

TECHNICAL SHEET

HIGH POWER

 **IMMERGAS**

VICTRIX PRO 2 ErP

High power, wall-hung
condensation boiler



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VICTRIX PRO 35 - 55 2 ErP



VICTRIX PRO 80 - 100 - 120 2 ErP



VICTRIX PRO 2 ErP is the new range of wall-hung condensing boilers for room heating only, set-up for independent functioning and for set configuration (up to 5 appliances), with the advantage of guaranteeing higher overall output and reduced running costs. All models can be installed indoors or outdoors (in the open), on walls or on a new load-bearing frame, offering flexible solutions to professionals who need to size heating control units based on the buildings. Condensation technology allows to obtain particularly high performance ($\eta > 93 + 2 \cdot \log P_n$) in compliance with Legislative Decree 192/05 and successive amendments. The high potential of VICTRIX PRO 2 ErP is ideal for central heating with large domestic systems (duplexes, three-unit houses, condominiums), as well as commercial and industrial applications, and is therefore ideal for building energy upgrading.

The new combustion system connected to the boiler's electronics provides a broader field of output modulation, between 10% and 100%, therefore streamlining boiler operation, also through reduced heat load requests (for example during spring and autumn or when the system is only partially used), which translates into increased average seasonal output, and therefore gas consumption savings.

The special ecological burner guarantees particularly reduced polluting emissions (the boiler belongs to the most environment-friendly class envisioned by European Standards - class 5).

The new low consumption modulating pump changes its speed to check ΔT between the flow and return and, consequently,

reduce power consumption and guarantee total silence during operation.

In case of installation of an individual boiler, and external 3-way valve can be connected for coupling to a separate storage tank unit for the production of D.W.H.. A hydraulic manifold can also be connected in order to increase the circulation in the system with consequent flexibility and speed of installation. With single or set installation, VICTRIX PRO 2 ErP can be combined with IMMERGAS solar solutions for the production of domestic hot water, especially with storage tank units of 200, 300, 500, 1000, 1500 and 2000 litres.

With set operation it is possible to hydraulically connect up to 5 appliances, therefore making it extremely easy to provide the required output size for the specific heat system.

VICTRIX PRO 2 ErP can also be installed on a specific modular supporting frame which offers single or set installation (up to 5 boilers), in linear set-up, or back-to-back for more limited spaces.

The frame has supporting collars for the hydraulic manifolds and can be attached to the wall or floor with plugs.

Thanks to a surface treatment, the frame is also type-approved for outdoor installation, in the open.

VICTRIX PRO 2 ErP can also be installed (coupled to specific optional kits), inside containment cabinet suitable for outdoor installation.

By purchasing more cabinets, it is also possible to develop set configurations up to 5-generators.

VICTRIX PRO 35 - 55 2 ErP

1

VICTRIX PRO 35-55 2 ErP SPECIFICATIONS

Wall-hung, open-chamber and fan-assisted pre-mixed condensing boilers, high efficiency with forced circulation, with a maximum heat output for 50/30 °C of:

VICTRIX PRO 35 2 ErP = 37.3 kW (32.155 kcal/h)

VICTRIX PRO 55 2 ErP = 54.8 kW (47.097 kcal/h)

Type-approved for installation in heating control unit and outside the building without any additional protection (in the open), it can be used in two configurations:

Open chamber and fan assisted (appliance type B_{23p}/B₃₃/B_{53p}) No additional kit is required for this factory-supplied configuration.

Sealed chamber and fan assisted (appliance type C₁₃/C₃₃/C₅₃) - Only using the vertical or horizontal concentric kits.

The boiler is made up from:

- total pre-mixing combustion system with steel multigas burner, complete with ignition electrodes and ionisation control;
- pneumatic gas valve with double shutter;
- primary gas/water heat exchanger with casing in composite material with air vent valve and internal stainless steel coil, composed of 9 elements (6+3 on flue side);
- combustion chamber in stainless steel internally isolated using ceramic panels;
- fan for flue evacuation with electronically variable speed;
- circuit for disposal of condensate including trap and flexible discharge pipe;
- the hydraulic unit is composed of a flow manifold, primary circuit pressure switch, low power consumption modulating circulation pump and automatic vent valve;
- 4 bar system safety valve (INAIL approved) and standard draining funnel;
- system flow rate meter (flow switch);
- water overheating safety thermostat, heat exchanger safety thermofuse and heat exchanger safety thermostat (manual reset);
- flue control probe
- control panel supplied with P.C.B. with microprocessor with continuous flame modulation on heating with P.I.D. control, modulation field referring to 50/30 °C between:
 - 3.7 and 37.3 kW (between 3.208 and 32.155 kcal/h) for VICTRIX PRO 35 2 ErP;
 - 5.5 and 54.8 kW (between 4.701 and 47.097 kcal/h) for VICTRIX PRO 55 2 ErP;
- system flow regulation probe;
- system return regulation probe;
- heating flow temperature with factory setting between 20 and 85°C;
- ignition delay device in central heating phase, antifreeze protection, pump anti-blocking function, chimney sweep function;
- control panel composed of main switch, C.H. system pressure gauge, multifunction back-lit display and 7-key push button panel with protective sliding door;
- setting and adjusting boiler operation parameters through the following keys: C.H. temperature adjustment buttons, D.W.H. temperature adjustment buttons, summer / winter mode button, reset button, info, parameter confirmation and multi-function button (anomaly records, D.W.H. exclusion);
- self-diagnosis system with digital display of the temperature, functioning status and error codes;
- IPX5D electrical insulation level, with possibility of installation outside without any additional protection (in the open);
- antifreeze protection to -5 °C as per standard (-15 °C with relevant kit optional);
- set-up for the connection of the cascade and zone regulator and of the external probe;
- set-up for connection to an external 3-way valve with 230 Vac power supply, for coupling to a separate storage tank unit for the production of D.W.H.;
- set-up for functioning in set configuration (up to 5 boilers with a unique INAIL safety devices kit);
- set-up for the installation of the INAIL-approved safety stub pipes, both in single and set configuration (up to 5 boilers);
- possibility of installation with the supporting frame kit in "free standing" mode, which can be used to install one or more VICTRIX PRO 2 ErP without having to mount the boilers directly on the wall. The frame is also suitable for outdoor installation, in the open;
- possibility of installation of the generator within a cabinet suitable for outdoor installation;
- possibility of connecting (in combination with a cascade and zone regulator) to a remote management system for remote management of the system (optional);
- it can be combined with the system by 80Ø mm flexible ducting (single installation).

Supplied with sample points for combustion analysis, bottom protective metal-sheet plate grid and gas interception cock.

Category II appliance_{2H3P} operates with natural gas and L.P.G.. CE Marking.

It is available in the model:

- **VICTRIX PRO 35 2 ErP** code 3.025622
- **VICTRIX PRO 55 2 ErP** code 3.025618

NOTA BENE: for correct installation of the boiler the Immergas "Green Range" air intake/fumes exhaust kit must be used and however, dedicated for the VICTRIX PRO 2 ErP boiler, whether in single or cascade configuration (set).

Wall-hung, open-chamber and fan-assisted pre-mixed condensing boilers, high efficiency with forced circulation, with a maximum heat output for 50/30 °C of:

VICTRIX PRO 80 2 ErP = 80.3 kW (68.994 kcal/h),

VICTRIX PRO 100 2 ErP = 98.8 kW (84.942 kcal/h),

VICTRIX PRO 120 2 ErP = 121.7 kW (104.682 kcal/h);

Type-approved for installation in heating control unit and outside the building without any additional protection (in the open), it can be used in two configurations:

Open chamber and fan assisted (appliance type B_{23p}/B_{33p}/B_{53p}) - No additional kit is required for this factory-supplied configuration.

Sealed chamber and fan assisted (appliance type C₁₃/C₃₃/C₆₃) - Only using the vertical or horizontal concentric kits. The boiler is made up from:

- total pre-mixing combustion system with metal-fibre steel multigas cylindrical burner, complete with ignition electrodes and ionisation control;
- pneumatic gas valve with double shutter;
- primary gas/water heat exchanger with stainless steel double overlapping coil with safety thermofuse and automatic air vent valve, composed of:
 - VICTRIX PRO 80 2 ErP = 12 elements (8+4 flue side);
 - VICTRIX PRO 100 2 ErP = 16 elements (10+6 flue side);
 - VICTRIX PRO 120 2 ErP = 18 elements (12+6 flue side);
- combustion chamber in stainless steel internally isolated using ceramic panels;
- fan for flue evacuation with electronically variable speed;
- circuit for disposal of condensate including trap and flexible drain hose;
- hydraulic unit composed of a flow manifold, primary circuit pressure switch, modulating circulation pump and low power consumption;
- 4 bar system safety valve and standard draining funnel;
- water overheating safety thermostat and heat exchanger safety thermostat (manual reset);
- flue control probe;
- control panel supplied with P.C.B. with microprocessor with continuous flame modulation on heating with P.I.D. control, modulation field referring to 50/30 °C between:
 - 8.1 to 80.3 kW (between 6.983 and 68.994 kcal/h) VICTRIX PRO 80 2 ErP,
 - 10.5 to 98.8 kW (between 9.023 and 84.942 kcal/h) VICTRIX PRO 100 2 ErP;
 - 12.2 to 121.7 kW (between 10.520 and 104.682 kcal/h) VICTRIX PRO 120 2 ErP;
- system flow regulation probe;
- system return regulation probe;
- heating flow temperature with factory setting between 25 and 85°C;
- ignition delay device in central heating phase, antifreeze protection, pump anti-blocking function, chimney sweep function;
- control panel composed of main switch, C.H. system pressure gauge, multifunction back-lit display and 7-key push button

panel with protective sliding door;

- setting and adjusting boiler operation parameters through the following keys: C.H. temperature adjustment buttons, D.W.H. temperature adjustment buttons, summer / winter mode button, reset button, info, parameter confirmation and multi-function button (anomaly records, D.W.H. exclusion);
- self-diagnosis system with digital display of the temperature, functioning status and error codes;
- IPX5D electrical insulation level, with possibility of installation outside without any additional protection (in the open);
- antifreeze protection to -5 °C as per standard (-15 °C with relevant kit optional);
- set-up for the connection of the cascade and zone regulator and of the external probe;
- set-up for connection to an external 3-way valve with 230 Vac power supply, for coupling to a separate storage tank unit for the production of D.W.H.;
- set-up for functioning in cascade configuration (up to 5 boilers with a unique safety devices kit);
- set-up for the installation of the safety stub pipes, both in single and cascade configuration (up to 5 boilers);
- possibility of installation with the supporting frame kit in "free standing" mode, which can be used to install one or more VICTRIX PRO 2 ErP without having to mount the boilers directly on the wall. The frame is also suitable for outdoor installation, in the open;
- possibility of installation of the generator within a cabinet suitable for outdoor installation;
- possibility of connecting (in combination with a cascade and zone regulator) to a remote management system for remote management of the system (optional);
- it can be combined with the system by 80Ø mm flexible ducting (single installation).

Supplied with sample points for combustion analysis, bottom protective metal-sheet plate grid and gas interception cock.

Category II appliance_{2H3P} operates with natural gas and L.P.G. CE Marking.

It is available in the model:

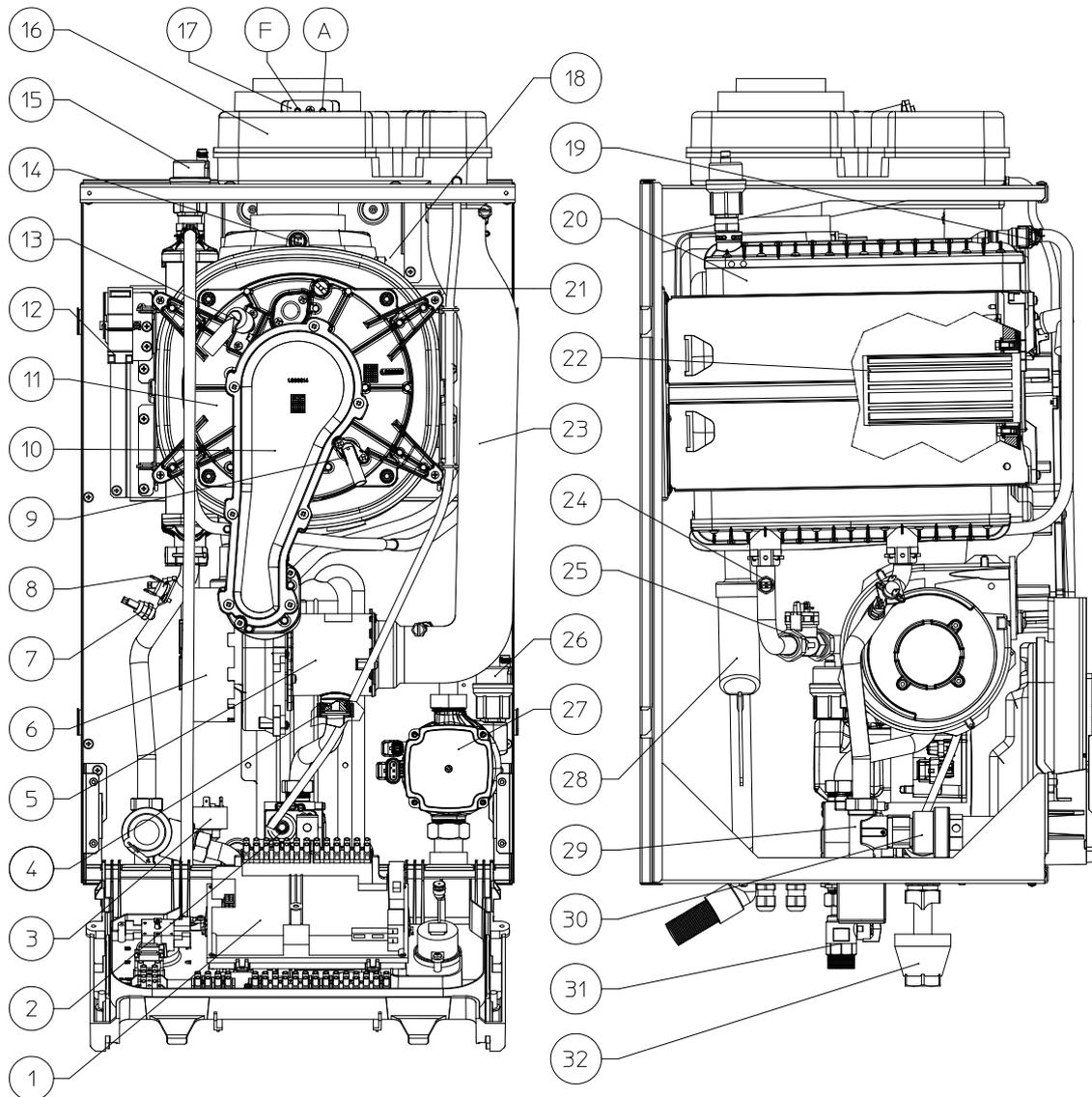
- | | |
|--------------------------------|----------------------|
| • VICTRIX PRO 80 2 ErP | code 3.025619 |
| • VICTRIX PRO 100 2 ErP | code 3.025620 |
| • VICTRIX PRO 120 2 ErP | code 3.025621 |

NOTA BENE: for correct installation of the boiler the Immergas "Green Range" air intake/fumes exhaust kit must be used and however, dedicated for the VICTRIX PRO 2 ErP boiler, whether in single or cascade configuration (set).

VICTRIX PRO 35 - 55 2 ErP

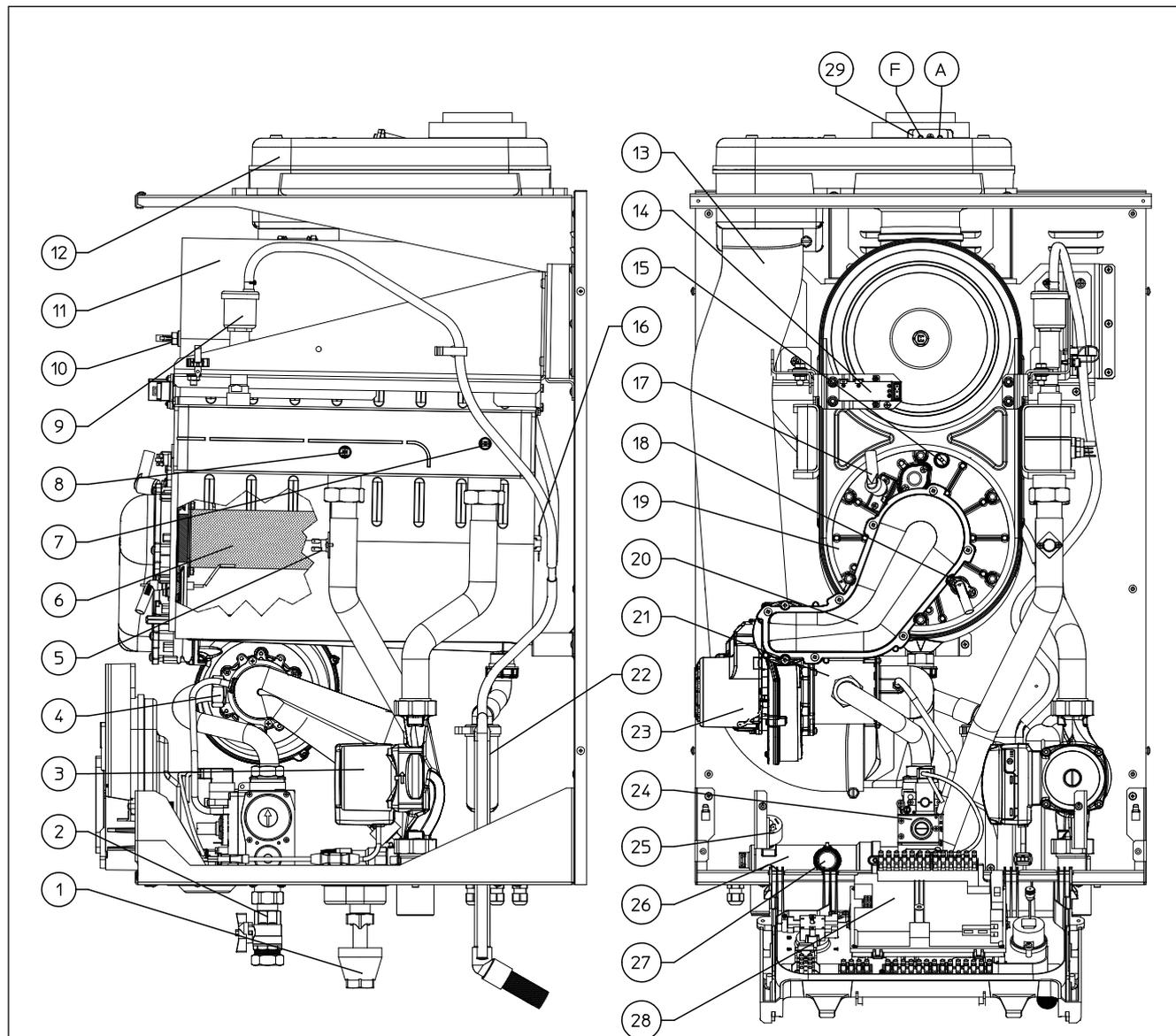
3

VICTRIX PRO 35 - 55 ErP MAIN PARTS



KEY:

- | | |
|---------------------------------------|--|
| 1 - P.C.B. | 17 - Sample points (air A) - (flue gas F) |
| 2 - Gas valve | 18 - Heat exchanger safety thermal fuse |
| 3 - System pressure switch | 19 - Manual air vent valve |
| 4 - Gas nozzle | 20 - Condensation module |
| 5 - Sleeve with seats for Venturi | 21 - Heat-exchanger safety thermostat (manual reset) |
| 6 - Air fan | 22 - Burner |
| 7 - System flow regulation NTC probe | 23 - Air intake pipe |
| 8 - Overheating safety thermostat | 24 - System return regulation NTC probe |
| 9 - Detection electrode | 25 - System flow meter |
| 10 - Manifold cover | 26 - Vent valve |
| 11 - Condensation module cover | 27 - Pump |
| 12 - Igniter | 28 - Condensate trap |
| 13 - Ignition electrode | 29 - Flow manifold |
| 14 - Flue probe | 30 - 4 bar safety valve |
| 15 - Condensing module air vent valve | 31 - Gas cock |
| 16 - Fumes hood | 32 - Draining funnel. |



KEY:

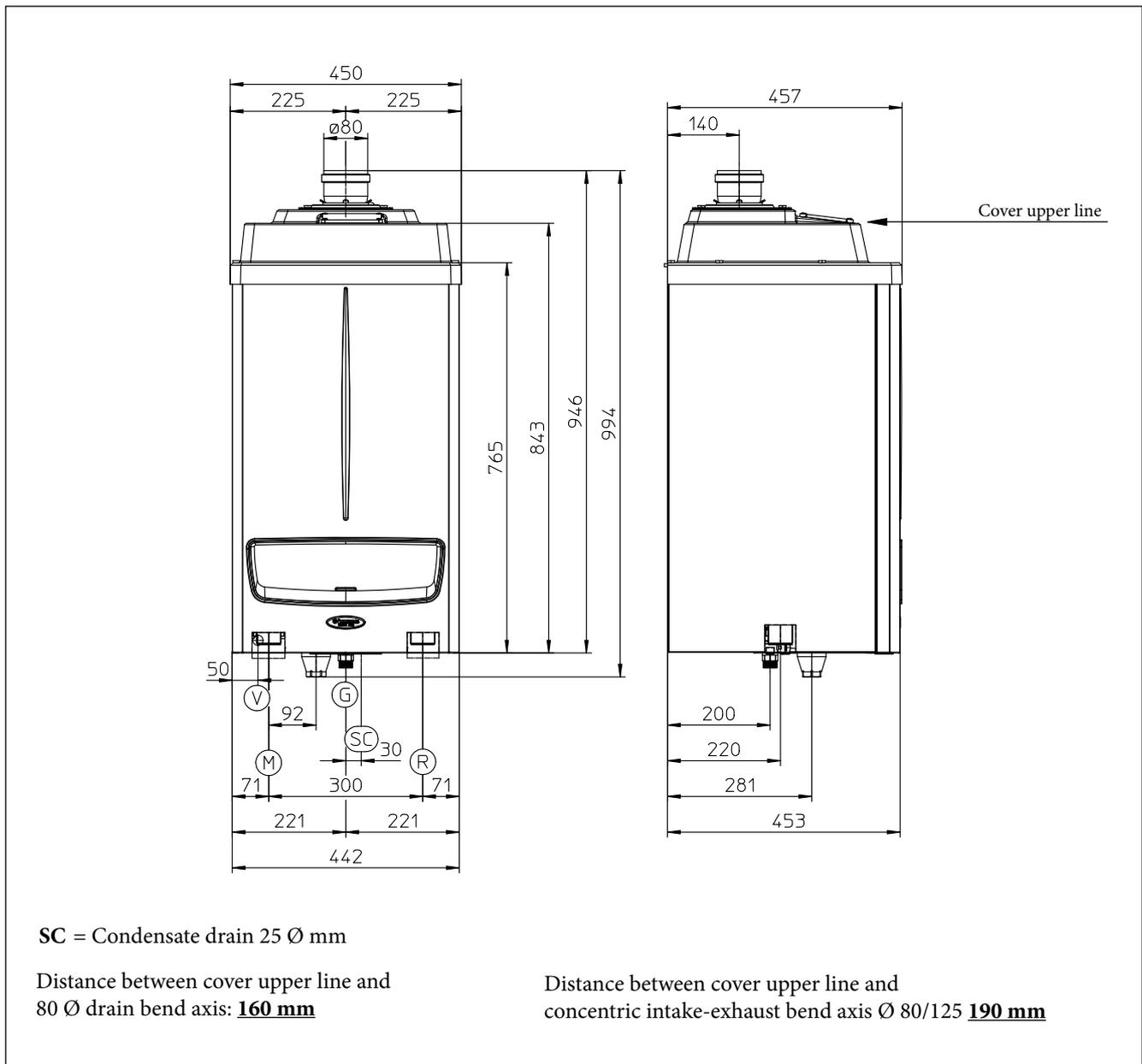
- | | |
|---|---|
| <ul style="list-style-type: none"> 1 - Draining funnel. 2 - Gas cock 3 - Pump 4 - Gas nozzle 5 - Overheating safety thermostat 6 - Burner 7 - System return regulation NTC probe 8 - System flow regulation NTC probe 9 - Condensing module air vent valve 10 - Flue probe 11 - Condensation module 12 - Fumes hood 13 - Air intake pipe 14 - Igniter 15 - Heat-exchanger safety thermostat (manual reset) | <ul style="list-style-type: none"> 16 - Heat exchanger safety thermal fuse 17 - Ignition electrode 18 - Detection electrode 19 - Condensation module cover 20 - Manifold cover 21 - Sleeve with seats for Venturi 22 - Condensate trap 23 - Air fan 24 - Gas valve 25 - System pressure switch 26 - Flow manifold 27 - 4 bar safety valve 28 - P.C.B. 29 - Sample points (air A) - (flue gas F) |
|---|---|

VICTRIX PRO 35 - 55 2 ErP

5 VICTRIX PRO 35 - 55 2 ErP MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm
VICTRIX PRO 35 - 55 2 ErP	843	450	457

5.1 CONNECTIONS



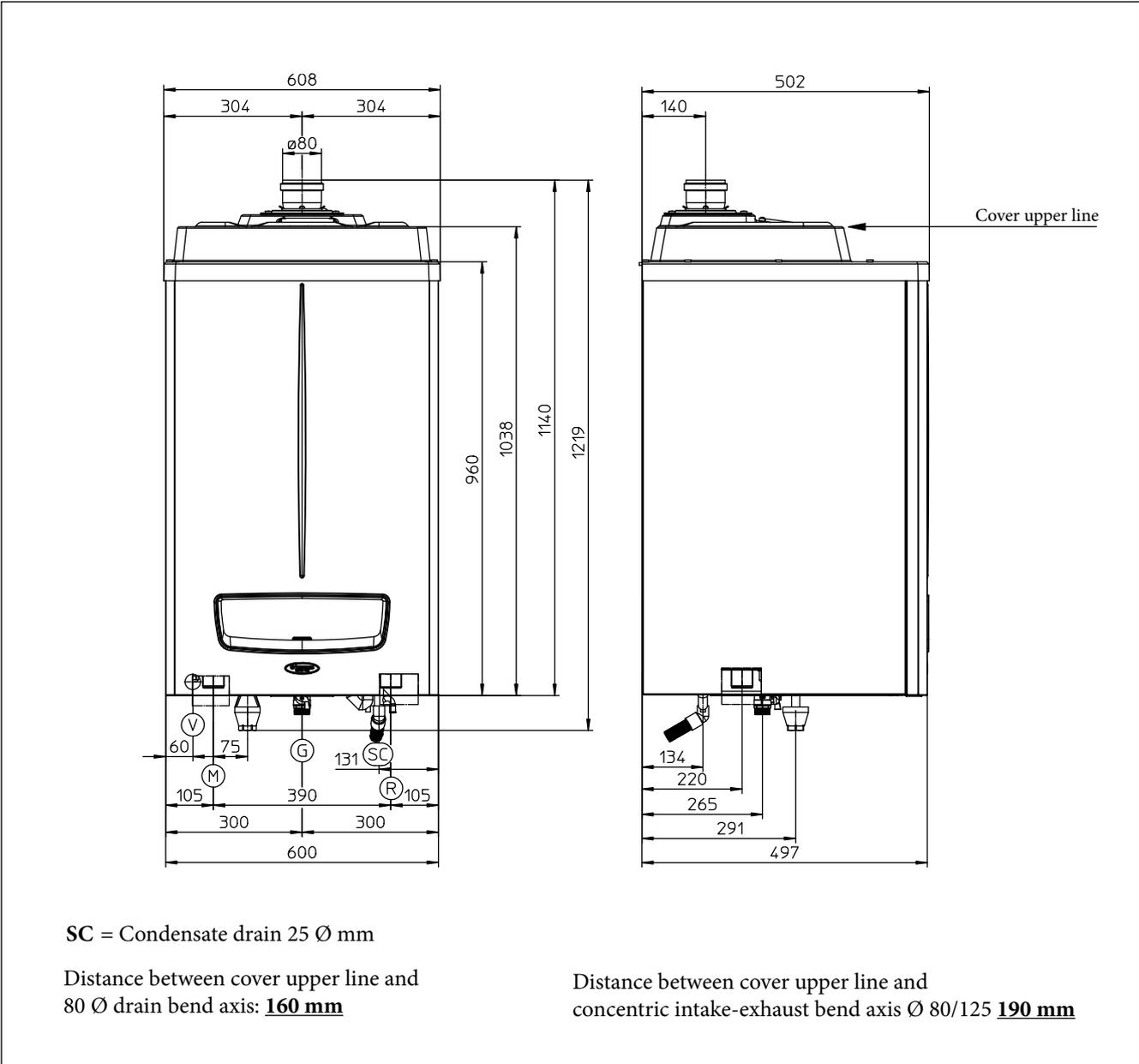
Model	System flow	System return	Gas Supply
VICTRIX PRO 35 2 ErP	M 1" 1/2	R 1" 1/2	G 3/4"
VICTRIX PRO 55 2 ErP	1" 1/2	1" 1/2	3/4"

VICTRIX PRO 80 - 100 - 120 2 ErP

6 VICTRIX PRO 80 2 ErP MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm
VICTRIX PRO 80 2 ErP	1038	608	502

6.1 CONNECTIONS



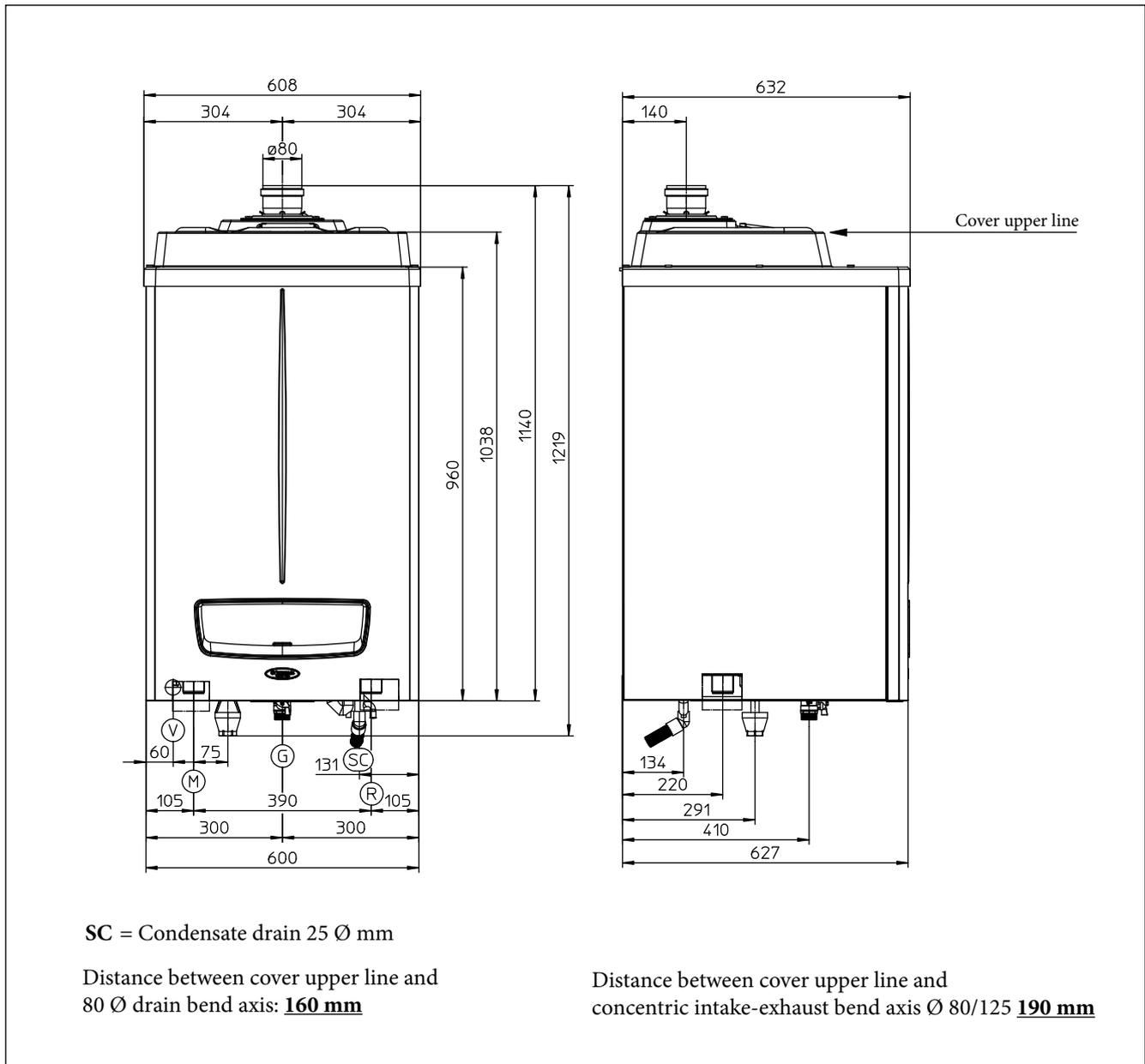
Model	System flow	System return	Gas Supply
VICTRIX PRO 80 2 ErP	M 1" 1/2	R 1" 1/2	G 3/4"

VICTRIX PRO 80 - 100 - 120 2 ErP

7 VICTRIX PRO 100 - 120 2 ErP MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm
VICTRIX PRO 100 - 120 2 ErP	1038	608	632

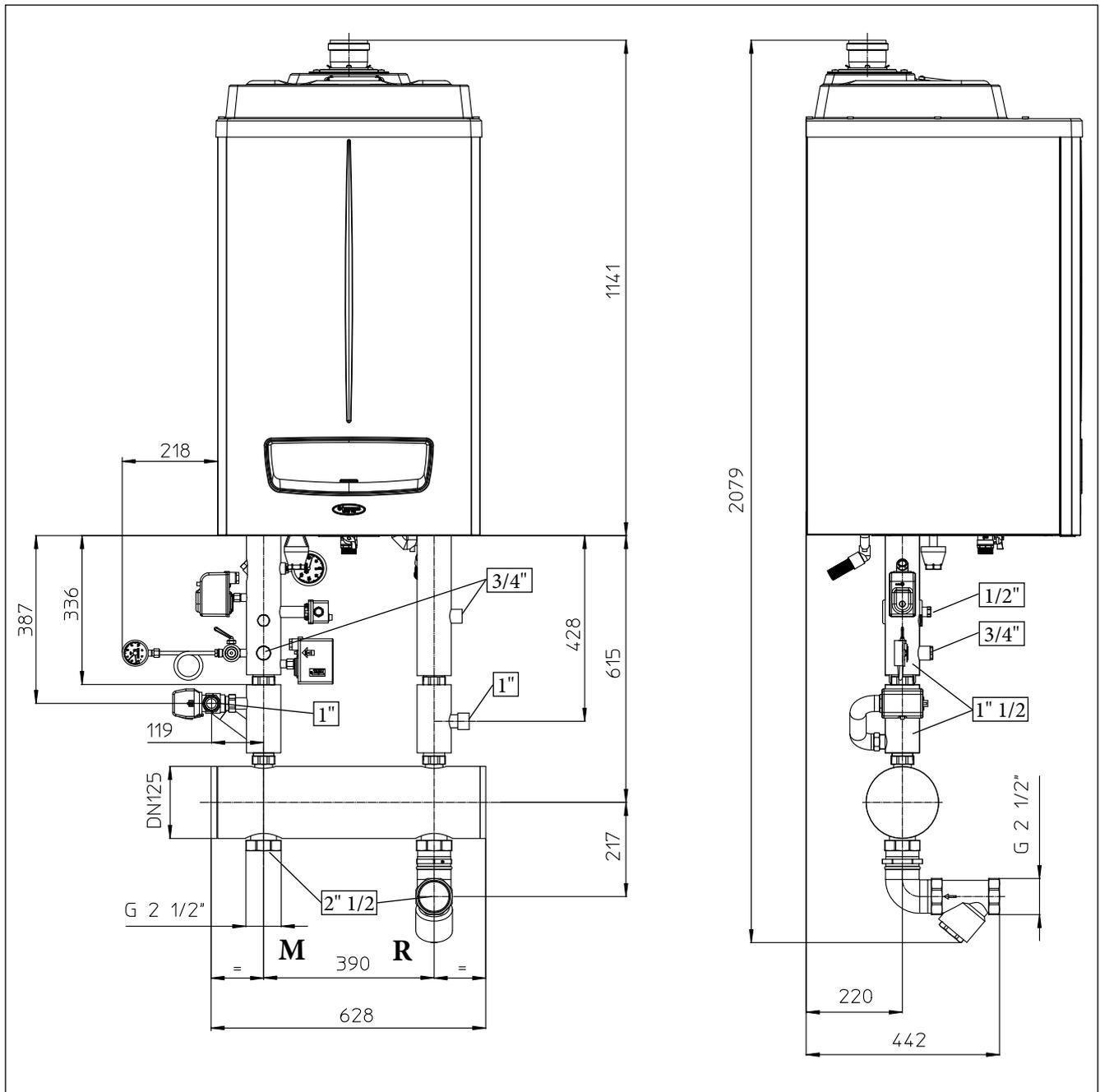
7.1 CONNECTIONS



Model	System flow M	System return R	Gas Supply G
VICTRIX PRO 100 2 ErP	1" 1/2	1" 1/2	1"
VICTRIX PRO 120 2 ErP	1" 1/2	1" 1/2	1"

VICTRIX PRO 80 - 100 - 120 2 ErP

9 HYDRAULIC KIT MEASUREMENTS AND FITTINGS (OPTIONAL) VICTRIX PRO 80 - 100 - 120 2 ErP WITH INDIVIDUAL BOILER



N.B.: In case of installation outside, the safety devices kit must be protected using the IPX4D protection box kit for individual boiler safety devices, code 3.024028.

Immergas S.p.a. declines all liability whenever the installer does not use approved devices and Immergas original kits or uses them improperly.

The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with the provisions cascade forth in the "R" collection.

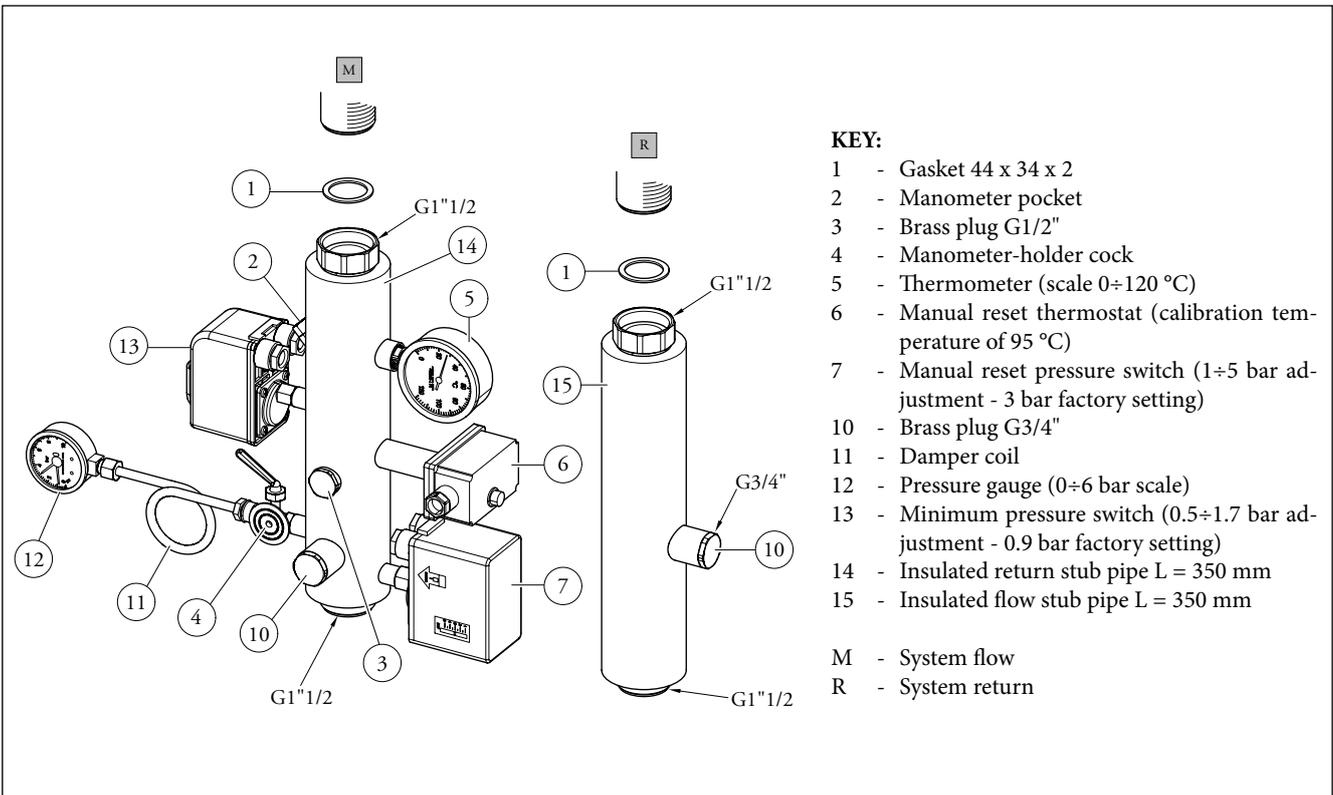
For design purposes, by installing the Immergas safety device

kit, the following are already included: Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel). There is a fitting for an expansion vessel on the flow and return stub pipes.

