ACV
EXCELLENCE IN HOT WATER

HeatMaster

25 - 35 - 45 - 70 - 85 - 120 Evo 2

INSTALLATION, OPERATION & MAINTENANCE



Instructions for the User and the Installer

To be used with the multilingual (ML) manual

A1011863-664Y8600 • B

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COMPLIANCE WITH REGULATIONS, STANDARDS AND CODES

Installers shall comply with the requirements of applicable local regulations, standards and codes. Their requirements take precedence over the instructions in this manual.

Please consult your ACV/Groupe Atlantic representative for more information.

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

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.

Essential instructions 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 instructions 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. Please check for an updated version of this manual in the documentation page on the website www.acv.com.
- 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.

GENERAL SAFETY INSTRUCTIONS FOR GAS APPLIANCES

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.

DO NOT STORE ANY FLAMMABLE OR CORROSIVE PRODUCTS, PAINT, SOLVENTS, SALTS, CHLORIDE PRODUCTS AND OTHER DETERGENT PRODUCTS NEAR THE APPLIANCE.

THIS APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS OLD AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE, IF THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING THE USE OF THE APPLIANCE IN A SAFE WAY AND UNDERSTAND THE HAZARDS INVOLVED.

CLEANING AND USER MAINTENANCE SHALL NOT BE PERFORMED BY CHILDREN WITHOUT SUPERVISION.

CHILDREN SHALL NOT PLAY WITH THE APPLIANCE.

A BYPRODUCT OF ANY GAS FIRED APPLIANCE IS CARBON MONOXIDE. WE RECOMMEND THE INSTALLATION OF A MINIMUM OF TWO (2) HARD-WIRED CARBON MONOXIDE DETECTORS WITH AN ALARM AND BATTERY BACK-UP; ONE IN THE MECHANICAL ROOM WHERE THE BOILER IS LOCATED AND ANOTHER INSTALLED IN THE LIVING AREA OUTSIDE THE BEDROOM(S) FOR ALL INSTALLATIONS.

MEANING OF SYMBOLS

Symbols on the packaging

	Fragile
	Keep dry
	Keep standing, up
	Danger of tipping over
	Hand truck or pallet truck required for transport

Symbols on the appliance

	Domestic Hot Water (DHW) circuit
	Primary circuit
	Electricity

Symbols in the manual

	**Essential instruction for safety (of persons and equipment)**
	**Essential instruction for electrical safety (electrical hazard)**
	**Essential instruction for the correct operation of the appliance or the system**
	**General remark**
	Safety valve connected to the sewage system
	Connection to the sewage system



Essential instruction for the correct operation of the appliance or the system

It is recommended to check the system at least every 6 months as follows:

- Check that the system water pressure is at least 0.1 MPa (1 bar) when cold. If the pressure drops below 0.07 MPa (0.7 bar), the built-in pressure sensor blocks the appliance until the pressure exceeds 0.12 MPa (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. Refer also to the Troubleshooting table in *"In case of Problem..." on page 7* or call your installer as required.



General remark

- The end user is only allowed to carry out the basic set-up operations mentioned in *"Controller Set-up 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's Handbook available at www.acv.com.

END OF PRODUCT LIFE



At the end of the service life of the product, do not dispose of the product as solid urban waste. Hand it over to a differentiated waste collection centre.

Please contact your installer or your ACV/Groupe Atlantic customer support for more information about the removal and disposal of your appliance.

USING THE CONTROL PANEL

1. **ACVMax Touch control panel** - It is comprised of an LCD display and soft keys reacting to the touch
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 on the following page.
3. **Installer function -** By touching simultaneously the up and down arrow keys for 3 seconds, the installer can open the access code window of the ACVMax controller and set up the system once the code has been filled in.
4. **Arrow soft touch keys and OK/Reset touch key** - To browse through the screens and menus of the ACVMax controller, set up the appliance, increase and decrease the displayed values and validate the selections. The OK/Reset key is also used to RESET the appliance after a blocking (following the instructions on the screen).
5. **Sleeping mode soft key** - To put the unit in a sleeping mode.

Essential instruction for electrical safety

When touching the ⊙ soft key, the unit is in a sleeping mode but is not isolated from power supply. Therefore, live current is still present in the unit. For your safety, disconnect electrical power supply to the unit before maintenance or making any electrical connections to avoid possible electric shock hazard. Failure to do so can cause serious injury, or death.

General remark

- When putting in sleeping mode using the ⊙ soft key, the appliance will not react to any heat demand. However, the basic appliance protection functions (such as frost protection, etc.) remain active.
- In addition, the arrow soft keys are no longer illuminated, and the ⊙ soft key lighting is dimmed.

6. **ON/OFF master switch** - To turn the appliance ON and OFF. When in OFF position, no power is supplied to the appliance.

The ACVMax navigation is performed through soft keys that react to the touch and emit a short beep when tapped.

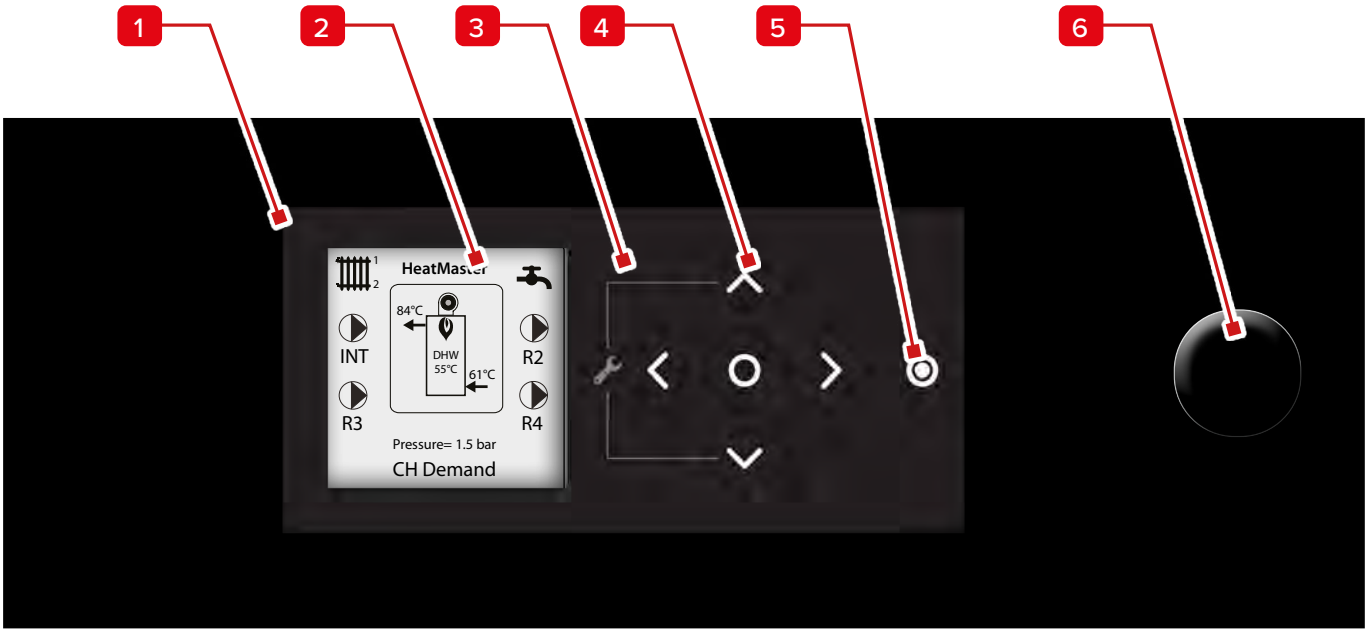
Navigation through the menus and selection of items/

General remark

Exert a light and short touch (tap) on the soft keys to activate their function. Holding the touch too long will not generate any reaction from the ACVMax Touch, unless it is a combination of soft keys meant to be touched simultaneously for a determined duration, as instructed in this manual. The arrow keys can also be held longer to increase or decrease values faster.

modification of values is performed with four arrow soft keys ^, v, <, >. The center soft key ○ is used for validation (and for Reset in some cases).

The installer is provided with full access to all available features after simultaneously touching the ^ and v soft keys for 3 seconds and entering a code.



HOME SCREEN

The Home Screen presents status information in a very user-friendly way so that the current state of the boiler can be quickly accessed.

- **Screen backlight** - it will illuminate when any soft key is touched, and remain illuminated for five minutes.
- **Screen brightness** - it can be adjusted at the Home screen by touching and holding simultaneously the and soft keys for 2 seconds. Touch the and soft key to increase or decrease the contrast. Touch to end the process.

Main Icons of the ACVMax Touch display

CH - indicates information related to Central/space Heating.

DHW - indicates information related to Domestic Hot Water.

Pump - indicates which pump(s) is/are in operation. The INT pump refers to the internal pump. Pumps marked R2 to R4 correspond to the pumps that can be added to the system using the relay terminals. For more information on the connections and functions, refer to the ML book and to the Installer's Handbook for Evo 2 models (for the installer only).

CH/DHW operation - to enable/disable the central/space heating or Domestic Hot Water functions

Warm Weather Shutdown - displays on the home screen when the outdoor temperature reaches the defined Warm Weather Shutdown temperature.

DHW in Eco mode - DHW is enabled according to the setpoint defined for Eco Mode.

DHW in Scheduled mode - DHW is enabled according to the daily schedule defined through the DHW Scheduler.

Home - to go back to the home screen.

Back - to go back to the previous screen.

Reset - to reset the system to the factory settings.

Settings - to access controller settings (languages, units, etc.).

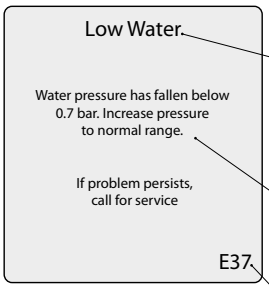
Easy Setup - to quickly adjust the most common settings.

Information - to get information on the boiler.

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 7*, or with the Lockout code table in the Installer's Handbook for Evo 2 models (for the installer only).



Lockout message. Refer to *"In case of Problem..." on page 7* for more information.

Body text. The first sentence describes the lockout, the second sentence gives a possible cure, and the third tells how to reset the lockout.

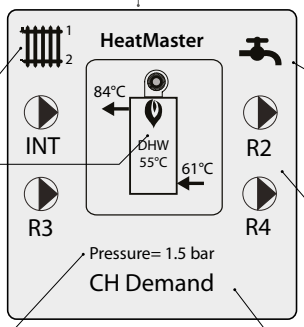
Lockout reference code. Refer to *"In case of Problem..." on page 7* for more information.

The model is indicated at the top of the screen.
The appliance is represented at the center of the Home Screen. Basic operating information such as supply and return temperatures are displayed as well as current burner status.

Radiator icon: indicates that a central heating call has been received. A small number 1 or 2 indicates which CH calls are active

A ***flame symbol*** is displayed when the unit is fired. The flame size changes to indicate the current firing rate.

Basic information: The user can toggle through items using the and soft keys to view the following instantaneous data if available: Pressure, Primary target, Primary temperature, Return temperature, DHW Setpoint, DHW temperature, Scheduled mode, Outdoor temperature, System temperature, Date and time.



Tap icon: indicates that a DHW call has been received.

Pump icons: indicate which circulating pump(s) is/are currently powered.

Status line: displays the current operating state of the boiler. See next page.

STATUS MESSAGES

- **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.
- **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 built-in 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 HeatMaster at the completion of a call.
- **DHW Post Pump** - The domestic hot water circulator is running to remove heat from the HeatMaster 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 to 15°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 HeatMaster shut down is displayed.

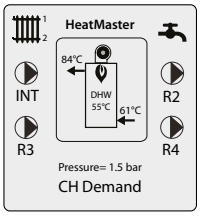
IN CASE OF PROBLEM...

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*"Troubleshooting" on page 57*.

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 (0.07 MPa (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.

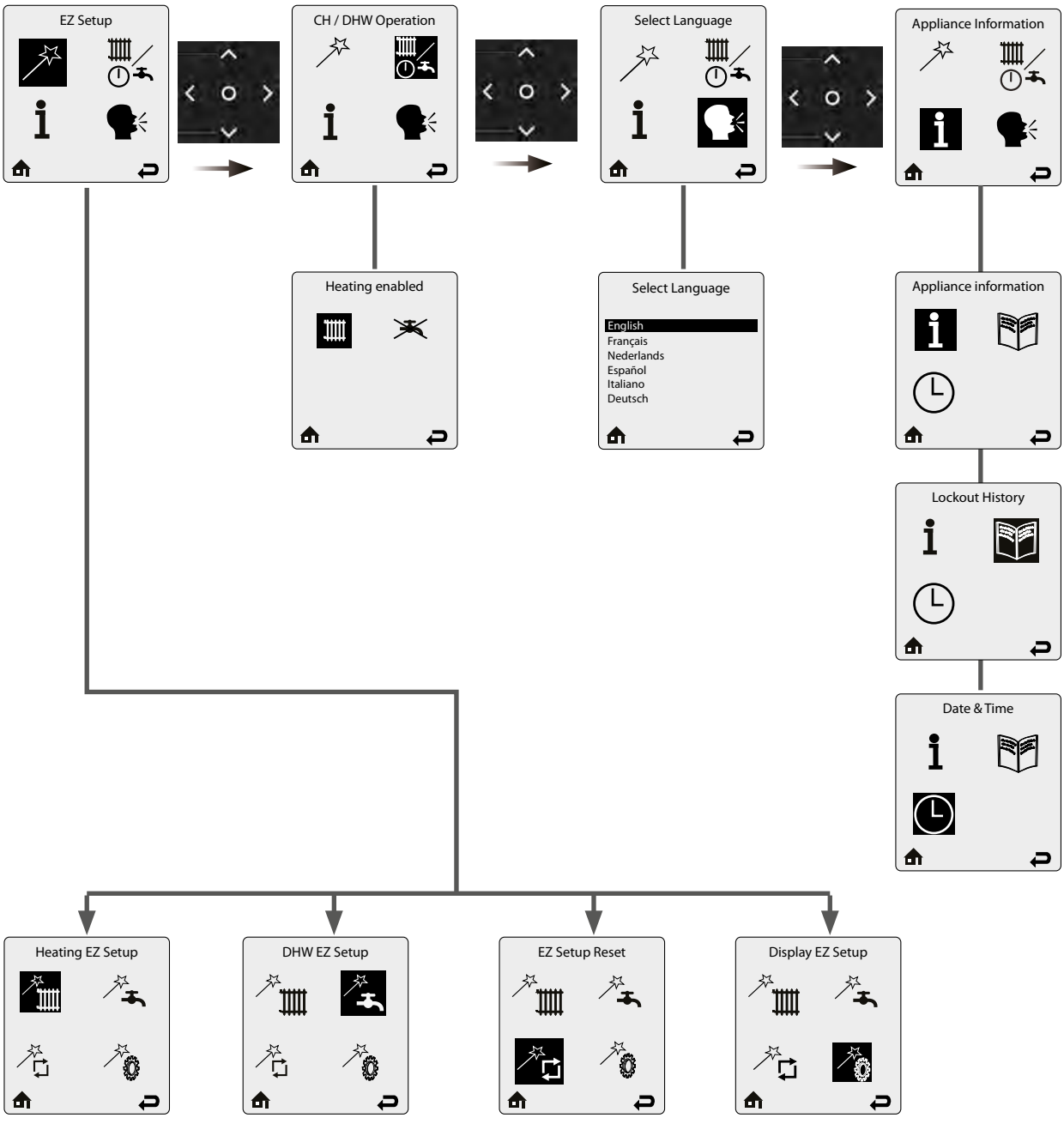
CONTROLLER SET-UP GUIDE

Starting from the Home screen :





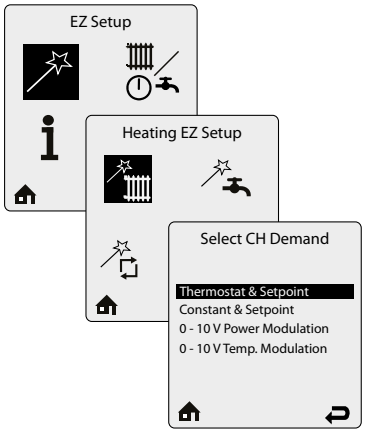
- To navigate on the screen, use the **UP**, **DOWN**, **LEFT** and **RIGHT** soft keys ,
- Use the **OK** key to validate a selection.
- To increase/decrease values, use the **UP** and **DOWN** keys, or **LEFT** and **RIGHT**, according to the situation



HEATING EZ SETUP

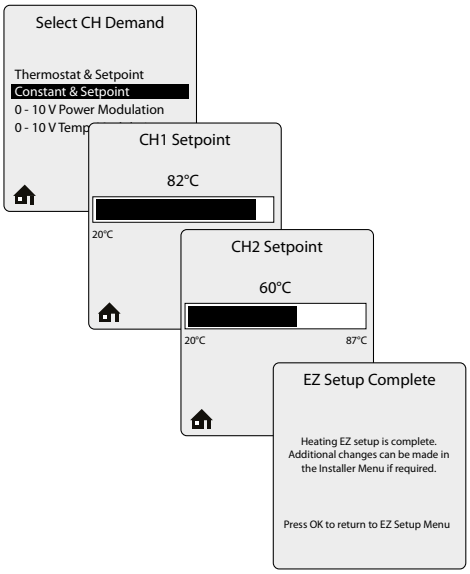
Heating EZ Setup allows the installer to quickly customize the central heating settings for the application.

Select CH Demand (No outdoor sensor connected)



Select CH Demand prompts the user to select how a CH Demand is generated.

Thermostat & Setpoint - A central heating call from a thermostat or zone panel will enable the HeatMaster and the setpoint will be fixed for central heating calls. After Thermostat & Setpoint is selected, the **CH1 Setpoint** screen appears. (see below).



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

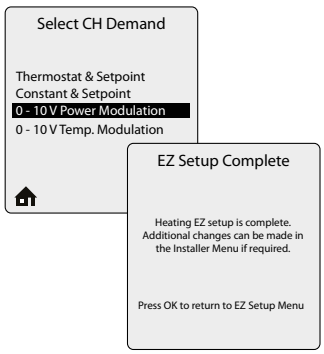
CH1 Setpoint prompts to enter the fixed setpoint for a CH1 heating call when a Setpoint option is chosen in Select CH Demand.

Touch the < or > soft keys to adjust the temperature setpoint then touch O to store the setting. The **CH2 Setpoint** screen then appears.

CH2 Setpoint prompts to enter the fixed setpoint for a CH2 heating call when a Setpoint option is chosen in Select CH Demand.

Touch the < or > soft keys to adjust the temperature setpoint then touch O to store the setting and complete the Heating EZ Setup.

CH1 Default: 82°C
CH2 Default: 60°C

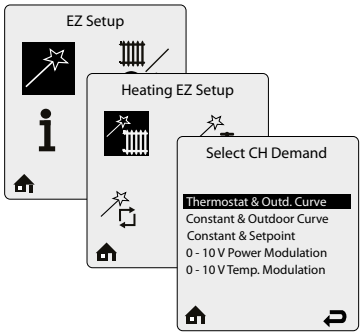


0 - 10V Power Modulation - This option allows the HeatMaster firing rate to be controlled by an external control system.

0 - 10V Temp. Modulation - This option allows the appliance CH temperature to be controlled by an external control system.

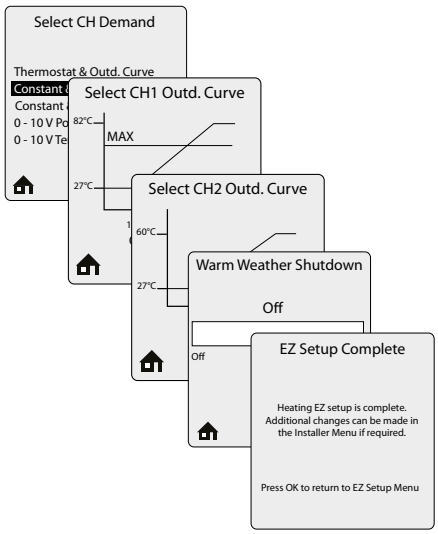
Refer to the Installer's Handbook for Evo 2 Appliances for more information.

Select CH Demand (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. After Thermostat & Outd. Curve is selected, the **Select CH1 Outd. Curve** screen appears (see below).



Constant & Outdoor Curve - This option is only displayed when the outdoor temperature sensor is connected. A room thermostat will have no influence on the setpoint. 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).

Touch the ^ or v soft keys to select the outdoor curve appropriate for the type of heating system, then touch O to store the setting. The **Select CH2 Reset Curve** screen then appears.

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)..

Touch the ^ or v soft keys to select the outdoor reset curve appropriate for the type of heating system, then touch O to store the setting. The **Warm Weather Shutdown** screen then appears.

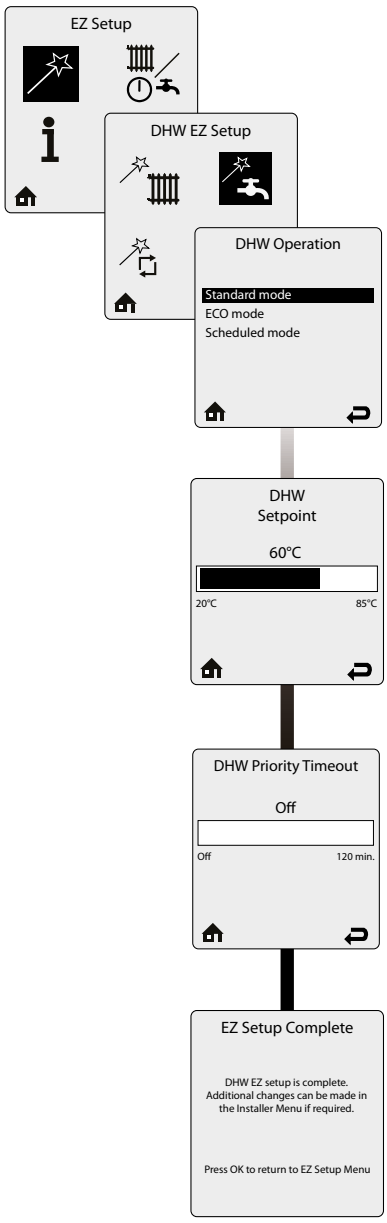
Default: Systems with a temperature between 27°C and 60 °C

Warm Weather Shutdown allows to enter an optional outdoor temperature at which to disable the central heating function. The HeatMaster 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.

Touch the < or > soft keys to adjust the Warm Weather Shutdown Temperature then touch the O soft key to store the setting and complete Heating EZ Setup. The Warm Weather Shutdown icon is displayed on the home screen when the outdoor temperature reaches the Warm Weather Shutdown temperature.
Default: OFF.

For a description of **Constant and Setpoint** menu and **0-10 Volts modulation** menus, refer to the previous page.

DHW EZ SETUP



The **DHW EZ Setup** screen allows to access the DHW Mode selection screen, where three modes are available:

1. Standard mode
2. ECO mode.
3. Scheduled

Touch the ^ or v soft keys to select the required mode, then touch O to store the setting.

Default: Standard Mode.

Standard Mode opens the DHW Setpoint menu.

This mode allows to operate the appliance at its maximum performance.

DHW Setpoint prompts to enter the DHW setpoint temperature.

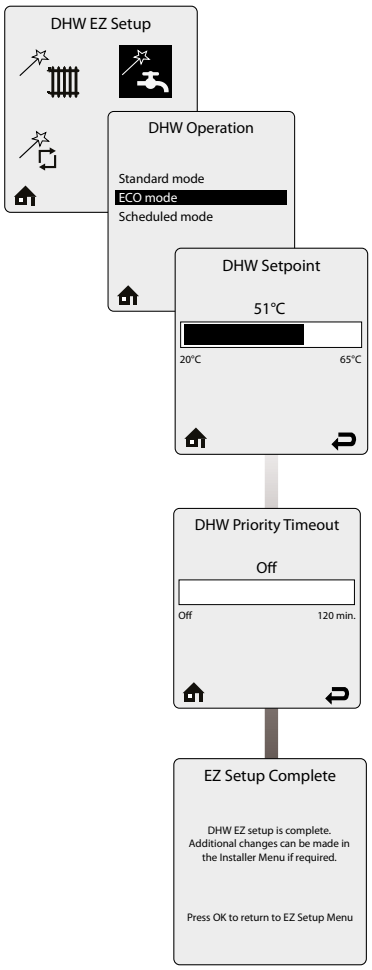
Touch the < or > soft keys to adjust the required temperature setpoint then touch O store the setting.

Default: 60°C.

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

Touch the < or > soft keys to adjust the required timeout value, if required, then touch O to store the setting and complete the DHW setting.

Default: Off



ECO Mode opens the DHW storage setpoint temperature menu.

This mode allows to operate the boiler DHW function at its maximum efficiency.

When the Eco mode is active, the **ECO** icon is displayed on the home screen.

DHW Setpoint prompts to enter the DHW storage setpoint temperature.

Touch the < or > soft keys to adjust the required temperature setpoint then touch O to store the setting.

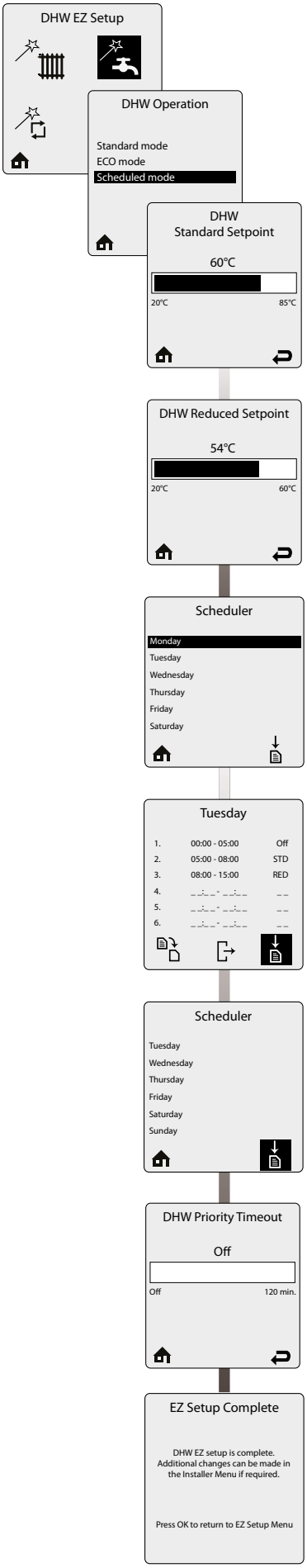
Default: from 49°C to 55°C, depending on the appliance power.

When the ECO function is activated, the antilegionella function should be enabled to ensure that the DHW tank is heated regularly over 65°C to prevent the development of the bacteria.

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

Touch the < or > soft keys to adjust the required timeout value, if required, then touch O to store the setting and complete the DHW setting.

Default: Off



Scheduled mode opens the DHW Standard Setpoint temperature menu.

This mode allows to operate the appliance according to a schedule defined for each day, using up to six daily presets.

When activated, the icon is displayed on the home screen.

DHW Standard Setpoint prompts to enter the DHW standard setpoint temperature.

Touch the or soft keys to adjust the required temperature setpoint then touch to store the setting.

When a period is defined as using the standard setpoint temperature, it displays "STD".

Default: 60°C.

DHW Reduced Setpoint prompts to enter the DHW reduced setpoint temperature. This is the DHW storage setpoint used when the scheduler is in REDUCED period (e.g. night or low usage period defined in the scheduler).

Touch the or soft keys to adjust the required temperature setpoint then touch to store the setting.

When a period is defined as using the reduced setpoint temperature, it displays "RED".

Default: from 49°C to 55°C, depending on the appliance power.

Scheduler provides a simple way to operate the DHW circuit according to a specific schedule defined for each day. One day can have up to six time periods defined, during which the DHW circuit is either enabled (STD), disabled (Off) or operating in Reduced mode (RED).

Touch the or soft keys to select the required day and confirm by touching the key.

A screen specific to the day opens. Define the start and stop times for up to six periods over one day. Touch the or soft keys to move from one position to the next and define the operation times by increments of 15 minutes using the or soft keys. Touching the or soft key longer will augment the speed at which the time is increased/decreased.

Move to the next line using the or soft key. Touching validates all the changes and moves the cursor to the end of the page, to **Save & Exit** ( ).

Scroll through the bottom functions of the screen using the and soft keys, to either Exit ( ) the function without saving or Copy the settings to the next day ( ).

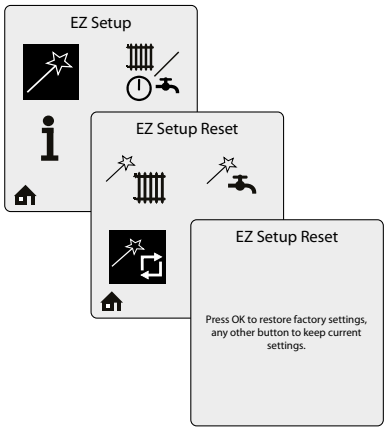
With the **Copy to the Next Day** ( ) function, the settings defined for one day can be repeated to the next day.

Once a day schedule is defined, touch to go to **Save & Exit** ( ) and touch again to save the defined schedule.

On the Scheduler main screen, select **Save & Exit** ( ), then touch to save your parameters and exit the function.

Make sure select Save & Exit on the Scheduler main screen and touch the before leaving the function, or your settings WILL NOT be saved.

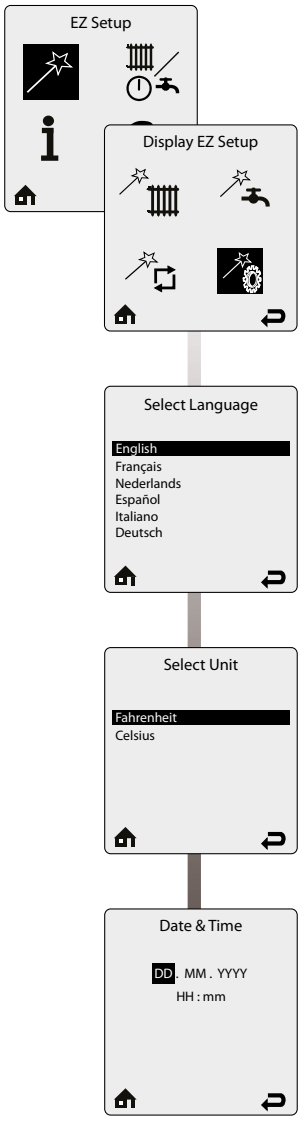
EASY SETUP RESET



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).

Touch the ^ or v soft keys to select the required language then touch O to store the setting.

The Select Unit screen opens to define the interface temperature unit.

