VICTRIX 75

Wall mounted condensing boilers

VICTRIX 75 is the new wall-mounted central heating condensing boiler. It is pre-arranged for single and cascade operation (up to 3 appliances connected), with the advantage of providing a higher efficiency at lower running costs as condensing technology allows by itself a remarkable high efficiency rating. VICTRIX 75's high output is ideal for single home system and large living areas (single houses, small condominiums and apartment blocks) and for commercial and industrial uses. If a single boiler is installed, an external three-way valve can be connected so as to use it with a separate water tank supplying domestic hot water. A hydraulic manifold can also be connected to boost the circulation in the system, thus making it more versatile and quick to install. When cascade operation is required, several distribution manifolds can be connected by means of threaded ended pipes. The special environmentally friendly conceived burner ensures low pollution emissions (VICTRIX 50 is rated class 5 among the most environmentally friendly boilers as of current European standards).

1 SPECIFICATIONS

72.6 kW (62,436 kcal/h) wall-hung premixed condensing boiler with open chamber fan assisted draught or sealed chamber and fan assisted draught, high efficiency and forced circulation.It is approved for installation in both heating plants and outside of buildings. Can be operated in two configurations:

Open chamber and fan assisted draught (type B_{23}/ B_{33} appliance) - It does not need any additional kit as it is factory manufactured in such configuration.

Sealed chamber and fan assisted draught (type C_{13}/C_{33}/C_{63} appliance) - The above mentioned types are implemented by using vertical or horizontal concentric kits.

The generator consists of:

- combustion system of fully pre-mixed type with multi-gas cylinder shaped burner made out of steel, equipped with ignition and ionization flame sensing electrodes;
- pneumatic type gas valve with double shutter;
- stainless steel primary gas/water exchanger with overlapped twin coil;
- stainless steel combustion chamber insulated on the inside with ceramic panels;
- flue exhaust fan with electronically managed speed;
- condensate discharge circuit including siphon and flexible drain hose;
- hydraulics consisting of delivery manifold, primary circuit pressure switch, circulation pump with automatic air vent valve;
- central heating syste4 bar safety valve (ISPESL approved), pressure gauge and standard discharge funnel;
- overheating safety thermostat;
- control panel equipped with microprocessor P.C.B. and infinite flame modulation system for central heating flame management, P.I.D. monitoring, modulation range from 18.1 to 72.6 kW (from 15,566 to 62,436 kcal/h);
- system flow adjusting probe;
- system return adjusting probe;
- central heating flow temperature adjustable range within 20 and 85°C;
- delayed ignition system in central heating operation, anti-freeze protection, pump anti-blocking system, chimney-sweep function;
- boiler operating parameters can be entered and adjusted by means of keys, while the status and operating modes are shown on a 4-digit display;
- auto-diagnostic system with temperature digital display, operating status and error codes on a constantly visible display;
- IPX5D electrical insulation rating;
- factory set zfor connection to a cascade and zone regulator and external probe;
- factory set for connection of an external three-way valve for installation with a separate water tank for domestic hot water supply ;
- factory set for cascade operation (up to 3 generators);
- factory set for installation of the ISPESL-approved safety stub pipe;
- can be used with the Ø 80 mm hose pipe flexible connecting system.

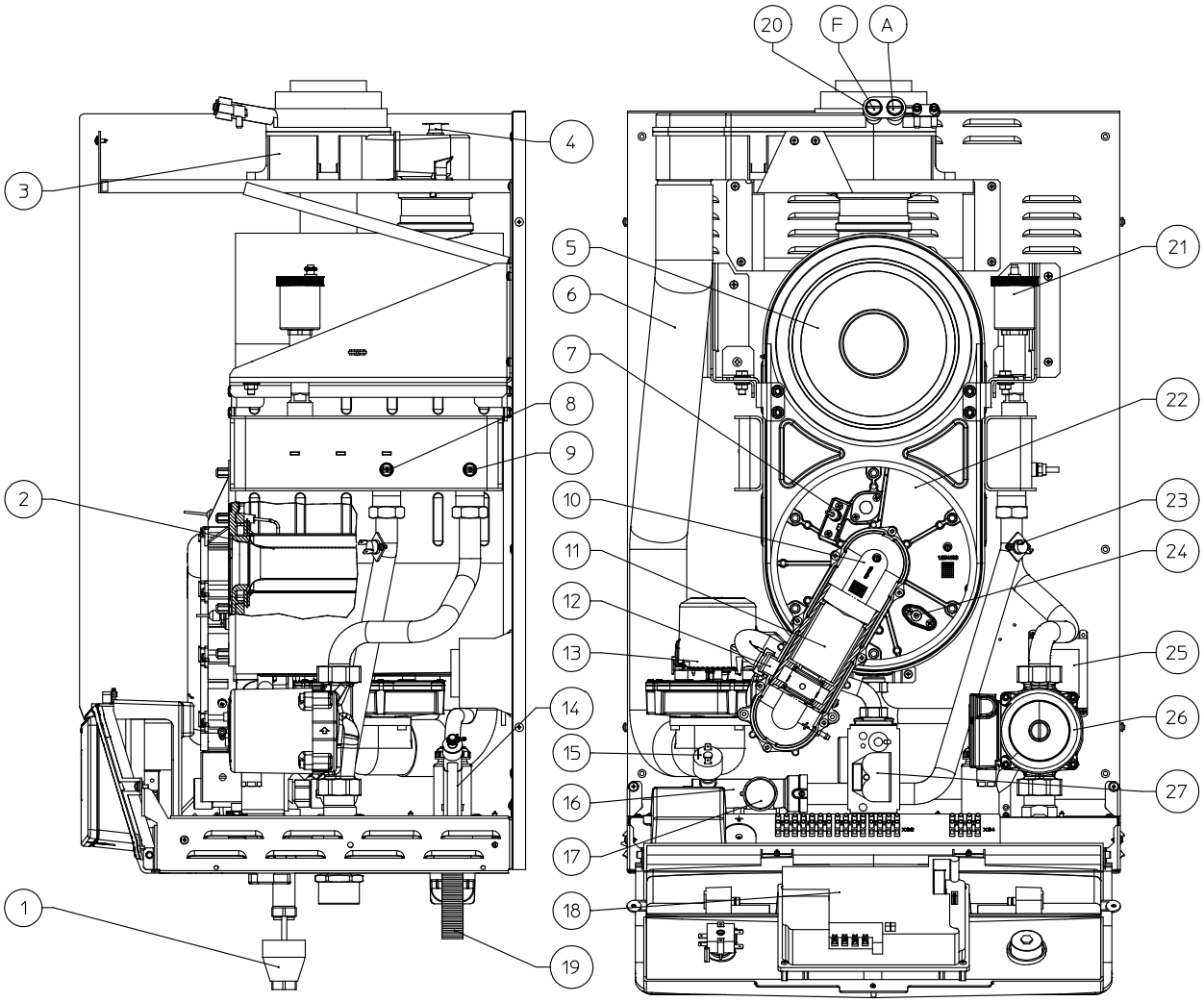
Supplied as standard with combustion analysis sample points, bottom protection grille and on-off gas cock.