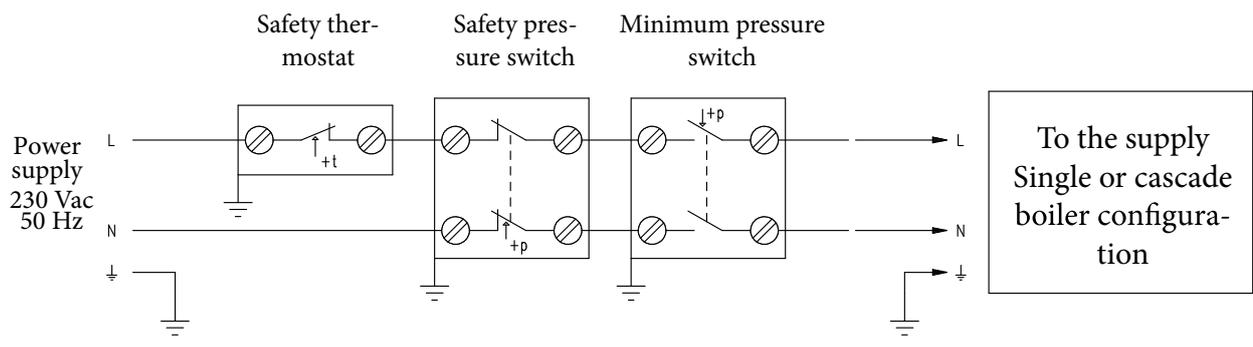
**10 INAIL SAFETY DEVICE KIT FOR SINGLE BOILER
(CODE 3.023949) FOR VICTRIX PRO 35 - 55 - 80 - 100 - 120 2 ErP**

The safety device kit is type-approved for vertical installation directly under the boiler, placing the relative gaskets in between. With outdoor installation it needs to be protected using the IPX4D protection box kit for single boiler safety devices, code 3.024028, or nonetheless protected from the elements based on its electrical protection rating. Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with the provisions cascade forth in the "R" collection. For design purposes, by installing the Immergas safety kit, the following devices are included:

Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel). There is a fitting for an expansion vessel on the flow and return stub pipes. **NOTE:** With regard to the VICTRIX PRO 35 2 ErP generator installed individually, generating nominal heat input of 34.9 kW does not require the safety devices kit.



Electrical connection diagram for safety device kit



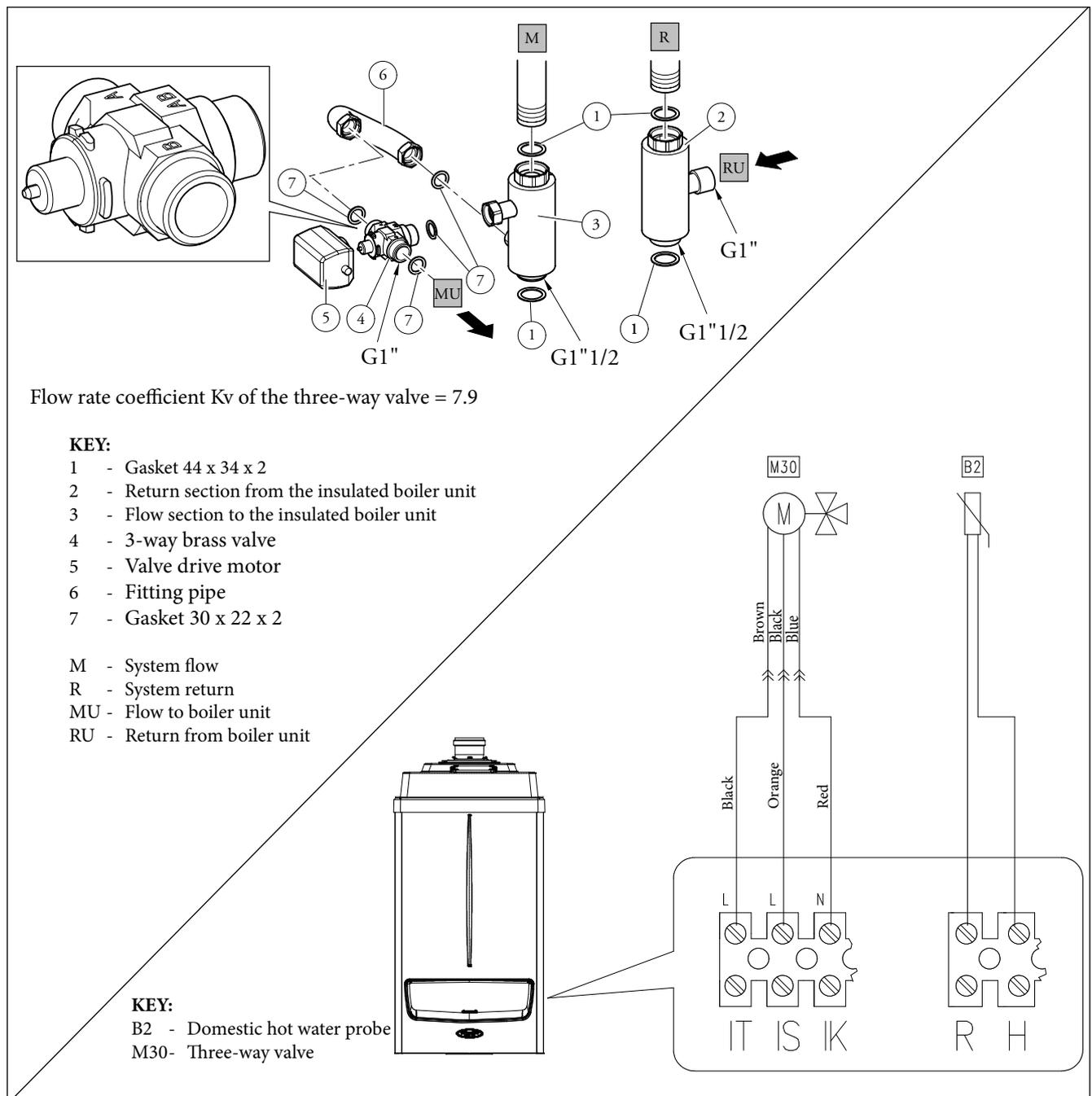
VICTRIX PRO 2 ErP

11 THREE-WAY VALVE KIT FOR COMBINATION WITH SEPARATE STORAGE TANK UNIT (CODE 3.023950) FOR VICTRIX PRO 35 - 55 - 80 - 100 - 120 2 ErP

The kit is sized for single boiler operation or in combination with a separate boiler for D.W.H. production. The output of the boiler in domestic hot water operation must be set based on the heat exchange output of the coil supplied with the storage tank. The diverter valve (which is powered by 230 Vac) comes installed on the flow pipe in combination with a blind manifold (3), reducing the overall installation footprint. The standard kit comes with a NTC probe which needs to be applied to the external storage tank unit and connected to the boiler card (see electrical diagram provided below), removing

any pre-installed temperature probe from the storage tank unit. Kit installation requires the use of an ON-OFF chrono-thermostat for boiler management.

Note: The boiler has an IPX5D electric insulation rating and can also be installed outdoors without additional protections. However, if installed outdoors, the outdoor piping should be insulated and the kit protected from the elements based on its electric protection rating.



12

HYDRAULIC SEPARATOR KIT FOR INDIVIDUAL BOILER VICTRIX PRO 35 - 55 2 ErP (CODE 3.023951)

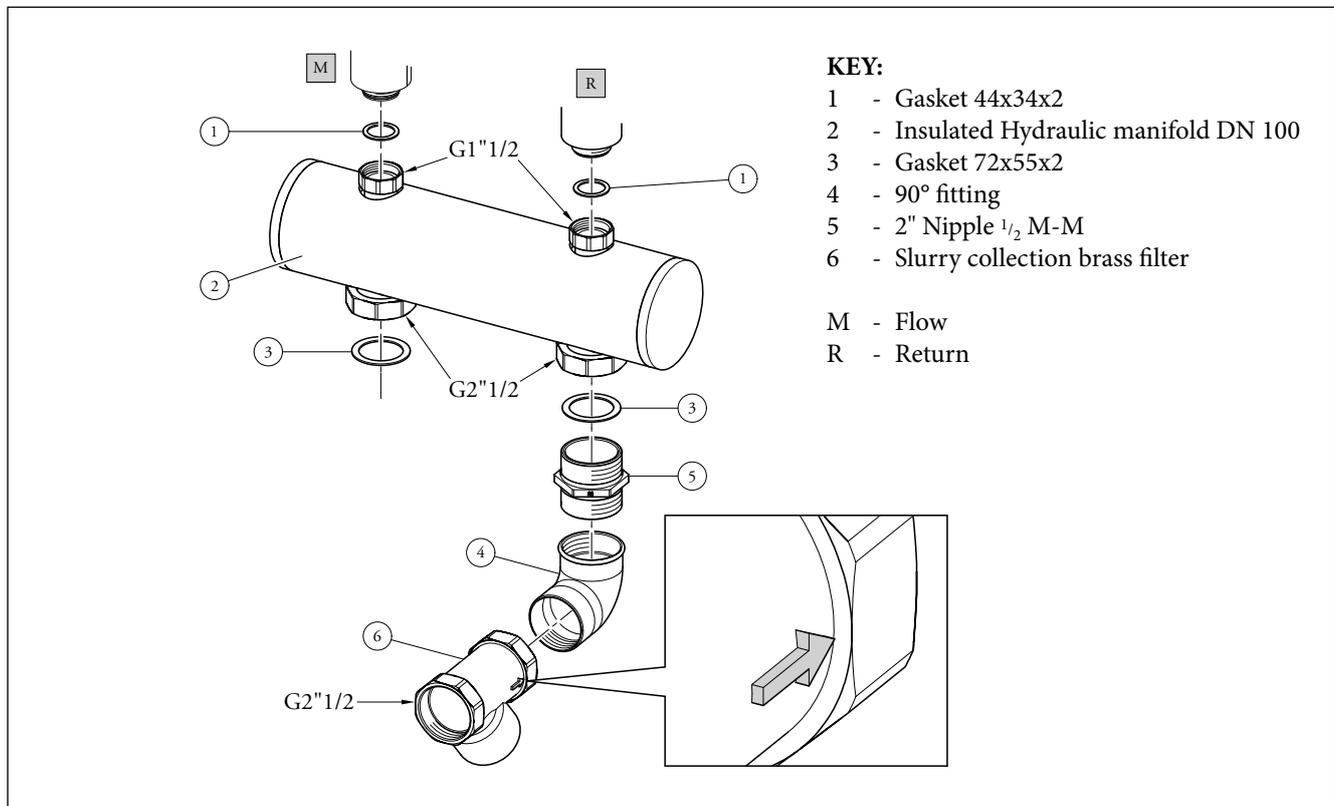
The hydraulic separator (compensator) is a particularly significant part inside the hydraulic circuits.

It is an open manifold (2) which places system flow and return in communication, creating 2 circuits: a primary circuit (boiler - manifold) and a secondary circuit (manifold-system). The former circulates by the boiler pump, while the latter runs on the correct thermal gradient (and therefore the correct water flow rate), as defined by the system's design.

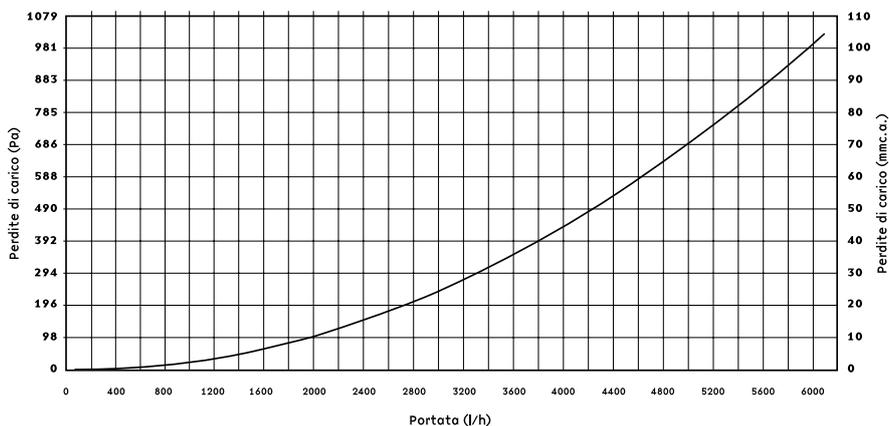
It is advisable to include a hydraulic compensator (2) every time the overall flow rate required by the system is greater than what the boiler is able to supply. The maximum flow rate at the inlet is the generally adopted sizing method.

The brass sludge collecting filter, with relative inspectable stainless steel cartridge, protects the condensation module from getting clogged with the sludge or build-up from the system.

Attention: The boiler has an IPX5D electric insulation rating and can also be installed outdoors, without additional protections. However, if installed outdoors, the relevant piping should be insulated.



Sludge filter head loss graph



VICTRIX PRO 80 - 100 - 120 2 ErP

13

HYDRAULIC SEPARATOR KIT FOR INDIVIDUAL BOILER VICTRIX PRO 80 - 100 - 120 2 ErP (CODE 3.023952)

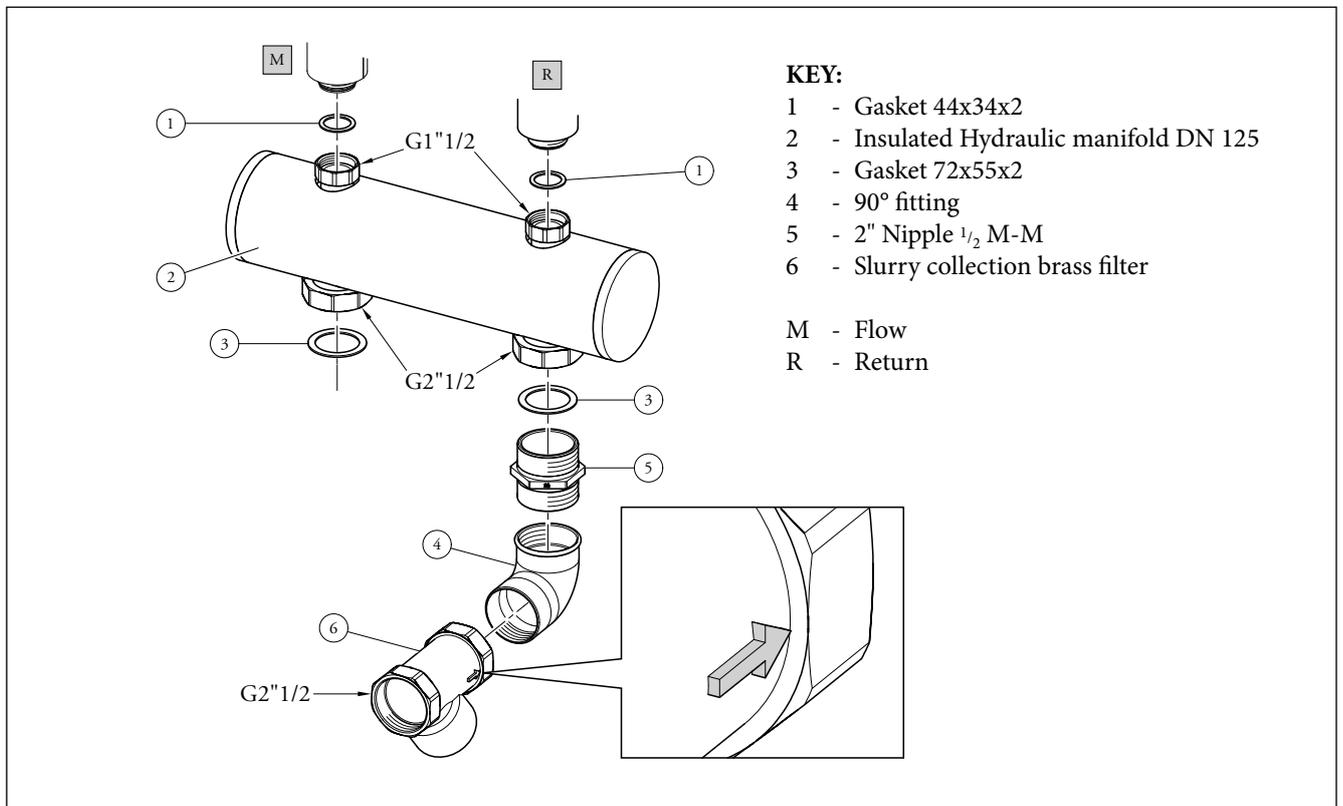
The hydraulic separator (compensator) is a particularly significant part inside the hydraulic circuits.

It is an open manifold (2) which places system flow and return in communication, creating 2 circuits: a primary circuit (boiler - manifold) and a secondary circuit (manifold-system). The former circulates by the boiler pump, while the latter runs on the correct thermal gradient (and therefore the correct water flow rate), as defined by the system's design.

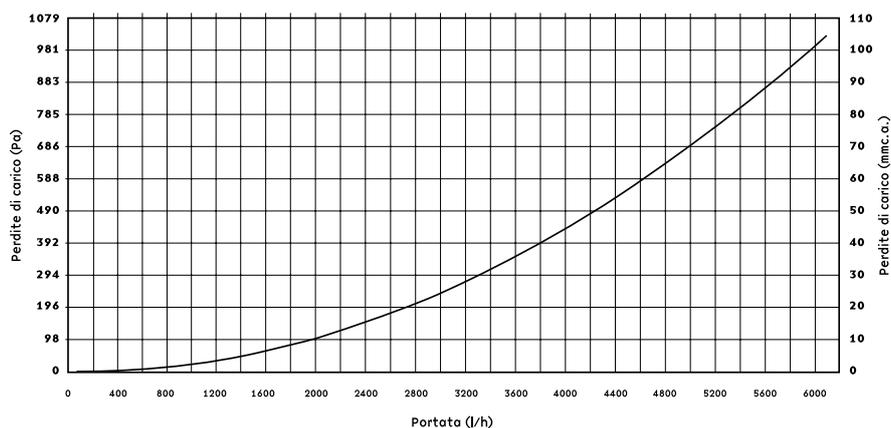
It is advisable to include a hydraulic compensator (2) every time the overall flow rate required by the system is greater than what the boiler is able to supply. The maximum flow rate at the inlet is the generally adopted sizing method.

The brass sludge collecting filter, with relative inspectable stainless steel cartridge, protects the condensation module from getting clogged with the sludge or build-up from the system.

Attention: The boiler has an IPX5D electric insulation rating and can also be installed outdoors, without additional protections. However, if installed outdoors, the relevant piping should be insulated.



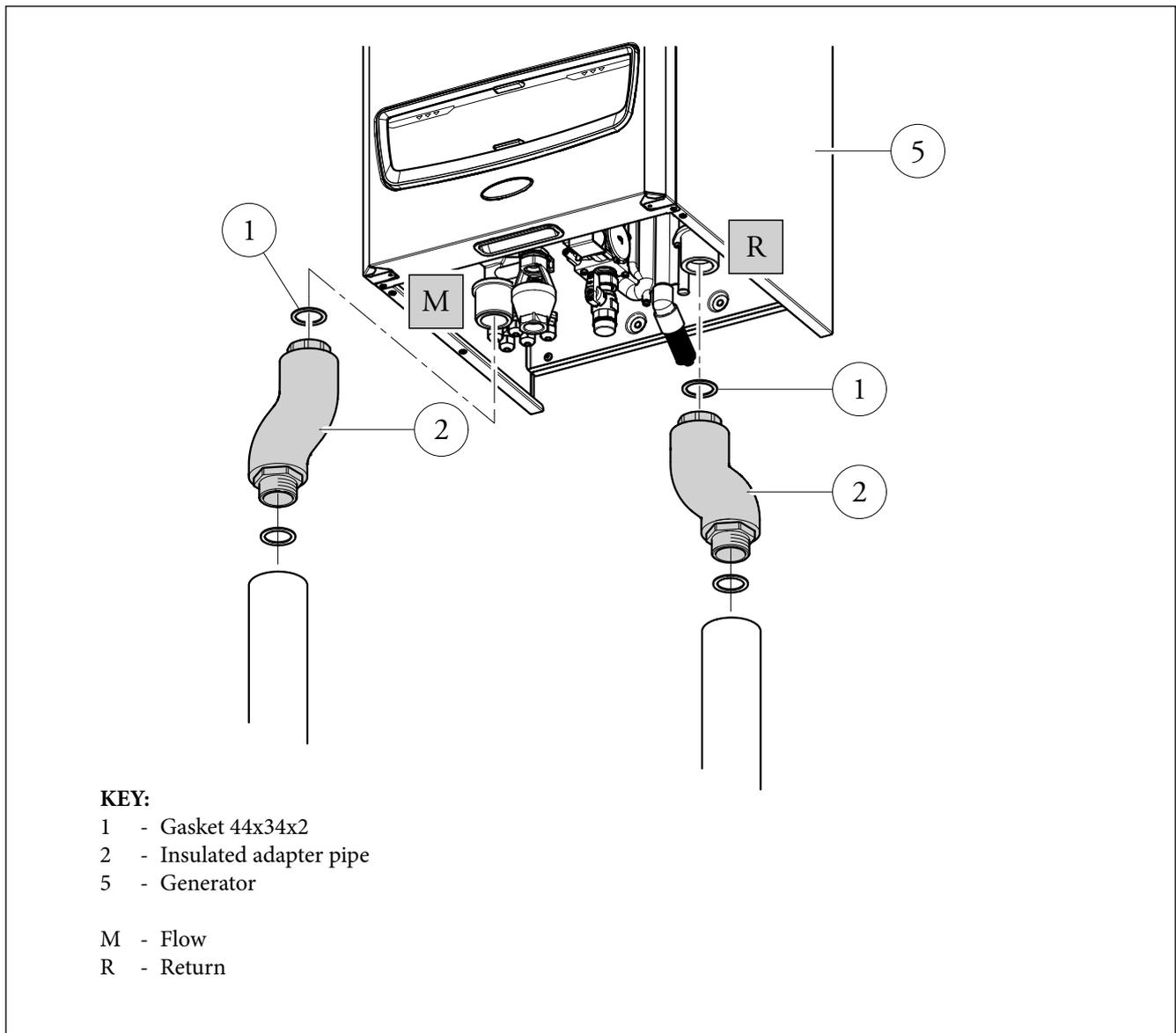
Sludge filter head loss graph



14 VICTRIX PRO 35 - 55 2 ErP ADAPTER KIT TO REPLACE THE PREVIOUS SERIES OF WALL-HUNG BOILERS IN SINGLE CONFIGURATION (CODE 3.023966)

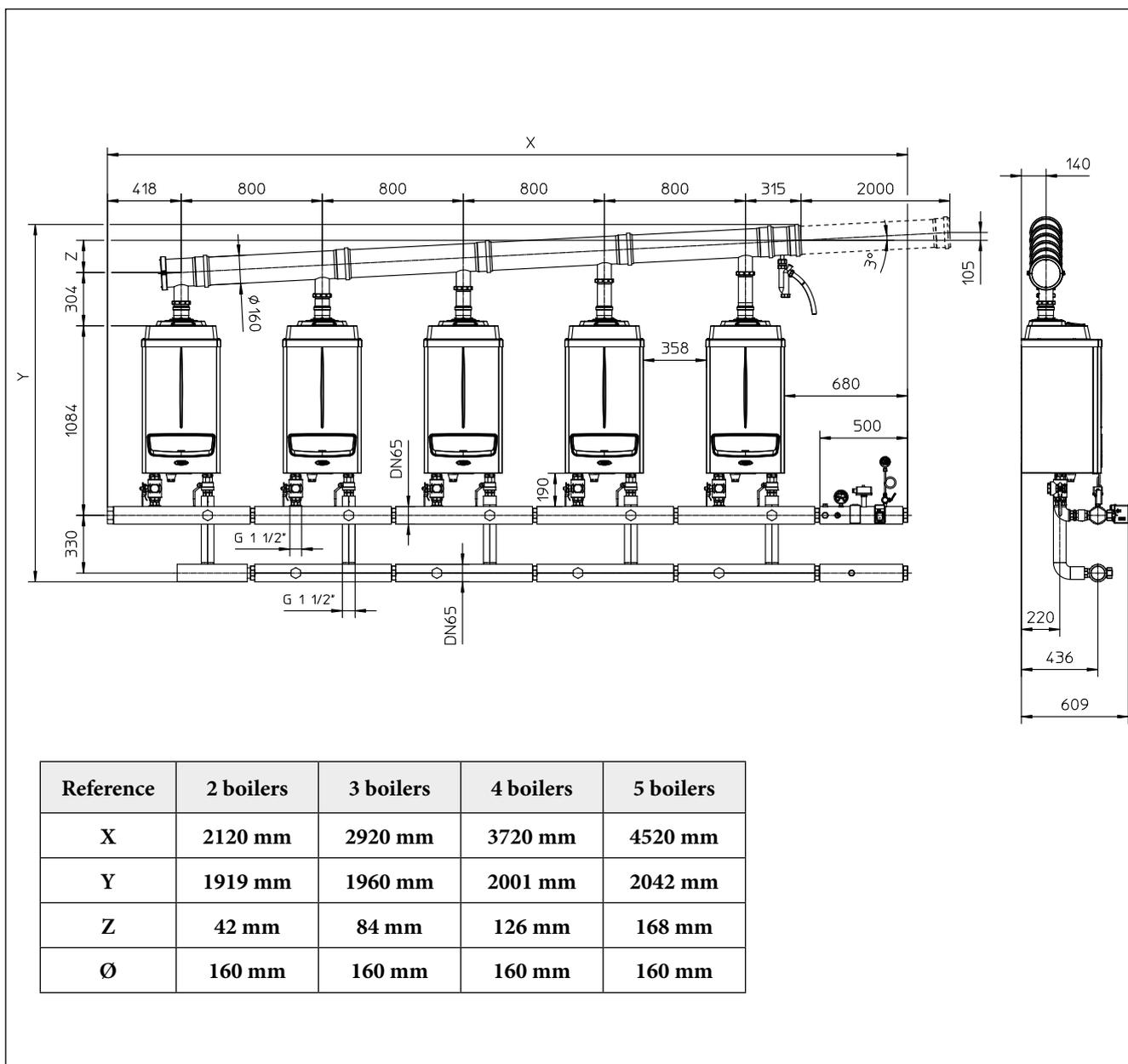
This kit is composed of just two gaskets 44x34x2 (1) and two insulated pipes (2), to compensate for the variation in the centre distances between flow and return on VICTRIX PRO 35 1 I-55 1 I boilers, which is 300 mm in comparison to the centre distance between flow and return on the previous range of high output wall-hung boilers (ex. VICTRIX 50-75), which is 390 mm.

Accordingly, it is possible to install VICTRIX PRO 35 1 I-55 1 I models in place of the models from the previous range of VICTRIX 50-75 wall-hung boilers in single configuration. The elements illustrated in the figure and any safety kit for single boilers must be installed according to the relative documents of reference.



VICTRIX PRO 35 - 55 2 ErP

15 KIT DIMENSIONS AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 35 - 55 2 ErP BOILERS IN SET CONFIGURATION (UP TO A MAXIMUM OF FIVE APPLIANCES)



N.B.: In case of installation outside, the safety devices kit must be protected using the IPX4D protection box kit for safety devices for boilers in cascade configuration, code 3.024038.

Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with the provisions cascade forth in the "R" collection.

For design purposes, by installing the Immergas safety kit, the following devices are included: Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel).

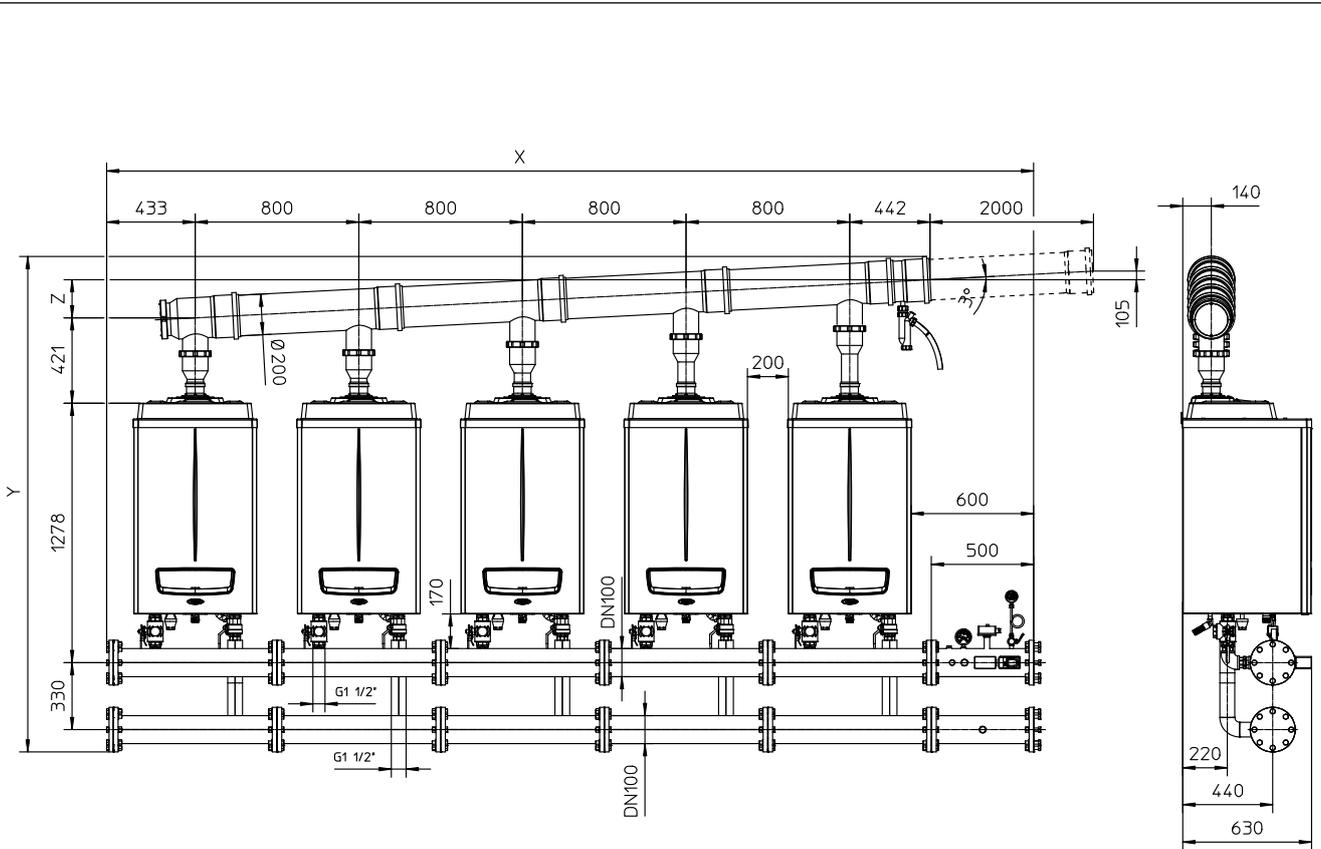
There is a fitting for an expansion vessel on the flow and return stub pipes.

The modular boilers, i.e. installed in cascade (battery) with an Immergas original hydraulic manifold kit, must be considered a unique appliance, which assumes the serial number (factory number) of the boiler nearest to the safety devices. It is therefore possible to set up up to 5 (five) modules side-by-side, with a single safety kit.

The hydraulic manifolds (optional) are equipped with non-return valve positioned on the flow pipe and with system interception cocks positioned on the flow and return pipes of every boiler (2-way on return and 3-way on flow).

VICTRIX PRO 80 - 100 - 120 2 ErP

16 KIT SIZES AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 80 2 ErP BOILERS IN SET CONFIGURATION (UP TO A MAXIMUM OF FIVE APPLIANCES)



Reference	2 boilers	3 boilers	4 boilers	5 boilers
X	2133 mm	2933 mm	3733 mm	4533 mm
Y	2316 mm	2358 mm	2400 mm	2442 mm
Z	62 mm	104 mm	146 mm	188 mm
Ø	200 mm	200 mm	200 mm	200 mm

N.B.: In case of installation outside, the safety devices kit must be protected using the IPX4D protection box kit for safety devices for boilers in cascade configuration, code 3.024038.

Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with the provisions cascade forth in the "R" collection.

For design purposes, by installing the Immergas safety kit, the following devices are included: Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel).

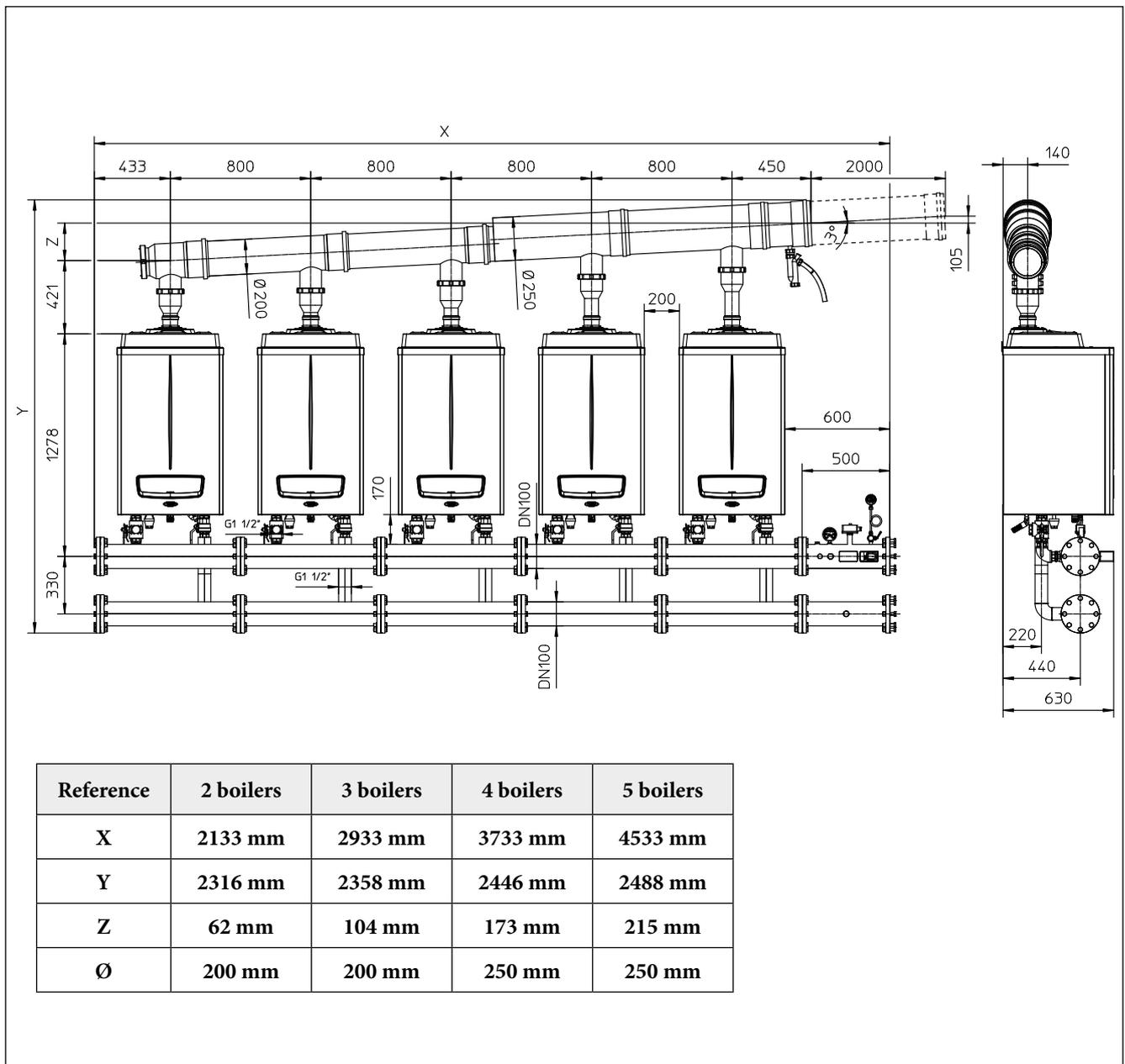
There is a fitting for an expansion vessel on the flow and return stub pipes.

The modular boilers, i.e. installed in cascade (battery) with an Immergas original hydraulic manifold kit, must be considered a unique appliance, which assumes the serial number (factory number) of the boiler nearest to the safety devices. It is therefore possible to set up up to 5 (five) modules side-by-side, with a single safety kit.

The hydraulic manifolds (optional) are equipped with non-return valve positioned on the flow pipe and with system interception cocks positioned on the flow and return pipes of every boiler (2-way on return and 3-way on flow).

VICTRIX PRO 80 - 100 - 120 2 ErP

16.1 KIT SIZES AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 100 - 120 2 ErP BOILERS IN SET CONFIGURATION (UP TO A MAXIMUM OF FIVE APPLIANCES)



N.B.: In case of installation outside, the safety devices kit must be protected using the IPX4D protection box kit for safety devices for boilers in cascade configuration, code 3.024038.

Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with the provisions cascade forth in the "R" collection.

For design purposes, by installing the Immergas safety kit, the following devices are included: Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel).

There is a fitting for an expansion vessel on the flow and return stub pipes.

The modular boilers, i.e. installed in cascade (battery) with an Immergas original hydraulic manifold kit, must be considered a unique appliance, which assumes the serial number (factory number) of the boiler nearest to the safety devices. It is therefore possible to set up up to 5 (five) modules side-by-side, with a single safety kit.

The hydraulic manifolds (optional) are equipped with non-return valve positioned on the flow pipe and with system interception cocks positioned on the flow and return pipes of every boiler (2-way on return and 3-way on flow).

**17 SAFETY DEVICE KIT G 2 1/2" FOR BOILERS IN SET CONFIGURATION
VICTRIX PRO 35 - 55 2 ErP (CODE 3.023955)**

The modular boilers, i.e. appliances comprised of multiple boilers set up by the manufacturer to operate in cascade (battery) with an original Immergas hydraulic manifold kit, must be considered a unique appliance, which assumes the serial number (factory number) of the boiler nearest to the safety devices. It is therefore possible to set up to 5 modules side-by-side, with a single safety kit. With outdoor installation it needs to be protected using the IPX4D protection box kit for cascade boiler configuration safety devices, code 3.024038, or nonetheless protected from the elements based on its electrical protection rating.

Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with

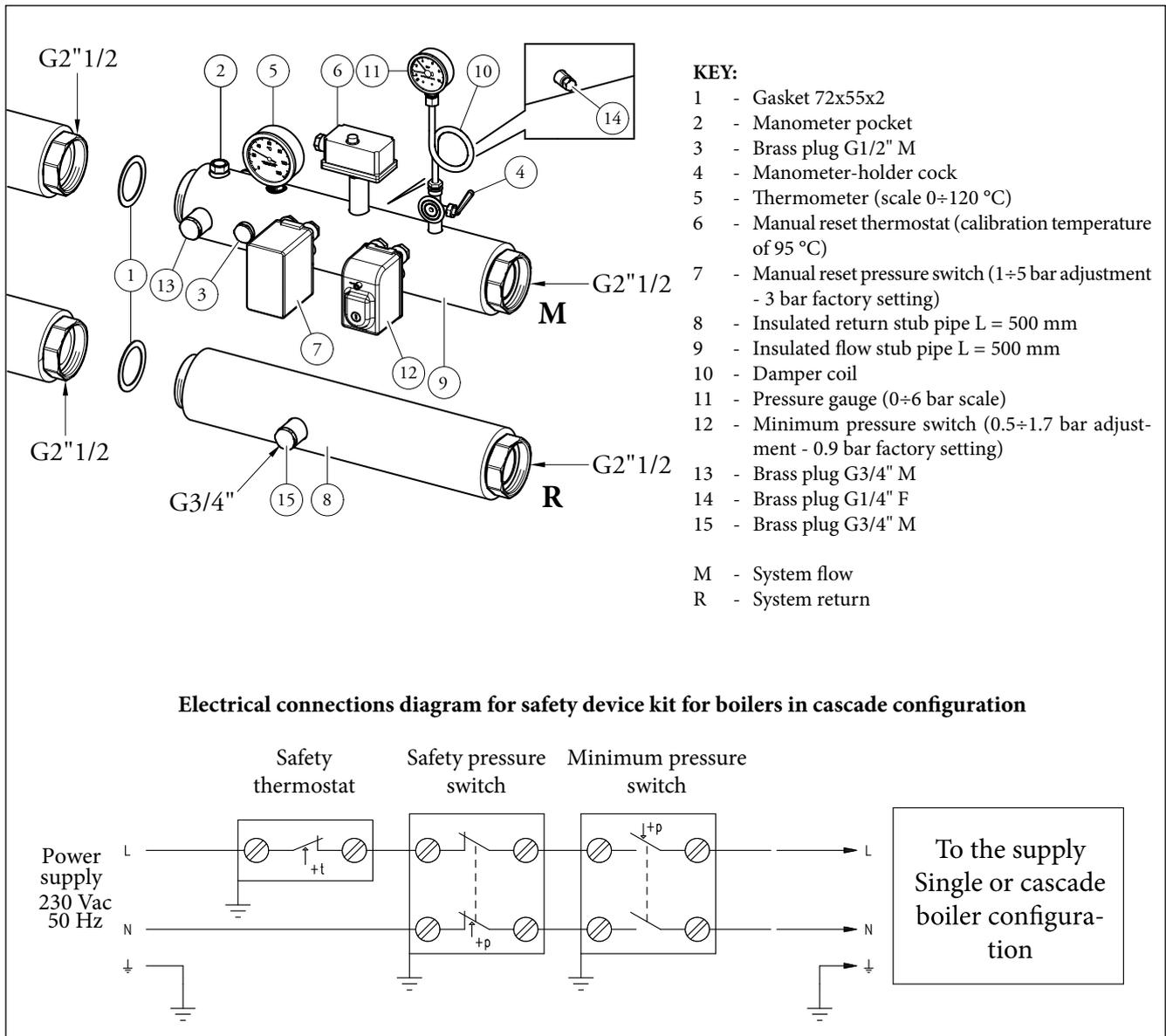
the provisions cascade forth in the "R" collection.

For design purposes, by installing the Immergas safety kit, the following devices are included:

Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel).

There is a fitting for an expansion vessel on the flow and return stub pipes.

N.B.: The figure illustrates safety device kit installation with the outlet on the right side, however, it is also to install the kit with the outlet on the left side.



VICTRIX PRO 80 - 100 - 120 2 ErP

18 SAFETY DEVICE KIT DN 100 FOR BOILERS IN SET CONFIGURATION VICTRIX PRO 80 - 100 - 120 2 ErP (CODE 3.023961)

The modular boilers, i.e. appliances comprised of multiple boilers set up by the manufacturer to operate in cascade (battery) with an original Immergas hydraulic manifold kit, must be considered a unique appliance, which assumes the serial number (factory number) of the boiler nearest to the safety devices. It is therefore possible to set up up to 5 modules side-by-side, with a single safety kit. With outdoor installation it needs to be protected using the IPX4D protection box kit for cascade boiler configuration safety devices, code 3.024038, or nonetheless protected from the elements based on its electrical protection rating.