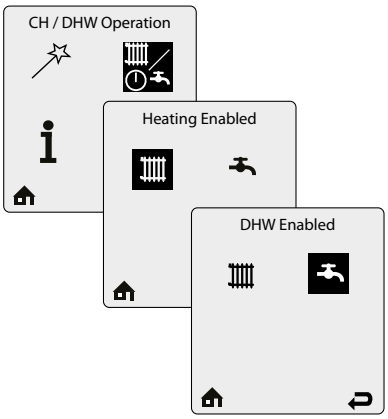
Touch the ^ or v soft keys to select the required unit then touch O to store the setting.

The Date & Time screen opens that allows to define the current date and time in the appliance.

Touch the > and < soft keys to navigate from one position to the next and ^ or v to increase/decrease the value.

touch O to store the setting and go back to the EZ setup screen.

CH/DHW OPERATION



CH/DHW Operation provides a simple way to enable/disable the CH and DHW functions of the HeatMaster.

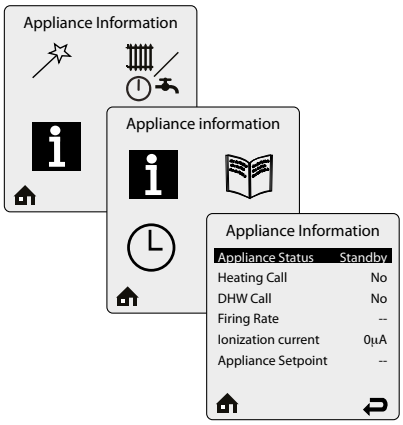
Touch the < or > soft keys to select either the CH or DHW icon, then touch O to toggle between the enabled/disabled status for CH or DHW

The status (Enabled/Disabled) of the selected 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:

APPLIANCE INFORMATION



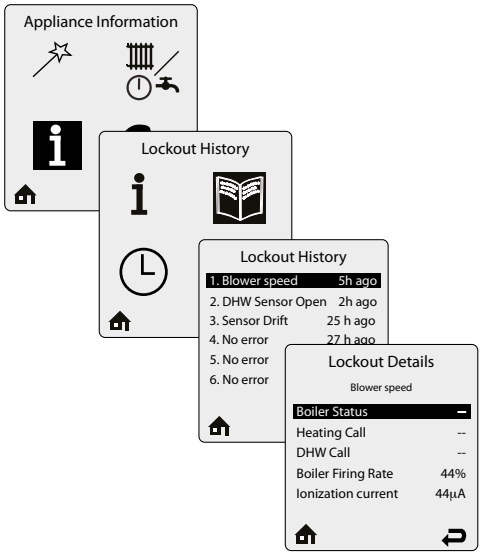
Appliance Information screen provides real time operating information of the HeatMaster. Each line contains an information item followed by its current value. Six lines are displayed on the screen at one time.

Touch the ^ or v soft keys to scroll through the items. For more information, refer to the Installer's Handbook of the HeatMaster boilers.

Available information:

1. Appliance status
2. Heating call
3. DHW call
4. Firing rate
5. Ionization current
6. Appliance Setpoint
7. Supply temp.
8. Return temp
9. Flue temp
10. Outdoor temp.
11. DHW storage temp
12. External modulation signal
13. Water pressure
14. CH ignitions
15. CH runtime
16. DHW ignitions
17. DHW runtime
18. Mix zone temperature

LOCKOUT HISTORY

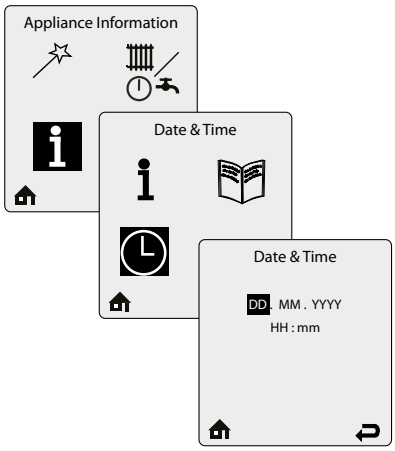


Lockout History records the last eight lockouts. Six lines are displayed on the Lockout History screen at one time. Each line contains a lockout description followed by how long ago the lockout occurred.

Touch the ^ or v soft keys to scroll through the items then touch O to select any of them and get more details through the **Lockout Details** screen.

For more information, refer to the Installer's Handbook for Evo 2 appliances.

DATE & TIME



The Date & Time screen allows to define the current date and time in the appliance.

Touch the > or O and < soft keys to navigate from one position to the next and ^ or v to increase/decrease the value.

At the last position (minutes), touch O to store the setting and go back to the Appliance Information screen.

APPLIANCE DESCRIPTION - HEATMASTER® 25 - 35 - 45 - 70 - 85 - 120 EVO 2

The **HeatMaster® Evo 2** series is a range of condensing combination boilers. The boilers combine ACV/Groupe Atlantic's "Tank-in-Tank" concept with a double primary circuit to reach the high performance of a fully condensing, combi boiler. Also refer to **ML Book** for component views.

All the **HeatMaster® Evo 2** models are equipped with a high efficiency charging pump and with an ACV air/gas premix burner with low NOx emissions. During operation, the burner starts automatically as soon as the boiler temperature gets lower than the preset temperature and stops as soon as the preset temperature is reached.

The **HeatMaster® Evo 2** series 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 HeatMaster 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 **HeatMaster® Evo 2** boilers can be set up in different types of systems, either high or low temperature, or both, with or without external Domestic Hot Water tank. These appliances can also be set up in a cascade system, using an external controller. Refer to *"Configuration and system set-up" on page 44* for more information.

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 44*), with the required accessories, required electrical connections and ACVMax setup using the EZ setup function.

Additional configurations are shown in the Installer's Handbook of the appliance, available from ACV's website. 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/Groupe Atlantic representative.



COMBUSTION CHARACTERISTICS

Main Characteristics			HeatMaster Evo 2					
			25		35		45	
			G20/G25	G31	G20/G25	G31	G20/G25	G31
Input (PCI)	max	kW	25.0	25.0	34.9	34.9	45.6	45.6
	min	kW	5.0	5.0	7.0	7.0	9.0	9.0
Output at 100%	(80/60°C)	kW	24.3	24.3	34.1	34.1	44.1	44.1
	(50/30°C)	kW	26.0	26.0	36.4	36.4	46.8	46.8
Efficiency at 100%	(80/60°C)	%	97.3	97.3	97.9	97.9	98.0	98.0
	(50/30°C)	%	103.9	103.9	103.9	103.9	103.9	103.9
Efficiency at 30% load		%	108.9	108.9	109.5	109.5	109.0	109.0
Combustion efficiency	at 100%	%	98.2	98.2	98.2	98.2	97.9	97.9
NOx (Class 6)	Max. output	mg/kWh	64	—	55	—	53	—
	Min. output	mg/kWh	12	—	12	—	21	—
	Weighted	mg/kWh	24.6	—	29.5	—	33.2	—
CO	Max. output	ppm	27	—	48	—	63	—
	Min. output	ppm	6	—	4	—	4	—
CO_2	Max. output	$\%CO_2$	8.8	10.1	9.2/8.9	10.7	9.0	10.7
	Min. output	$\%CO_2$	8.3	9.3	8.8/8.4	10.2	8.4	10.1
O_2	Max. output	$\%O_2$	5.2	7.5	4.5/4.9	7.4	4.8	7.2
	Min. output	$\%O_2$	6.1	8.3	5.2/5.8	8.1	5.9	8.1
Max gas flow rate G20/G25	20 mbar	m^3/h	2.66	—	3.64	—	4.67	—
	25 mbar	m^3/h	2.96	—	4.23	—	5.60	—
Max. gas flow rate G31	30/37/50 mbar	m^3/h	—	0.98	—	1.4	—	1.77
		Kg/h	—	1.9	—	2.7	—	3.5
Temp of flue gases	Normal	°C	57.7	57.7	58.2	58.2	64.1	64.1
	Max.	°C	120	120	120	120	120	120
	Min.	°C	32.9	32.9	29.2	29.2	30.1	30.1
Average temp. of combustion products	DHW mode	°C	52.6	52.6	52.6	52.6	52.6	52.6
Mass flow rate* of flue gases	Normal	g/s	11.6	11.6	15.5	15.5	21.1	20.1
	Min. output	g/s	2.45	2.54	3.26	3.28	4.36	4.25
Standby loss	ΔT = 45 K	W	124	124	124	124	124	124
	ΔT = 30 K	W	79	79	79	79	79	79

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

Main Characteristics			HeatMaster Evo 2					
			70		85		120	
			G20/G25	G31	G20/G25	G31	G20/G25	G31
Input (PCI)	max	kW	69.9	69.9	85.0	85.0	115.0	115.0
	min	kW	21.5	21.5	21.0	21.0	23.2	23.2
Output at 100%	(80/60°C)	kW	68.0	68.0	82.9	82.9	111.7	111.7
	(50/30°C)	kW	74.0	74.0	89.9	89.9	121.7	121.7
Efficiency at 100%	(80/60°C)	%	97.3	97.3	97.0	97.0	97.0	97.0
	(50/30°C)	%	105.8	105.8	105.8	105.8	105.8	105.8
Efficiency at 30% load		%	109.0	109.0	108.0	108.0	108.0	108.0
Combustion efficiency	at 100%	%	98.1	98.1	98.0	98.0	97.5	97.5
NOx (Class 6)	Max. output	mg/kWh	65	—	48	—	60.7	—
	Min. output	mg/kWh	23	—	26	—	24.1	—
	Weighted	mg/kWh	33.1	—	29.3	—	39.8	—
CO	Max. output	ppm	34	—	51	—	50	—
	Min. output	ppm	7	—	6	—	4	—
CO_2	Max. output	$\%CO_2$	9.0	10.6	8.8/9.2	10.8	9.2	10.6
	Min. output	$\%CO_2$	8.4	10.0	8.3/8.4	10.0	8.6	10.0
O_2	Max. output	$\%O_2$	4.8	7.2	5.2/4.6	6.9	4.5	6.9
	Min. output	$\%O_2$	5.9	8.1	6.1/5.7	8.1	5.6	7.8
Max gas flow rate G20/G25	20 mbar	m^3/h	7.2	—	8.6	—	12.0	—
	25 mbar	m^3/h	8.3	—	10.0	—	14.0	—
Max. gas flow rate G31	30/37/50 mbar	m^3/h	—	2.77	—	3.37	—	4.68
		Kg/h	—	5.4	—	6.6	—	8.9
Temp of flue gases	Normal	°C	60	60	62	62	64.6	64.6
	Max.	°C	120	120	120	120	120	120
	Min.	°C	29.0	29.0	28.7	28.7	28.7	28.7
Average temp. of combustion products	DHW mode	°C	51.0	51.0	51.0	51.0	51.0	51.0
Mass flow rate* of flue gases	Normal	g/s	31.6	31.6	30.8	37.8	50.8	49.8
	Min. output	g/s	10.19	9.98	10.19	9.98	12.14	11.5
Standby loss	ΔT = 45 K	W	164	164	164	164	164	164
	ΔT = 30 K	W	110	110	110	110	110	110

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

ERP DATA (ECODESIGN)

Boiler type and model			HeatMaster Evo 2 25	35	45	70	85	120
Condensing boiler			☑	☑	☑	☑	☑	☑
Low temp boiler			☑	☑	☑	☑	☑	☑
Combination heater			☑	☑	☑	☑	☑	☑
Useful heat output								
at 30% of rated heat output	P_1	kW	7.95	11.2	14.6	22.2	26.7	36.16
at rated output and high-temp regime	P_4	kW	24.3	34.2	44.7	68	82.5	111.6
Useful efficiency								
at 30% of rated heat output	η_1	%	98.2	98.6	98.2	98.2	97.3	97.3
at rated output and high-temp regime	η_4	%	87.6	88.2	88.2	87.6	87.4	87.4
Auxiliary electricity consumption								
At full load	elmax	W	95	110	126	210	266	327
At part load	elmin	W	19	30	40	50	46	70
In standby mode	P_{SB}	W	3	3	3	3	3	3
Standby heat loss	P_{stby}	W	78,9	78,9	78,9	110,52	110,52	110,52

PRODUCT FICHE DATA (I.A.W. COMMISSION DELEGATED REGULATION 811/2013)

		HeatMaster Evo 2 25	35	45	70	85	120
Medium temperature application		Condensation					
Declared load profile for water heating		XXL	XXL	XXL	XXL	XXL	XXL
Seasonal space heating energy efficiency class		A	A	A	A	A	A
Water heating efficiency class		A	A	A	A	A	A
Rated heat output	kW	24	34	45	68	83	112
Annual energy consumption for space heating	kWh	12170	17154	22496	38253	45233	56518
Annual energy consumption for water heating	kWh	5700	5700	5708	5844	5992	5997
Seasonal space heating efficiency	%	93	93	93	92	92	92
Water heating efficiency	%	93.2	93.2	93.1	90.0	90.1	89.3
Sound power level indoors LWA	dB	60	60	59	60	61	62
Able to work only during off- peak hours	Y/N	N	N	N	N	N	N

ELECTRICAL CHARACTERISTICS

Refer to ML **Book for Wiring Diagrams.**

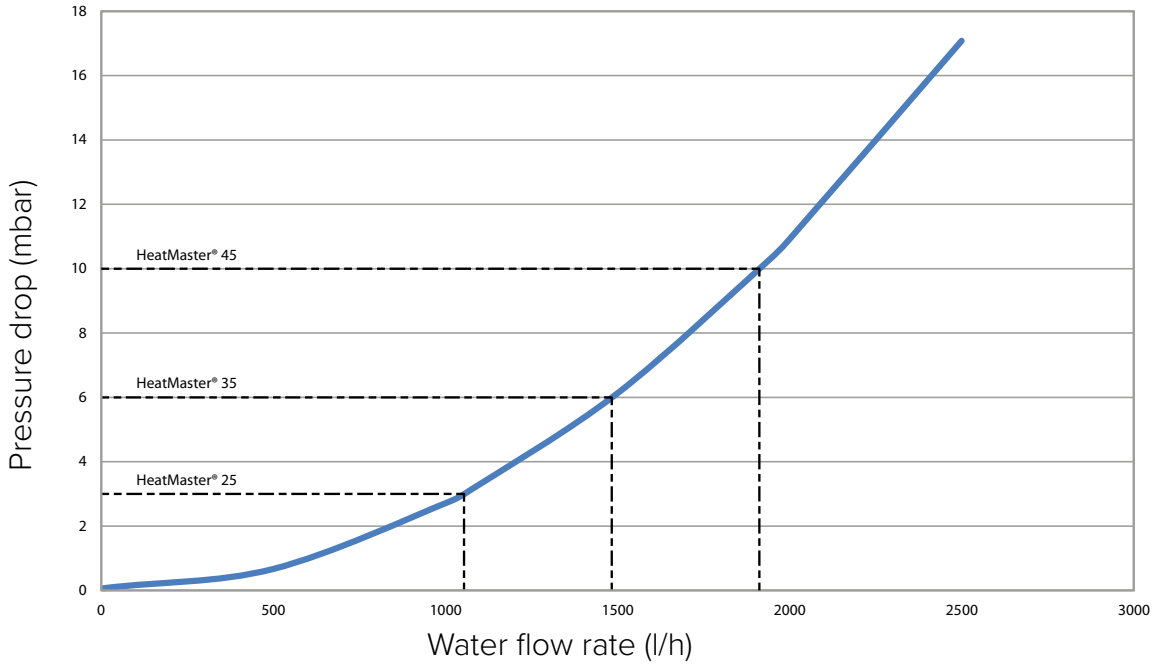
			HeatMaster Evo 2					
Main Characteristics			**25**	**35**	**45**	**70**	**85**	**120**
Rated voltage		V~	230	230	230	230	230	230
Rated frequency		Hz	50	50	50	50	50	50
Electrical consumption	Max.	W	101	111	126	225	266	352
	Min.	W	19	30	40	50	46	70
Electrical consumption at 30% load		W	24	34	45	55	51	74
Electrical consumption in standby		W	3	3	3	3	3	4
Rated current (Fuse)		A	16	16	16	16	16	16
Class			IP 20	IP 20	IP 20	IP 20	IP 20	IP 20

HYDRAULIC CHARACTERISTICS

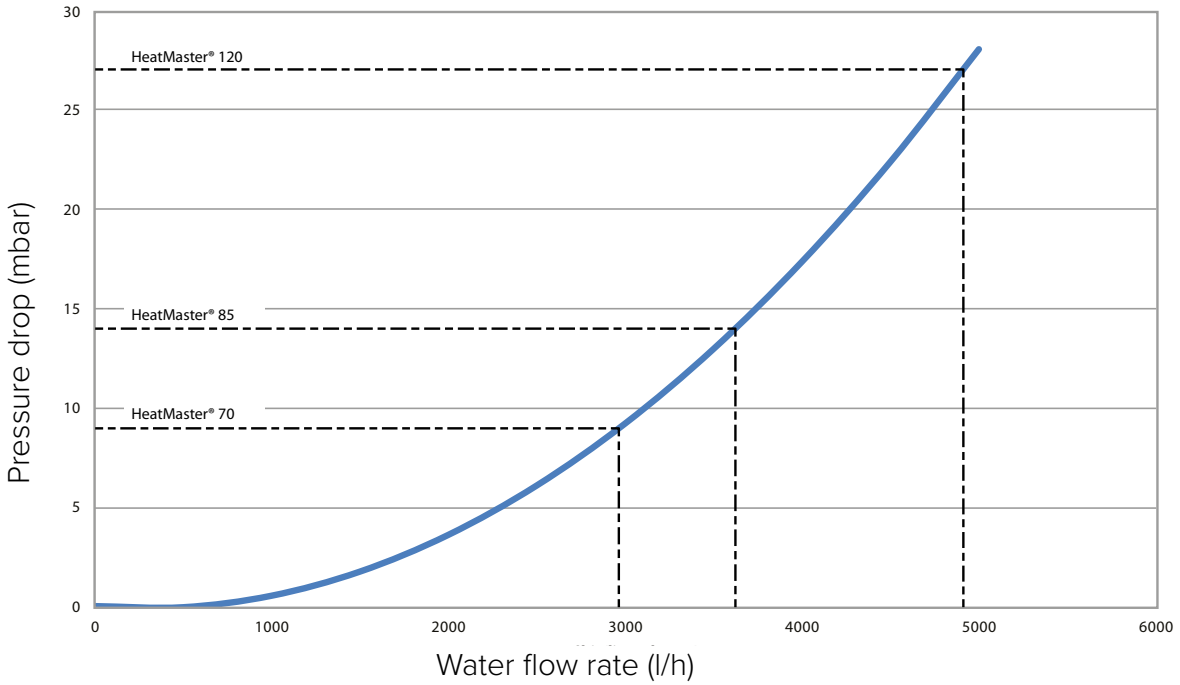
		HeatMaster Evo 2					
Main Characteristics		**25**	**35**	**45**	**70**	**85**	**120**
Capacity (primary)	L	100	100	100	125	125	125
Capacity (DHW)	L	96	96	96	190	190	190
Water pressure drop (primary circuit) (Δt = 20 K)	mbar	3	6	10	9	14	27
Water flow rate	L/h	1100	1500	1900	3000	3600	4900

HYDRAULIC PRESSURE DROP CURVE - PRIMARY CIRCUIT

HeatMaster® 25 - 35 - 45 Evo 2



HeatMaster® 70 - 85 - 120 Evo 2



DHW PERFORMANCE

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

			HeatMaster Evo 2					
Operating conditions at 80°C			**25**	**35**	**45**	**70**	**85**	**120**
Constant flow at	40 °C [ΔT = 30 K]	L/h	788	1,104	1,390	2,087	2,534	3,402
	45 °C [ΔT = 35 K]	L/h	676	946	1,192	1,789	2,172	2,928
	60 °C [ΔT = 50 K]	L/h	473	662	820	1,252	1,520	1,754
Peak flow at	40 °C [ΔT = 30 K]	L/10'	361	408	451	716	783	900
	45 °C [ΔT = 35 K]	L/10'	301	339	373	592	646	676
	60 °C [ΔT = 50 K]	L/10'	183	197	224	348	371	440
Peak flow 1st hour at	40 °C [ΔT = 30 K]	L/60'	1,018	1,328	1,610	2,455	2,895	3,620
	45 °C [ΔT = 35 K]	L/60'	865	1,127	1,366	2,083	2,456	3,098
	60 °C [ΔT = 50 K]	L/60'	577	749	894	1,391	1,638	1,847
Reheat time from 10°C to 80°C		min.	35	26	23	27	24	23
DHW efficiency at ΔT = 30 K		%	105.4	105.4	103.1	103.9	103.9	102.2

OPERATING CONDITIONS

Nominal Service Pressure
- Primary circuit : ..... 0.3 MPa (3 bar)
- DHW circuit : ..... 0.7 MPa (7 bar)

Recommended Service Pressure (*tank full of water, with provided safety valves installed****)***
- Primary circuit : ..... 0.25 MPa (2.5 bar)
- DHW circuit : ..... 0.65 MPa (6.5 bar)

These values will ensure that the safety valve provided does not open all the time in normal conditions.

Maximum Service Pressure (*In the same conditions, with different safety valves (not provided), product is able to reach the following maximum service pressure****)****
- Primary circuit : ..... 0.30 MPa (3.0 bar)
- DHW circuit : ..... 0.86 MPa (8.6 bar)

Maximum Operating Temperatures
- Maximum temperature (primary) : ..... 87°C
- Maximum temperature (DHW) : ..... 75°C (85°C with DHW Boost function activated, refer to Installer's Handbook)

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

QUALITY OF WATER

Reference Parameters

To prevent corrosion and the formation of scale which can damage the appliance and the system, make sure that the following water parameters are complied with:

Heating/Primary Circuit

Parameters	Target values
Acidity	7,0 < pH < 9,5
Hardness*	< 20°fH (11,2°dH) (100 mg/l).
Conductivity	< 750 µS/cm (at 25°C)
Chlorides	< 150 mg/l
Iron	< 0,5 mg/l
Copper	< 0,1 mg/l
Dissolved oxygen	< 0,1 mg/l

DHW Circuit

Parameters	Target values
Acidity	6,0 < pH < 8,0
Hardness*	< 20°fH (11,2°dH) (100 mg/l).
Conductivity	< 750 µS/cm (at 25°C)
Chlorides	< 150 mg/l
Chlorine	< 1 mg/l

* See Reference values in table opposite

MEASURES TO IMPROVE THE QUALITY OF WATER AND PROTECT THE APPLIANCE AND HYDRAULIC CIRCUITS

Prevention for the Heating/Primary circuit

1. **Clean the existing circuits before installing a new appliance:**
   - Before filling, the system must be cleaned in accordance with EN 14336. Chemical cleaning products may be used.
   - If the circuit is in poor condition, or the cleaning carried out is not effective, or the quantity of water in the installation is large (e.g. cascade), a sealed primary system should be created using hydraulic separation. We also recommend to install a hydrocyclone or system filter on the installation side.
2. **Limit the refill frequency/number**
   - To check the quantity of water introduced into the system, a water meter can be installed on the primary circuit filling connection.
   - Automatic filling systems are not recommended unless the fill frequency is monitored and the level of scale and corrosion inhibitors remain correct.
   - If your installation requires frequent water refills, make sure your system is free of water leaks.
3. **Limit corrosion using inhibitors (in accordance with EN 14868).**
4. **Limit the presence of oxygen and sludge in the circuit**
   - A deaerator (on the appliance supply line) and a dirt-separator (upstream of the appliance) must be installed, in accordance with the equipment manufacturers' specifications.*
   - It is also recommended to use additives that regulate pH and/or inhibit corrosion and scale formation.
   - The additives must be used in accordance with the instructions issued by the manufacturer of the water treatment product.
   - Use components that are designed to reduce and limit as much as possible the transfer of oxygen through the walls in the primary circuit. For example, PE pipes with an oxygen barrier.
5. **Check water hardness and use softened water**
   - A water softener is recommended if the water hardness exceeds 20° fH (11.2° dH) (100 mg/l).
   - Check the water hardness regularly and record the values in the maintenance table.
   - For very hard water, the softener will reduce hardness (by replacing calcium and magnesium with sodium), but the water will still have too high a conductivity. If necessary, de-mineralised water should be used.

Reference Values for Water Hardness

Water hardness	°fH	°dH	mg/l $CaCO_3$
Very soft	0 - 7	0 - 3,9	0 - 70
Soft	7 - 15	3,9 - 8,4	70 - 150
Fairly hard	15 - 25	8,4 - 14	150 - 250
Hard	25 - 42	14 - 23,5	250 - 420
Very hard	> 42	> 23,5	> 420

6. **Check the characteristics of water**
   - Treat the water if the values of the parameters measured are out of tolerance. Refer to parameters opposite.
7. **Use de-mineralised water**
   - The use of de-mineralised water is recommended when filling new (or previously cleaned) systems, as it removes the problems associated with the formation of limescale.
   - By eliminating the presence of scale, the associated risks (sludge) are avoided and service life is increased.
   - By definition, de-mineralised water has a very low conductivity. Corrosion kinetics are therefore considerably slowed down.
   - On the other hand, de-mineralised water tends to become acidic (pH < 6). If the pH is too low, it is necessary to use additives to modify the pH and inhibit corrosion.
8. **If antifreeze is used in the circuit, observe the conditions of use prescribed by the propylene glycol supplier.**
   - Consult the manufacturer to determine the compatibility of the antifreeze with the materials of the boiler.
   - Using antifreeze in the primary circuit will reduce heating performance. The higher the antifreeze concentration, the lower the performance.
   - If antifreeze is used in the primary circuit, it is particularly important that it is inhibited. The acidity (pH) of the water should be measured periodically to ensure that there is no gradual acidification.
   - In case of problem of concentration or pH, follow the supplier's recommendations to adjust these parameters in order to avoid damaging the equipment (corrosion or accumulation of sludge).

* **In the UK, the installation of such equipment is strongly advised, as well as following the water treatment requirements set out in Guidance Notes on water treatment in central heating systems.**

- When the primary circuit is used to heat domestic hot water, the antifreeze must comply with public health regulations and be non-toxic. A food-grade propylene glycol is recommended. It should be diluted in the proportions recommended by the supplier, in compliance with local regulations.
- When using antifreeze is recommended, unless otherwise indicated by the product supplier, the proportion of antifreeze varies between 20% and 50%, in order to protect the plant effectively against corrosion and scaling.
- To limit the risks, it is necessary to prepare the water/glycol mixture before injecting it into the system.
- Should the appliance be connected to consumers (e.g. radiators or external water tank), a hydraulic separation is recommended between the heat generator circuit and the consumer circuit using a plate heat exchanger or similar.

9. **If the water needs to be softened, check that the water softener is working properly**
   - A softener replaces calcium with sodium in the water to limit the formation of limescale. To do this, the softener must periodically regenerate its sodium reserve, using salt brine.
   - When a softener is required to reduce water hardness, its operation must not cause corrosion problems.
   - If the softener is of poor quality, is poorly maintained, suffers a technical breakdown or if a component deteriorates, salt could be released into the circuit. If salt is released back into the system, the chloride level will occasionally rise, creating the risk of corrosion.

Prevention for the Domestic Hot Water Circuit

To protect your plant and prevent any risk of corrosion, it is important to check the characteristics of the water supplied to the boiler. As a reminder, in the case of tap water, target values are indicated for a range of components in Water Supply (Water Quality) Regulations 2016. It is particularly important to:

1. **Limit the presence of carbonates in water**
   - A water softener is recommended if the water hardness exceeds 20° fH (11.2°dH) (100 mg/l).
   - Check water hardness regularly (see reference table on previous page).
2. **Check the characteristics of water**
   - Treat the water if the values of the measured parameters are out of tolerance. Refer to previous page for reference parameters.

Reasons why Water Quality will Deteriorate:

Influence of oxygen and carbonates in the plant

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, heat exchanger of a boiler or water heater, tank, etc.). The presence of carbonates and carbon dioxide in the water leads to the formation of scale (carbonates) on the hot surfaces of the system, including the exchanger of the appliance. 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 plant

The primary circuit is a closed circuit; the water it contains is therefore isolated from the mains. When maintaining the plant or refilling 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 (e.g. PE pipes and fittings) also allow oxygen to enter the system.

Influence of additives in the plant

Depending on their design, primary circuits are sometimes subjected to a cold environment with sub-zero temperatures. The use of antifreeze products, particularly glycol-based products, is then necessary (see paragraph 7). It is advisable to limit the use of this type of additive to cases where it is necessary. These products degrade over time with heat, leading to the formation of acid by-products. This acidification of the primary water leads to corrosion and accelerated deterioration of the steel casing. The use of inhibited antifreeze (i.e. containing corrosion inhibitors) and special monitoring are therefore necessary.

Influence of water hardness

The presence of calcium and magnesium in the water causes scale deposits to build up in the system over the long term. These deposits appear on the hot spots of a storage tank, such as the electrical heating elements. But they also appear on the stainless steel casing when it comes into contact with the primary water. The effect of these deposits is to reduce the flow rate of water (through the I/O tubes) and to thermally insulate the heat exchange surfaces. Over time, they can lead to the formation of under-deposit corrosion, which causes damage.

Influence of acidity, chlorine and chlorides

The stainless steel used for our stainless steel tanks has been specially selected for its corrosion-resistant properties. Particular care is taken during installation to preserve its properties. This intrinsic property comes from the passive layer that naturally protects stainless steel, working as a unique barrier.

Chlorine-based compounds (chlorine or chloride) are capable of destroying this protective barrier. Chlorine and chloride levels must therefore be carefully monitored to ensure that they do not exceed the values given in this document.

The acidity of the water (pH index) is a factor capable of accelerating the corrosion mechanisms described below. It is therefore important to maintain acidity within the ranges indicated in this document.

CHIMNEY CHARACTERISTICS

Main Characteristics			HeatMaster Evo 2 25	35	45	70	85	120
Air/flue pipe Ø	concentric	mm	80/125	80/125	80/125	100/150	100/150	100/150
	parallel	mm	80/80	80/80	80/80	100/100	100/100	100/100
Max. allowed flue pipe pressure drop		Pa	95	130	130	110	160	170
Max recommended length of concentric flue pipe (corresponding length in meters of straight pipes) * Ø 80/125, terminal included			60	39	22	—	—	—
Max recommended length of concentric flue pipe (corresponding length in meters of straight pipes) * Ø 100/150, terminal included			130***	90***	53***	20	19	18
Max recommended length of dual flow (corresponding length in meters of straight pipes) *			Rigid Ø 80 / Flex. Ø 80	Rigid Ø 80 / Flex. Ø 80	Rigid Ø 80 / Flex. Ø 80 / Rigid Ø 100 / Flex. Ø 100	Rigid Ø 100 / Flex. Ø 100	Rigid Ø 100 / Flex. Ø 100	Rigid Ø 100 / Flex. Ø 100
			56 / 26	37 / 17	19 / 9 / 76 / 34	17 / 8	17 / 8	9 / 4
Available connection types			B23 - B23P - C13 - C33 - C53** - C63 - C83 - C93					

* See page 28 to calculate the flue pipe length.