Natural gas and L.P.G. fired Class II_{2H3+} appliance. CE marking.
The following model is available:

- **VICTRIX 75 Export code 3.018511**

NOTE: *to correctly install the boiler, employ "Green series" Immergas air intake/flue exhaust kit designed for VICTRIX 75 boiler for both single and cascade configurations.*

2 MAIN COMPONENTS



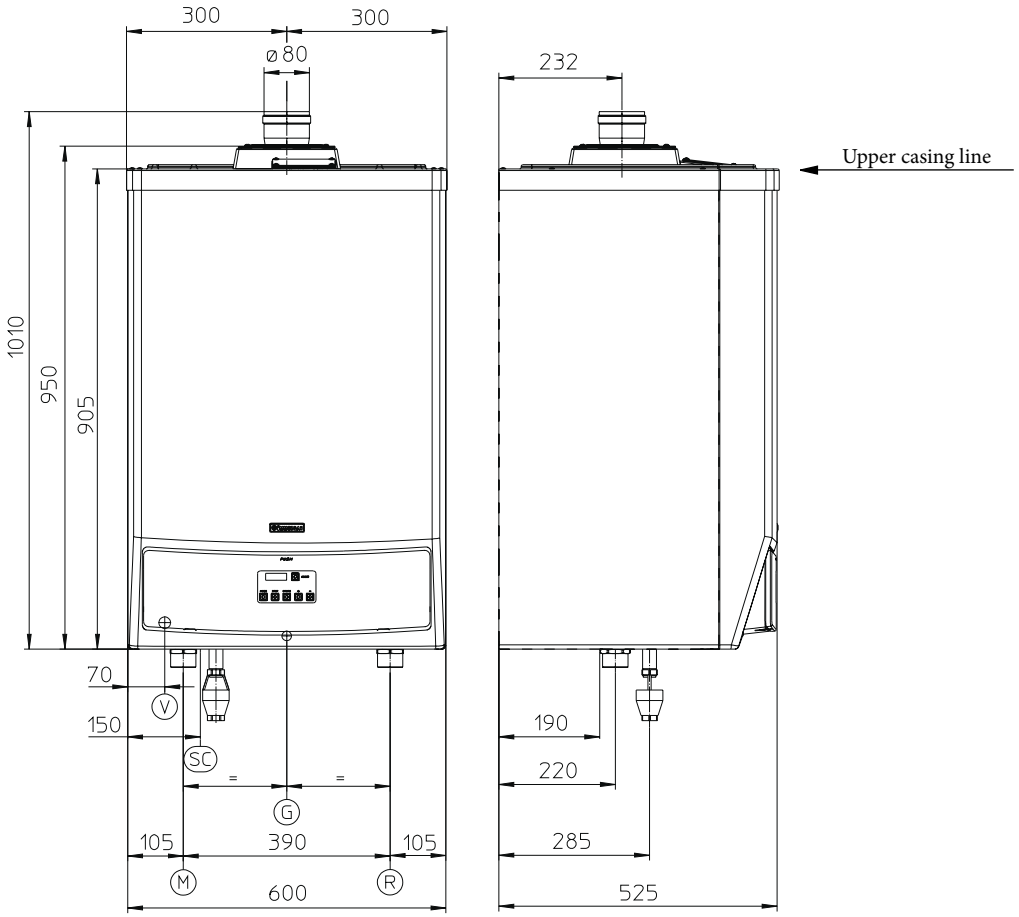
LEGEND:

1 - Drain funnel
2 - Burner
3 - Draught diverter
4 - Flue thermostat
5 - Condensing module
6 - Air intake pipe
7 - Ignition plug
8 - System flow NTC probe
9 - System return NTC probe
10 - Sleeve with Venturi housing
11 - Venturi
12 - Gas nozzle
13 - Air fan
14 - Condensate siphon
15 - System pressure switch
16 - Flow manifold
17 - 4-bar safety valve
18 - P.C.B.
19 - Condensate discharge pipe
20 - Sample points (air A) - (fumes F)
21 - Vent valve
22 - Cover of condensing module
23 - Overheating safety thermostat
24 - Detection electrode
25 - Current transformer
26 - Pump
27 - Gas valve

