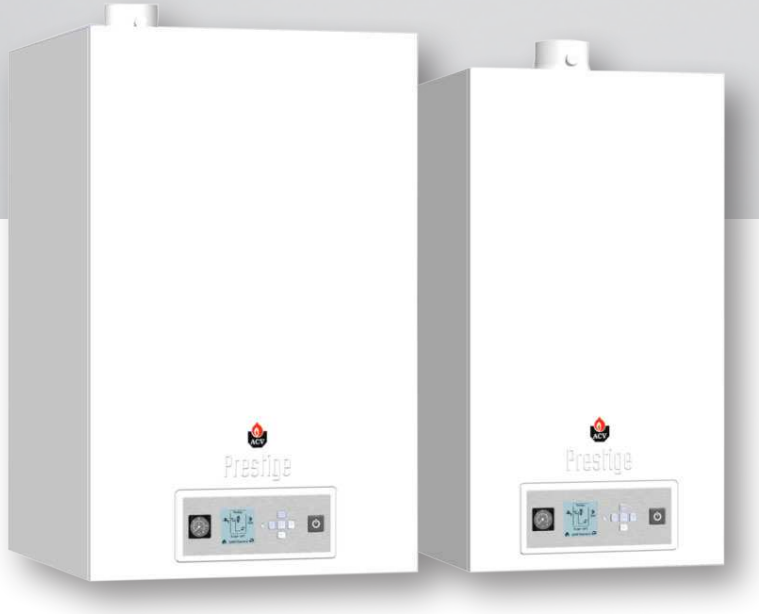
INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

for the Installer and the User



Prestige

24 - 32 Solo
24 - 32 Excellence

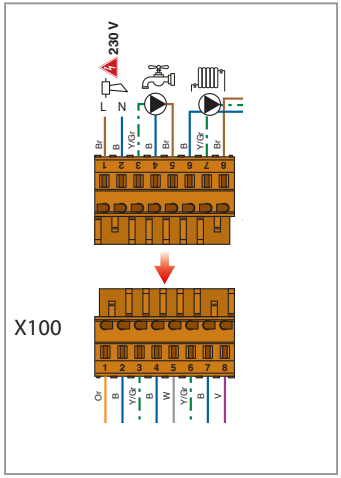
EXCELLENCE IN HOT WATER ACV

Addendum - Wiring Diagrams - Detail of X100 Terminal

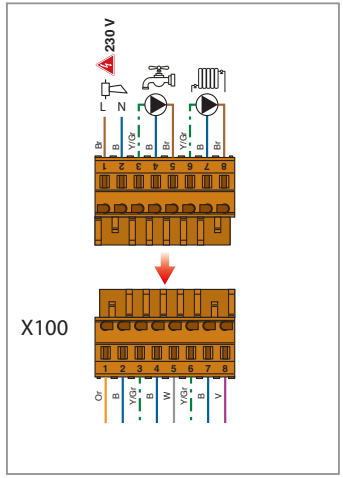
APPLICABILITY :

- **664Y2900 - Rev D - Installer's Handbook - Volume 2 -**
- **664Y6700 - Rev D - Prestige 24-32 Solo/Excellence, Installation, Operation and Maintenance Instructions**
- **664Y6900 - Rev D - HeatMaster 25 - 35 - 45 - 70 - 85 - 120 TC, Installation, Operation and Maintenance Instructions**
- **664Y7000 - Rev B - HeatMaster 25C, Installation, Operation and Maintenance Instructions**
- **664Y7300 - Rev C - WaterMaster 25 - 35 - 45 - 70 - 85 - 120, Installation, Operation and Maintenance Instructions**

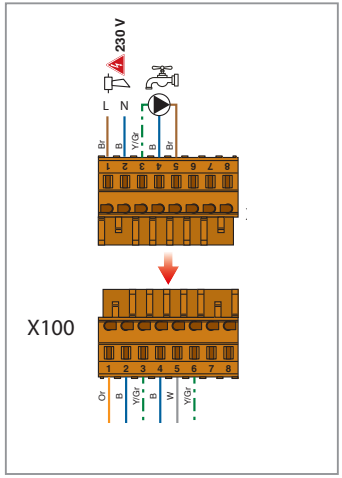
Prestige 24-32 Solo/Excellence



Prestige 42-50-70-85-120 Solo



HeatMaster 25-35-45-100-120 TC
HeatMaster 25C
WaterMaster 25-35-45-100-120



EXCELLENCE IN HOT WATER

Addendum - Additional Safety Instructions for Gas Appliances

APPLICABILITY :

- 664Y4900 - Rev E - Delta Pro S -Pro Pack, Installation, Operation and Maintenance Instructions
- 664Y6100 - Rev B - HeatMaster 71 - 101 - 201 (V13), Installation, Operation and Maintenance Instructions
- 664Y6300 - Rev B - HeatMaster 200N, Installation, Operation and Maintenance Instructions
- 664Y6700 - Rev D - Prestige 24-32 Solo/Excellence, Installation, Operation and Maintenance Instructions
- 664Y6900 - Rev D - HeatMaster 25 - 35 - 45 - 70 - 85 - 120 TC, Installation, Operation and Maintenance Instructions
- 664Y7000 - Rev B - HeatMaster 25C, Installation, Operation and Maintenance Instructions
- 664Y7200 - Rev B - Compact Condens 170 - 210 - 250 - 300, Installation, Operation and Maintenance Instructions
- 664Y7300 - Rev C - WaterMaster 25 - 35 - 45 - 70 - 85 - 120, Installation, Operation and Maintenance Instructions

EN Make sure that the appliance is connected to the earth.

FR Veiller à ce que l'appareil soit raccordé à la terre.

NL Zorg ervoor dat het toestel is geaard.

ES Asegúrese de que el aparato esté conectado a tierra.

IT Assicurarsi che l'apparecchio sia elettricamente collegato alla messa a terra dell'impianto.

DE Stellen Sie sicher, dass das Gerät geerdet ist.

PL Upewnij się, że urządzenie jest uziemione.

RU Убедитесь, что прибор заземлен.

EN Check that the gas type and pressure from the distribution network are compatible with the appliance settings.

FR Vérifier que le type de gaz et la pression du réseau de distribution sont compatibles avec les réglages de l'appareil.

NL Controleer of het type gas en de druk van het distributienetwerk in overeenstemming zijn met de toestelinstellingen.

ES Compruebe que el tipo de gas y la presión de la red de distribución son compatibles con los ajustes del aparato.

IT Controllare che il tipo di gas e la pressione della rete di distribuzione siano compatibili con le impostazioni dell'apparecchio.

DE Stellen Sie sicher, dass die Gasart und der Druck des Verteilungsnetzes mit den Geräteinstellungen kompatibel sind.

PL Sprawdzić, czy typ gazu i ciśnienie sieci dystrybucyjnej są zgodne z ustawieniami urządzenia.

RU Убедитесь, что тип газа и давление в распределительной сети совместимы с настройками прибора.

TABLE OF CONTENTS

NOTE

This manual contains important information with respect to the installation, the starting up and the maintenance of the appliance.

This manual must be provided to the user, who will read it carefully and keep it in a safe place.

We accept no liability should any damage result from the failure to comply with the instructions contained in this technical manual.

Essential recommendations for safety

- It is prohibited to carry out any modifications to the appliance without the manufacturer's prior and written agreement.
- The product must be installed by a qualified engineer, in accordance with applicable local standards and regulations.
- The installation must comply with the instructions contained in this manual and with the standards and regulations applicable to heating systems.
- Failure to comply with the instructions in this manual could result in personal injury or a risk of environmental pollution.
- 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.

Essential recommendations for the correct operation of the appliance

- In order to ensure that the appliance operates correctly, it is essential to have it serviced by a certified installer or maintenance contractor every year.
- In case of anomaly, please call your service engineer.
- Faulty parts may only be replaced by genuine factory parts.

General remarks

- The availability of certain models as well as their accessories may vary according to markets.
- The manufacturer reserves the right to change the technical characteristics and features of its products without prior notice.
- 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.

SAFETY INSTRUCTIONS

If you smell gas:

- Immediately isolate the gas supply.
- Open windows and doors to ventilate the area.
- Do not use any electrical appliances and do not operate any switches.
- Immediately notify your gas supplier and/or your installer.

Essential recommendations for safety

- Do not store any flammable or corrosive products, paint, solvents, salts, chloride products and other detergent products near the appliance.
- Make sure that the condensate outlet is never obstructed and that a condensate neutralisation system is installed if required.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless supervised or unless they have been given instruction concerning the use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

General remarks

- The end user is only allowed to carry out the basic set-up operations mentioned in "Boiler Setup Guide" on page 8, after he has received all relevant instructions from the installer. Any other set-up must be carried out by an approved installer.
- If the end user misuses the installer code to access installer-specific parameters and makes changes that cause a system failure, any warranty claim will be void.
- To get additional information on how to use the ACVMAX interface, refer to the installer-specific settings and the detailed error codes, in the Installer's Handbook or the ACVMax System Control manual , according to the product build*. Both manuals are available from the website www.acv.com, under the "Documentation" section.

* The Installer's Handbook is applicable to appliances manufactured from May 2016, starting from Serial Number A071140.

MEANING OF SYMBOLS

Symbols on the packaging	Meaning
	Fragile
	Keep dry
	Keep standing, up
	Danger of tipping over
	Hand truck or pallet truck required for transport
	Do not cut packaging to open
	Do not stack more than 2 boxes

Symbols on the appliance	Meaning
	Gas connection
	Condensate trap (ball syphon)
	Domestic Hot Water circuit
	Primary circuit
	Connection to the sewage system
	Electricity
	Alarm

Symbols in the manual	Meaning
	Essential recommendation for safety (of persons and equipment)
	Essential recommendation for electrical safety (electrical hazard)
	Essential recommendation for the correct operation of the appliance or the system
	General remark
	Safety valve connected to the sewage system
	Connection to the sewage system

BOILER MARKING

Location: Bottom face

The part number (Code) and serial number (N°) of the appliance are indicated on its rating plate and must be provided to ACV in case of warranty claim. Failure to do so will make the claim void.

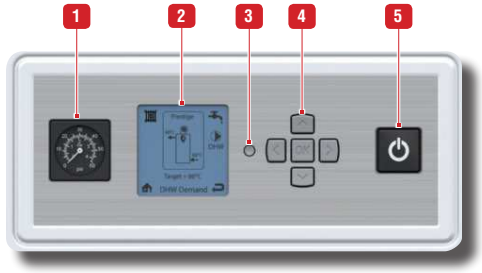
Prestige 24 Solo

Prestige 24 Excellence

Prestige 32 Solo

Prestige 32 Excellence

CONTROL PANEL AND DISPLAY



Panel Description

1. **Pressure gauge** - Indicates the primary circuit pressure (min. 1 bar when cold).
2. **ACVMAX LCD Display** - It is the setup interface of the boiler and indicates the parameter values, the error codes and the set-up status of the parameters. It displays a series of screens, each showing information and/or icons. The main icons are detailed below.
3. **Installer button** - Allows the installer to access the menus of the ACVMAX controller to set up the system.
4. **Arrow keys and OK key** - to browse through the screens of the ACVMAX controller, set up the boiler, increase and decrease the displayed values and validate the selections and access the Easy set-up screens. The OK key is also used to RESET the boiler after a locking (follow the instructions on the screen).
5. **ON/OFF master switch of the boiler** - To turn the appliance ON and OFF.

Main settings of ACVMAX Display

- **Screen backlight** - it will illuminate when any button is depressed, and remain illuminated for five minutes.
- **Screen contrast** - it can be adjusted at the Home screen by pressing and holding the OK button, then pressing and holding the LEFT button along with the OK button. Press the UP and DOWN button to increase or decrease the contrast while holding the OK and LEFT buttons depressed. All buttons must be released and the procedure performed again to switch between increasing and decreasing contrast.

Main Icons of ACVMAX display

Central Heating - indicates information related to the CH circuit.

DHW - indicates information related to the Domestic Hot Water circuit.

Home - to go back to the main menu screen.

Back - to go back to the previous screen.

Warm weather shutdown - displays on the home screen when the outdoor temperature reaches the Warm Weather Shutdown preset temperature.

Reset - to reset the system to the factory settings.

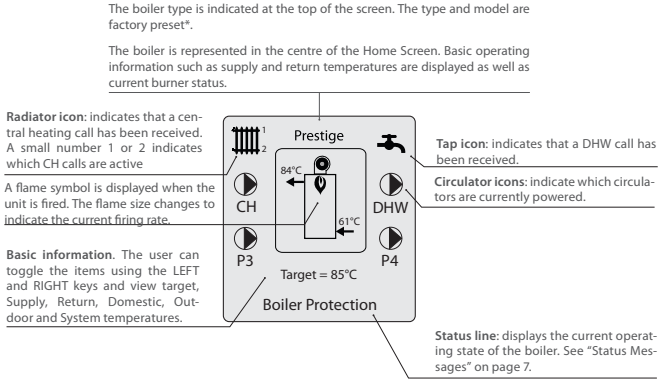
Parameters - to access to the setup of controller parameters (language, units, etc.).

Easy setup - Indicates parameters that can be accessed through the EZ setup.

CH/DHW operation - To enable/disable the concerned circuit.

Information - To get information on the boiler.

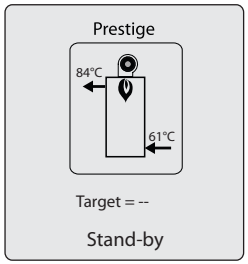
Typical items appearing on the Home screen:



* For boilers manufactured after May 2016, starting from S/N A071140

STAND-BY SCREEN

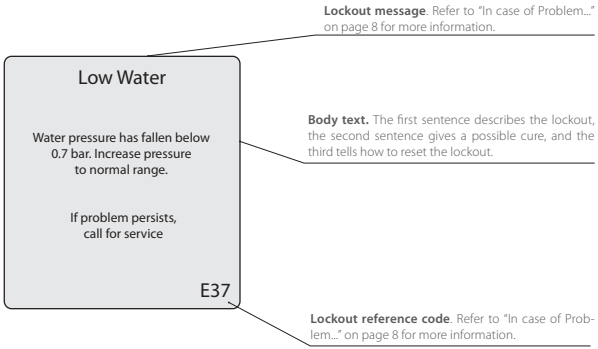
This screen is displayed at start-up. It indicates that the Prestige is ready to respond when a demand is received.



LOCKOUT SCREEN

If a problem occurs, the Lockout screen replaces the Home screen. The backlight also remains on as long as the problem is not solved. Pressing any arrow button will return to the Home screen.

Using the code located in the right bottom corner of the screen, troubleshoot the problem, either with the table located in paragraph "In case of Problem..." on page 8, or with the table "Locking codes" on page 43 (only for installers).



STATUS MESSAGES

Stand-by	Indicates that the Prestige is ready to respond when a demand is received.
CH Demand	A central heating call has been received.
DHW Demand	A domestic hot water call has been received.
CH / DHW Demand	Central heating and domestic hot water calls are being received simultaneously. Both calls are being satisfied simultaneously because domestic hot water priority has been disabled.
DHW Priority	Central heating and domestic hot water calls are being received simultaneously. Domestic hot water call is being satisfied first because it has priority over central heating calls.
Priority Timeout	Central heating and domestic hot water calls are being received simultaneously. The domestic hot water priority time limit has been exceeded. Priority will now switch back and forth between central heating and domestic hot water calls until one call is satisfied.
External Demand	An external modulation call has been received.
Slave Operation	The Prestige is a slave in a cascade system.
Manual Operation	The burner or circulators have manually been enabled in the Installer Menu.
CH Burner Delay	The burner will not fire until the call blocking time has elapsed.
DHW Burner Delay	The burner will not fire until the call blocking time has elapsed.
CH Setpoint Reached	The burner is not fired because the supply/system water temperature exceeds the setpoint. The central heating circulator continues to operate and the burner will fire again once the supply/system water temperature drops below the setpoint.
DHW Setpoint Reached	The burner is not fired because the supply/system water temperature exceeds the setpoint. The domestic circulator continues to operate and the burner will fire again once the supply/system water temperature drops below the setpoint.
CH Post Pump	The central heating circulator is running to remove heat from the Prestige at the completion of a call.
DHW Post Pump	The domestic hot water circulator is running to remove heat from the Prestige at the completion of a call.
Freeze Protection	The burner is fired because the freeze protection feature has been activated. Freeze protection will end once the supply/system water temperature is raised to16°C.
Boiler Protection	The burner firing rate is being reduced because of an excessive difference between the boiler supply and return temperatures. The firing rate will begin increasing once the temperature difference is less than 25°C.
Lockout Description	The lockout which currently has the Prestige shut down is displayed

WHAT TO CHECK ON A REGULAR BASIS

Essential recommendations for the correct operation of the appliance

ACV recommends to check the system at least every 6 months as follows:

- **Check that the system water pressure is at least 1 bar when cold. If the pressure drops below 0.7 bar, the built-in pressure sensor blocks the appliance until the pressure exceeds 1.2 bar.**
- **If it is required to top up the system to maintain the minimum recommended water pressure, always turn the appliance off and only add small amounts of water at a time. If a large amount of cold water is added in a hot boiler, the boiler can be damaged definitively.**
- **If the system needs to be refilled repeatedly with water, please contact your installer.**
- **Check that there is no water on the floor under the boiler. If there is, please call your installer.**
- **If a condensate neutralisation system is installed, check it and have it cleaned regularly.**
- **Check regularly that there is no error message (lockout) on the screen. A typical lockout screen is explained on the previous page. Refer also to the Troubleshooting table below or call your installer as required.**

IN CASE OF PROBLEM...