** A C53 connection of the HeatMaster Evo 2 boilers requires an optional accessory.

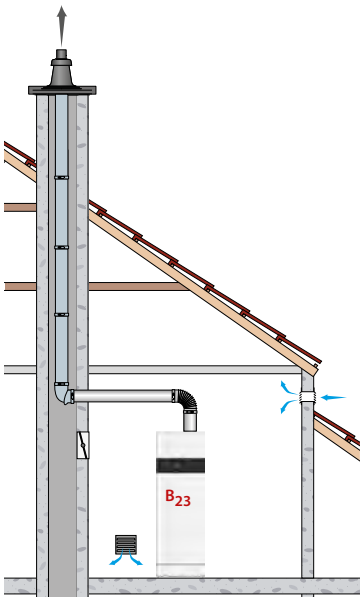
*** Not recommended - For more information, please contact your ACV/Groupe Atlantic Customer Support.

Essential instruction for safety (of persons and equipment)

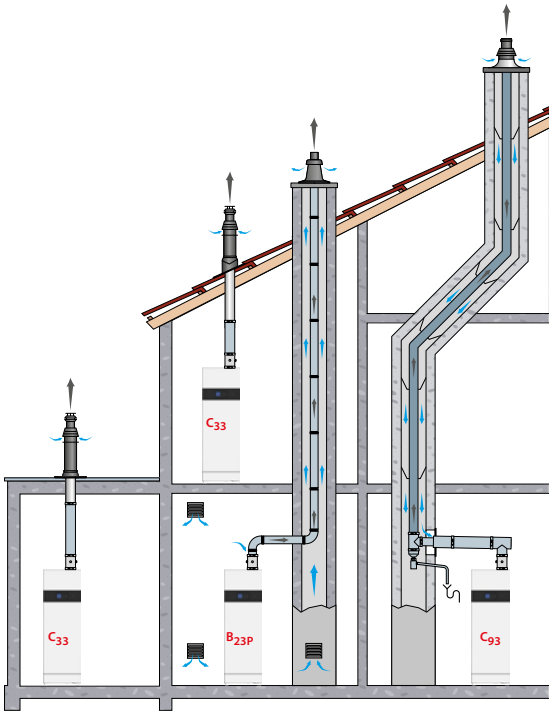
Make sure that the air inlet openings remain unobstructed at all times and that air and flue pipe connections are tight and secure.

Essential instruction for the correct operation of the appliance or the system

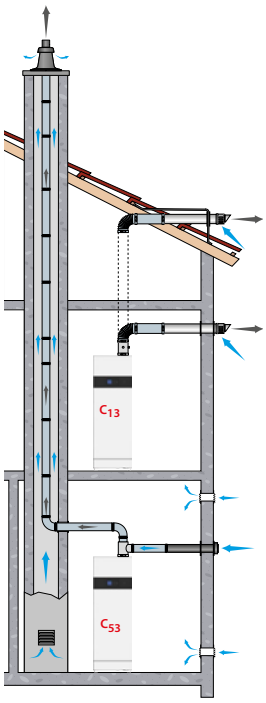
It is mandatory to ventilate the boiler room. The high or low air vent opening dimensions depend on the boiler power and the boiler room size. Refer to the local regulations in force.



B23



B23p - C33 - C93



C13 - C53

FLUE PIPE CONNECTION TYPES

Essential instruction for the correct operation of the appliance or the system

- For the installation of flue systems, make sure to comply with all the requirements of applicable local regulations, standards and codes, and with the installation instructions set out in this manual.
- It is mandatory to use approved flue systems to connect the appliance. Refer to *"Approved Chimney Components" on page 30.*
- For information about building a flue cascade system, please refer to the Cascade manual provided with this 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 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 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.

C53 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 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 as follows: 95 Pa (HM 25 Evo 2), 130 Pa (HM 35- 45 Evo 2), 110 Pa (HM 70 Evo 2), 160 Pa (HM 85 Evo 2) and 170 Pa (HM 120 Evo 2).
- Condensate flow is allowed into the appliance.
- Maximum allowable recirculation rate of 10% under wind conditions.

C83 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. Please contact your ACV/Groupe Atlantic representative for the meters of flue pipes that can be used to connect the appliance(s).

C93 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.

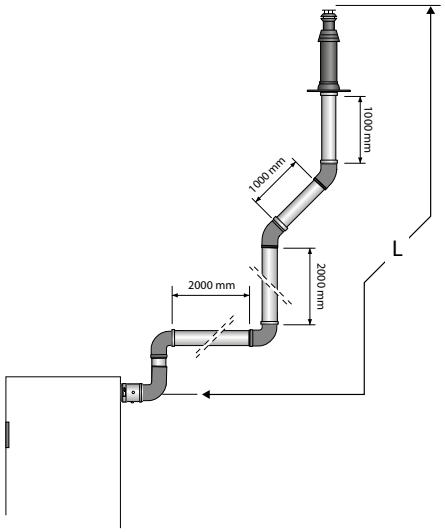
CALCULATION OF THE FLUE PIPE LENGTH

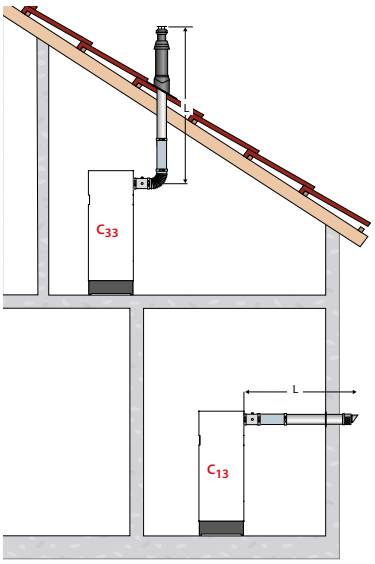
The flue pipe length can be calculated using the method shown below. Please refer to the tables below indicating the values in meters, applied to each of the connection components. Then compare the calculation result to the recommended maximum flue pipe length indicated in the table on previous page.

General remark

- When connecting the flue pipes, make sure not to exceed the maximum flue pipe length, recommended for the product, or the system pressure might decrease
- The equivalent length for pipes equipped with a measuring unit is equal to a 1 meter straight pipe.

	Flue pipe length (L) (corresponding length in meters of straight pipe)			
	HM 25 - 35 - 45 Evo 2		HM 25 - 35 - 45 - 70 - 85 - 120 Evo 2	
	Concentric flue pipe Ø 80/125 mm (Terminal incl.)	Parallel flue pipe Ø 80 mm (Terminal incl.)	Concentric flue pipe Ø 100/150 mm (Terminal incl.)	Parallel flue pipe Ø 100 mm (Terminal incl.)
1 m straight pipe	1 m	1 m	1 m	1 m
90° elbow	2 m	2.3 m	2.2 m	3.7 m
45° elbow	1 m	1 m	1.3 m	2.3 m





Concentric connection

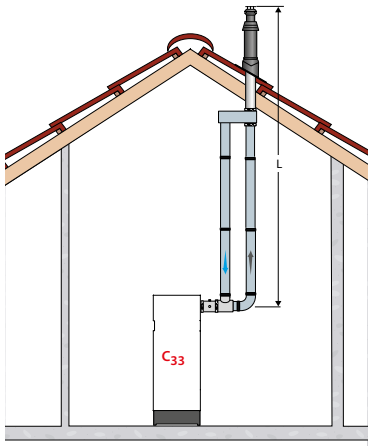
Example of verification of the flue pipe length (L) in a concentric flue pipe system for HeatMaster 35 Evo 2 (80/125):

The figure above shows an assembly is comprised of: 1 pipe with a measurement unit + 3 x 90° elbows + 6 meters of straight pipes + 2 x 45° elbows

a) Using the above table, calculate the length in meters of the whole flue pipe assembly:
1 + (3 x 2) + (6 x 1) + (2 x 1) = 15 m

b) Compare the resulting value with the maximum length (39 m).

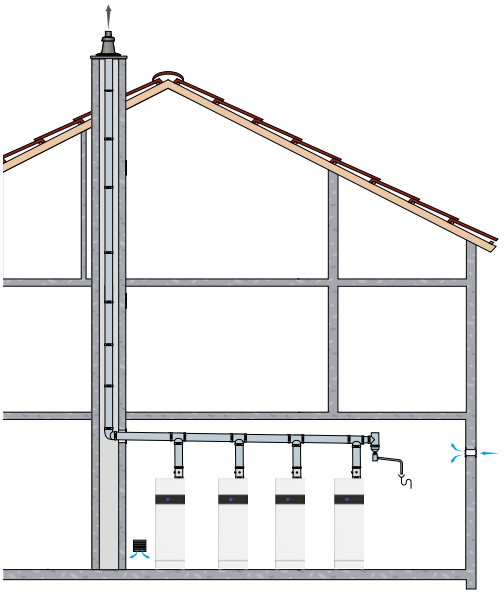
This flue pipe length is within the recommended range.



Parallel connection

FLUE CASCADE

- It is mandatory to use approved chimney components to connect the appliances.
- Make sure to install an approved flue cascade kit, with a built-in non return valve. Check the table on page 32 for the list of approved components.



Elbow type	Ø 150	Ø 200
	Equivalent Length	
45° [M]	1.7m	3.8m
90° [M]	4.0m	5.8m

CASCADE : CALCULATION OF THE MAXIMUM LENGTH OF FLUE PIPES

Qty	HM Evo 2 models*	Maximum length in meters.		
		Dn 150	Dn 150/200**	Dn 200
2	25 - 35 - 45 - 70 - 85	30	30	30
	120	—	30	30
3	25 - 35 - 45	30	30	30
	70	25	30	30
	85	26	30	30
	120	—	—	—
4	25 - 35 - 45	30	30	30
	70	—	30	30
	85	—	30	30
	120	—	—	—
5	25 - 35 - 45	30	30	30
	70	—	30	30
	85	—	6	30
	120	—	—	—
6	25 - 35	30	30	30
	45	16	30	30
	70	—	—	30
	85	—	—	13
	120	—	—	—

* This table is for systems built with HeatMaster Evo 2 appliances of identical power. For any other configuration, please contact your ACV/Groupe Atlantic Customer Support.

**Dn 150/200 : Hor. = 150 mm, Vert.=200 mm

APPROVED CHIMNEY COMPONENTS

Boiler Models	Connection type	Material / Ø mm	Components *						
			Terminals	Pipes	Extensions	Bends	Measurement and condensate recovery	Accessories	Adapters
HeatMaster 25-35-45 Evo 2	C93	PP Flex Ø 80	1. Set C93 Ø 80/125	13. Flexible PP PP Ø 80, 25 m	–	–	–	50. Connection sheath for Ø 80/125, Ø 80 51. Connector Flex-Flex PP Ø 80	–
HeatMaster 25-35-45 Evo 2	C13 C33	PP - Galva Ø 80/125	2. Roof Terminal 3. Wall terminal kit 4. Wall terminal Kit	14. Length 250 mm 15. Length 500 mm 16. Length 1000 mm 17. Length 2000 mm	30. Sliding extension, straight + 50 to 130 mm	34.43° - 45° 35.87° - 90°	44.Measuring tube 45.Measuring T-piece with inspection	52. Weather Slate Steep 53. Bracket Ø 125 mm 54. Weather slate, flat roof Ø 390 mm	60. Expander SST/Alu Ø 80/125 mm - 2 x Ø 80 mm 61. Expander PP/ALU, Ø 60/100 mm - Ø 80/125 mm
HeatMaster 70-85-120 Evo 2	C93	PP Flex Ø 100	5. Set C93 Ø 100/150	18. Flexible PP Ø 100, 25 m	–	–	–	55. Connection sheath Alu for Ø 100/150 56. Adapter Flex-Flex PP Ø 100	–

*** ACV/Groupe Atlantic references are provided in a separate cross-reference table attached to this manual. Also refer to the latest ACV/Groupe Atlantic Price list for more information and the correct references.**

Boiler Models	Connection type	Material / Ø mm	Components *						
			Terminals	Pipes	Extensions	Bends	Measurement and condensate recovery	Accessories	Adapters
HeatMaster 70-85-120 Evo 2	C13 C33	PP - Galva Ø 100/150	6. Roof terminal 7. Wall terminal kit	19. Length 250 mm 20. Length 500 mm 21. Length 1000 mm 22. Length 2000 mm	31. Sliding extension, straight + 50 to 130 mm	36. 43° - 45° 37. 87° - 90°	46.Measuring tube 47.Measuring T-piece with inspection	57. Weather Slate Steep 25°-45° 58. Bracket Ø 150 mm 59. Weather Slate, Flat roof Ø 430 mm	62. Concentric to parallel Ø 100/150 mm - 2 x Ø 100 mm
HeatMaster 70-85-120 Evo 2	B23P C53	SST Ø 150	8. Roof terminal, flue Ø 150 9. Wall terminal kit, flue, Ø 150 10. Wall terminal kit, air, Ø 100	23. Length, flue, Ø 150, 250 mm 24. Length, flue, Ø 150, 500 mm 25. Length, flue, Ø 150, 1000 mm 26. Length, air, PVC Ø 100, 500 mm	32. Sliding extension, flue, Ø 150	38. Flue, Ø 150, 45° 39. Flue, Ø 150, 90° 40. Air, Ø 100, 45° 41. Air, Ø 100, 90°	48.Element for measurement and recovery of condensates, flue, Ø 150	57. Weather Slate Steep 25°-45° 58. Bracket Ø 150 mm 59. Weather Slate, Flat roof Ø 430 mm	62. Concentric to parallel adapter Ø 100/150 mm - 2 x Ø 100 mm 63. Expander Ø 100 - Ø 150 mm mandatory 64. Adapter Ø 80 - Ø 100 mm, air
HeatMaster 70-85-120 Evo 2	C13 C33	SST - SST Ø 100/150	11. Roof terminal 12. Wall terminal	27. Length, 250 mm 28. Length, 500 mm 29. Length, 1000 mm	33. Sliding extension 280 to 395 mm	42. 43° - 45° 43. 87° - 90°	49.Element for measurement and recovery of condensates, flue	57. Weather Slate Steep 25°-45° 58. Bracket Ø 150 mm 59. Weather Slate, Flat roof Ø 430 mm	62. Concentric to parallel adapter Ø 100/150 mm - 2 x Ø 100 mm

*** ACV/Groupe Atlantic references are provided in a separate cross-reference table attached to this manual. Also refer to the latest ACV/Groupe Atlantic Price list for more information and the correct references.**

Evo 2 Models	Material /Ø mm	Cascade Components *				
		Terminals	Pipes	Bends	Accessories	Adapters
25-35-45-70-85-120 kW	Cascade Ø 150	85. Roof terminal, Ø 150	86. Length 1000 mm, Ø 150	88. Support, 90°, Ø 200	89. Profile for 90° bend	93. Adapter Ø 150-200 mm
					90. Bracket Ø 150	94. Connection kit (Ø 80)
			87. Length 2000 mm, Ø 150		91. Condensate trap (Ø 150)	95. Connection kit (Ø 100)
					92.Attachment rail for cascade (opt)	96. Basic connection kit 750 mm (Ø 150)
	Cascade Ø 200	97. Roof terminal, Ø 200	98. Length 1000 mm, Ø 200	100. Support, 90°, Ø 200	102. Connection sheath, Ø 200	94. Connection kit (Ø 80)
			99. Length 1900 mm, Ø 200	101. Support, 90°, Ø 200, with bracket	103. Bracket, Ø 200	95. Connection kit (Ø 150) for cascade
					104.Condensate trap (Ø 200), cascade	105. Basic connection kit 750 mm (Ø 200)
					92. Attachment rail for cascade (opt)	

*** Also refer to the latest ACV/Groupe Atlantic Price list for more information and the correct references.**

SAFETY INSTRUCTIONS FOR THE INSTALLATION

Essential instructions for safety

- The connections (electrical, flue pipe, hydraulic) must be carried out in accordance with local standards and regulations in force.
- Install the appliance on level base or vertically plumb support made of non-combustible materials and of sufficient strength to support its weight.
- Use extreme care not to drop the appliance or cause bodily injury while lifting or mounting the appliance onto the wall bracket or base. Once mounted, verify that the appliance is securely attached to the bracket and wall or safely set on its base.
- Do not use or store any flammable or corrosive products, such as 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.
- Make sure that all air vents are unobstructed at all times.

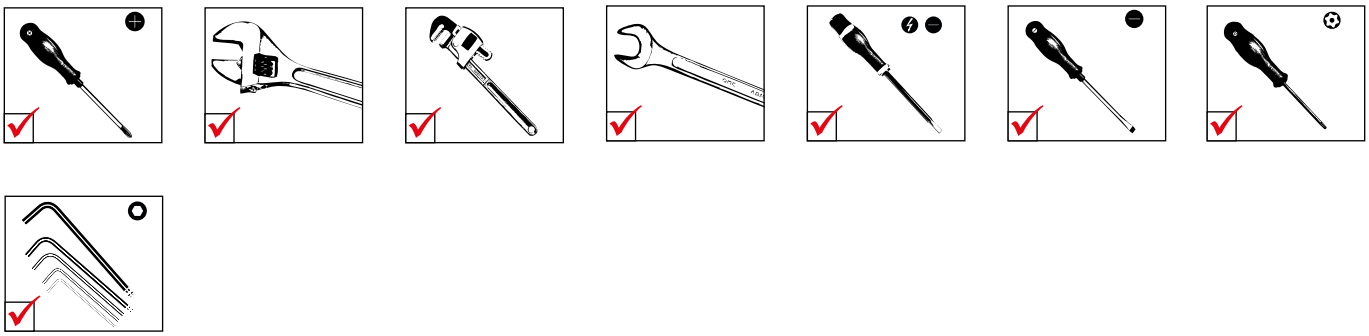
Essential instructions for the electrical safety

- Only an approved installer is authorized to carry out the electrical connections.
- Make sure that the appliance is connected to the earth.
- 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.

Essential instructions for the correct operation of the appliance

- The appliance 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.
- If the appliance contains a stainless steel DHW production tank, connect it directly to the earth to prevent corrosion.
- If works need to be performed (in the boiler room or close to the air vents), make sure to turn off the appliance to prevent dust from entering and accumulating in the appliance heating system.

TOOLS REQUIRED FOR THE INSTALLATION



PACKAGE CONTENTS

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

- Boiler
- Installation, Operation and Maintenance Instructions
- Orifice for the natural gas to propane conversion + stickers (Except in Belgium)
- Ball condensate trap to be installed.
- A primary safety valve Ø 1/2" (F) to be installed

HANDLING INSTRUCTIONS

Essential instruction for the correct operation of the appliance or the system

- The boiler weighs more than 180 kg, which could present a risk of injury. Ask for help to handle it and use an appropriate lifting means.
- If using a pallet truck to transport the boiler, remove the bottom front panel (see ML book for instructions).
- Bring the appliance as close as possible to the installation location before removing the packaging.
- If necessary and to make transport easier, the boiler casing can be removed for transportation to the final installation location. Refer to ML book for the correct procedure.
- Before removing the packaging, ensure that the installation area is clear and that there are no obstacles making the handling and installation difficult or unsafe.

REMOVING THE PACKAGING

1. Remove the plastic wrapping.
2. Remove the protection pieces and discard in accordance with applicable local regulations.

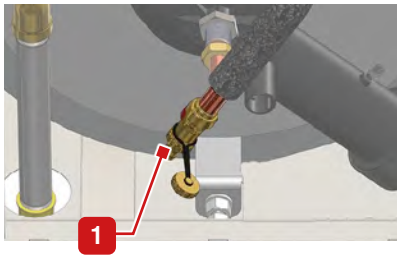
BOILER PREPARATION

- Remove the bottom panel stored at the back of the boiler for transport. Install on the appliance when the boiler is in its final position. Refer to the ML Book for the correct installation procedure.



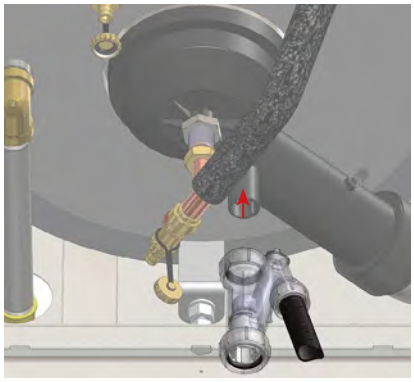
- Perform gas conversion to propane as required. Refer to *"Conversion to Propane" on page 37.*

- **Close the circulation tube end tap** (1) (access from the bottom of the boiler)



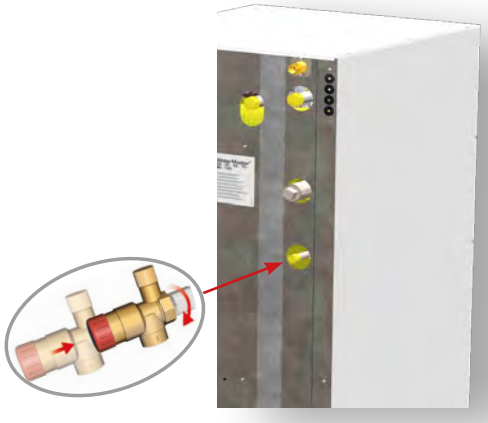
The circulation tube is equipped with an end tap that is open when the boiler is delivered (to prevent test water from being stuck in the circuit and freezing during transport). Make sure that you close the tap before filling the system with water.

- **Install the ball condensate trap**, then the bottom front panel (to be clipped in)



Fit the condensate trap, complete with the ball, 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 the condensates from freezing. Refer to the procedure provided with the condensate trap, or get it from www.acv.com (See *page 4* for an access with QR code)

- **Install the safety valve kit :** primary circuit safety valve at the back of the boiler

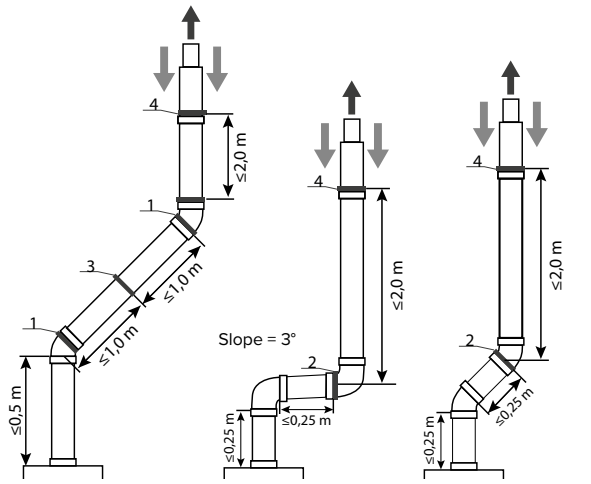


CHIMNEY CONNECTION

General Recommendations and Safety Instructions

Essential instructions for safety

- Do not install the boiler into a common flue piping with any other gas or oil appliances. This will cause flue gas spillage or appliance malfunction.
- Verify installed combustion air and flue piping are sealed gas tight and meet all provided instructions and applicable codes and standards.
- Failure to properly support the flue system can cause the flue system to fail, resulting in substantial property damage, serious injury, or death.
- A byproduct of any gas/oil fired appliance is carbon monoxide. Failure to install carbon monoxide detectors with alarms can result in serious injury, or death. Refer to applicable local regulations.



1. Each elbow and straight element will be secured at the sleeve.
2. In case the straight element before or after the first elbow is shorter than 25 cm, secure the straight element after the elbow using a bracket.
3. In case a straight (horizontal or sloped) element is longer than 1 m, support the element in its center using a clamp, making sure to allow free movement of the pipe.
4. Secure with a clamp every 2 meters in vertical piping/1 meter in horizontal/sloped piping, making sure to distribute the clamps evenly on the length of piping.

Essential instructions for the correct operation of the appliance

- 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.
- Only use flue system components from the same manufacturer to connect this appliance and ensure that the pipe and connection diameters all match.
- Make sure to secure the flue piping to a solid structure.
- Exclusively use provided brackets to support the flue system.
- Install the horizontal flue pipes with a slight slope of 5 cm per meter (3°), so that the acid condensation water flows to a condensate recovery container and does not damage the heating body.
- If the appliance is provided with a condensate drain assembly, make sure to install the complete assembly on the boiler. If the assembly is incomplete, replace the entire assembly.
- Make sure that the condensate drain assembly is filled with water before starting up the boiler and check regularly the water level. Fill with water as necessary.
- 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.
- If the combustion air inlet is located in an area likely to cause or contain contamination, or if products which could contaminate the air cannot be removed, the combustion air must be repiped and terminated at another location.
- Pool, laundry, common household, and hobby products often contain fluorine or chlorine compounds, which can form strong acids and corrode the internal components and flue system.
- In the case of parallel flue systems, make sure to maintain sufficient distance (at least 40 mm) between the boiler flue piping and combustible materials, and between the flue pipe and air inlet pipe if the latter is made of plastic material.
- Do not use screws to fasten together any flue pipe elements or any PP air inlet elements.
- Do not bond piping elements together using glue (e.g. silicone) or foam (e.g. PUR).

General remark

- For safety reasons and to make assembly easier, it is recommended to prefer the use of concentric flue pipes when possible.
- It is recommended to isolate the flue piping in damp rooms to prevent condensation water from forming on the piping and drip.
- When cutting the pipes to dimension, make sure to cut squarely and deburr the edges to prevent seals from being incorrect or damaged.
- To make piping assembly easier, exclusively use a mixture of water and soap (1%) on the extremity of the pipe to be fit in.
- When fitting metal flue pipes, make sure to always fit the pipe into the sleeve to the end stop.
- When fitting plastic flue pipes, make sure to allow material expansion by leaving about 10 mm between the pipe end and the sleeve end stop.
- Make sure to install the piping without any strain.
- Make sure to install an inspection opening in the flue system.
- When connecting the flue pipes, make sure not to exceed the maximum length recommended for the product, otherwise the system power might decrease.
- ACV-approved components will be used for the chimney connection. Failure to do so will make any warranty claim void.
- For C63 connection type (not allowed in Belgium), make sure to use the correct piping material according to the resistance to temperature, pressure, chemical composition of flue, condensation and soot. A code (as explained in EN 1443), marked on the pipe, allows to determine if the material complies with the flue system requirements.

Perform Chimney installation according to the data available in section *"Chimney Characteristics" on page 26*

GAS CONNECTION

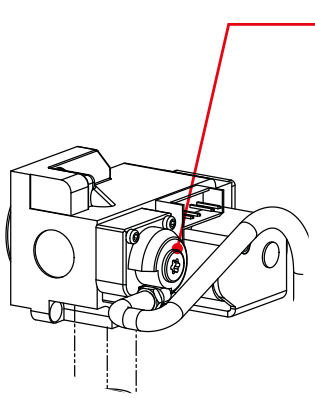
RECOMMENDATIONS FOR GAS CONNECTION

Essential recommendations for safety

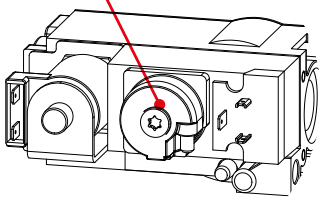
- The gas connection must comply with all applicable local standards and regulations, and the circuit will be equipped with a gas pressure regulator as required.
- Do not check for gas leaks with an open flame. Use a gas detection device or bubble test.
- The gas burners are factory preset for use with natural gas [equivalent to G20]. Do not adjust or attempt to measure gas valve outlet pressure. The gas valve is factory-set for the correct outlet pressure and requires no field adjustment.
- 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.
- In Belgium, a conversion kit is available as a separate accessory and the conversion process must be carried out by Groupe Atlantic Belgium. Please contact Groupe Atlantic Belgium for gas conversion.
- The gas orifice installed on the boiler must never be modified or replaced with a different size orifice, except in the case of a gas conversion process, which shall be performed by a qualified professional according to the provided procedure and requirements.
- 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) boilers.
- Do not change the OFFSET (A) setting of the gas valve: it is factory-preset and sealed.

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 that the gas type and pressure from the distribution network are compatible with the appliance settings. Refer to the product type plate.
- 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).



HeatMaster® 25 - 35 - 45 - 70 - 85 Evo 2



HeatMaster® 120 Evo 2

CONVERSION TO PROPANE

General remark

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 installation of an orifice and adjustments and shall be performed by a qualified professional. In Belgium, this conversion procedure can only be carried out by ACV/Groupe Atlantic Belgium personnel. Please contact ACV/Groupe Atlantic Belgium for further information.

Set-up conditions

- External power supply isolated
- Gas supply closed
- Upper front panel and top cover of the boiler open, refer to **ML manual**.

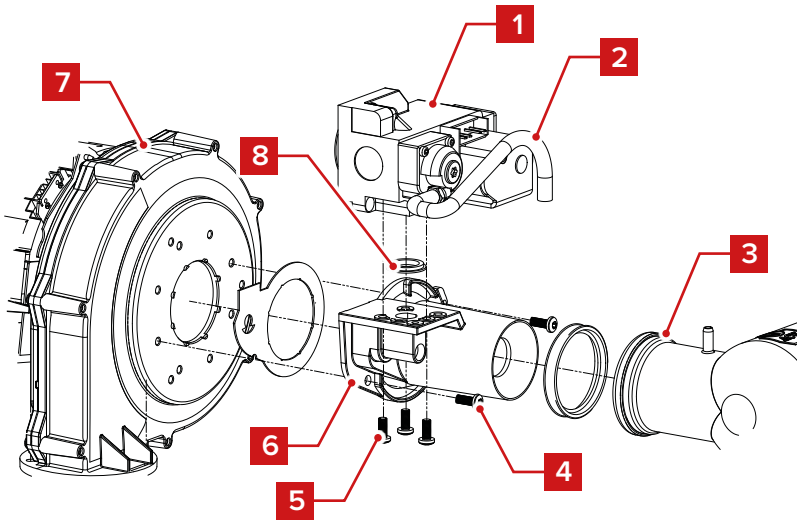
Procedure of orifice installation (25 to 85 kW models)

1. Release the gas pipe.
2. Remove the power supply plug from the gas valve (**1**).
3. Disconnect the compensation hose (**2**) from the gas valve (**1**) and air inlet (**3**). Retain for reinstallation.
4. Disconnect the air inlet (**3**) from the venturi (**6**).
5. Remove the gas valve/venturi assembly from the fan (**7**) by releasing two screws (**4**). Retain the screws for reinstallation.
6. Remove the gas valve (**1**) from the venturi (**6**) by releasing three screws (**5**). Retain the screws for reinstallation.
7. Install the orifice (**8**) in the center of the O-ring.