3 MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm
VICTRIX 75	950	600	525

3.1 CONNECTIONS



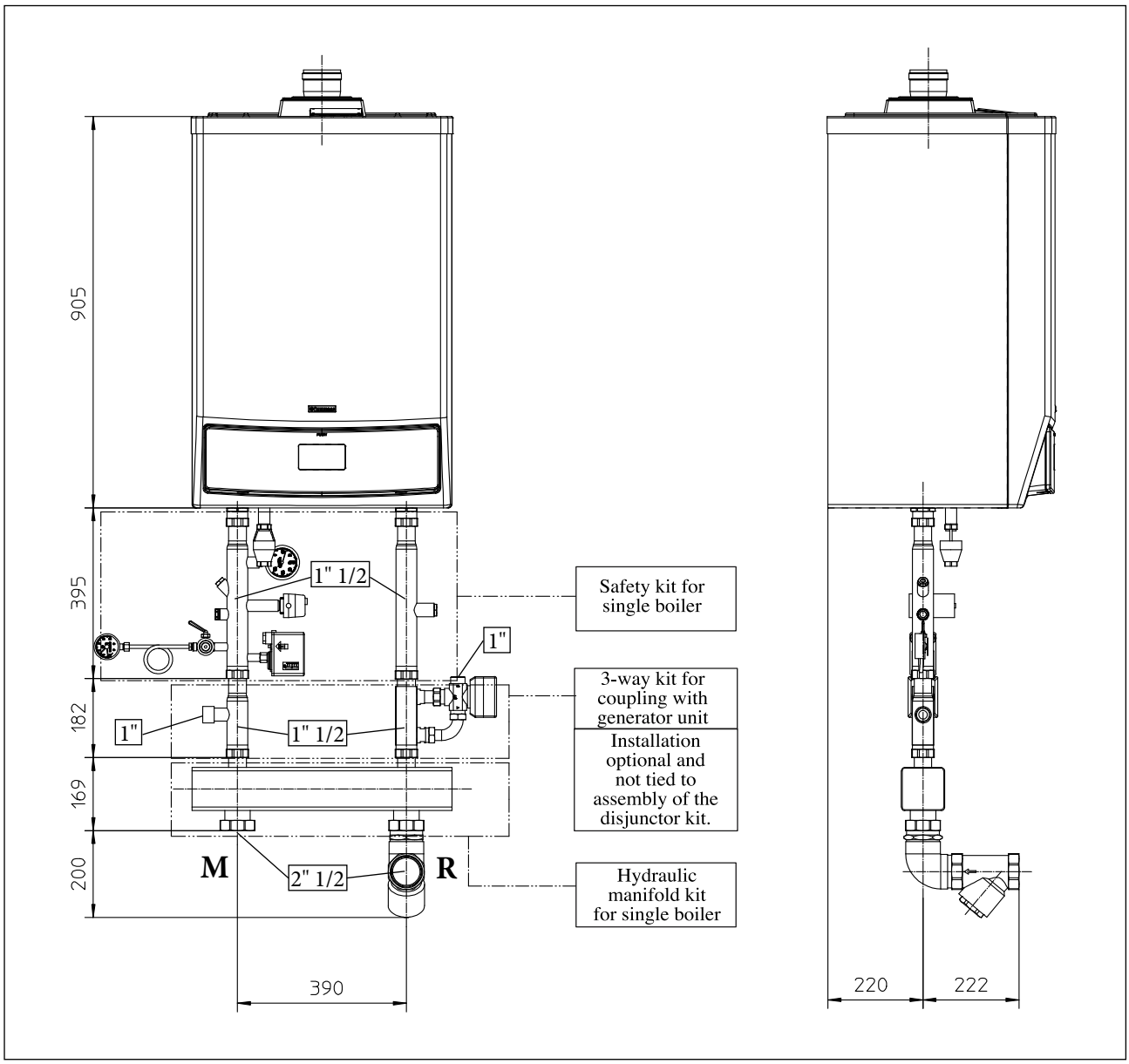
SC = Condensation exhaust

Distance between upper casing line and Ø 80 flue exhaust elbow: **170 mm**

Distance between upper casing line and Ø 80/125 concentric air /flue elbow: **200 mm**