Immergas declines all liability whenever the installer does not use original Immergas devices and kits, or uses them improperly. The sensitive elements of the safety devices must be set up as described in the installation instructions, in compliance with

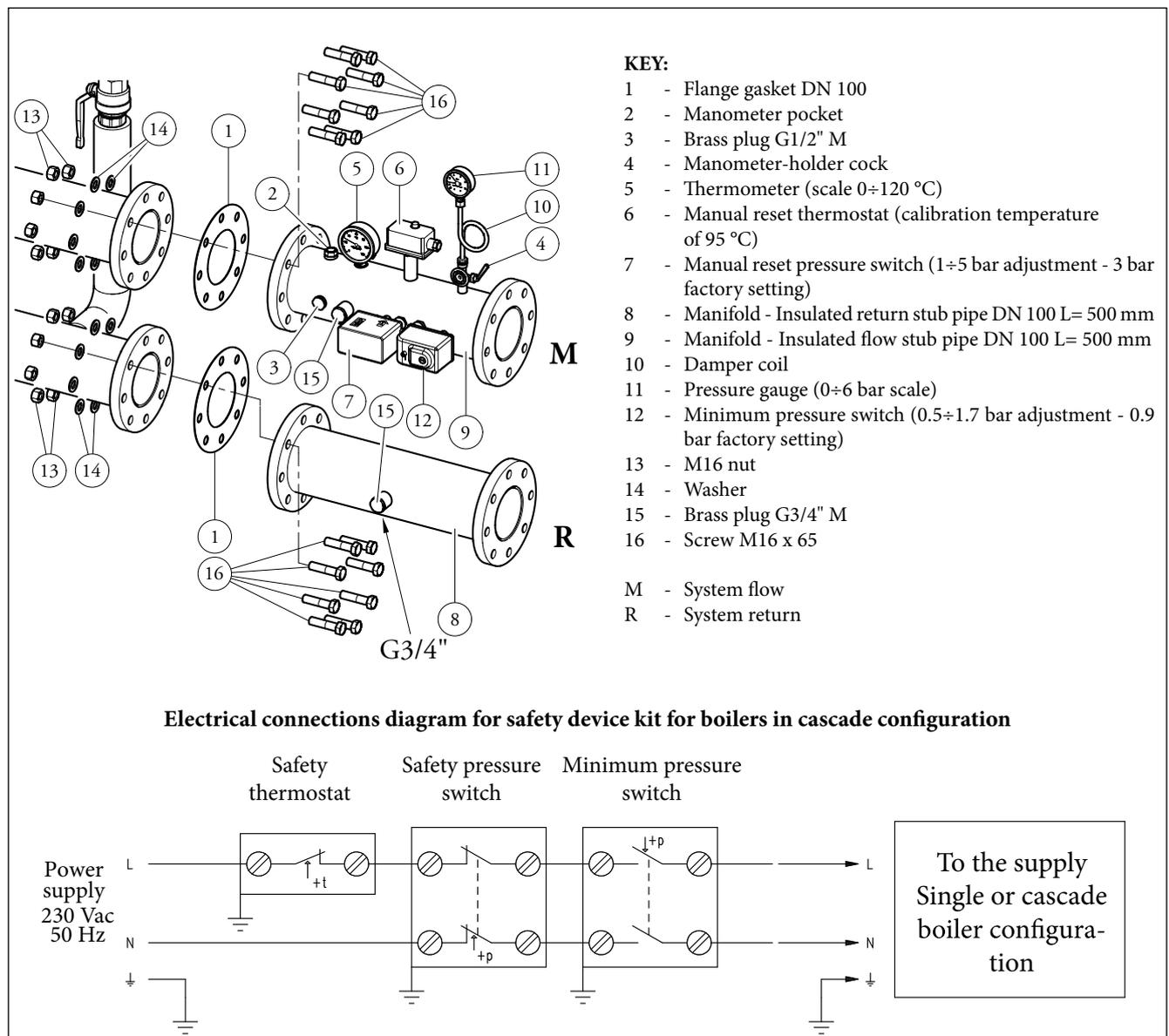
the provisions cascade forth in the "R" collection.

For design purposes, by installing the Immergas safety kit, the following devices are included:

Manometer-holder cock, manometer, thermometer, manual reset thermostat, manual reset maximum pressure switch, and manual reset minimum pressure switch (the boiler is already equipped as per standard with 4-bar safety valve and standard draining funnel).

There is a fitting for an expansion vessel on the flow and return stub pipes.

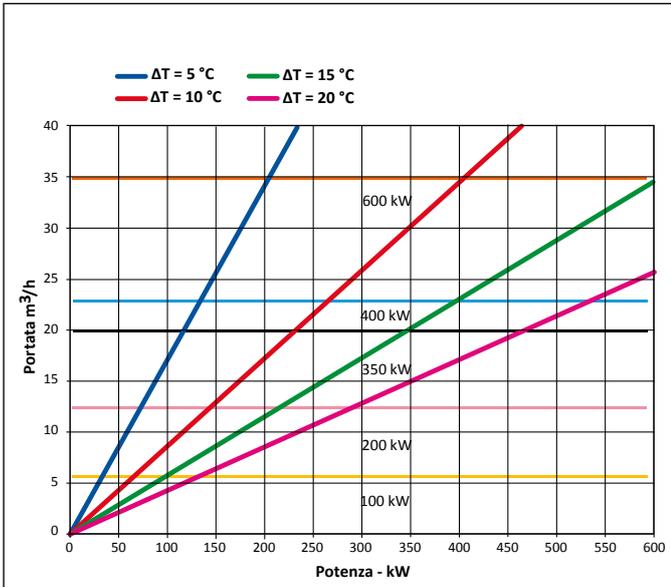
N.B.: The figure illustrates safety device kit installation with the outlet on the right side, however, it is also to install the kit with the outlet on the left side.



19 HYDRAULIC SEPARATOR KIT MEASUREMENTS AND FITTINGS (OPTIONAL)

The hydraulic separator (compensator) is a particularly significant part inside the hydraulic circuits. It is an open manifold (1) which places system flow and return in communication, creating 2 circuits: a primary circuit (boiler - manifold) and a secondary circuit (manifold-system). The former circulates by the boiler pump, while the latter runs on the correct thermal gradient (and therefore the correct water flow rate), as defined by the system's design.

It is advisable to include a hydraulic compensator (1) every time the overall flow rate required by the system is greater than what the boiler is able to supply. The maximum flow rate at the inlet is the generally adopted sizing method (see the graph below for separator selection).



The above graph provides information to enable you to choose the most appropriate separator based on the design data.

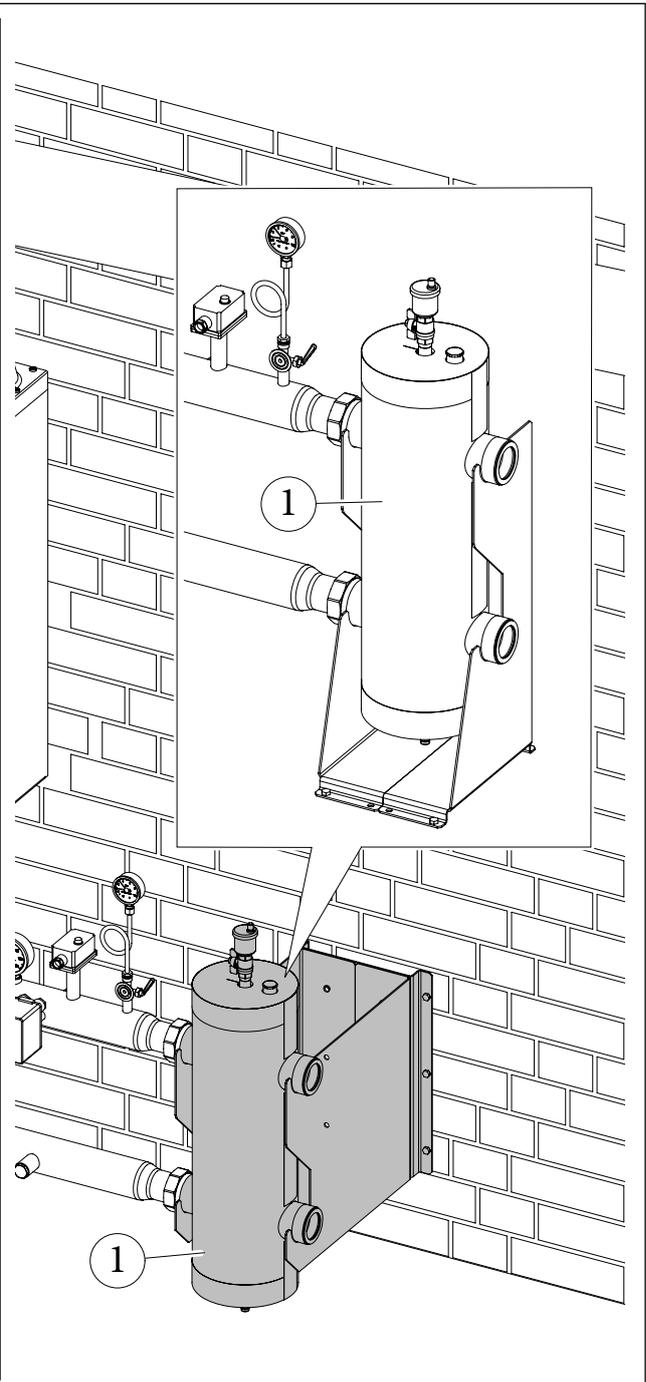
Example:
let us assume you have two VICTRIX PRO 120 2 ErP with a heat output of 243.4 kW (209.364 kcal/h) for 50/30 °C.

1st case: The design ΔT of the system is 20 °C, with a flow rate of 10.468 l/h. The ideal separator is the 200 kW separator kit code 3.021377 (see the area between the horizontal yellow line and the pink one).

2nd case: The design ΔT of the system is 15 °C, with a flow rate of 13.957 l/h. The separator that can be used is the 350 kW separator kit, code 3.023965 (we are at the limit of the pink and black horizontal line).

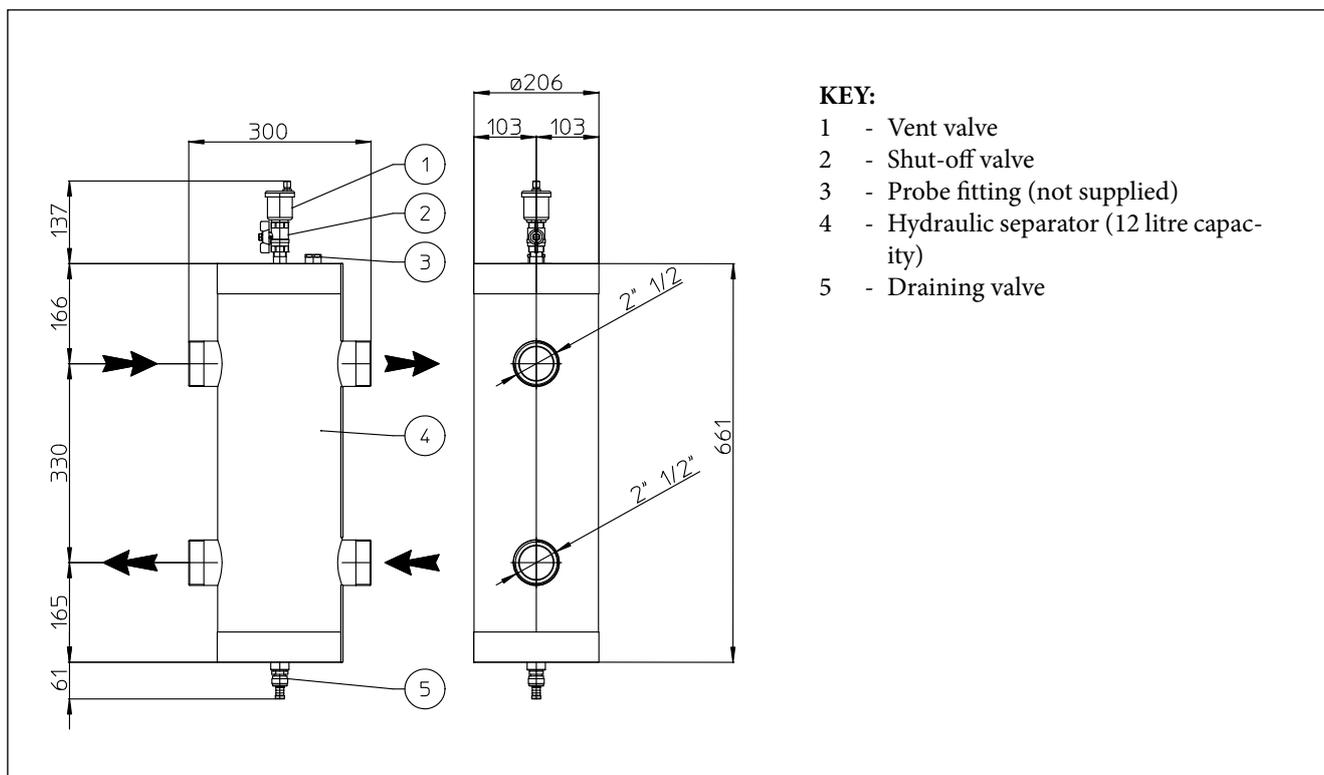
3rd case: The design ΔT of the system is 10 °C, with a flow rate of 20.936 l/h. The ideal separator is the 400 kW separator kit code 3.021378 (see the area between the horizontal black line and light blue one).

4th case: The design ΔT of the system is 7 °C, with a flow rate of 29.909 l/h. The ideal separator is the 600 kW separator kit code 3.023962 (see the area between the horizontal light blue line and the orange one).

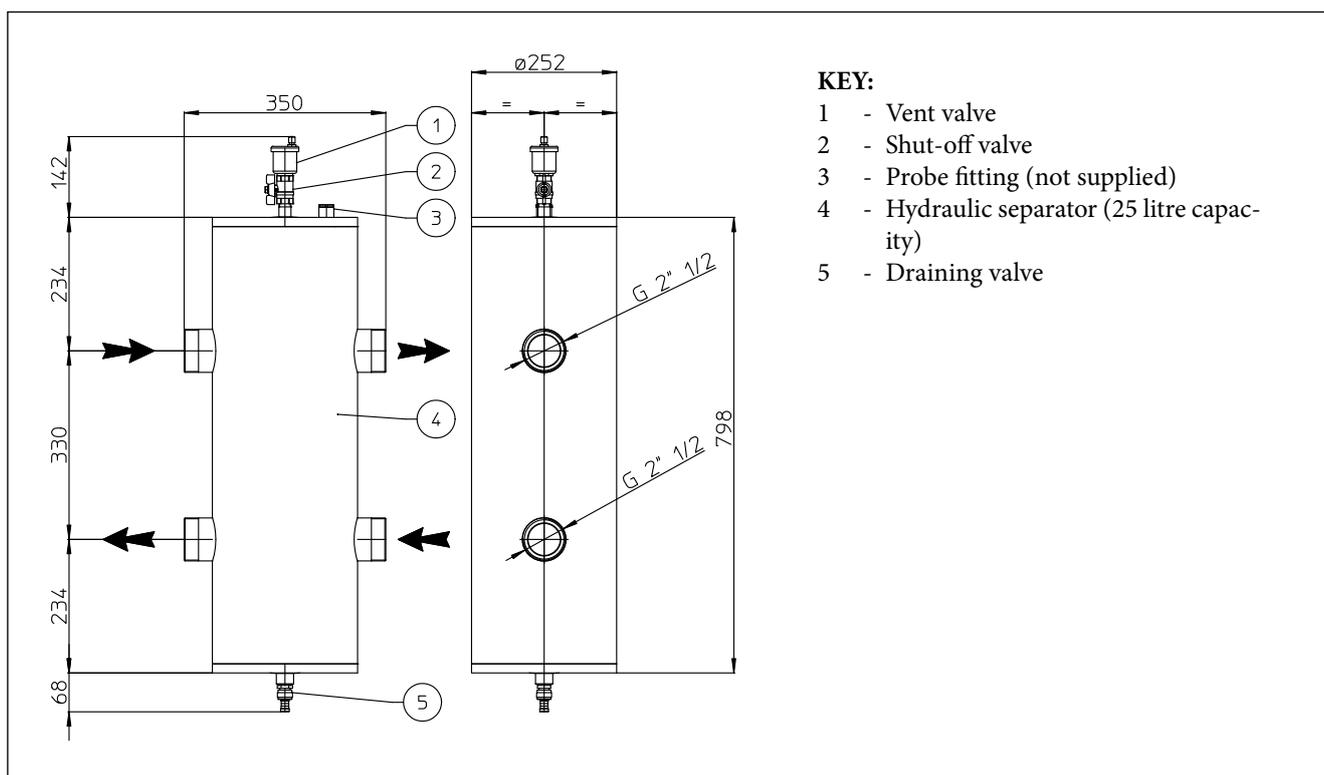


VICTRIX PRO 2 ErP

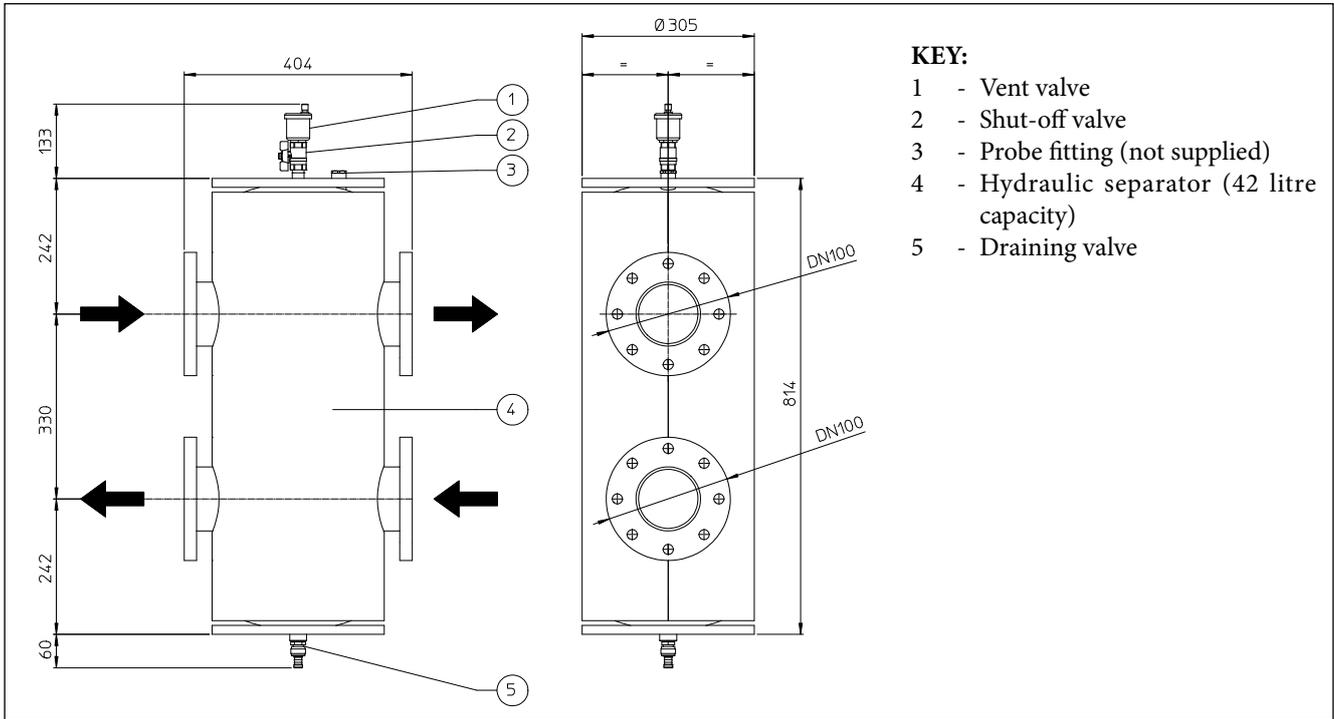
19.1 HYDRAULIC SEPARATOR KIT FOR BOILERS UP TO 100 kW WITH CONNECTIONS CONNECTIONS G 2 1/2" (CODE 3.020839)



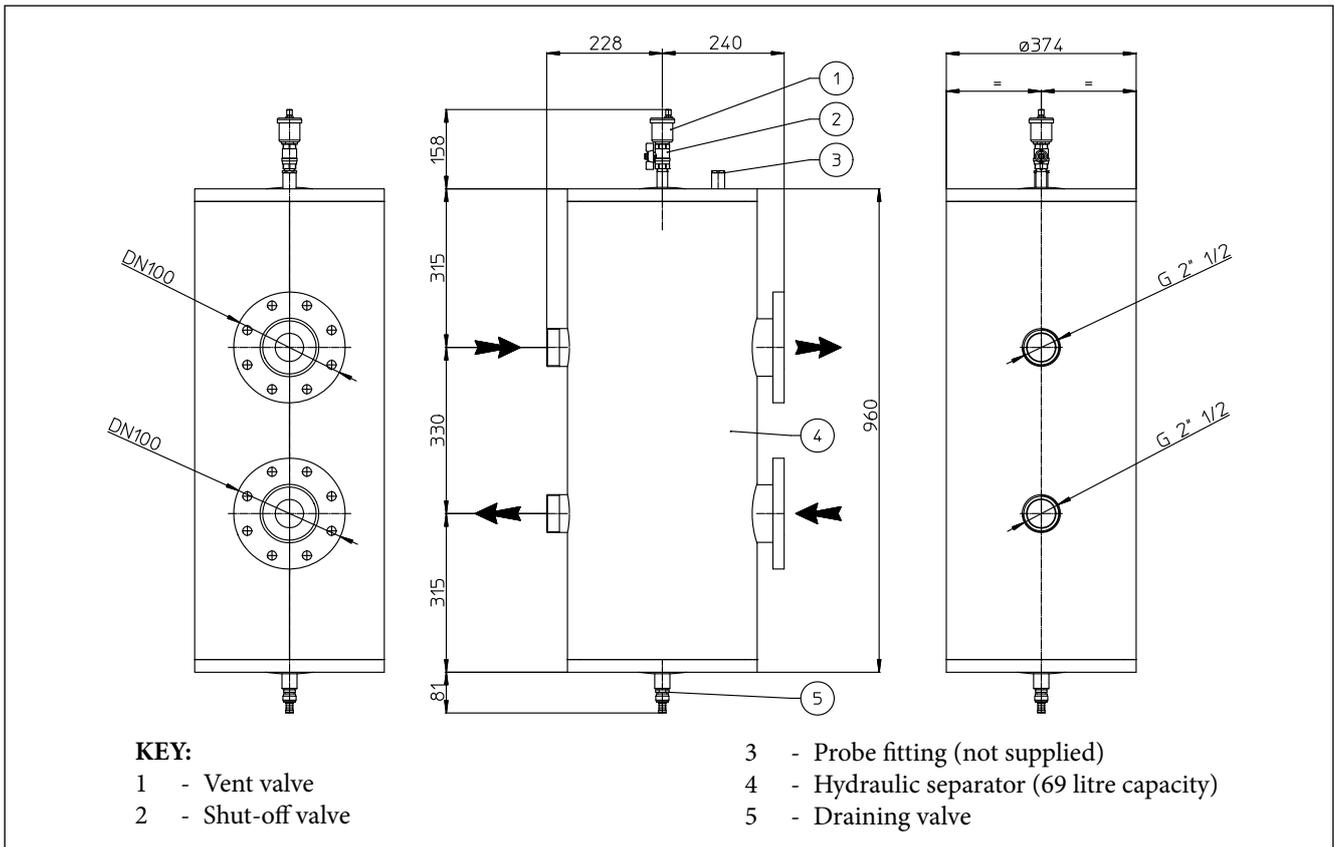
19.2 HYDRAULIC SEPARATOR KIT FOR BOILERS IN SET CONFIGURATION UP TO 200 kW WITH THREADED CONNECTIONS G 2 1/2" (CODE 3.021377)



19.3 HYDRAULIC SEPARATOR KIT FOR BOILERS IN SET CONFIGURATION UP TO 350 kW FLANGED CONNECTIONS DN 100 (CODE 3.023965)

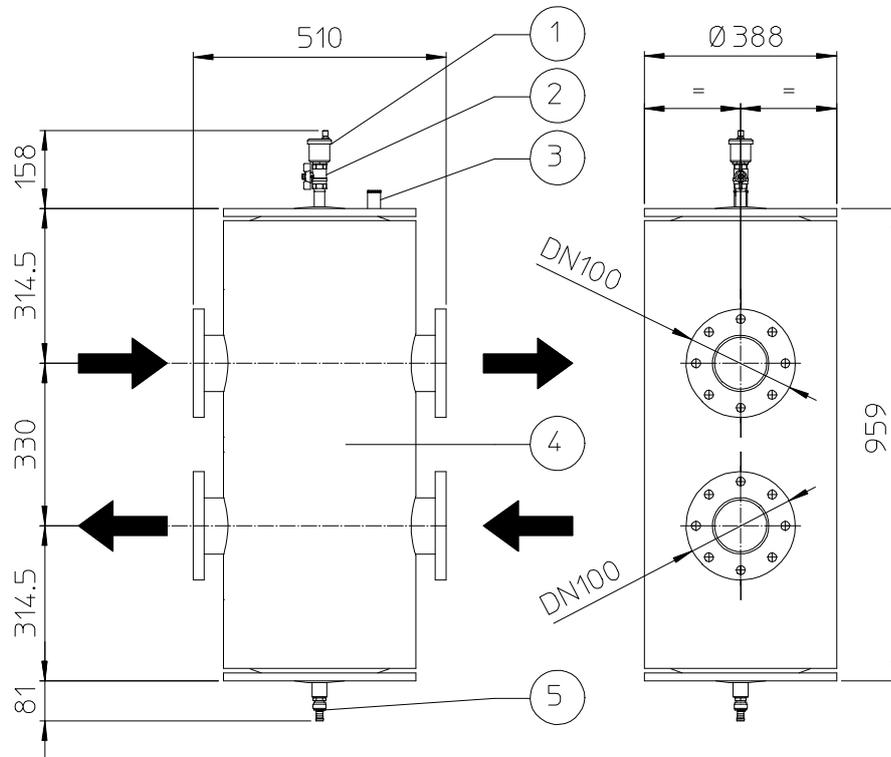


19.4 HYDRAULIC SEPARATOR KIT FOR BOILERS IN SET CONFIGURATION UP TO 400 kW CONNECTIONS G 2 1/2"-DN 100 (CODE 3.021378)



VICTRIX PRO 2 ErP

19.5 HYDRAULIC SEPARATOR KIT FOR BOILERS IN SET CONFIGURATION UP TO 600 kW FLANGED CONNECTIONS DN 100 (CODE 3.023962)



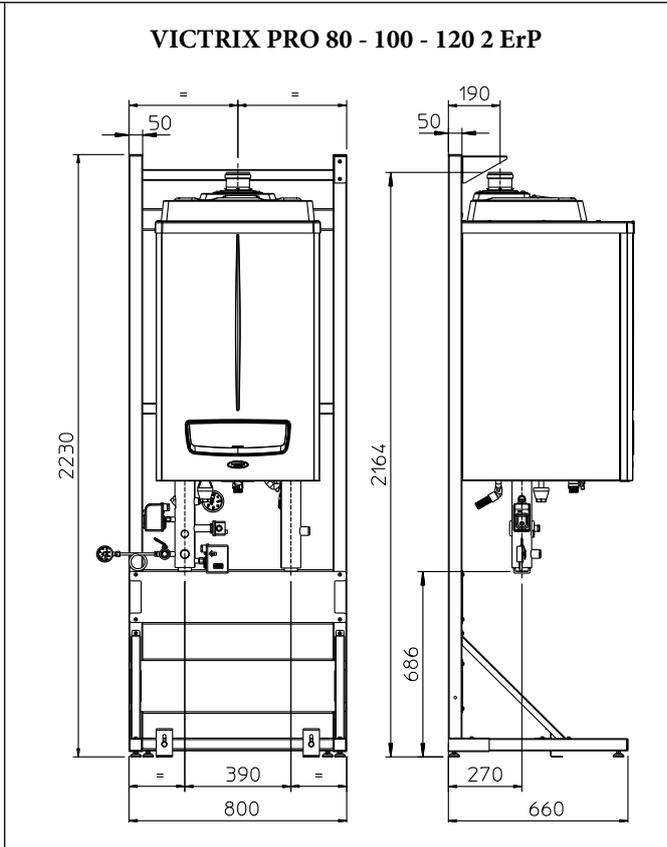
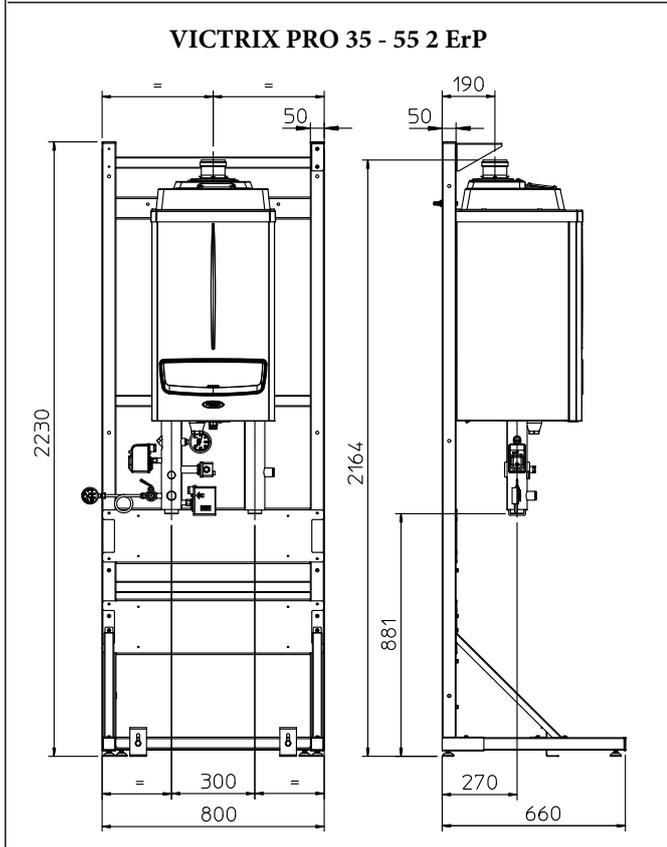
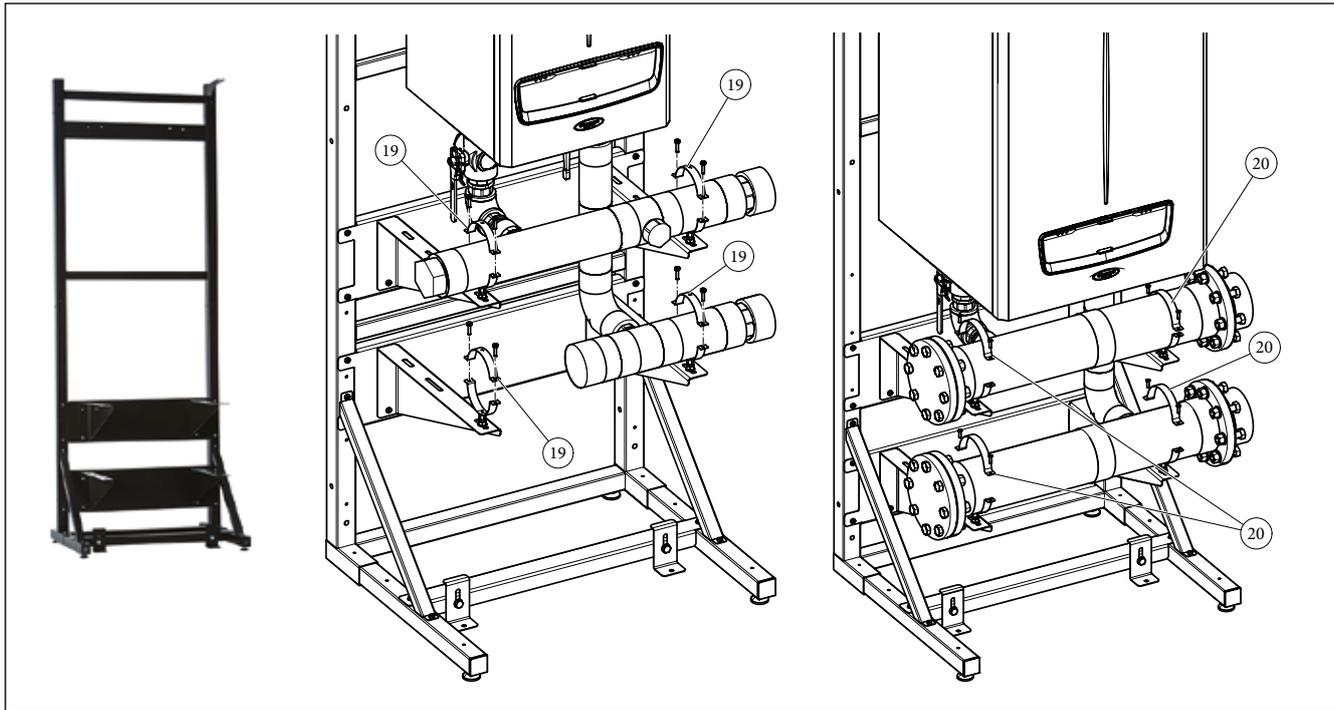
KEY:

- 1 - Vent valve
- 2 - Shut-off valve
- 3 - Probe fitting (not supplied)
- 4 - Hydraulic separator (85 litre capacity)
- 5 - Draining valve

20 "FREE STANDING" SUPPORTING FRAME KIT (CODE 3.024246) PER VICTRIX PRO 2 ErP

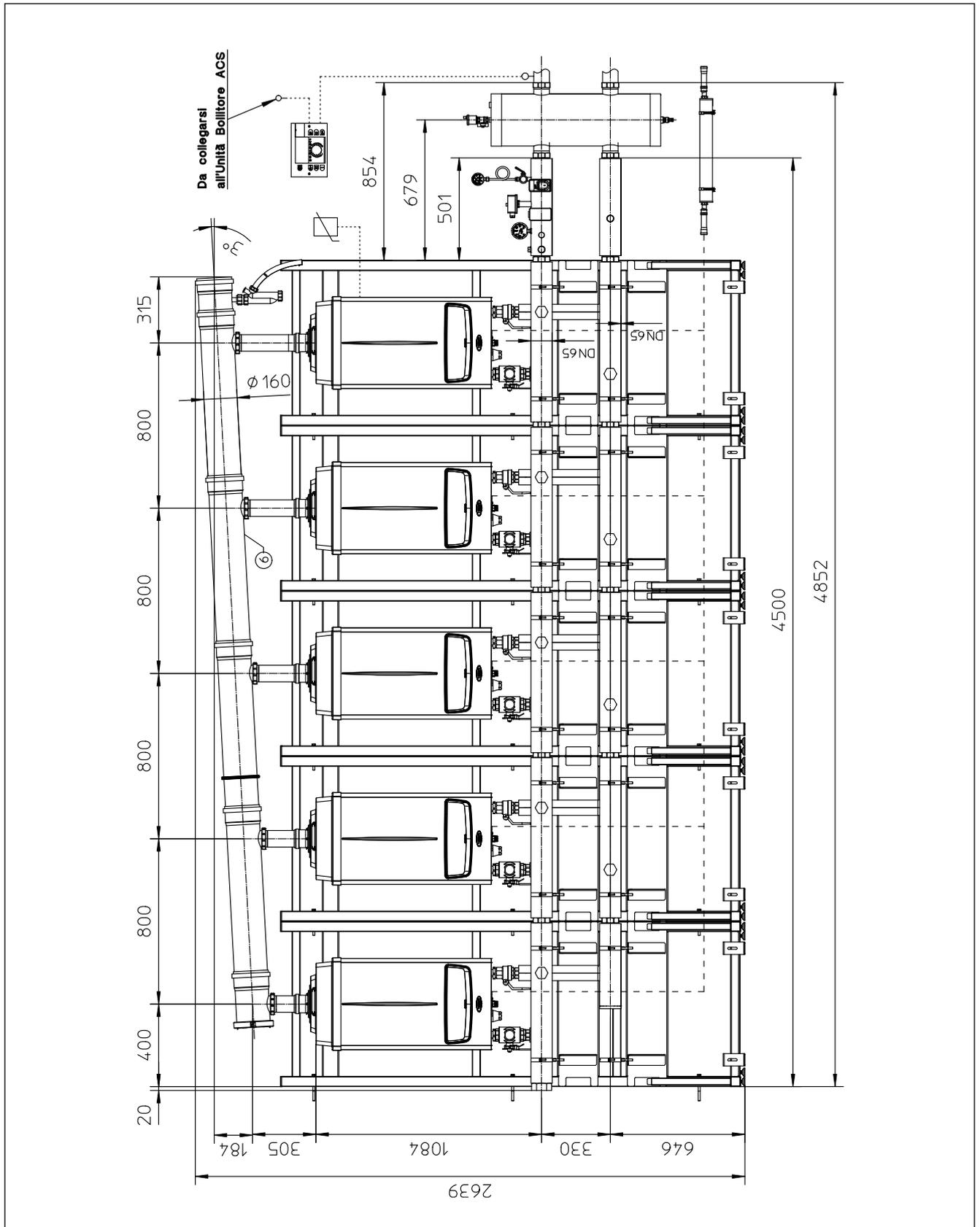
VICTRIX PRO 2 ErP can also be installed on a specific modular supporting frame which offers single or set installation (up to 5 boilers), in linear set-up, or back-to-back for more limited spaces. The system is fully modular: there is a single code, which needs to be ordered in variable quantities based on the number of boilers that need to be installed. The frame

has supporting collars for the hydraulic manifolds and can be attached to the wall or floor with plugs (not included). Thanks to a surface treatment, the frame is also type-approved for outdoor installation, in the open.