Check the list of faults and corresponding codes below to get the solution(s). If no solution is provided here, please contact your installer who will determine the correct solution by referring to "Locking codes" on page 43.

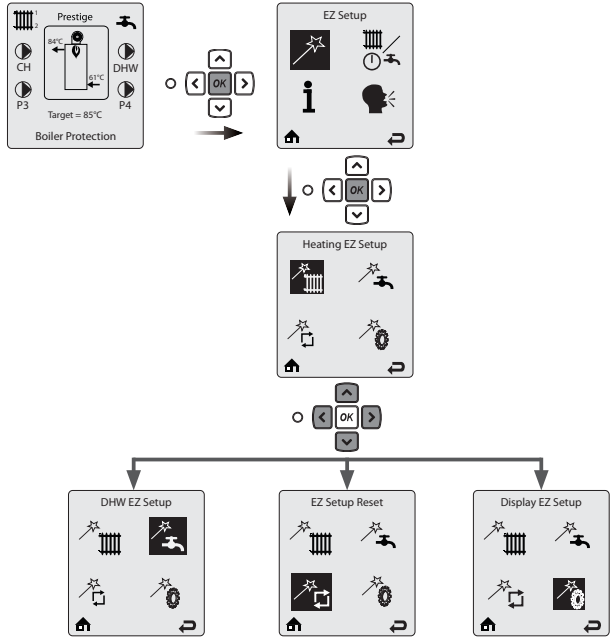
Fault code	Problem	Possible Cause(s)	Solution
-	**The appliance does not turn on when pressing the ON/OFF Master switch**	No power supply	Check the power supply and that the appliance power plug is connected to the network.
E 01	**Failed ignition**	The burner failed to light after 5 ignition attempts	Check gas supply to the boiler.
E 13	**Reset limit reached**	Resets are limited to 5 every 15 minutes	Turn unit OFF and ON to resume normal operation.
E 34	**Low voltage**	Line voltage has fallen below an acceptable operating level	The boiler will automatically reset once line voltage returns to normal.
E 37	**Low Water**	Water pressure has fallen below an acceptable operating level (0.7 bar)	Refill the system to reach a normal range pressure. The boiler will automatically reset once water pressure returns to normal.
E 94	**Internal Display Fault**	Display memory error	Turn appliance off and on to resume normal operation.

BOILER SETUP GUIDE

The main parameters of the Prestige boilers can be set up using the EZ (easy) setup function of the ACV-Max controller. The EZ setup function allows the user/installer to quickly setup the appliance for immediate operation according to the system configuration*.

General remarks

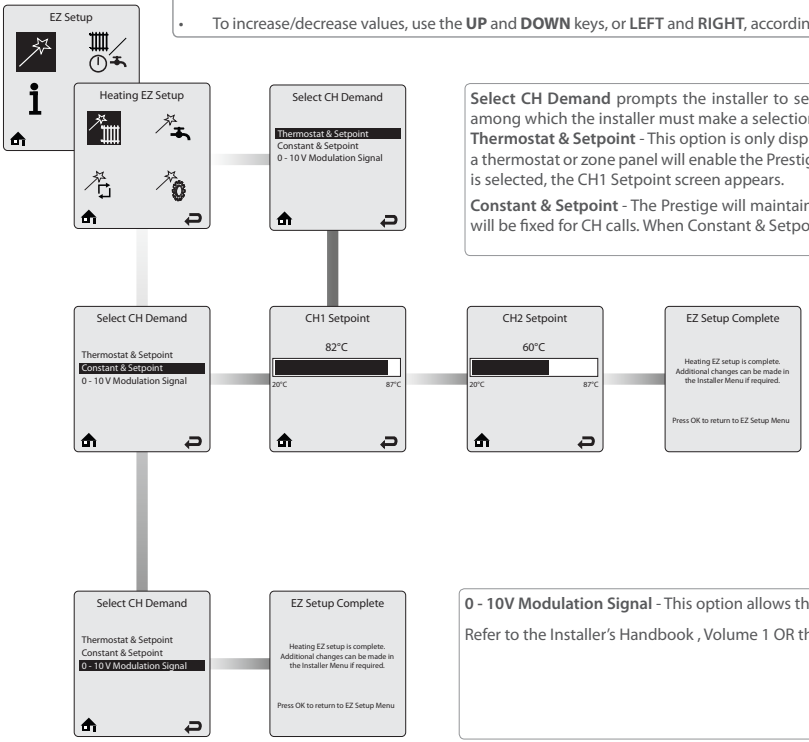
- **To navigate on the screen, use the UP, DOWN, LEFT and RIGHT keys, then the OK key to validate a selection. A selection is marked by a black background under the selected icon/text.**
- **To increase/decrease values, use the UP and DOWN keys or the LEFT and RIGHT keys according to the situation.**



* In case of complex systems, the setup must be performed by an approved installer using the Installer's Handbook or the ACVMax System Control manual, according to the software build (refer to page 3 for more information).

Heating Easy setup (no outdoor sensor connected)

- To navigate on the screen, use the **UP**, **DOWN**, **LEFT** and **RIGHT** keys,
- Use the **OK** key to validate a selection.
- To increase/decrease values, use the **UP** and **DOWN** keys, or **LEFT** and **RIGHT**, according to the situation



Select CH Demand prompts the installer to select how a CH Demand is generated. There are three Select CH Demand options, among which the installer must make a selection.
Thermostat & Setpoint - This option is only displayed when no outdoor temperature sensor is connected. A central heating call from a thermostat or zone panel will enable the Prestige and the setpoint will be fixed for central heating calls. When Thermostat & Setpoint is selected, the CH1 Setpoint screen appears.

Constant & Setpoint - The Prestige will maintain setpoint without an external CH call from a thermostat or zone panel. The setpoint will be fixed for CH calls. When Constant & Setpoint is selected, the CH1 Setpoint screen appears.

CH1 Setpoint prompts to enter the fixed setpoint for a CH1 heating call when a Setpoint option is chosen in Select CH Demand. Press on **LEFT** or **RIGHT** button to adjust the required temperature setpoint then press **OK** to store the setting. The **CH2 Setpoint** screen appears.

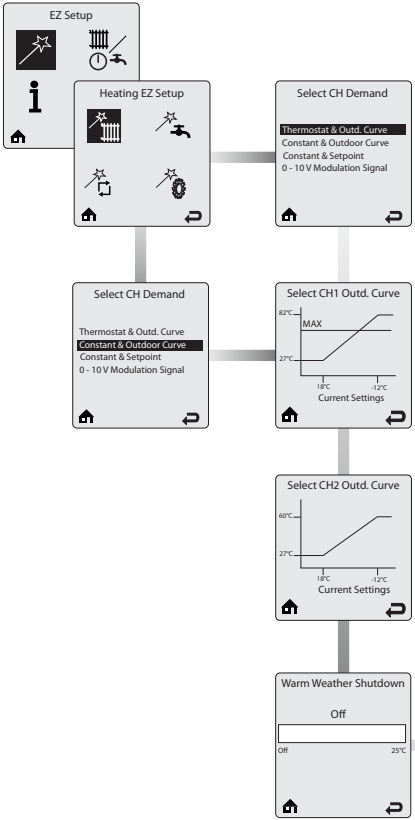
CH2 Setpoint prompts to enter the fixed setpoint for a CH2 heating call when a Setpoint option is chosen in Select CH Demand. Press on **LEFT** or **RIGHT** button to adjust the required temperature setpoint then press **OK** to store the setting and complete the Heating setting.

CH1 Default: 82°C.
CH2 Default: 60°C

0 - 10V Modulation Signal - This option allows the Prestige firing rate to be controlled by an external control system.

Refer to the Installer's Handbook , Volume 1 OR the ACVMax System Control manual for more information.

Heating Easy Setup (outdoor sensor connected)



Select CH Demand prompts the installer to select how a CH Demand is generated. There are several Select CH Demand options, among which the installer must make a selection.

Thermostat & Outd. Curve – This option is only displayed when the outdoor temperature sensor is connected. A central heating call from a thermostat or zone panel will enable the boiler and the setpoint will vary with the outdoor temperature for central heating calls..

Constant & Outdoor Curve - This option is only displayed when the outdoor temperature sensor is connected. The Prestige will maintain the setpoint without an external call from a thermostat or zone panel. The setpoint will vary with the outdoor temperature for central heating calls.

Select CH1 Outd. Curve prompts to select an outdoor curve for a CH1 heating call when an Outdoor Reset option is chosen in Select CH Demand. Outdoor curve presets are available to cover most applications. The outdoor curve can also be adjusted to any desired settings in the Installer Menu (refer to Installer's Handbook or the ACVMax System Control manual, according to the software build (refer to page 3 for more information)).

Press on **UP** or **DOWN** button to select the outdoor reset curve appropriate for the type of heating system, then press **OK** to store the setting.

Default: Systems with a temperature between 27°C and 82 °C.

Select CH2 Outd. Curve prompts to select an outdoor curve for a CH2 heating call when an Outdoor Reset option is chosen in Select CH Demand. Outdoor curve presets are available to cover most applications. The outdoor curve can also be adjusted to any desired settings in the Installer Menu (refer to Installer's Handbook or the ACVMax System Control manual, according to the software build (refer to page 3 for more information)).

Press on **UP** or **DOWN** button to select the outdoor reset curve appropriate for the type of heating system, then press **OK** to store the setting.

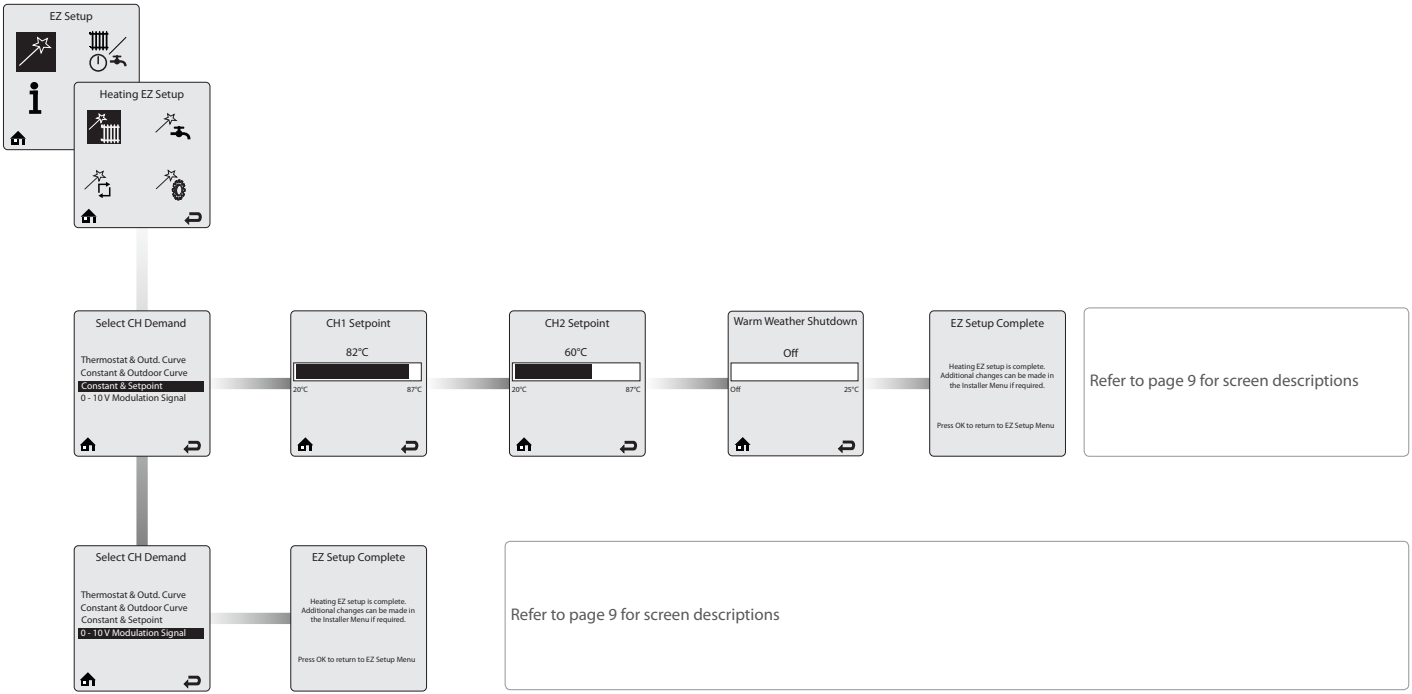
Default: Systems with a temperature between 27°C and 60 °C

Warm Weather Shutdown allows to enter an optional outdoor temperature at which to disable the central heating function. The Prestige will continue to respond to a domestic hot water call or a 0- 10V Modulation Signal when the outdoor temperature exceeds the Warm Weather Shutdown Temperature setting.

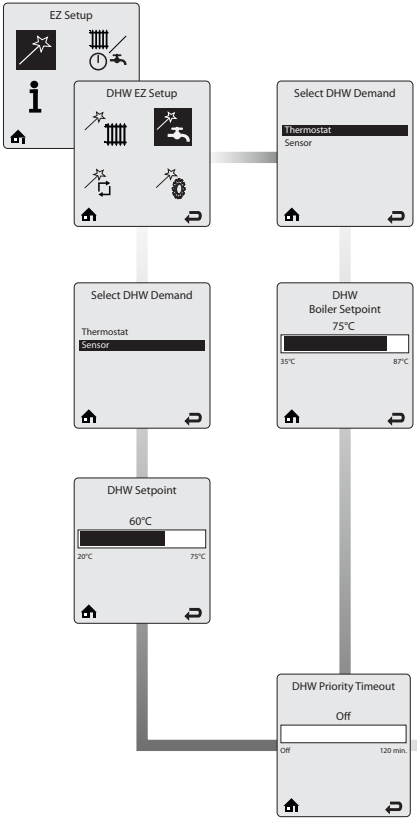
Press the **LEFT** or **RIGHT** buttons to adjust the Warm Weather Shutdown Temperature then press the **OK** button to store the setting and complete the Heating setting.

The Warm Weather Shutdown icon ( ) is displayed on the home screen when the outdoor temperature reaches the Warm Weather Shutdown preset temperature.

Default: OFF.


EZ Setup
Heating EZ Setup
Select CH Demand
Thermostat & Outd. Curve
Constant & Outdoor Curve
Constant & Setpoint
0 - 10 V Modulation Signal
CH1 Setpoint
82°C
20°C
87°C
CH2 Setpoint
60°C
20°C
87°C
Warm Weather Shutdown
Off
Off
25°C
EZ Setup Complete
Heating EZ setup is complete. Additional changes can be made in the Installer Menu if required.
Press OK to return to EZ Setup Menu
Refer to page 9 for screen descriptions
Select CH Demand
Thermostat & Outd. Curve
Constant & Outdoor Curve
Constant & Setpoint
0 - 10 V Modulation Signal
EZ Setup Complete
Heating EZ setup is complete. Additional changes can be made in the Installer Menu if required.
Press OK to return to EZ Setup Menu
Refer to page 9 for screen descriptions

DHW Setup



Select DHW Demand prompts the installer to select how a DHW Demand is generated. There are two Select DHW Demand options, among which the installer must make a selection.

When **Thermostat** is selected in Select DHW Demand, a domestic hot water call from an aquastat or dry contact switch will enable the Prestige with a fixed setpoint for a domestic hot water call..

When **Sensor** is selected in Select DHW Demand, it requires the use of an optional Indirect Water Heater Sensor. The Prestige monitors the DHW storage temperature and generates a DHW call whenever the temperature drops below the DHW storage setpoint by 3°C.

Default: Thermostat (Prestige Solo)
Sensor (Prestige Excellence)

DHW Boiler Setpoint prompts to enter the fixed boiler setpoint temperature during a hot water call when the Thermostat option is selected.

Press on **LEFT** or **RIGHT** button to adjust the required temperature setpoint then press **OK** to store the setting.

Default: 75°C.

DHW Storage Setpoint prompts to enter the DHW storage setpoint temperature.

Press on **LEFT** or **RIGHT** button to adjust the required temperature setpoint then press **OK** to store the setting.

Default: 60°C.

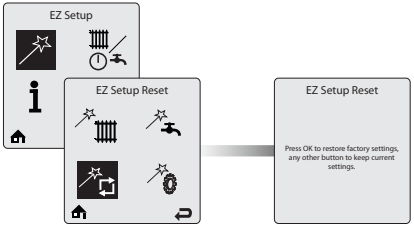
The DHW Storage Setpoint will automatically be set 15°C higher than the DHW Setpoint setting

DHW Priority Timeout prompts to enter an optional time limit that a domestic hot water call has priority over central heating call.