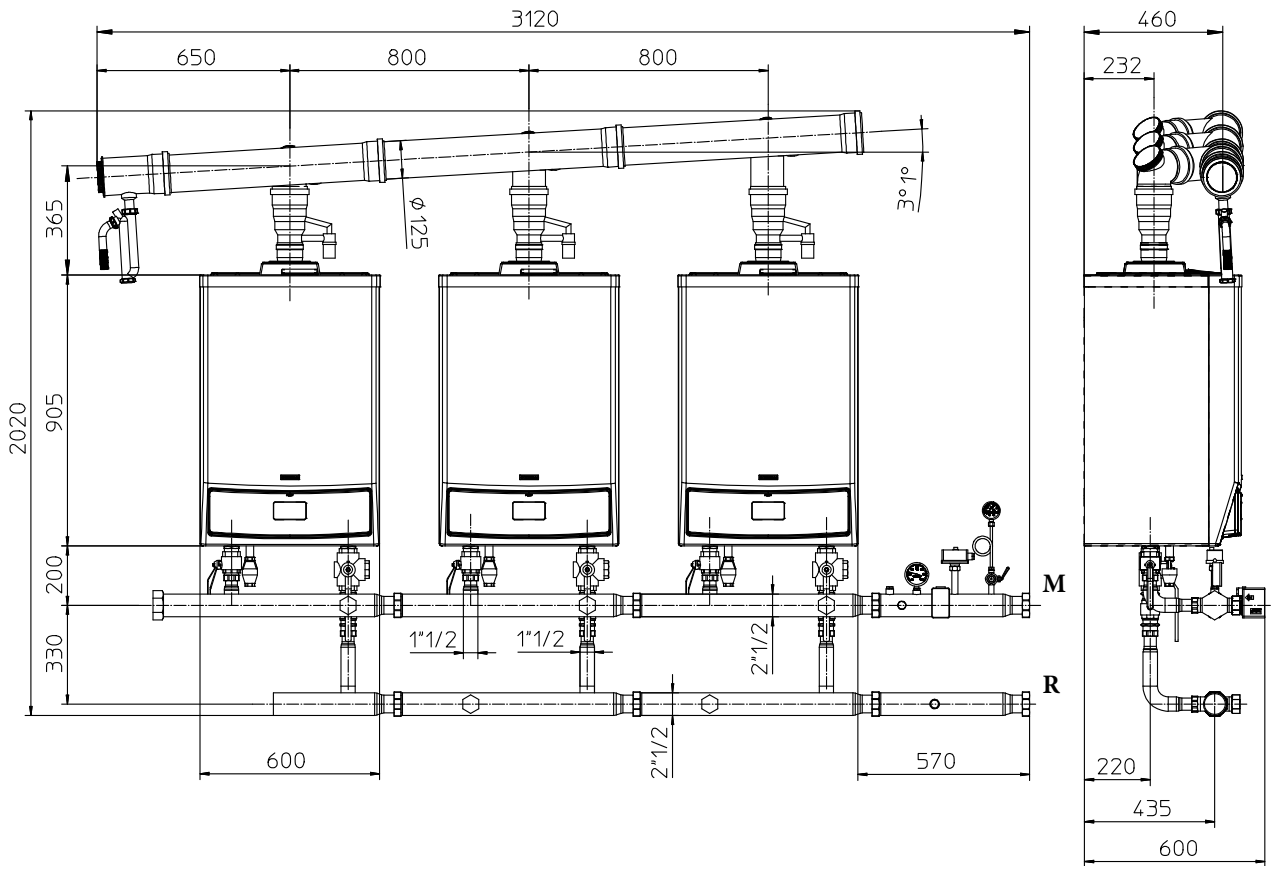
Model	System delivery M	System return R	Gas supply G
VICTRIX 75	1" 1/2	1" 1/2	3/4"

4 DIMENSIONS AND HYDRAULIC CONNECTIONS (OPTION) IN SINGLE BOILER CONFIGURATION



NOTE: Unlike the appliance, ISPESL safety kit and three-way valve kit (electric valve motor) have IPX4D electrical protection rating. When the appliance is to be outdoor installed, such safety devices and components are therefore to be adequately protected.
Immergas would not be held responsible should the installer fail to use the original ISPESL-approved devices and kits manufactured by Immergas, or improperly installs them.
Critical components of the automatic thermal regulating and blocking switches and of the thermometer (not part of the standard supply provided with the generator) are to be installed as described in the installation instructions, in compliance with the provisions given in the "R" file.
In order to adhere to ISPESL engineering safety issues, an ISPESL-approved pressure gauge is to be added when the Immergas safety kit is installed (as part of the standard supply, the boiler comes already equipped with an ISPESL-approved 4-bar safety valve and drain funnel).
System return is factory designed for connection to an expansion vessel.

5 DIMENSIONS AND HYDRAULIC CONNECTION KIT (OPTION) WITH BOILERS IN CASCADE CONFIGURATION (UP TO THREE APPLIANCES)



NOTE: Unlike the appliance, the ISPESL safety kit has IPX4D electrical protection rating. Should the appliance be outdoor installed, such safety devices must therefore be adequately protected.

Immergas would not be held responsible in case the installer fails to use genuine ISPESL-approved devices and kits manufactured by Immergas, or installs them improperly.

Critical components of the automatic thermal regulating and blocking switches and of the thermometer (not part of the standard supply provided with the generator) are to be installed as described in the installation instructions, in compliance with the provisions given in the "R" file.

In order to adhere to ISPESL engineering safety issues, an ISPESL-approved pressure gauge is to be added when the Immergas safety kit is installed (as part of the standard supply, the boiler comes already equipped with an ISPESL-approved 4-bar safety valve and drain funnel).

System return is factory designed for connection to an expansion vessel.

A modular generator, which is installed in a cascade configuration and with original Immergas hydraulic manifold kit, must be considered as a single appliance which will have the serial number (factory number) of the generator nearest to the ISPESL safety device.

Hydraulic manifolds are equipped with a check valve installed on the return pipe and system on-off cocks on the delivery and return pipes of each generator.