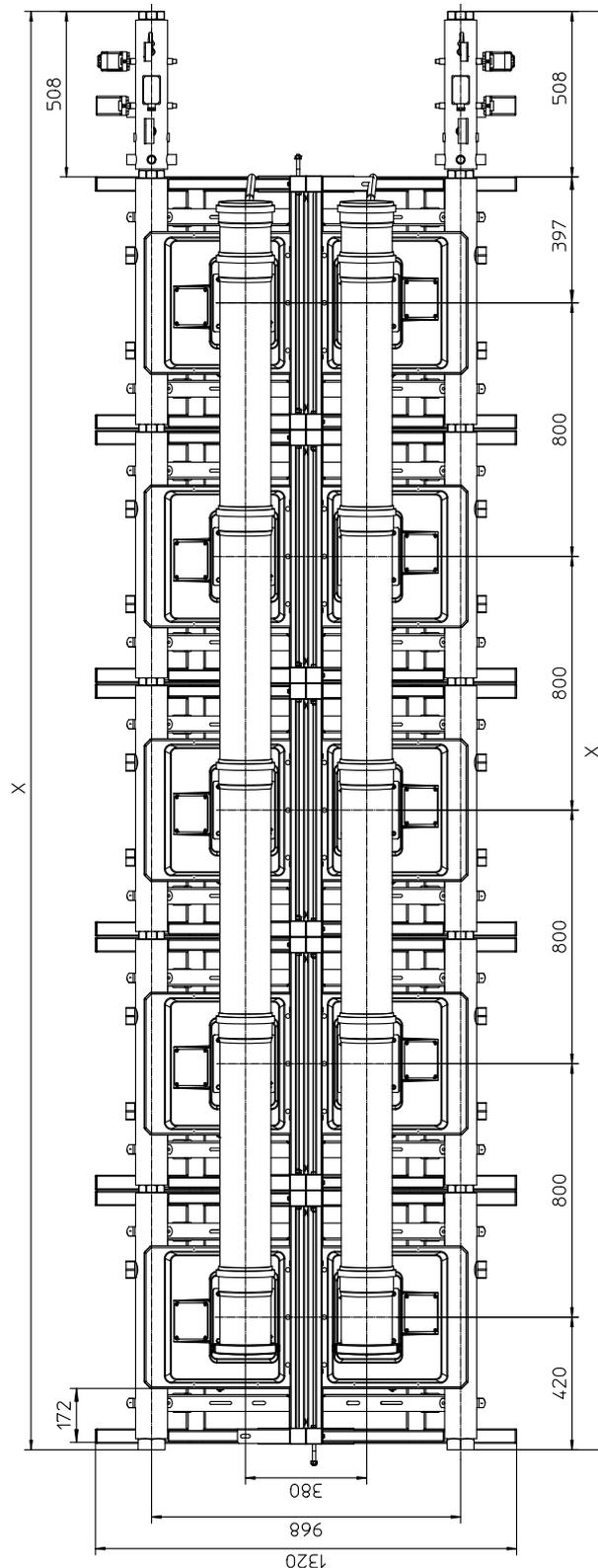
VICTRIX PRO 35 - 55 2 ErP

21 KIT DIMENSIONS AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 35 AND 55 2 ErP BOILERS WITH INSTALLATION ON SUPPORTING FRAME SET UP IN LINE (UP TO A MAXIMUM OF FIVE APPLIANCES)



VICTRIX PRO 35 - 55 2 ErP

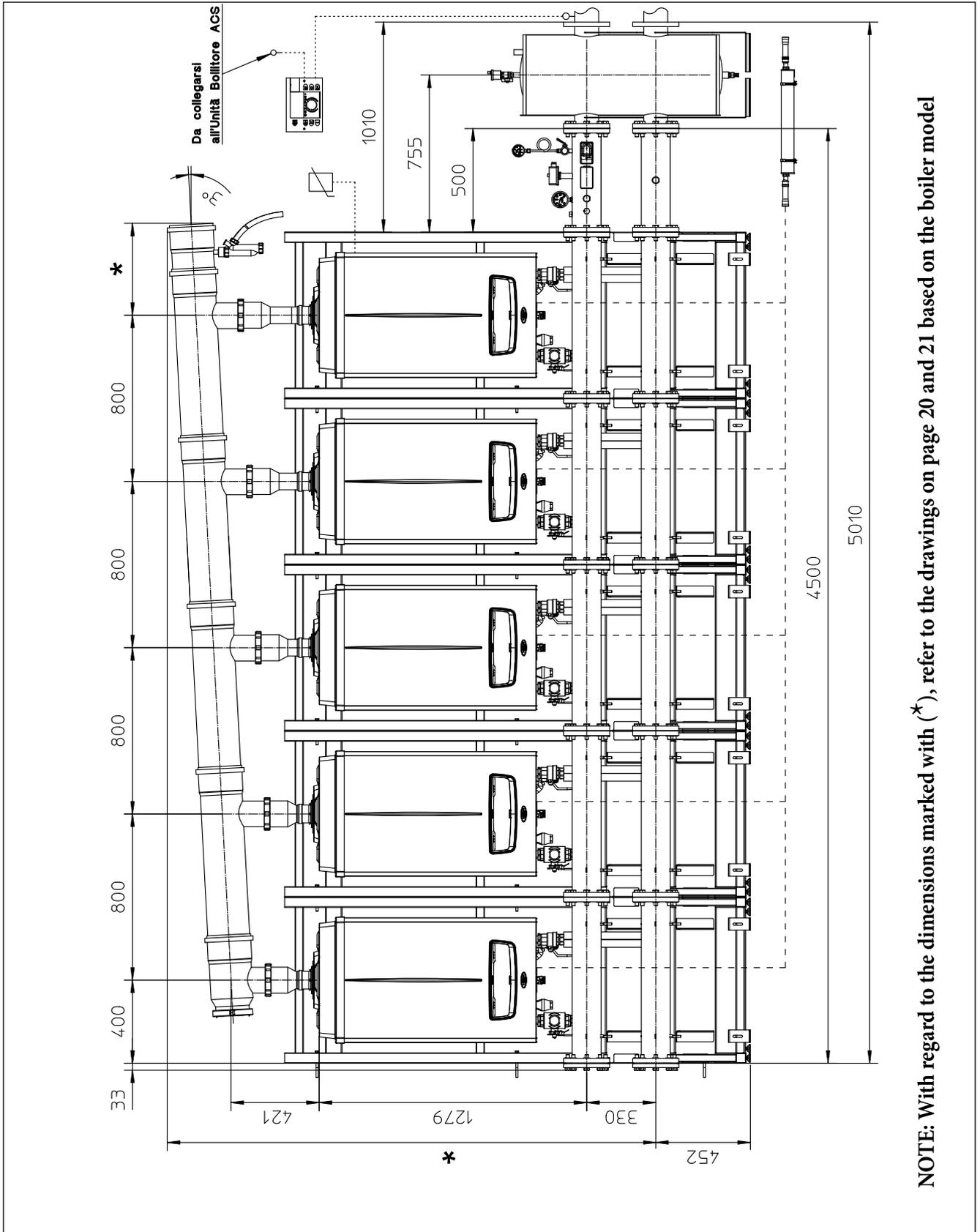
21.1 KIT DIMENSIONS AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 35 AND 55 2 ErP BOILERS WITH INSTALLATION ON SUPPORTING FRAME SET UP BACK-TO-BACK (UP TO A MAXIMUM OF FIVE APPLIANCES)



Reference	2 boilers	3 boilers	4 boilers	5 boilers
X	2125	2925	3725	4525

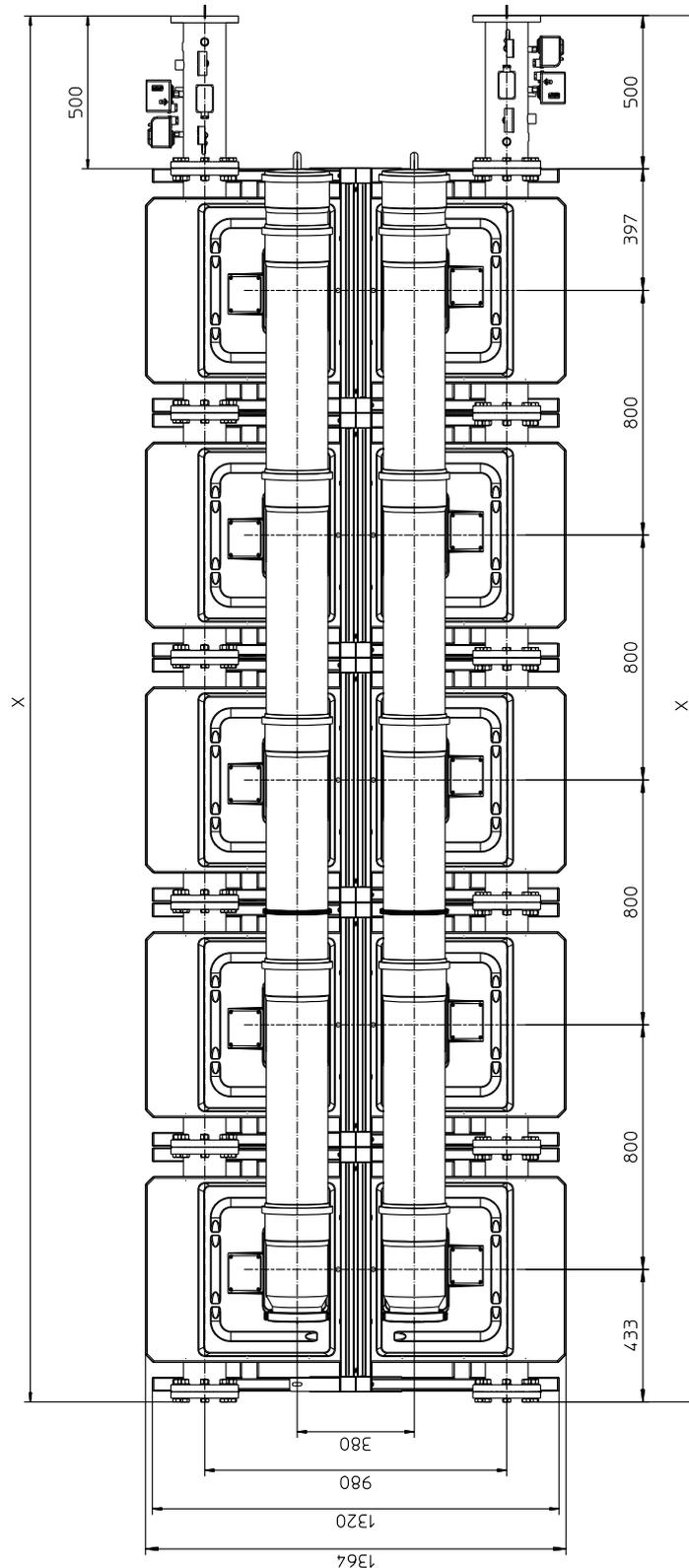
VICTRIX PRO 80 - 100 - 120 2 ErP

22 KIT DIMENSIONS AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 80 - 100 AND 120 2 ErP BOILERS WITH INSTALLATION ON SUPPORTING FRAME SET UP IN LINE (UP TO A MAXIMUM OF FIVE APPLIANCES)



VICTRIX PRO 80 - 100 - 120 2 ErP

22.1 KIT DIMENSIONS AND CONNECTIONS (OPTIONAL) WITH VICTRIX PRO 80 - 100 AND 120 2 ErP BOILERS WITH INSTALLATION ON SUPPORTING FRAME SET UP BACK-TO-BACK (UP TO A MAXIMUM OF FIVE APPLIANCES)



Reference	2 boilers	3 boilers	4 boilers	5 boilers
X	2130	2930	3730	4530

VICTRIX PRO 35 - 55 2 ErP

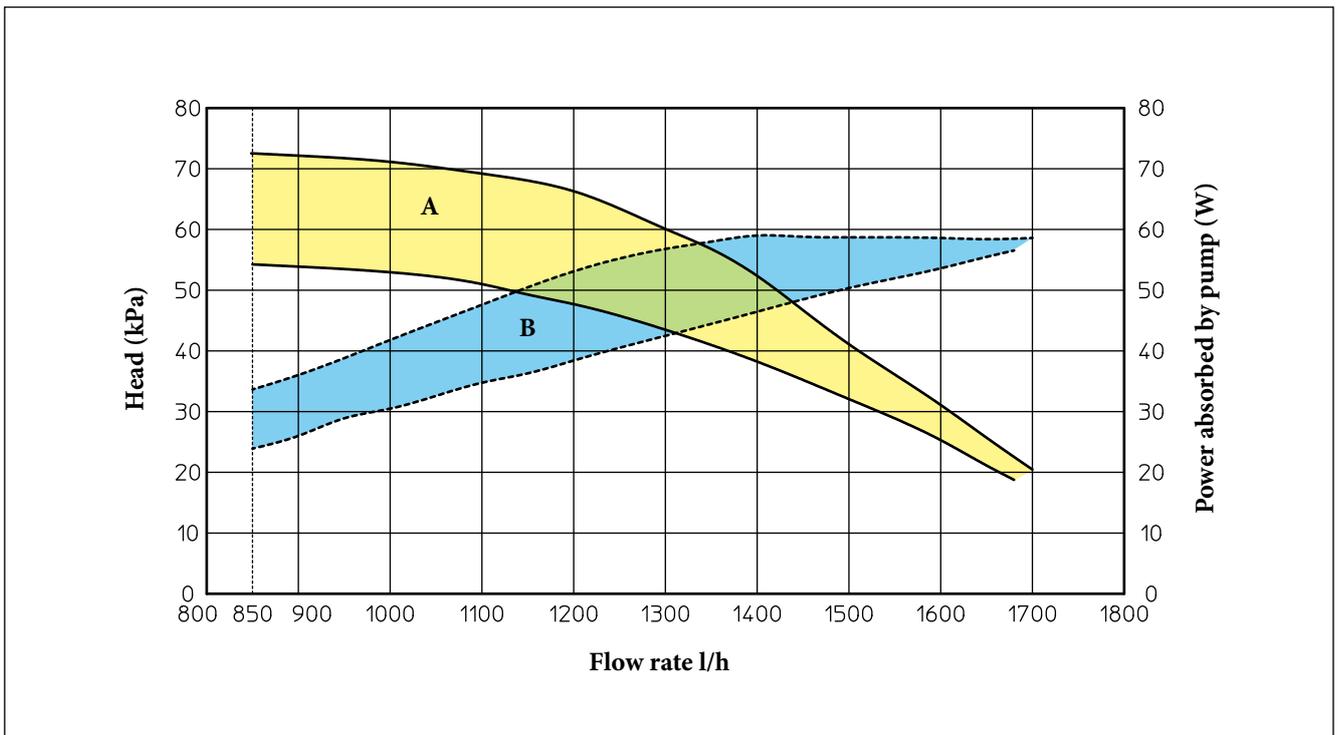
23 GRAPH OF VICTRIX PRO 35 - 55 2 ErP PUMP HEAD FLOW RATE

VICTRIX PRO 35 - 55 2 ErP boilers are supplied with a single-phase pump (230 V - 50 Hz) with variable speed control and low power consumption. When the boiler operates in heating mode, the pump speed is defined according to the "P27" and "P28" parameter settings of the boiler.

In domestic hot water mode, the circulator pump always runs at full speed. If zone valves are installed on the central heating system, or if there is poor water circulation, it is advisable to use the bypass kit (optional).

23.1 VICTRIX PRO 35 - 55 2 ErP PUMP

GRUNDFOS UPM3 15-70 AOS PWM



- A = Head available to the system.
- B = Power absorbed by the circulator pump (dotted area)

GRUNDFOS UPM3 15-70 AOS PWM

VICTRIX PRO 80 - 100 - 120 2 ErP

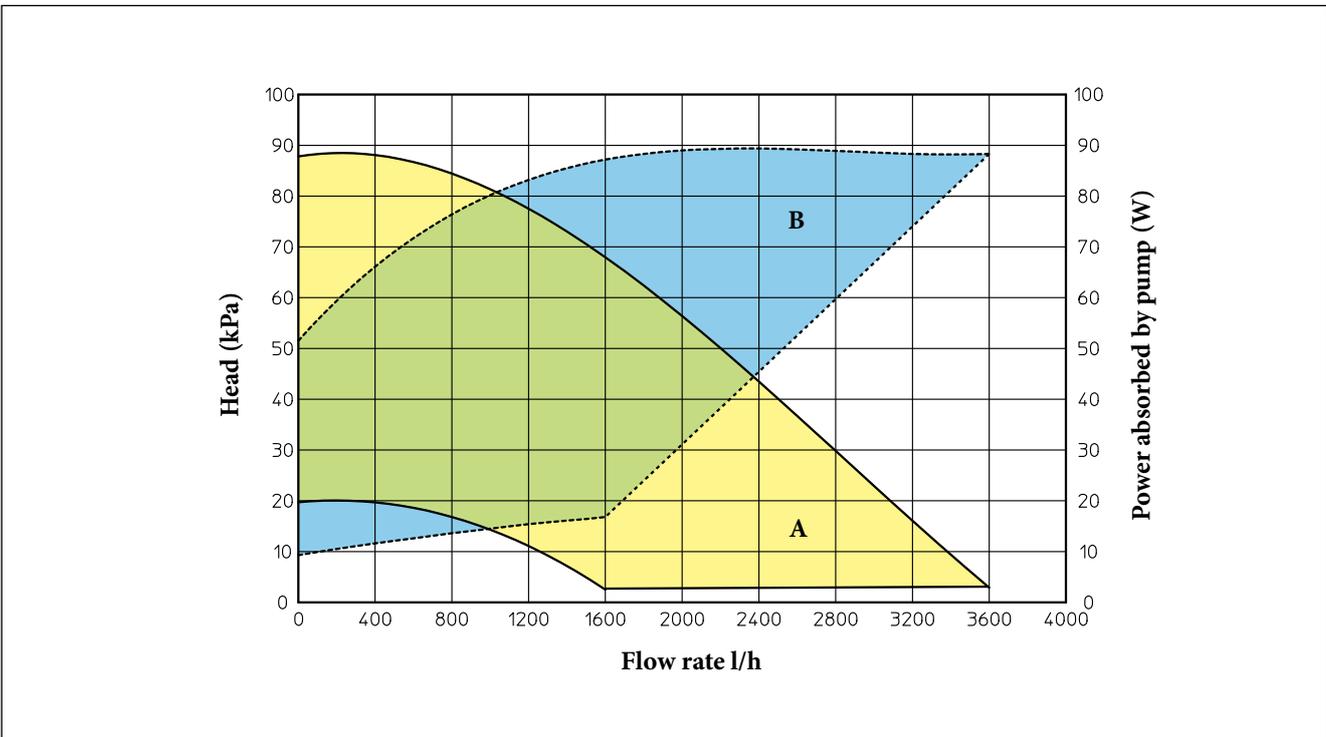
24 GRAPH OF VICTRIX PRO 80 2 ErP PUMP HEAD FLOW RATE

VICTRIX PRO 80 2 ErP boilers are supplied with a single-phase pump (230 V - 50 Hz) with variable speed control and low power consumption. When the boiler is in central heating mode, the pump's speed is defined according to the "P27" and "P28" parameter settings of

the boiler and varies to keep ΔT constant between the system's flow and return at a value below 18 °C. In domestic hot water mode, the circulator pump always runs at full speed.

24.1 VICTRIX PRO 80 2 ErP PUMP

GRUNDFOS UPM GEO 25-85 PWM



- A** = Head available to the system.
- B** = Power absorbed by the circulator pump (dotted area)

VICTRIX PRO 80 - 100 - 120 2 ErP

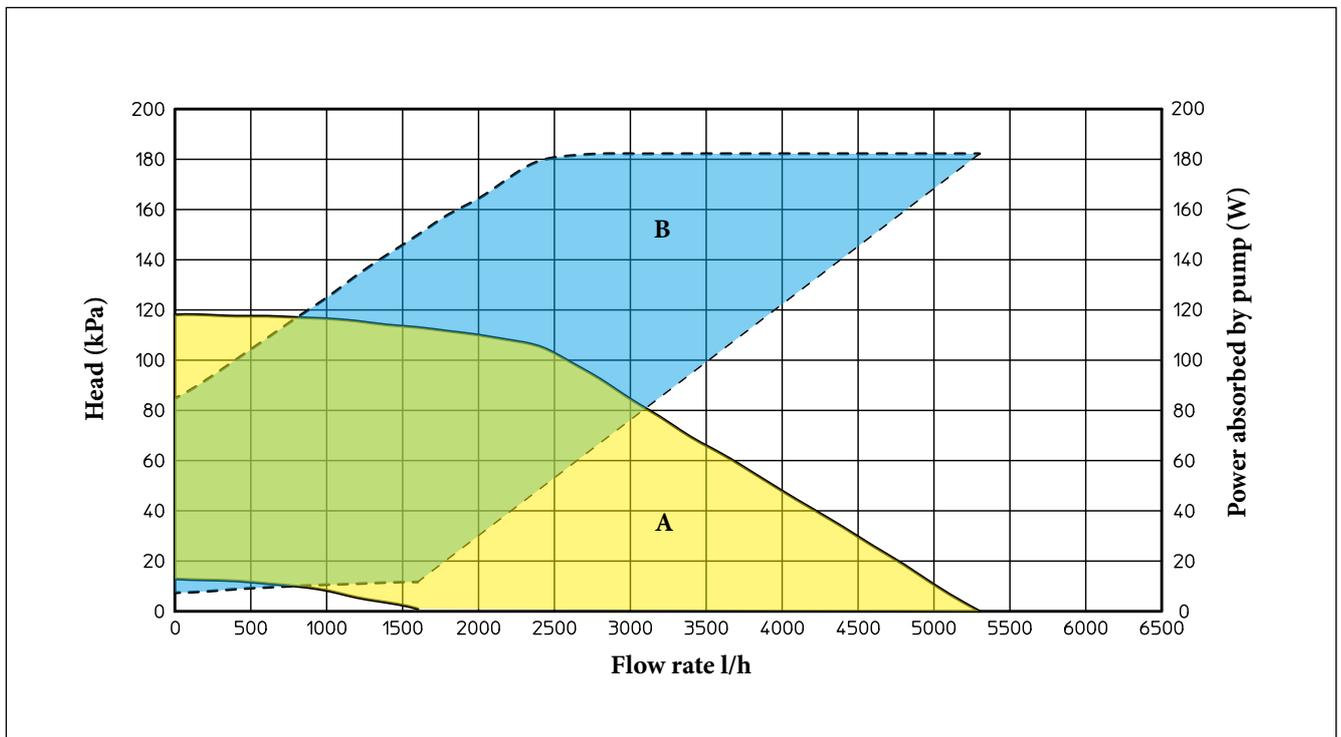
25 GRAPH OF VICTRIX PRO 100 2 ErP PUMP HEAD FLOW RATE

VICTRIX PRO 100 2 ErP boilers are supplied with a single-phase pump (230 V - 50 Hz) with variable speed control and low power consumption. When the boiler is in central heating mode, the pump's speed is defined according to the "P27" and "P28" parameter settings of

the boiler and varies to keep ΔT constant between the system's flow and return at a value below 18 °C. In domestic hot water mode, the circulator pump always runs at full speed.

25.1 VICTRIX PRO 100 2 ErP PUMP

GRUNDFOS UPMXL GEO 25-125 PWM



- A = Head available to the system.
- B = Power absorbed by the circulator pump (dotted area)

VICTRIX PRO 80 - 100 - 120 2 ErP

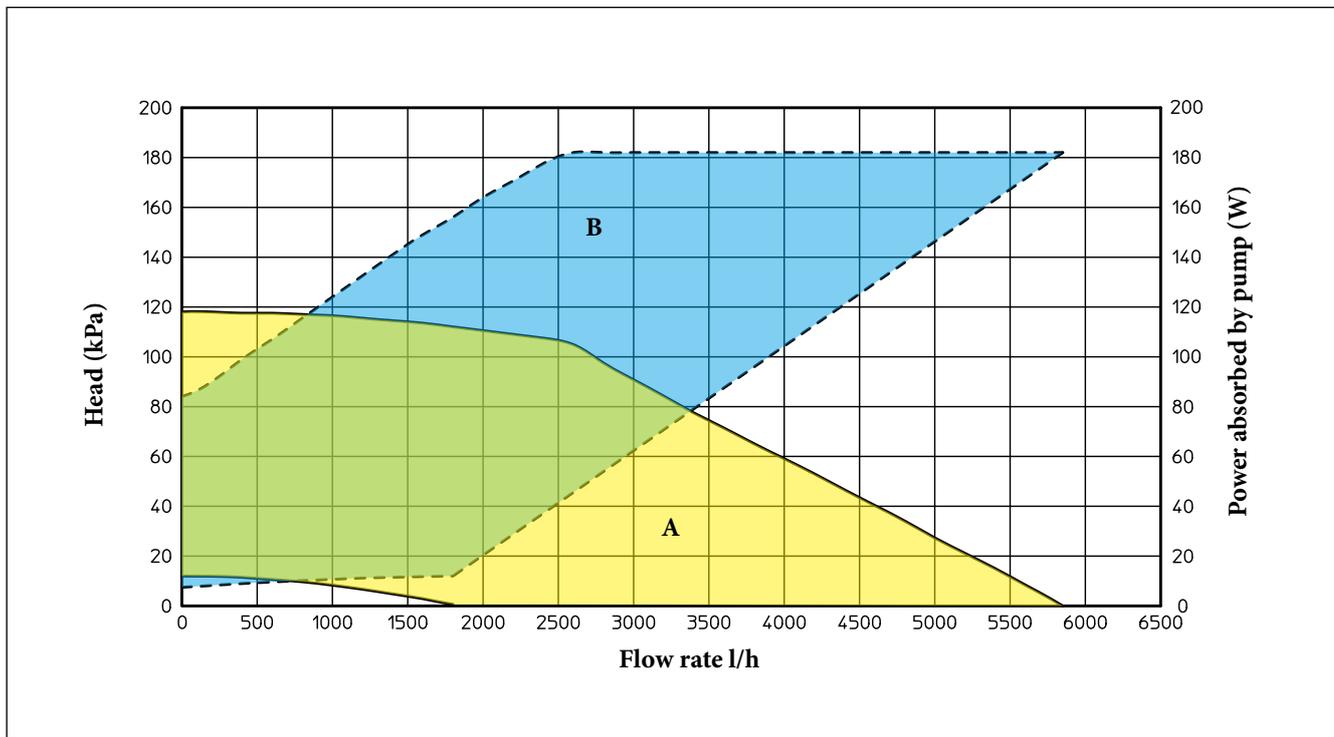
26 GRAPH OF VICTRIX PRO 120 2 ErP PUMP HEAD FLOW RATE

VICTRIX PRO 120 2 ErP boilers are supplied with a single-phase pump (230 V - 50 Hz) with variable speed control and low power consumption. When the boiler is in central heating mode, the pump's speed is defined according to the "P27" and "P28" parameter settings of

the boiler and varies to keep ΔT constant between the system's flow and return at a value below 18 °C. In domestic hot water mode, the circulator pump always runs at full speed.

26.1 VICTRIX PRO 120 2 ErP PUMP

GRUNDFOS UPMXL GEO 25-125 PWM



- A** = Head available to the system.
- B** = Power absorbed by the circulator pump (dotted area)

VICTRIX PRO 2 ErP

27

FEED WATER TREATMENT

Treating the supply water allows you to prevent problems and maintain the functionality and efficiency of the generator over time.

Art. 4 of Italian Pres. Decree 59/09 – in force since 25/06/09 and implemented with Italian Lgs. D. 192/05 as amended or added. – requires all building categories to treat the system's water, whether they are "new buildings and renovated existing buildings" or "new installation and renovation of heating systems or boiler replacement". This requirement is in addition to the pre-existing one set forth in Italian Pres. Decree 412/93 as amended and added, for new systems with an overall output greater than or equal to 350 kW.

According to Italian Pres. Decree 59/09 it is compulsory to treat the water in the system:

- by more than 25 French degrees, if the system does not produce domestic hot water,
- by more than 15 French degrees, if the system produces domestic hot water, through chemical conditioning treatment for outputs of < 100 kW – or softening for outputs between 100 and 350 kW (ref. UNI 8065).

UNI 8065:

- Assumes that, prior to treatment, the water intended to supply heating systems for civil use has the same characteristics as drinking water.
- Requires the design phase to include treatment or chemical conditioning systems to provide the water in the circuit with the following characteristics:
 - clear appearance;
 - pH greater than 7 (but less than 8 for systems with aluminium radiators);
 - an iron content of less than 0.5 mg/kg;
 - a copper content of less than 0.1 mg/kg.

As for hot water central heating systems, according to the standard:

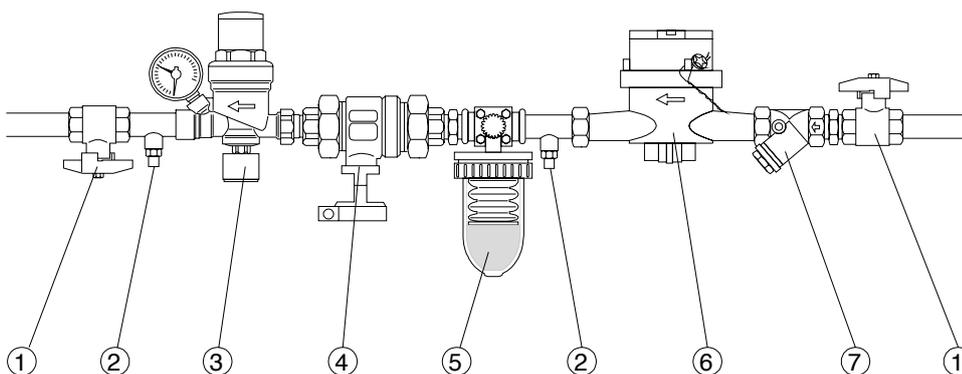
- for all systems, it is necessary to provide chemical conditioning. For systems of > 350 kW it is necessary to install a safety filter (recommended in any case) and, if the water has a total hardness of more than 15 French degrees, a water softener to bring the hardness back within the range;
- the filling and topping-up water must be clear and have a total hardness of 15 French degrees.

N.B.: to maintain optimal characteristics of the water in the central heating systems over time, we recommend using and placing specific liquid inhibitors in the circuit.

As for domestic hot water production systems, the standard requires:

- a safety filter to be installed, to protect the systems;
- based on the characteristics of the water, a water softener and/or proportional automatic chemical conditioning dosing system to be installed (food-grade anticorrosive and/or hardness stabilising agents). Treatment systems and points where conditioning agents are added must all be upstream of the hot water generator;
- the following characteristics (appearance - hardness) of the system feed water:
 - a) up to 25 French degrees, in terms of temporary hardness, it is possible to use either softening or hardness and/or anticorrosive chemical stabilisation conditioning;
 - b) softening is compulsory when temporary hardness exceeds 25 French degrees;
 - c) whenever necessary, softening will be integrated with anticorrosive and/or descaling chemical conditioning.

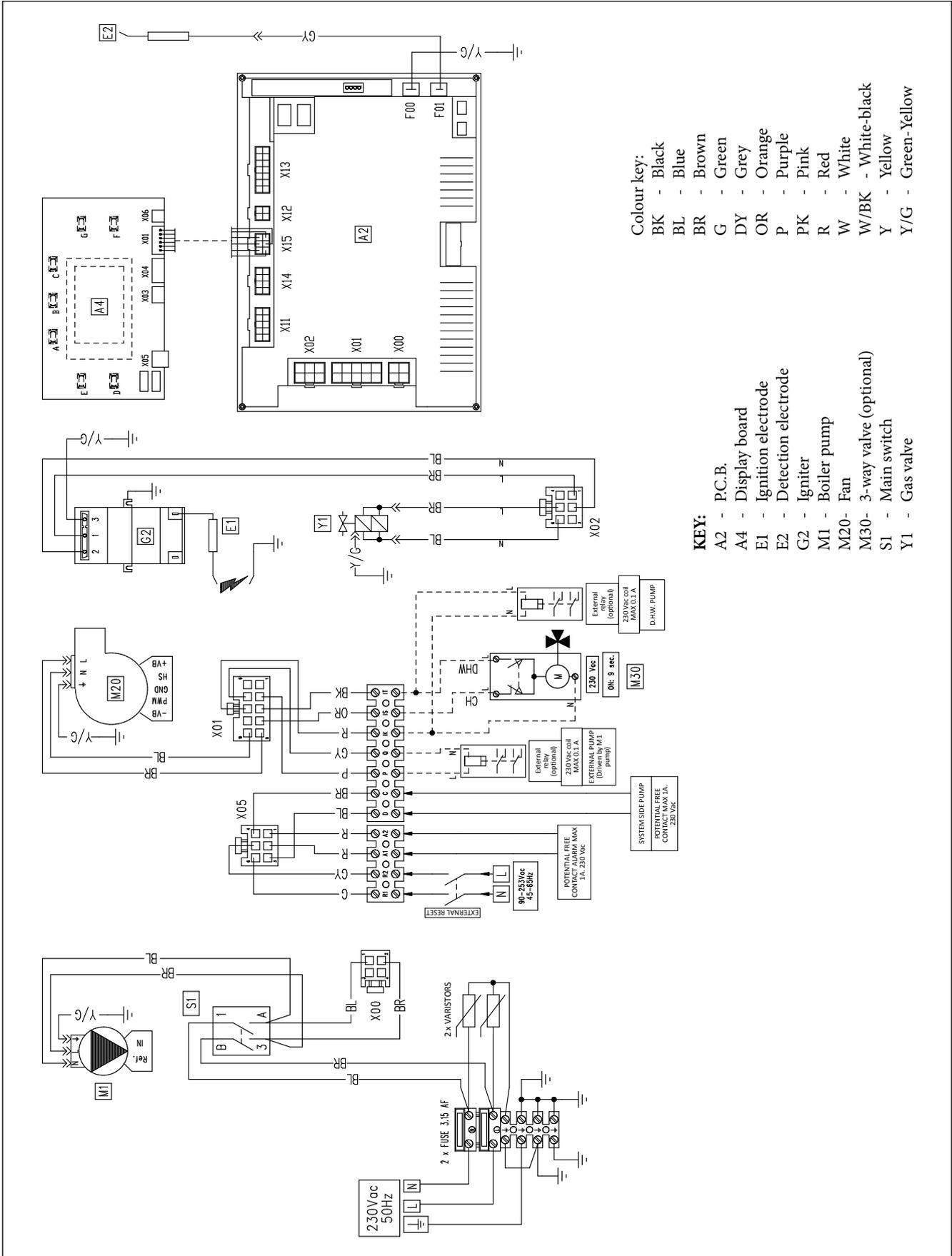
Example of water treatment unit



KEY:

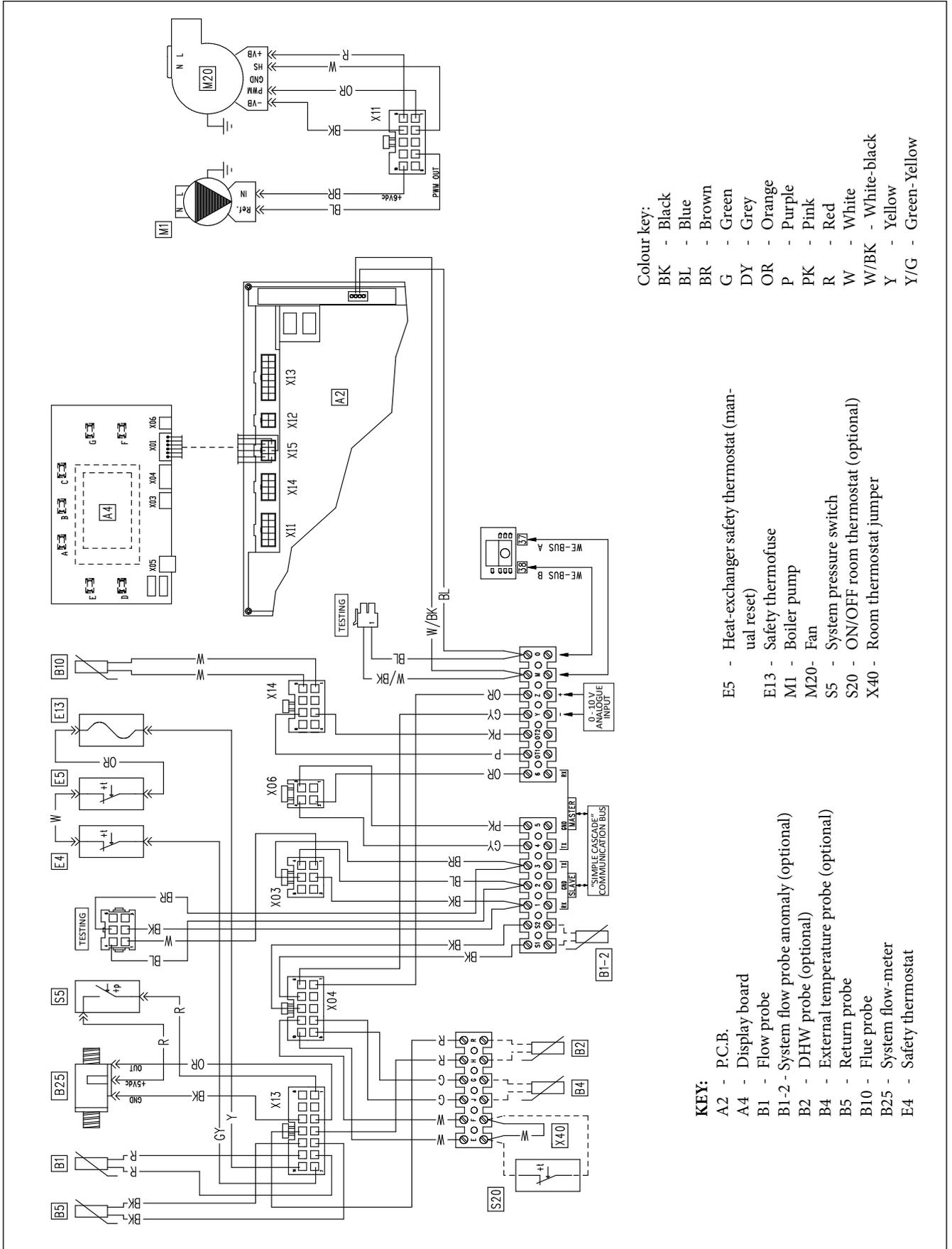
- 1 - Ball valve
- 2 - Sampling point
- 3 - Filling unit
- 4 - Disconnecter
- 5 - Water treatment unit
- 6 - Litre counter (recommended)
- 7 - "Y" strainer

VICTRIX PRO 2 ErP HIGH VOLTAGE WIRING DIAGRAM

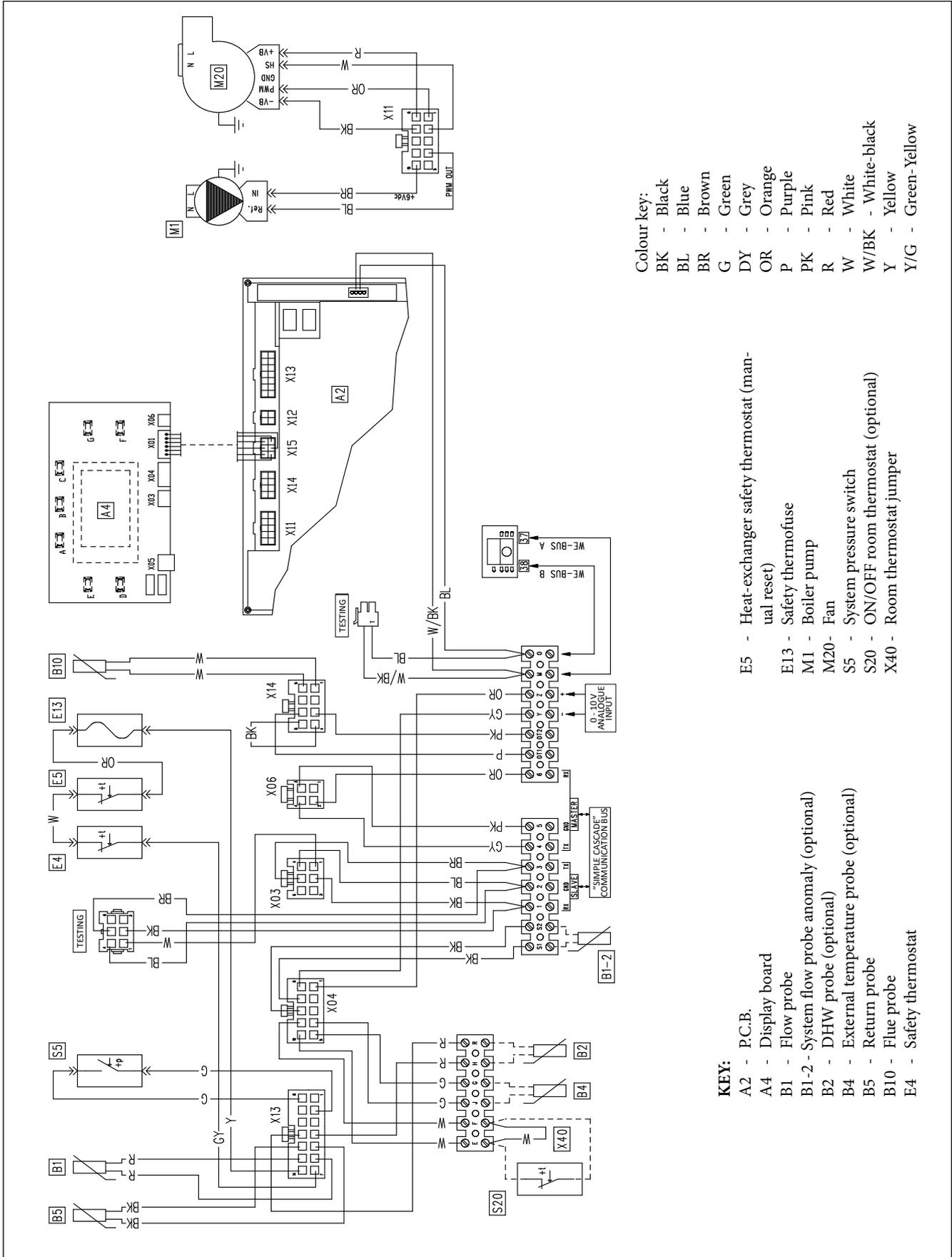


VICTRIX PRO 35 - 55 2 ErP

28.1 VICTRIX PRO 35 AND 55 2 ErP VERY LOW VOLTAGE WIRING DIAGRAM

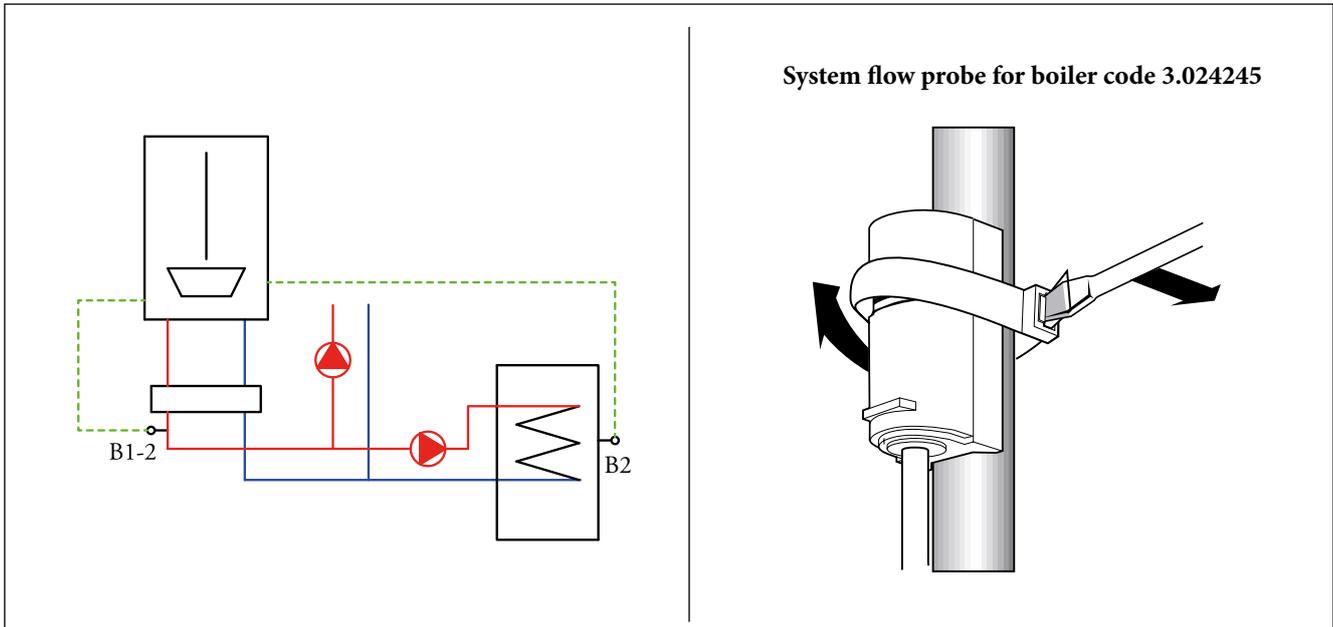


28.2 VICTRIX PRO 80 - 100 AND 120 2 ErP VERY LOW VOLTAGE WIRING DIAGRAM

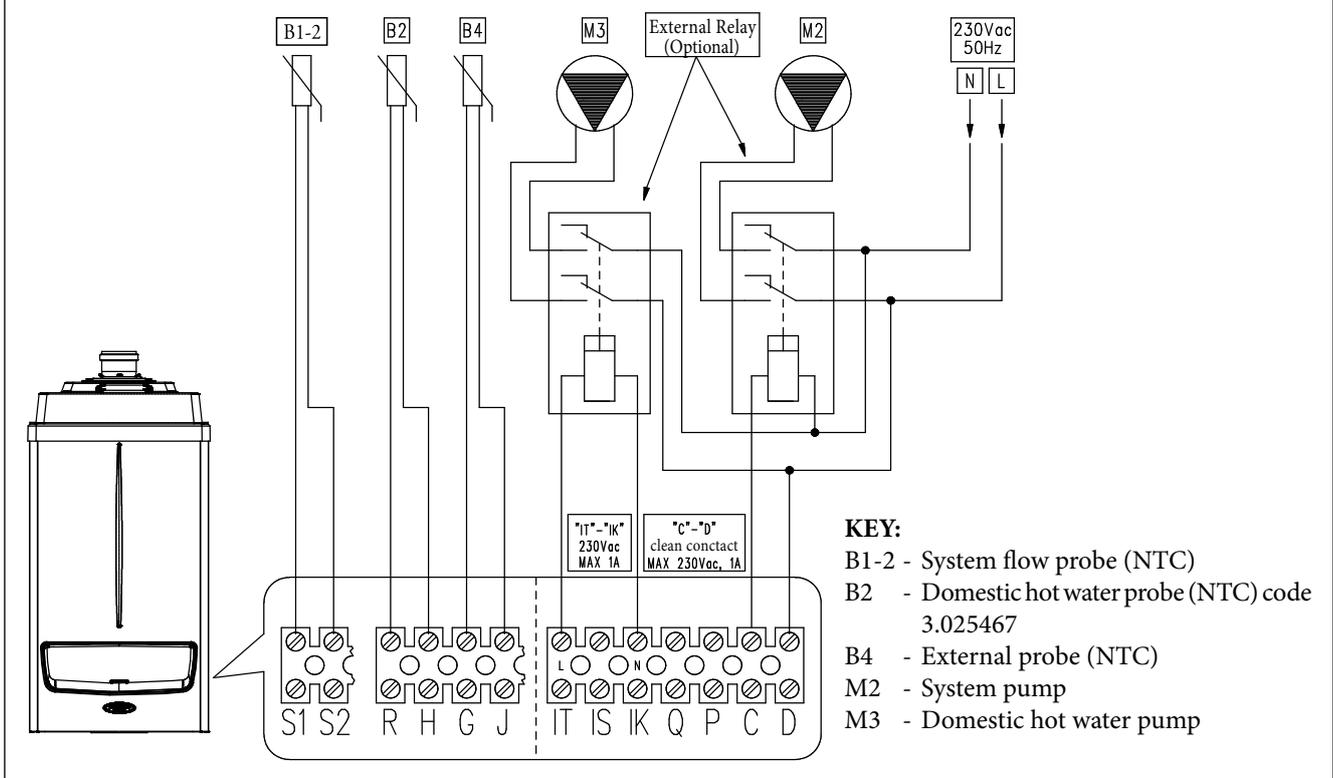


VICTRIX PRO 2 ErP

29 EXAMPLE OF DIRECT CONTROL WITHOUT CASCADE REGULATOR KIT OF A BOOSTER PUMP AND A COMMON FLOW PROBE



Electrical connection diagram for probes and pumps



Using the "direct management" system without the cascade regulator, and installing the system flow probe Kit (for direct combination with the boiler) code 3.024245 (optional), it is possible to manage:

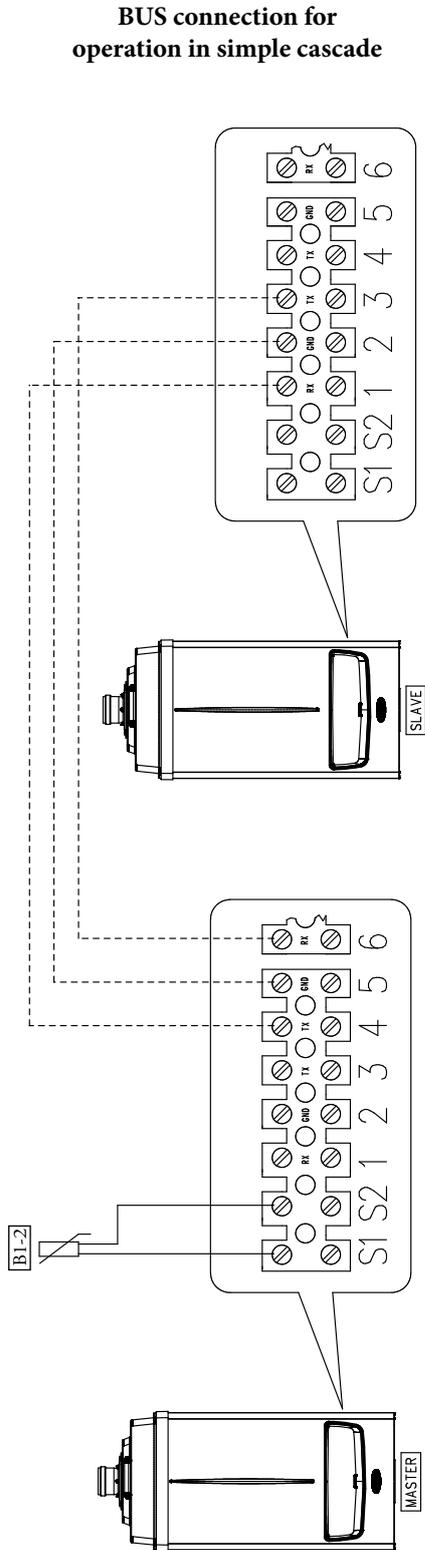
- a pump for the D.W.H.;
- one booster pump, at most, i.e. a direct zone (it cannot

manage other mixed or direct zones).