Press on **LEFT** or **RIGHT** button to adjust the required timeout value, if required, then press **OK** to store the setting and complete the DHW setting.

Default: Off

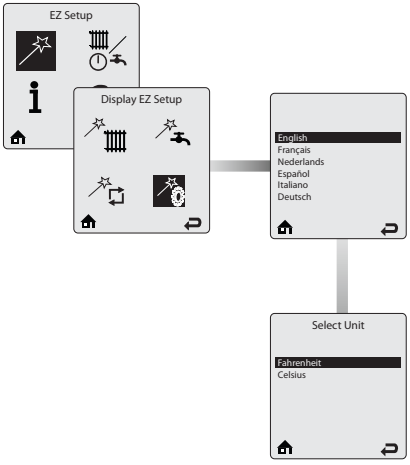
Easy Setup Reset



EZ Setup Reset allows to reset all EZ setup settings back to the original factory defaults.

Follow the on-screen instructions to reset all EZ setup settings.

Display Easy Setup



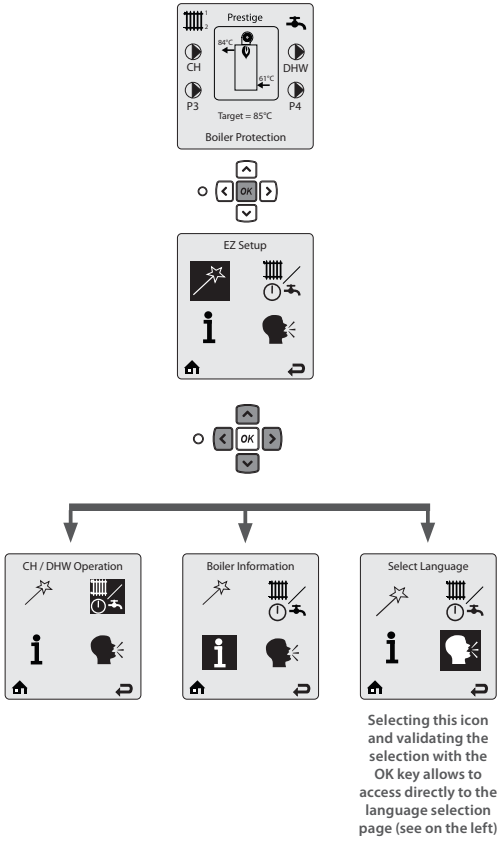
Display EZ Setup allows to select the interface language (Nine different languages: English, French, Dutch, Spanish, Italian, German, Czech, Polish and Russian).

Press on **UP** or **DOWN** button to select the required language then press **OK** to store the setting.

Display EZ Setup allows to select the interface temperature unit.

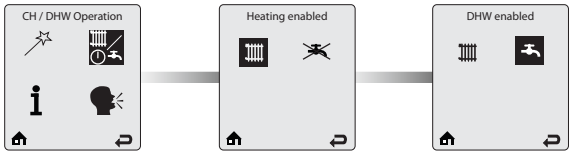
Press on **UP** or **DOWN** button to select the required unit then press **OK** to store the setting.

Starting from the Home screen :



Selecting this icon and validating the selection with the OK key allows to access directly to the language selection page (see on the left)

CH/DHW Operation



CH/DHW Operation provides a simple way to enable/disable either the CH or the DHW function of the Prestige.

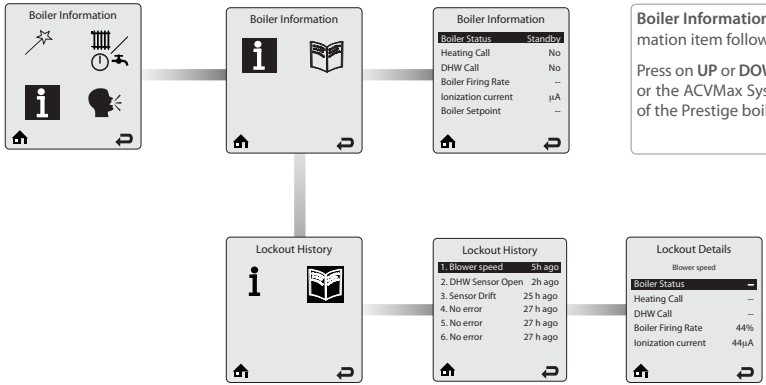
Press on **LEFT** or **RIGHT** button to select the object (CH or DHW icon), then press **OK** to toggle between the enabled/disabled status. The status of the circuit is displayed at the top of the screen.

Using the arrow keys, select the **HOME** or **RETURN** icon at the bottom of the screen to go back either to the home page or to the previous screen respectively.

Default for Prestige Solo:

Default for Prestige Excellence:

Boiler Information



Boiler Information screen provides real time operating information of the Prestige. Each line contains an information item followed by its current value. Six lines are displayed on the screen at one time.

Press on **UP** or **DOWN** button to scroll through the items. For more information, refer to the Installer's Handbook or the ACVMax System Control manual, according to the software build (refer to page 3 for more information) of the Prestige boilers.

Lockout History records the last eight lockouts. Six lines are displayed on the Lockout History screen at one time. Each line contains a lockout description followed by how long ago the lockout occurred.

Press on **UP** or **DOWN** button to scroll through the items and on **OK** to select any of them and get more details through the **Lockout Details** screen. For more information, refer to the Installer's Handbook of the Prestige boilers.

MODELS - PRESTIGE 24 - 32 SOLO / EXCELLENCE

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) - C43(x) - C53(x) - C63(x) - C83(x) - C93(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.

The Solo series is a system boiler, that can be operated in combination with the whole range of ACV Domestic Hot Water (DHW) tanks, using a specific kit, while the Excellence series has a built-in DHW tank (54L) and can work as a standalone appliance providing both heating and domestic hot water.

The boiler features a built-in frost protection mechanism: as soon as the flow temperature [NTC1 probe] drops below 7°C, the central heating pumps are activated. As soon as the flow temperature is at 5°C, the burner starts up until the flow temperature rises above 15°C. The pumps continue to run for around 10 minutes. The function can be enabled or disabled through the installer menu. When the frost protection is disabled, only the pumps operate.

An anti-freeze function is also available if an outdoor temperature sensor is connected, the pumps are activated when the outside temperature drops below the threshold defined through the Freeze protection function in the installer menu. 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

CONFIGURATION IN A SYSTEM

The Prestige boilers can be setup in different types of systems, either high or low temperature, or both, with or without Domestic Hot Water tank.

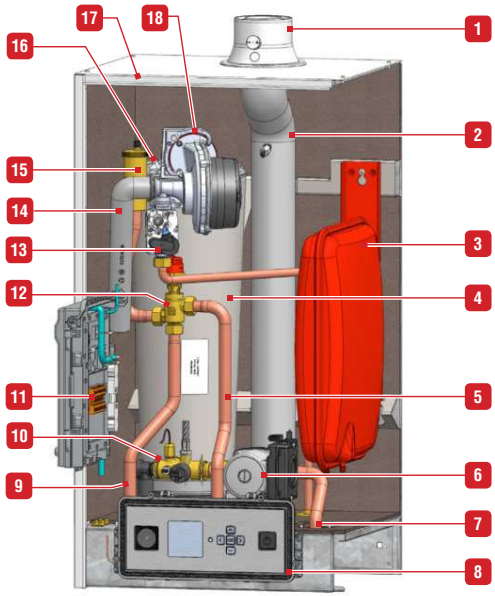
It is up to the installer to determine the best solution and reach the results the user is expecting.

One basic configuration is shown in this manual (see "Configuration and system set-up" on page 34), with the required accessories, required electrical connections and ACVMAX setup using the EZ setup function.

Additional configurations requiring a more advanced setup are shown in the Installer's Handbook or the ACVMax System Control manual (according to the software build of the ACVMax, please refer to page 3 for more information). The setup of those systems must be made exclusively by the installer using the installer code.

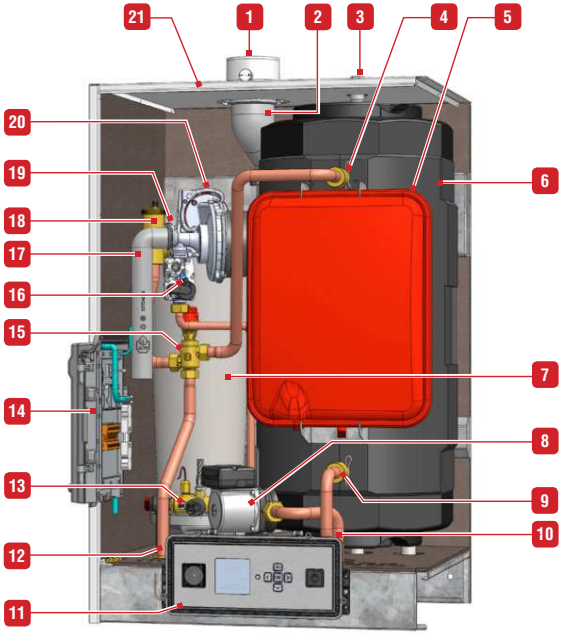
For any other configuration that is not mentioned in either manuals, please contact your ACV representative.

PRESTIGE 24 - 32 SOLO



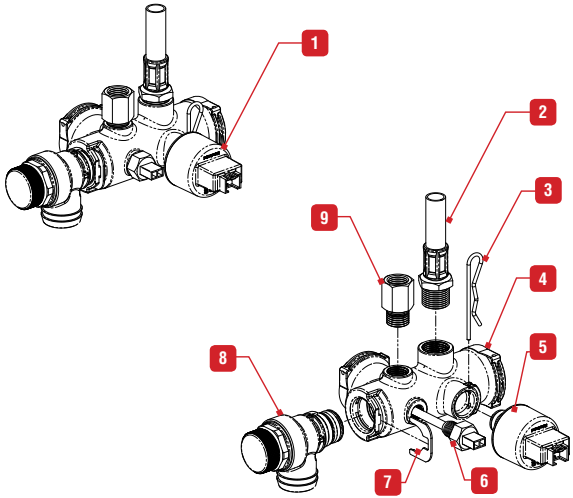
1. Concentric chimney connection ∅ 60 /100mm with measuring element
2. Chimney tube
3. 12 liter expansion vessel (heating circuit)
4. Stainless steel heat exchanger
5. Connection for external DHW tank (kit to be installed - stored under the boiler body))
6. High efficiency circulator pump
7. Heating return
8. Control panel with display and pressure gauge
9. Heating supply
10. Exchanger return multifunctional quick- connection block (see detail view on next page).
11. Electrical panel (with spare fuses at the back).
12. Built-in 3-way valve
13. Gas valve assembly
14. Air inlet
15. Auto air vent (heating circuit)
16. Flame sight glass
17. Insulated casing
18. Modulating air/gas premix burner with fan

PRESTIGE 24 - 32 EXCELLENCE



1. Concentric chimney connection Ø 60 /100mm with measuring element
2. Chimney tube
3. DHW tank air vent (manual)
4. Heating supply to DHW tank
5. 12 liter expansion vessel (heating circuit)
6. Internal hot water tank (54 L)
7. Stainless steel heat exchanger
8. High efficiency circulator pump
9. Heating return from DHW tank
10. Heating return
11. Control panel with display and pressure gauge
12. Heating supply
13. Exchanger return multifunctional qui-ck-connection block (see details opposite).
14. Electrical panel (with spare fuses at the back).
15. Built-in 3-way valve
16. Gas valve assembly
17. Air inlet
18. Auto air vent (heating circuit)
19. Flame sight glass
20. Modulating air/gas premix burner with fan
21. Insulated casing

DETAIL OF MULTIFUNCTIONAL QUICK-CONNECTION BLOCK



1. Multifunctional quick-coupling block
2. Expansion vessel connection
3. Retaining pin
4. Quick-connection block body
5. Water pressure sensor
6. NTC sensor (12kΩ)
7. Retaining clip
8. Safety valve
9. Manometer check-valve

COMBUSTION CHARACTERISTICS

PRESTIGE

			Solo				Excellence			
			24		32		24		32	
			G20/G25	G31	G20/G25	G31	G20/G25	G31	G20/G25	G31
Input (PCI)	max	kW	24	24	32	32	24	24	32	32
	min	kW	4.0	4.3	4.9	5.0	4.0	4.3	4.9	5.0
Output at 100%	(80/60°C)	kW	23.3	23.3	31.0	31.0	23.3	23.3	31.0	31.0
	(50/30°C)	kW	25.5	25.5	33.6	33.6	25.5	25.5	33.6	33.6
Efficiency at 100%	(80/60°C)	%	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
	(50/30°C)	%	106.1	106.1	105.0	105.0	106.1	106.1	105.0	105.0
Efficiency at 30% load (EN677)		%	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0
NOx (Class 5)	Weighted	mg/kWh	38.0	–	38.0	–	38.0	–	38.0	–
CO	Max. output	mg/kWh	50	94	88	126	50	94	88	126
CO_2 (without front panel)	Max. output	$\%CO_2$	8.7	10.5	8.8	10.4	8.7	10.5	8.8	10.4
	Min. output	$\%CO_2$	8.4	10.0	8.2	10.1	8.4	10.0	8.2	10.1
CO_2 (closed front panel)	Max. output	$\%CO_2$	8.9	10.7	9.0	10.6	8.9	10.7	9.0	10.6
	Min. output	$\%CO_2$	8.6	10.2	8.4	10.3	8.6	10.2	8.4	10.3
Max gas flow rate G20/G25	G20 (20 mbar)	m^3/h	2.54	–	3.39	–	2.54	–	3.39	–
	G25 (25 mbar)	m^3/h	2.95	–	3.94	–	2.95	–	3.94	–
Max. gas flow rate G31	30/37/50 mbar	Kg/h	–	1.87	–	2.49	–	1.87	–	2.49
	30/37/50 mbar	m^3/h	–	0.98	–	1.31	–	0.98	–	1.31
Temp of flue gases	Rated	°C	80	80	80	80	80	80	80	80
	Max.	°C	110	110	110	110	110	110	110	110
	Min.	°C	30	30	30	30	30	30	30	30
Average temp. of combustion products	DHW mode	°C	–	–	–	–	80	80	80	80
Mass flow rate* of flue gases	Rated	g/s	12.14	10.62	16.02	15.77	12.14	10.62	16.02	15.77
	at min output	g/s	2.02	1.90	2.45	2.46	2.02	1.90	2.45	2.46

*** Mass flow rate values were calculated for G20 and G31 with an air factor of 1.3.**

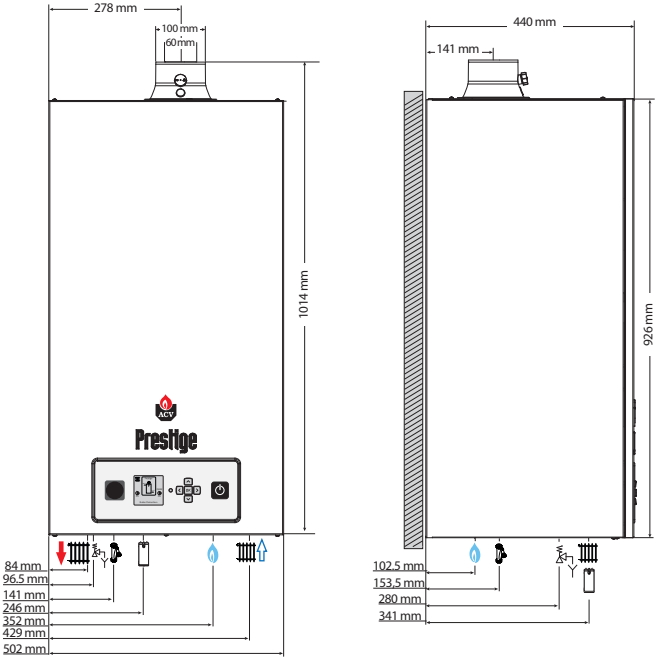
GAS CATEGORIES

Gas type		G20	G25		G20 ⇆ G25	G31		
Pressure (mbar)		20	20	25	20 ⇆ 25	30	37	50
Country code	Category							
AT	II_{2H3P}	●						●
BE	$I_{2E(S)}$				●			
	$I_{2E(R)}$				●			
	I_{3P}						●	
CH	II_{2H3P}	●					●	●
CZ	II_{2H3P}	●					●	
DE	II_{2E3P}	●						●
	II_{2ELL3P}	●	●					●
ES	II_{2H3P}	●					●	
FI	II_{2H3P}	●				●		
FR	II_{2Er3P}	●		●			●	●
GB	II_{2H3P}	●					●	
GR	II_{2H3P}	●					●	
HR	II_{2H3P}	●					●	
IE	II_{2H3P}	●					●	
IT	II_{2H3P}	●					●	
LT	II_{2H3P}	●					●	
LU	II_{2E3P}	●				●		
LV	I_{2H}	●						
NL	II_{2EK3P*}			●			●	
	II_{2L3P}			●		●		●
PL	II_{2E3P}	●					●	
PT	II_{2H3P}	●					●	
RO	II_{2H3P}	●				●		
SI	II_{2H3P}	●				●		
SK	II_{2H3P}	●					●	●