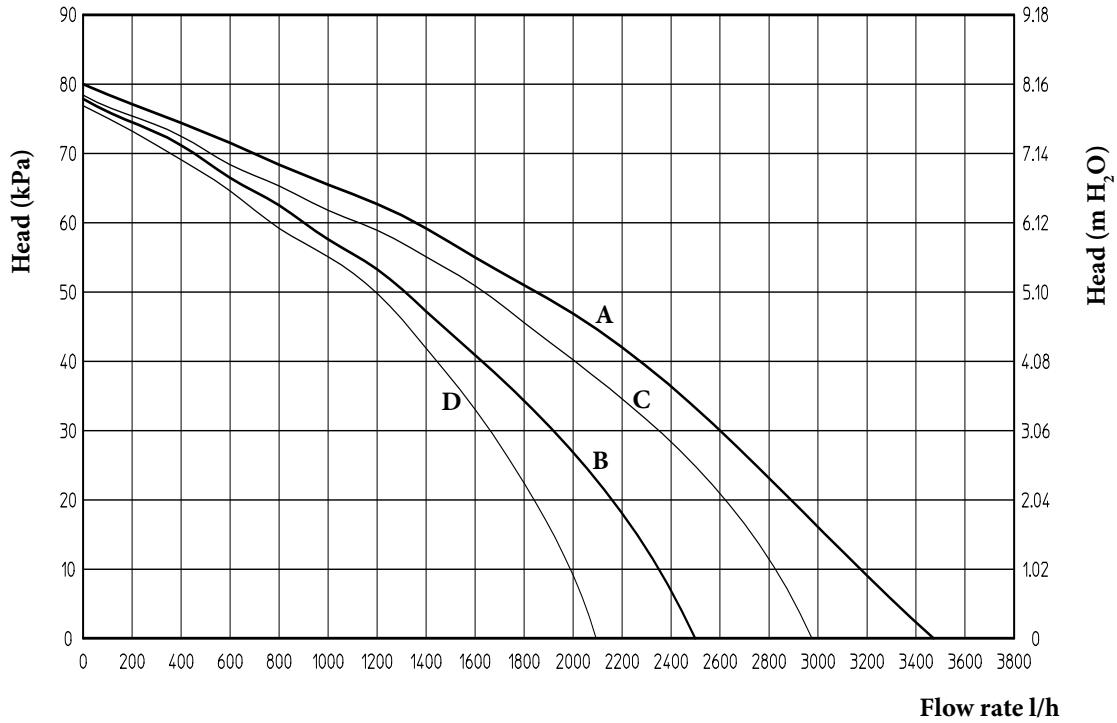
6 PUMP FLOW RATE AND HEAD GRAPH

VICTRIX 75 boilers are supplied with built-in pump equipped with a three-speed electric switch.
The pump is single-phase type (230 V - 50 Hz) and already comes equipped from the factory with a condenser.

For top boiler efficiency, in new systems, it is advisable to set the pump to top speed in order to obtain best boiler operation.

6.1 VICTRIX 75 PUMP

GRUNDFOS UPS 25-80



A = Available head at top speed with single boiler
B = Available head at second speed with single boiler
C = Available head at top speed with one-way valve for boilers in cascade
D = Available head at second speed with one-way valve for boilers in cascade

7 THERMOREGULATION SYSTEMS (OPTION)

Central heating system.
Single modular generators or cascade installed are in need for an adequate thermoregulation system in order to dialogue with the boiler and meet the most varied operation requirements.
That is VICTRIX 75 generator can be fitted with a range of accessories enabling it to optimize climatic adjustments of the entire system.
In order to sum up all the above, VICTRIX 75 can be installed in two main configuration systems:

- **Cascade** (with the system divided into one or more temperature zones), using the cascade and zone regulator with either the zone controller or modulating ambient thermostat which adjusts temperatures in the individual zones.
- **Single boiler installation** (system divided into zones) using the cascade and zone regulator with either the zone regulator or modulating room thermostat which adjusts heat to individual zones. In case of single heating zone or three way valve kit to be connected, a room thermostat is to be installed.

Domestic Hot Water supply.
Should a boiler be installed on its own or in a cascade system, specific kits are supplied, providing the necessary equipment for external cylinder unit to be connected. Immergas manufactures 200 liter external storage tanks which can be installed in parallel (2 x 200 liter), in order to achieve the most efficient domestic hot water storage capacity. Furthermore by a specific optional kit, 200 liter external storage tank is ready for connection to solar panel system thanks to its standard twin coil heat exchanger.
VICTRIX 75 allows for two different configurations when coupling the system with an external storage tank:

- **3-way valve kit for coupling with separate storage tank unit system (when a single boiler is installed).** Connection to a separate storage tank is implemented by simply replacing the factory provided NTC probe on the storage tank, by the probe included in the 3-way valve kit. In such instance central heating and domestic hot water systems are managed by boiler electronics; no cascade and zone regulator kit is to be installed.
- **Cascade and zone regulator kit.** In such instance the storage tank is managed as a zone, this is obtainable both in single boiler and cascade configuration. In this circumstance the external storage tank unit is managed by a separate storage tank probe kit, which replaces factory provided NTC temperature probe on Immergas storage tank.

8 CASCADE AND ZONE REGULATOR (CODE 3.015244)

Cascade and zone regulator allows the End User to control, monitor and program the operating sequence of connected generators.
The regulator can be set-up and programmed By means of parameters ensuring ideal temperature conditions during day and night periods and throughout every day of the week for both central heating and domestic hot water system (when VICTRIX 75 is operated with a water heater).
The cascade and zone regulator can be installed flush to the wall by means of an in–wall supporting device.