- Maximum length of the cables (probes) is 25 metres (distance of the boiler - system flow probe).
- Cable (probes) section between 0.5 and 1.5 mm². The cable must have a protective sheath with a diameter between Ø 3 and 7 mm.

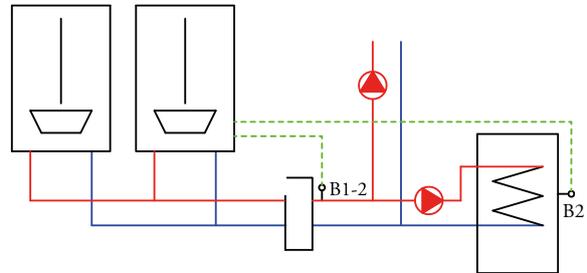
30 EXAMPLE OF SIMPLE CASCADE, WITHOUT INCLUDING THE CASCADE REGULATOR (2 BOILER MAXIMUM)

NOTE: The BUS connection can have a maximum length of 3 metres. The cable section must be between 0.5 and 1.5 mm². The cable must have a protective sheath with a diameter between Ø 3 and 7 mm.



N.B. the system flow probe must be connected to the MASTER boiler (in case of gravity boilers).

KEY:
B1-2 - System flow probe (NTC)



This application can only be used in combination with a maximum of 2 boilers with the same output (in fact, while the cascade regulator - through fan rpm detection - rises and acts on the output delivered by the boilers, with simple cascade it is possible to control the flow temperature, but not the output).

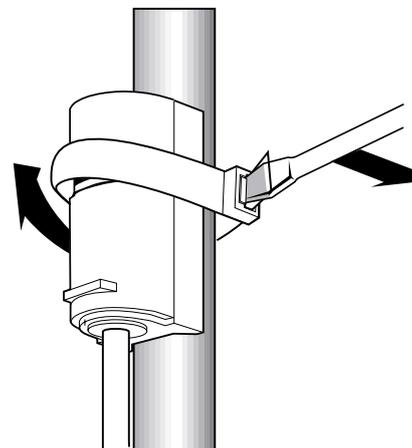
Using the "simple cascade" system without the cascade regulator, and installing the common system flow probe Kit code 3.024245 (optional), it is possible to manage:

- a pump for the D.W.H.;
- one booster pump, at most, i.e. a direct zone (it cannot manage other mixed or direct zones).

Unlike the Cascade regulator, the number of operating hours are not exactly divided between the connected boilers, rather, with later requests, the boilers take turns being the first to start up.

N.B.: In terms of the electrical connection of probes and pumps, refer to the previous page.

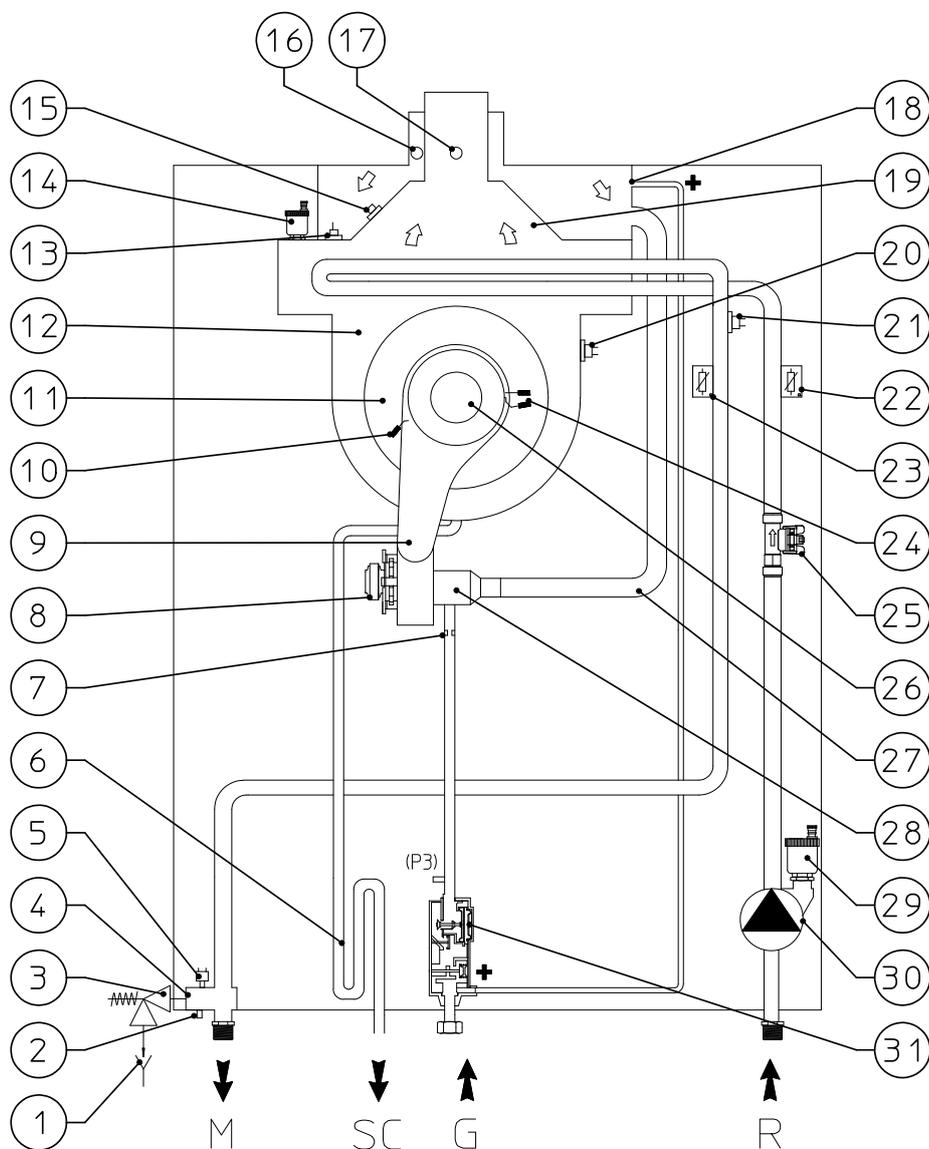
System flow probe for boiler code 3.024245



VICTRIX PRO 35 - 55 2 ErP

31

VICTRIX PRO 35 - 55 2 ErP DIAGRAM



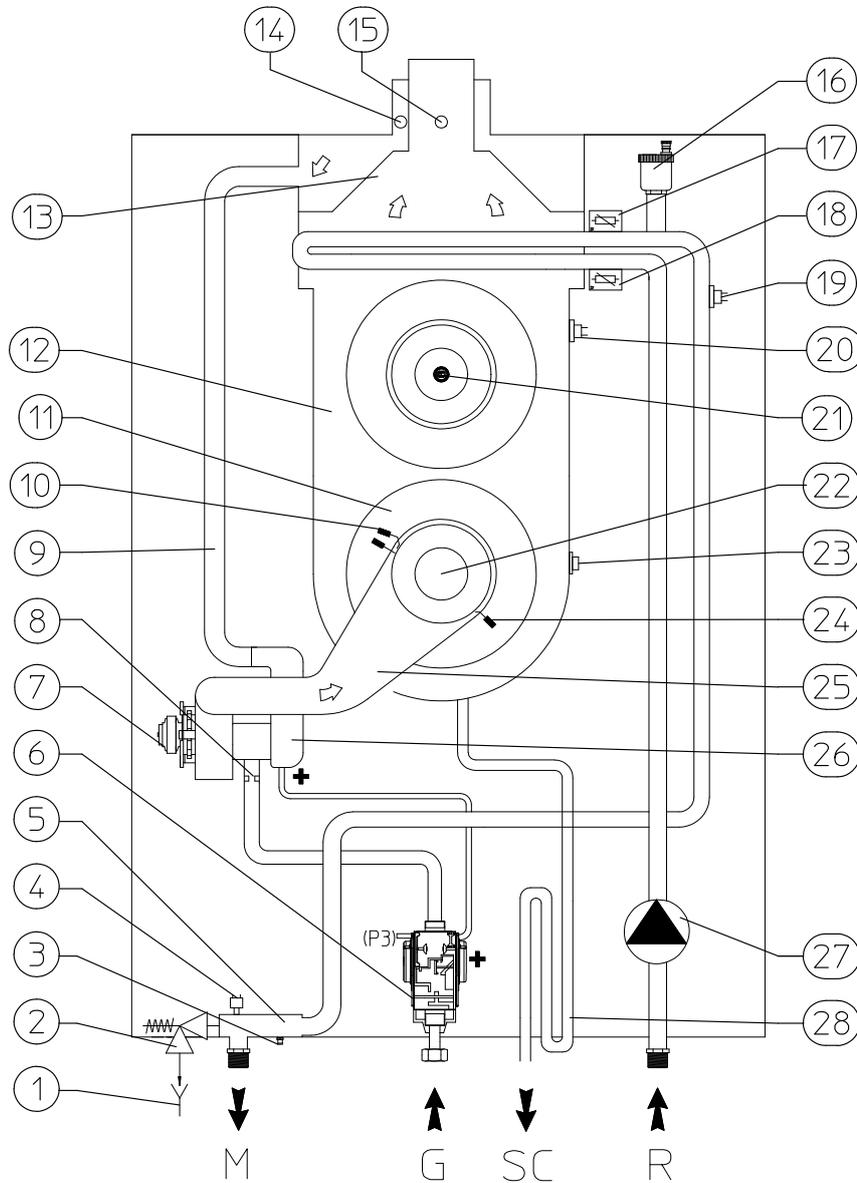
KEY:

- | | |
|--|--|
| 1 - Draining funnel on view | 17 - Air sample point |
| 2 - Safety valve 4 Bar INAIL type-approved | 18 - Flue sample point |
| 3 - Boiler draining valve | 19 - Venturi positive sign (P2) |
| 4 - Flow manifold | 20 - Fumes hood |
| 5 - System pressure switch | 21 - Heat-exchanger safety thermostat (manual reset) |
| 6 - Condensate trap siphon | 22 - Over temperature safety thermostat |
| 7 - Gas valve | 23 - System flow regulation probe |
| 8 - Gas nozzle | 24 - System return regulation probe |
| 9 - Air fan | 25 - Detection electrode |
| 10 - Manifold cover | 26 - System flow meter |
| 11 - Ignition electrode | 27 - Air intake pipe |
| 12 - Condensation module cover | 28 - Burner |
| 13 - Condensation module | 29 - Sleeve with seats for Venturi |
| 14 - Condensing module air vent valve | 30 - Automatic vent valve |
| 15 - Flue probe | 31 - Boiler circulator pump |
| 16 - Thermofuse | |

VICTRIX PRO 80 - 100 - 120 2 ErP

32

VICTRIX PRO 80 - 100 AND 120 2 ErP HYDRAULIC DIAGRAM



KEY:

- 1 - Draining funnel on view
- 2 - Safety valve 4 Bar INAIL type-approved
- 3 - Boiler draining valve
- 4 - System pressure switch
- 5 - Flow manifold
- 6 - Gas valve
- 7 - Air fan
- 8 - Gas nozzle
- 9 - Air intake pipe
- 10 - Detection electrode
- 11 - Condensation module cover
- 12 - Condensation module
- 13 - Fumes hood
- 14 - Air sample point

- 15 - Flue sample point
- 16 - Condensing module air vent valve
- 17 - System flow regulation probe
- 18 - System return regulation probe
- 19 - Over temperature safety thermostat
- 20 - Heat-exchanger safety thermostat (manual reset)
- 21 - Flue probe
- 22 - Burner
- 23 - Thermofuse
- 24 - Ignition electrode
- 25 - Manifold cover
- 26 - Sleeve with seats for Venturi
- 27 - Boiler circulator pump
- 28 - Condensate trap siphon

VICTRIX PRO 2 ErP

"GREEN SERIES" INTAKE/EXHAUST KIT MUST BE USED FOR VITRIX PRO 2 ErP

33

TYPE OF GREEN RANGE FLUE INSTALLATION

VICTRIX PRO 2 ErP boilers are type-approved for installation outside or inside the heating control unit.

"VICTRIX PRO 2 ErP" boilers leave the factory in "B₂₃" configuration (open chamber and fan assisted), to change the configuration of the boiler to type "C" (sealed chamber and fan assisted), disassemble the Ø 80 adapter, the bracket and the gasket present on the boiler cover, in this way the relevant Ø 80/125 kits can be used.

For correct installation of the boiler, the particular Immergas "Green" range air intake/fumes exhaust kits must be used as the materials, components and accessories are specific for this type of appliances.

The flue exhaust pipes are made in plastic, in a way to guarantee high resistance to corrosion and noteworthy rapidity and functionality in installation, also thanks to the push-fitting system and the sealing gaskets.

By varying the type of installation the classification of the boiler also varies:

Type C configuration, sealed chamber and fan assisted.

Installation takes place using the relevant Ø 80/125 concentric kits after having removed the Ø 80 adapter, the bracket and the gasket present on the boiler cover.

Air intake and flue exhaust takes place in this way directly to the outside of the building.

The following can be used as concentric intake/exhaust kit:

80/125Ø concentric horizontal kit

Code 3.015242;

80/125Ø concentric vertical kit

Code 3.015243.

Configuration type B₂₃ open chamber and forced draught.

Installation takes place using the Ø 80 adapter, as per standard, with the boiler to which the relevant Ø 80 flue exhaust kit is connected.

Air intake takes place directly from the environment in which the boiler is installed and flue exhaust into the flue or directly to the outside. It is therefore necessary to couple only one of the following flue exhaust kits:

Ø 80 horizontal terminal kit for wall flue exhaust

Code 3.015255;

80 Ø horizontal kit for exhaust through chimney

Code 3.015254;

Ø 80 vertical terminal kit for direct discharge

Code 3.015256;

Stainless steel 80Ø vertical flue exhaust kit (for outdoor applications)

Code 3.024295.

Installed individually, always in "B₂₃" configuration, VICTRIX PRO 2 ErP can also be coupled with the 80Ø flexible ducting system for condensing boilers.

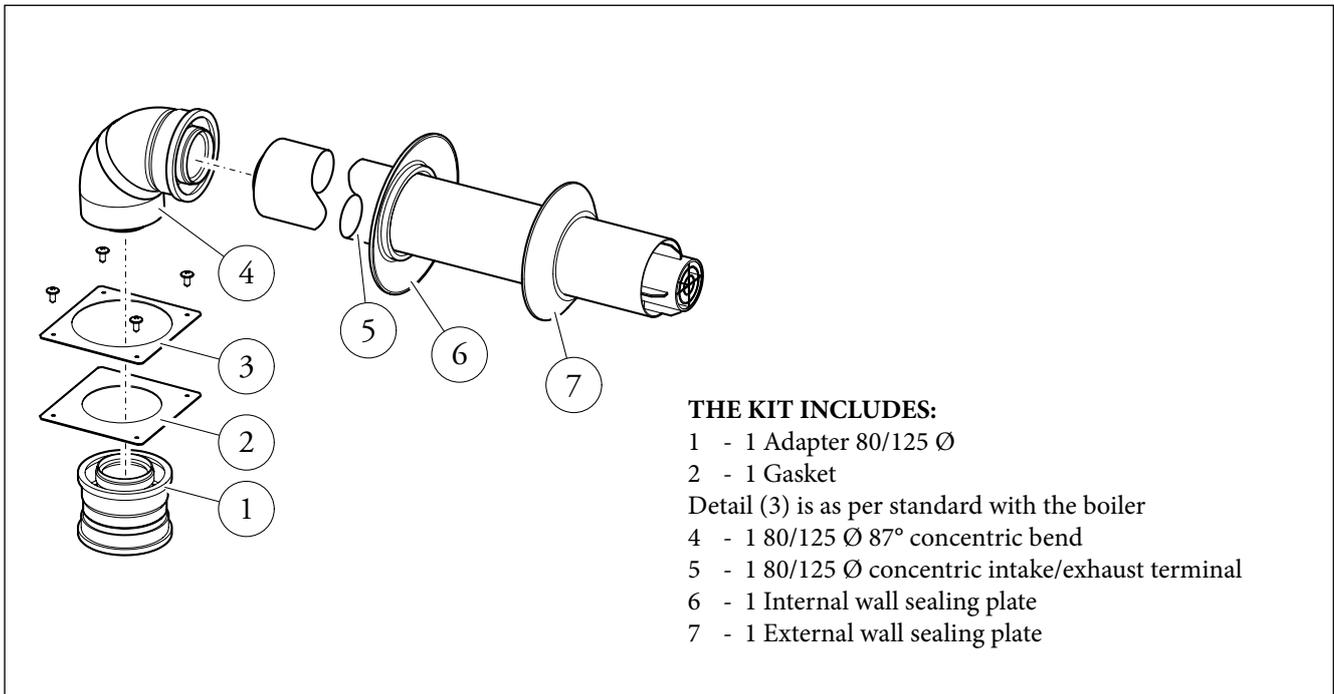
This system is particularly suitable for chimneys (or technical slots) that are not perfectly straight, where a rigid ducting system could, in some cases, face difficulty during installation.

Installed in set configuration inside the heating control units or technical rooms, it is possible to use the relevant propylene exhaust manifolds in the flue equipped with non-return devices (flue adjusting devices), in order to prevent the functioning boiler combustion products from interfering with the combustion circuit of other boilers that are off.

NOTE: the diameter of these ducts varies based on boiler type/output and the number of appliances installed in set configuration.

34

80/125 Ø CONCENTRIC HORIZONTAL KIT (CODE 3.015242)



Ø 80/125 HORIZONTAL KIT MAXIMUM LENGTH ACCEPTED

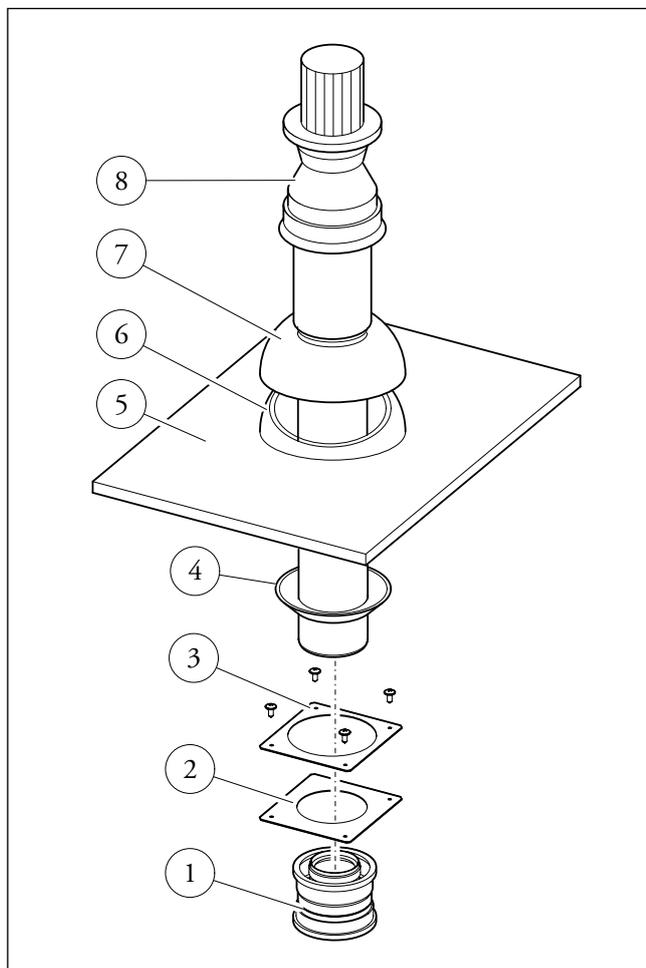
Vertical metres (including terminal)

- VICTRIX PRO 35 2 ErP = 8 m
- VICTRIX PRO 55 2 ErP = 14.5 m
- VICTRIX PRO 80 2 ErP = 11 m
- VICTRIX PRO 100 2 ErP = 8 m
- VICTRIX PRO 120 2 ErP = 5 m

VICTRIX PRO 2 ErP

35

80/125 Ø CONCENTRIC VERTICAL KIT (CODE 3.015243)



**MAXIMUM KIT LENGTH ACCEPTED
Ø 80/125 VERTICAL**

Vertical metres (including terminal)

VICTRIX PRO 35 2 ErP = 11.5 m

VICTRIX PRO 55 2 ErP = 18 m

VICTRIX PRO 80 2 ErP = 15 m

VICTRIX PRO 100 2 ErP = 11 m

VICTRIX PRO 120 2 ErP = 6 m

THE KIT INCLUDES:

1 - 1 Adapter 80/125 Ø

2 - 1 Gasket

Detail (3) is as per standard with the boiler

4 - 1 Wall sealing plate

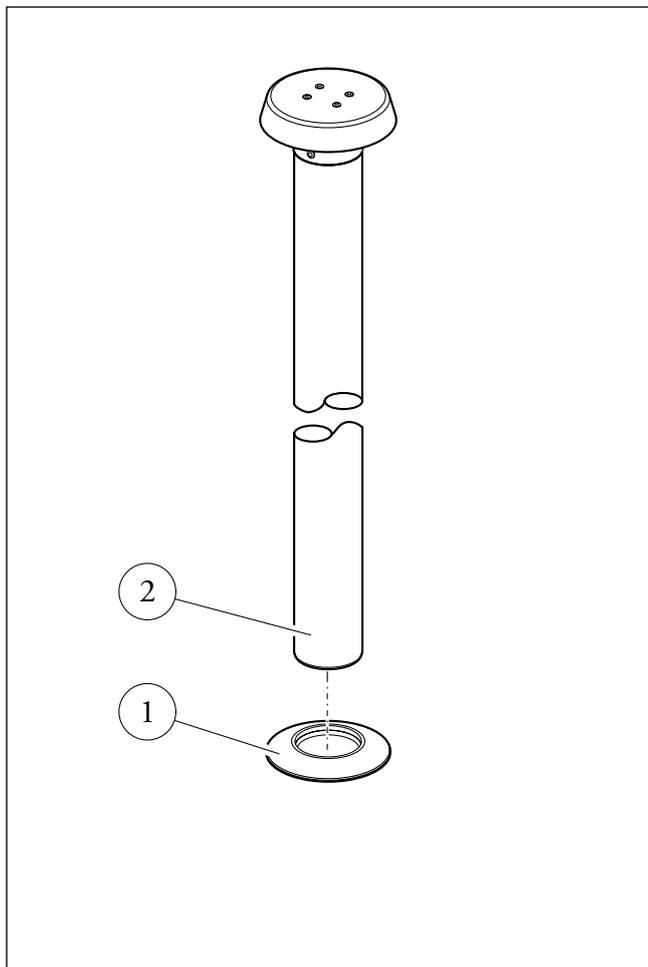
5 - 1 Aluminium tile

6 - 1 Fixed half-shell

7 - 1 80/125 Ø concentric intake/exhaust terminal

8 - 1 Mobile half-shell

36 80 Ø VERTICAL KIT FOR DIRECT EXHAUST (CODE 3.015256)



THE KIT INCLUDES:

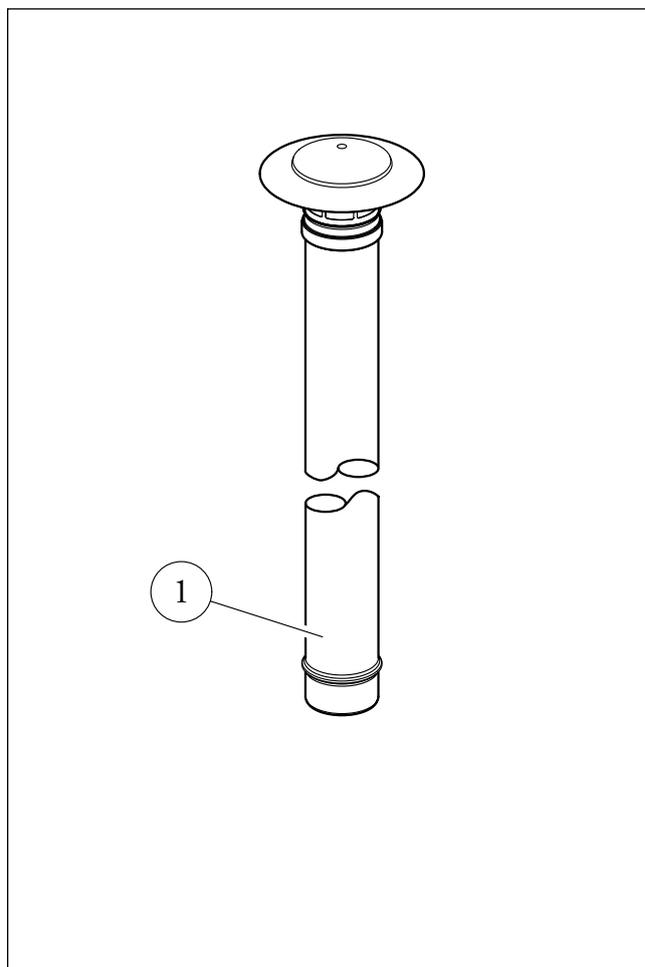
- 1 - 1 Wall sealing plate
- 2 - 1 80 Ø Exhaust terminal

Ø 80 VERTICAL KIT MAXIMUM LENGTH ACCEPTED

Vertical metres (including terminal)

- VICTRIX PRO 35 2 ErP = 24 m**
- VICTRIX PRO 55 2 ErP = 30 m**
- VICTRIX PRO 80 2 ErP = 28 m**
- VICTRIX PRO 100 2 ErP = 14 m**
- VICTRIX PRO 120 2 ErP = 8.5 m**

36.1 80 Ø STAINLESS STEEL VERTICAL KIT FOR OUTDOOR APPLICATION (CODE 3.024295)



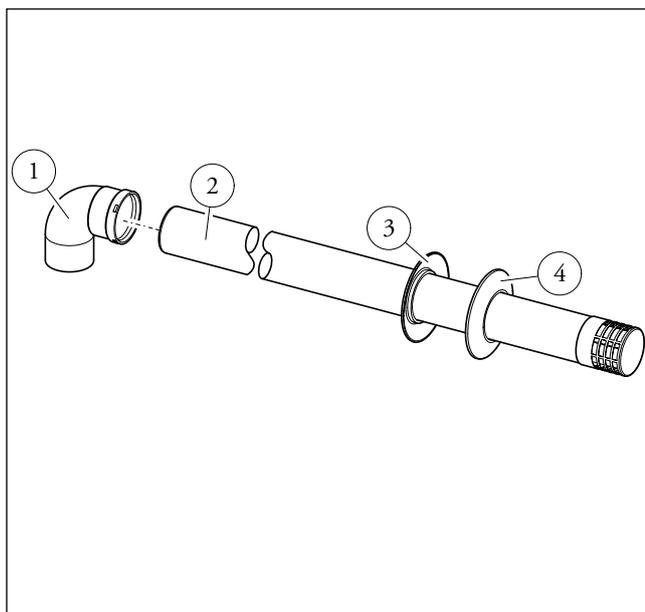
THE KIT INCLUDES:

- 1 - 1 80 Ø Exhaust terminal

NOTE: The 80 Ø steel terminal is used to install the boiler outdoors with a direct exhaust. The terminal cannot be shortened and once it is installed it will extend out by 630 mm.

VICTRIX PRO 2 ErP

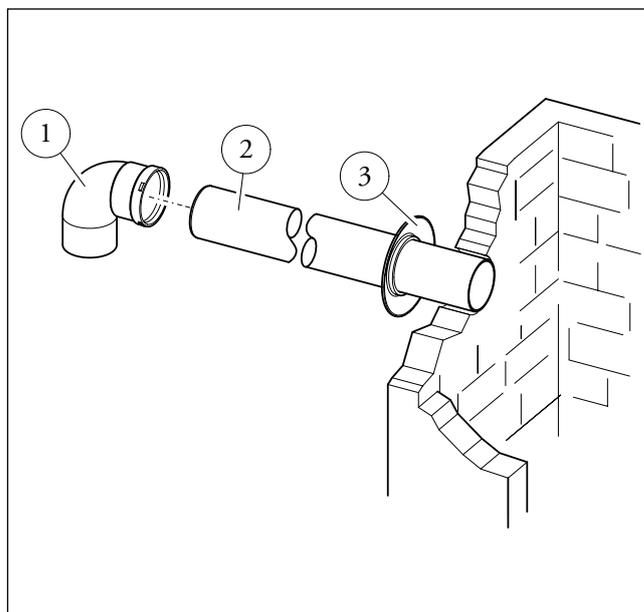
37 80 Ø HORIZONTAL TERMINAL KIT FOR WALL FLUE EXHAUST (CODE 3.015255)



THE KIT INCLUDES:

- 1 - 1 80 Ø 90° bend
- 2 - 1 80 Ø Exhaust terminal
- 3 - 1 Internal wall sealing plate
- 4 - 1 External wall sealing plate

37.1 80 Ø HORIZONTAL TERMINAL KIT FOR FLUE EXHAUST (CODE 3.015254)



THE KIT INCLUDES:

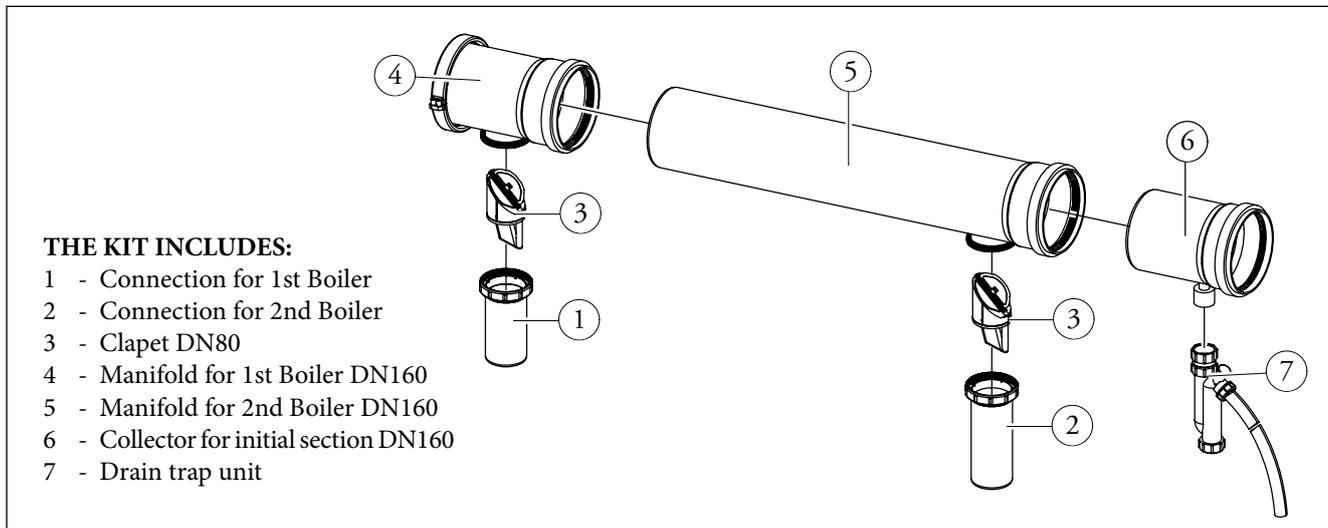
- 1 - 1 80 Ø 90° bend
- 2 - 1 80 Ø Exhaust pipe
- 3 - 1 Internal wall sealing plate

Ø 80 HORIZONTAL KIT MAXIMUM LENGTH ACCEPTED

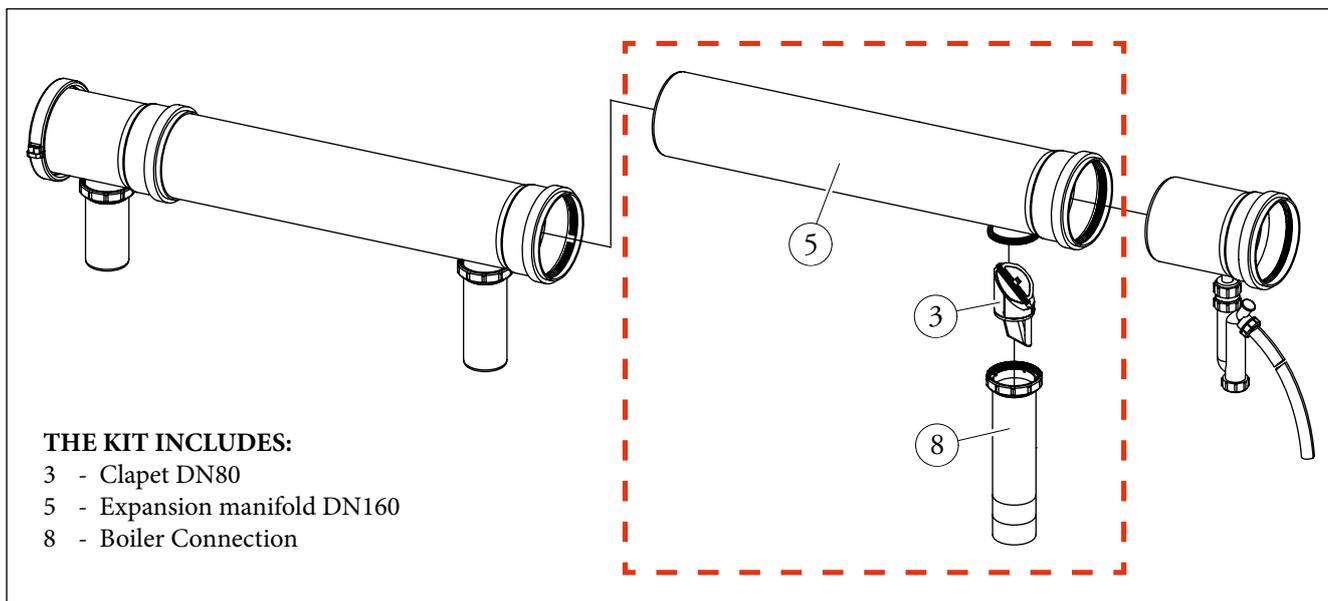
Vertical metres (including any terminal)

- VICTRIX PRO 35 2 ErP = 24 m
- VICTRIX PRO 55 2 ErP = 30 m
- VICTRIX PRO 80 2 ErP = 28 m
- VICTRIX PRO 100 2 ErP = 14 m
- VICTRIX PRO 120 2 ErP = 8.5 m

**38 FLUE EXHAUST MANIFOLD KIT 160 Ø
WITH VICTRIX PRO 35 - 55 2 ErP FLUE ADJUSTING DEVICE (CODE 3.024279)**



**38.1 FLUE EXHAUST MANIFOLD KIT Ø 160
WITH FLUE ADJUSTING DEVICES TO EXPAND VICTRIX PRO 35 - 55 2 ErP (CODE 3.024280)**



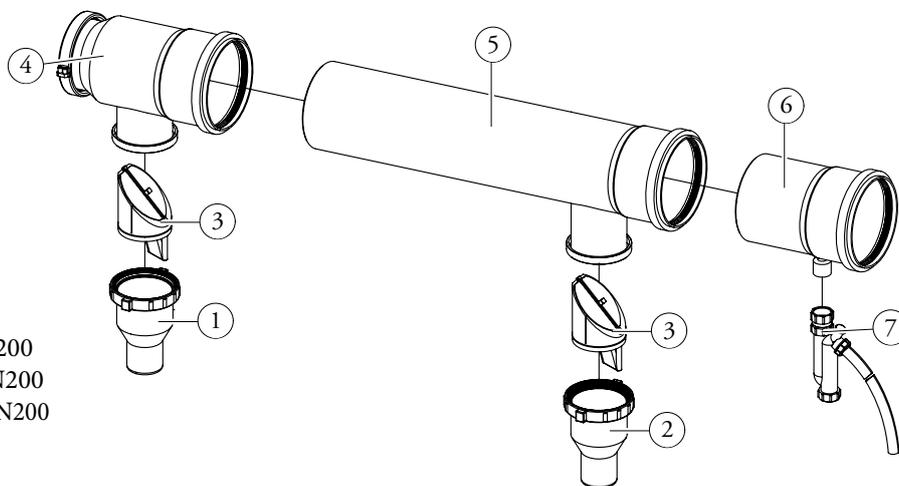
Boiler Model	160 Ø Flue manifold kit code 3.024279	160 Ø Flue manifold kit for expansion code 3.024280
2 VICTRIX PRO 35-55 2 ErP	N° 1	--
3 VICTRIX PRO 35-55 2 ErP	N° 1	N° 1
4 VICTRIX PRO 35-55 2 ErP	N° 1	N° 2
5 VICTRIX PRO 35-55 2 ErP	N° 1	N° 3

VICTRIX PRO 80 - 100 - 120 2 ErP

39 FLUE EXHAUST MANIFOLD KIT 200 Ø WITH VICTRIX PRO 80 - 100 - 120 2 ErP FLUE ADJUSTING DEVICE (CODE 3.024281)

THE KIT INCLUDES:

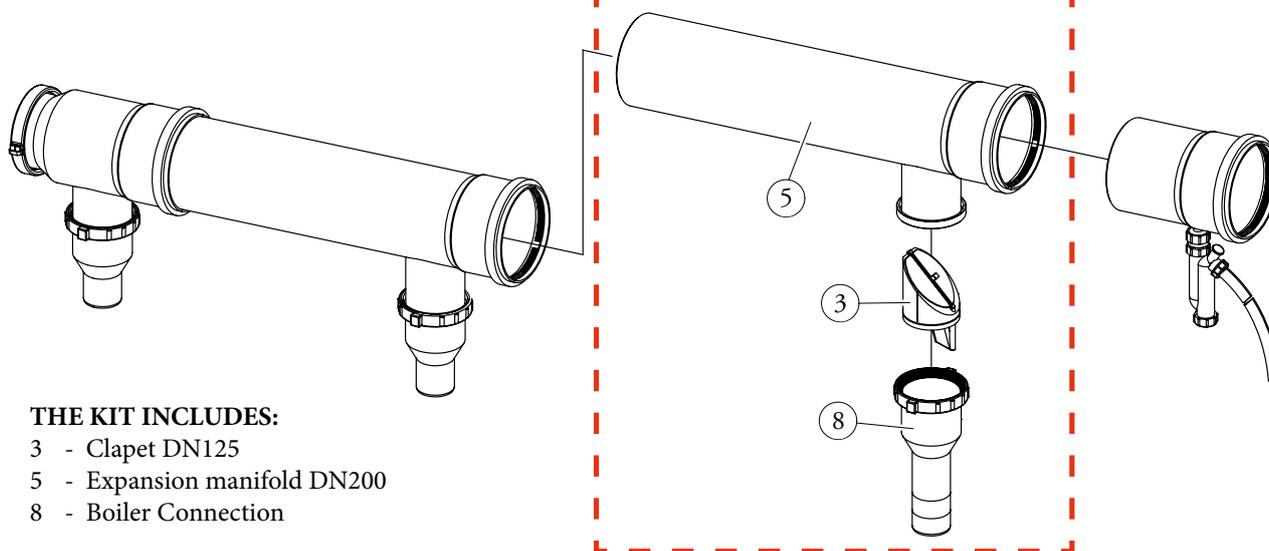
- 1 - Connection for 1st Boiler
- 2 - Connection for 2nd Boiler
- 3 - Clapet DN125
- 4 - Manifold for 1st Boiler DN200
- 5 - Manifold for 2nd Boiler DN200
- 6 - Collector for initial section DN200
- 7 - Drain trap unit