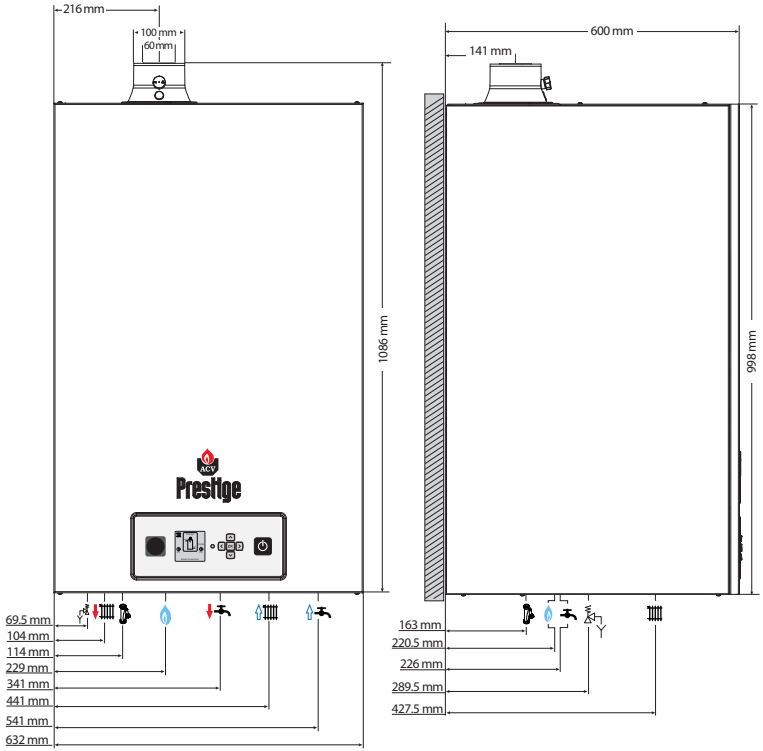
* G25.3

DIMENSIONS

Prestige 24 - 32 Solo

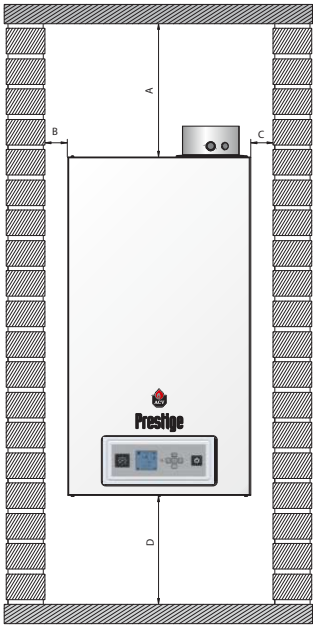


Prestige 24 - 32 Excellence



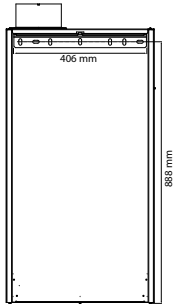
		PRESTIGE SOLO		PRESTIGE EXCELLENCE	
		24	32	24	32
[M]	"	1	1	1	1
[M]	"	—	—	3/4	3/4
[M]	"	3/4	3/4	3/4	1
Min. ∅ of flue pipe	mm	60	60	60	60
Drained weight	Kg	54	54	92	92

CLEARANCE

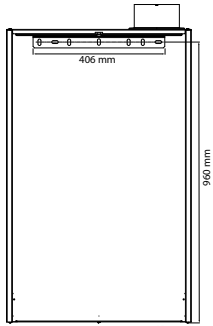


Min clearance		PRESTIGE 24-32 SOLO	PRESTIGE 24-32 EXCELLENCE
A	mm	300	300
B	mm	25	25
C	mm	25	25
D	mm	220	1100

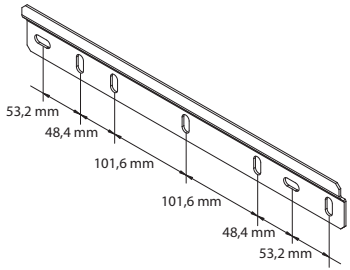
WALL MOUNTING - DIMENSIONS



Prestige 24-32 Solo



Prestige 24-32 Excellence



For boiler mounting on the wall, refer to "Boiler Installation - Wall Mounting" on page 27.

ELECTRICAL CHARACTERISTICS PRESTIGE 24 - 32 SOLO/EXCELLENCE

			PRESTIGE			
			Solo		Excellence	
Main Characteristics			**24**	**32**	**24**	**32**
Rated voltage		V~	230	230	230	230
Rated frequency		Hz	50	50	50	50
Electrical consumption	Max.	W	89	94	89	94
	Min.	W	15	15	15	15
Electrical consumption at 30% load		W	17	17	17	17
Electrical consumption in standby		W	5	5	5	5
Rated current (Fuse)		A	16	16	16	16
Class		IP	X4D	X4D	X4D	X4D

The power cord may only be replaced by a genuine ACV spare part, P/N 257F1180.

Key

1. 230 V power supply plug
2. Ground
3. ON/OFF master switch
4. Gas valve rectified
5. Burner power supply
6. Terminal block for optional items
   - : Alarm (ERR) **230 VAC OUTPUT !**
   - : CH circuit circulator pump (CH)
   - : DHW circuit circulator pump (DHW)
7. PWM modulating pump
8. Stepper motor for 3-way valve
9. Burner PWM plug
10. NTC5 flue gas temperature sensor
11. NTC2 return sensor
12. NTC1 supply sensor
13. NTC for low temperature circuit

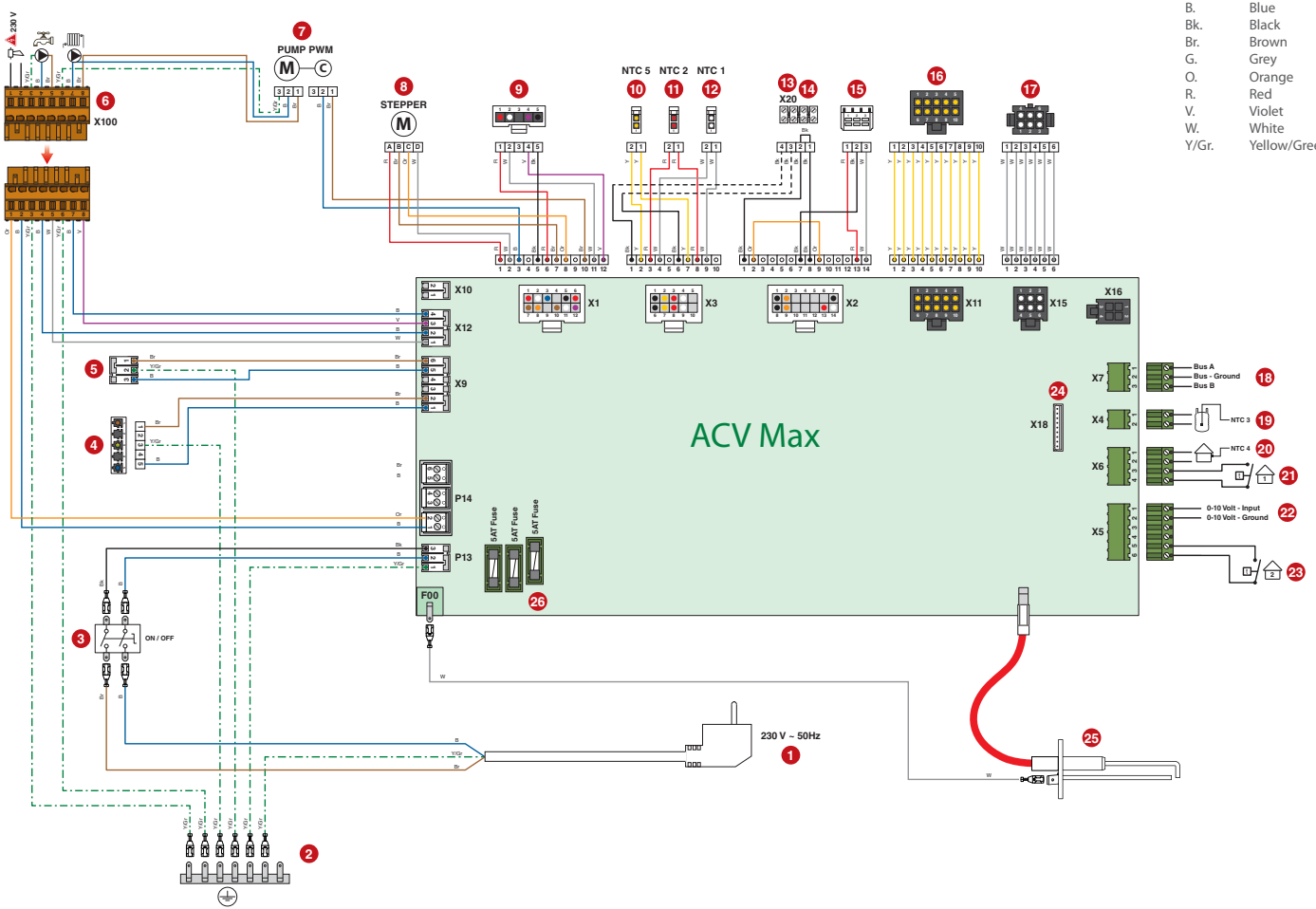
For low temp circuit operation, black wires from X3, terminals 1 & 6 must be routed to X20, terminals 3 & 4.

14. High limit switch
15. Low water pressure sensor
16. PCB (Display)
17. ACVMAX programmation plug
18. A & B Modbus (option)
19. NTC3 DHW sensor (option for Prestige 24 - 32 Solo)
20. NTC4 outdoor temperature sensor (option)
21. Room thermostat 1 (option)
22. 0-10 Volt (option)
23. Room thermostat 2 (option)
24. Connection for interface control unit
25. Ignition and ionization cable
26. 5AT slow-blow fuse (3x) for internal and optional circuits*

* 5AT slow-blow fuse (2x) for internal circuits and connection of CH, DHW and Flame output + 5AT slow-blow fuse (1x) for connection of Alarm, P3 and P4 (connector P14)

2 spare 5AT slow-blow fuses are located on the back side of the electrical box, for fuse replacement, if required.

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



HYDRAULIC CHARACTERISTICS

		PRESTIGE			
		Solo		Excellence	
Main Characteristics		**24**	**32**	**24**	**32**
Capacity (primary)	L	8	8	16	16
Capacity (DHW)	L	–	–	54	54
Expansion vessel (primary)	L	12	12	12	12
Max. operating pressure of primary circuit	bar	3	3	3	3
Water pressure drop (primary circuit) (Δt = 20 K)	mbar	141	243	141	243
Min. required flow rate	L/h	1,050	1,400	1,050	1,400

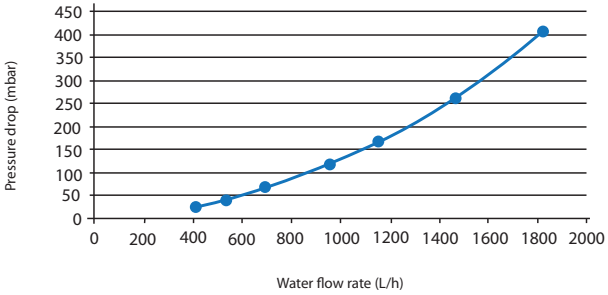
DHW PERFORMANCE

Domestic hot water performance (cold drink water at 10°C)

Operating conditions at 80°C			Prestige Excellence	
			24	**32**
Constant flow rate at	40 °C [ΔT = 30 K]	L/h	560	745
	60 °C [ΔT = 50 K]	L/h	310	320
Peak flow rate at	40 °C [ΔT = 30 K]	L/10'	200	224
	60 °C [ΔT = 50 K]	L/10'	102	103
Reheat time from 10°C to 80°C		min.	26	25

HYDRAULIC PRESSURE DROP CURVES OF THE BOILER

Prestige 24 - 32 Solo/Excellence - Pressure drop vs Water flow rate



MAXIMUM OPERATING CONDITIONS

Maximum Service Pressure *
- Primary circuit : ..... 3 bar
- DHW circuit : ..... 8,6 bar

Maximum Operating Conditions
- Maximum temperature (primary) : ..... 87°C
- Maximum temperature (DHW) : ..... 75°C

Water Quality

See "Recommendations for the Prevention of Corrosion and Scaling in Heating Systems" on the following page.

* The hydraulics of the boiler have been tested according to EN-15502, and the boiler is classified as a pressure class 3 appliance, according to EN-15502.

RECOMMENDATIONS FOR THE PREVENTION OF CORROSION AND SCALING IN HEATING SYSTEMS

How oxygen and carbonates can affect the heating system

Oxygen and dissolved gasses in the water of the primary circuit contribute to the oxidation and the corrosion of the system components that are made of ordinary steel (radiators, ...). The resulting sludge is then deposited in the appliance exchanger.

The combination of carbonates and carbon dioxide in the water results in the formation of scale on the hot surfaces of the installation, including those of the appliance exchanger.

These deposits in the heat exchanger reduce the water flow rate and thermally insulate the exchange surfaces, which is likely to damage them.

Sources of oxygen and carbonates in the heating circuit

The primary circuit is a closed circuit; the water it contains is therefore isolated from the mains water. When maintaining the system or filling up the circuit, water renewal results in the addition of oxygen and carbonates in the primary circuit. The larger the water volume in the system, the larger the addition.

Hydraulic components without an oxygen barrier (PE pipes and connections) admit oxygen into the system.

Prevention Principles

1. **Clean the existing system before installing a new appliance**
   - Before the system is filled, it must be cleaned in accordance with standard EN14336. Chemical cleaning agents can be used.
   - If the circuit is in bad condition, or the cleaning operation was not efficient, or the volume of water in the installation is substantial (e.g. cascade system), it is recommended to separate the appliance from the heating circuit using a plate-to-plate exchanger or equivalent. In that case, it is recommended to install a hydrocyclone or magnetic filter on the installation side.

2. **Limit the fill frequency**
   - Limit fill operations. In order to check the quantity of water that has been added into the system, a water meter can be installed on the filling line of the primary circuit.
   - Automatic filling systems are not recommended unless the fill frequency is monitored and the scale and corrosion inhibitor remain at the correct levels.
   - If your installation requires frequent water refilling, make sure your system is free of water leaks.
   - Inhibitors may be used in accordance with standard EN 14868.

3. **Limit the presence of oxygen and sludge in the water**
   - A deaerator (on the appliance flow line) combined with a dirt separator (upstream of the appliance) must be installed according to the manufacturer's instructions.
   - ACV recommends using additives that keep the oxygen in solution in the water, such as Fernox (www.fernox.com) and Sentinel (www.sentinel-solutions.net) products.
   - The additives must be used in accordance with the instructions issued by the manufacturer of the water treatment product.

4. **Limit the carbonate concentration in the water**
   - The fill water must be softened if its hardness is higher than 20° fH (11,2° dH).
   - Check regularly the water hardness and enter the values in the service log.
   - Water hardness table :

Water hardness	°fH	°dH	mmolCa(HCO3)2 / l
Very soft	0 - 7	0 - 3.9	0 - 0.7
Soft	7 - 15	3.9 - 8.4	0.7 - 1.5
Fairly hard	15 - 25	8.4 - 14	1.5 - 2.5
Hard	25 - 42	14 - 23.5	2.5 - 4.2
Very hard	> 42	> 23.5	> 4.2

5. **Control the water parameters**
   - In addition to the oxygen and the water hardness, other parameters of the water must be checked.
   - Treat the water if the measured values are outside the range.

Acidity	6,6 < pH < 8,5
Conductivity	< 400 µS/cm (at 25°C)
Chlorides	< 125 mg/l
Iron	< 0,5 mg/l
Copper	< 0,1 mg/l

G3 REQUIREMENTS AND GUIDANCE - UK ONLY

UK

Discharge pipe from safety valves

The ***Building Regulation G3*** requires that any discharge from an unvented system is conveyed to where it is visible, but will not cause danger to persons in or about the building.

The tundish and discharge pipes should be fitted in accordance with the requirements and guidance notes of Building Regulation G3. The G3 Requirements and Guidance sections 3.50 - 3.63 are detailed below.

For discharge pipe arrangements not covered by G3 Guidance advice should be sought from your local Building Control Officer.

Main characteristics :

- Any discharge pipe connected to the pressure relief devices (Expansion Valve and Temperature/ Pressure Relief Valve) must be installed in a continuously downward direction and in a frost free environment.
- Water may drip from the discharge pipe of the pressure relief device.
- This pipe must be left open to the atmosphere.
- The pressure relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

A typical discharge pipe arrangement is shown on next page.