8.1 SPECIFICATIONS

Electrical connections are implemented via 2 wires at 230V and 1.5 sq. mm in diameter.
2 BUS data cables are to be used in connecting the cascade and zone regulator to the boiler up to 50 meters in length, such onnection allows the device to:

- control up to three zones (2 of which can received mixed temperature adjusted water when necessary) and one zone destined to the external domestic hot water storage tank. Since a maximum of 5 cascade and zone regulators can be installed (of which one only, called Master, will be connected to the boiler P.C.B.), systems with up to a total of 15 zones (among which 10 with mixed temperature when necessary) and 5 external water heater units, can be controlled;
- Set two ambient temperature values, one for daytime (comfort temp.) and one for night time (reduced temp.);
- control temperature of domestic hot water (in accordance to an external water tank);
- select operating mode for central heating and hot water production functions of each individual hydraulic circuit:
  - comfort temperature mode,
  - reduced temperature mode,
  - adjustable antifreeze temperature mode;
- control boiler flow temperature according to the outdoor temperature (following external probe signal), with climatic curve settings;
- obtain information about the system, such as:
  - system temperature,
  - operating mode,
  - metering device data,
  - timer programmed operation,
  - pump operation status,
  - operation and variable input values;
- entering of operating parameters:
  - operating times,
  - system operating modes,
  - domestic hot water,
  - direct circuit, no.1 mixed, no.2 mixed temperature systems,
  - current date and time;
- display of operation malfunctions and their relevant error codes administered by the boiler self-check control system;
- display date, time, day of the week and generator temperature.

9 ZONE REGULATOR (CODE 3.015264)

The zone regulator operates exclusively in conjunction with the Cascade and zone regulator. In addition to the functions described for cascade And zone regulator, it allows the End User to be able to instantly verify all the information concerning appliance operation and central heating system. In addition to the above, previously set parameters can be easily remotely modified without having to reach the actual cascade location. Chrono-thermostat which is built into the remote control, allows the system flow temperature to be set accordingly to actual requirements of the area in need for heating, so as to obtain the required room temperature with the utmost precision and, consequently with evident savings in the system running costs. The zone regulator also allows the ambient temperature and effective outdoor temperature to be verified on its display (the latter information only in case of external probe installation). The zone regulator is powered by the cascade and zone regulator via two BUS data cables.

9.1 SPECIFICATIONS

The zone regulator operates exclusively in conjunction with the Two BUS data cables are to be used in connecting a cascade and zone regulator, up to 50 meters in length is allowed. Such connection allows the device to:

- control up to one zone;
- set two room temperature values, daytime (comfort temp.) and night time (reduced temp.);
- control temperature of domestic hot water (when an external water tank is installed);
- select operation in central heating and hot water production modes for each single hydraulic circuit:
  - comfort temperature mode,
  - reduced temperature mode,
  - adjustable antifreeze temperature mode;
- adjust boiler flow temperature according to outdoor temperature (when an external probe is installed), with climatic curve setting;
- check information concerning the system:
  - system temperature,
  - operating mode,
  - data from metering devices,
  - timer program,
  - pump operating status,
  - variable input values and operation;
- enter the working parameters:
  - operating periods,
  - system operating mode,
  - domestic hot water,
  - direct, no.1 mixed, no.2 mixed circuits,
  - current date and time;
- display operating malfunctions and their relevant error codes as induced by the by self check-control system;
- display date, time, day of the week and temperature of the generator.

10 MODULATING ROOM THERMOSTAT (CODE 3.015245)

Modulating room thermostat (not a classic technology On/Off model) only operates in conjunction with the cascade and zone regulator and allows the End User to set the room temperature of one of the zones into which the system is divided (both in individual and cascade installation).
The adjusting curve of the ambient temperature in the zone can be modified by means of the cascade and zone regulator itself. The modulating room thermostat is powered by the cascade and zone regulator via two BUS data cables.