Make sure you position the O-ring correctly.

8. Reassemble the gas valve/venturi assembly, following the same procedure in reverse order, and torque the three gas valve screws (**5**) and the 2 venturi screws (**4**) at 3.5 to 4 Nm.
9. Reinstall the air inlet (**3**).
10. Reconnect the compensation hose (**2**) to the gas valve (**1**) and air inlet (**3**).
11. Reconnect the gas pipe connection.
12. Reconnect the power supply plug(s) to the gas valve.
13. Install the conversion stickers, see next page.

Evo 2 Models	Gas nat. orifice dia. (mm)	Propane orifice dia. (mm)
25 - 35 kW	—	5.2
45 kW	—	6.0
70 - 85 kW	—	6.8



HM 25 - 35 - 45 - 70 - 85 Evo 2

Procedure of Orifice Replacement (120 kW models)

1. Release the gas pipe.
2. Remove the power supply plug(s) from the gas valve (**11**).
3. Disconnect the compensation hose (**10**) from the gas valve (**11**) and the air inlet (**9**). Retain for reinstallation.
4. Disconnect air inlet pipe (**9**) from bracket (**4**).
5. Release two screws (**8**) securing the air inlet bracket (**4**) to the venturi (**7**) and fan (**6**).
6. Release four screws to disconnect the gas pipe flange (**12**) from the gas valve (**11**). Retain hardware and O-ring for reinstallation.
7. Release one remaining screw from venturi (**7**) and remove gas valve assembly (gas valve, elbow and venturi) from fan (**6**). Retain hardware and O-ring for reinstallation.
8. Release four screws (**5**) to disconnect the elbow flange (**1**) from the venturi (**7**). Retain for reinstallation.
9. Replace the orifice (**2**) with the new one in the center of the O-ring (**3**).

☞ **Make sure you position the orifice correctly (shouldered face turned towards the venturi, flat face turned towards the gas valve).**

10. Maintaining the O-ring (**3**) and orifice (**2**) in position in the venturi (**7**), install the elbow flange (**1**) on the venturi (**7**) using four retained screws (**5**). Torque at 3.5 to 4 Nm.
11. Install gas valve assembly on fan (**6**) with O-ring, using one retained screw.
12. Install gas pipe flange (**12**) on gas valve (**11**) using four retained screws. Torque at 3.5 to 4 Nm.
13. Install air inlet bracket (**4**) on venturi (**7**) using two retained screws (**8**).
14. Torque the three screws maintaining the venturi to the fan at 3.5 to 4 Nm.
15. Install air inlet (**9**) on bracket (**4**).
16. Reconnect compensation hose (**10**) to gas valve and air inlet (**9**).
17. Reconnect the gas pipe connection.
18. Reconnect the power supply plug(s) to the gas valve (**11**).

Sticker Placement

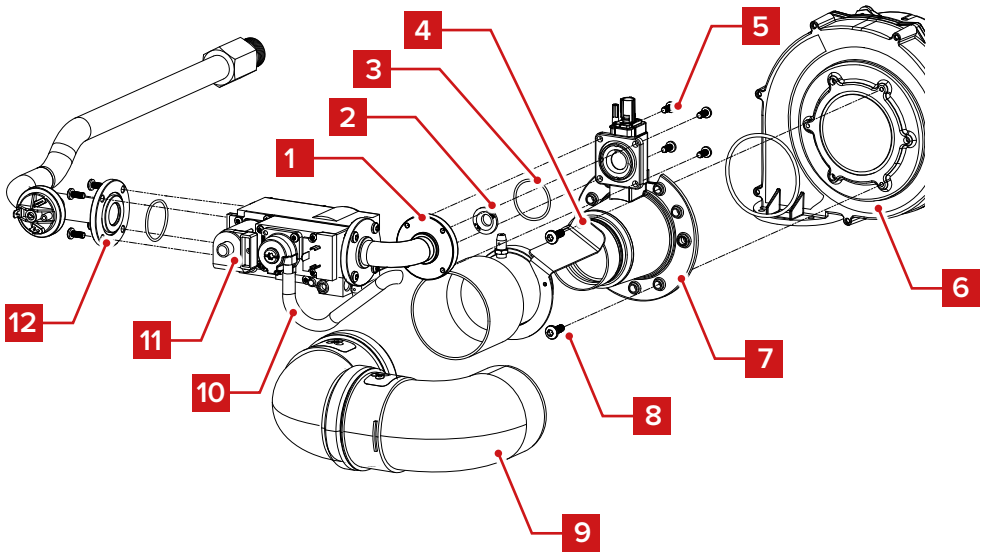
☞ **Make sure to place the stickers as requested. Failure to comply can cause injuries or damage to the equipment.**

- Stick the yellow sticker at the back of the boiler and check the box to indicate the type of gas now used with the appliance.
- Stick the provided G31 data plate on the existing data plate (back of the appliance), or the corrective stickers (Belgium only).

Follow-on tasks

1. Start the boiler. Refer to *"Starting up the Boiler" on page 48*.
2. Change the appliance code through the Installer menu: **CH&DHW Settings/Boiler Settings/Appliance Code**. Refer to the "Installer's handbook for Evo 2 models" for more information.
3. Carry out the CO_2 adjustment, See *"Checking and Adjusting the Burner" on page 49.*
4. Reseal the offset and the throttle on the gas valve, as required.
5. Close all open panels, see the ***ML Book.***

Evo 2 Models	Gas nat. orifice dia. (mm)	Propane orifice dia. (mm)
120 kW	10.7	7.8



HM 120 Evo 2

SAFETY INSTRUCTIONS - HYDRAULIC CIRCUITS

Essential instructions for safety

- If the appliance is not equipped with one, the heating circuit of the system must be fitted with an approved safety pressure relief valve, according to the pressure mentioned on the type plate.
- Please refer to the applicable local regulations for the installation of the required safety accessories in the hydraulic circuits. Please contact your ACV/Groupe Atlantic representative for more information.
- Use a two-wrench method when tightening field piping onto the appliance piping connections. Use one wrench to prevent the appliance connections from turning and the second to tighten field piping. Failure to support the appliance piping connections could damage piping or cause a leak.
- 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.
- Hot water can cause scalding! The temperature of the domestic hot water can be adjusted up to 75 °C in the appliance. However, the temperature of the domestic hot water at the drawing off point must comply with local regulations.
- Therefore the installation of a pre-set thermostatic mixing valve is recommended 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.
- 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.
- **In the UK, the components used to seal the connections must be WRAS or equivalent certified products.**

General Remark

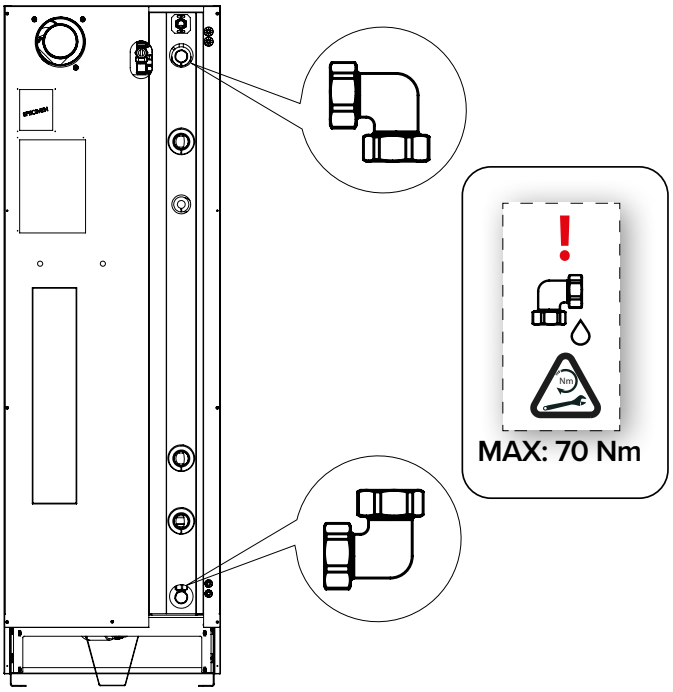
- At installation of domestic piping, ensure that the internal connection elbow is correctly tightened before installing the pipes. Retighten as required.
- During commissioning and once the system is pressurized, check for water leaks. Tighten if necessary.

Essential instructions for the correct operation of the appliance

- Make sure that the mains water used to fill the appliance has a minimum pressure of 0.12 MPa (1.2 bar).
- Make sure to install a pressure reducing valve set at 0.45 MPa (4.5 bar) if the mains supply pressure is in excess of 0.6 MPa (6 bar).
- The diameter of the safety valve drain pipe should never be reduced or changed.
- Flush the system before connecting the domestic hot water circuit. Refer to the installation instructions.
- If the appliance is not equipped with one, make sure to install an expansion vessel in the primary circuit, which is adapted to the appliance power/size and the type of system.
- 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).

General remark

- 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.
- The circuit illustrations are basic principle diagrams only.



G3 REQUIREMENTS AND GUIDANCE - UK ONLY

In the UK, for installation of Evo 2 model appliances directly onto the mains supply of water, ACV/Groupe Atlantic offer bespoke unvented kits which have been sized to the requirements of each individual appliance, and contain all of the mandatory components you need to comply with Building Regulations.

Unvented kits provided for Evo 2 models include:

- **a 25L expansion vessel & mounting bracket,**
- **a 28mm combined pressure reducing valve (0.35 MPa [3.5 bar]) & expansion relief valve (0.6 MPa [6 bar]),**
- **a tundish,**
- **a flexi hose.**

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.

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.

Essential instructions for safety

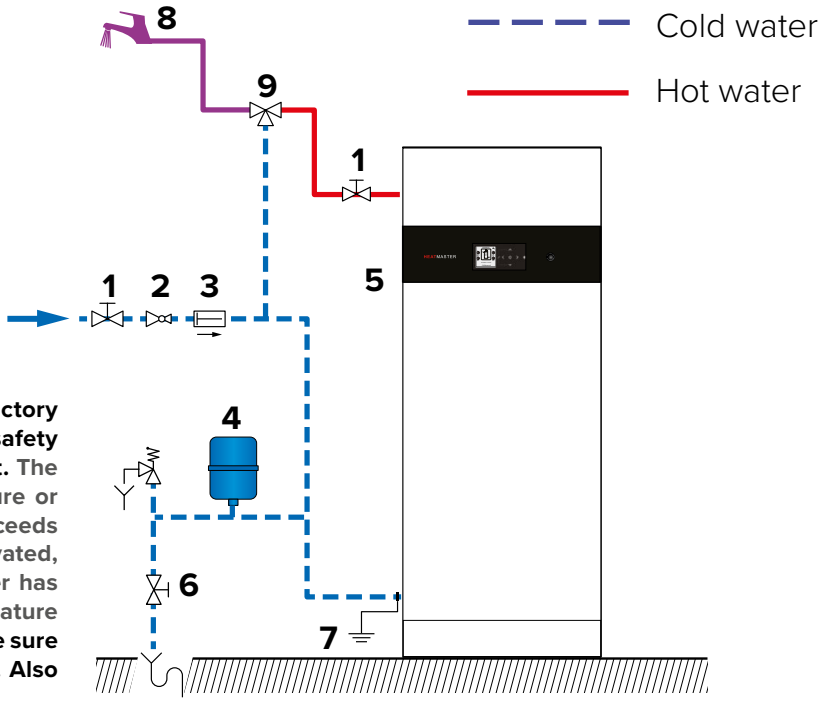
- **The temperature/pressure relief valve should only be replaced by a competent person.**
- **No control or safety valves should be tampered with or used for any other purpose.**
- **The discharge pipe should not be blocked or used for any other purpose.**
- **The tundish should not be located adjacent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

CONNECTION OF THE DHW CIRCUIT

Typical installation with internal DHW tank

Description

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



***This appliance is equipped from factory with a Temperature and Pressure safety valve installed on the DHW circuit.** The T&P valve will open if the pressure or temperature within the tank exceeds the valve limit. If the valve is activated, it will remain open until the water has dropped below the unsafe temperature and pressure limit. **In the UK, make sure to comply with G3 requirements. Also refer to information above.**

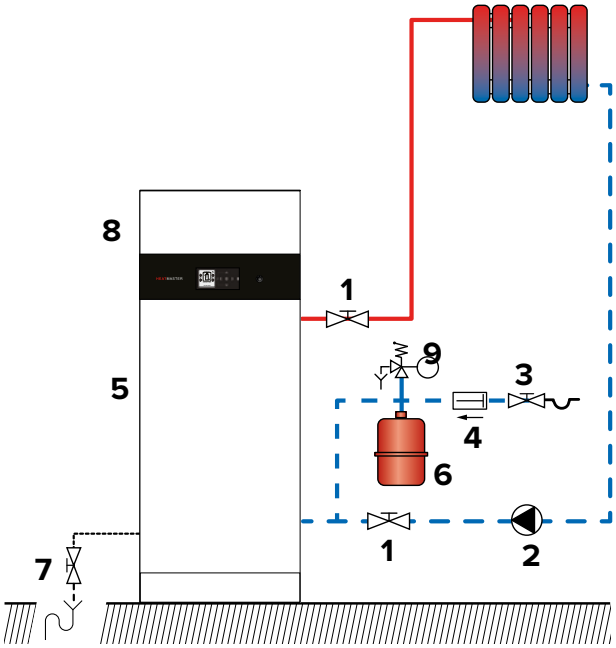
CONNECTION OF THE HEATING CIRCUIT

For additional system configurations, refer to *"Configuration and system set-up" on page 44* **and to the Installer's Handbook.**

Typical connection - high temperature

Description

1. Isolating valve
2. Heating pump
3. Filling valve
4. Check valve
5. Safety valve (provided)
6. Expansion vessel
7. Drain valve
8. Automatic air vent (built-in)
9. Manometer



Cold water

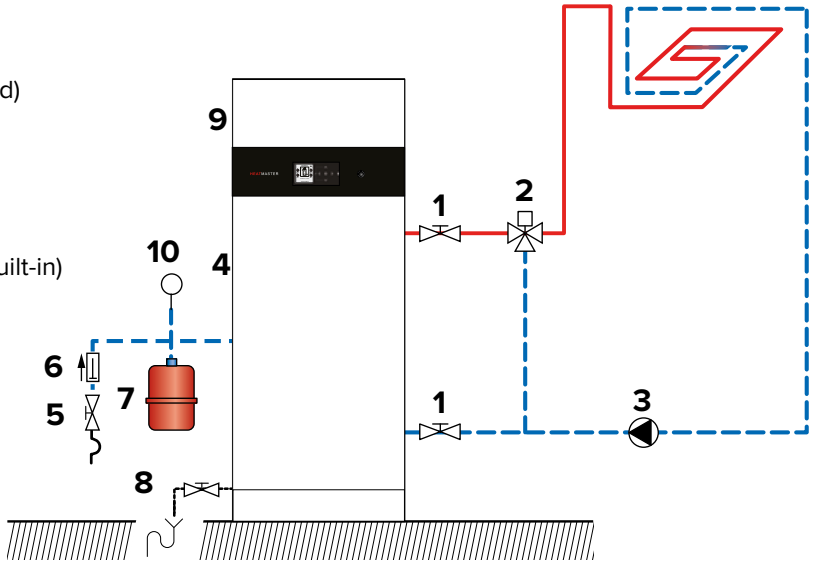
Hot water

Optional accessories	Description
Room thermostat	
High temperature kit DN 25 (HM 25 / 35 / 45 Evo 2)	**Includes a heating pump, two isolating valves, a check valve and two thermometers.**
High temperature kit DN 32 (HM 70 / 85 / 120 Evo 2)	**Includes a heating pump, two isolating valves, a check valve and two thermometers.**

Typical connection - low temperature

Description

1. Isolating valve
2. 3-way mixing valve
3. Heating pump
4. Safety valve (provided)
5. Filling valve
6. Check valve
7. Expansion vessel
8. Drain valve
9. Automatic air vent (built-in)
10. Manometer



Accessory	Description
Room thermostat	
Contact thermostat	Mandatory to protect all floor heating circuits.
Low temperature kit DN 25 (HM 25 / 35 / 45 Evo 2)	Includes a heating pump, two isolating valves, a check valve, two thermometers, a 3-way valve with built-in bypass and a servomotor.
Low temperature kit DN 32 (HM 70 / 85 / 120 Evo 2)	Includes a heating pump, two isolating valves, a check valve, two thermometers and a 3-way valve with built-in bypass.
Servomotor	Motor for the 3-way valve provided with the low temperature kit.

Applications with Water Hammer Effect (e.g. car wash)

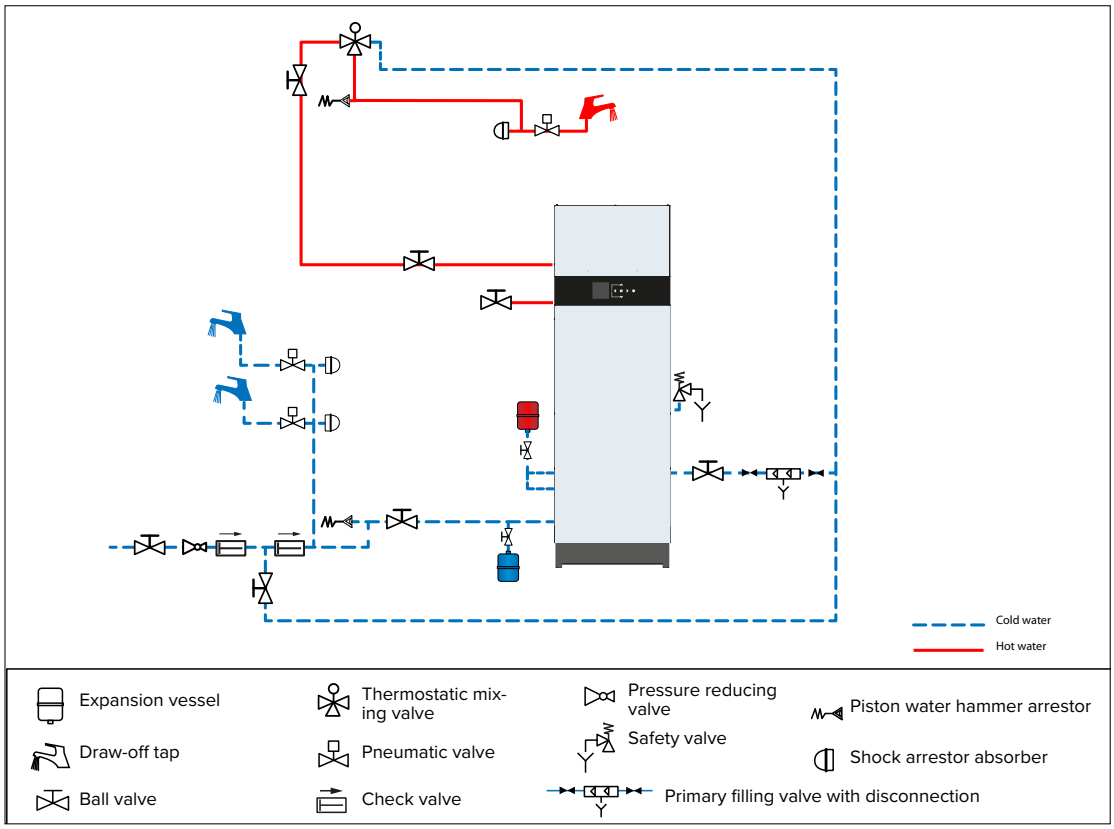
When the appliance is used in applications where water hammer effect can be severe due to the frequent and sudden opening/closing of valves, (e.g. car wash systems, etc.), devices should be installed in the system to counter this effect and prevent damage from occurring to the piping/appliance.

The water hammer effect is caused by shock waves running through the system when the flow rate is changed suddenly (e.g. when a valve is closed/ opened suddenly). This induces a surge/sudden fall in pressure, which creates noise and sometimes movement in the system piping.

The pressure wave created in these circumstances can be up to three times greater than the standing system pressure. This can damage the piping and the appliance.

It is therefore strongly recommended to install shock arrestor absorber and/or water hammer arrestor devices in the hydraulic system.

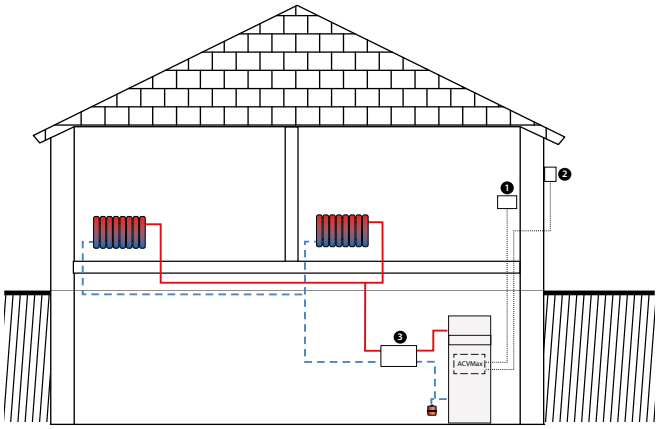
To determine the correct devices to be installed in the system for your application type and size, please contact your ACV/Groupe Atlantic Customer Support.



ACV/Groupe Atlantic shall not be liable for any special, indirect, incidental or consequential damages if the recommendations herein are not complied with at installation of the appliance in such systems.

CONFIGURATION AND SYSTEM SET-UP

Basic Configuration - HeatMaster 25 Evo 2: High Temperature Heating Circuit Controlled by Room Thermostat and Optional Outdoor Sensor.



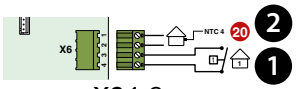
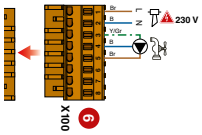
Block diagram

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

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.

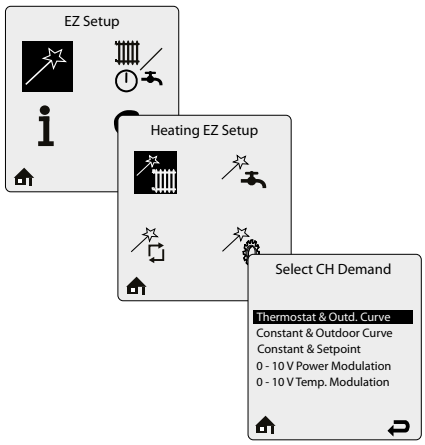
The priority of the internal domestic hot water tank of the boiler (DHW circuit not shown here) is always active.

ITEM	DESCRIPTION	QTY	ELECT. TERMINALS TO CONNECT TO**
1	**Room thermostat**	1	**X6** 3&4  **X6** 1&2
2	**Outdoor temperature sensor, 12kΩ**	1	
	2 circuit manifold : Max power : 70 kW, With built-in wall mounts.	1	--
3	**High temperature kit :** Includes: a circulator pump, two isolation valves, a check valve and two thermometers.	2	 **X100** 3 to 8
	By-pass kit : To read the flow rate more easily. To be installed in the HT or LT circuit, as required.	1	--

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

** Refer to the ML book for the correct Wiring Diagrams, and to *"Electrical Characteristics" on page 21*.

On the ACVMax Touch, set as follows:

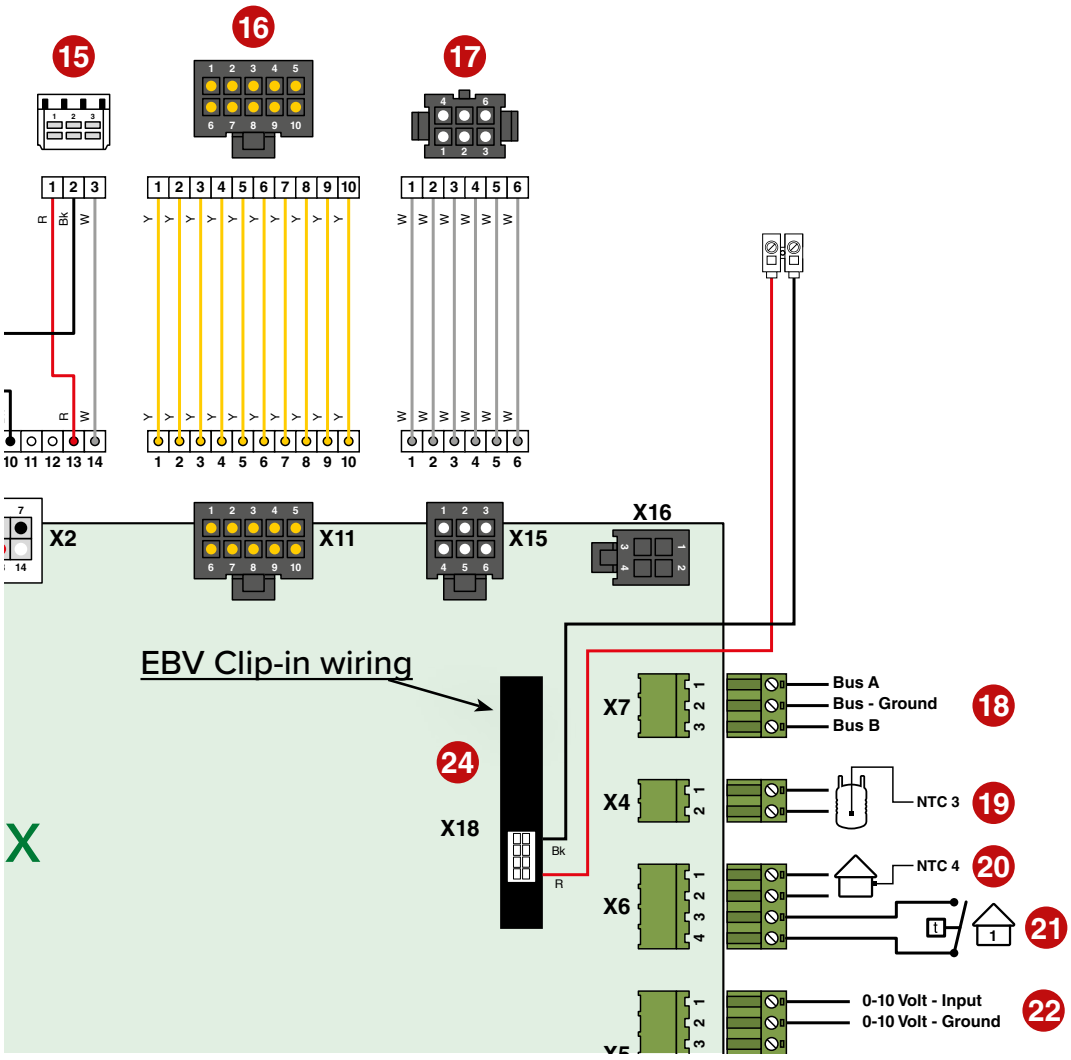


Cascade Configuration, Controlled by EBV Controller

The control Unit (EBV Controller) is used to control a HeatMaster Evo 2 Cascade. The connection is made through the EBV Clip-in wiring provided with the Control Unit.

Please connect on ACVMax board X18 and route wires to EBV equipment.

For additional information and specific system configurations, please contact your ACV/Groupe Atlantic Customer Support.



SAFETY INSTRUCTIONS FOR STARTING UP

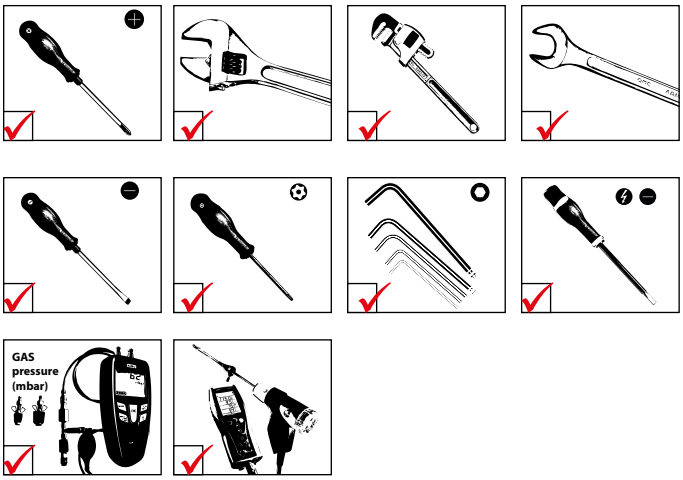
Essential instructions for safety

- 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.
- If there is a drain assembly, make sure that the condensate drain assembly is filled with water before starting up the boiler. Fill with water as necessary.
- Make sure that all connections are made and tight.

General remark

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

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

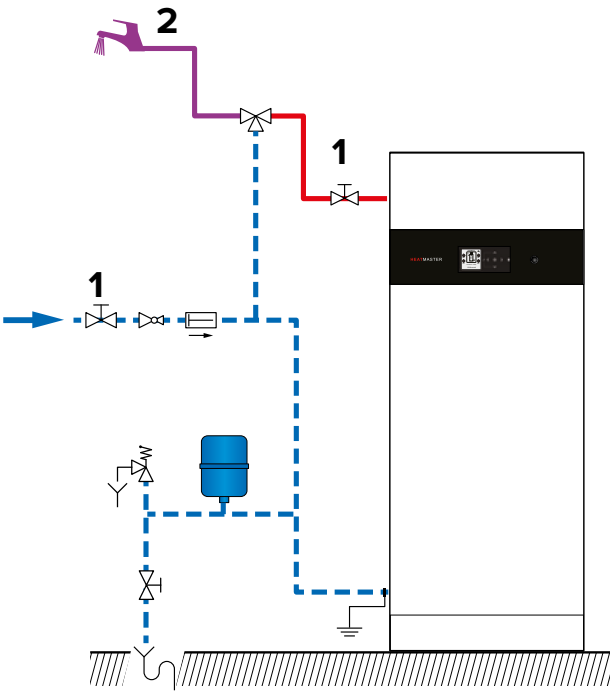
Put the DHW tank under pressure before pressurizing the heating (primary) circuit.

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.