39.1 FLUE EXHAUST MANIFOLD KIT Ø 200 WITH FLUE ADJUSTING DEVICE TO EXPAND VICTRIX PRO 80 - 100 - 120 2 ErP (CODE 3.024282)

THE KIT INCLUDES:

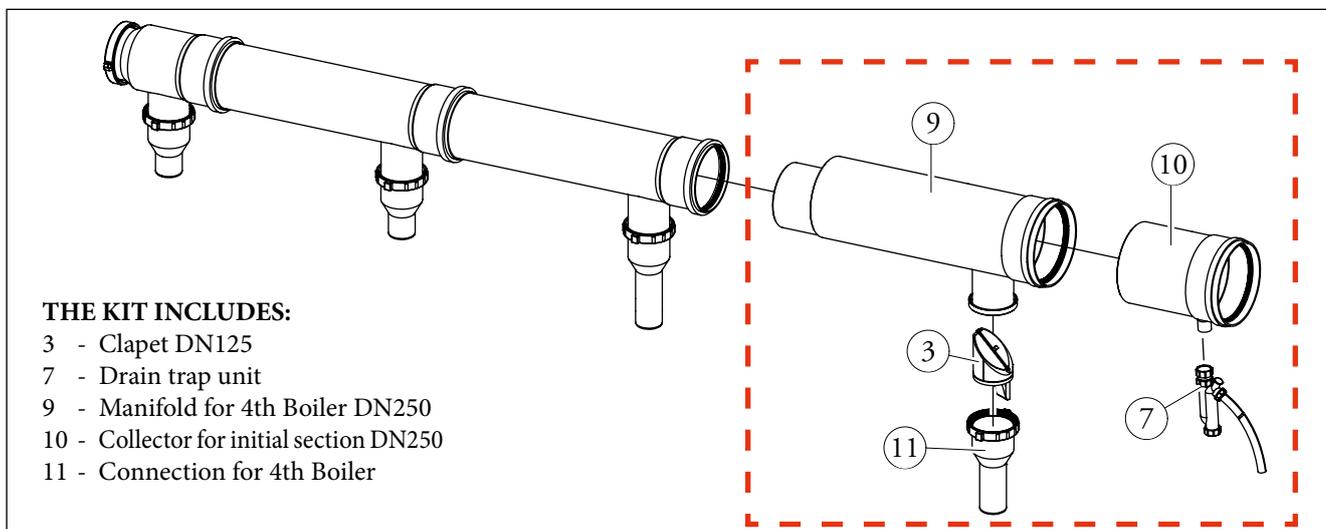
- 3 - Clapet DN125
- 5 - Expansion manifold DN200
- 8 - Boiler Connection



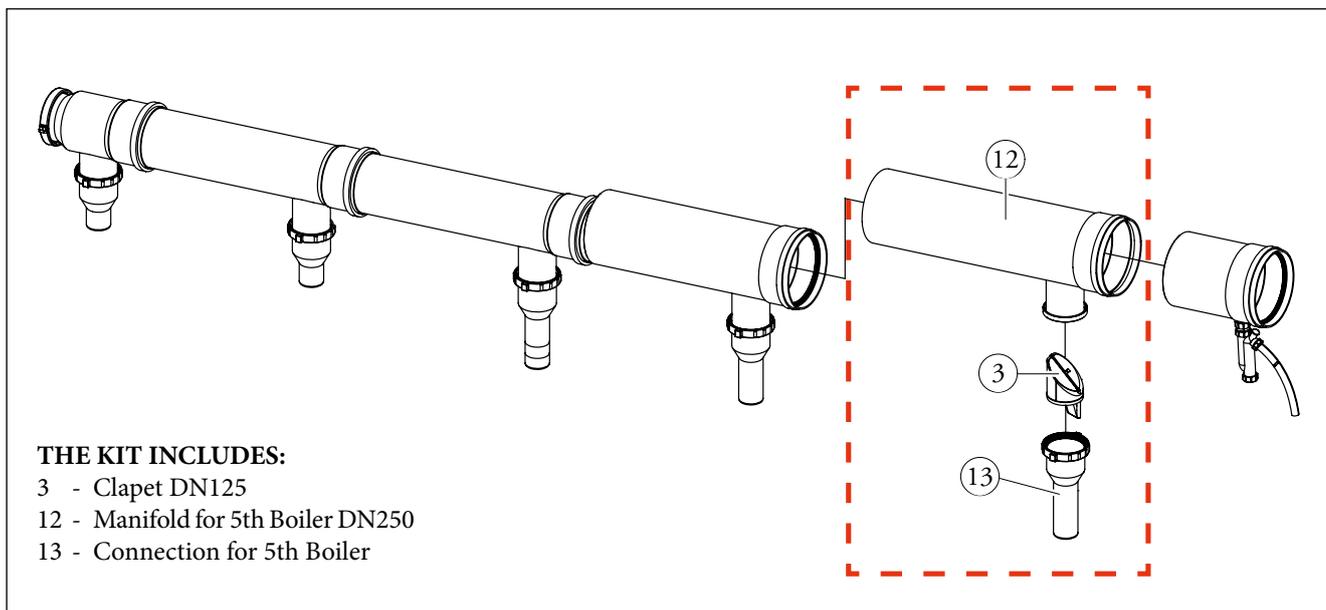
Boiler Model	200 Ø Flue manifold kit code 3.024281	200 Ø Flue manifold kit for expansion code 3.024282
2 VICTRIX PRO 80 2 ErP	N° 1	--
3 VICTRIX PRO 80 2 ErP	N° 1	N° 1
4 VICTRIX PRO 80 2 ErP	N° 1	N° 2
5 VICTRIX PRO 80 2 ErP	N° 1	N° 3

VICTRIX PRO 80 - 100 - 120 2 ErP

40 FLUE EXHAUST MANIFOLD KIT 250 Ø WITH FLUE ADJUSTING DEVICES TO EXPAND 4TH VICTRIX PRO 100 - 120 2 ErP (CODE 3.024666)



40.1 FLUE EXHAUST MANIFOLD KIT 250 Ø WITH FLUE ADJUSTING DEVICES TO EXPAND 5^A VICTRIX PRO 100 - 120 2 ErP (CODE 3.024667)



Boiler Model	200 Ø Flue manifold kit code 3.024281	200 Ø Flue manifold kit for expansion code 3.024282	250 Ø Flue manifold kit for expansion code 3.024666	250 Ø Flue manifold kit for expansion code 3.024667
2 VICTRIX PRO 100-120 2 ErP	N° 1	--	--	--
3 VICTRIX PRO 100-120 2 ErP	N° 1	N° 1	--	--
4 VICTRIX PRO 100-120 2 ErP	N° 1	N° 1	N° 1	--
5 VICTRIX PRO 100-120 2 ErP	N° 1	N° 1	N° 1	N° 1

VICTRIX PRO 2 ErP

41 RESIDUAL HEAD AVAILABLE ON CHIMNEY OPENING

The residual head includes 2 metres of flue system at the end of the set. The chimney/ducted pipe which collects the flue gas coming from the flue manifold, is sized under pressure or vacuum (UNI 11528). If you wish to operate with a pressurised chimney/ducted pipe, the value of the residual head at the ends of the set - set forth in the table - represents the maximum head loss that the flue system must have to guarantee correct operation of all generators, in the various operating conditions.

NOTE: for any missing data referring to the individual boiler model, and in terms of all of the operations that need to be carried out on the boiler control panel, refer to the relative instructions booklet.

VICTRIX PRO 35 2 ErP	N° 2 VICTRIX PRO 35	N° 3 VICTRIX PRO 35	N° 4 VICTRIX PRO 35	N° 5 VICTRIX PRO 35
Nominal heat input (kW)	69.8	104.7	139.6	174.5
Flue diameter (mm)	Ø 160			
Residual head at the ends of the cascade (Pa)	11.4	9	6	3
Parameter "P26" Min Fan Speed (rpm)	1300			

VICTRIX PRO 55 2 ErP	N° 2 VICTRIX PRO 55	N° 3 VICTRIX PRO 55	N° 4 VICTRIX PRO 55	N° 5 VICTRIX PRO 55
Nominal heat input (kW)	102.6	153.9	205.2	256.5
Flue diameter (mm)	Ø 160			
Residual head at the ends of the cascade (Pa)	24	20	15	5
Parameter "P26" Min Fan Speed (rpm)	1500			

VICTRIX PRO 80 2 ErP	N° 2 VICTRIX PRO 80	N° 3 VICTRIX PRO 80	N° 4 VICTRIX PRO 80	N° 5 VICTRIX PRO 80
Nominal heat input (kW)	150.6	225.9	301.2	376.5
Flue diameter (mm)	Ø 200			
Residual head at the ends of the cascade (Pa)	19	17	11	5
Parameter "P26" Min Fan Speed (rpm)	1450			

VICTRIX PRO 100 2 ErP	N° 2 VICTRIX PRO 100	N° 3 VICTRIX PRO 100	N° 4 VICTRIX PRO 100	N° 5 VICTRIX PRO 100
Nominal heat input (kW)	184.6	276.9	369.2	461.5
Flue diameter (mm)	Ø 200	Ø 200	Ø 250	Ø 250
Residual head at the ends of the cascade (Pa)	14	12	6	3
Parameter "P26" Min Fan Speed (rpm)	1400			

VICTRIX PRO 120 2 ErP	N° 2 VICTRIX PRO 120	N° 3 VICTRIX PRO 120	N° 4 VICTRIX PRO 120	N° 5 VICTRIX PRO 120
Nominal heat input (kW)	228.2	342.3	456.4	570.5
Flue diameter (mm)	Ø 200	Ø 200	Ø 250	Ø 250
Residual head at the ends of the cascade (Pa)	19	15	9.5	5
Parameter "P26" Min Fan Speed (rpm)	1550			

The Immergas Ø 80 mm system for flexible ducting of existing chimneys is made up from a series of components, identified as individual kits, which can be assembled depending on the specific installation requirements. This system is supplied in a configuration that envisions an ascending 87° input bend, then continuing vertically with the Ø 80 flexible hose and the exhaust terminal. The ducted tube is inspected at the mouth of the boiler, via the relevant hatch.

The kit is made up from a 12 m flexible hose. If the hose is too short it can be joined to other pieces via the relevant adapters. A centring spacer must however be inserted every now and again, which via extendible fins, allows the pipe to stay in the centre of the flue.

The maximum length for this ducting system is:

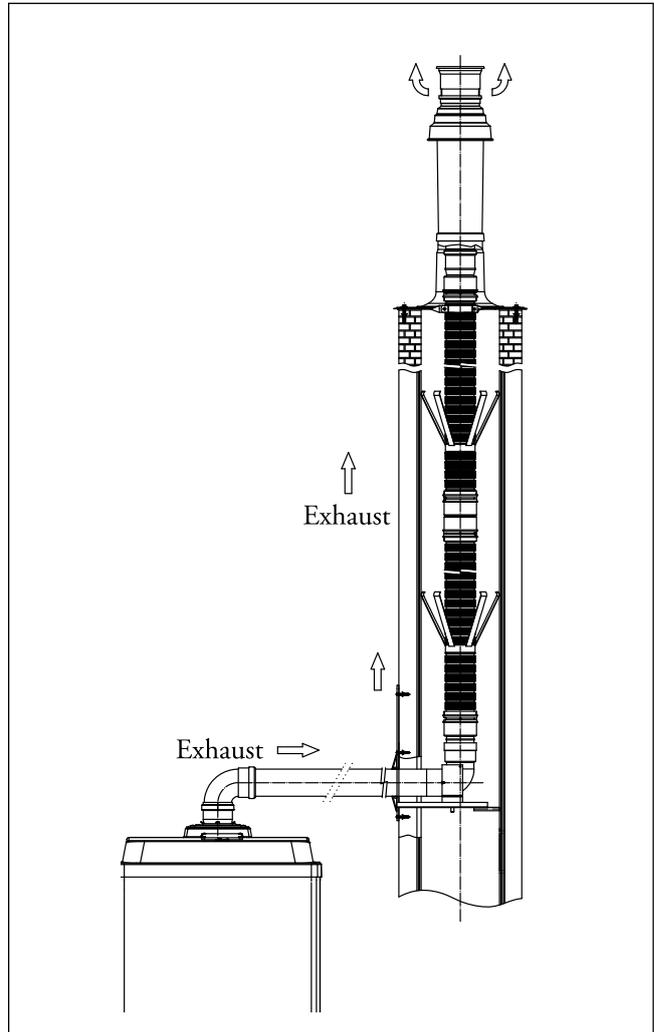
- VICTRIX PRO 35 2 ErP = 24 m**
- VICTRIX PRO 55 2 ErP = 30 m**
- VICTRIX PRO 80 2 ErP = 28 m**
- VICTRIX PRO 100 2 ErP = 14 m**
- VICTRIX PRO 120 2 ErP = 8.5 m**

This length is obtained by considering:

- 1 80Ø mm 90° bend for connection to the boiler (exhaust);
- 1 m of 80 Ø pipe for exhaust;
- two direction changes in the vertical section;
- the supporting 80Ø mm bend;
- the vertical terminal kit for 80/125 Ø ducting.

It is important to highlight that:

- in all cases it is a system to which **a unique appliance can be coupled;**
- the system **can only be coupled with condensing appliances.**



VICTRIX PRO 35 - 55 2 ErP

43

TECHNICAL DATA

			VICTRIX PRO 35 2 ErP	VICTRIX PRO 55 2 ErP
Maximum nominal heat input		kW (kcal/h)	34.9 (30.051)	51.3 (44.098)
Maximum nominal effective output (80/60°C)		kW (kcal/h)	34.0 (29.240)	49.9 (42.914)
Maximum nominal effective output (50/30°C)		kW (kcal/h)	37.3 (32.155)	54.8 (47.097)
Minimum nominal heat input		kW (kcal/h)	3.9 (3.388)	5.5 (4.715)
Minimum nominal effective output (80/60°C)		kW (kcal/h)	3.4 (2.924)	5.0 (4.300)
Minimum nominal effective output (50/30°C)		kW (kcal/h)	3.7 (3.208)	5.5 (4.701)
Efficiency at 100% Pn (80/60°C)		%	97.3	97.3
Efficiency at 30% of the load (80/60°C)		%	99.0	101.1
Efficiency at 100% Pn (50/30°C)		%	107.0	106.8
Efficiency at 30% of the load (50/30°C)		%	106.1	106.3
Efficiency at 100% Pn (40/30°C)		%	107.3	107.4
Efficiency at 30% of the load (40/30°C)		%	103.8	105.9
Central heating circuit				
Adjustable central heating system temperature		°C	20-85	20-85
Max system operating temperature		°C	90	90
Max system operating pressure		bar	4,4	4,4
Head available with 1000 l/h flow rate		kPa (m H ₂ O)	70.1 (7.13)	70.1 (7.13)
Gas supply				
Fan speed METHANE (G20)	MIN - MAX	RPM	1000 - 5050	1100 - 6550
Fan speed LPG (G31)	MIN - MAX	RPM	1000 - 4900	1050 - 6450
Gas flow rate to the burner METHANE (G20)	MIN - MAX	m ³ /h	0.42 - 3.70	0.58 - 5.43
Gas flow rate to the burner LPG (G31)	MIN - MAX	kg/h	0.31 - 2.71	0.43 - 3.98
Electric power supply		V/Hz	230 - 50	230 - 50
Nominal power absorption		A	0.8	0.95
Installed electric power		W	100	155
Power absorbed by fan		W	28	79
Power absorbed by pump		W	57	57
Electrical insulation rating	IP		X5D	X5D
Boiler water capacity		litres	2.8	2.8
Weight of empty boiler		kg	51.2	51.4
Effective efficiency at 100 % output (Italian Lgs. D. 192/05 as amended)			>93+2·log Pn (Pn = 34.0 kW)	>93+2·log Pn (Pn = 49.9 kW)

VICTRIX PRO 80 - 100 - 120 2 ErP

43.1

TECHNICAL DATA

			VICTRIX PRO 80 2 ErP	VICTRIX PRO 100 2 ErP
Maximum nominal heat input		kW (kcal/h)	75.3 (64.722)	92.3 (79.385)
Maximum nominal effective output (80/60°C)		kW (kcal/h)	73.0 (62.780)	90.0 (77.400)
Maximum nominal effective output (50/30°C)		kW (kcal/h)	80.3 (68.994)	98.8 (84.942)
Minimum nominal heat input		kW (kcal/h)	7.6 (6.532)	9.8 (8.401)
Minimum nominal effective output (80/60°C)		kW (kcal/h)	7.2 (6.192)	9.4 (8.084)
Minimum nominal effective output (50/30°C)		kW (kcal/h)	8.1 (6.983)	10.5 (9.023)
Efficiency at 100% Pn (80/60°C)		%	97.0	97.5
Efficiency at 30% of the load (80/60°C)		%	100.8	101.1
Efficiency at 100% Pn (50/30°C)		%	106.6	107.0
Efficiency at 30% of the load (50/30°C)		%	106.6	107.5
Efficiency at 100% Pn (40/30°C)		%	107.3	107.4
Efficiency at 30% of the load (40/30°C)		%	107.6	107.5
Central heating circuit				
Adjustable central heating system temperature		°C	20-85	20-85
Max system operating temperature		°C	90	90
Max system operating pressure		bar	4,4	4,4
Head available with 1000 l/h flow rate		kPa (m H ₂ O)	81.4 (8.30)	116.5 (11.88)
Gas supply				
Fan speed METHANE (G20)	MIN - MAX	RPM	1200 - 6500	1150 - 6600
Fan speed LPG (G31)	MIN - MAX	RPM	1100 - 6400	1150 - 6400
Gas flow rate to the burner METHANE (G20)	MIN - MAX	m ³ /h	0.80 - 7.96	1.03 - 9.77
Gas flow rate to the burner LPG (G31)	MIN - MAX	kg/h	0.59 - 5.85	0.76 - 7.17
Electric power supply		V/Hz	230 - 50	230 - 50
Nominal power absorption		A	1.50	2.30
Installed electric power		W	195	345
Power absorbed by fan		W	100	143
Power absorbed by pump		W	82	183
Electrical insulation rating	IP		X5D	X5D
Boiler water capacity		litres	4.0	10.1
Weight of empty boiler		kg	79.5	95.9
Effective efficiency at 100 % output (Italian Lgs. D. 192/05 as amended)			>93+2·log Pn (Pn = 73.0 kW)	>93+2·log Pn (Pn = 90.0 kW)

VICTRIX PRO 80 - 100 - 120 2 ErP

43.2
TECHNICAL DATA

			VICTRIX PRO 120 2 ErP
Maximum nominal heat input		kW (kcal/h)	114.1 (98.109)
Maximum nominal effective output (80/60°C)		kW (kcal/h)	111.0 (95.460)
Maximum nominal effective output (50/30°C)		kW (kcal/h)	121.7 (104.682)
Minimum nominal heat input		kW (kcal/h)	11.4 (9.813)
Minimum nominal effective output (80/60°C)		kW (kcal/h)	11.0 (9.460)
Minimum nominal effective output (50/30°C)		kW (kcal/h)	12.2 (10.520)
Efficiency at 100% Pn (80/60°C)		%	97.3
Efficiency at 30% of the load (80/60°C)		%	100.4
Efficiency at 100% Pn (50/30°C)		%	106.7
Efficiency at 30% of the load (50/30°C)		%	107.1
Efficiency at 100% Pn (40/30°C)		%	107.2
Efficiency at 30% of the load (40/30°C)		%	107.1
Central heating circuit			
Adjustable central heating system temperature		°C	20-85
Max system operating temperature		°C	90
Max system operating pressure		bar	4.4
Head available with 1000 l/h flow rate		kPa (m H ₂ O)	116.5 (11.88)
Gas supply			
Fan speed METHANE (G20)	MIN - MAX	RPM	1200 - 7000
Fan speed LPG (G31)	MIN - MAX	RPM	1150 - 6900
Gas flow rate to the burner METHANE (G20)	MIN - MAX	m ³ /h	1.21 - 12.07
Gas flow rate to the burner LPG (G31)	MIN - MAX	kg/h	0.89 - 8.86
Electric power supply		V/Hz	230 - 50
Nominal power absorption		A	2.50
Installed electric power		W	385
Power absorbed by fan		W	184
Power absorbed by pump		W	186
Electrical insulation rating	IP		X5D
Boiler water capacity		litres	11.7
Weight of empty boiler		kg	102.5
Effective efficiency at 100 % output (Italian Lgs. D. 192/05 as amended)			>93+2·log Pn (Pn = 111.0 kW)

44 COMBUSTION CHARACTERISTICS FOR VICTRIX PRO 35 2 ErP

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	98.4	98.4
Combustion efficiency P min (80/60°C)	%	98.4	98.4
Effective efficiency at 100% Pn (80/60°C)	%	97.3	97.3
Effective efficiency P min (80/60°C)	%	86.3	86.3
Effective efficiency at 100% Pn (50/30°C)	%	107.0	107.0
Effective efficiency P min (50/30°C)	%	94.7	94.7
Effective efficiency at 100% Pn (40/30°C)	%	107.3	107.3
Effective efficiency P min (40/30°C)	%	100.2	100.2
Chimney losses with burner on (100% Pn) (80/60°C)	%	1.60	1.60
Chimney losses with burner on (P min) (80/60°C)	%	1.60	1.60
Chimney losses with burner off	%	0.04	0.04
Casing losses with burner on (100% Pn) (80/60°C)	%	1.10	1.10
Casing losses with burner on (P min) (80/60°C)	%	12.1	12.1
Casing losses with burner off	%	0.44	0.44
Flue temperature Maximum Heat Input	°C	48	48
Flue temperature Minimum Heat Input	°C	47	47
Flue flow rate at Maximum Heat Input	kg/h	55	56
Flue flow rate at Minimum Heat Input	kg/h	6	7
CO ₂ at the Maximum Heat Input	%	9.4	10.6
CO ₂ at the Minimum Heat Input	%	9.1	10.1
CO at Maximum Heat Input	mg/kWh	90	104
CO at Minimum Heat Input	mg/kWh	1	1
NO _x at the Maximum Heat Input	mg/kWh	35	37
NO _x at the Minimum Heat Input	mg/kWh	12	15
Weighted CO	mg/kWh	8	-
Weighted NO _x	mg/kWh	25	-
NO _x class	-	5	5
Head available at fan (B ₂₃) (Min. - Max.)	Pa	1 - 50	
Head available at fan (C ₁₃) (Min. - Max.)	Pa	19 - 70	

- Gas flow rates refer to Net Heating Value at a temperature of 15°C and a pressure of 1013 mbar.
- Flue temperature values refer to an air inlet temperature of 15°C and flow temperature of 80°C.

VICTRIX PRO 35 - 55 2 ErP

44.1 COMBUSTION CHARACTERISTICS FOR VICTRIX PRO 55 2 ErP

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	98.2	98.2
Combustion efficiency P min (80/60°C)	%	98.3	98.3
Effective efficiency at 100% Pn (80/60°C)	%	97.3	97.3
Effective efficiency P min (80/60°C)	%	91.2	91.2
Effective efficiency at 100% Pn (50/30°C)	%	106.8	106.8
Effective efficiency P min (50/30°C)	%	99.7	99.7
Effective efficiency at 100% Pn (40/30°C)	%	107.4	107.4
Effective efficiency P min (40/30°C)	%	103.5	103.5
Chimney losses with burner on (100% Pn) (80/60°C)	%	1.80	1.80
Chimney losses with burner on (P min) (80/60°C)	%	1.7	1.7
Chimney losses with burner off	%	0.03	0.03
Casing losses with burner on (100% Pn) (80/60°C)	%	0.90	0.90
Casing losses with burner on (P min) (80/60°C)	%	7.1	7.1
Casing losses with burner off	%	0.30	0.30
Flue temperature Maximum Heat Input	°C	52	53
Flue temperature Minimum Heat Input	°C	48	48
Flue flow rate at Maximum Heat Input	kg/h	81	82
Flue flow rate at Minimum Heat Input	kg/h	9	9
CO ₂ at the Maximum Heat Input	%	9.4	10.6
CO ₂ at the Minimum Heat Input	%	9.1	10.1
CO at Maximum Heat Input	mg/kWh	168	194
CO at Minimum Heat Input	mg/kWh	1	1
NO _x at the Maximum Heat Input	mg/kWh	43	43
NO _x at the Minimum Heat Input	mg/kWh	17	21
Weighted CO	mg/kWh	39	-
Weighted NO _x	mg/kWh	15	-
NO _x class	-	5	5
Head available at fan (B ₂₃) (Min. - Max.)	Pa	1 - 110	
Head available at fan (C ₁₃) (Min. - Max.)	Pa	38 - 185	

- Gas flow rates refer to Net Heating Value at a temperature of 15°C and a pressure of 1013 mbar.
- Flue temperature values refer to an air inlet temperature of 15°C and flow temperature of 80°C.

VICTRIX PRO 80 - 100 - 120 2 ErP

44.2 COMBUSTION CHARACTERISTICS FOR VICTRIX PRO 80 2 ErP

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	97.8	97.8
Combustion efficiency P min (80/60°C)	%	98.6	98.6
Effective efficiency at 100% Pn (80/60°C)	%	97.0	97.0
Effective efficiency P min (80/60°C)	%	94.8	94.8
Effective efficiency at 100% Pn (50/30°C)	%	106.6	106.6
Effective efficiency P min (50/30°C)	%	106.9	106.9
Effective efficiency at 100% Pn (40/30°C)	%	107.3	107.3
Effective efficiency P min (40/30°C)	%	107.2	107.2
Chimney losses with burner on (100% Pn) (80/60°C)	%	2.2	2.2
Chimney losses with burner on (P min) (80/60°C)	%	1.4	1.4
Chimney losses with burner off	%	0.01	0.01
Casing losses with burner on (100% Pn) (80/60°C)	%	0.80	0.80
Casing losses with burner on (P min) (80/60°C)	%	3.8	3.8
Casing losses with burner off	%	0.34	0.34
Flue temperature Maximum Heat Input	°C	62	61
Flue temperature Minimum Heat Input	°C	42	43
Flue flow rate at Maximum Heat Input	kg/h	115	120
Flue flow rate at Minimum Heat Input	kg/h	13	13
CO ₂ at the Maximum Heat Input	%	9.85	10.6
CO ₂ at the Minimum Heat Input	%	8.85	10.0
CO at Maximum Heat Input	mg/kWh	245	192
CO at Minimum Heat Input	mg/kWh	4	3
NO _x at the Maximum Heat Input	mg/kWh	34	65
NO _x at the Minimum Heat Input	mg/kWh	1	6
Weighted CO	mg/kWh	16	-
Weighted NO _x	mg/kWh	25	-
NO _x class	-	5	5
Head available at fan (B ₂₃) (Min. - Max.)	Pa	6 - 230	
Head available at fan (C ₁₃) (Min. - Max.)	Pa	112 - 305	

- Gas flow rates refer to Net Heating Value at a temperature of 15°C and a pressure of 1013 mbar.
- Flue temperature values refer to an air inlet temperature of 15°C and flow temperature of 80°C.

VICTRIX PRO 80 - 100 - 120 2 ErP

44.3 COMBUSTION CHARACTERISTICS FOR VICTRIX PRO 100 2 ErP

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	98.1	98.1
Combustion efficiency P min (80/60°C)	%	98.5	98.5
Effective efficiency at 100% Pn (80/60°C)	%	97.5	97.5
Effective efficiency P min (80/60°C)	%	96.2	96.2
Effective efficiency at 100% Pn (50/30°C)	%	107.0	107.0
Effective efficiency P min (50/30°C)	%	107.4	107.4
Effective efficiency at 100% Pn (40/30°C)	%	107.4	107.4
Effective efficiency P min (40/30°C)	%	107.6	107.6
Chimney losses with burner on (100% Pn) (80/60°C)	%	1.90	1.90
Chimney losses with burner on (P min) (80/60°C)	%	1.5	1.5
Chimney losses with burner off	%	0.01	0.01
Casing losses with burner on (100% Pn) (80/60°C)	%	0.60	0.60
Casing losses with burner on (P min) (80/60°C)	%	2.3	2.3
Casing losses with burner off	%	0.41	0.41
Flue temperature Maximum Heat Input	°C	53	54
Flue temperature Minimum Heat Input	°C	45	45
Flue flow rate at Maximum Heat Input	kg/h	146	148
Flue flow rate at Minimum Heat Input	kg/h	16	16
CO ₂ at the Maximum Heat Input	%	9.45	10.6
CO ₂ at the Minimum Heat Input	%	8.9	10.0
CO at Maximum Heat Input	mg/kWh	192	200
CO at Minimum Heat Input	mg/kWh	5	3
NO _x at the Maximum Heat Input	mg/kWh	60	60
NO _x at the Minimum Heat Input	mg/kWh	4	3
Weighted CO	mg/kWh	12	-
Weighted NO _x	mg/kWh	20	-
NO _x class	-	5	5
Head available at fan (B ₂₃) (Min. - Max.)	Pa	4 - 208	
Head available at fan (C ₁₃) (Min. - Max.)	Pa	132 - 340	

- Gas flow rates refer to Net Heating Value at a temperature of 15°C and a pressure of 1013 mbar.
- Flue temperature values refer to an air inlet temperature of 15°C and flow temperature of 80°C.

VICTRIX PRO 80 - 100 - 120 2 ErP

44.4 COMBUSTION CHARACTERISTICS FOR VICTRIX PRO 120 2 ErP

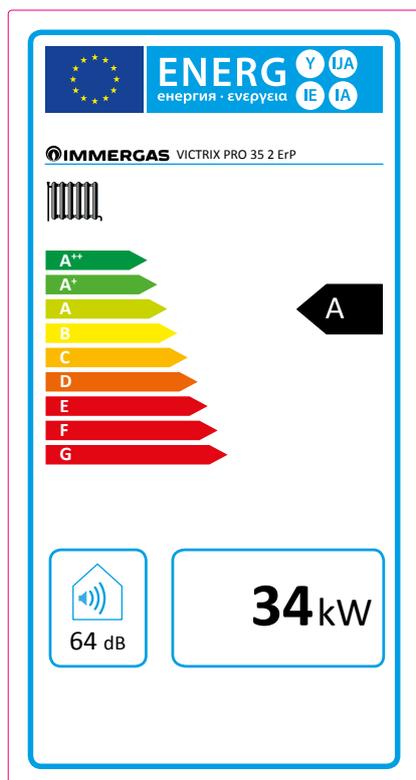
		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	98.0	98.0
Combustion efficiency P min (80/60°C)	%	98.4	98.4
Effective efficiency at 100% Pn (80/60°C)	%	97.3	97.3
Effective efficiency P min (80/60°C)	%	96.4	96.4
Effective efficiency at 100% Pn (50/30°C)	%	106.7	106.7
Effective efficiency P min (50/30°C)	%	107.2	107.2
Effective efficiency at 100% Pn (40/30°C)	%	107.2	107.2
Effective efficiency P min (40/30°C)	%	107.5	107.5
Chimney losses with burner on (100% Pn) (80/60°C)	%	2.0	2.0
Chimney losses with burner on (P min) (80/60°C)	%	1.6	1.6
Chimney losses with burner off	%	0.01	0.01
Casing losses with burner on (100% Pn) (80/60°C)	%	0.7	0.7
Casing losses with burner on (P min) (80/60°C)	%	2.0	2.0
Casing losses with burner off	%	0.28	0.28
Flue temperature Maximum Heat Input	°C	56	56
Flue temperature Minimum Heat Input	°C	46	47
Flue flow rate at Maximum Heat Input	kg/h	178	181
Flue flow rate at Minimum Heat Input	kg/h	19	19
CO ₂ at the Maximum Heat Input	%	9.6	10.7
CO ₂ at the Minimum Heat Input	%	9.0	10.3
CO at Maximum Heat Input	mg/kWh	203	237
CO at Minimum Heat Input	mg/kWh	5	3
NO _x at the Maximum Heat Input	mg/kWh	85	80
NO _x at the Minimum Heat Input	mg/kWh	15	10
Weighted CO	mg/kWh	18	-
Weighted NO _x	mg/kWh	33	-
NO _x class	-	5	5
Head available at fan (B ₂₃) (Min. - Max.)	Pa	5 - 145	
Head available at fan (C ₁₃) (Min. - Max.)	Pa	185 - 335	

- Gas flow rates refer to Net Heating Value at a temperature of 15°C and a pressure of 1013 mbar.
- Flue temperature values refer to an air inlet temperature of 15°C and flow temperature of 80°C.

VICTRIX PRO 35 - 55 2 ErP

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PRODUCT FICHE (REGULATION 811/2013)



VICTRIX PRO 35 2 ErP

Parameter	value
Annual energy consumption for the heating function (Q_{HE})	59.4 GJ
Annual electricity consumption for the domestic hot water function (AEC)	---
Annual fuel consumption for the domestic hot water function (AFC)	---
Seasonal space heating energy efficiency (η_s)	91 %
Water heating energy efficiency (η_{wh})	---

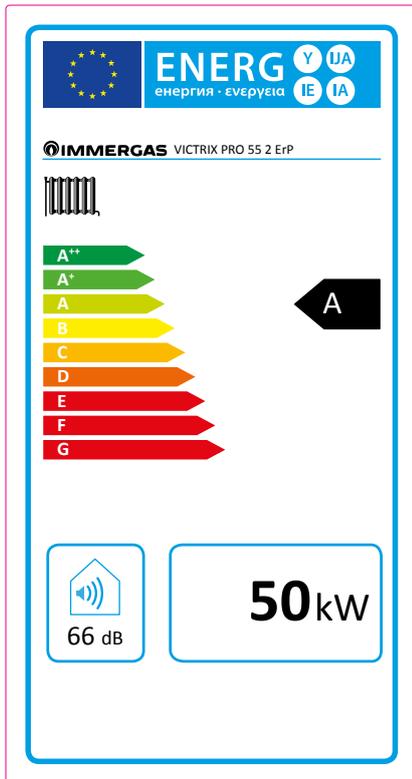
46.1 TECHNICAL PARAMETERS FOR COMBINATION BOILERS (REGULATION 813/2013)

Efficiencies in the following tables refer to the gross calorific value.

Model/s:				VICTRIX PRO 35 2 ErP						
Condensing Boilers:				SI						
Low temperature boiler:				NO						
Boiler type B1:				NO						
Co-generation appliance for central heating:				NO		Fitted with supplementary heating system:		NO		
Mixed heating appliance:				NO						
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit			
Nominal heat output	P_n	34	kW	Seasonal energy efficiency of central heating	η_s	91	%			
For central heating only and combination boilers: useful heat output				For central heating only and combination boilers: useful efficiency						
At nominal heat output in high temperature mode (*)	P_4	34.0	kW	At nominal heat output in high temperature mode (*)	η_4	86.8	%			
At 30% of nominal heat output in a low temperature mode (**)	P_1	10.2	kW	At 30% of nominal heat output in a low temperature mode (**)	η_1	95.6	%			
Auxiliary electricity consumption				Other items						
At full load	el_{max}	0.043	kW	Heat loss in standby	P_{stby}	0.091	kW			
At partial load	el_{min}	0.015	kW	Ignition burner energy consumption	P_{ign}	0.000	kW			
In standby mode	P_{SB}	0.006	kW	Emissions of nitrogen oxides	NO_x	23	mg / kWh			
For mixed central heating appliances										
Stated load profile					Domestic hot water production efficiency		η_{WH}	%		
Daily electrical power consumption			Q_{elec}			kWh	Daily gas consumption		Q_{fuel}	kWh
Contact information				IMMERGAS S.p.A. VIA CISA LIGURE, 95 - 42041 BRESCELLO (RE) ITALY						

(*) High temperature mode means 60°C on return and 80°C on flow.

(**) Low temperature mode for condensation Boilers means 30°C, for low temperature boilers 37°C and for other appliances 50°C of return temperature.



VICTRIX PRO 55 2 ErP

Parameter	value
Annual energy consumption for the heating function (Q_{HE})	86.8 GJ
Annual electricity consumption for the domestic hot water function (AEC)	---
Annual fuel consumption for the domestic hot water function (AFC)	---
Seasonal space heating energy efficiency (η_s)	91 %
Water heating energy efficiency (η_{wh})	---

46.1 TECHNICAL PARAMETERS FOR COMBINATION BOILERS (REGULATION 813/2013)

Efficiencies in the following tables refer to the gross calorific value.

Model/s:				VICTRIX PRO 55 2 ErP				
Condensing Boilers:				YES				
Low temperature boiler:				NO				
Boiler type B1:				NO				
Co-generation appliance for central heating:				NO		Fitted with supplementary heating system:		NO
Mixed heating appliance:				NO				
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit	
Nominal heat output	P_n	50	kW	Seasonal energy efficiency of central heating	η_s	91	%	
For central heating only and combination boilers: useful heat output				For central heating only and combination boilers: useful efficiency				
At nominal heat output in high temperature mode (*)	P_4	49.9	kW	At nominal heat output in high temperature mode (*)	η_4	87.7	%	
At 30% of nominal heat output in a low temperature mode (**)	P_1	15.0	kW	At 30% of nominal heat output in a low temperature mode (**)	η_1	95.8	%	
Auxiliary electricity consumption				Other items				
At full load	el_{max}	0.091	kW	Heat loss in standby	P_{stby}	0.091	kW	
At partial load	el_{min}	0.015	kW	Ignition burner energy consumption	P_{ign}	0.000	kW	
In standby mode	P_{SB}	0.006	kW	Emissions of nitrogen oxides	NO_x	36	mg / kWh	
For mixed central heating appliances								
Stated load profile				Domestic hot water production efficiency		η_{WH}	%	
Daily electrical power consumption				Q_{elec}	Daily gas consumption		Q_{fuel} kWh	
Contact information				IMMERGAS S.p.A. VIA CISA LIGURE, 95 - 42041 BRESCELLO (RE) ITALY				

(*) High temperature mode means 60°C on return and 80°C on flow.

(**) Low temperature mode for condensation Boilers means 30°C, for low temperature boilers 37°C and for other appliances 50°C of return temperature.

VICTRIX PRO 80 - 100 - 120 2 ErP

46.2 TECHNICAL PARAMETERS FOR COMBINATION BOILERS (REGULATION 813/2013)

Efficiencies in the following tables refer to the gross calorific value.

Model/s:				VICTRIX PRO 80 2 ErP			
Condensing Boilers:				YES			
Low temperature boiler:				NO			
Boiler type B1:				NO			
Co-generation appliance for central heating:				NO	Fitted with supplementary heating system:		NO
Mixed heating appliance:				NO			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Nominal heat output	P_n	73	kW				
For central heating only and combination boilers: useful heat output				For central heating only and combination boilers: useful efficiency			
At nominal heat output in high temperature mode (*)	P_4	73.0	kW	At nominal heat output in high temperature mode (*)	η_4	87.5	%
At 30% of nominal heat output in a low temperature mode (**)	P_1	21.9	kW	At 30% of nominal heat output in a low temperature mode (**)	η_1	96.0	%
Auxiliary electricity consumption				Other items			
At full load	el_{max}	0.119	kW	Heat loss in standby	P_{stby}	0.143	kW
At partial load	el_{min}	0.024	kW	Ignition burner energy consumption	P_{ign}	0.000	kW
In standby mode	P_{SB}	0.004	kW	Emissions of nitrogen oxides	NO_x	22	mg / kWh
For mixed central heating appliances							
Stated load profile				Domestic hot water production efficiency		η_{WH}	%
Daily electrical power consumption	Q_{elec}		kWh	Daily gas consumption	Q_{fuel}		kWh
Contact information	IMMERGAS S.p.A. VIA CISA LIGURE, 95 - 42041 BRESCELLO (RE) ITALY						

(*) High temperature mode means 60°C on return and 80°C on flow.

(**) Low temperature mode for condensation Boilers means 30°C , for low temperature boilers 37°C and for other appliances 50°C of return temperature.

Model/s:				VICTRIX PRO 100 2 ErP			
Condensing Boilers:				YES			
Low temperature boiler:				NO			
Boiler type B1:				NO			
Co-generation appliance for central heating:				NO	Fitted with supplementary heating system:		NO
Mixed heating appliance:				NO			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Nominal heat output	P_n	90	kW				
For central heating only and combination boilers: useful heat output				For central heating only and combination boilers: useful efficiency			
At nominal heat output in high temperature mode (*)	P_4	90.0	kW	At nominal heat output in high temperature mode (*)	η_4	88.0	%
At 30% of nominal heat output in a low temperature mode (**)	P_1	27.0	kW	At 30% of nominal heat output in a low temperature mode (**)	η_1	96.8	%
Auxiliary electricity consumption				Other items			
At full load	el_{max}	0.143	kW	Heat loss in standby	P_{stby}	0.145	kW
At partial load	el_{min}	0.017	kW	Ignition burner energy consumption	P_{ign}	0.000	kW
In standby mode	P_{SB}	0.005	kW	Emissions of nitrogen oxides	NO_x	18	mg / kWh
For mixed central heating appliances							
Stated load profile				Domestic hot water production efficiency		η_{WH}	%
Daily electrical power consumption	Q_{elec}		kWh	Daily gas consumption	Q_{fuel}		kWh
Contact information	IMMERGAS S.p.A. VIA CISA LIGURE, 95 - 42041 BRESCELLO (RE) ITALY						

(*) High temperature mode means 60°C on return and 80°C on flow.