General remarks

- Discharge pipe-work D2 can now be a plastic pipe but only pipes that have been tested to a minimum 110°C must be used.
- Discharge pipe D2 can now be plumbed into the soil stack but only soil stacks that can handle temperatures of 99°C or greater should be used.

Extract from "The Building Regulation G3" :

Discharge pipe D1

3.50 Safety devices such as temperature relief valves or combined temperature and pressure and pressure relief valves (see paragraphs 3.13 or 3.18) should discharge either directly or by way of a manifold via a short length of metal pipe (D1) to a tundish.

3.51 The diameter of discharge pipe (D1) should be not less than the nominal outlet size of the temperature relief valve.

3.52 Where a manifold is used it should be sized to accept and discharge the total discharge from the discharge pipes connected to it.

3.53 Where valves other than the temperature and pressure relief valve from a single unvented hot water system discharge by way of the same manifold that is used by the safety devices, the manifold should be factory fitted as part of the hot water storage system unit or package.

Tundish

3.54 The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the valve, with no more than 600mm of pipe between the valve outlet and the tundish.

Note: To comply with the Water Supply (Water Fittings) Regulations, the tundish should incorporate a suitable air gap.

3.55 Any discharge should be visible at the tundish. In addition, where discharges from safety devices may not be apparent, e.g. in dwellings occupied by people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.

UK

Discharge pipe D2

3.56 The discharge pipe (D2) from the tundish should:
(a) have a vertical section of pipe at least 300mm long below the tundish before any elbows or bends in the pipework; and
(b) be installed with a continuous fall thereafter of at least 1 in 200.

3.57 The discharge pipe (D2) should be made of:
(a) metal; or
(b) other material that has been demonstrated to be capable of safely withstanding temperatures of the water discharged and is clearly and permanently marked to identify the product and performance standard (e.g. as specified in the relevant part of BS 7291)

3.58 The discharge pipe (D2) should be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long, i.e. for discharge pipes between 9m and 18m the equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device; between 18 and 27m at least 3 sizes larger, and so on; bends must be taken into account in calculating the flow resistance. See figure, table and the worked example.

3.59 Where a single common discharge pipe serves more than one system, it should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected.

3.60 The discharge pipe should not be connected to a soil discharge stack unless it can be demonstrated that that the soil discharge stack is capable of safely withstanding temperatures of the water discharged, in which case, it should:
(a) contain a mechanical seal, not incorporating a water trap, which allows water into the branch pipe without allowing foul air from the drain to be ventilated through the tundish;
(b) be a separate branch pipe with no sanitary appliances connected to it;
(c) if plastic pipes are used as branch pipes carrying discharge from a safety device they should be either polybutalene (PB) to Class S of BS 7291-2:2006 or cross linked polyethylene (PE-X) to Class S of BS 7291-3:2006; and (d) be continuously marked with a warning that no sanitary appliances should be connected to the pipe.

Note:

1. Plastic pipes should be joined and assembled with fittings appropriate to the circumstances in which they are used as set out in BS EN ISO 1043-1.

2. Where pipes cannot be connected to the stack it may be possible to route a dedicated pipe alongside or in close proximity to the discharge stack.

Termination of discharge pipe

3.61 The discharge pipe (D2) from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge.

3.62 Examples of acceptable discharge arrangements are:
(b) to a trapped gully with the end of the pipe below a fixed grating and above the water seal;
(c) downward discharges at low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility; and
(d) discharges at high level: e.g. into a metal hopper and metal downpipe with the end of the discharge pipe clearly visible or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering system that would collect such discharges.

3.63 The discharge would consist of high temperature water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges. UK

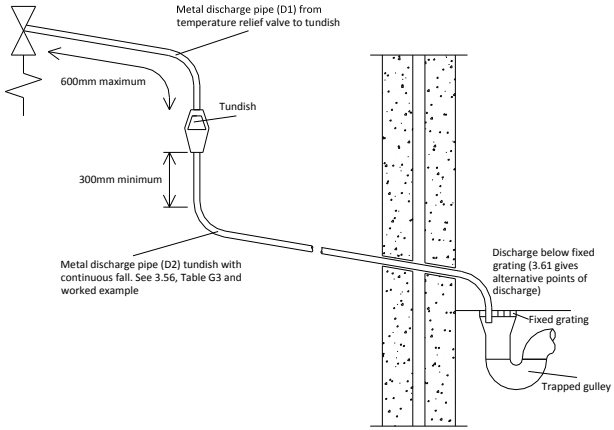


Figure G3: Typical discharge pipe arrangement

Table G3 – Sizing of copper discharge pipe 'D2' for common temperature relief valve outlet sizes

Valve outlet size	Minimum size of discharge pipe D1	Minimum size of discharge pipe D2 from tundish	Maximum resistance allowed, expressed as a length of straight pipe (i.e. no elbows or bends)	Resistance created by each elbow or bend.
G½	15mm	22mm	Up to 9m	0.8m
		28mm	Up to 8m	1.0m
		35mm	Up to 27m	1.4m
G¾	22mm	28mm	Up to 9m	1.0m
		35mm	Up to 8m	1.4m
		42mm	Up to 27m	1.7m
G1	28mm	35mm	Up to 9m	1.4m
		42mm	Up to 8m	1.7m
		54mm	Up to 27m	2.3m

Worked example of discharge pipe sizing UK

Figure on the left shows a G1/2 temperature relief valve with a discharge pipe (D2) having 4 No. elbows and length of 7m from the tundish to the point of discharge.

From Table:

Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is 9.0m.

- *Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m*
- *Therefore the permitted length equates to: 5.8m*
- *5.8m is less than the actual length of 7m therefore calculates the next largest size.*

Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valves equates to 18m.

- *Subtract the resistance of 4 No. 28mm elbows at 1.0m each = 4.0m*
- *Therefore the maximum permitted length equates to: 14m*
- *As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.*

Essential recommendations for safety

- **The temperature/pressure relief valve should only be replaced by a competent person.**
- **No control or safety valves should be tampered with or used for any other purpose.**
- **The discharge pipe should not be blocked or used for any other purpose.**
- **The tundish should not be located adjacent to any electrical components**

SAFETY INSTRUCTIONS FOR THE INSTALLATION

General remarks

- The connections (electrical, flue pipe, hydraulic) must be carried out in accordance with local standards and regulations in force.
- If the water drawing off point is far from the tank, installing an auxiliary DHW loop can allow to get hot water more quickly at all times.

Essential recommendations for the correct operation of the appliance

- The boiler must be installed in a dry and protected area, with an ambient temperature comprised between 0 and 45°C.
- Install the appliance to ensure easy access at all times.
- To avoid any risk of corrosion, connect the stainless steel DHW production tank directly to the earth.
- Make sure that the mains water used to fill the boiler has a minimum pressure of 1.2 bar.
- Make sure to install a pressure reducing valve set at 4.5 bar if the mains supply pressure is in excess of 6 bar.
- The DHW circuit must be fitted with an approved safety group, comprised of a 7 bar safety valve, a check valve and a shut-off valve.
- If works need to be performed (in the boiler room or close to the air vents), make sure to turn off the boiler to prevent dust from entering and accumulating in the boiler heating system.

Essential recommendations for safety

- Install the boiler on a base made of non-combustible materials.
- Do not store any corrosive products, paint, solvents, salts, chloride products and other detergent products near the appliance.
- Make sure that all air vents are unobstructed at all times.
- A condensation outlet connected to the sewer must be fitted close to the boiler to prevent the condensation products from the flue pipe from running into the boiler.
- Install a condensate neutralisation system if required by national and/or local regulations and have it cleaned regularly.
- The horizontal flue pipes must be installed with a slight slope of 5 cm per meter, so that the acid condensation water flows to a condensate recovery container and does not damage the heating body.
- Only use ACV flue systems to connect this appliance to ensure that the pipe and connection diameters all match.
- Hot water can cause scalding!
- In the event of small amounts of hot water repeatedly being drawn off, a stratification effect can develop in the tank. The upper hot water layer may then reach very high temperatures.
- The temperature of the domestic hot water can be adjusted up to 75 °C in the boiler. However, the temperature of the domestic hot water at the drawing off point must comply with local regulations.
- ACV recommends using a pre-set thermostatic mixing valve in order to provide hot water at a maximum of 60°C.
- The risk of developing bacteria exists, including “Legionella pneumophila”, if a minimum temperature of 60°C is not maintained in both the DHW tank and the hot water distribution network.
- Water heated to wash clothes, dishes and for other uses can cause serious burns.
- In order to avoid exposure to extremely hot water that can cause serious burns, never leave children, old people, disabled or handicapped people in the bath or shower alone.
- Never allow young children to turn on the hot water or fill their own bath.

Essential recommendations for the electrical safety

- Only an approved installer is authorized to carry out the electrical connections.
- Install a 2-way switch and a fuse or circuit breaker of the recommended rating outside the appliance, so as to be able to shut power down when servicing the appliance or before performing any operation on it.
- Isolate the external electrical supply of the appliance before performing any operation on the electrical circuit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless supervised or unless they have been given instruction concerning the use of the appliance by a person responsible for their safety.

* **For UK specific requirements for the discharge from safety valves, refer to «G3 Requirements and Guidance - UK Only» on page 24.**

PACKAGE CONTENTS

The Prestige boilers are delivered assembled and packaged.

At product reception and after removal of packaging, check the package contents and that the appliance is free of damages.

Contents

- Boiler
- Installation, Operation and Maintenance Instructions
- Orifice for the natural gas to propane conversion + sticker
- Ball condensate trap to be installed
- DHW connection kit (Prestige Solo only)
- Wall-mounting kit

TOOLS REQUIRED FOR THE INSTALLATION

BOILER INSTALLATION - WALL MOUNTING

Essential recommendation for safety

- **The boiler must be mounted on a non-flammable surface or a suitably insulated surface.**

Essential recommendations for the correct operation of the appliance

- **Noise may be amplified when the appliance is mounted on a lightweight material wall . Using rubber dampers may reduce this effect.**
- **Make sure the appliance support bracket is level at installation.**

Install the appliance using the provided mounting bracket:

1. Drill two holes with a depth of 75 mm using a 10 mm drill bit, at the required height and following the spacing given in "Wall mounting - dimensions" on page 19.
2. Fasten the wall mounting bracket using the supplied lag screws.
3. Attach the boiler to the wall mount.

REMOVAL AND INSTALLATION OF THE FRONT PANEL

Set-up conditions

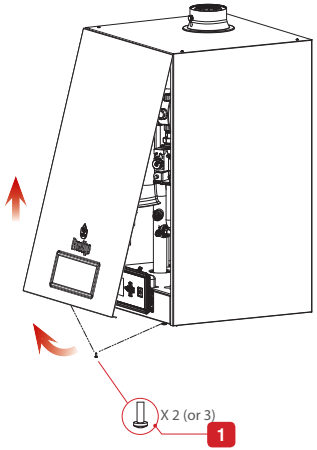
- External power supply isolated

Removal Procedure

1. Release two/three screws (1) located at the bottom of the front panel. Retain for reinstallation.
2. Pull slightly the panel bottom towards you, then lift the whole panel to disengage the two upper lugs from the boiler casing mounting slots.

Installation procedure

1. Hold the front panel at a slight angle to engage the upper lugs of the front panel in the boiler casing mounting slots.
2. Lower panel in the slots and push the bottom of the panel toward the boiler.
3. Install screws (1) retained at removal.



Follow-on tasks

None

HYDRAULIC CONNECTIONS

General remark

- The circuit illustrations are basic principle diagrams only.

Essential recommendations for safety

- The hot water output may reach temperatures in excess of 60°C, which can cause scalding! It is therefore necessary to install a thermostatic mixing valve after the appliance.
- The system must be fitted with an approved safety group, comprised of a 7 bar safety valve, a check valve and a shut-off valve.*

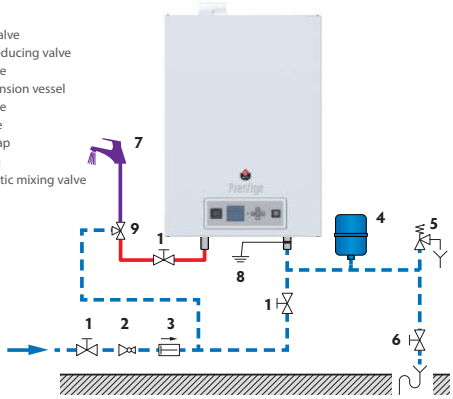
Essential recommendations for the correct operation of the appliance

- Flush the system before connecting the domestic hot water circuit. Refer to the installation instructions.
- Make sure to install a pressure reducing valve set at 4.5 bar if the mains supply pressure is in excess of 6 bar.
- It is recommended to install an expansion vessel in the DHW circuit to prevent the safety valve from opening constantly and reduce the water hammer effect in the system.
- If the appliance is used as a domestic hot water preparation tank, a primary expansion vessel adapted to the boiler power/size and to the type of system must be fitted in the heating circuit (if there is no built-in expansion vessel, or if the built-in expansion vessel size is not sufficient).

PRESTIGE EXCELLENCE - DHW CONNECTION

Typical installation with internal DHW tank

Description
1. Isolating valve
2. Pressure reducing valve
3. Check valve
4. DHW expansion vessel
5. Safety valve
6. Drain valve
7. Draw-off tap
8. Grounding
9. Thermostatic mixing valve

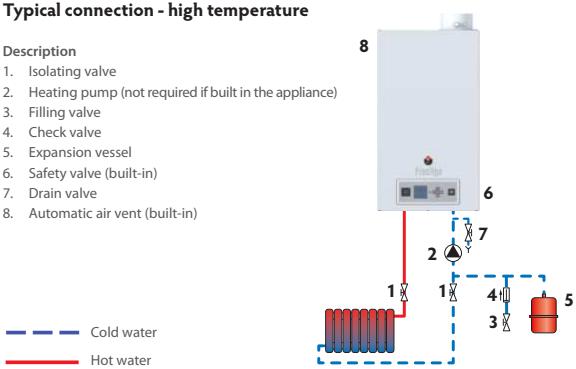


* For UK specific requirements for the discharge from safety valves, refer to «G3 Requirements and Guidance - UK Only» on page 24.

HEATING CONNECTION

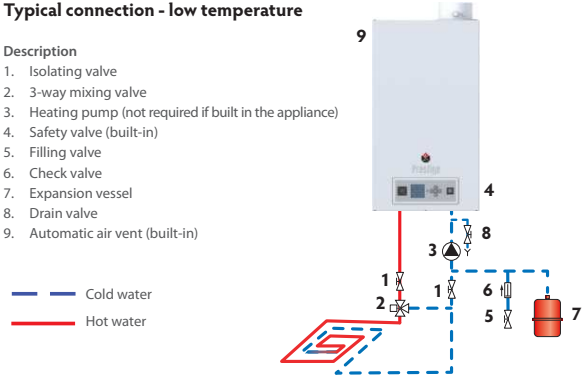
Typical connection - high temperature

Description
1. Isolating valve
2. Heating pump (not required if built in the appliance)
3. Filling valve
4. Check valve
5. Expansion vessel
6. Safety valve (built-in)
7. Drain valve
8. Automatic air vent (built-in)



Typical connection - low temperature

Description
1. Isolating valve
2. 3-way mixing valve
3. Heating pump (not required if built in the appliance)
4. Safety valve (built-in)
5. Filling valve
6. Check valve
7. Expansion vessel
8. Drain valve
9. Automatic air vent (built-in)

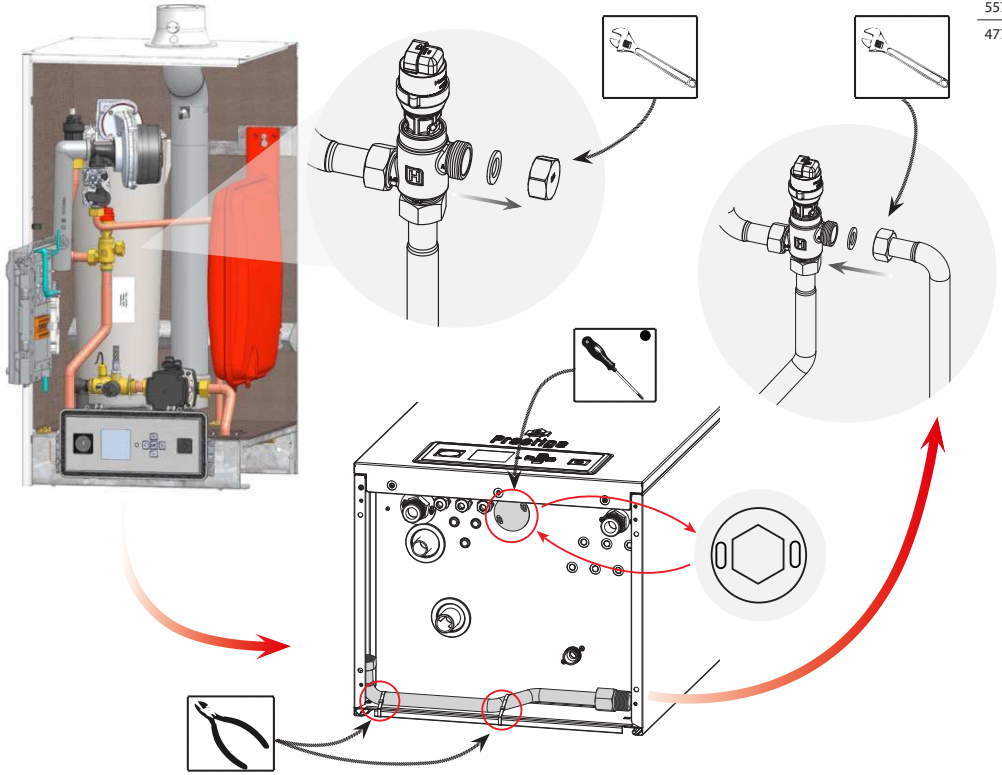


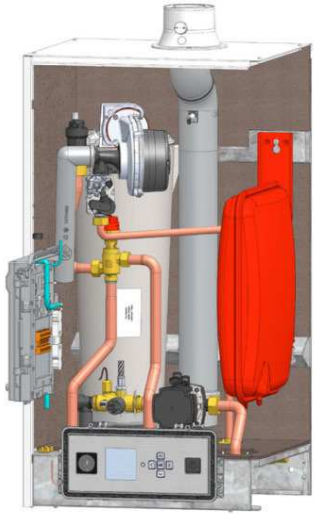
The heating circuit must be designed so as to ensure a continuous flow in the boiler; this flow may be obstructed if all the thermostatic valves are closed. In this case, install a bypass.

