimum gas pressure switch or water pressure switch opened	Check the gas pressure switch or the water pressure switch
	No fan signal present	1. Check the fan control connection 2. Check the fan wiring 3. If the problem persists after two RESET attempts, replace the fan and / or the MCBA
	The tacho signal of the blower does'nt go to zero	1. Check that the convection flow through the chimney is not high enough to rotate the blower 2. If not, exchange the blower
	Maximal difference T1 – T2 exceeded	Check the water flow rate
	NTC 1 short-circuit	1. Check the connection of the NTC 1 sensor 2. Check the wiring of the NTC 1 sensor 3. If the problem persists, replace the NTC 1 sensor
	NTC 2 short-circuit	1. Check the connection of the NTC 2 sensor 2. Check the wiring of the NTC 2 sensor 3. If the problem persists, replace the NTC 2 sensor
	NTC 3 short-circuit	1. Check the connection of the NTC 3 sensor 2. Check the wiring of the NTC 3 sensor 3. If the problem persists, replace the NTC 3 sensor
	NTC 5 short-circuit	1. Check the connection of the NTC 5 sensor 2. Check the wiring of the NTC 5 sensor 3. If the problem persists, replace the NTC 5 sensor
	NTC 1 open	1. Check the connection of the NTC 1 sensor 2. Check the wiring of the NTC 1 sensor 3. If the problem persists, replace the NTC 1 sensor
	NTC 2 open	1. Check the connection of the NTC 2 sensor 2. Check the wiring of the NTC 2 sensor 3. If the problem persists, replace the NTC 2 sensor
	NTC 3 open	1. Check the connection of the NTC 3 sensor 2. Check the wiring of the NTC 3 sensor 3. If the problem persists, replace the NTC 3 sensor
	NTC 5 open	1. Check the connection of the NTC 5 sensor 2. Check the wiring of the NTC 5 sensor 3. If the problem persists, replace the NTC 5 sensor
	Parameter values in EPROM values out of range	If the problem persists after two RESET attempts, reprogram the MCBA
	Internal error	If the problem persists after two RESET attempts, replace the MCBA.
	Flue gas temperature too high (NTC 5)	1. Check the connection of the NTC 5 sensor 2. Check the wiring of the NTC 5 sensor 3. If the problem persists, replace the NTC 5 sensor
	Error while reading the parameters	1. Press "RESET" 2. If the error persists, replace the MCBA.
	Air Pressure Switch closed when it should open	Check the air pressure switch
	Low water pressure	Check the water pressure
	Fan speed not within the dead band	1. Check the MCBA power supply voltage 2. If it is OK, replace the fan.
	NTC6 temperature too high	Check the 3-ways valve and the motor

MCBA BLOKING AND ERROR CODES

Codes	Description of the fault	Remedying the fault
	No valid mains frequency detected	Check the network frequency
	Invalid or conflicting cascade address	Check the cascade eddress
	Internal error	If the problem persists after two RESET attempts, replace the MCBA.
	Mains frequency deviation > 1,5 Hz or processor oscillator error	Check the network frequency
	Air pressure switch opened during burner ON	Check the air pressure switch
	Flame current lost during burner ON	Measure the ionisation current
	Minimum gas pressure switch opened during burner ON	Check the gas pressure switch
	Drift of sensor NTC 1 or NTC 2	Check sensor NTC 1 and NTC 2
	Crack of sensor NTC 1 or NTC 2	Check sensor NTC 1 and NTC 2
	Stuck-at error of sensor NTC	Check sensor NTC 1 and NTC 2