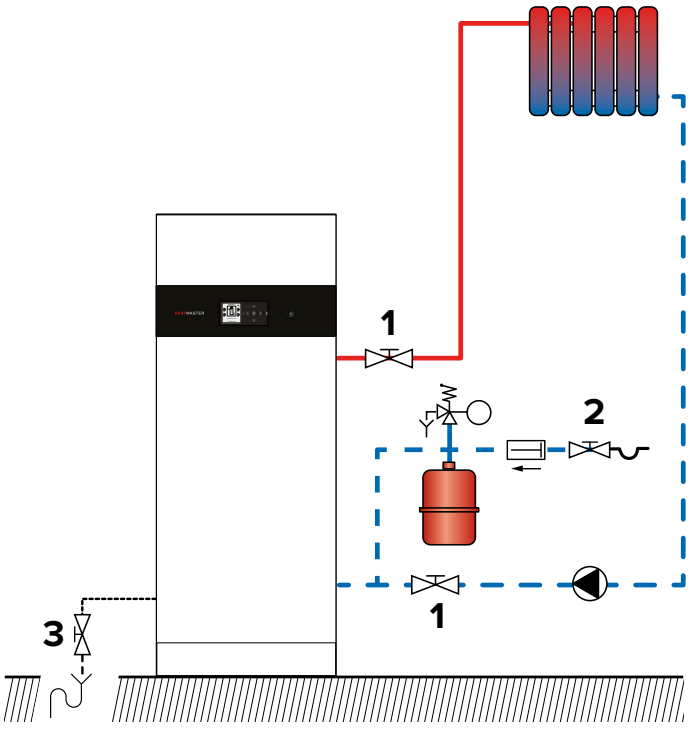


Cold water

Hot water

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. Once the system is bled from air, bring the pressure to the static pressure between 0.15 and 0.2 MPa (1.5 and 2 bar).
6. Close the filling valve (**2**).
7. Disconnect filling device from water supply.*



Follow-on tasks

1. Check there is no leak.

The drain valve is located underneath and the bottom front cover needs to be removed to get access to it.

* 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

Before operating the appliance, make sure that the primary circuit is full of water and has the minimum recommended pressure, even if no heating circuit is installed. Failure to comply can damage the equipment.

1. Check that there is no gas leak.
2. Depress 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 the procedure on the right.
6. Set the central heating temperature to the required value using the control panel. Refer to *"Controller Set-up Guide" on page 8* and to the Installer's Handbook.
7. After 5 minutes of operation, bleed the heating circuit until all air is evacuated and restore a 0.15 MPa (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 18*).

Set-up conditions

- Front top panel and top panel removed. See ML Book.
- Operating boiler

Procedure

1. Check if the ACVMAX parameters are set to meet the user's requirements (refer to *"Controller Set-up Guide" on page 8*), and change them if required.
2. Put the appliance to maximum power as follows:
   - Access the Installer menu by touching the up and down arrows on the control panel simultaneously for 5 seconds.
   - Enter the installer code when prompted (Refer to the Installer's Handbook for Evo 2 models if required).
   - From the Installer menu, select Manual Operation ( ).
   - Set FAN to 100% using the right arrow on the control panel.



The function remains active for 10 minutes.

3. Allow the appliance to stabilize for a few minutes.
4. Using a pressure tester, check that the dynamic gas pressure at the gas valve is at least 18 mbar.
5. Allow the appliance to heat for a few minutes until it reaches at least 60°C.
6. Measure the burner combustion by placing the flue gas analyzer probe in 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.
7. If the CO_2 value differs by more than 0.3% (HM 25 to 85 Evo 2) or 0.2% (HM 120 Evo 2), carry out the CO_2 adjustment procedure opposite.
8. Then put the boiler to the minimum power as follows:
   - From the Installer menu, select Manual Operation ( ).
   - Set FAN to 0% using the left arrow on the control panel.
9. Allow the boiler to stabilize for a few minutes.
10. Measure the burner combustion and compare the CO and CO_2 values displayed with those indicated in the combustion characteristics table.
11. If the CO_2 value differs by more than 0.3% (HM 25 to 85 Evo 2) or 0.2% (HM 120 Evo 2), contact ACV/ Groupe Atlantic's customer's support.

CO_2 Adjustment Procedure

To adjust the CO_2 rate, rotate the throttle screw (**1**) in small steps :

on HM 25 to 85 Evo 2:

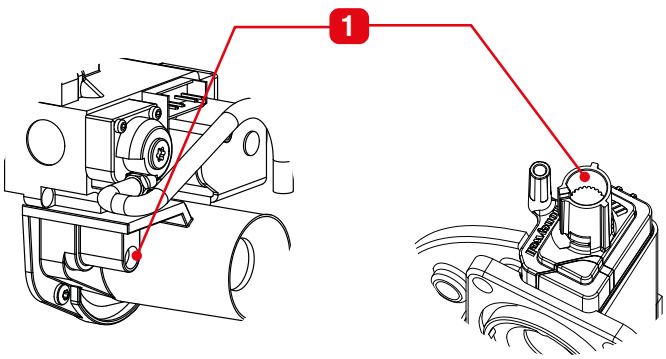
- to the left (counterclockwise) **to increase the** CO_2 rate.
- to the right (clockwise) **to decrease the** CO_2 rate.

On HM 120 Evo 2:

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

Follow-on tasks

Reinstall all removed access panels. See ML book



HeatMaster® 25 - 35 - 45 - 70 - 85 Evo 2 HeatMaster® 120 Evo 2

SAFETY INSTRUCTIONS FOR MAINTENANCE



Essential instructions for the electrical safety

- Before opening the boiler for maintenance, 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 instructions for safety

- Water flowing out of the drain valve may be extremely hot and could cause severe scalding.
- Do not use solvents to clean any of the burner components. The components could be damaged, resulting in unreliable or unsafe operation.
- Check the tightness of the flue pipe connections.



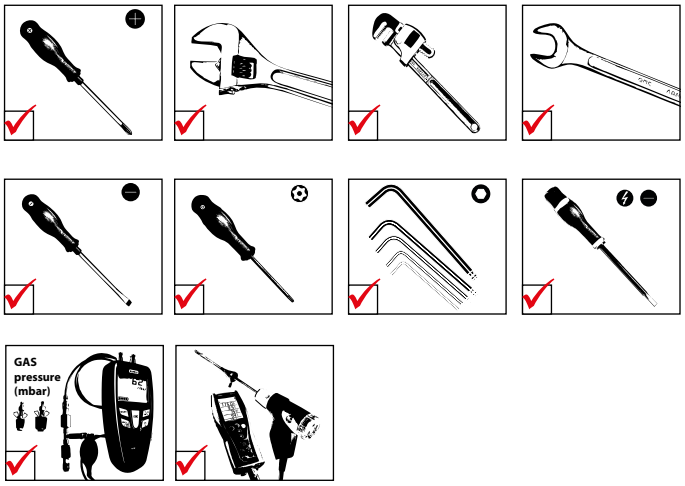
Essential instructions for the correct operation of the appliance

- It is recommended to have the boiler and the burner serviced at least once a year or every 1,500 hours by a qualified technician, preferably at the start of the heating season. 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.
- Make sure to replace any gaskets or seals on the removed components before reinstalling them.
- To ensure maximum efficiency and reliability of the unit, it is recommended that the end-user perform the periodic checks mentioned in the Safety section of this manual.
- Control the tightness of the hydraulic circuit connections.
- Make sure to apply the correct torque value when tightening components, according to the table below.

TORQUE VALUES

	Tightening torque (Nm)	
Description	Min.	Max
Burner flange screws	5	6
Electrode screws	3	3.5
Venturi screws	3.5	4
Gas valve screws	3.5	4

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 heating system water pressure is at least 0.1 MPa (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 CO_2), see *"Checking and Adjusting the Burner" on page 49*.		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 Electrode" on page 53*.			X
10. Remove the burner and clean the exchanger, see *"Removal and Installation of the Burner - HM 25 to 85* Evo *2" on page 54* or *or "Removal and Installation of the Burner - HM 120* Evo *2" on page 55* and *"Cleaning the Exchanger" on page 56*.			X
11. Check that the condensate trap is not clogged. If it is, remove it, clean it, and reinstall it i.a.w. *"Boiler Preparation" on page 34*.		X	
12. If a condensate neutralisation system is installed, check it and have it cleaned.	X	X	

DRAINING THE BOILER

Essential instructions for safety

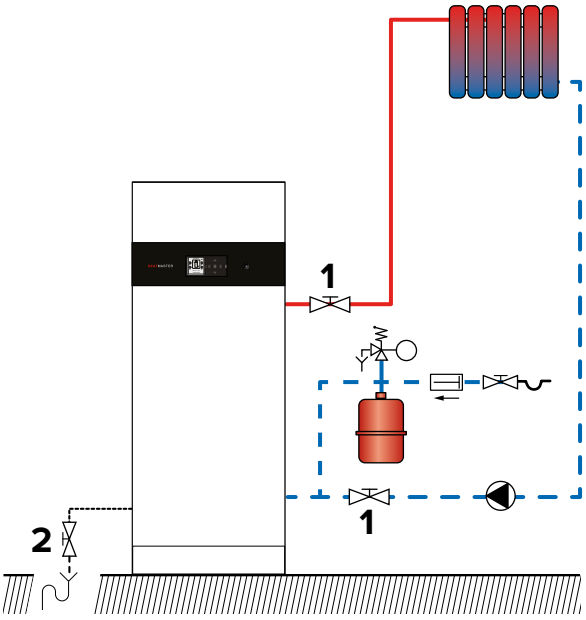
- **Before draining the DHW tank, drain the heating (primary) circuit or bring its pressure to 0 bar.**
- **Water flowing out of the drain valve may be extremely hot and could cause severe scalding. Keep people away from the hot water discharge.**

Set-up conditions

- Boiler switched off using the ON/OFF master switch
- External power supply isolated
- Fuel/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. Close the drain valve (**2**) once the heating circuit of the boiler is empty.

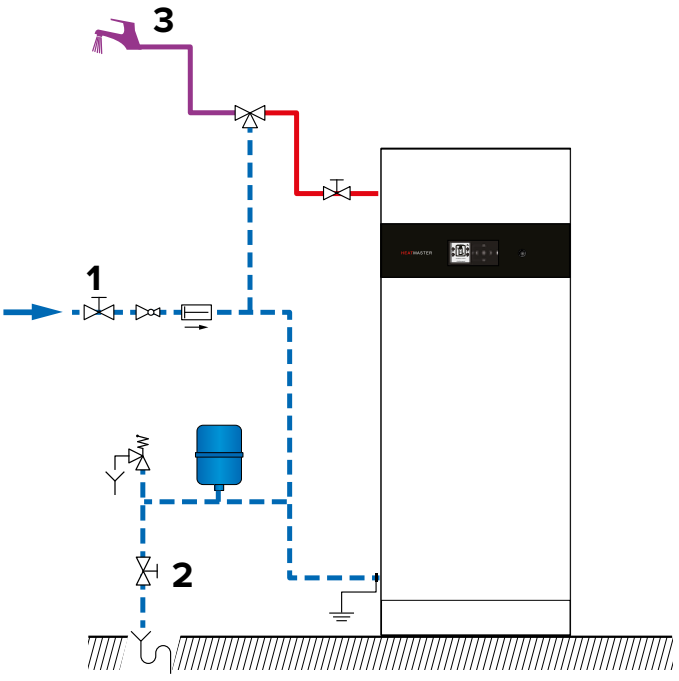


The drain valve is located underneath and the front cover of the base needs to be removed to get access to it. Refer to *"Boiler Preparation" on page 34* **for more information.**

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 ELECTRODE

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 and top panels open, refer to ML Book.

Removal procedure

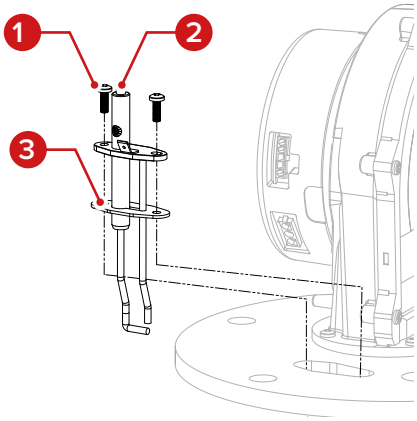
1. Disconnect the electrode grounding cable from the electrode.
2. Disconnect the electrode ignition cable from the electrode or the electrical box.
3. Remove two mounting screws (**1**) and retain them for reinstallation.
4. Remove the electrode (**2**) and the gasket (**3**).
5. Check the correct alignment of the electrode ends and that the gap corresponds to the values indicated on the figures below.
6. If the electrode is in bad condition, replace it.

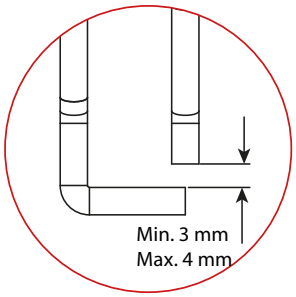
Installation procedure

1. Install a new gasket (**3**).
2. Install the electrode (**2**) using the two screws (**1**), torque i.a.w. *"Torque Values" on page 50*.

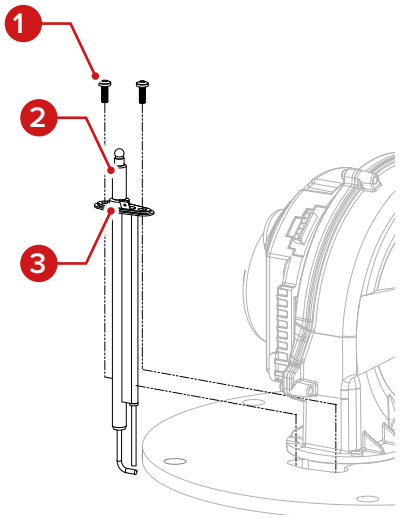
Follow-on tasks

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

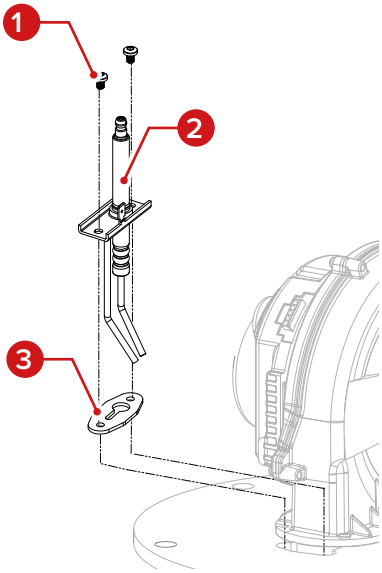


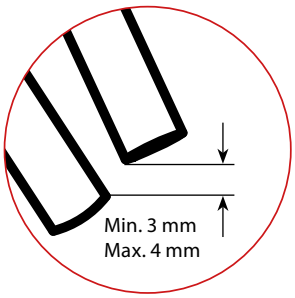


HeatMaster® 25 - 35 - 45 Evo 2



HeatMaster® 70 - 85 Evo 2





HeatMaster® 120 Evo 2

REMOVAL AND INSTALLATION OF THE BURNER - HM 25 TO 85 EVO 2

Set-up conditions

- Boiler shut down
- External power supply isolated
- Gas supply closed
- Front and top panels removed (refer to ML Book).
- Electrode removed or electrode grounding cable and ignition cable disconnected (refer to *"Removal, Check and Installation of the Electrode" on page 53*) .

Removal procedure

1. Disconnect all plugs from the fan assembly (**11**) and the gas valve (**2**) and any grounding cable, as required.
2. Disconnect the air inlet elbow (**3**).
3. Release the gas connection (**1**).
4. Using a socket wrench, release the burner hood (**8**) attaching hex. screws and retain them for reinstallation.
5. Lift the burner assembly and pull it out of the exchanger with its insulation block (**7**)..
6. If required, clean the exchanger, see *"Cleaning the Exchanger" on page 56*.
7. If not removed previously, remove, check and reinstall the electrode, refer to *"Removal, Check and Installation of the Electrode" on page 53*.

Installation procedure

1. Reinstall the burner assembly with its insulation block (**7**). into the exchanger.
2. Install the retaining screws of the burner hood (**8**) and fasten them in a crosswise pattern at the required tightening torque (refer to *"Torque Values" on page 50*).
3. Reconnect the gas connection (**1**).

When connecting the air inlet, make sure that the check valve (4) is correctly located at the elbow (3) end.

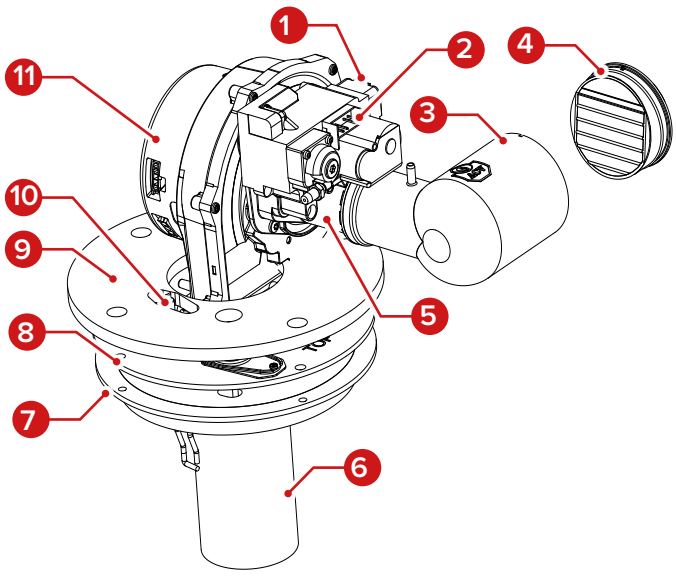
4. Reconnect the air inlet elbow (**3**).
5. Reconnect the plugs to the gas valve (**2**) and the fan assembly (**11**), and any disconnected grounding cable.

Follow-on tasks

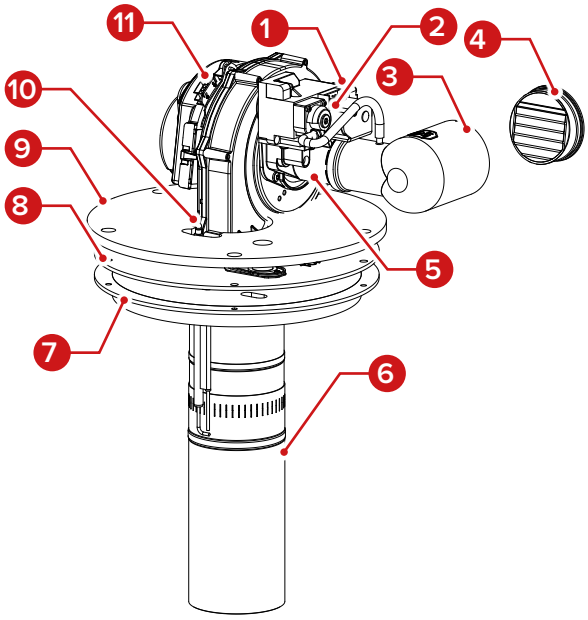
1. Install the electrode, or reconnect the electrode grounding cable and ignition cable, as required. Refer to *"Removal, Check and Installation of the Electrode" on page 53*.

Detail of the burner components

1.	Gas pipe connection to gas valve
2.	Gas valve with compensation hose
3.	Air inlet elbow(s)
4.	Air inlet check valve
5.	Venturi
6.	Burner tube
7.	Insulation block
8.	Burner hood
9.	Burner hood insulation
10.	Electrode
11.	Fan assembly



HeatMaster® 25-35-45 Evo 2



HeatMaster® 70-85 Evo 2

REMOVAL AND INSTALLATION OF THE BURNER - HM 120 EVO 2

Set-up conditions

- Boiler shut down
- External power supply isolated
- Gas supply closed
- Front and top panels removed (refer to ML Book).
- Electrode removed (refer to *"Removal, Check and Installation of the Electrode" on page 53*) .

Removal procedure

1. Disconnect all plugs from the fan assembly (**11**) and the gas valve (**2**) and any grounding cable, as required.
2. Release clamp and remove air inlet hose from elbow (**3**).
3. Disconnect the air inlet elbow (**3**) from the venturi (**5**).
4. Disconnect the gas connection (**1**) flange from the gas valve (**2**) by releasing four screws. Retain hardware for reinstallation.
5. Discard O-ring.
6. Using a socket wrench, release the burner hood (**8**) attaching hex. screws and retain them for reinstallation.
7. Lift the burner assembly and pull it out of the exchanger with its insulation block (**7**).
8. If required, clean the exchanger, see *"Cleaning the Exchanger" on page 56*.

Installation procedure

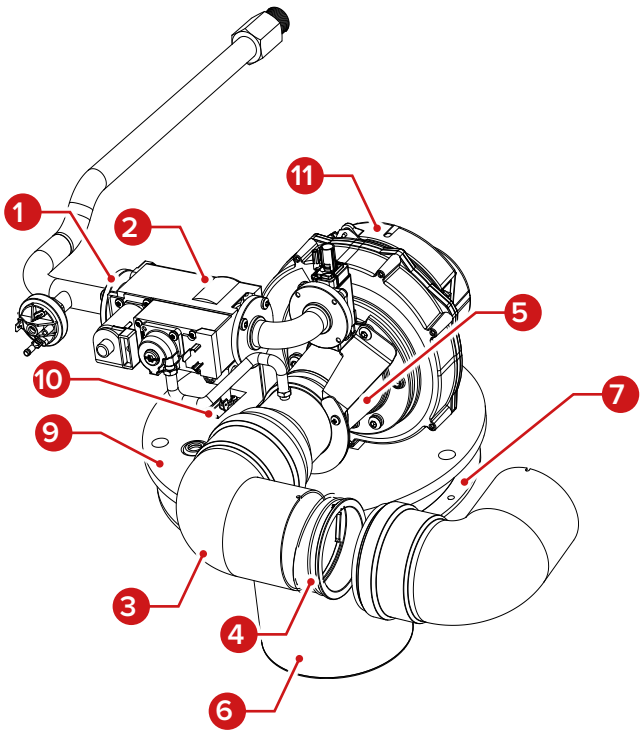
1. Reinstall the burner assembly with its insulation block (**7**) into the exchanger.
2. Install the retaining screws of the burner hood (**8**) and fasten them in a crosswise pattern at the required tightening torque (refer to *"Torque Values" on page 50*).
3. Install a new O-ring on the gas connection (**1**) flange.
4. Reconnect the gas connection (**1**) flange to the gas valve (**2**) using four retained screws.

When connecting the air inlet, make sure that the check valve (4) is correctly located between the two elbows (3).

5. Reconnect the air inlet elbows (**3**) to the venturi (**5**).
6. Install the air inlet hose on the elbow (**3**) and secure with retained clamp.
7. Reconnect the plugs to the gas valve (**2**) and the fan assembly (**11**), and any disconnected grounding cable.

Follow-on tasks

1. Install the electrode, refer to *"Removal, Check and Installation of the Electrode" on page 53*.



HeatMaster® 120 Evo 2

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 - HM 25 to 85* Evo 2*" on page 54, or "Removal and Installation of the Burner - HM 120* Evo 2*" on page 55*.
- Front and top panels open, refer to ML Book .

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 heat exchanger.
3. Remove and clean the condensate trap.
4. Reinstall the condensate trap, refer to *"Boiler Preparation" on page 34*.

Follow-on tasks

1. Reinstall the burner according to procedure *"Removal and Installation of the Burner - HM 25 to 85* Evo 2*" on page 54 or "Removal and Installation of the Burner - HM 120* Evo 2*" on page 55*.
2. Restart the boiler in accordance with the next procedure *"Restarting after Maintenance"*.

RESTARTING AFTER MAINTENANCE

Set-up conditions

- All removed components reinstalled
- All panels reinstalled. Refer to ***ML Book***
- 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 and flue gas leaks.
4. Check the gas pressure and CO_2 adjustment in accordance with *"Checking and Adjusting the Burner" on page 49*.

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 appliance 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 primary 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 primary 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. 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.
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.

Codes	Description of the fault	Solution for the fault
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 0.07 MPa (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.
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 necessary.
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 necessary.
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 necessary
E 86	**Pump hard fault**: Pump Failure	Pump Failure, check if pump PWM-feedback wire is properly connected, replace pump when necessary

Codes	Description of the fault	Solution for the fault
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 necessary.
E 89	**Incorrect Setting**: A parameter setting is outside the settings range.	1. Review primary/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.

ACV A BRAND OF GROUPE ATLANTIC

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ACV

EXCELLENCE IN HOT WATER

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25 - 35 - 45 - 70 - 85 - 120 Evo 2



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	Dimensions - Afmetingen - Abmessungen - Dimensiones - Dimensioni - Wymiary - Габаритные размеры
	Wiring diagrams - Schémas électriques - Elektrische schema's - Schaltplan - Esquemas eléctricos - schema elettrico - schematy połączeń - схемы подключения
	Information - Informatie - Informationen - Informaciones - Informazioni - Informacje - Информация
	Assembly - Assemblage - Montage - Montaje - Montaggio - Montaż - монтаж
	Gas Connection - Raccordement gaz - Gasaansluiting - Gasanschluss - Conexión de gas - Collegamento gas - Podłączenie gazu - Подключение газа
	Condensate trap (ball syphon) - Siphon (condensats) - Sifon - Kondensatfalle (Ball-Syphon) - Recogida de condensados (sifón de bola) - Sifone scarico condensa - Syfon kondensatu - Сифон для отведения конденсата
	Domestic Hot Water circuit - Circuit sanitaire - Kring sanitair warm water (SWW) - Warmwasserkreislauf -Circuito de agua caliente sanitaria - Acqua calda sanitaria - Obieg ciepłej wody - Контур ГВС
	Primary circuit - Circuit primaire - Primaire kring - Heizkreislauf - Circuito primario - Riscaldamento - Obieg grzewczy - Отопительный контур
	Electricity - Electricité - Elektriciteit - Elektrizität - Electricidad - Sotto tensione - Elektryczność - Электричество
	Alarm - Alarme - Alarma - Allarme - Сигнал “Авария”
	Disposal and recycling - Mise au rebut et recyclage - Verwijdering en recycling - Entsorgung und Recycling - Eliminación y reciclaje - Smaltimento e riciclaggio - wyrzucanie i recykling - Утилизация и переработка
 	Mise au rebut et recyclage des produits et notices (FRANCE uniquement) Consulter le livret FR.

	Essential instruction for safety (of persons and equipment) Consigne essentielle à la sécurité (des personnes et du matériel) Belangrijke instructies voor de veiligheid (van personen en materiaal) Grundlegende Hinweise für die Sicherheit (von Personen und Geräten) Instrucción esencial para la seguridad (de las personas y del material) Istruzione essenziale per la sicurezza (delle persone e delle apparecchiature) Najważniejsze instrukcje bezpieczeństwa (Bezpieczeństwo osób i sprzętu) Основные инструкция для обеспечения безопасности (безопасность лиц и оборудования)
	Essential instruction for electrical safety (electrical hazard) Consigne essentielle à la sécurité électrique (danger lié à la présence d'électricité) Belangrijke voorschriften met betrekking tot de elektrische installatie (elektrisch gevaar) Grundlegende Hinweise für die elektrische Sicherheit (elektrische Gefahr) Instrucción esencial para la seguridad eléctrica (peligro eléctrico) Istruzione essenziale per la sicurezza elettrica (pericolo shock elettrico) Najważniejsze instrukcje dla bezpieczeństwa elektrycznego (Niebezpieczeństwo porażenia). Основные инструкция по электрической безопасности (опасность поражения электрическим током)
	Essential instruction for the correct operation of the appliance or the system Consigne essentielle au bon fonctionnement de l'appareil ou de l'installation Belangrijke instructie voor een correcte werking van het toestel of de installatie Grundlegende Hinweise für die korrekte Arbeitsweise der Anwendung oder des Systems Instrucción esencial para el correcto funcionamiento del aparato o de la instalación Istruzione essenziale per il corretto funzionamento dell'apparecchio o dell'impianto Najważniejsze instrukcje dla prawidłowej pracy urządzenia Основные инструкция для корректного функционирования прибо ра или системы
	General remark - Remarque à caractère général - Algemene opmerking - Generelle Hinweise - Nota general - Nota generale - Uwaga ogólna - Общее замечание
	Safety valve connected to the sewage system - Soupape de sécurité raccordée à l'égout - Veiligheidsklep aangesloten op de riolering - Sicherheitsventil mit Verbindung an die Kanalisation - Válvula de seguridad que conectar a la red de alcantarillado - Valvola di sicurezza (con scarico convogliato) - Zawór bezpieczeństwa podłączony do kanalizacji - Сливное отверстие предохранительного клапана должно быть подключено к дренажной линии
	Connection to the sewage system - Raccordement à l'égout - Aansluiting op de riolering - Verbindung zu Kanalisation - Conexión a la red de alcantarillado - Collegamento allo scarico - Podłączenie do kanalizacji - Сливное отверстие должно быть подключено к дренажной линии
	Fragile - Breekbaar - Zerbrechlich - Frágil - Fragile - Ostrożnie - Хрупкое!
	Keep dry - Maintenir au sec - Droog bewaren - Trocken aufbewahren - Manténgase seco - Tenere al riparo da acqua e umidità - Chronić przed wilgocią - Хранить в сухом месте
	Keep standing up - Maintenir en position verticale - Rechtop bewaren - Aufrecht stehen lassen - Manténgase de pie - Mantenere in posizione verticale - Utrzymywać w pozycji stojącej - Располагать строго вертикально
	Danger of tipping over - Risque de basculement - Kantelgevaar - Kippgefahr - Riesgo de vuelco - Pericolo di ribaltamento - Niebezpieczeństwo przewrócenia - Не опрокидывать
	Hand truck or pallet truck required for transport - Utiliser un diable ou un transpalettes pour le transport - Steekwagen of palletwagen gewenst voor transport - Sackkarre oder Palettenhubwagen für Transport erforderlich - Use carretilla de mano o transpalet para el transporte - Carico pesante, utilizzare carrello a mano o transpallet per la movimentazione - Wózek ręczny lub paletowy wymagany do transportu - Использование ручной тележки для транспортировки

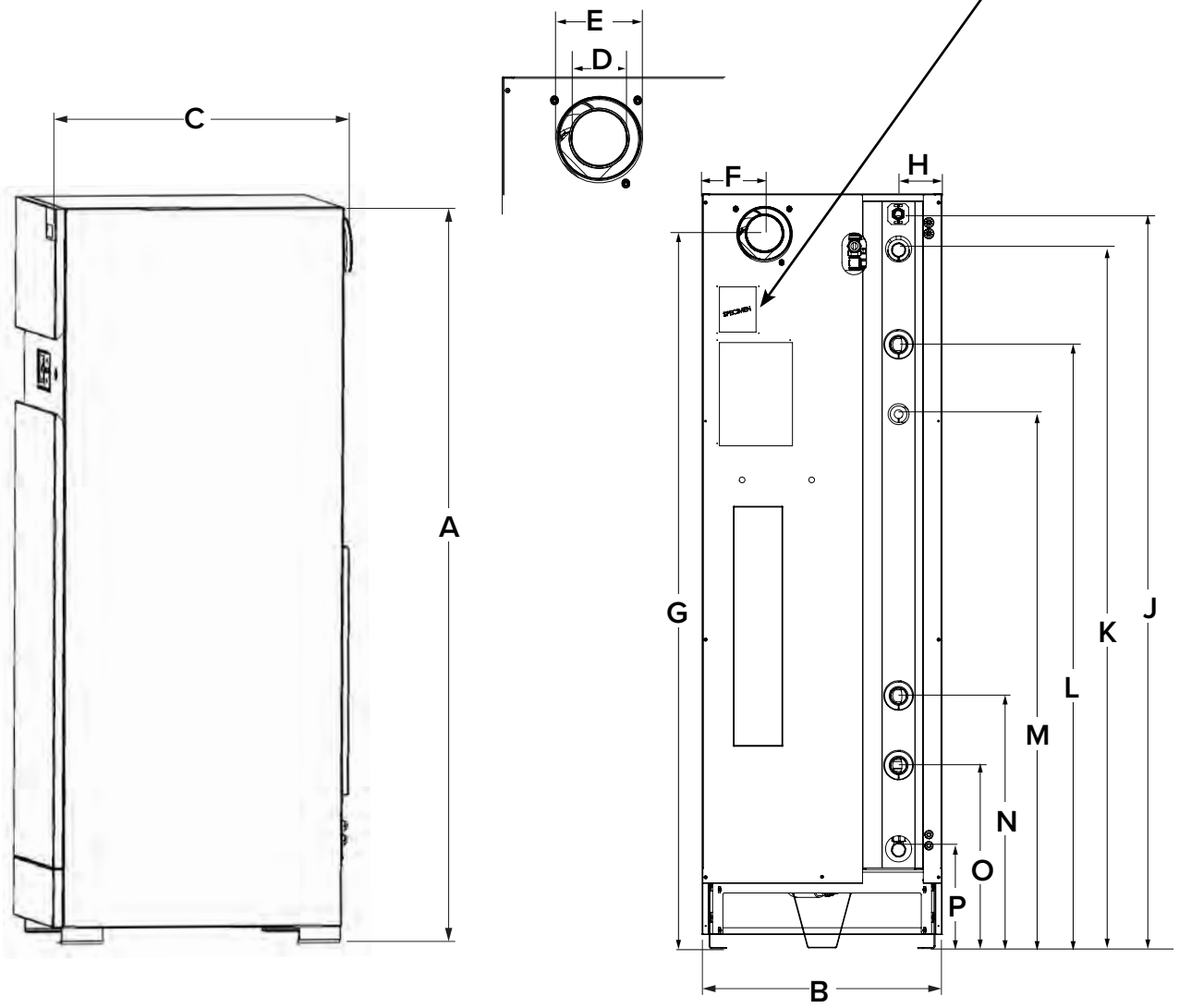
The part number (Code) and serial number (N°) of the appliance are indicated on its rating plate and must be provided to ACV in case of warranty claim. Failure to do so will make the claim void.