For additional system configurations, refer to "Configuration and system set-up" on page 34 and to the Installer's Handbook or the ACVMax System Control manual (according to the software build of the ACVMax, please refer to page 3 for more information).

DHW KIT INSTALLATION IN PRESTIGE SOLO BOILERS

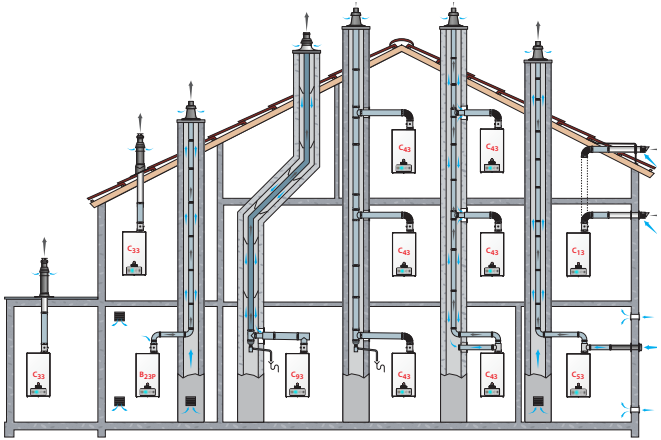
P/N	Designation	Qty
507F4301	Pipe external tank conn. P24/32 solo V14	1
507F4132	Angular locking plate hex.36	1
557A0051	Gasket 24x14x2 fibres	1
47792006	Screw 4,2x9,5 DIN7981 StZn PH	2

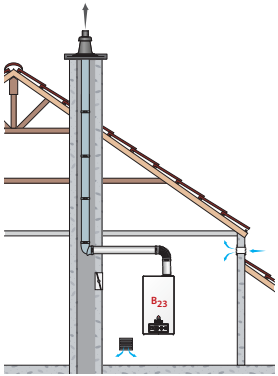




CHIMNEY CONNECTION

It is mandatory to ventilate the boiler room. The high or low air vent opening dimensions depend on the boiler power and the boiler room size. Refer to the local regulations in force.





FLUE PIPE CONNECTION TYPES

It is mandatory to use ACV flue systems to connect the appliance.

B23P: : Connection to a combustion product exhaust system designed to operate with positive pressure.

B23 : Connection to an exhaust duct that discharges the combustion products outside the room where it is installed, with the combustion air being drawn directly from the boiler room.

C13(x) : Connection using pipes fitted with a horizontal terminal that simultaneously takes in combustion air for the burner and discharges combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions, i.e. openings shall fit inside a square of 50 cm for boilers up to 70 kW and inside a square of 100 cm for boilers above 70 kW.

C33(x) : Connection using pipes fitted with a vertical terminal that simultaneously takes in fresh air for the burner and discharges combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions , i.e. openings shall fit inside a square of 50 cm for boilers up to 70 kW and inside a square of 100 cm for boilers above 70 kW.

C43(x) : Connection using two pipes to a collective duct system serving more than one appliance; this system of collective ducts features two pipes connected to a terminal unit that simultaneously takes in fresh air for the burner and discharges the combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions. C43(x) boilers are suitable for a connection to a natural draught chimney only.

C53(x) : Connection to separate ducts for supplying combustion air and discharging combustion products; these ducts may end in zones with different pressure levels, but are not allowed to be installed on opposite walls of the building.

C63(x) : Type C boiler meant to be connected to a system for supplying combustion air and discharging combustion products, that is approved and sold separately **(Prohibited in some countries (e.g. Belgium) - refer to local regulations and standards in force)**. Terminals for the supply of combustion air and for the evacuation of combustion products are not allowed to be installed on opposite walls of the building. See also the following additional specifications:

- Maximum allowable draught is 200 Pa.
- Maximum allowable pressure difference between combustion air inlet and flue gas outlet (including wind pressures) is 150 Pa.
- Condensate flow is allowed into the appliance.
- Maximum allowable recirculation rate of 10% under wind conditions.

C83(x) : Connection using a single or double duct system. The system is made of a normal exhaust flue duct that discharges the combustion products. The appliance is also connected through a second duct fitted with a terminal, that supplies the burner with fresh outdoor air.

C93(x) : Connection using an individual system whose combustion product exhaust duct is installed in an exhaust duct that is integral with the building. The appliance, the exhaust duct and the terminal units are certified as an inseparable assembly. Minimum usable diameter for the vertical duct supplying the combustion air is 100 mm.

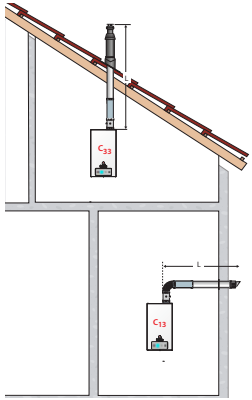
The C93 configuration enables airtight operation in a pre-existing chimney. The combustion air crosses the space between the tubing and the pre-existing chimney. Make sure to clean the pre-existing chimney thoroughly prior to installation, especially if there is soot or tar residue. Make sure that there 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.

CALCULATION OF THE FLUE PIPE LENGTH

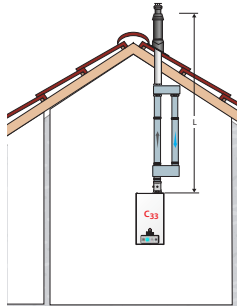
When connecting the flue pipes, make sure not to exceed the maximum length recommended for the product, otherwise the system pressure might decrease.

The flue pipe dimensions can be calculated using the method shown on the right. Please refer to the table below indicating the corresponding length in meters of straight pipes, applied to each of the connection components. Then compare the calculation result to the recommended maximum flue pipe length for each type of Prestige model, as indicated below.

	Maximum length of flue pipes (in m) (terminals incl.)			
	Concentric		Parallel	Flex
	Ø 60/100	Ø 80/125	Ø 80	Ø 80
Prestige 24 Solo/Excellence	24	105	102	48
Prestige 32 Solo/Excellence	12	56	54	26



Concentric connection



Parallel connection

Tables of equivalent length for the various connection accessories and connection types:

The following tables are based on ACV equipment and cannot be applied as a rule.

	Flue pipe length (L) (corresponding length in meters of straight pipe)		
	Prestige 24-32 Solo/Excellence		
	Concentric flue pipe Ø 60/100 mm	Concentric flue pipe Ø 80/125 mm	Parallel flue pipe Ø 80 mm
1 m straight pipe	1 m	1 m	1 m
90° elbow	1.4 m	2 m	2.3 m
45° elbow	1.2 m	1 m	1 m

The equivalent length for pipes equipped with a measuring unit is equal to a 1 meter straight pipe

Example of calculation in the case of a concentric flue pipe :

The figure on the right shows an example of connection proposed by an installer for a Prestige 32 Solo with a 60/100 concentric flue connection.

The assembly is comprised of: 2 x 90° elbows + 6 meters of straight pipes + 2 x 45° elbows.

The installer can check that the connection complies with the recommended value using the method below.

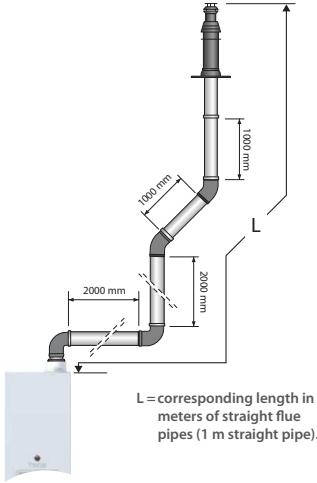
- **Method :**

a) Calculate the corresponding length in meters of pipes for the flue pipe assembly:

(2 x 1.4) + (6 x 1) + (2 x 1.2) = **11.2 m**

b) Compare the resulting value with the maximum length value (12 m).

The flue pipe length is within the recommended range.

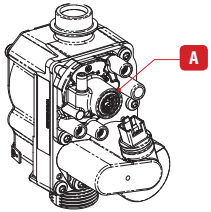


L = corresponding length in meters of straight flue pipes (1 m straight pipe).

GAS CONNECTION

Essential recommendations for safety

- The gas connection must comply with all applicable local standards and regulations, and the circuit will be equipped with a gas pressure regulator as required.
- The gas burners are factory preset for use with natural gas [equivalent to G20].
- The natural gas to propane conversion or the reverse is not authorized in certain countries such as Belgium. Refer to the table of gas categories in the technical characteristics of this manual.
- The CO_2, gas flow rate, air flow rate and air/gas supply parameters are factory-preset and may not be modified **in Belgium**, except for type I 2E(R)B boilers.
- Do not change the OFFSET (A) setting of the gas valve: it is factory-preset and sealed.



Prestige 24 - 32 Solo / Excellence

Essential recommendations for the correct operation of the appliance

- Refer to the technical characteristics of this manual or to the burner documentation to know the connection diameters.
- Bleed the gas duct and check thoroughly if all the boiler tubes, both internal and external, are tight.
- Check the system gas pressure. Refer to the table containing all relevant data in the section "Technical characteristics".
- Check the boiler electrical connection, the boiler room air vent system, the tightness of flue gas outlet pipes and of the burner chamber plate.
- Control the gas pressure and consumption at appliance start up.
- Check the boiler CO_2 adjustment (refer to the adjustment procedure and the technical data).

CONVERSION TO PROPANE

General remarks

- **According to the indication on the type plate, the boiler is factory preset to operate with natural gas (G20/G25). Converting the boiler to propane is done through the addition/ replacement of an orifice and adjustments. The conversion is prohibited in Belgium.**

Set-up conditions

- External power supply isolated
- Gas supply closed
- Front panel of the boiler open, refer to "Removal and Installation of the Front Panel" on page 27

Procedure of orifice replacement

1. Disconnect the grounding cable and plug (**2**) from the gas valve (**1**).
2. Disconnect the air inlet (**4**).
3. Disconnect the gas pipe connection (**3**) by releasing the union.
4. Remove the gas valve (**1**) from the venturi by extracting the clip (**5**). Retain the clip for reinstallation.
5. Install the orifice (**6**).

Check the condition of the O-ring (7). Replace as required.

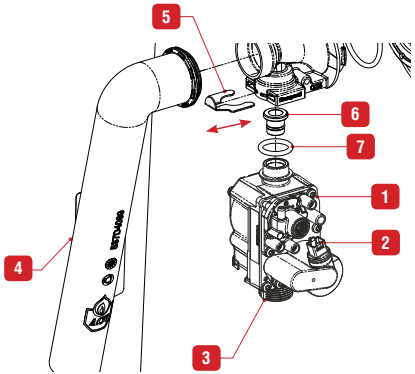
6. Reinstall the gas valve (**1**) on the venturi using the clip (**5**).

Prestige Boiler	Natural gas orifice dia. (mm)	Propane orifice dia. (mm)
24 Solo	4.70	3.60
32 Solo	6.15	4.70
24 Excellence	4.70	3.60
32 Excellence	6.15	4.70

7. Reinstall the air inlet (**4**).

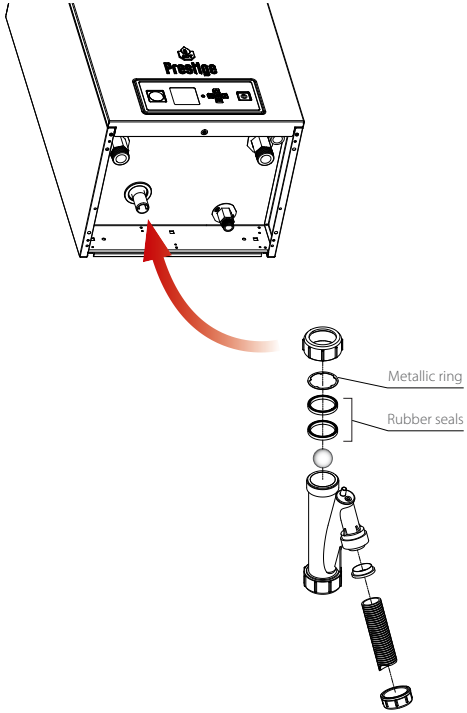
Follow-on tasks

- Stick the yellow sticker «Propane» (617G0152) on the gas valve.
- Reconnect gas pipe connection (**3**). Torque i.a.w. "Torque Values" on page 40
- Reconnect the grounding cable and plug (**2**) to the gas valve (**1**).
- Restart the boiler.
- If required, change the appliance code through the Installer menu, refer to the "Installer's handbook"
- Carry out the CO_2 adjustment, (refer to "Checking and Adjusting the Burner" on page 37).
- Reseal the offset and the throttle on the gas valve (**1**), as required.



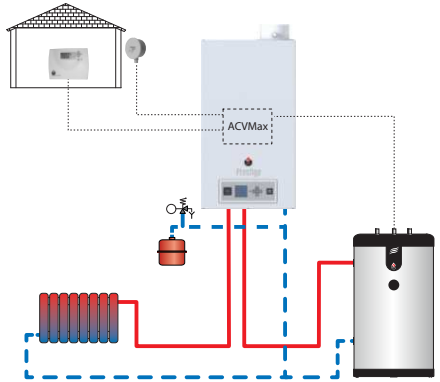
Prestige 24 - 32 Solo / Excellence

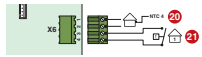
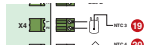
BALL CONDENSATE TRAP INSTALLATION



Fit the condensate trap, making sure to install the items in the correct sequence 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.

BASIC CONFIGURATION - PRESTIGE 24-32 SOLO: HIGH TEMPERATURE HEATING CIRCUIT WITH OPTIONAL DHW TANK AND CONTROL BY ROOM THERMOSTAT AND OPTIONAL OUTDOOR SENSOR.



ITEM DESCRIPTION	QTY	ELECT. TERMINALS TO CONNECT TO**
Room thermostat	1	**X6** 3&4 
Outdoor temperature sensor, 12kΩ	1	**X6** 1&2
NTC Sensor 12kΩ with dry well: Monitors the external domestic hot water tank. Length : 3.2 m.	1	 **X4** 1&2

BLOCK DIAGRAM

The heating system (radiators) is controlled by an On/Off room thermostat.

The domestic hot water tank is controlled by an intermediate NTC sensor (optional). The domestic hot water priority is always active.

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

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

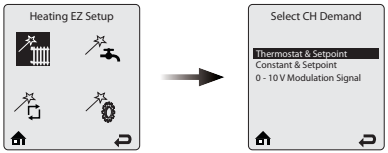
* The illustrations are for information only. For more details on the required accessories, refer to the latest ACV price list.

** For electrical detail, refer to wiring diagram in "Electrical Characteristics Prestige 24 - 32 Solo/Excellence" on page 20.

SETTINGS FOR THE BASIC CONFIGURATION, USING THE EZ SETUP OF THE USER INTERFACE

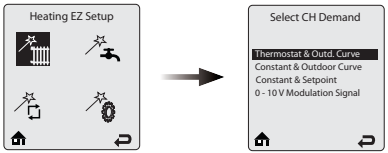
To set the system up for the configuration described on previous page, access the EZ setup menu pages below, as indicated in "Boiler Setup Guide" on page 8.

CH setting, with no outdoor sensor installed



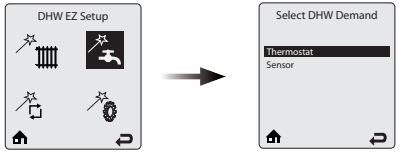
This menu is available when no optional outdoor temperature sensor is installed. Refer to the menu information and steps in "Boiler Setup Guide" on page 8.