(**) Low temperature mode for condensation Boilers means 30°C , for low temperature boilers 37°C and for other appliances 50°C of return temperature.

VICTRIX PRO 80 - 100 - 120 2 ErP

Efficiencies in the following tables refer to the gross calorific value.

Model/s:				VICTRIX PRO 120 2 ErP				
Condensing Boilers:				YES				
Low temperature boiler:				NO				
Boiler type B1:				NO				
Co-generation appliance for central heating:				NO		Fitted with supplementary heating system:		NO
Mixed heating appliance:				NO				
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit	
Nominal heat output	P_n	111	kW					
For central heating only and combination boilers: useful heat output				For central heating only and combination boilers: useful efficiency				
At nominal heat output in high temperature mode (*)	P_4	111.0	kW	At nominal heat output in high temperature mode (*)	η_4	87.9	%	
At 30% of nominal heat output in a low temperature mode (**)	P_1	33.3	kW	At 30% of nominal heat output in a low temperature mode (**)	η_1	96.5	%	
Auxiliary electricity consumption				Other items				
At full load	el_{max}	0.190	kW	Heat loss in standby	P_{stby}	0.168	kW	
At partial load	el_{min}	0.019	kW	Ignition burner energy consumption	P_{ign}	0.000	kW	
In standby mode	P_{sb}	0.004	kW	Emissions of nitrogen oxides	NO_x	28	mg / kWh	
For mixed central heating appliances								
Stated load profile				Domestic hot water production efficiency	η_{WH}		%	
Daily electrical power consumption	Q_{elec}		kWh	Daily gas consumption	Q_{fuel}		kWh	
Contact information	IMMERGAS S.p.A. VIA CISA LIGURE, 95 - 42041 BRESCELLO (RE) ITALY							
(*) High temperature mode means 60°C on return and 80°C on flow.								
(**) Low temperature mode for condensation Boilers means 30°C , for low temperature boilers 37°C and for other appliances 50°C of return temperature.								

VICTRIX PRO 2 ErP

47		OPTIONAL HEAT ADJUSTMENT	
<p>CRONO 7 (Weekly digital chronothermostat) device class IV* or VII code 3.021622</p> 	<p>CRONO 7 Wireless device class IV* or VII code 3.021624</p> 		
<p>External Probe device class II* or VI or VII code 3.015266</p> 	<p>Cascade and zone regulator kit device class VI* or VIII code 3.015244</p> 		
<p>Zone manager kit (to connect to the cascade and zone regulator only) device class V* or VI code 3.015264</p>	<p>Modulating room thermostat kit (to connect to the cascade and zone regulator only) device class V* or VI code 3.015245</p>		
<p>external probe kit for cascade and zone regulator (to connect to the cascade and zone regulator only) device class II* or VI or VII code 3.024511</p>			

NOTE: Certain heat adjustment devices can have different classes.

For example, CRONO 7 is factory falls under Classe "IV" adding the External probe, the CRONO 7 falls under Class "VII".

* Factory set device class.

REF. European Commission Notice 2014/C 207/02

6.2. Contribution to temperature controls of seasonal space heating energy efficiency of packages of space heaters, temperature control and solar devices or of packages of combination heaters, temperature control and solar devices.

Class No.	I	II	III	IV	V	VI	VII	VIII
% Value	1	2	1.5	2	3	4	3.5	5

48 OTHER OPTIONAL VICTRIX PRO 2 ErP	
<p>Telephone control code 3.013305</p> 	<p>GSM telephone control kit code 3.017182</p> 
<p>System flow probe kit (for direct connection to the boiler) code 3.024245</p>	<p>DHW probe kit for zone managed storage tank (for direct connection to the boiler) code 3.025467</p>
<p>Antifreeze kit (-15 °C) code 3.024513</p>	<p>Support kit for fixing the regulator to the wall code 3.015265</p>
<p>System flow probe kit (for connection to the cascade and zone regulator) code 3.015267</p>	<p>Probe kit for solar manifold temperature (for connection to the cascade and zone regulator) code 3.019374</p>
<p>D.W.H. probe kit for separate storage tank (for storage tank unit managed as a zone connected to the cascade and zone regulator) code 3.015268</p>	<p>Kit for remote control (to be connected to the cascade and zone regulator only) it can be connected to an Ethernet line or through an ADSL router / modem to set up an external connection (not including modem for connection) code 3.024244</p>
Condensate drain management kit	
<p>Individual boiler condensate passivator kit (including granulate) code 3.019857</p>	<p>Granulate reload kit for condensate passivator code 3.019865</p>
Hydraulic type of kit	
<p>Safety devices kit for individual boiler code 3.023949</p>	<p>IPX4D protection box kit safety devices kit for individual boiler code 3.024028</p>
<p>Three-way valve kit for coupling Separate storage tank unit (including storage tank probe) code 3.023950</p>	<p>Hydraulic separator kit for VICTRIX PRO 35 - 55 2 ErP individual boiler code 3.023951</p>
<p>Hydraulic separator kit for VICTRIX PRO 80 - 100 - 120 2 ErP individual boiler code 3.023952</p>	<p>Adapter kit for single VICTRIX PRO 35 - 55 2 ErP to replace old models code 3.023966</p>
<p>"Free Standing" supporting frame kit for VICTRIX PRO 2 ErP code 3.024246</p>	<p>Bypass kit for VICTRIX PRO 35 - 55 2 ErP code 3.024519</p>

CERTIFICATO DI ESAME CE DI TIPO

EC TYPE EXAMINATION CERTIFICATE

No. **51CQ4567**

VISTO L'ESITO DELLE VERIFICHE CONDOTTE IN CONFORMITÀ ALL'ALLEGATO II,
PUNTO 1, DELLA DIRETTIVA 2009/142/CE,

SI DICHIARA CHE I SEGUENTI PRODOTTI (MODELLO/TIPO):

*On the basis of our assessment carried out according to Annex II, section 1,
of the Directive 2009/142/EC we hereby certify that the following products (model/type):*

Caldaie murali

Wall mounted boilers

Modelli / Models VICTRIX PRO ... 2 ErP

*(ulteriori informazioni sono riportate in allegato)
(for further information see annex)*

FABBRICANTE:
Manufacturer

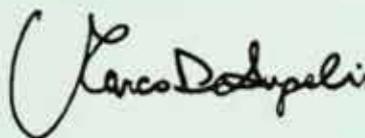
**IMMERGAS SPA
VIA CISA LIGURE 95
42041 BRESCELLO RE**

SODDISFANO LE DISPOSIZIONI DELLA SUDETTA DIRETTIVA.
Meet the requirements of the aforementioned Directive.

QUESTO CERTIFICATO DI ESAME CE DI TIPO È RILASCIATO DA IMQ QUALE
ORGANISMO NOTIFICATO PER LA DIRETTIVA 2009/142/CE.
IL NUMERO IDENTIFICATIVO DELL'IMQ QUALE ORGANISMO NOTIFICATO È: **0051**
*This EC Type Examination Certificate is issued by IMQ as Notified Body for the Directive 2009/142/EC.
Notified Body notified to European Commission under number: 0051*

2016-07-26

DATA/DATE



IMQ

VIA QUINTILIANO 43 - 20138 MILANO

IL PRESENTE CERTIFICATO ANNULLA E SOSTITUISCE IL PRECEDENTE DEL **2015-05-29**
This Certificate cancels and replaces the previous one of

System heating.

Individual modular boilers or installed in set configuration, require a suitable heat adjustment system able to communicate simply with the boiler, in order to satisfy the most varied system requirements.

For this reason it is possible to couple a series of accessories to VICTRIX PRO 2 ErP boilers with the purpose of optimising the climatic regulation of the heating system.

In synthesis, VICTRIX PRO 2 ErP can be installed with two types of plant:

- **In set configuration** (with the system divided into one or more zones), use the cascade regulator coupling the zone manager or the modulating room thermostat for the heat adjustment of the individual zones. With the exception of operation in simple cascade (see chapter 31).
- **Individually** (with the system divided into zones), use the cascade regulator coupling the zone manager or the modulating room thermostat for the heat adjustment of the individual zones. In case of individual zone or three-way valve kit coupling, an On-Off room chrono-thermostat must be used.

Production of Domestic Hot Water.

Both in case of single installation or in sets, the set-ups for coupling with a separate storage tank unit are supplied with relevant kits, available in the 200, 300, 500, 1000, 1500 and 2000 litre versions. The Storage Tank units are equipped with double coil for heat exchange. They are designed for coupling to Immergas solar solutions for the production of hot water in large houses or condominiums, as well as sport structures and hotels.

With VICTRIX PRO 2 ErP it is possible to select two different coupling systems of the separate storage tank unit:

- **Three-way valve kit for coupling the separate storage tank unit (in case of installation of individual boiler).** The connection to the separate storage tank takes place simply by positioning the 3-way valve and replacing the NTC probe, present as per standard on the storage tank, with the probe contained in the 3-way valve kit. In this case, the heating system and the domestic hot water are managed by the boiler's electronic system.
- **Cascade and zone regulator kit.** Here, the storage tank unit is managed as zone via an external pump. This is possible with individual configuration and also with boilers in set configuration. In this case, the storage tank unit is controlled by the separate storage tank probe, which replaces the NTC temperature probe, present as per standard on the unit itself.



VICTRIX PRO 2 ErP

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CASCADE AND ZONE REGULATOR (CODE 3.015244)



The cascade and zones regulator allows to manage, control and program the functioning sequence of the connected boilers. It can be set and programmed via parameters that allow to guarantee ideal temperature conditions at all times of the day and night for each individual day of the week, both for the C.H. system and the D.H.W. system (VICTRIX PRO 2 ErP coupled to a storage tank unit). The cascade regulator can be inserted inside the electric control board present in the cabinet or recessed inside a support that allows fixing to the wall.

N.B.: with cascade regulator installation it will be necessary to remove the "X40" jumper included in the standard configuration of the boiler P.C.B.

With cascade regulator installation it is also advisable to install an external probe.

50.1

CHARACTERISTICS

The electrical connection is made with 2 wires powered at 230V (diameter 1.5 mm²).

The connection to the boiler takes place with 2 BUS data cables with maximum length of 50 metres and allows to:

- manage up to 8 appliances in set configuration (for example 2 sets of 4 boilers, where each set has its own INAIL safety devices kit, or a set of 5 boilers + a set of 3 boilers, where each set has its own safety devices kit);
- manage a maximum of three zones (of which 2 may be mixed) and a zone for the separate D.W.H. storage tank. Given that a maximum of 5 cascade regulators can be coupled (of which one, the so-called Master, will be connected to the boiler P.C.B.), a total of up to 15 zone systems can be served (of which 10 eventually mixed) and 5 separate storage tank units;
- set two room temperature values: one for day (comfort temperature) and one for night (reduced temperature);
- manage the temperature of the D.H.W. (with a storage tank unit managed as zone with a pump);
- select the functioning mode for C.H. and D.H.W. for each individual hydraulic circuit:
 - comfort temperature functioning,
 - reduced temperature functioning,
 - adjustable antifreeze temperature functioning;
- manage the boiler flow temperature depending on the external temperature with setting of the climatic curve;
- obtain information regarding the system:
 - system temperature,
 - operating mode,
 - counter data,
 - timer programme,
 - pump operation status,
 - operation and values of the variable inputs;

- setting the functioning parameters:

- functioning times,
- system mode,
- domestic hot water,
- direct circuit, mixed 1, mixed 2,
- date and time;

- show on the display, via self-diagnosis system, any functioning anomalies with error codes;
- show the date, time, day of the week and the boiler temperature on the display,
- the regulator has a specific section for setting the solar system parameters.
- the regulator has specific terminals for the variable inputs and outputs, that need to be used based on the specificity of the system.

Variable inputs

- the variable inlets can be used to send a dry contact of request from one or more on/off room thermostats (the thermostats can then control, for example, zone pumps, satellite substations, etc through relay boxes; when the thermostat calls, it energises a relay which makes the pump/satellite substation start up, and it also sends an output dry contact to the cascade and zone regulator on the variable input);
- with a set of boilers, the common flow probe always uses a variable input;

Variable outlets

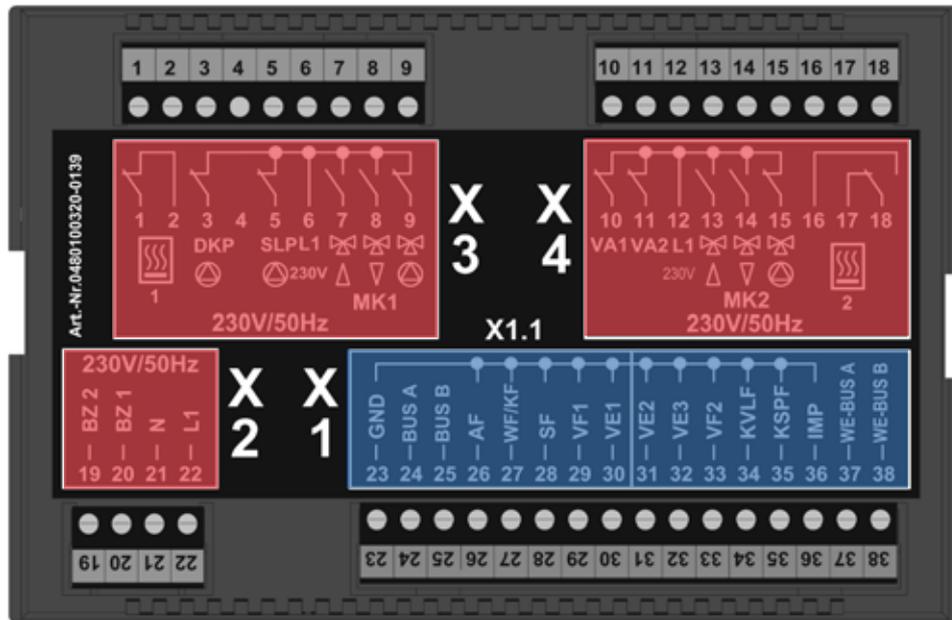
- the solar pump always uses 1 variable outlet;
- the recirculation pump always uses 1 variable outlet.

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CASCADE AND ZONE REGULATOR DIAGRAM OF CONNECTIONS AND TERMINALS

There are terminal blocks on the back of the cascade and zone regulator dedicated to the network connections and the low voltage connections.

Some parts belonging to the heating control unit must be connected to the respective terminal blocks.



Connection to the network.

- 1 - Relay outlet (not used)
- 2 - Relay input (not used)
- 3 - Direct heating circuit pump (CD)
- 4 - N.C. (not used)
- 5 - D.H.W. pump
- 6 - L 1/ 230 V (power supply)
- 7 - Mixed circuit valve (CMI-1) OPEN
- 8 - Mixed circuit valve (CMI-1) CLOSED
- 9 - Mixed circuit circulation pump 1
- 10 - Variable outlet relay 1
- 11 - Variable outlet relay 2
- 12 - L 1 230/V
- 13 - Mixed circuit valve (CMI-2) OPEN
- 14 - Mixed circuit valve (CMI-2) CLOSED
- 15 - Mixed circuit circulation pump 2
- 16 - N.C.
- 17 - Relay outlet (not used)
- 18 - Relay input (not used)
- 19 - (not used)
- 20 - (not used)
- 21 - N/230V mains power supply
- 22 - L1 /230V mains power supply

Low voltage connections.

- 23 - Common GND
- 24 - Signal data bus connection A (zone controls and room thermostats)
- 25 - Signal data bus connection B (zone controls and room thermostats)
- 26 - External probe (PTC)
- 27 - (do not use)
- 28 - Domestic hot water probe (PTC)
- 29 - Mixed circuit flow probe 1 (PTC)
- 30 - Variable input 1
- 31 - Variable input 2
- 32 - Variable input 3
- 33 - Mixed circuit flow probe 2 (PTC)
- 34 - Solar panel probe (PT1000)
- 35 - Solar storage tank probe (PTC)
- 36 - Pulse input
- 37 - Boiler data bus A
- 38 - Boiler data bus B

Bus address (Cascade manager).

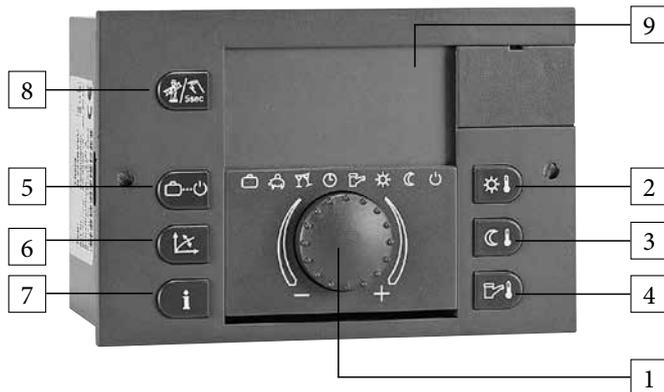
If there is only one regulating unit, it is always assigned bus address 10. When there are multiple connected regulating units (maximum of 8), the regulator that is connected directly to the boiler must be assigned address 10. The other regulators must be assigned addresses with progressive numbers, such as 20, 30, 40 and 50.

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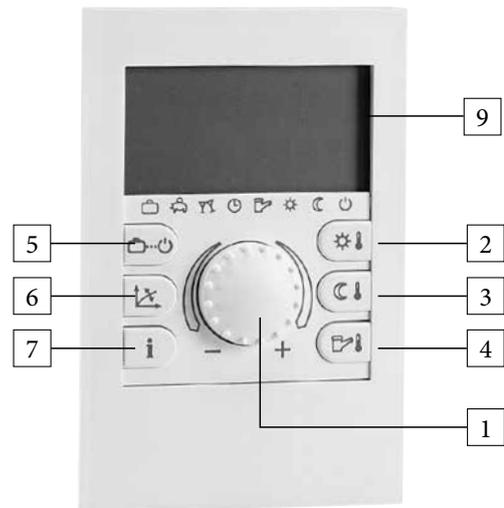
52

CASCADE AND ZONE REGULATOR / ZONE MANAGER PUSH BUTTON PANEL AND DISPLAY AND CONTROL SCREEN

VICTRIX PRO 2 ErP cascade and zone regulator



VICTRIX PRO 2 ErP zone manager



KEY:

- 1 - Selection and confirmation knob
- 2 - Required daytime room temperature
- 3 - Required night-time room temperature
- 4 - Required D.H.W. temperature
- 5 - Operating mode selection button
- 6 - Climatic curve setting button
- 7 - Information button
- 8 - Chimney sweep and manual operation button
- 9 - Display



In addition to the functions described for the cascade heat adjuster, the cascade regulator allows to control all the important information regarding operation of the appliance and the heating system with the opportunity of easily intervening on the previously set parameters without having to go to the place where the cascade regulator is installed. The climate chrono-thermostat incorporated into the remote panel enables the system flow temperature to be adjusted to the actual needs of the room being heated, in order to obtain the desired room temperature with extreme precision and therefore with evident saving in running costs. Also allows to display the room temperature and the effective external temperature. The zone manager is powered directly by the cascade regulator via 2 BUS data cables.

53.1

CHARACTERISTICS

The connection to the cascade regulator takes place with 2 BUS data cables with maximum length of 50 metres and allows to:

- manage a maximum of one zone;
- set two room temperature values: one for day (comfort temperature) and one for night (reduced temperature);
- manage the temperature of the D.H.W. (in combination with a storage tank unit managed as zone);
- select the functioning mode for C.H. and D.H.W. for each individual hydraulic circuit:
 - comfort temperature functioning,
 - reduced temperature functioning,
 - adjustable antifreeze temperature functioning;
- manage the boiler flow temperature depending on the external temperature and the room temperature, with setting of the climatic curve;
- obtain information regarding the system:
 - system temperature,
 - operating mode,
 - counter data,
 - timer programme,
 - pump operation status,
 - operation and values of the variable inputs;
- setting the functioning parameters:
 - functioning times,
 - system mode,
 - domestic hot water,
 - direct circuit, mixed 1, mixed 2,
 - date and time;
- show on the display, via self-diagnosis system, any functioning anomalies with error codes;
- show the date, time, day of the week and the boiler temperature on the display.

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54

MODULATING ROOM THERMOSTAT (CODE 3.015245)



The modulating room thermostats (not traditional On/Off) functions only when coupled with the cascade regulator and allows regulation of the room temperature of one of the zones into which the plant is divided (both in individual and cascade installation).

The zone room temperature regulation curve can be regulated by acting directly on the cascade regulator.

The modulating room thermostat is powered directly by the cascade regulator via 2 BUS data cables.

54.1

CHARACTERISTICS

The connection to the cascade regulator takes place with 2 BUS data cables with maximum length of 50 metres and allows to:

- manage a maximum of one zone;
- vary the room temperature of the zone;
- select the functioning mode for heating the zone:
 - fixed comfort temperature functioning,
 - fixed reduced temperature functioning,
 - functioning with timer program.

55

EXTERNAL PROBE TO CONNECT TO THE BOILER (CODE 3.015266)



The external probe allows to decrease or increase the max. flow temperature to the system when the external temperature increases or decreases, in order to adjust the heat supplied to the system according to the change in external temperature. In terms of the probe, it must be installed on the North or North-West wall of the building (if possible) at a height of at least 3 metres from the ground. It must be in a position that is not exposed to sudden air currents, protected from the sun's rays or other heat sources and also protected from blows and tampering.

The probe (NTC) is connected via two wires directly to the boiler terminal board. Once connected, it always acts without heat adjustment kit.

The maximum admissible length is 50 metres (distance between boiler and external probe), the cable section must be between 0.5 and 1.5 mm². In horizontal application the cable must have a protective sheath with a diameter between 5 - 7 mm Ø. In vertical application the cable outlet must always be facing downwards to stop humidity from getting in, in which case the sheath is not essential.

55.1

EXTERNAL PROBE TO BE CONNECTED TO THE CASCADE AND ZONE REGULATOR (CODE 3.024511)



The probe (PTC) is connected by two wires directly to the terminal board of the Cascade and zone regulator.

The maximum admissible length is 100 metres (distance between cascade regulator and external probe), the cable section must be between 1 and 1.5 mm², the cable must have a protective sheath with a diameter between 3 - 7 mm Ø.

The cable output must always face downwards to prevent the entry of moisture.

In terms of the probe, it must be installed on the North or North-West wall of the building (if possible) at a height of at least 3 metres from the ground. It must be in a position that is not exposed to sudden air currents, protected from the sun's rays or other heat sources and also protected from blows and tampering.

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56 KIT FOR REMOTE MANAGEMENT (CODE 3.024244) (EXCLUSIVELY IN COMBINATION WITH THE CASCADE AND ZONE REGULATOR)

Using the remote management kit it is possible to control the single boiler or set of boilers remotely. The remote management kit only works in combination with Cascade and zone regulator code 3.015244, which requires software version 3.0 or later (the software version of the cascade and zone regulator will appear on the screen during the initial phase after start-up). The interface for remote management is powered with 230V and can be installed on a wall or on DIN guides. The measurements of the remote manager are: (H=160 x L=143 x D=48). The interface serves to establish direct or remote communication, through a personal computer, to one or more cascade and zone regulators (up to a maximum of 5).

The WEB interface makes it easier to manage parameters from the PC, and is available at the following website: www.controlyourhome.eu

by selecting Italian, and by registering on-line by entering the serial number provided on the remote manager.

Remote management:

This offers the possibility of managing central heating systems by viewing and changing various operation parameters, all from a station that operates independently and remotely from the systems.

The system can be installed through an Ethernet network or company connection, or through an ADSL router or modem, which sets up an external connection.

To use it on a local network, simply establish a connection

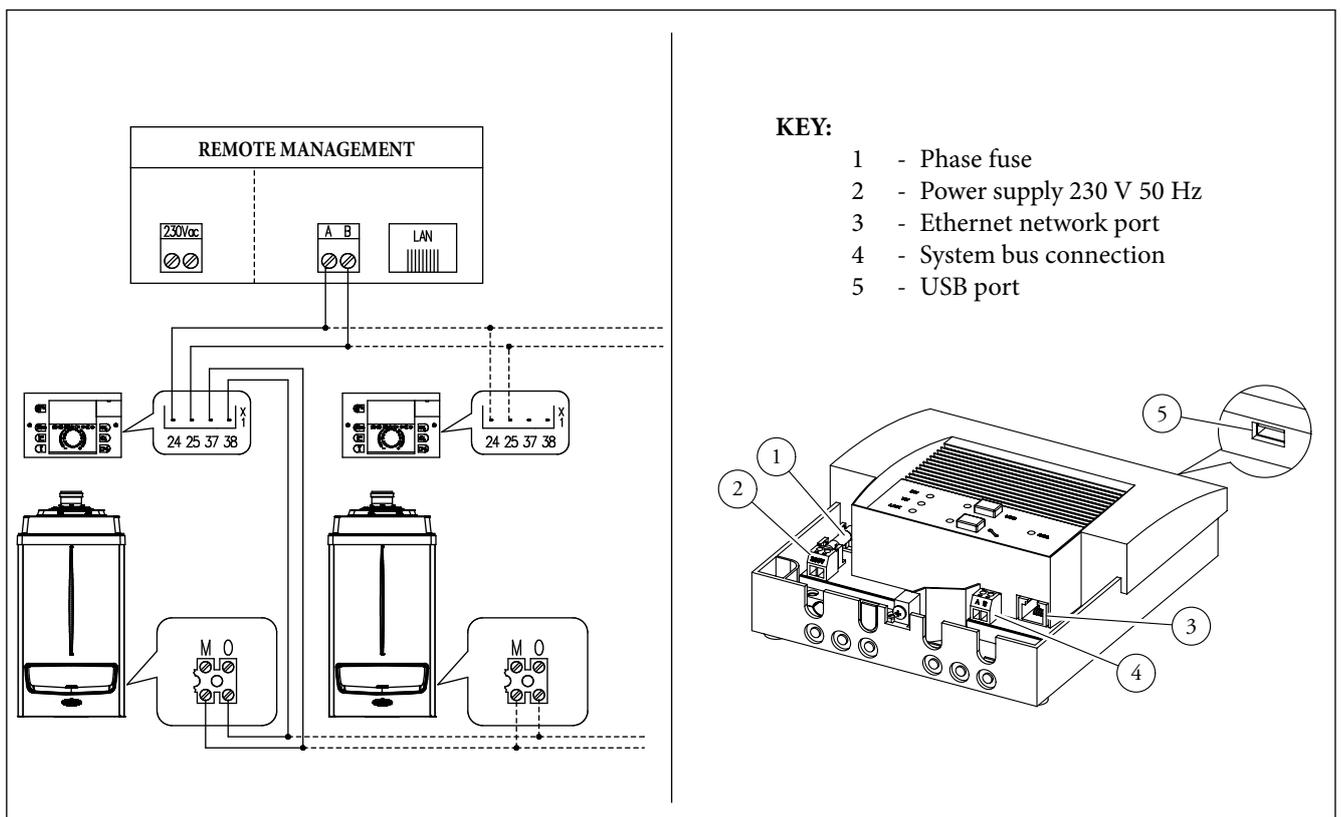


through the browser on your system (for example, Internet Explorer), by entering its IP address (see the instructions handbook supplied with the remote manager kit).

When the connection is established, enter user name and password to view and change all the parameters contained in the cascade and zone regulator.

System error alerts via e-mail:

This provides the possibility of receiving alerts on failures or anomalies at the e-mail addresses entered at the time of registration, with messages reporting the error codes (only if you are connected to the on-line portal).

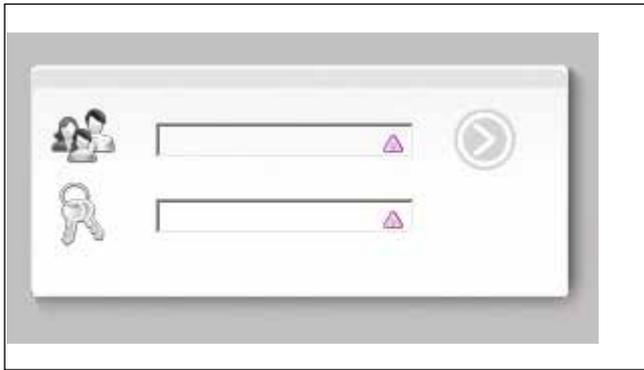


1 Registration screen.

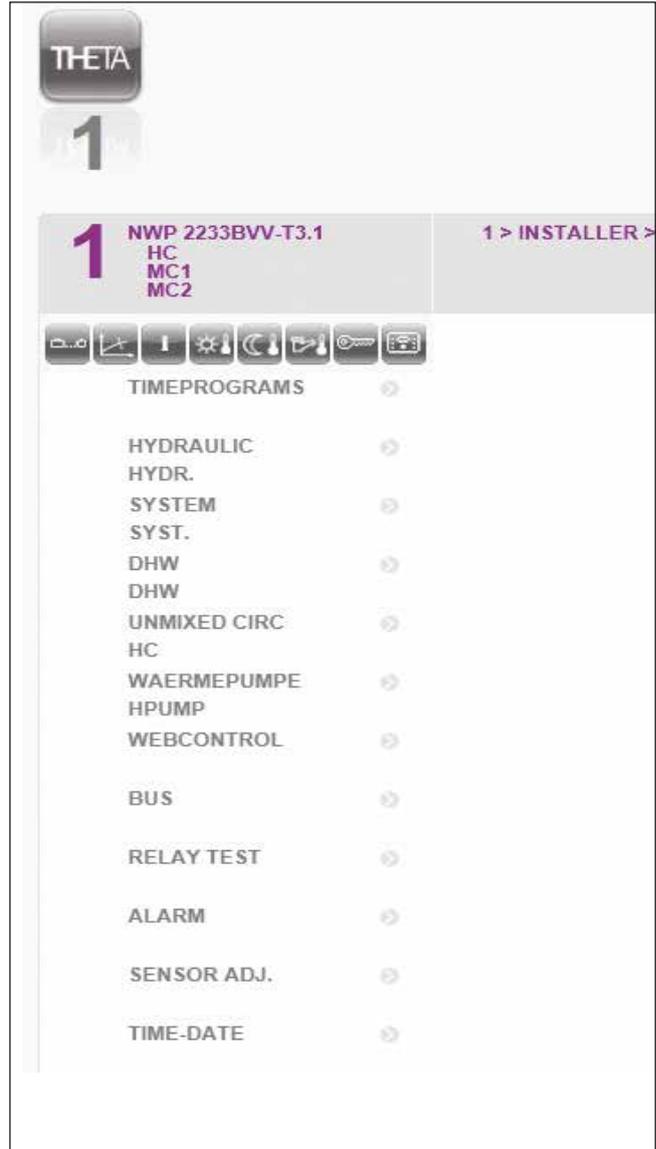
Enter the username in the upper field and the password in the lower field.

N.B.: with direct connections (i.e. Ethernet, and NOT through the Internet) the pre-defined username and password that need to be entered in the window are:

- Username: "EBV"
- Password: "EBV"



2 Screen after having clicked on the THETA button.



3 Setting the code to edit parameters.

To access variable/editable parameters, it is necessary to enter an access code.

The parameters can be edited by clicking on the symbols "+" or "-". Click on "Prog" to store the set value. Press "Esc" to exit the setting mode and close the window.

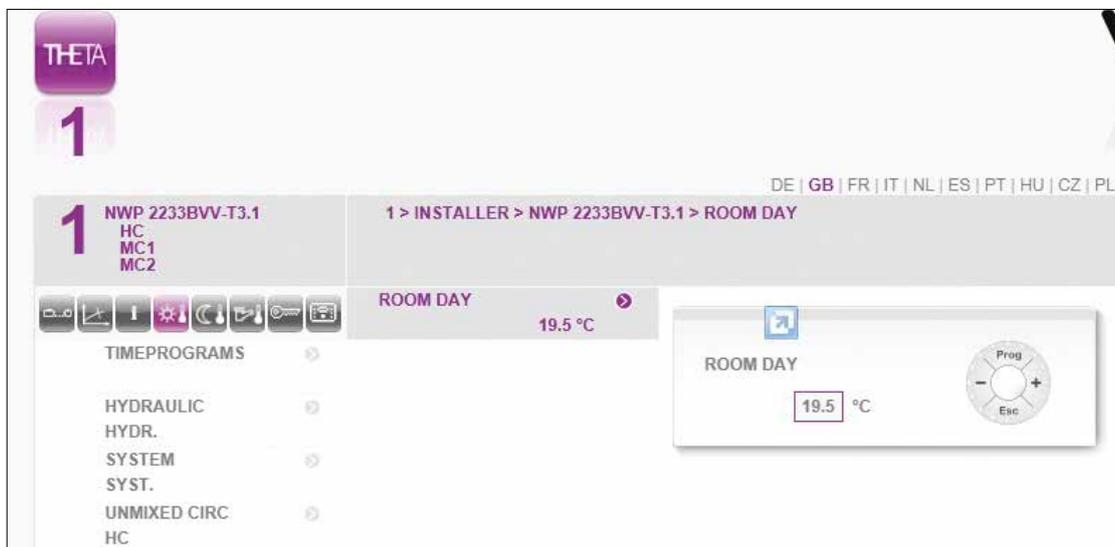


VICTRIX PRO 2 ErP

4 Setting central heating parameters.

The window to cascade these parameters automatically opens when you click on a variable/editable parameter.

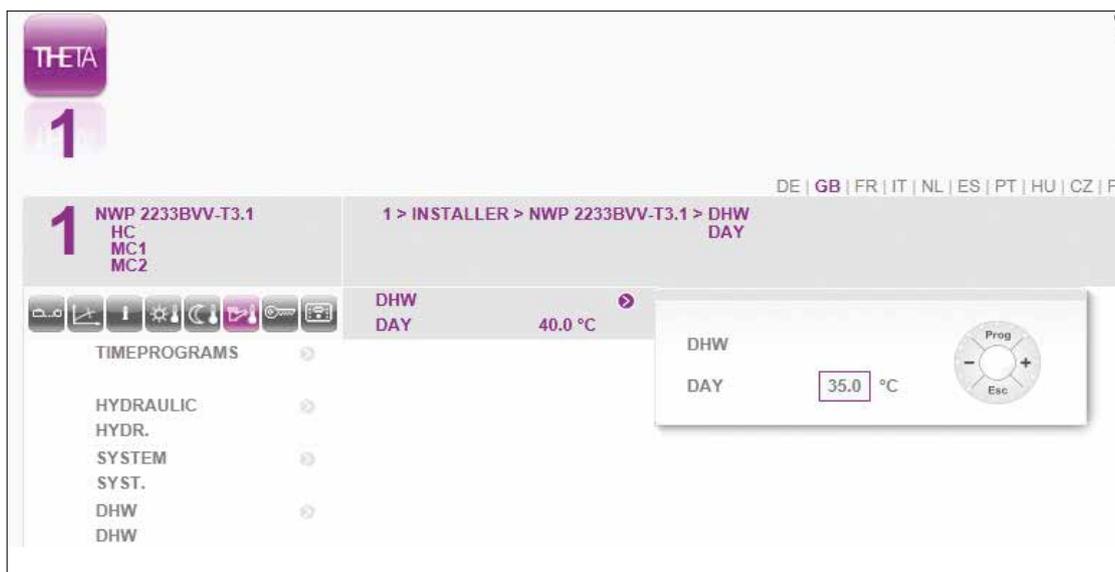
The parameters can be edited by clicking on the symbols “+” or “-”. Click on “Prog” to store the set value. Press “Esc” to exit the setting mode and close the window.



5 Setting domestic hot water parameters.

The window to cascade these parameters automatically opens when you click on a variable/editable parameter.

The parameters can be edited by clicking on the symbols “+” or “-”. Click on “Prog” to store the set value. Press “Esc” to exit the setting mode and close the window.



NOTE:

In terms of the entries on variable parameters, relative explanations and possible settings, you will need to refer to the instructions handbook furnished with the cascade and zone regulator code 3.015244.

ADDENDUM OF EXAMPLES OF APPLICATIONS

57

EXAMPLES OF HYDRAULIC APPLICATION DIAGRAMS

Foreword:

The following pages provide examples (not exhaustive) of some of the most common configurations that can be set up with VICTRIX PRO 2 ErP.

The diagrams provided here are not working drawings and only serve the purpose of describing the hydraulic and/or electric operation of the system and its connections; this overview of system engineering applications does not provide a solution for all of the practical case studies that can be implemented, nor does it assume that the illustrated examples cannot be modified; it serves as a valid guideline.

Each system needs to be accurately sized by a professional;

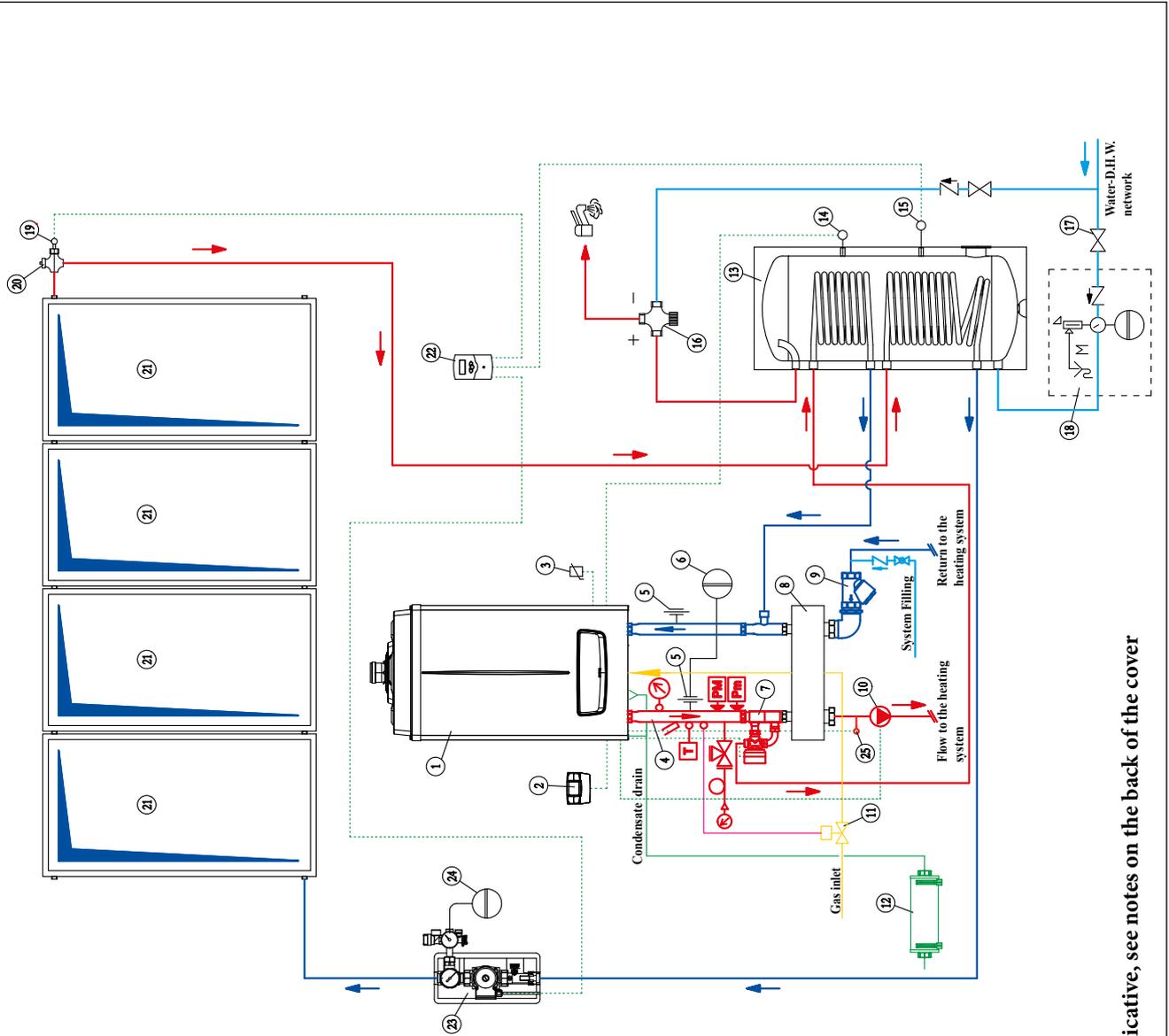
Immergas will not be held liable for the failure to have a certified engineer inspect the project, who is also required to practice with good technique and in accordance with regulations in force.

Depending on the specific design and installation conditions, the diagrams and drawings provided in this documentation can require further integration or modifications, according to that envisioned by the Standards and technical regulations in force and applicable (as an example, Collection R - edition 2009 is stated).

It is the professional's responsibility to identify the provisions applicable, to evaluate the compatibility with these case by case and the necessity of any changes to drawings and elaborations.