Le numéro d'article (Code) et le numéro de série (N°) de l'appareil sont repris sur sa plaque signalétique et doivent être transmis à ACV dans le cas d'un appel en garantie. À défaut, l'appel en garantie sera réputé nul.

Het serienummer (N°) en de artikelcode (CODE) zijn vermeld op de typeplaat van het product, deze informatie dient aan ACV medegedeeld te worden in geval van een beschadiging aan het toestel welke onder de garantie voorwaarden valt. In geval dat deze informatie niet kan verstrekt worden vervalt de garantie.

Die Produktnummer (Code) und die Seriennummer (N°) des Kessels, welche auf dem Typenschild angegeben sind, müssen ACV im Falle einer Beanstandung vorgelegt werden! Andernfalls wird die Beanstandung nichtig gemacht.





El número de pieza (Código) y el número de serie (N°) del aparato vienen indicados en la placa de la misma y deben ser comunicadas a ACV en caso de reclamación en garantía. En caso contrario, no se atenderá la reclamación.

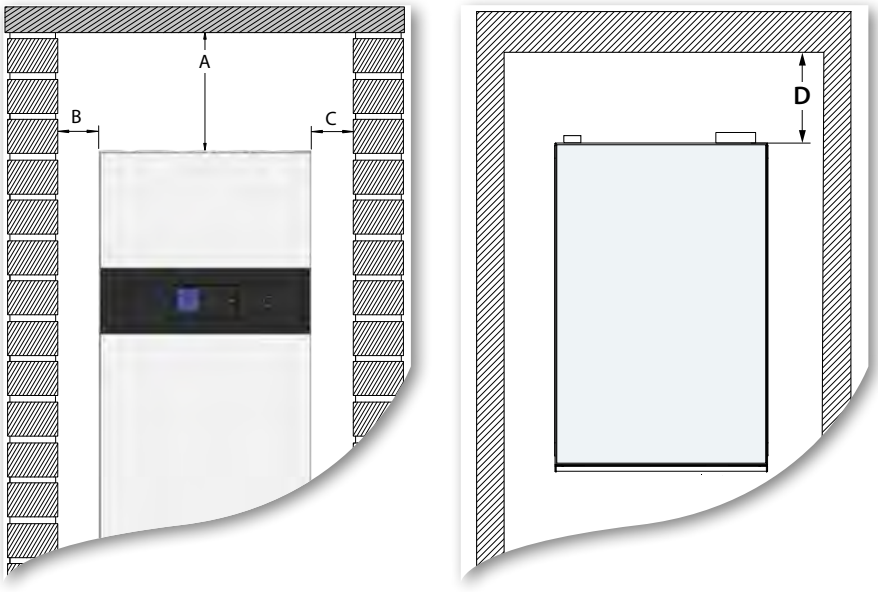
Il codice articolo (CODE) e la matricola (N°) dell'apparecchio indicati nella targhetta devono essere forniti ad ACV in caso di richiesta garanzia. In caso contrario non sarà possibile fare la verifica per la garanzia.

Kod urządzenia (CODE) i numer seryjny (N°) są podane na tabliczce znamionowej. Są one niezbędne w przypadku reklamacji urządzenia. Ich uszkodzenie czy usunięcie spowoduje utratę gwarancji.

Код и серийный номер устройства, указанные на заводском шильдике, должны быть представлены производителю при возникновении гарантийного случая. Без предоставления этой информации производитель в праве отказаться от гарантийных обязательств.

		HeatMaster Evo 2	
		25 - 35 - 45	70 - 85 - 120
A	mm/мм	1780	2170
B	mm/мм	600	690
C	mm/мм	745	825
D	mm/мм	80	100
E	mm/мм	125	150
F	mm/мм	150	180
G	mm/мм	1680	2055
H	mm/мм	110	125
J ( )	mm/мм	1730	2110
K ( )	mm/мм	1625	2015
L ( )	mm/мм	1415	1735
M ( )	mm/мм	1305	1535
N ( )	mm/мм	710	725
O (- Low temp - Basse temp. - Lage temp. - Niedertemp. - Baja temp. - Bassa temp. - obieg z mieszaczem - низкотемпературный отопительный конту)	mm/мм	460	525
P ( )	mm/мм	285	285
- ∅ [F]	“	1	1.1/2
- ∅ [M]	“	1	1
∅ [F] Low temp - Basse temp. - Lage temp. - Niedertemp. - Baja temp. - Bassa temp. - obieg z mieszaczem - низкотемпературный отопительный конту	“	1	1.1/2
- ∅ [M]	“	3/4	3/4
- ∅ [M]	“	1/2	1/2
Min. ∅ Flue pipe - cheminée - schouw - Abgassystems - chimenea - condotto fumi - kanał spalin - дымоотвода	mm/мм	80	100
Drained weight - Poids à vide - Leeg gewicht - Leergewicht - Peso a vacio - Peso a vuoto - Waga (pusty) - Macca пустого)	kg/кг	177	298

CLEARANCES / DÉGAGEMENTS / AFSTANDEN / ABSTÄNDE / DISTANCIAS / SPAZI LIBERI / ODSTĘPY/ ОСВОБОЖДЕНИЕ



HeatMaster® 25 - 35 - 45 - 70 - 85 - 120 Evo 2

A (mm/мм)	Std	400
	Min	300
B (mm/мм)	Std	800
	Min	600
C (mm/мм)	Std	400
	Min	250
D (mm/мм)	Std	600
	Min	400

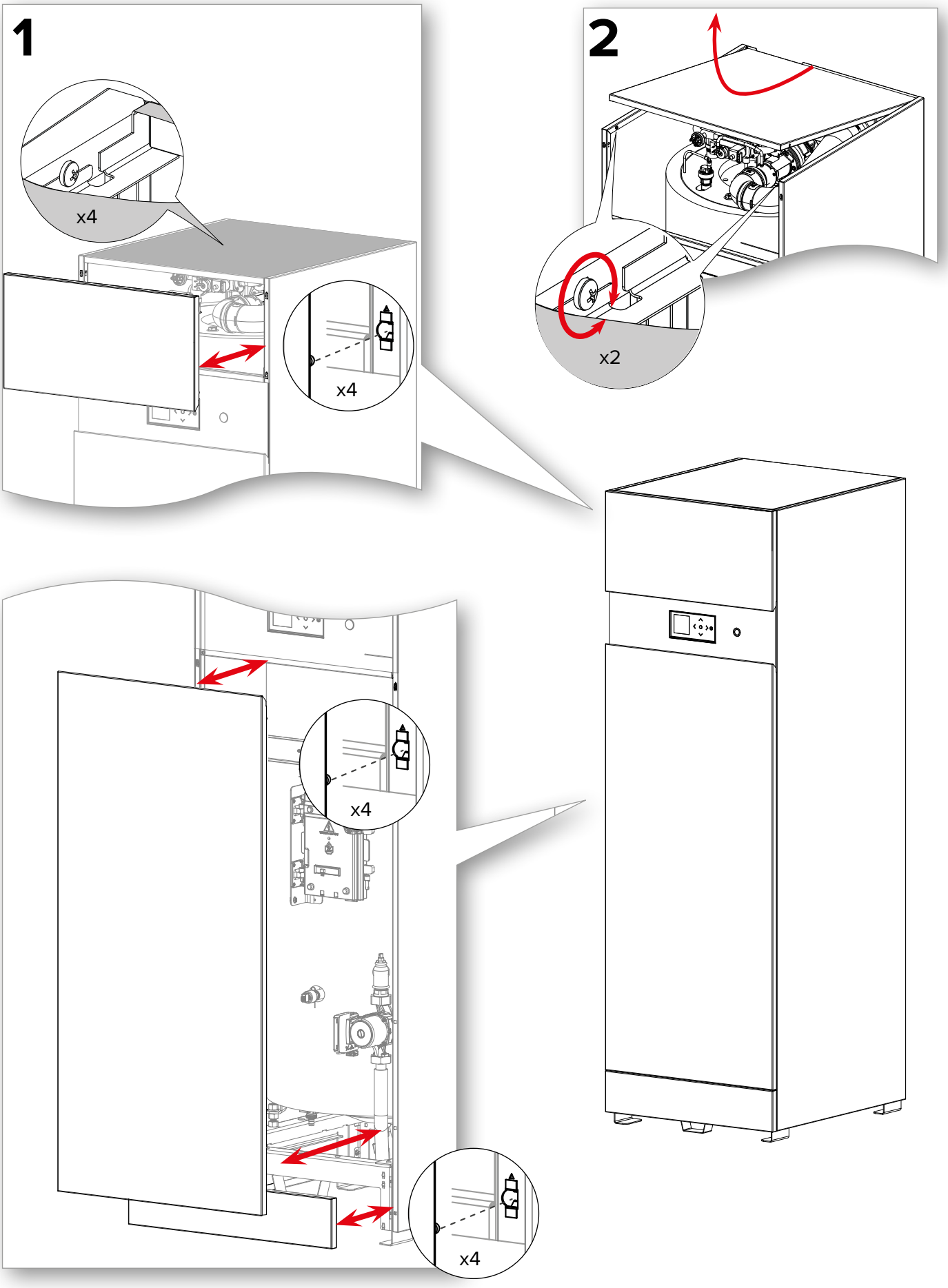
GAS CATEGORIES/CATÉGORIES DE GAZ/GASCATEGORIEËN/GAS KATEGORIEN/ CATEGORÍAS GAS/ CATEGORIA GAS/KATEGORIE GAZOWE/КАТЕГОРИИ ГАЗА

		G20	G25		G20 ⇆ G25	G31		
Pressure/Pression/Druk/Druck/Presión/ Pressione/Ciśnienie/ Давление (mbar/мбар)		20	20	25	20 ⇆ 25	30	37	50
Country/Pays/Land/ Länder/País/Paese/ Kraj/страны	Category /Categorie/ Kategorie/Categoria/ Kategoria/ Категория							
AT	II_{2H3P}	●						●
BE	$I_{2E(S)}$*				●			
	$I_{2E(R)}$**				●			
	I_{3P}						●	
CH	II_{2H3P}	●					●	●
CZ	II_{2H3P}	●					●	
DE	II_{2E3P}	●						●
	II_{2ELL3P}	●	●					●
DK	I_{2H}	●						
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}	●					●	●

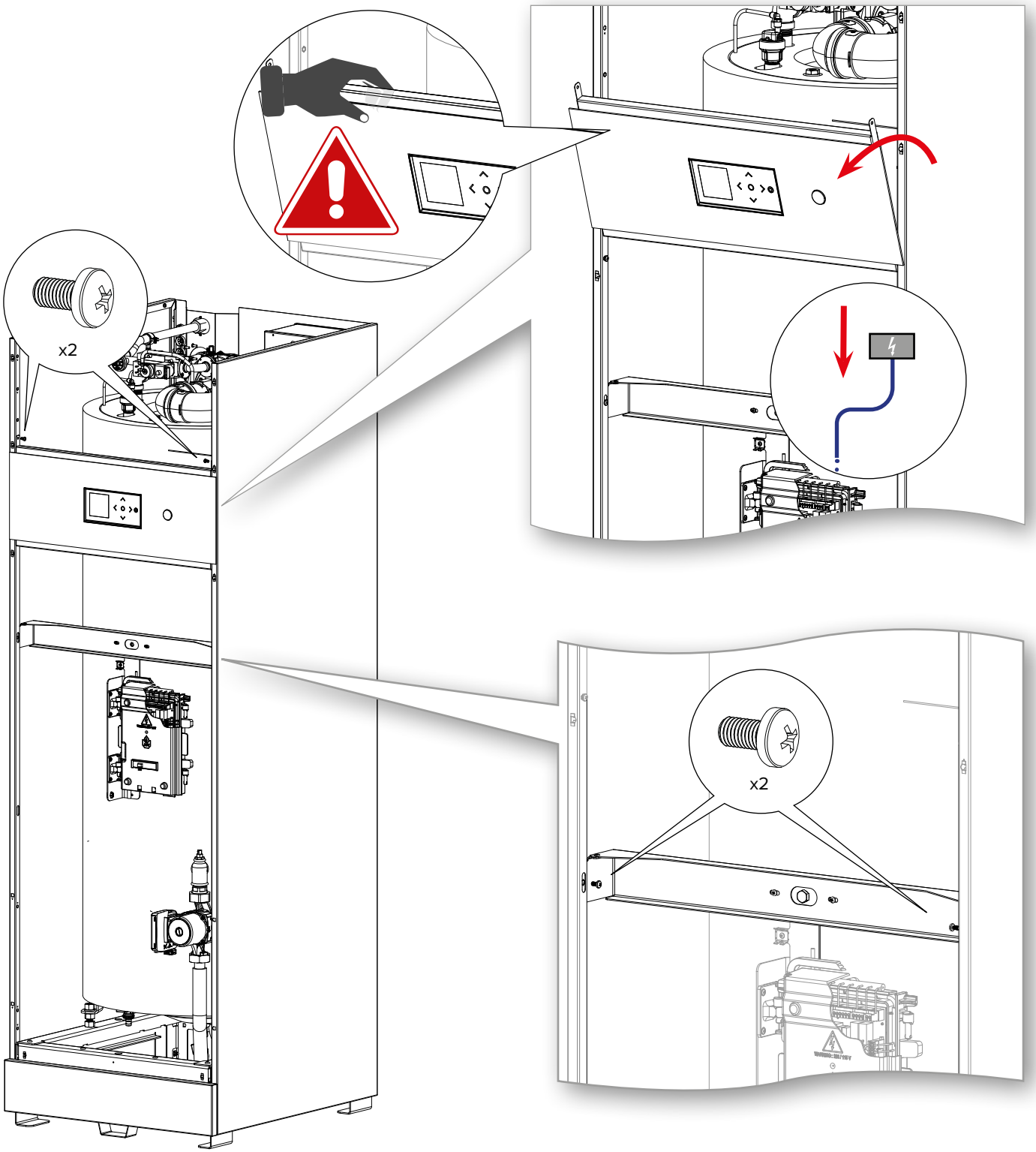
* HM 25 / 35 / 45 / 70 Evo 2

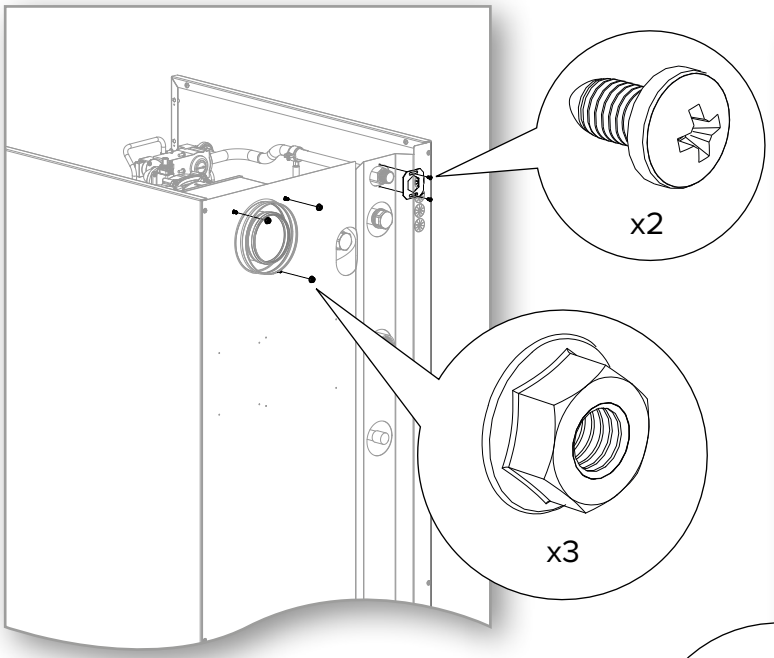
** HM 85 / 120 Evo 2

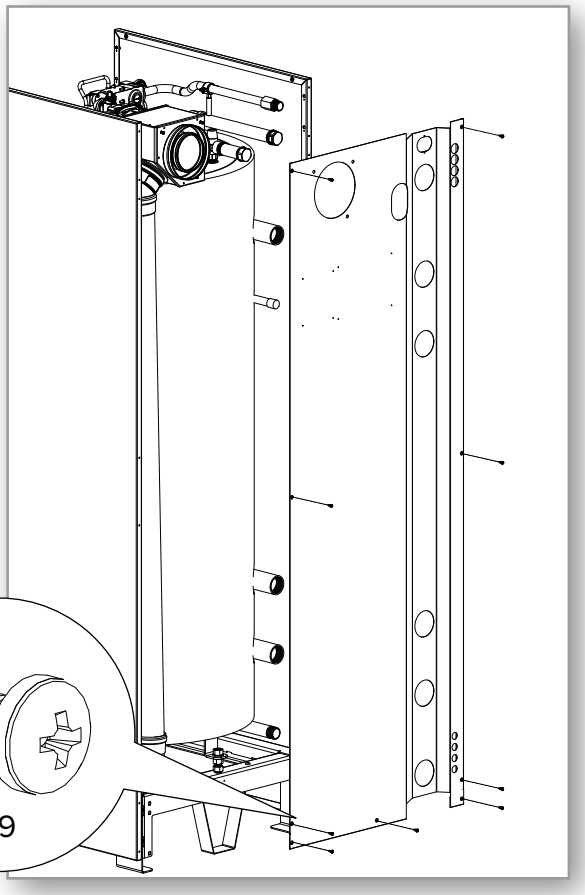
*** G25.3 (II2EK (WOBBE(43.46-45.3 MJ/m^3(0°C))3P

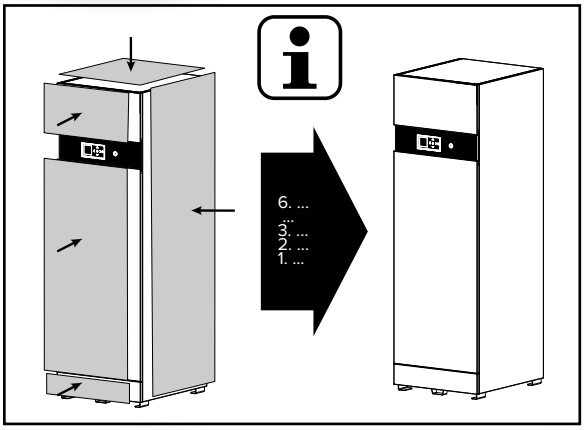

1
x4
x4
2
x2
x4
x4

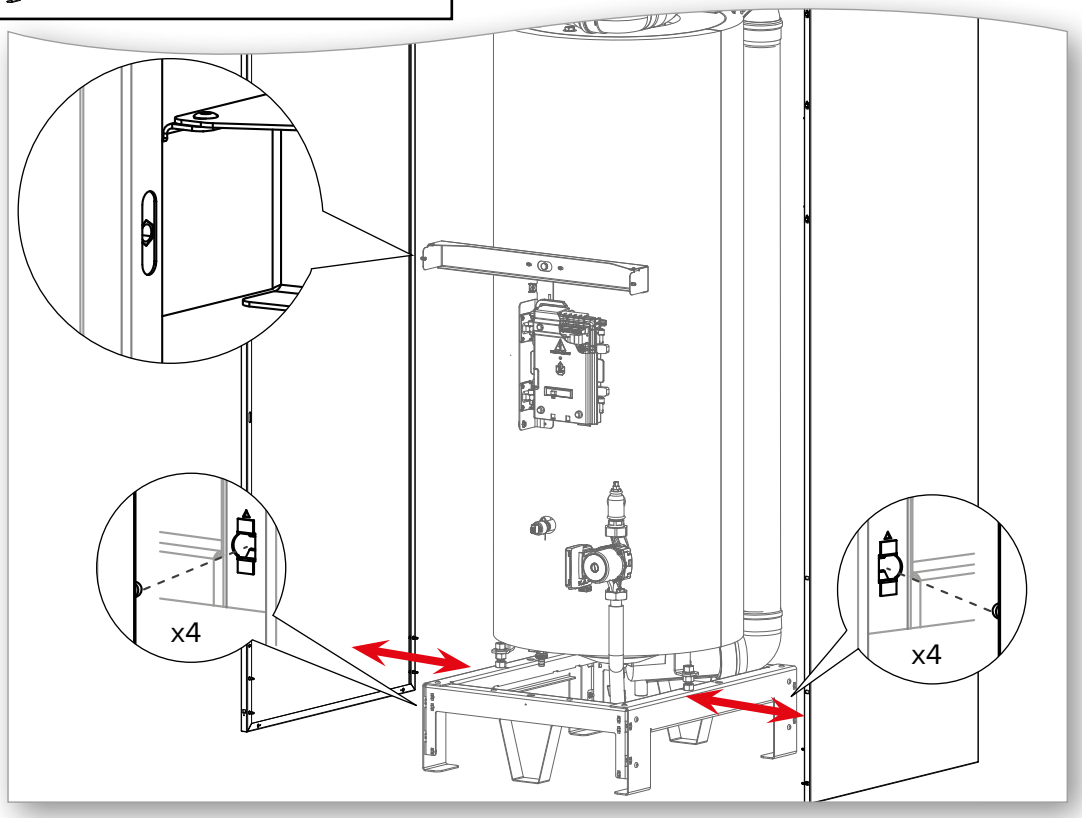
- Isolate the external power supply
- Couper l'alimentation électrique externe de l'appareil
- Verbreek de externe elektrische voeding
- Schalten Sie das Gerät stromlos
- Aísle el suministro eléctrico externo del aparato
- Interrompere l’alimentazione elettrica esterna
- Odłącz urządzenie od zasilania energią elektryczną
- Отключите электропитание