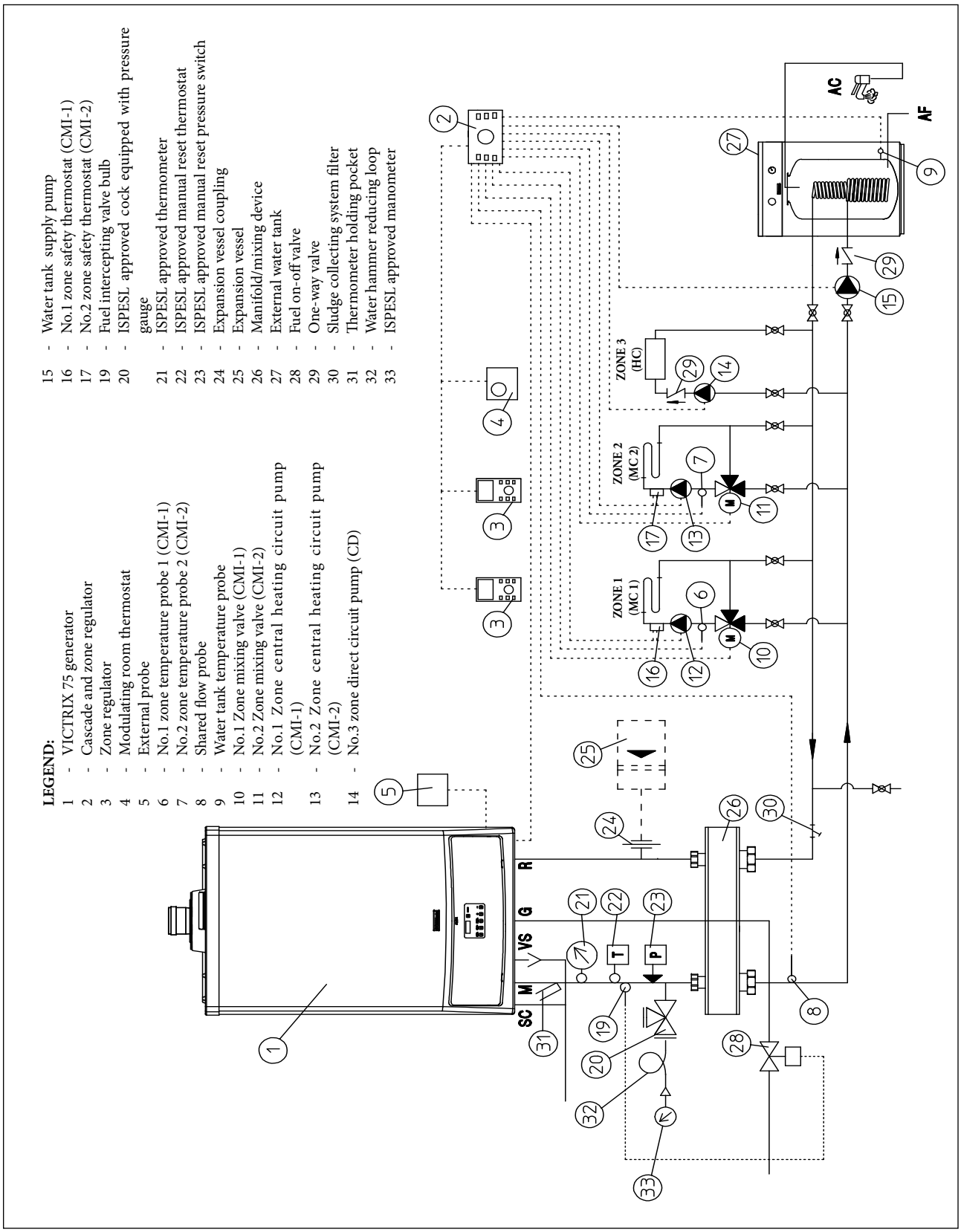
10.1 SPECIFICATIONS

Two BUS data cables up to 50 meter long can be implemented in connection to a cascade and zone regulator, such configuration allows the device to:
- management of up to one zone;
- vary the zone ambient temperature;
- select the operating mode for zone central heating function:
  - fixed comfort temperature mode,
  - fixed low temperature mode,
  - operation with the timer programmed modes and times.

11 EXTERNAL PROBE (CODE 3.015266)

External probe function is to allow temperature delivered to the system to be automatically adjusted in relation to rising or lowering outdoor temperature, thus adapting the water temperature to the system to suit outdoor temperature variations.
The probe is connected to the boiler's terminal board with a two wire cable. Once connected, it always acts even when a thermoregulation kit is not installed.
When a cascade system is configured, the external probe is to be connected to one boiler only.

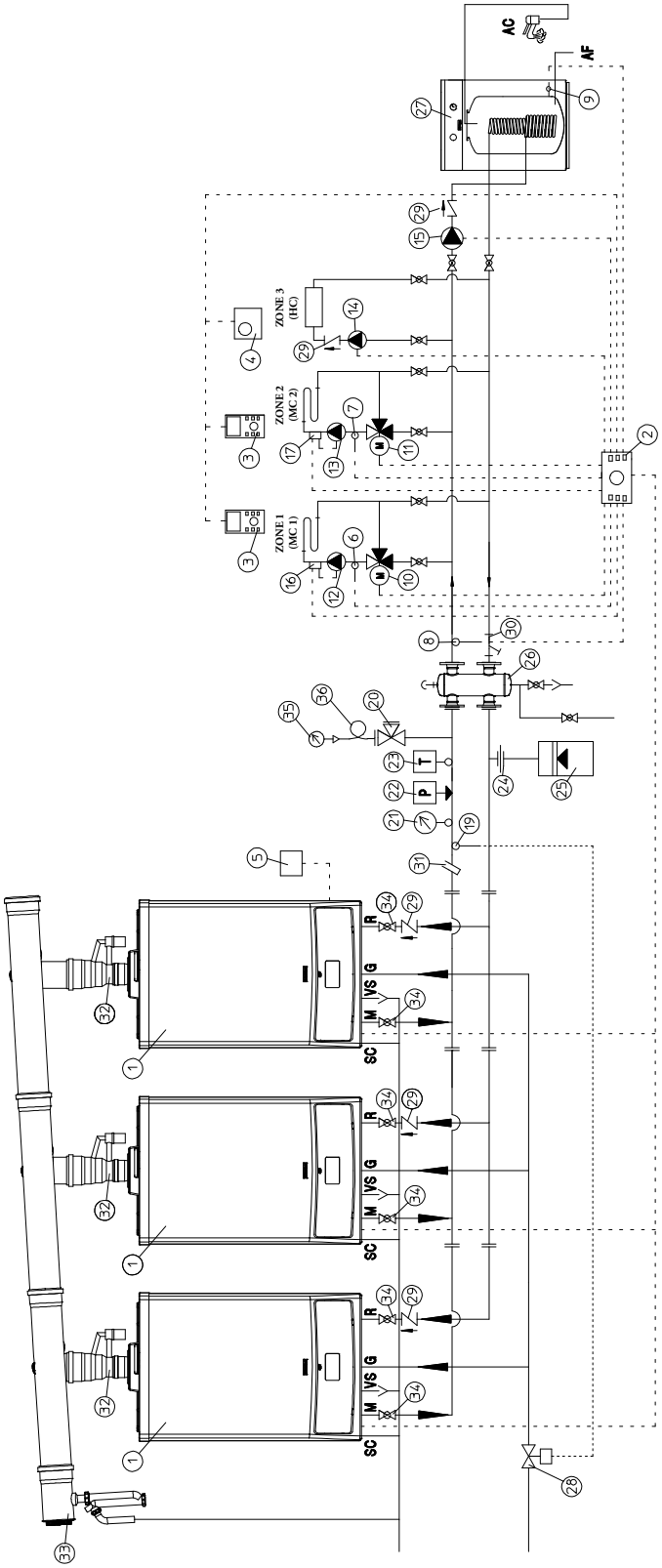
12 VICTRIX 75 SINGLE BOILER INSTALLATION SAMPLE