VICTRIX PRO 2 ErP

57.1 EXAMPLE SYSTEM WITH VICTRIX PRO 2 ErP IN SINGLE CONFIGURATION



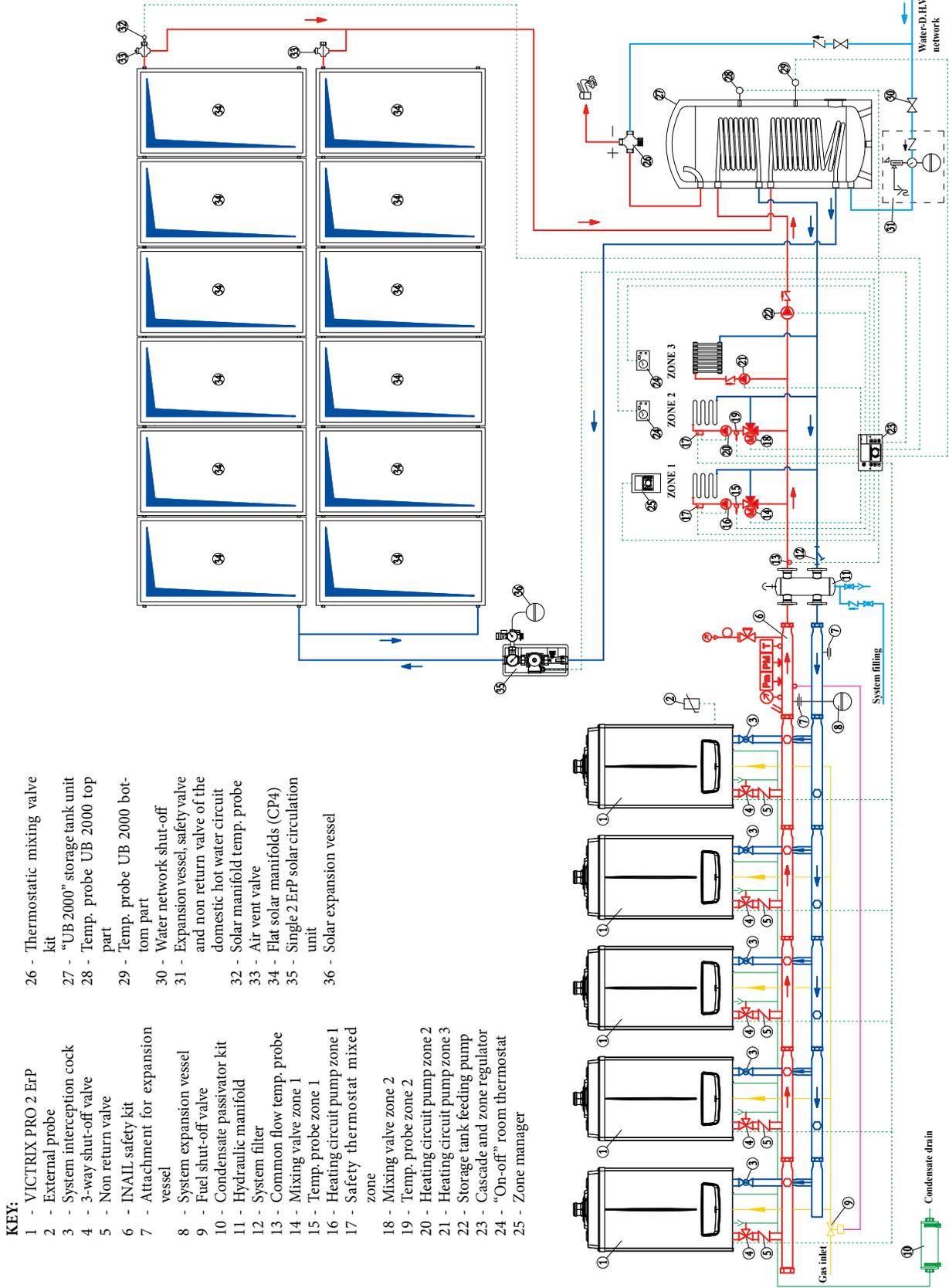
KEY:

- 1 - VICTRIX PRO 2 ErP
- 2 - Chrono-thermostat
- 3 - External probe
- 4 - INAIL safety kit
- 5 - Attachment for expansion vessel
- 6 - System expansion vessel
- 7 - Three-way valve
- 8 - Hydraulic manifold
- 9 - System filter
- 10 - System pump
- 11 - Fuel shut-off valve
- 12 - Condensate passivator kit
- 13 - "UB 500" separate storage tank unit
- 14 - Temperature probe for storage tank unit upper part
- 15 - Temperature probe for storage tank unit bottom part
- 16 - Thermostatic mixing valve
- 17 - Water network shut-off
- 18 - Expansion vessel - safety valve and non return valve of the domestic hot water circuit
- 19 - Solar manifold
- 20 - Air vent valve
- 21 - Flat solar manifolds (CP4)
- 22 - Regulating solar control unit
- 23 - Single 2 ErP solar circulation unit
- 24 - Solar expansion vessel
- 25 - System flow probe

NOTE: The diagram provided here is indicative, see notes on the back of the cover

57.2

**EXAMPLE OF PLANT ENGINEERING FOR VICTRIX PRO 2 ErP
IN SET CONFIGURATION**

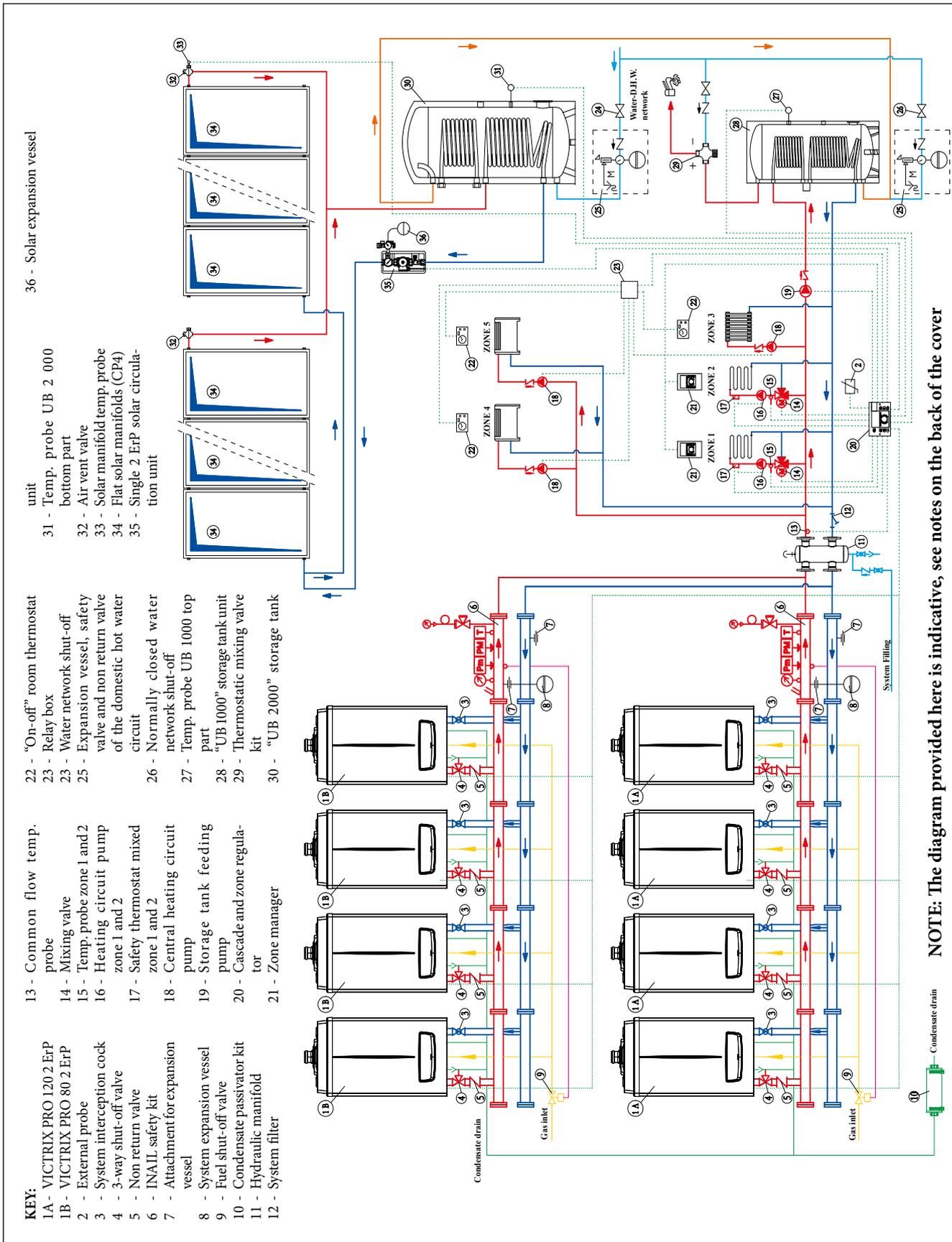


NOTE: The diagram provided here is indicative, see notes on the back of the cover

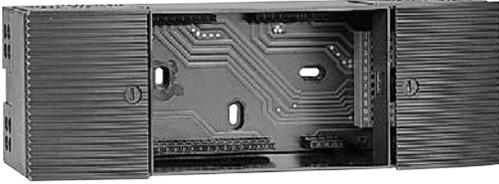
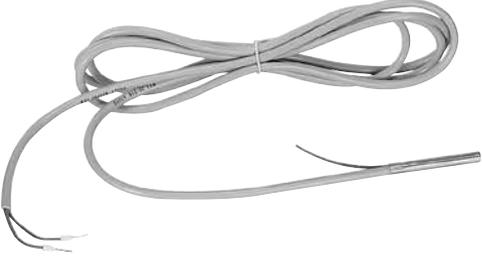
VICTRIX PRO 2 ErP

57.3

EXAMPLE OF PLANT ENGINEERING FOR VICTRIX PRO 2 ErP IN SET CONFIGURATION



58 OPTIONAL VICTRIX PRO 2 ErP FOR INSTALLATION IN SET CONFIGURATION

<p>Cascade and zone regulator kit device class VI* or VIII code 3.015244</p> 	<p>Support kit for fixing the regulator to the wall code 3.015265</p> 
<p>Zone manager kit device class V* or VI code 3.015264</p> 	<p>Modulating room thermostat kit device class V* or VI code 3.015245</p> 
<p>external probe kit for cascade and zone regulator (to connect to the cascade and zone regulator only) device class II* or VI or VII code 3.024511</p> 	<p>External Probe device class II* or VI or VII code 3.015266</p> 
<p>D.W.H. probe kit for separate storage tank (for storage tank unit managed as zone) code 3.015268</p> 	<p>System flow probe kit code 3.015267</p> 

* For further information, refer to **NOTE** heat adjustment on page 66.

VICTRIX PRO 2 ErP

<p>Kit for remote control (to be connected to the cascade and zone regulator only) it can be connected to an Ethernet line or through an ADSL router / modem to set up an external connection (not including modem for connection) code 3.024244</p> 	<p>Solar manifold temperature probe kit (to be coupled with cascade regulator) code 3.019374</p> 
<p>Antifreeze kit (-15 °C) (one for each boiler) code 3.024513</p>	<p>"Free Standing" supporting frame kit for VICTRIX PRO 2 ErP code 3.024246</p>
<p>Hydraulic type of kit</p>	
<p>INAIL safety kit G 2 1/2" for VICTRIX PRO 35 - 55 2 ErP in set configuration code 3.023955</p>	<p>INAIL DN 100 safety kit for VICTRIX PRO 80 - 100 - 120 2 ErP in set configuration code 3.023961</p>
<p>IPX4D protection box kit INAIL safety kits for boilers in set configuration code 3.024038</p>	<p>Hydraulic manifold kit G 2 1/2" for two VICTRIX PRO 35 - 55 2 ErP boilers in set configuration code 3.023953</p>
<p>Hydraulic manifold kit G 2 1/2" for VICTRIX PRO 35 - 55 2 ErP for additional set configuration code 3.023954</p>	<p>Hydraulic manifold kit DN 100 for two VICTRIX PRO 80 - 100 - 120 2 ErP boilers in set configuration code 3.023959</p>
<p>Hydraulic manifold kit DN 100 for VICTRIX PRO 80 - 100 - 120 2 ErP additional set configuration code 3.023960</p>	<p>Hydraulic separator kit for boilers in set configuration up to 100 kW with threaded connections G 2 1/2" code 3.020839</p>
<p>Hydraulic separator kit for boilers in set configuration up to 200 kW with threaded connections G 2 1/2" code 3.021377</p>	<p>Hydraulic separator kit for boilers in set configuration up to 350 kW flanged connections DN 100 code 3.023965</p>
<p>Hydraulic separator kit for boilers in set configuration up to 400 kW connections G 2 1/2" - DN 100 code 3.021378</p>	<p>Hydraulic separator kit for boilers in set configuration up to 600 kW flanged connections DN 100 code 3.023962</p>
<p>Condensate drain management kit</p>	
<p>Condensate passivator kit for boilers in set configuration (including granulate) code 3.019464</p>	<p>Granulate reload kit for condensate passivator code 3.019865</p>

OUTDOOR CABINET APPENDIX

59

OUTDOOR VICTRIX PRO 2 ErP CABINET KIT (CODE 3.027188)



- heating control unit outside the building;
- expansion of existing systems;
- adaptation of non-standardised control units, thanks to the possibility of outdoor application.

In case of single installation, it is possible to insert the INAIL safety kit, 3-way valve kit for DHW and hydraulic manifold kit within the cabinet.

A hydraulic manifold kit for VICTRIX PRO 2 ErP cabinet is available for the connection of multiple boilers in set.

Main features.

The outdoor cabinet kit is supplied for start-up and can contain a VICTRIX PRO 2 ErP generator after adjusting the boiler supports depending on the model (see dimensions and figure on next page).

Constructed with extruded aluminium load-bearing structure, it includes 4 support feet to ensure stable installation; it can be handled by forklift truck or transpallet to be positioned below the cabinet frame.

Alternatively, you can move the cabinet by means of 4 eyebolts in the upper part.

The cabinet has a door that can be opened to 180° inclusive of lock and it can be installed outdoors.

By purchasing more cabinets, it is possible to develop set configurations.

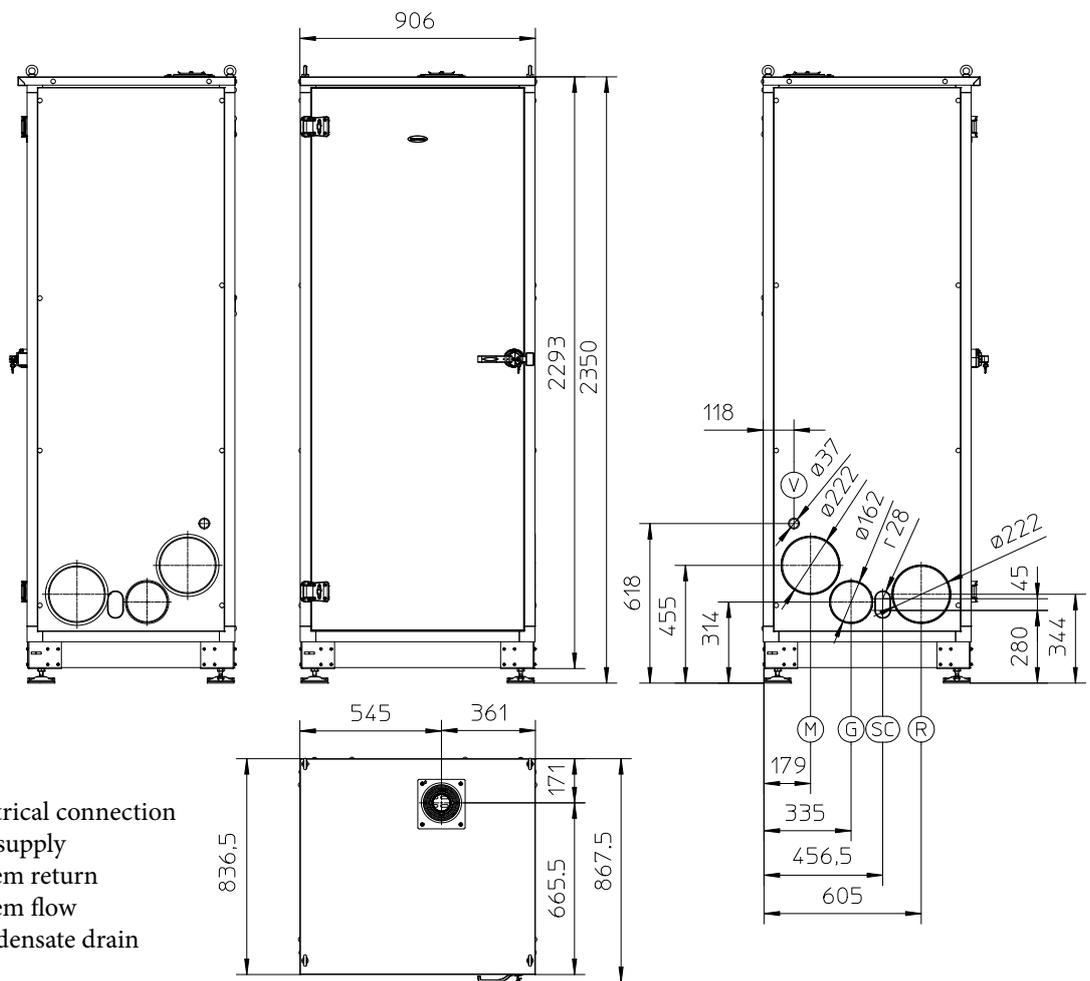
Within the cabinet each generator is installed with its own INAIL safety kit, also for sets (possible installation in set of up to 5 generators).

This is a solution suitable for many applications:

- heating control unit on the roof of the building;

VICTRIX PRO 2 ErP

60 OUTDOOR VICTRIX PRO 2 ErP CABINET KIT MAIN DIMENSIONS

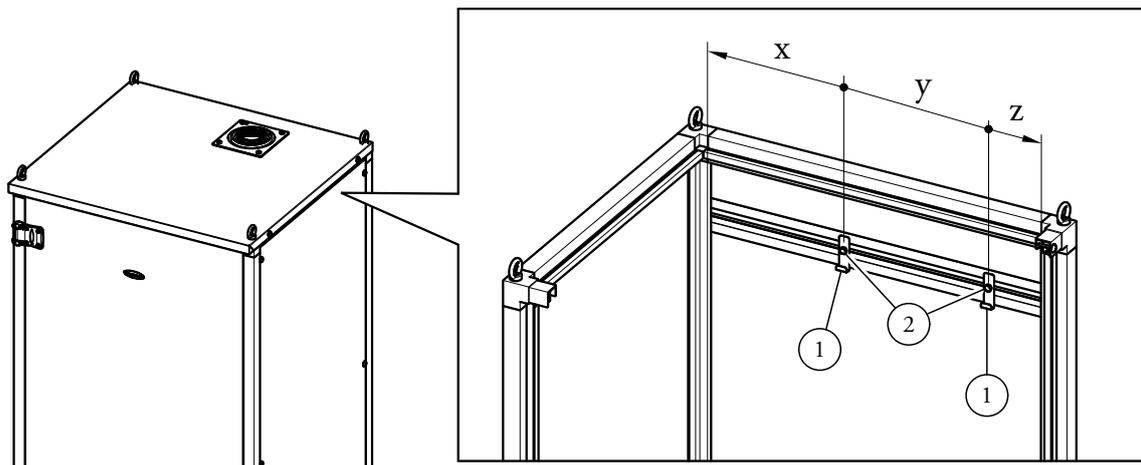


KEY:

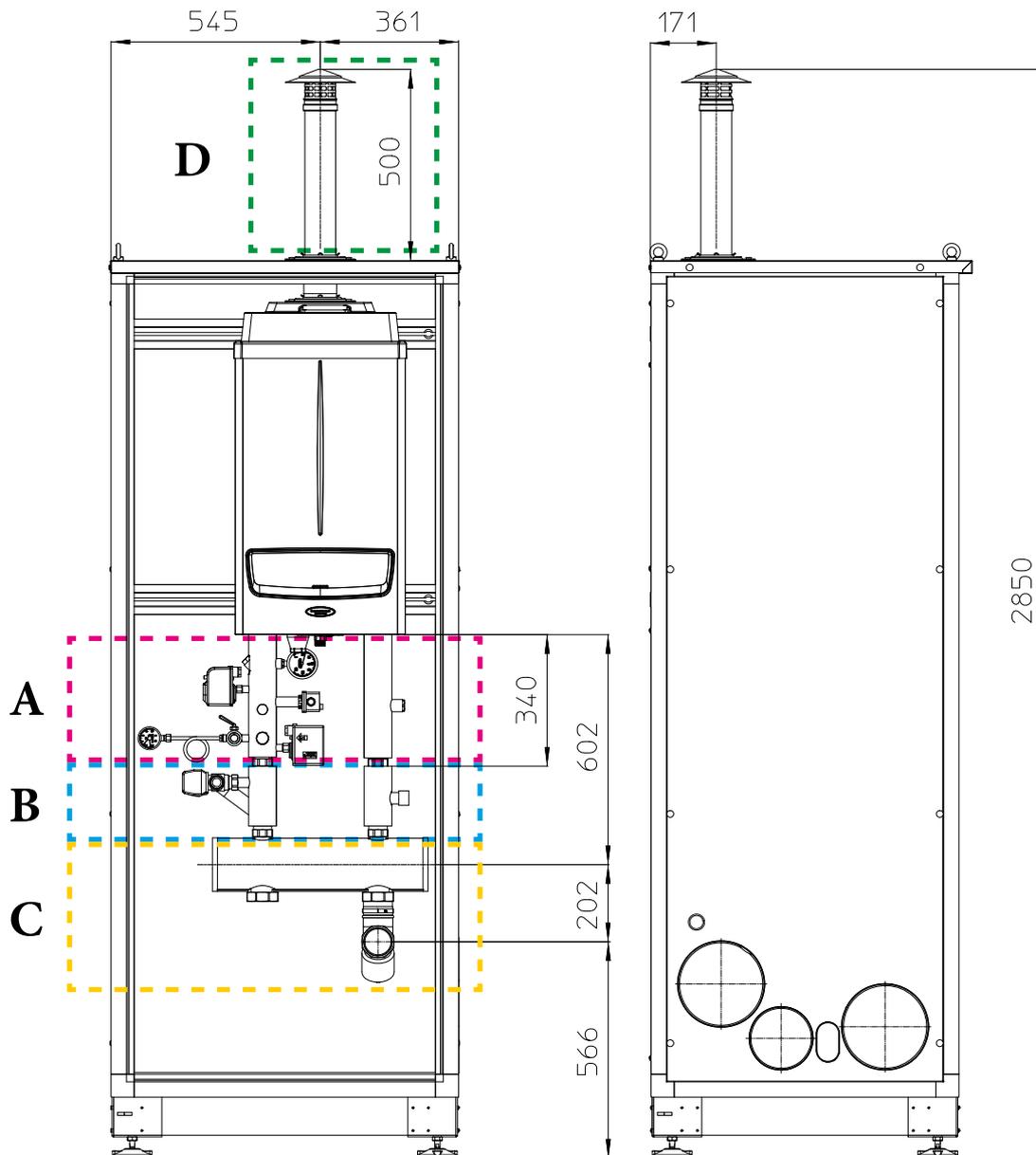
- V - Electrical connection
- G - Gas supply
- R - System return
- M - System flow
- SC - Condensate drain

Main dimensions		
Height (mm)	Width (mm)	Depth (mm)
2350	906	836,5
Net weight	134 kg	

Model	x (mm)	y (mm)	z (mm)
VICTRIX PRO 35-55 2 ErP	313	340	129
VICTRIX PRO 80-100-120 2 ErP	248	470	64



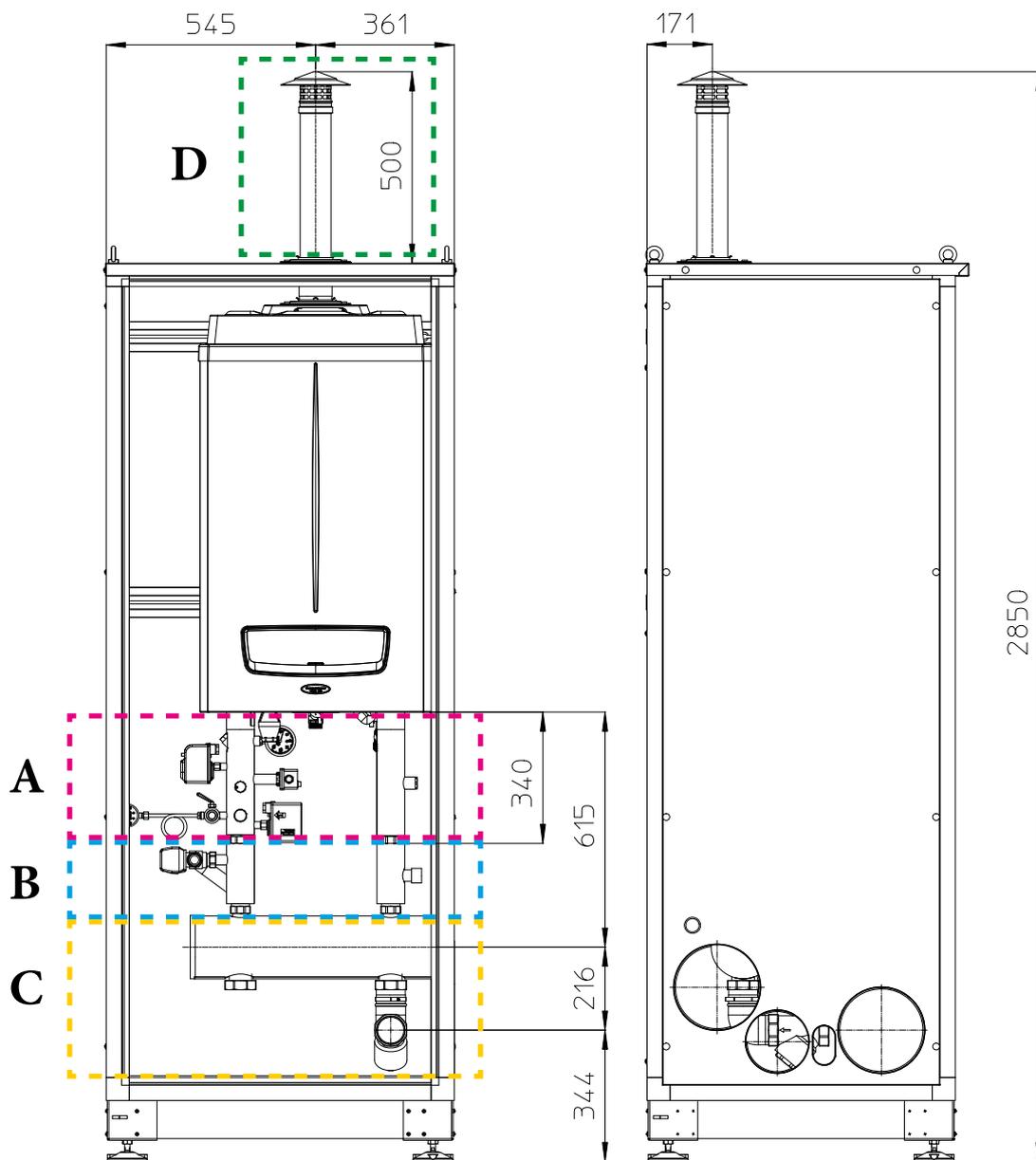
60.1 DIMENSIONS CABINET KIT + SINGLE VICTRIX PRO 35-55 2 ErP



Ref. Position	Code KIT	Quantity
A	3.023949	N° 1
B	3.023950	N° 1
C	3.023951	N° 1
D	3.024295	N° 1

VICTRIX PRO 2 ErP

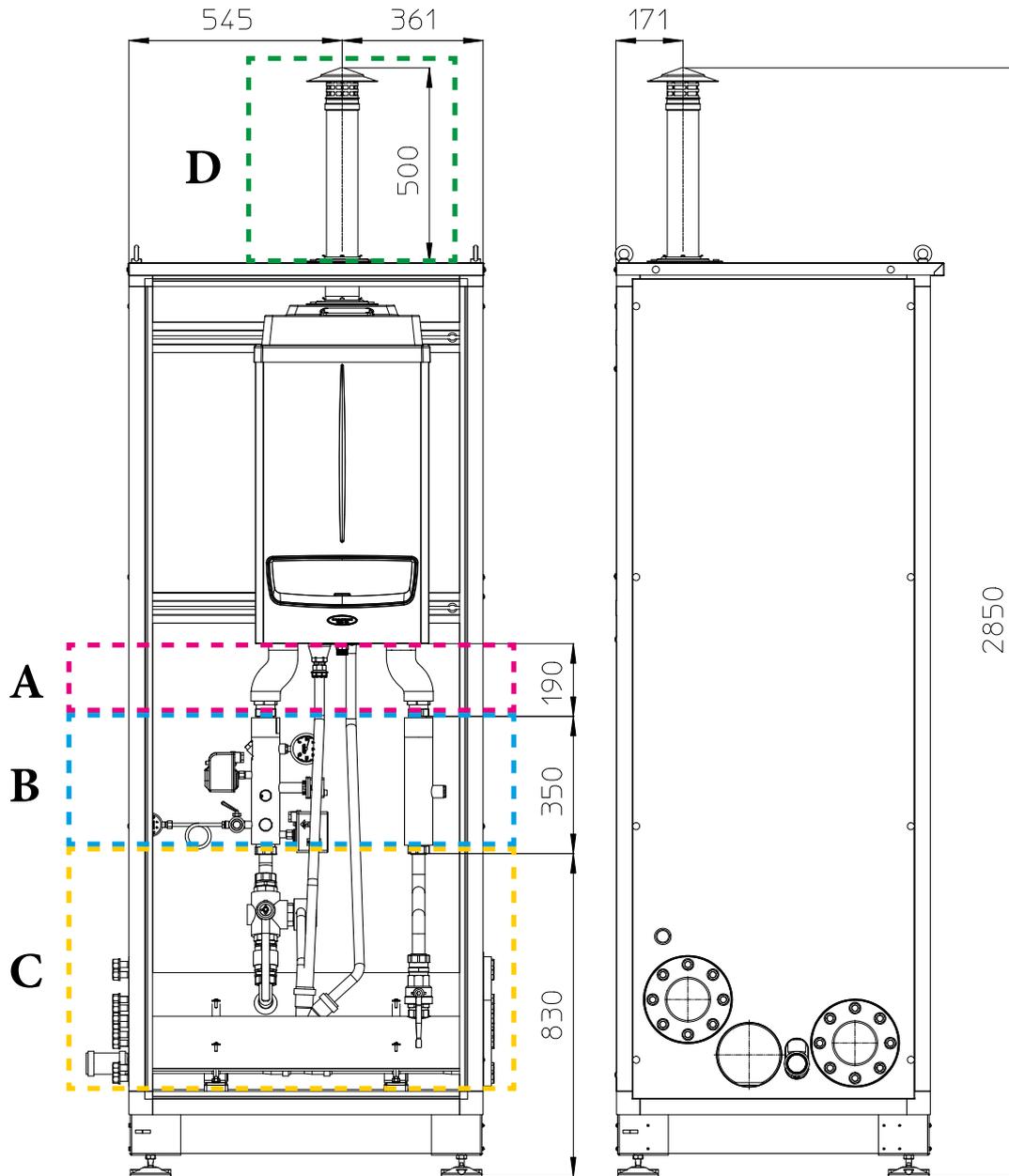
60.2 DIMENSIONS CABINET KIT + SINGLE VICTRIX PRO 80-100-120 2 ErP



Ref. Position	Code KIT	Quantity
A	3.023949	N° 1
B	3.023950	N° 1
C	3.023952	N° 1
D	3.024295	N° 1

60.3 DIMENSIONS CABINET KIT + VICTRIX PRO 35-55 2 ErP TO COUPLE IN SET

NOTE: Each generator in the set is configured as follows:

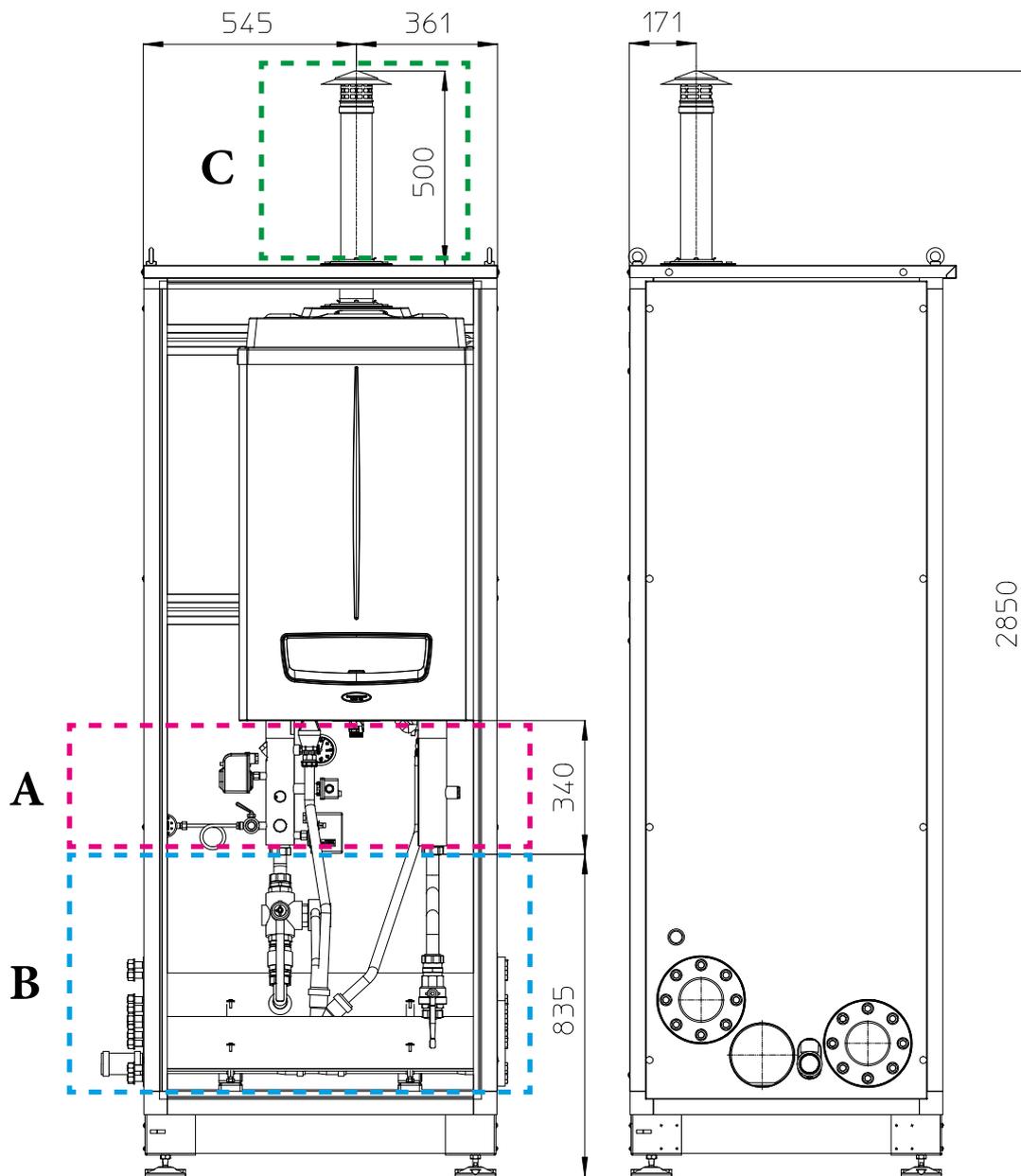


Ref. Position	Code KIT	Quantity
A	3.023966	N° 1
B	3.023949	N° 1
C	3.027189	N° 1
D	3.024295	N° 1

VICTRIX PRO 2 ErP

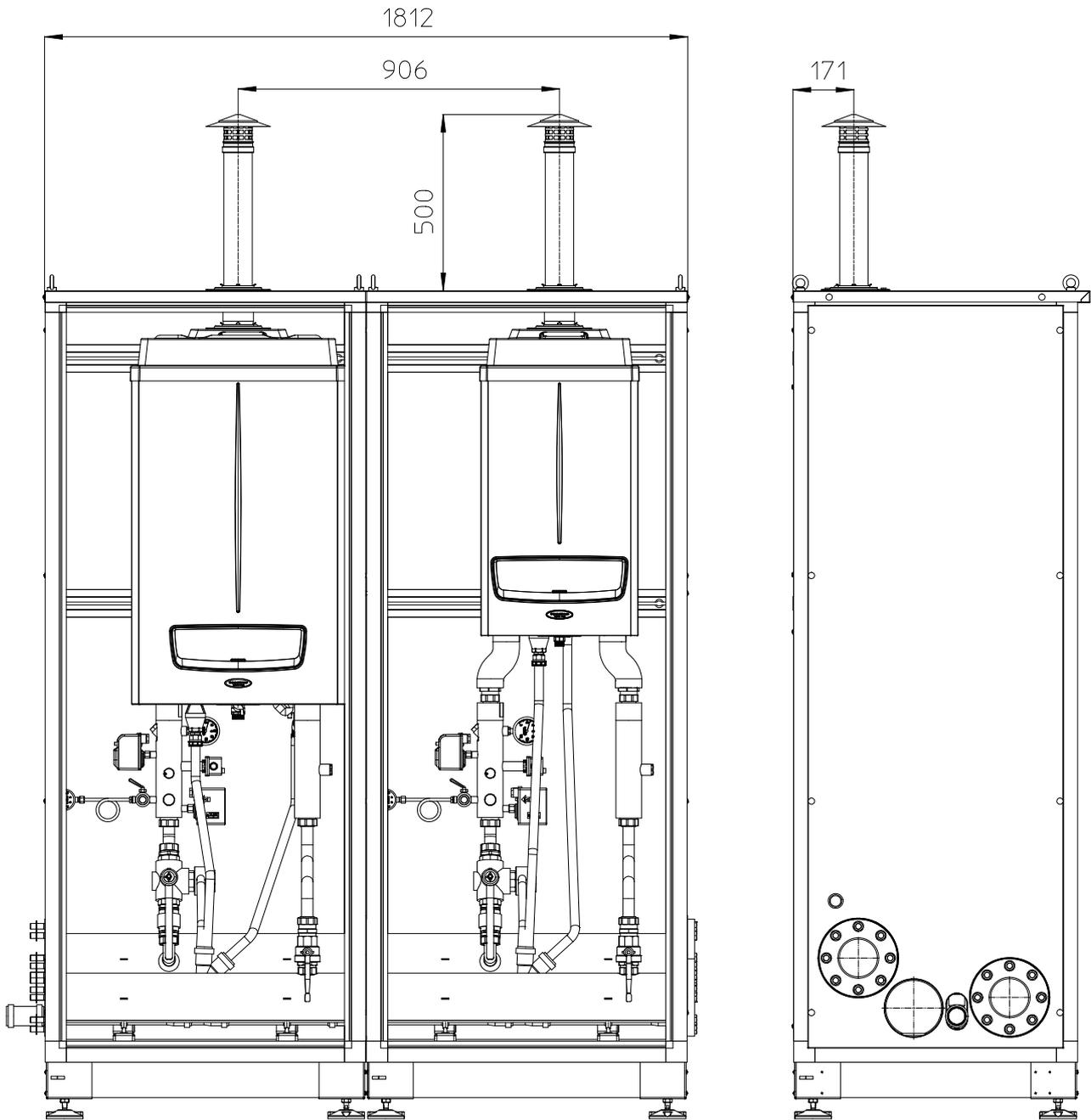
60.4 DIMENSIONS CABINET KIT + VICTRIX PRO 80-100-120 2 ErP TO COUPLE IN SET

NOTE: Each generator in the set is configured as follows:



Ref. Position	Code KIT	Quantity
A	3.023949	N° 1
B	3.027189	N° 1
C	3.024295	N° 1

60.5 DIMENSIONS OF TWO CABINET KITS + VICTRIX PRO 2 ErP TO COUPLE IN SET



NOTE: Having the flue exhaust separated and a INAIL kit for each generator, you can also make mixed sets with VICTRIX PRO 2 ErP generators having different powers. It is not possible to use flue manifolds for boilers in sets.

During the useful life of the products, performance is affected by external factors, such as the hardness of the D.H.W., atmospheric agents, deposits in the system and so on.

The declared data refers to new products that are correctly installed and used in accordance with applicable regulations.

N.B.: correct periodic maintenance is highly recommended.

NOTE: Depending on the specific design and installation conditions, the diagrams and drawings provided in this documentation can require further integration or modifications, according to that envisioned by the Standards and technical regulations in force and applicable (as an example, Collection R - edition 2009 is stated). It is the professional's responsibility to identify the provisions applicable, to evaluate the compatibility with these case by case and the necessity of any changes to drawings and elaborations.



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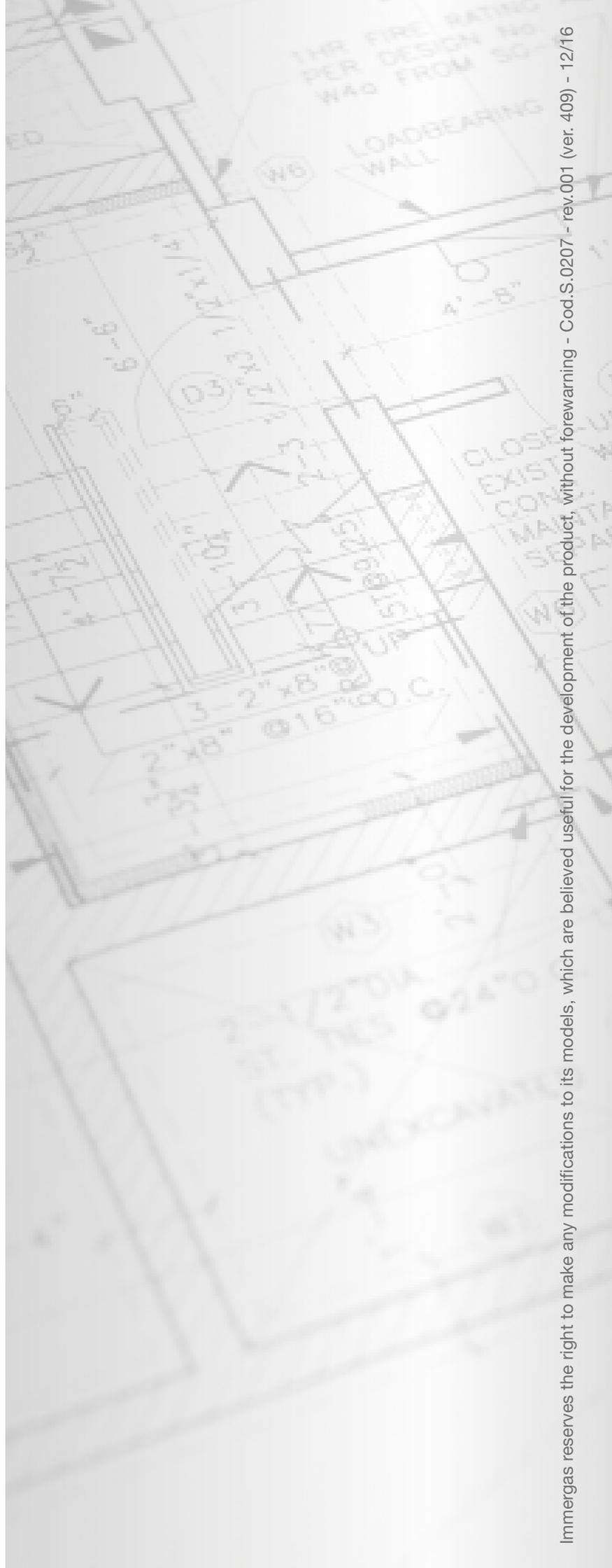
To request further specific details, sector Professionals can also use the following e-mail address:
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Fax 0522.680617



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