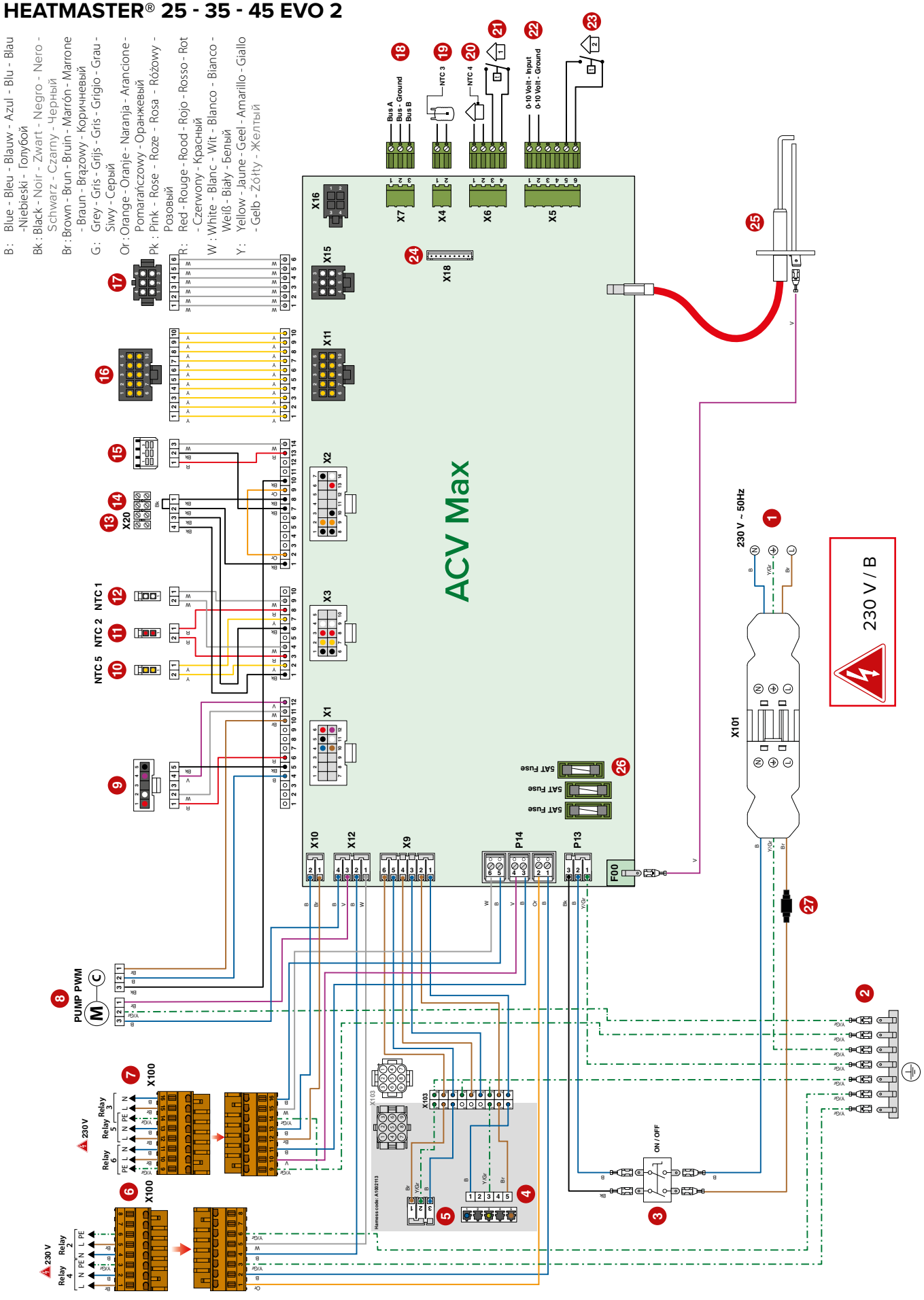

x2
x3


x9




x4
x4

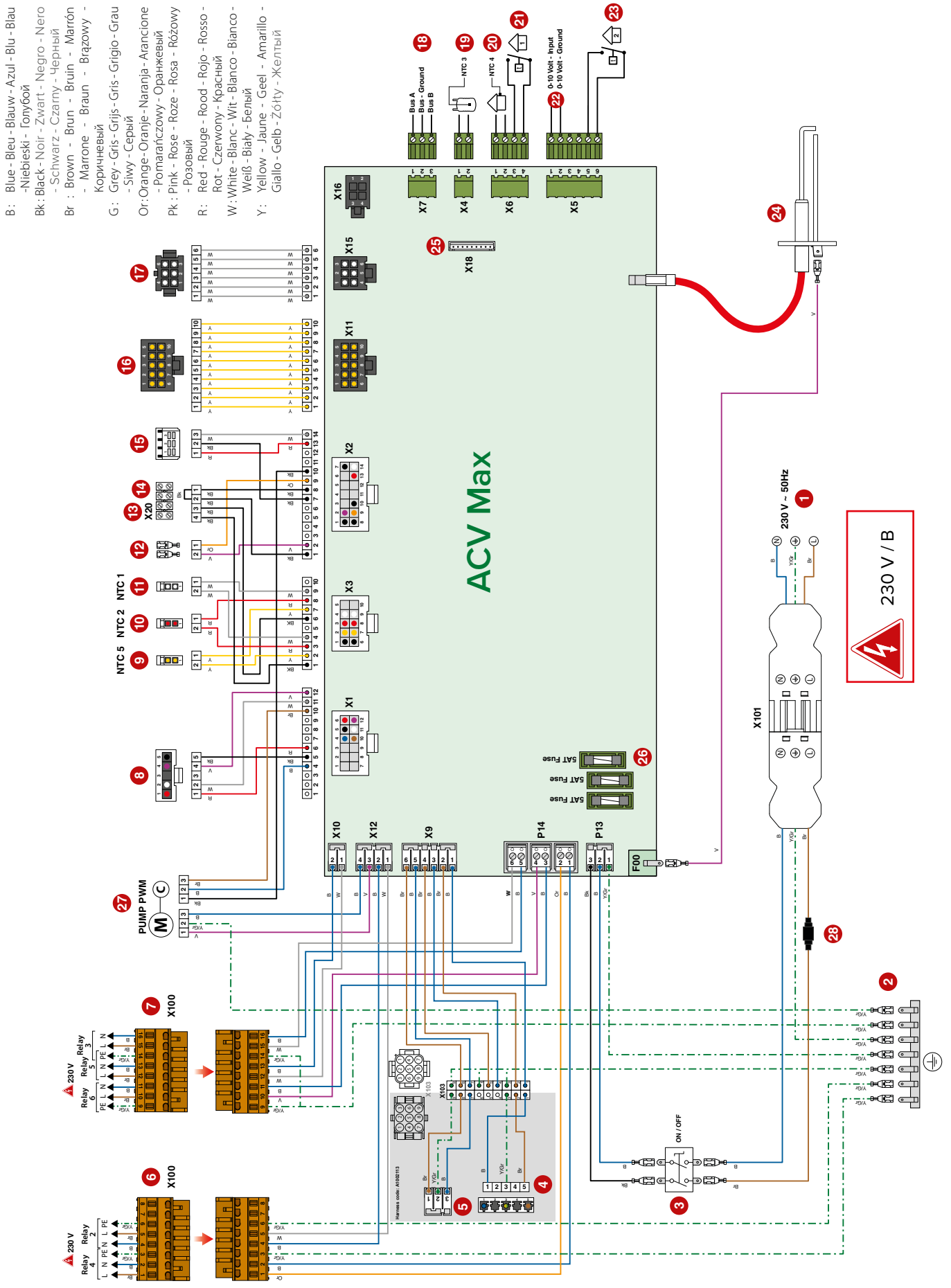
HEATMASTER® 25 - 35 - 45 EVO 2



1.	230 V power supply plug - Fiche d'alimentation 230 V - Voedingsstekker 230 V - 230 V Anschlussklemme - Toma de alimentación 230 V - Alimentazione elettrica 230 V - Przewód 230V - Подключение питания 230 В
2.	Ground - Masse - Aarding - Erdung - Masa - Messa a terra - Uziemienie - Заземление
3.	ON/OFF master switch – Interrupteur principal marche/arrêt – Hoofdschakelaar Aan/Uit – AN/AUS Hauptschalter – Interruptor ON/OFF – Interruttore generale on/off – Wyłącznik kotła – Главный выключатель ВКЛ/ВЫКЛ
4.	Gas valve rectified – Vanne gaz rectifiée – Gasklep - Gelijkgericht – Gasventil gleichrichtet – Válvula de gas rectificada – Valvola gas – Zawór gazowy (VrAC) – Штекер газового клапана
5.	Burner power supply – Alimentation brûleur – Toevoer brander – Stromversorgung des Brenners – Alimentación del quemador – Alimentazione del bruciatore – Zasilanie palnika – Электропитание горелки
6.	Terminal block for optional items – Bornier pour éléments optionnels – Klemmen voor optionele elementen – Klemmenblock für Zubehör – Regleta de conexión para elementos externos – Morsettiera per accessori opzionali – Listwa zaciskowa dla opcjonalnych elementów – Клеммная колодка для дополнительных элементов:
7.	Terminal block for optional items: – Bornier pour éléments optionnels – Klemmen voor optionele elementen – Klemmblock für optionales Zubehör – Regleta opcional de conexión para elementos externos opcionales – Morsettiera per accessori opzionali – Listwa zaciskowa dla opcjonalnych elementów: – Клеммный блок для дополнительных элементов (опция)
8.	Modulating pump PWM – PWM pompe modulante – PWM modulerende pomp – PWM modulierende Pumpe – Bomba de modulación PWM – Pompa modulante PWM – Pompa mieszająca modulowana PWM – Насос с модуляцией мощности (PWM)
9.	Burner PWM plug – Fiche PWM du brûleur – PWM-stekker brander – Brenner PWM Stecker – Ficha PWM quemador – Scheda PWM del bruciatore – Wtyczka palnika z modulacją – Линия управления вентилятором горелки
10.	NTC5 flue gas temperature sensor – Sonde de température fumée - NTC5 – NTC5-rookgastemperatuurvoeler – NTC5 - Abgas-Temperaturfühler – Sonda de temperatura de humos NTC5 – Sonda temperatura fumi NTC5 – Czujnik temperatury spalin NTC5 – Темп. датчик NTC5 (уходящих газов)
11.	NTC2 return sensor – Sonde température retour - NTC2 – NTC2-retourtemperatuurvoeler – NTC2 - Rücklauf-Temperaturfühler – Sonda de retorno NTC2 – Sonda ritorno NTC2 – Czujnik powrotu NTC2 – Темп. датчик NTC2 (обратная линия отопления)
12.	NTC1 supply sensor – Sonde température départ - NTC1 – NTC1-aanvoervoeler – NTC1 - Vorlauf-Temperaturfühler – Sonda de impulsión NTC1 – Sonda mandata NTC1 – Czujnik zasilania NTC1 – Темп. датчик NTC1 (подающая линия отопления)
13.	NTC - Low temperature circuit – NTC - circuit basse température – NTC lage temperatuur – NTC - Niedertemperaturkreis – NTC de circuito de baja temperatura – Sonda NTC circuito miscelato bassa temperatura (opzionale) – Czujnik NTC obiegu niskotemperaturowego – Темп. датчик NTC (низкотемпературный контур)
14.	High limit switch – Thermostat de sécurité – Veiligheidsthermostaat – Maximalthermostat – Termostato de seguridad – Termostato di sicurezza – Obwód dodatkowego ogranicznika temperatury (fabrycznie mostek) – Защитный термостат редельной температуры
15.	Low water pressure sensor – Pressostat manque d'eau – Waterdruksensor – Wassermangelschalter – Presostato de falta de agua – Trasduttore pressione circuito idraulico – Czujnik ciśnienia wody grzewczej – Датчик давления теплоносителя
16.	PCB (Display) – PCB (Écran) – PCB (Display) – PCB (Display) – PCB (Pantalla) – PCB (Display) – Wyświetlacz – Подключение панели управления контроллера
17.	ACVMax programmation plug – Fiche de programmation ACVMax – Programmeerstekker ACVMax – ACVMax-Programmieranschluss – Ficha de programación ACVMAX – Connettore per programmazione scheda ACVMax – Gniazdo programowania sterownika ACVMAX – Разъем программирования ACVMAX
18.	A & B Modbus (option) – Modbus A & B (option) – A & B Modbus (optie) – A & B Modbus (optional) – A & B Modbus (opcional) – A & B Modbus (opzionale) – Podłączenie magistrali Modbus (opcja) – Шина данных "Modbus" конт. A, B (опция)
19.	NTC3 DHW sensor – Sonde sanitaire - NTC3 – NTC3-warmwatervoeler SWW – NTC3 - Brauchwasserfühler – Sonda de ACS NTC3 – Sonda acqua sanitaria NTC3 – Czujnik c.w. NTC3 – Темп. датчик NTC3 (ГВС)
20.	NTC4 outdoor temperature sensor (option) – Sonde de température extérieure - NTC4 (option) – NTC4-buitenvoeler (optie) – NTC4 - Außenfühler (optional) – Sonda de temperatura exterior NTC4 (opcional) – Sonda temperatura esterna NTC4 (opzionale) – Czujnik temperatury zewnętrznej NTC4 (opcja) – Темп. датчик NTC4 (уличная температура) (опция)
21.	Room thermostat 1 (option) – Thermostat d'ambiance 1 (option) – Kamerthermostaat 1 (optie) – Raumthermostat 1 (optional) – Termostato de ambiente 1 (opcional) – Termostato ambiente 1 (opzionale) – Termostat pokojowy obiegu 1 (opcja) – Комнатный термостат 1 (опция)
22.	0-10 Volt (option) – 0-10 Volt (option) – 0-10 Volt (optie) – 0-10 Volt (optional) – 0-10 V (opcional) – 0-10 Volt (opzionale) – 0-10 Volt (opcja) – Сигнал 0-10 В (опция)
23.	Room thermostat 2 (option) – Thermostat d'ambiance 2 (option) – Kamerthermostaat 2 (optie) – Raumthermostat 2 (optional) – Termostato de ambiente 2 (opcional) – Termostato ambiente 2 (opzionale) – Termostat pokojowy obiegu 2 (opcja) – Комнатный термостат 2 (опция)
24.	Connection for interface control unit – Raccordement pour Interface Control Unit – Connector voor EBV interface (control unit) – Anschluss für Regeleinheit Control Unit – Conexión para Interface Control Unit – Innesto per scheda interfaccia (Control Unit) – Gniazdo dla modułu komunikacyjnego RMCI (do współpracy z regulatorem Room Unit/Control Unit) – Подключение интерфейсного модуля для Control Unit
25.	Ignition and ionization cable – Câble d'allumage et d'ionisation – Ontstekings- en ionisatiekabel – Ionisations- und Zündkabel – Cable de encendido y de ionización – Cavo accensione e ionizzazione – Przewód zapłonowo - jonizacyjny – Подключение интерфейсного модуля для Control Unit (опция)
26.	5AT slow-blow fuse (3x) for internal and optional circuits* – Fusible 5AT temporisé (3x) pour circuits internes et optionnels* – 5AT Traag zekering (3x) voor interne en optionele circuits – Träge 5 Ampere-Sicherung 3x für interne und optionale Schaltungen* – Fusible térmico de 5AT (3x) para protección de circuitos internos y circuitos opcionales * – Fusibili 5AT ritardati (3 pezzi) per circuiti interni e opzionali* – 5AT bezpiecznik topikowy (3x) dla obiegów wewnętrznych i opcjonalnych* – Плавкие предохранители 5A (3x) для защиты внутренних электрических цепей и цепей питания внешней электрических нагрузки*
27.	10A fuse, 250V, Dim: 5x20 mm - Fusible 10A, 250V, Dim: 5x20 mm - Zekering 10A, 250V, 5x20 mm - 10 Ampere-Sicherung, 250 V, 5x20 mm - Fusible 10A, 250 V, Dim. 5x20 mm - Fusibile 10A, 250 V, dim. 5x20 mm - 10A bezpiecznik topikowy, 250 V, 5x20 mm - Плавкие предохранители 10A, 250В, 5x20 мм

HEATMASTER® 70 - 85 EVO 2

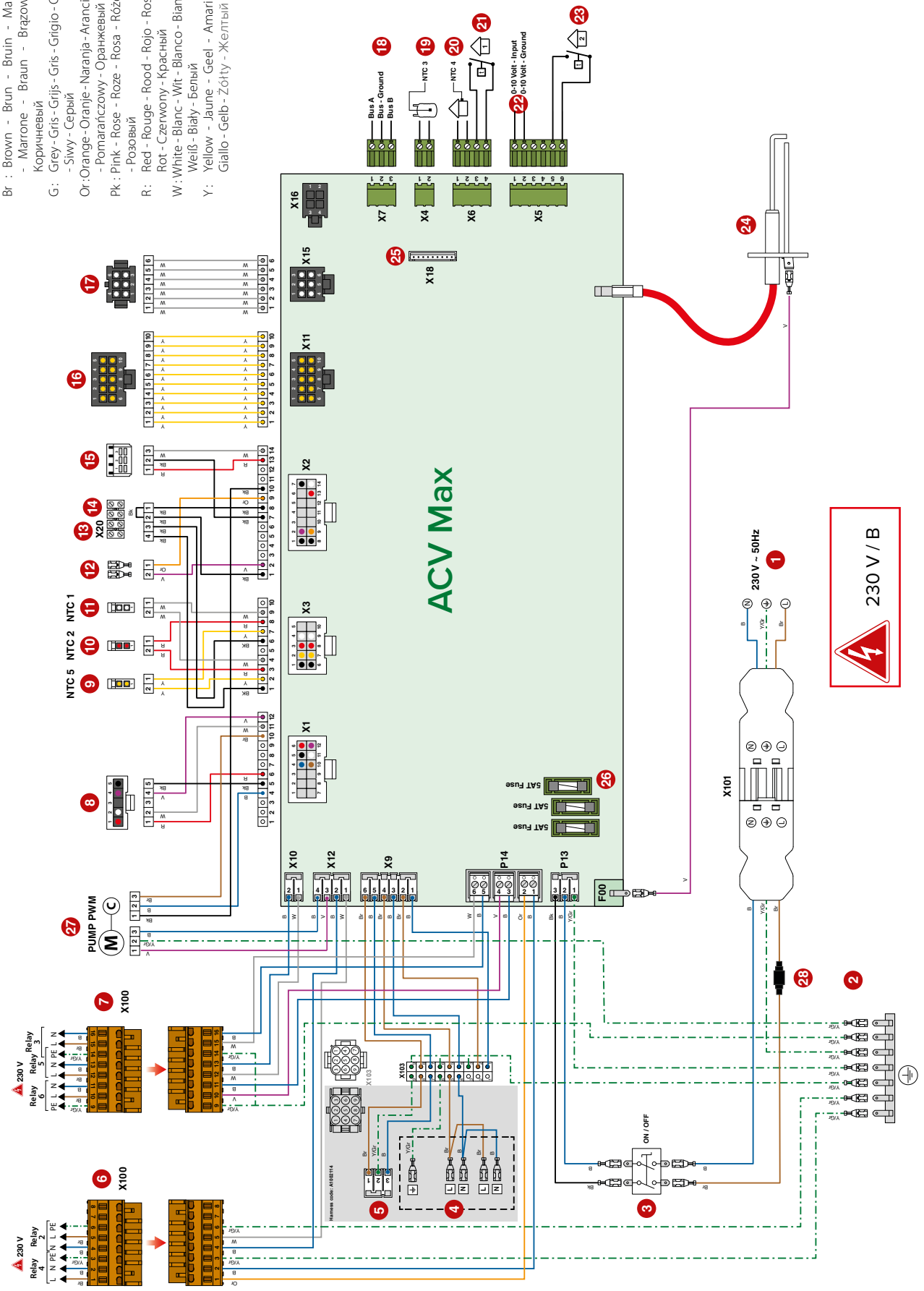
B: Blue - Bleu - Blauw - Azul - Blu - Blau - Niebieski - Голубой
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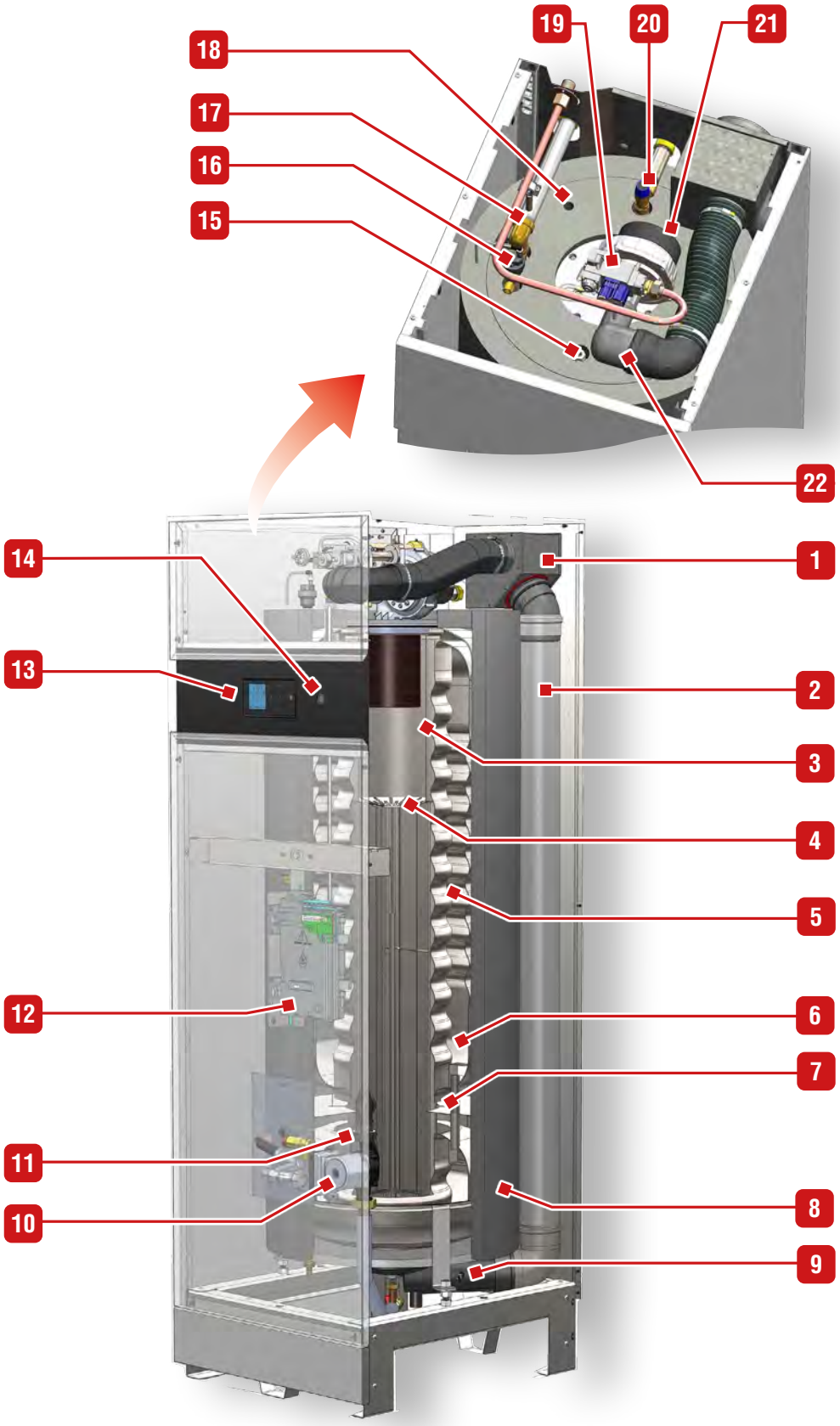
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2. Ground - Masse - Aarding - Erdung - Masa - Messa a terra - Uziemienie - Заземление
3. ON/OFF master switch – Interrupteur principal marche/arrêt – Hoofdschakelaar Aan/Uit – AN/AUS Hauptschalter – Interruptor ON/OFF – Interruttore generale on/off – Wyłącznik kotła – Главный выключатель ВКЛ/ВЫКЛ
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5. Burner power supply – Alimentation brûleur – Toevoer brander – Stromversorgung des Brenners – Alimentación del quemador – Alimentazione del bruciatore – Zasilanie palnika – Электропитание горелки
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10. NTC2 return sensor – Sonde température retour - NTC2 – NTC2-retourtemperatuurvoeler – NTC2 - Rücklauf-Temperaturfühler – Sonda de retorno NTC2 – Sonda ritorno NTC2 – Czujnik powrotu NTC2 – Темп. датчик NTC2 (обратная линия отопления)
11. NTC1 supply sensor – Sonde température départ - NTC1 – NTC1-aanvoervoeler – NTC1 - Vorlauf-Temperaturfühler – Sonda de impulsión NTC1 – Sonda mandata NTC1 – Czujnik zasilania NTC1 – Темп. датчик NTC1 (подающая линия отопления)
12. Gas pressure switch - Pressostat gaz - Drukschakelaar gas - Gasdruckwächter - Presostato de gas - Pressostato gas - Presostat ciśnienia gazu - Реле давления газа
13. NTC - Low temperature circuit – NTC - circuit basse température – NTC lage temperatuur – NTC - Niedertemperaturkreis – NTC de circuito de baja temperatura – Sonda NTC circuito miscelato bassa temperatura (opzionale) – Czujnik NTC obiegu niskotemperaturowego – Темп. датчик NTC (низкотемпературный контур)
14. High limit switch – Thermostat de sécurité – Veiligheidsthermostaat – Maximalthermostat – Termostato de seguridad – Termostato di sicurezza – Obwód dodatkowego ogranicznika temperatury (fabrycznie mostek) – Защитный термостат редельной температуры
15. Low water pressure sensor – Pressostat manque d'eau – Waterdruksensor – Wassermangelschalter – Presostato de falta de agua – Trasduttore pressione circuito idraulico – Czujnik ciśnienia wody grzewczej – Датчик давления теплоносителя
16. PCB (Display) – PCB (Écran) – PCB (Display) – PCB (Display) – PCB (Pantalla) – PCB (Display) – Wyświetlacz – Подключение панели управления контроллера
17. ACVMax programmation plug – Fiche de programmation ACVMax – Programmeerstekker ACVMax – ACVMax-Programmieranschluss – Ficha de programación ACVMAX – Connettore per programmazione scheda ACVMax – Gniazdo programowania sterownika ACVMAX – Разъем программирования ACVMAX
18. A & B Modbus (option) – Modbus A & B (option) – A & B Modbus (optie) – A & B Modbus (optional) – A & B Modbus (opcional) – A & B Modbus (opzionale) – Podłączenie magistrali Modbus (opcja) – Шина данных "Modbus" конт. A, B (опция)
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20. NTC4 outdoor temperature sensor (option) – Sonde de température extérieure - NTC4 (option) – NTC4-buitenvoeler (optie) – NTC4 - Außenfühler (optional) – Sonda de temperatura exterior NTC4 (opcional) – Sonda temperatura esterna NTC4 (opzionale) – Czujnik temperatury zewnętrznej NTC4 (opcja) – Темп. датчик NTC4 (уличная температура) (опция)
21. Room thermostat 1 (option) – Thermostat d'ambiance 1 (option) – Kamerthermostaat 1 (optie) – Raumthermostat 1 (optional) – Termostato de ambiente 1 (opcional) – Termostato ambiente 1 (opzionale) – Termostat pokojowy obiegu 1 (opcja) – Комнатный термостат 1 (опция)
22. 0-10 Volt (option) – 0-10 Volt (option) – 0-10 Volt (optie) – 0-10 Volt (optional) – 0-10 V (opcional) – 0-10 Volt (opzionale) – 0-10 Volt (opcja) – Сигнал 0-10 В (опция)
23. Room thermostat 2 (option) – Thermostat d'ambiance 2 (option) – Kamerthermostaat 2 (optie) – Raumthermostat 2 (optional) – Termostato de ambiente 2 (opcional) – Termostato ambiente 2 (opzionale) – Termostat pokojowy obiegu 2 (opcja) – Комнатный термостат 2 (опция)
24. Connection for interface control unit – Raccordement pour Interface Control Unit – Connector voor EBV interface (control unit) – Anschluss für Regeleinheit Control Unit – Conexión para Interface Control Unit – Innesto per scheda interfaccia (Control Unit) – Gniazdo dla modułu komunikacyjnego RMCI (do współpracy z regulatorem Room Unit/Control Unit) – Подключение интерфейсного модуля для Control Unit
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HEATMASTER® 120 EVO 2

B : Blue - Bleu - Blauw - Azul - Blu - Blau - Niebieski - Голубой
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23. Room thermostat 2 (option) – Thermostat d'ambiance 2 (option) – Kamerthermostaat 2 (optie) – Raumthermostat 2 (optional) – Termostato de ambiente 2 (opcional) – Termostato ambiente 2 (opzionale) – Termostat pokojowy obiegu 2 (opcja) – Комнатный термостат 2 (опция)
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EN

1. Concentric flue gas/air inlet box
2. Flue gas exhaust tube
3. Combustion chamber
4. Stainless steel heat exchanger
5. Stainless steel “Tank-in-Tank” hot water production tank
6. Primary circuit separation disc
7. Indirect water pre-heater
8. Insulation
9. Condensate recovery dish + NTC5 sensor (flue gas)
10. High efficiency circulator pump
11. NTC2 sensor (CH return)
12. Electrical panel (with spare fuses at the back)
13. ACVMax Touch Control panel
14. On-Off switch
15. DHW tank dry well (Dip tube with temperature sensor)
16. Automatic air vent
17. Gas pipe
18. NTC1 sensor (CH supply)
19. Gas valve
20. DHW safety valve / (T&P relief valve - UK only)
21. Modulating air/gas premix burner with fan
22. Air inlet

FR

1. Collecteur concentrique d’évacuation des fumées/admission d’’air
2. Conduite de sortie des fumées
3. Chambre de combustion
4. Échangeur en acier inoxydable
5. Ballon d’eau chaude sanitaire «tank-in-tank» en inox
6. Disque de séparation du circuit primaire
7. Préchauffeur indirect de l’eau
8. Isolation
9. Bac à condensats + sonde NTC5 (fumées)
10. Circulateur haut rendement
11. Sonde NTC2 (Retour chauffage)
12. Tableau électrique (avec fusibles de rechange à l’arrière)
13. Tableau de commande ACVMax Touch
14. Bouton marche/arrêt
15. Doigt de gant (plonge sanitaire avec sonde de température)
16. Purgeur automatique
17. Conduite de gaz
18. Sonde NTC1 (Départ chauffage)
19. Vanne gaz
20. Soupape de sécurité sanitaire
21. Brûleur modulant à prémélange air/gaz et ventilateur
22. Entrée d’air

NL

1. Concentrische luchttoevoer/rookgasafvoer
2. Schouwpijp
3. Verbrandingskamer
4. Warmtewisselaar uit roestvrij staal
5. Boiler ”Tank in Tank” (binnentank) uit roestvrij staal
6. Scheidingsschijf van de primaire kring
7. Indirecte voorverwarmer van water
8. Isolatie
9. Opvangbak voor condenswater + NTC5-rookgasvoeler
10. Hoogrendement voedingspomp
11. NTC2-retourvoeler (CV)
12. Elektriciteitsbord (met reserve-zekeringen aan de achterzijde).
13. ACVMax Touch bedieningspaneel
14. Aan/Uit schakelaar
15. Voelerbuis warmwatertank (dompelbuis met temperatuursensor)
16. Automatische ontluchter
17. Gaspijp
18. NTC1-aanvoervoeler (CV)
19. Gasklep
20. Veiligheidsklep SWW
21. Brander met voormenging van Gas/Lucht
22. Luchtinlaat

DE

1. Konzentrischer Abgasanschluss
2. Abgasrohr
3. Brennkammer
4. Edelstahlwärmetauscher
5. Edelstahl “Tank-in-Tank” Trinkwasserspeicher
6. Heizkreis Trennblech
7. Indirekter Vorwärmspeicher
8. Isolierung
9. Kondensatsammelbehälter + NTC5 - Abgas-Temperaturfühler
10. Hocheffizienzumwälzpumpe
11. NTC2 - Rücklauf-Temperaturfühler
12. Elektrische Steuerung (mit Ersatzsicherungen an der Rückseite).
13. ACVMax Touch Bedienfeld mit Display und Manometer
14. Tauchhülse für Trinkwasser mit NTC Fühler
15. Ein/Aus Schalter
16. Automatischer Entlüfter (Heizkreis)
17. Gasdruckwächter
18. NTC1 - Vorlauf-Temperaturfühler
19. Gasventil
20. WW-Sicherheitsventil
21. Modulierender Luft/Gas Premix Brenner mit Gebläse
22. Luftzufuhrrohr

ES

1. Caja de entrada concéntrica de salida de humos/entrada de aire
2. Conducto de humos
3. Cámara de combustión
4. Intercambiador de acero inoxidable
5. Acumulador de agua caliente sanitaria “Tank-in-Tank” de acero inoxidable
6. Disco de separación del circuito primario
7. Precalentador indirecto de agua
8. Aislamiento
9. Recipiente recuperador de condensados + Sonda de temperatura de humos NTC5
10. Bomba de circulación de alta eficiencia
11. Sonda de retorno NTC2 circuito de calefacción
12. Cuadro eléctrico (con fusibles de repuesto en la parte posterior)
13. Panel de mandos ACVMax Touch con pantalla y manómetro
14. Interruptor de puesta en marcha
15. Vaina de la sonda del acumulador de ACS (con sonda de temperatura)
16. Purgador de aire automático
17. Tubo de gas
18. Sonda de impulsión NTC1
19. Válvula de gas
20. Válvula de seguridad ACS
21. Quemador modulante de premezcla de aire/gas
22. Entrada de aire

IT

1. Connessione concentrica ingresso aria/espulsione fumi
2. Tubo camino
3. Camera di combustione
4. Scambiatore in acciaio inossidabile
5. Serbatoio di produzione d’acqua calda “Tank-in- Tank” in acciaio inossidabile
6. Disco di separazione del circuito primario
7. Dispositivo di preriscaldamento indiretto dell’acqua
8. Isolamento
9. Serbatoio di recupero della condensa + Sonda temperatura fumi NTC5
10. Circolatore ad elevata efficienza
11. Sonda ritorno NTC2
12. Scheda elettrica (con fusibili di ricambio)
13. Pannello comandi ACVMax Touch con display e manometro
14. Interruttore generale on/off
15. Pozzetto acqua calda sanitaria (con sonda NTC)
16. Spurgo automatico
17. Tubo gas
18. Sonda mandata NTC1
19. Valvola gas
20. Valvola di sicurezza ACS
21. Bruciatore modulante a premiscelazione ARIA/GAS
22. Tubo di aspirazione dell’aria

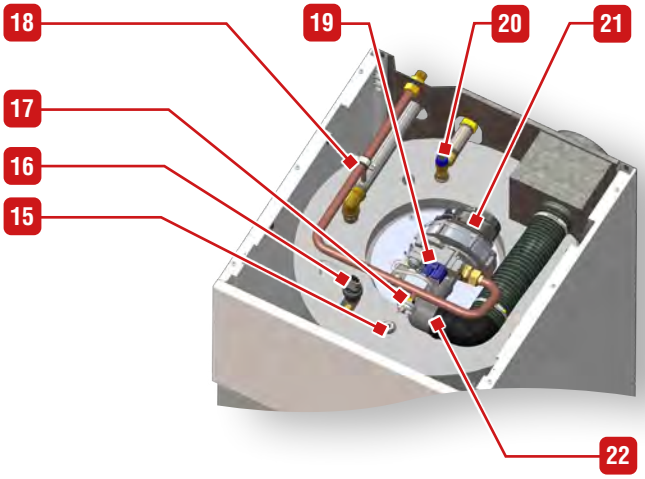
PL

1. Koncentryczny adapter kominowy
2. Kanał spalinowy
3. Komora spalania
4. Wymiennik ciepła ze stali nierdzewnej
5. Zasobnik ciepłej wody ze stali nierdzewnej
6. Płyta separacyjna
7. Wstępne podgrzewanie wody
8. Izolacja
9. Separator kondensatu + Czujnik temperatury spalin NTC5
10. Pompa mieszająca wysokiej sprawności
11. Czujnik powrotu NTC2
12. Panel podłączeń elektrycznych
13. Panel sterowniczy ACVMax Touch
14. Wyłącznik główny kotła
15. Tuleja pomiarowa c.w. (z czujnikiem temperatury)
16. Odpowietrznik automatyczny
17. Rura gazowa
18. Czujnik zasilania NTC1
19. Zawór gazowy
20. Zawór bezpieczeństwa c.w.
21. Modulowany palnik gazowy premix z wentylatorem
22. Wlot powietrza