CH setting, with an outdoor sensor installed



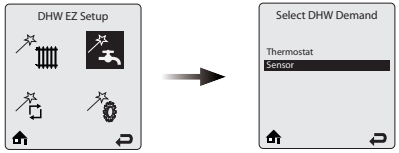
This menu is available when an optional outdoor temperature sensor is installed. Refer to the menu information and steps in "Boiler Setup Guide" on page 8.

DHW settings, when no optional water heater sensor is installed with the DHW tank (Prestige Solo only)



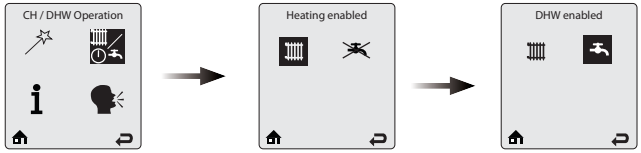
Select **Thermostat** when no optional water heater sensor is installed. Refer to the menu information and steps in "Boiler Setup Guide" on page 8.

DHW setting, when an optional water heater sensor is installed with the DHW tank (Prestige Solo only)



Select **Sensor** when an optional water heater sensor is installed. Refer to the menu information and steps in "Boiler Setup Guide" on page 8.

Enabling the CH / DHW circuit



SAFETY INSTRUCTIONS FOR STARTING UP

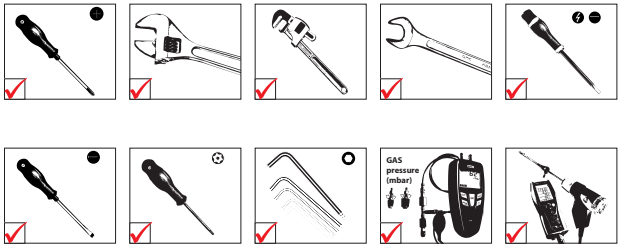
General remark

- In normal operation, the burner starts automatically as soon as the boiler temperature drops below the preset temperature.

Essential recommendations for safety

- The components inside the control panel may only be accessed by an approved installer.
- Set the water temperature in accordance with usage and local plumbing codes.
- Make sure that the heating circuit filling valve is closed once the starting up process is complete.

TOOLS REQUIRED FOR STARTING UP



CHECKS BEFORE STARTING UP

Essential recommendation for safety

- Check the tightness of the flue pipe connections.

Essential recommendation for the correct operation of the appliance

- Control the tightness of the hydraulic circuit connections.

FILLING THE SYSTEM

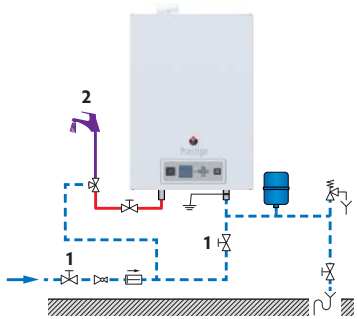
Put the DHW tank under pressure before pressurizing the heating (primary) circuit.

Set-up conditions

- External power supply isolated

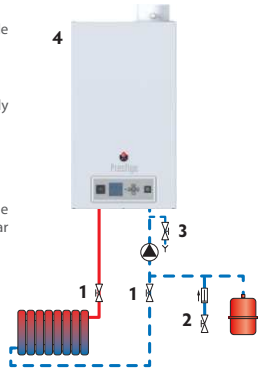
DHW circuit filling procedure

1. Open the isolating valves (**1**) and the draw-off tap (**2**).
2. Once the water flow rate has stabilized and the air is totally evacuated from the system, close the draw-off tap (**2**).
3. Check all the connections for leaks.



Heating circuit filling procedure

1. Open boiler front panel (refer to applicable procedure in the manual).
2. Open the isolating valves (**1**).
3. Make sure that the drain valve (**3**) is tightly closed.
4. Open the filling valve (**2**).
5. Make sure the air vent (**4**) is open, as required.
6. Once the system is bled from air, bring the pressure to the static pressure between 1.5 bar and 2 bar.
7. Close the filling valve (**2**).



Follow-on tasks

1. Check there is no leak.

* UK specific reference G24.1 & G24.2 of the Water Regulations Guide.

STARTING UP THE BOILER

Set-up conditions

- All connections made
- Gas conversion carried out as required
- Condensate trap full of water
- Electrical power supply on
- Gas supply open
- Hydraulic circuit(s) full of water

Procedure

1. Check that there is no gas leak.
2. Push in the ON/OFF master switch (⏻).
3. If a room thermostat is installed, possibly increase the temperature set-point to generate a demand.
4. Check the gas pressure and allow the boiler to heat up for a few minutes
5. Check and adjust the burner according to local standards and regulations, refer to "Checking and Adjusting the Burner" on page 37.
6. Set the central heating temperature to the required value using the control panel. Refer to "Boiler Setup Guide" on page 8 and to the Installer's Handbook or the ACVMax System Control manual (according to the software build of the ACVMax, please refer to page 3 for more information).
7. After 5 minutes of operation, bleed the heating circuit until all air is evacuated and restore a 1.5 bar pressure.
8. Bleed the central heating circuit once again and top it up with water to get the required pressure, if necessary.
9. Make sure that the central 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.

Follow-on tasks

1. Close the heating circuit filling valve and disconnect the filling connection as required.
2. Check that there are no leaks.
3. Check that the flow rate in the appliance is sufficient as follows :
   - Operate the boiler at maximum power
   - Once the temperatures are stable, read out the supply and return temperatures
   - Check that the difference between the supply and return temperature is equal or less than 20k.
   - If the Delta T is higher than 20k, check the pump settings/specifications.

CHECKING AND ADJUSTING THE BURNER

When the burner operates at full power, the CO_2 rate must be within the limits mentioned in the technical characteristics, (see "Combustion Characteristics" on page 17).

Set-up conditions

- Operating boiler

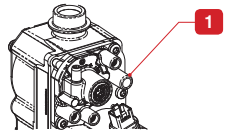
Procedure

1. Check if the ACVMAX parameters are set to meet the user's requirements (refer to "Boiler Setup Guide" on page 8), and change them if required.
2. Put the boiler to maximum power mode (Refer to the Installer's Handbook or to the ACVMax System Control manual (according to the software build of the ACVMax, please refer to page 3 for more information).
3. Using a pressure tester, check that the dynamic gas pressure at the gas valve is at least 18 mbar.
4. Allow the appliance to heat for a few minutes until it reaches at least 60°C.
5. Make sure that the front panel is closed.
6. Measure the burner combustion by placing the flue gas analyser probe into the measurement unit port on the flue pipe and compare the CO and CO_2 values displayed with those indicated in the combustion characteristics table. Refer to "Combustion Characteristics" on page 17.
7. Open the front panel, refer to "Removal and Installation of the Front Panel" on page 27.
8. Measure the CO_2. If the difference in CO_2 Max power with and without front panel is > 0.4% (absolute), then check the flue system for recirculation.
9. If the CO_2 value (front panel closed) differs by more than 0.2% (absolute) from the value mentioned in the "Combustion Characteristics" on page 17, carry out the adjustment mentioned in the procedure below.
10. Then put the boiler to the minimum power mode (Refer to the Installer's Handbook or the ACVMax System Control manual (according to the software build of the ACVMax, please refer to page 3 for more information).
11. Allow the boiler to stabilize for a few minutes.
12. Measure the CO_2 level. If the CO_2 value (front panel closed) differs by more than 0,2% (absolute) from the value mentioned in the "Combustion Characteristics" on page 17, please contact ACV's customer support.

CO_2 adjustment procedure

To adjust the CO_2 rate, rotate the throttle (**1**) :

- to the left (counter-clockwise) to decrease the CO_2 rate.
- to the right (clockwise) to increase the CO_2 rate.



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Follow-on tasks

None

SAFETY INSTRUCTIONS FOR THE BOILER MAINTENANCE

Essential recommendations for the electrical safety

- Turn off the boiler by pushing on the ON/OFF master switch.
- Isolate the external power supply of the appliance before performing any operation, unless it is required to take measurements or perform system setup.

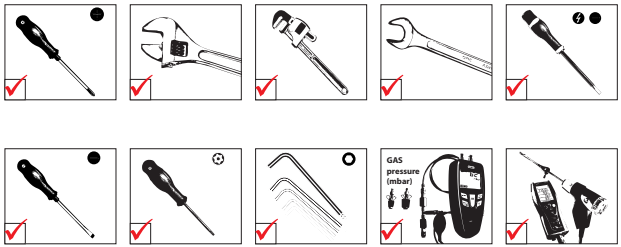
Essential recommendations for safety

- Water flowing out of the drain valve may be extremely hot and could cause severe scalding.
- Check the tightness of the flue pipe connections.

Essential recommendations for the correct operation of the appliance

- It is recommended to have the boiler and the burner serviced at least once a year or every 1,500 hours. More frequent servicing may be required depending on boiler use. Please consult your installer for advice.
- The boiler and burner maintenance will be carried out by a qualified engineer, and the defective parts may only be replaced by genuine factory parts.
- Control the tightness of the hydraulic circuit connections.
- Make sure to replace the gaskets of the removed items before reinstalling them.
- Make sure to apply the correct torque value when tightening components. Refer to "Torque Values" on page 40.

TOOLS REQUIRED FOR MAINTENANCE



BOILER SHUT DOWN FOR MAINTENANCE

1. Switch the boiler off using the ON/OFF master switch and isolate the external power supply.
2. Close the gas supply valve of the boiler.

PERIODIC BOILER MAINTENANCE TASKS

	Tasks	Frequency		
		Periodic inspection	1 year	2 years
		End-user	Professional	
1.	Make sure that the system water pressure is at least 1 bar when cold. Top up the system if necessary, adding small quantities of water at a time. In case of repeated fills, call your installer.	X	X	
2.	Check that there is no water on the floor under the boiler. Call your installer if there is.	X	X	
3.	Check that no error code is displayed on the control panel. Call your installer if necessary.	X	X	
4.	Check that all gas, hydraulic and electrical connections are correctly fastened and tight.		X	
5.	Check the flue gas exhaust: correct fastening, correct installation, no leaks or clogging.		X	
6.	Check that there is no discoloured or cracked area on the burner chamber plate .		X	
7.	Check the combustion parameters (CO and CO2), see "Checking and Adjusting the Burner" on page 37.		X	
8.	Check visually the heating body: no evidence of corrosion, soot deposits or damages. Carry out all required cleaning tasks, repairs and replacements that might be required.		X	
9.	Check the electrode, see "Removal, Check and Installation of the Burner Electrode", page 39.			X
10.	Remove the burner and clean the exchanger, see "Removal and Installation of the Burner", page 40 and "Cleaning the Exchanger" on page 42.			X
11.	Check that the condensate trap is not clogged. If it is, remove it, clean it, and reinstall it i.a.w. "Ball condensate Trap Installation" on page 33.		X	
12.	If a condensate neutralisation system is installed, check it and have it cleaned.	X	X	

DRAINING THE BOILER

Essential recommendations for safety

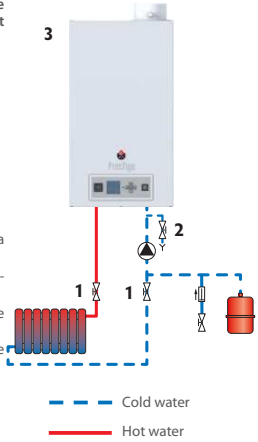
- **Before draining the DHW tank, drain the heating (primary) circuit or bring its pressure to 0 bar.**
- **Water flowing out of the drain valve may be extremely hot and could cause severe scalding. Keep people away from the hot water discharge.**

Set-up conditions

- Boiler switched off using the ON/OFF master switch
- External power supply isolated
- Gas supply closed

Heating circuit draining procedure

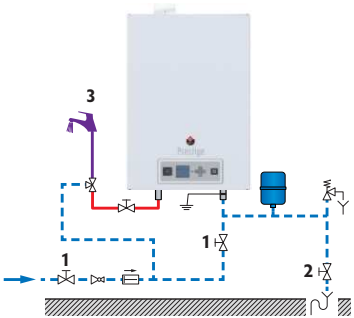
1. Close the isolating valves (**1**).
2. Connect the drain valve (**2**) to the sewer with a hose.
3. Open the drain valve (**2**) to empty the heating circuit of the boiler.
4. Open the circuit air vent (**3**) to accelerate the draining process.
5. Close the drain valve (**2**) and the air vent (**3**) once the heating circuit of the boiler is empty.



DHW circuit draining procedure

Before draining the DHW tank, make sure that the heating (primary) circuit pressure is null.

1. Open fully a draw-off tap (**3**) for about 60 minutes to make sure that the DHW tank has cooled down.
2. Close the isolating valves (**1**).
3. Connect the drain valve (**2**) to the sewer with a hose.
4. Open the drain valve (**2**) and drain the DHW tank water to the sewer.
5. Open the draw-off tap (**3**) to accelerate the draining process. If it is located lower than the tank connection, open a draw-off tap located higher in the system.
6. Close the drain valve (**2**) and the draw-off tap (**3**) once the DHW tank of the boiler is empty.



REMOVAL, CHECK AND INSTALLATION OF THE BURNER ELECTRODE

Essential recommendations for the correct operation of the appliance.

- **Remove the electrode to control it in case of ignition problems.**

Set-up conditions

- Boiler shut down
- External power supply isolated
- Gas supply closed
- Front panel open, refer to "Removal and Installation of the Front Panel" on page 27.

Removal procedure

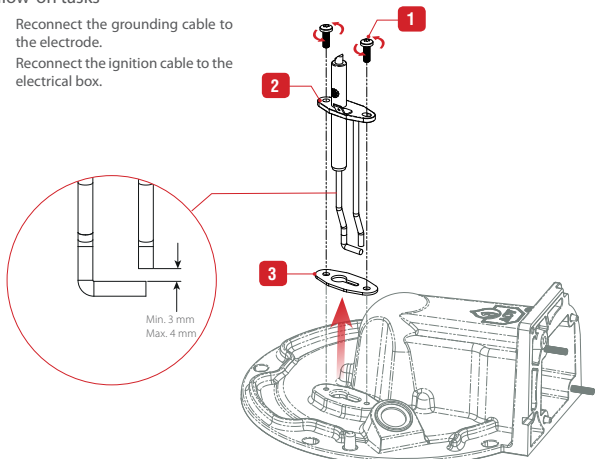
1. Disconnect the electrode grounding cable from the electrode.
2. Disconnect the electrode ignition cable from the electrical box.
3. Remove two mounting screws (**1**) and retain them for reinstallation.
4. Remove the electrode (**2**) and the gasket (**3**).
5. Check the correct alignment of the electrode ends and that the gap corresponds to the values indicated on the figure below.

Installation procedure

1. Install a new gasket (**3**).
2. Install the electrode (**2**) using the two screws (**1**), torque i.a.w. "Torque Values" on page 40.

Follow-on tasks

1. Reconnect the grounding cable to the electrode.
2. Reconnect the ignition cable to the electrical box.



REMOVAL AND INSTALLATION OF THE BURNER

Set-up conditions

- Boiler shut down
- External power supply isolated
- Gas supply closed
- Front panel removed (refer to "Removal and Installation of the Front Panel" on page 27).
- Electrode removed or electrode grounding cable and ignition cable disconnected (refer to "Removal, Check and Installation of the Burner Electrode" on page 39) .

Removal procedure

1. Disconnect two plugs from the fan assembly (**5**), and one plug and the grounding cable from the gas valve (**8**).
2. Disconnect the air inlet (**12**).
3. Release the gas connection (**9**).

It is not required to remove the gas valve/venturi assembly from the fan for this procedure. However, if a removal is required, rotate the gas valve/venturi assembly counterclockwise until it unlocks, then pull it out.

4. Disconnect the fan assembly (**5**) from the burner hood (**1**) by releasing the screw at the fan seal clamp (**4**). Discard the fan seal.
5. Using a socket wrench, release the burner hood attaching nuts (**2**) and retain them for reinstallation.
6. Lift the burner hood assembly and pull it out of the exchanger (**13**).

Try not to damage the insulation (15) in the exchanger (13), nor the burner hood.

7. Check the insulation (**15**) condition and replace it if required.

Check that there is no discoloured or cracked area on the outer surface of the burner hood (1). If there is, contact ACV's customer support.

8. Remove and replace the seals and gaskets.
9. If required, clean the exchanger (**13**), see "Cleaning the Exchanger" on page 42.
10. If not removed previously, remove, check and reinstall the electrode, refer to "Removal, Check and Installation of the Burner Electrode" on page 39.

Installation procedure

1. Reinstall the burner hood insulation (**15**) in the exchanger (13).
2. Reinstall the burner assembly into the exchanger (**13**). Make sure to handle the assembly carefully and avoid to damage the burner hood insulation (**15**).
3. Install the retaining nuts (**2**) and fasten them in a crosswise pattern at the required tightening torque (refer to "Torque Values" on page 40).
4. Reinstall the fan assembly (**5**), with the new fan seal (**3**), on the burner hood (**1**) by torquing the screw on the fan seal clamp (**4**). Refer to "Torque Values" on page 40.

If it was removed, reinstall the gas valve/venturi assembly by locating the venturi tabs in the fan assembly slots and rotate the gas valve/venturi assembly clockwise until it is aligned with the gas pipe.

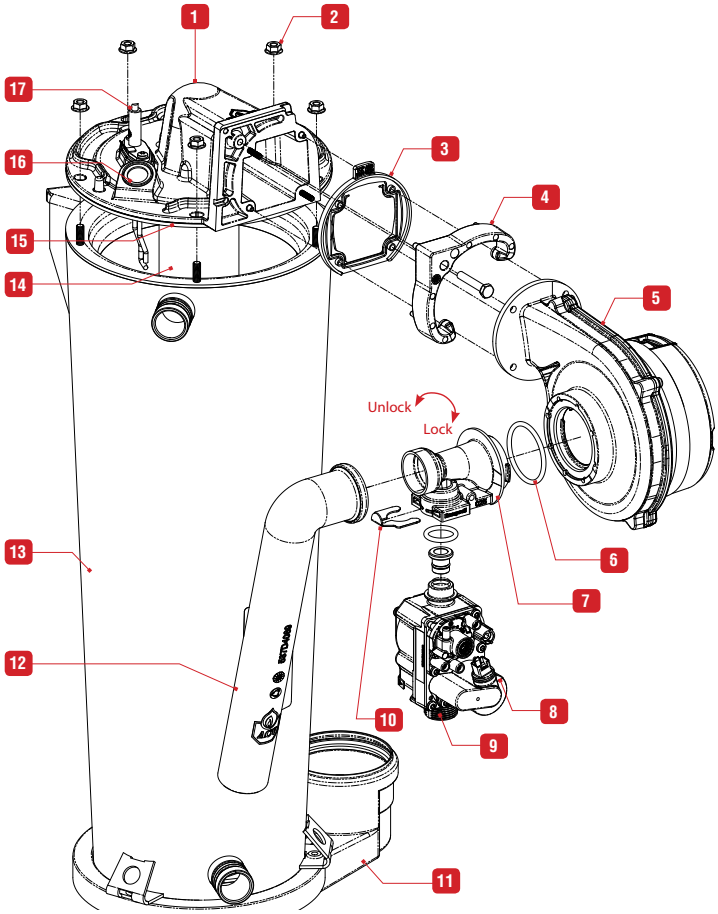
5. Reconnect the gas pipe (9).
6. Reconnect the air inlet (**12**).
7. Connect the grounding cable and the plug to the gas valve (8) and the plugs to the fan assembly (**5**).

Follow-on tasks

1. Reconnect the grounding cable to the electrode.
2. Reconnect the electrode ignition cable to the electrical box.

TORQUE VALUES

	Tightening torque (Nm)	
Description	Min.	Max
Burner flange nuts	5	6
Fan clamp screw	7	8
Electrode screws	3	3.5



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Detail of burner components

1.	Burner hood
2.	Attaching nuts
3.	Fan seal with check valve
4.	Fan clamp with 1 attachment screw
5.	Fan assembly
6.	O-ring
7.	Venturi
8.	Gas valve
9.	Gas connection
10.	Retaining clip
11.	Condensate dish
12.	Air inlet
13.	Heat exchanger
14.	Burner tube
15.	Burner hood insulation (not shown)
16.	Flame sight glass
17.	Electrode assembly

CLEANING THE EXCHANGER

Set-up conditions

- Boiler shut down
- External power supply isolated
- Gas supply closed
- Burner removed i.a.w. procedure "Removal and Installation of the Burner" on page 40.
- Front panel open, refer to "Removal and Installation of the Front Panel" on page 27.

Procedure

1. Brush and vacuum clean the chamber.
2. Pour some water in the chamber to flush away any foreign deposits that may be present in the turbulators and flue pipes.
3. Remove and clean the condensate trap.
4. Reinstall the condensate trap, refer to "Ball condensate Trap Installation" on page 33.

Follow-on tasks

1. Reinstall the burner according to procedure "Removal and Installation of the Burner" on page 40.
2. Restart the boiler in accordance with procedure "Restarting after Maintenance" on page 42.

When replacing a condens dish or taking it apart from the heat exchanger, the installer should check for leaks. In presence of leaks, a new gasket must be installed.

RESTARTING AFTER MAINTENANCE

Set-up conditions

- All removed components reinstalled
- All connections made
- Power supply
- Gas supply open
- Hydraulic circuit(s) full of water

Procedure

1. Make sure there is no gas leak at the gas connections.
2. Switch the appliance on using the ON/OFF master switch.
3. Set the appliance at maximum power and check the absence of gas leaks.
4. Check the gas pressure and CO_2 adjustment in accordance with "Checking and Adjusting the Burner" on page 37.

Follow-on tasks

None

Codes	Description of the fault	Solution for the fault
E 01	**Failed ignition**: The burner failed to light after 5 ignition attempts.	1. Check gas supply to appliance. 2. Check Ignition cable connection in control box. 3. Check electrode for defects, and distance between the pins. 4. Check gas valve and electrical connections to gas valve.
E 02	**False flame:** Flame detected prior to ignition.	1. Check good electrical ground connection to unit. 2. Check electrode for pollution and deposition of dirt.
E 03	**High Boiler temp.** : The boiler temperature exceeds 105°C	Correct condition which caused high temperature or limit to open. 1. Check water flow in the system (radiator valves). 2. Check Pump and pump electrical connections.
E 05	**Blower speed**: Blower speed not correct or speed signal is not received by ACVMax.	1. Check blower and wiring harness. 2. Under normal condition if actual fan speed is 1000 rpm different from set fan speed an error is displayed (after 60sec in running and after 30 sec. at startup). 3. Only exception when actual fan speed > 3000 rpm at max. PWM.
E 07	**High Flue temp.**: Flue temperature exceeds high limit.	1. Heat exchanger may require cleaning. 2. Appliance will automatically reset once flue temperature returns to normal range.
E 08	**Flame Circuit Error**: Flame circuit test failed	1. Turn appliance off. 2. Check and clean the electrode. 3. Check ignition and grounding cables are firmly connected.
E 09	**Gas valve circuit error**: Gas valve circuit test failed.	1. Check the gas valve and wiring harness. 2. If the problem persists replace the "ACVMax" circuit board.
E 12	**Internal Fault**: EEPROM misconfiguration	1. Turn unit off and on to resume normal operation. 2. If the problem persists replace the "ACVMax" circuit board.
E 13	**Reset limit reached**: Resets are limited to 5 every 15 minutes.	1. Turn unit off and on to resume normal operation. 2. If the problem persists replace the "ACVMax" circuit board.
E 15	**Sensor Drift**: Supply or return sensor reading has drifted.	Check supply and return temperature sensors and wiring harness.
E 16	**Supply Sensor Stuck**: Supply sensor reading is not changing.	1. Check supply temperature sensor and wiring harness for shortcuts or other defects. 2. Check waterflow and the temperature balance in the system, because CH supply temperature does not change.
E 17	**Return Sensor Stuck**: Return sensor reading is not changing.	1. Check return temperature sensor and its position, check wiring harness for shortcuts or other defects. 2. Check waterflow and the temperature balance in the system, because CH return temperature does not change. 3. Failure may happen at low output capacity when supplying from a big tank !
E 18	**Sensor Failure**: Supply or return sensor reading changed very rapidly.	Check supply and return temperature sensors and wiring harness.
E19	**Flame Failure**: Flame failure during start up phase	Flame loss after start up of the appliance. 1. Check the flue system for blockage and check the adjustment of the appliance (CO2 high 8.8 +/-0.2%, CO2 low 8.6+/-0.2% measured with front casing open). 2. Also check the Ignition / Ionisation rod (distance to the burner / pollution)
E 21	**Internal Control Fault**: A / D conversion error.	Turn unit off and on then press OK to resume normal operation.
E 25	**Internal Control Fault**: CRC check error.	Turn unit off and on to resume normal operation.
E 30	**Supply Sensor Shorted**: A short circuit has been detected in the appliance supply temperature sensor circuit	1. Check supply temperature sensor and wiring harness for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem, reset the appliance and resume normal operation.

LOCKING CODES

Codes	Description of the fault	Solution for the fault
E 31	**Supply Sensor Open**: An open circuit has been detected in the appliance supply temperature sensor circuit	1. Check supply temperature sensor, connectors and wiring harness for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 32	**DHW Sensor Shorted:** A short circuit has been detected in the DHW temperature sensor circuit	1. Check DHW temperature sensor and wiring harness for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 33	**DHW Sensor Open**: An open circuit has been detected in the DHW temperature sensor circuit	1. Check DHW temperature sensor, connectors and wiring harness for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 34	**Low Voltage**: Line voltage has fallen below an acceptable operating level.	The appliance will automatically reset once line voltage returns to normal.
E 37	**Low Water:** Water level has fallen below 0.7 bar.	1. Increase pressure to normal range. 2. The appliance will automatically reset once water level returns to normal.
E 43	**Return Sensor Shorted**: A short circuit has been detected in the appliance return temperature sensor circuit.	1. Check return temperature sensor and wiring harness for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem, reset the appliance and resume normal operation.
E 44	**Return Sensor Open**: An open circuit has been detected in the appliance return temperature sensor circuit.	1. Check return temperature sensor, connectors and wiring harness for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem, reset the appliance and resume normal operation.
E 45	**Flue Sensor Shorted**: A short circuit has been detected in the appliance flue temperature sensor circuit	1. Check flue temperature sensor and wiring harness for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 46	**Flue Sensor Open**: An open circuit has been detected in the appliance flue temperature sensor circuit.	1. Check flue temperature sensor, connectors and wiring harness for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E47	**Water pressure sensor error**: Water pressure sensor is disconnected or broken	1. Check water pressure sensor, connectors and wiring harness. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 76	**Gas pressure switch open**	1. Check both the static and the dynamic gas pressures. 2. Correct condition which caused the pressure switch to open 3. Appliance will automatically reset once the pressure switch is closed.
	External Limit Open: An external automatic reset appliance limit has opened.	1. Correct condition which caused limit to open. 2. Appliance will automatically reset once external limit closes
E 77	**High temperature mixing circuit**	Check if the mixing valve functions correctly.
E 78	**Mix circuit sensor shorted**	1. Check Mix circuit temp. sensor and wiring harness for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 79	**Mix-circuit sensor Open**	1. Check Mix circuit temp. sensor and wiring harness for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 80	**Return > Supply**: Return temperature is higher than supply temperature.	Confirm water flows in appliance return and out appliance supply.
E 81	**Sensor Drift**: Supply and return temperatures are not equal.	1. Check water is flowing through appliance. 2. Wait a few minutes for the water to equalise the temperature, the appliance will automatically reset once temperatures become equal. 3. If appliance doesn't reset, check the NTC's and check the wire harness, replace if necessary.

Codes	Description of the fault	Solution for the fault
E82	**Delta T protection blocking** - Delta T too high	1. Verify flow in the system. 2. Check pump for blockage and obstructions, unblock it as required. Replace if neccessary.
E83	**Delta T protection Lock-out** - Lock-out due to Delta T value.	1. Verify flow in the system. 2. Check pump for blockage and obstructions, unblock it as required. Replace if neccessary.
E 85	**Pump operation: warning** - Appliance pump is running out of limits.	Pump is running out of its limits. Check pump for blockage and obstructions, replace if neccessary
E 86	**Pump hard fault**: Pump Failure	Pump Failure, check if pump PWM-feedback wire is properly connected, replace pump when neccessary
E 87	**External Limit Open**: An external appliance limit has opened.	1. Correct condition which caused limit to open, then reset appliance. 2. The appliance needs to be reset once external limit closes.
E88	**Pump Blocking**: Pump attempts to restart.	Check pump for blockage and obstructions, unblock it as required. Replace if neccessary.
E 89	**Incorrect Setting**: A parameter setting is outside the settings range.	1. Review CH & DHW settings and correct as necessary. 2. The appliance will automatically reset once corrected.
E 90	**Firmware Mismatch**: Control module and display firmware versions are incompatible.	One or several components are not compatible with the system. Replace mismatched component(s).
E 91	**System Sensor Shorted**: A short circuit has been detected in the system temperature sensor circuit	1. Check system temperature sensor and wiring for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 92	**System Sensor Open**: An open circuit has been detected in the system temperature sensor circuit.	1. Check system temperature sensor and wiring for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 93	**Outdoor Sensor Shorted**: A short circuit has been detected in the outdoor temperature sensor circuit.	1. Check outdoor temperature sensor and wiring for a short circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 94	**Internal Display Fault**: Display memory error	Turn unit off and on to resume normal operation.
E 95	**Supply Sensor Error**: Supply sensor reading is invalid	1. Check wiring between display and control module. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 96	**Outdoor Sensor Open**: An open circuit has been detected in the outdoor temperature sensor circuit.	1. Check outdoor temperature sensor and wiring for an open circuit. 2. If necessary replace the sensor, or the wire harness. 3. After fixing the problem reset the appliance and resume normal operation.
E 97	**Cascade Mismatch**: Cascade configuration has changed.	1. Run autodetection if change was intentional, or else check wiring between appliances. 2. Appliance will automatically reset once repaired.
E 98	**Cascade Bus Error**: Communication with other appliances has been lost.	1. Check wiring between appliances. 2. Appliance will automatically reset once repaired.
E 99	**Controller Bus Error**: Communication between appliance display and control module has been lost.	1. Check wiring between components. 2. Appliance will automatically reset once repaired.

SERVICE LOG

Service date	CO2 %	Flue gas T°	Efficiency	Remarks	Name	Signature

DECLARATION OF CONFORMITY

EXCELLENCE IN HOT WATER

CE

DECLARATION OF CONFORMITY - CE

1/1

Name and address of manufacturer: **ACV International** SA / NV
Oude Vijverweg, 6
B-1653 Dworp
Belgium

Description of product type: **Gas condensing boilers**

Models: **Prestige 24 Solo**
Prestige 32 Solo
Prestige 24 Excellence
Prestige 32 Excellence

CE # : **0063CQ3553**

We declare hereby that the appliance specified above is conform to the type model described in the **CE** certificate of conformity to the following directives:

Directives	Description	Date
2009/125/EC	Ecodesign Directive (implemented by EU regulation 813/2013)	21.10.2009
2009/142/EC	Gas Appliances Directive	30.11.2009
2006/95/EC	Voltage Limits Directive	12.12.2006
2004/108/EC	Electromagnetic Compatibility Directive	15.12.2004

We declare under our sole responsibility that the product **Prestige** complies with the following standards:

EN 15502-1	EN 677	EN 61000-3-2
EN 15502-2	EN 55014-1	EN 61000-3-3
EN 60335-2-102	EN 55014-2	

Dworp, 15/02/2017

Date

R & D Director
Henri-Jacques van Tichelen

ECODESIGN DATA

Boiler type and model	Prestige		24 Solo	24 Excellence	32 Solo	32 Excellence
Condensing boiler			☑	☑	☑	☑
Low temp boiler			☑	☑	☑	☑
Combination heater			☐	☑	☐	☑
Useful heat output						
at 30% of rated heat output	P_1	kW	7.6	7.6	10.1	10.1
at rated output and high-temp regime	P_4	kW	23.3	23.3	31.0	31.0
Useful efficiency						
at 30% of rated heat output	η_1	%	98.2	98.2	98.2	98.2
at rated output and high-temp regime	η_4	%	87.4	87.4	87.4	87.4
Auxiliary electricity consumption						
At full load	**elmax**	W	82	82	90	90
At part load	**elmin**	W	15	15	15	15
In standby mode	P_{SB}	W	3	3	3	3
Standby heat loss	P_{stby}	W	45	110	50	110

Product Fiche : Prestige
Referring to Commission Delegated Regulation N° 811/2013

Model	Prestige 24 Solo	Prestige 24 Excellence	Prestige 32 Solo	Prestige 32 Excellence	Prestige 42 Solo	Prestige 50 Solo	Prestige 75 Solo	Prestige 100 Solo	Prestige 120 Solo
Medium temperature application	condensation	condensation	condensation	condensation	condensation	condensation	condensation	condensation	condensation
declared load profile for water heating	-	XL	-	XL	-	-	-	-	-
Seasonal space heating energy efficiency class	A	A	A	A	A	A	A	A	A
Water heating efficiency class	-	B	-	B	-	-	-	-	-
rated heat output (kW)	23	23	31	31	40	48	68	97	114
Annual energy consumption for space heating (kWh)	11599	11599	15128	15128	19437	23390	32886	46742	55496
Annual energy consumption for water heating (kWh)	-	5821	-	5821	-	-	-	-	-
Seasonal space heating efficiency %	93	93	93	93	93	93	93	93	92
Water heating efficiency (%)	-	69	-	69	-	-	-	-	-
Sound power level indoors LWA:	59	59	58	58	62	58	59	62	62
Able to work only during off-peak hours:	No	No	No	No	No	No	No	No	No

ACV International Oude Vijverweg, 6 1653 Dworp (Belgium)
21/8/2015
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