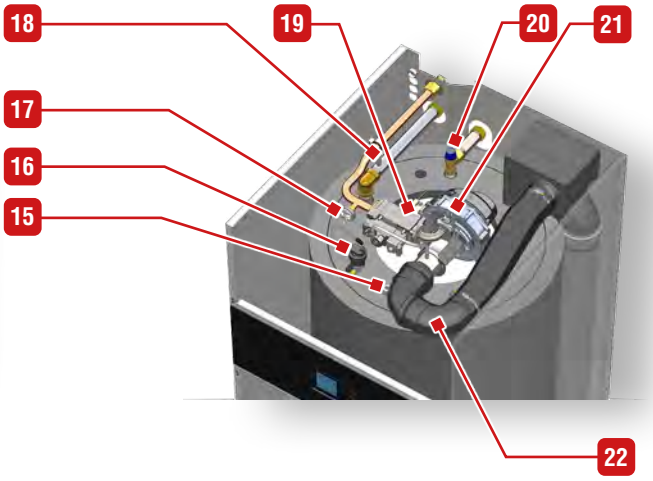
RU

1. Терминал подключения коаксиального дымоотвода
2. Патрубок отвода продуктов сгорания
3. Камера сгорания
4. Первичный теплообменник из нержавеющей стали
5. Бойлер из нержавеющей стали “Бак в Баке” для произв-ва горячей воды
6. Разделительная перегородка в отопительном контуре
7. Бак предварительного нагрева санитарной воды
8. Теплоизоляция
9. Лоток для сбора конденсата + Темп. датчик NTC5 (уходящих газов)
10. Высокоэффективный циркуляционный насос
11. Темп. датчик NTC2 (обратная линия отопления)
12. Блок автоматики управления котлом (с запасными предохранителями на задней стенке)
13. Панель управления ACVMax Touch
14. Гильза для дачика температуры ГВС
15. Главный выключатель ВКЛ/ВЫКЛ
16. Автоматический воздухоотводчик (отопительный контур)
17. Подключение газа
18. Темп. датчик NTC1 (подающая линия отопления)
19. Газовый клапан
20. Предохранительный клапан ГВС
21. Премиксная горелка модуляцией мощности
22. Воздухозаборный патрубок

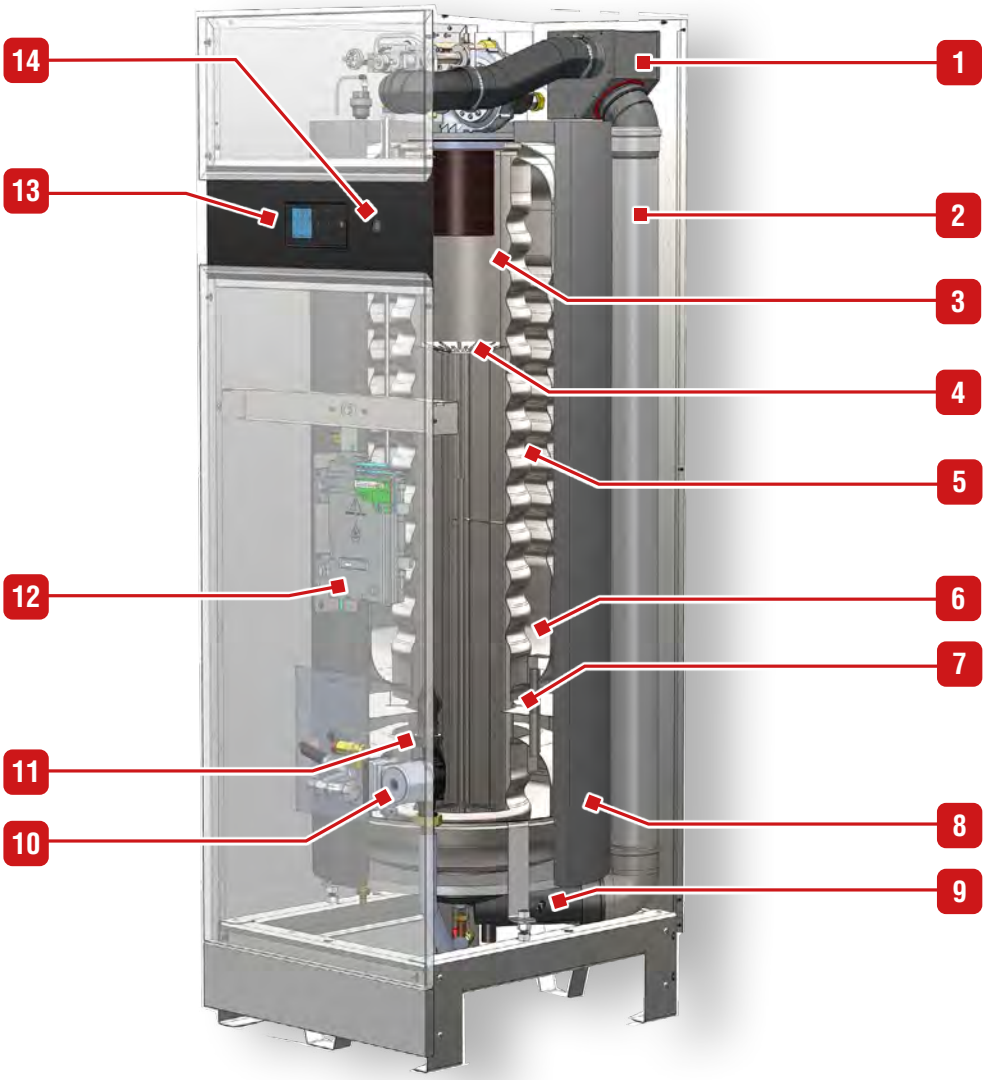
HEATMASTER® 70 - 85 - 120 EVO 2



HeatMaster® 70-85 Evo 2



HeatMaster® 120 Evo 2



EN

1. Concentric flue gas/air inlet box
2. Flue gas exhaust tube
3. Combustion chamber
4. Stainless steel heat exchanger
5. Stainless steel “Tank-in-Tank” hot water production tank (primary + DHW)
6. Primary circuit separation disc
7. Indirect water pre-heater
8. Insulation
9. Condensate recovery dish + NTC5 sensor (flue gas)
10. High efficiency circulator pump
11. NTC2 sensor (CH return)
12. Electrical panel (with spare fuses at the back)
13. ACVMax Touch Control panel
14. On-Off switch
15. DHW tank dry well (Dip tube with temperature sensor)
16. Automatic air vent
17. Gas pressure switch
18. NTC1 sensor (CH supply)
19. Gas valve
20. DHW safety valve / (T & P relief valve - UK only)
21. Modulating air/gas premix burner with fan
22. Air inlet

FR

1. Collecteur concentrique d’évacuation des fumées/admission d’air
2. Conduite de sortie des fumées
3. Chambre de combustion
4. Échangeur en acier inoxydable
5. Ballon d’eau chaude sanitaire «tank-in-tank» en inox
6. Disque de séparation du circuit primaire
7. Préchauffeur indirect de l’eau
8. Isolation
9. Bac à condensats + sonde NTC5 (fumées) (non visibles)
10. Circulateur haut rendement
11. Sonde NTC2 (Retour chauffage)
12. Tableau électrique (avec fusibles de rechange à l’arrière)
13. Tableau de commande ACVMax Touch
14. Doigt de gant (plonge sanitaire avec sonde de température)
15. Interrupteur marche-arrêt
16. Purgeur automatique
17. Pressostat gaz
18. Sonde NTC1 (Départ chauffage)
19. Vanne gaz
20. Soupape de sécurité sanitaire
21. Brûleur modulant à prémélange air/gaz et ventilateur
22. Entrée d’air

NL

1. Concentrisch lucht toevoer / rookgas afvoer
2. Schouwpijp
3. Verbrandingskamer
4. Warmtewisselaar uit roestvrij staal
5. Boiler ”Tank in Tank” (binnentank) uit roestvrij staal
6. Scheidingsschijf van de primaire kring
7. Indirecte voorverwarmer van water
8. Isolatie
9. Recuperatiebak voor condenswater + NTC5-rookgasvoeler
10. Hoogrendement voedingspomp
11. NTC2-retourvoeler (CV)
12. Elektriciteitsbord (met reserve zekeringen aan de achterzijde).
13. ACVMax Touch bedieningspaneel
14. Warmwater tank voelerbuis (dompelbuis met temperatuursensor)
15. Aan-Uit schakelaar
16. Automatische ontluchter
17. Drukschakelaar gas
18. NTC1-aanvoervoeler (CV)
19. Gasklep
20. Veiligheidsklep SWW
21. Brander met voormenging van Gas/Lucht
22. Lucht inlaat

DE

1. Konzentrischer Abgasanschluss
2. Abgasrohr
3. Brennkammer
4. Edelstahlwärmetauscher
5. Edelstahl “Tank-in-Tank” Trinkwasserspeicher
6. Heizkreis Trennblech
7. Indirekter Vorwärmspeicher
8. Isolierung
9. Kondensatsammelbehälter + NTC5 - Abgas-Temperaturfühler
10. Hocheffizienzumwälzpumpe
11. NTC2 - Rücklauf-Temperaturfühler
12. Elektrische Steuerung (mit Ersatzsicherungen an der Rückseite).
13. ACVMax Touch Bedienfeld mit Display und Manometer
14. Tauchhülse für Trinkwasser mit NTC Fühler
15. Ein/Aus Schalter
16. Automatischer Entlüfter (Heizkreis)
17. Gasdruckwächter
18. NTC1 - Vorlauf-Temperaturfühler
19. Gasventil
20. WW-Sicherheitsventil
21. Modulierender Luft/Gas Premix Brenner mit Gebläse
22. Luftzufuhrrohr

ES

1. Caja de entrada concéntrica de salida de humos/entrada de aire
2. Conducto de humos
3. Cámara de combustión
4. Intercambiador de acero inoxidable
5. Acumulador de agua caliente sanitaria “Tank-in-Tank” de acero inoxidable
6. Disco de separación del circuito primario
7. Precalentador indirecto de agua
8. Aislamiento
9. Recipiente recuperador de condensados + Sonda de temperatura de humos NTC5
10. Bomba de circulación de alta eficiencia
11. Sonda de retorno NTC2
12. Cuadro eléctrico (con fusibles de repuesto en la parte posterior)
13. Panel de mandos ACVMax Touch con pantalla y manómetro
14. Vaina de la sonda del acumulador de ACS (con sonda de temperatura)
15. Interruptor de puesta en marcha
16. Purgador de aire automático
17. Presostato de gas
18. Sonda de impulsión NTC1
19. Válvula de gas
20. Válvula de seguridad ACS
21. Quemador modulante de premezcla de aire/gas
22. Entrada de aire

IT

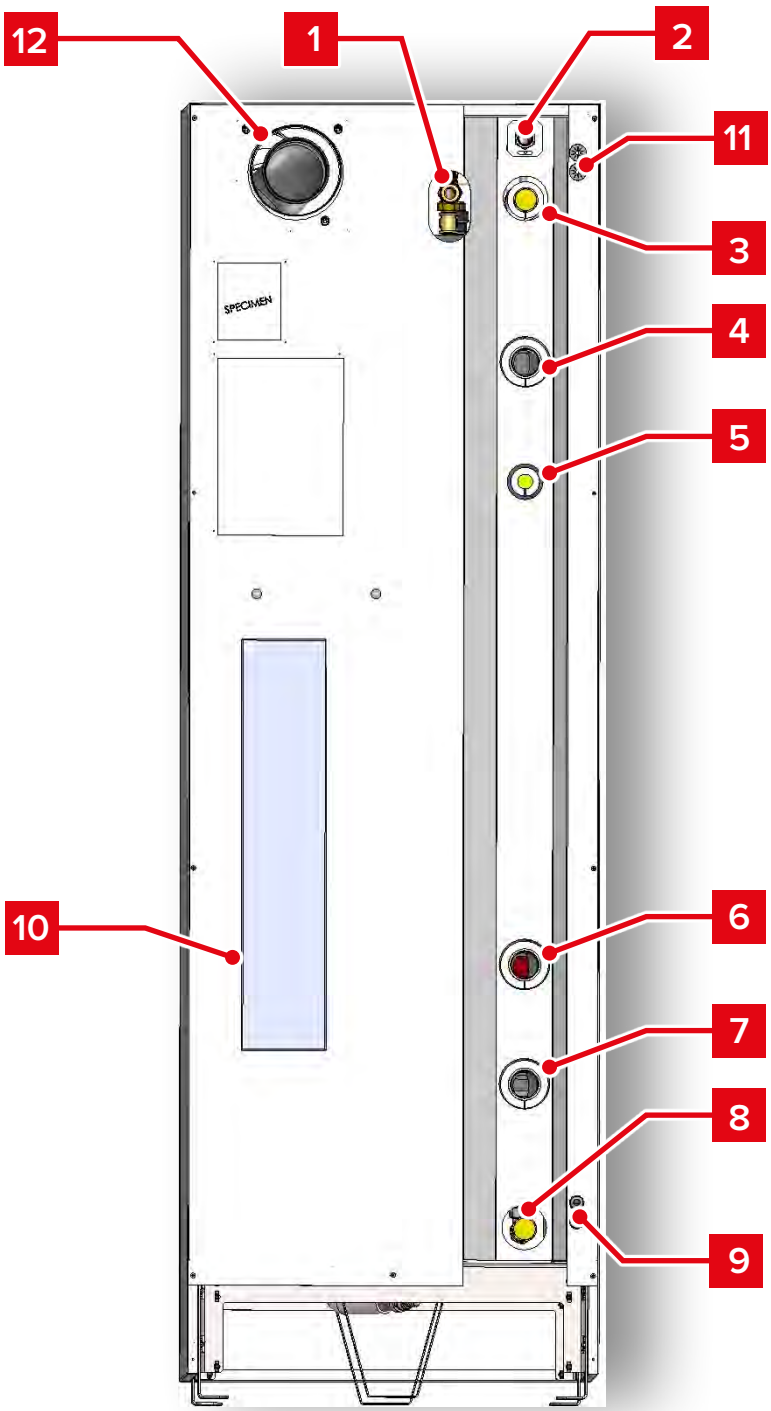
1. Connessione concentrica ingresso aria/espulsione fumi
2. Tubo camino
3. Camera di combustione
4. Scambiatore in acciaio inossidabile
5. Serbatoio di produzione d’acqua calda “Tank-in- Tank” in acciaio inossidabile
6. Disco di separazione del circuito primario
7. Dispositivo di preriscaldamento indiretto dell’acqua
8. Isolamento
9. Serbatoio di recupero della condensa + Sonda temperatura fumi NTC5
10. Circolatore ad elevata efficienza
11. Sonda ritorno NTC2
12. Scheda ACVMax Touch (con fusibili di ricambio)
13. Pannello comandi con display e manometro
14. Interruttore generale on/off
15. Pozzetto acqua calda sanitaria (con sonda NTC)
16. Spurgo automatico
17. Pressostato gas
18. Sonda mandata NTC1
19. Valvola gas
20. Valvola di sicurezza ACS
21. Bruciatore modulante a premiscelazione ARIA/GAS
22. Tubo di aspirazione dell’aria

PL

1. Koncentryczny adapter kominowy
2. Kanał spalinowy
3. Komora spalania
4. Wymiennik ciepła ze stali nierdzewnej
5. Zasobnik ciepłej wody ze stali nierdzewnej
6. Płyta separacyjna
7. Wstępne podgrzewanie wody
8. Izolacja
9. Separator kondensatu + Czujnik temperatury spalin NTC5
10. Pompa mieszająca wysokiej sprawności
11. Czujnik powrotu NTC2
12. Panel podłączeń elektrycznych
13. Panel sterowniczy ACVMax Touch
14. Wyłącznik główny kotła
15. Tuleja pomiarowa c.w. (z czujnikiem temperatury)
16. Odpowietrznik automatyczny
17. Rura gazowa
18. Czujnik zasilania NTC1
19. Zawór gazowy
20. Zawór bezpieczeństwa c.w.
21. Modulowany palnik gazowy premix z wentylatorem
22. Wlot powietrza

RU

1. Терминал подключения коаксиального дымоотвода
2. Патрубок отвода продуктов сгорания
3. Камера сгорания
4. Первичный теплообменник из нержавеющей стали
5. Бойлер из нержавеющей стали “Бак в Баке” для произв-ва горячей воды
6. Разделительная перегородка в отопительном контуре
7. Бак предварительного нагрева санитарной воды
8. Теплоизоляция
9. Лоток для сбора конденсата + Темп. датчик NTC5 (уходящих газов) (Не показан)
10. Высокоэффективный циркуляционный насос
11. Темп. датчик NTC2 (обратная линия отопления)
12. Блок автоматики управления котлом (с запасными предохранителями на задней стенке)
13. Панель управления ACVMax Touch
14. Гильза для дачика температуры ГВС
15. Главный выключатель ВКЛ/ВЫКЛ
16. Автоматический воздухоотводчик (отопительный контур)
17. Реле давления газа
18. Темп. датчик NTC1 (подающая линия отопления)
19. Газовый клапан
20. Предохранительный клапан ГВС
21. Премиксная горелка модуляцией мощности
22. Воздухозаборный патрубок


12
1
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SPECIMEN

EN

1. Discharge for built-in DHW safety valve / (T & P relief valve - UK only) outlet to be connected to the sewage system
2. Gas connection [M]
3. Domestic Hot Water outlet [M]
4. Heating supply connection [F]
5. Connection for provided heating safety valve (to be installed) [M]
6. Heating return connection [F]
7. Heating return connection for low temp circuit [F]
8. Domestic Hot Water inlet [M]
9. Grommets for electrical wires (230 V)
10. Front bottom panel (stored for transport)
11. Grommets for electrical wires (low voltage control)
12. Flue connection

FR

1. Raccord de décharge de la soupape de sécurité sanitaire intégrée
2. Raccord gaz [M]
3. Sortie eau chaude sanitaire [M]
4. Raccord départ chauffage [F]
5. Raccord pour la soupape de sécurité du circuit chauffage (à installer) [M].
6. Retour chauffage [F]
7. Retour chauffage pour le circuit basse température [F]
8. Entrée eau chaude sanitaire [M]
9. Passe-câbles pour fils électriques (230 V)
10. Panneau inférieur avant (stocké pour le transport)
11. Passe-câbles pour fils électriques (basse tension)
12. Raccord cheminée

NL

1. Aansluiting veiligheidsklep SWW op de riolering
2. Gasaansluiting [M]
3. Uitgang sanitair warm water [M]
4. Vertrek verwarmingskring [F]
5. Aansluiting voor verwarmingsveiligheidsklep (te installeren) [M].
6. Retour verwarmingskring [F]
7. Retour verwarmingskring lage temperatuur [F]
8. Ingang SWW [M]
9. Doorvoer tules voor electro kabels (230 V)
10. Onderste voorpaneel (opgeborgen voor transport)
11. Doorvoer tules voor electro kabels (lage spanning)
12. Schouw aansluiting

DE

1. Anschluss für Sicherheitsventil Trinkwasser, welches an eine Kanalisation angeschlossen werden muss
2. Gasanschluss [M]
3. Warmwasserausgang [M]
4. Heizungsvorlauf [F]
5. Anschluss für Sicherheitsventil Heizung [M]
6. Heizungsrücklauf [F]
7. Heizungsrücklauf für Niedertemperatur-Heizkreis [F]
8. Kaltwassereingang [M]
9. Kabeldurchführungen 230 Volt
10. Untere Frontplatte (für den Transport aufbewahrt)
11. Kabeldurchführungen 24 Volt
12. Abgasanschluss

ES

1. La salida de la válvula de seguridad de ACS integrada se debe conectar a la red de alcantarillado
2. Conexión gas [M]
3. Salida de Agua Caliente Sanitaria [M]
4. Ida del circuito de calefacción ([F]
5. Conexión para la válvula de seguridad del circuito de calefacción (para instalar) [M].
6. Retorno del circuito de calefacción [F]
7. Retorno del circuito de calefacción de baja temperatura [F]
8. Entrada de Agua Caliente Sanitaria [M]
9. Pasacables para cables eléctricos (230 V)
10. Panel frontal inferior (guardado para el transporte)
11. Pasacables para cables eléctricos (control de baja tensión)
12. Conexión conducto de humos/ entrada de aire

IT

1. Scarico valvola di sicurezza sanitaria interna (da convogliare ad uno scarico)
2. Collegamento gas [M]
3. Uscita acqua calda sanitaria [M]
4. Mandata riscaldamento [F]
5. Connessione per montaggio valvola di sicurezza fornita (da montare a cura dell'installatore) [M]
6. Ritorno riscaldamento [F]
7. Ritorno riscaldamento per circuito bassa temperatura [F]
8. Ingresso acqua calda sanitaria [M]
9. Ingresso cavi elettrici (230 V)
10. Pannello anteriore inferiore (conservato per il trasporto)
11. Ingresso cavi elettrici (bassa tensione)
12. Collegamento scarico fumi/ ingresso aria comburente

PL

1. Wylot dla wbudowanego zaworu bezp. c.w.
2. Podłączenie gazu [M]
3. Wylot ciepłej wody [M]
4. Podłączenie zasilania obiegu c.o. [F]
5. Podłączenie do zaworu bezpieczeństwa (do zainstalowania) [M].
6. Podłączenia powrotu c.o. [F]
7. Podłączenia Podłączenia dla niskotemperaturowego obiegu c.o. [F]
8. Wlot zimnej wody [M]
9. Dławiki przewodów elektrycznych (230 V)
10. Panel przedni dolny (przechowywany do transportu)
11. Dławiki przewodów elektrycznych (sterowanie niskonapięciowe)
12. Podłączenie do komina

RU

1. Сливной патрубок от предохранительного клапана
2. Подключение газа [M]
3. Подача горячей санитарной воды в систему ГВС [M]
4. Вывод теплоносителя в систему отопления [F]
5. Патрубок подключения предохранительного клапана [M].
6. Возврат теплоносителя в котел [F]
7. Возврат теплоносителя в котел - низкотемпературный контур [F]
8. Подача холодной санитарной воды [M]
9. Кабельные вводы для электроподключений 230В
10. Нижняя передняя панель (убирается для транспортировки)
11. Кабельные вводы (низковольные подключения)
12. Подключение дымоотвода

ACV
EXCELLENCE IN HOT WATER

CE

EU DECLARATION OF CONFORMITY

Product type:	**Condensing Boiler**
Name and address of manufacturer:	**Groupe Atlantic Manufacturing Belgium SA** **Rue Henry Becquerel, 1** **7180 Seneffe** **Belgium**

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Model:

HeatMaster 25 Evo 2
HeatMaster 35 Evo 2
HeatMaster 45 Evo 2
HeatMaster 70 Evo 2
HeatMaster 85 Evo 2
HeatMaster 120 Evo 2

We declare hereby that the appliance specified above is conform to the following regulations and directives:

Regulation/Directive	Description	Date
(EU) 2016/426	Regulation relating to Appliances Burning Gaseous Fuels	09.03.2016
(EU) 813/2013	Ecodesign Regulation (implementing Directive 2009/125/EC)	09.01.2017
(EU) 811/2013	Energy Labelling Regulation (supplementing Directive 2010/30/EU)	07.03.2017
2014/35/EU	Low Voltage Directive	26.02.2014
2014/30/EU	Electromagnetic Compatibility Directive	26.02.2014
92/42/EEC	Directive on Efficiency requirements	21.05.1992

Relevant harmonised standards :

EN15502-1:2021+A1:2023	EN 55014-1 :2021	EN 61000-3-2:2019
EN15502-2-1:2022+A1:2023	EN 55014-2:2021	EN 61000-3-3:2014
EN 60335-2-102:2016		

The notified body, (KIWA Nederlands B.V., Wilmersdorf 50, PO Box 137, 7300 AC APELDOORN, The Netherlands [0063]) performed a Type Examination and issued the certificate(s) Nb 17GR0164/05 and 25BE0045/00, ID # **0063CQ3618**

Signed for and on behalf of
Groupe Atlantic Manufacturing Belgium

Seneffe, 06/01/2025

Date

R&D Director
Céline Coupain

DÉCLARATION DE CONFORMITÉ A.R. 17/7/2009 - BE

(en accord avec la norme ISO/IEC 17050-1)

Nom et adresse du fabricant : **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
Belgique

Nom et adresse du distributeur sur le marché Belge : **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
Belgique

Nous déclarons sous notre seule responsabilité que l'appareil spécifié ci-après, mis sur le marché en Belgique est conforme au modèle type décrit dans la déclaration de conformité **CE** et est produit et distribué suivant les exigences de l'A.R. du 17 juillet 2009 .

Description du produit :	**Chaudière à condensation**
Modèle(s) :	**HeatMaster 25 Evo 2** **HeatMaster 35 Evo 2** **HeatMaster 45 Evo 2** **HeatMaster 70 Evo 2** **HeatMaster 85 Evo 2** **HeatMaster 120 Evo 2**
Organisme de contrôle :	**KIWA (0063)**
CE # :	**0063CQ3618**

Mesurés sur les produits suivants

Modèle(s)	CO - 0% 0_2 (ppm)	NOx - 0% 0_2 (mg/kWh)
HeatMaster 25 Evo 2	27	24,6
HeatMaster 35 Evo 2	48	29,5
HeatMaster 45 Evo 2	63	33,2
HeatMaster 70 Evo 2	34	33,1
HeatMaster 85 Evo 2	51	29,3
HeatMaster 120 Evo 2	50	39,8

Seneffe, 20/09/2025
Date

R&D Director
Céline Coupain

VERKLARING VAN OVEREENSTEMMING K.B. 17/7/2009 - BE

(in overeenstemming met de norm ISO/IEC 17050-1)

Naam en adres van de fabrikant : **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
België

Naam en het adres van de verdeler op de Belgische Markt : **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
België

Wij verklaren op eigen verantwoordelijkheid dat de apparatuur zoals hierna beschreven op de Belgische markt is gebracht, dat deze toestellen in overeenstemming zijn met het type model beschreven in de bijhorende CE conformiteitsverklaring en geproduceerd en gedistribueerd volgens de eisen opgenomen in het KB van juli 17, 2009.

Type product :	**Condentiesketel**
Modellen :	**HeatMaster 25 Evo 2** **HeatMaster 35 Evo 2** **HeatMaster 45 Evo 2** **HeatMaster 70 Evo 2** **HeatMaster 85 Evo 2** **HeatMaster 120 Evo 2**
Keuringsorganisme :	**KIWA (0063)**
CE # :	**0063CQ3618**

Gemeten op volgende producten

Modellen	CO - 0% 0_2 (ppm)	NOx - 0% 0_2 (mg/kWh)
HeatMaster 25 Evo 2	27	24,6
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HeatMaster 70 Evo 2	34	33,1
HeatMaster 85 Evo 2	51	29,3
HeatMaster 120 Evo 2	50	39,8

Seneffe, 20/09/2025
Datum

Director R&D
Céline Coupain

KONFORMITÄTSERKLÄRUNG A.R. 17/7/2009 - BE

(In Übereinstimmung mit der Norm ISO/IEC 17050-1)

Name und Adresse des Herstellers: **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
Belgien

Name und Adresse des Händlers auf dem belgischen Markt: **Groupe Atlantic Manufacturing Belgium SA**
Rue Henry Becquerel, 1
7180 Seneffe
Belgien

Wir erklären in alleiniger Verantwortung, dass das im Folgenden genannte, auf den belgischen Markt gebrachte Gerät mit dem in der **EG**- Konformitätserklärung beschriebenen Baumuster übereinstimmt und gemäß den AR-Anforderungen vom 17. Juli 2009 hergestellt und vertrieben wird.

Produktbeschreibung:	**Brennwertkessel**
Modellbeschreibung:	**HeatMaster 25 Evo 2** **HeatMaster 35 Evo 2** **HeatMaster 45 Evo 2** **HeatMaster 70 Evo 2** **HeatMaster 85 Evo 2** **HeatMaster 120 Evo 2**
Prüfstelle:	**KIWA (0063)**
CE # :	**0063CQ3618**

Gemessene Produkte

Modell	CO - 0% 0_2 (ppm)	NOx - 0% 0_2 (mg/kWh)
HeatMaster 25 Evo 2	27	24,6
HeatMaster 35 Evo 2	48	29,5
HeatMaster 45 Evo 2	63	33,2
HeatMaster 70 Evo 2	34	33,1
HeatMaster 85 Evo 2	51	29,3
HeatMaster 120 Evo 2	50	39,8

Seneffe, 20/09/2025
Datum

Leiter R & D
Céline Coupain

ACV A BRAND OF GROUPE ATLANTIC

www.acv.com

Groupe Atlantic Manufacturing Belgium
Rue Henry Becquerel, 1
7180 Seneffe
Belgium

Cross-Reference Table - Evo 2 Models

APPLICABILITY :

664Y8600 - HeatMaster 25 - 35 - 45 - 70 - 85 - 120 Evo 2

664Y8700 - WaterMaster 25 (X) - 35 - 45 (X) - 60 - 70 - 85 - 120 Evo 2

Ref.	ACV	Groupe Atlantic
1.	537D6287	***786251***
2.	537D6184	***786195***
3.	537D6185	***786196***
4.	10800301	***784474***
5.	537D6290	***786254***
6.	537D6300	***786257***
7.	537D6301	***786258***
8.	537D6211	***786217***
9.	537D6212	***786218***
10.	537D6213	***786219***
11.	537D6197	***786205***
12.	537D6198	***786206***
13.	537D6275	***786249***
14.	537D6186	***786197***
15.	537D6187	***786198***
16.	537D6188	***786199***
17.	537D6516	***786362***
18.	537D6271	***786248***
19.	537D6302	***786259***
20.	537D6303	***786260***
21.	537D6304	***786261***
22.	537D6517	***786363***
23.	537D6214	***786220***
24.	537D6215	***786221***
25.	537D6216	***786222***
26.	537D6217	***786223***
27.	537D6199	***786207***
28.	537D6200	***786208***
29.	537D6201	***786209***
30.	537D6189	***786200***
31.	537D6305	***786262***
32.	537D6218	***786224***
33.	537D6202	***786210***
34.	537D6190	***786201***
35.	537D6191	***786202***
36.	537D6306	***786263***
37.	537D6307	***786264***
38.	537D6219	***786225***
39.	537D6220	***786226***

Ref.	ACV	Groupe Atlantic
40.	537D6221	***786227***
41.	537D6222	***786228***
42.	537D6203	***786211***
43.	537D6204	***786212***
44.	537D6193	***786203***
45.	537D6229	***786231***
46.	537D6308	***786265***
47.	537D6310	***786267***
48.	537D6223	***786229***
49.	537D6226	***786230***
50.	537D6266	***786246***
51.	537D6448	***786301***
52.	537D6182	***786193***
53.	537D6183	***786194***
54.	537D6194	***786204***
55.	37D6267	***786247***
56.	537D6451	***786303***
57.	537D6209	***786215***
58.	537D6210	***786216***
59.	537D6208	***786214***
60.	537D6231	***786232***
61.	537D6405	***786287***
62.	537D6207	***786213***
63.	537D6293	***786256***
64.	537D6172	***786191***