13 VICTRIX 75 CASCADE INSTALLATION SAMPLES

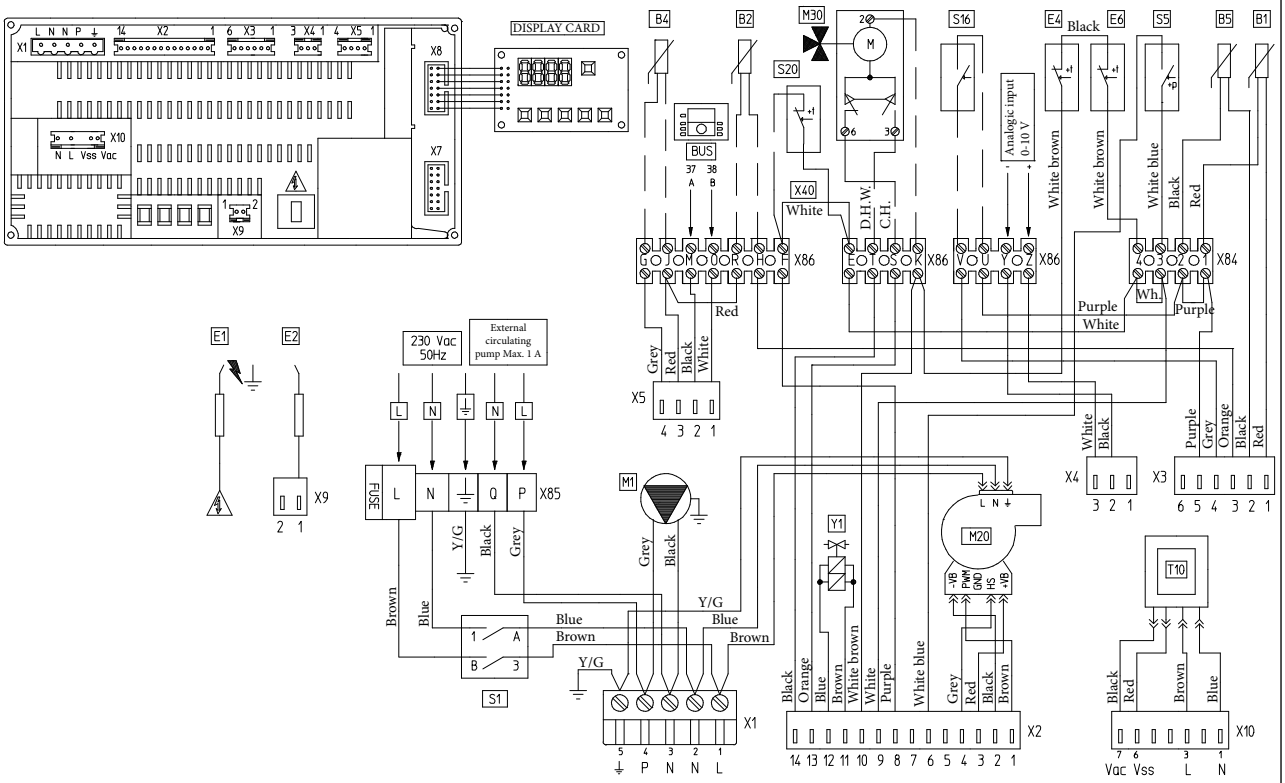
LEGEND:

1 - VICTRIX 75 generator
2 - Cascade and zone regulator
3 - Zone regulator
4 - Modulating room thermostat
5 - External probe
6 - No.1 zone temperature probe (CMI-1)
7 - No. 2 zone temperature probe (CMI-2)
8 - Shared delivery probe
9 - Water tank temperature probe
10 - No.1 zone mixing valve (CMI-1)
11 - No. 2 zone mixing valve (CMI-2)
12 - No.1 zone central heating circuit pump (CMI-1)
13 - No. 2 zone central heating circuit pump (CMI-2)
14 - No. 3 zone direct circuit pump (CD)
15 - Water tank supply pump
16 - No.1 zone safety thermostat (CMI-1)
17 - No.2 zone safety thermostat (CMI-2)
19 - On-off fuel valve bulb
20 - ISPESL approved cock with pressure gauge
21 - ISPESL approved thermometer
22 - ISPESL approved manual reset pressure switch
23 - ISPESL approved manual reset thermostat
24 - Expansion vessel coupling
25 - Expansion vessel
26 - Manifold/mixing device
27 - External water tank unit
28 - Fuel on-off valve
29 - On-way valve
30 - Sludge collecting system filter
31 - Thermometer holding pocket
32 - Flue stream adjusting device
33 - Condensate drain pipe
34 - System on-off cock
35 - ISPESL approved manometer
36 - Water hammer reducing loop



14 WIRING DIAGRAM

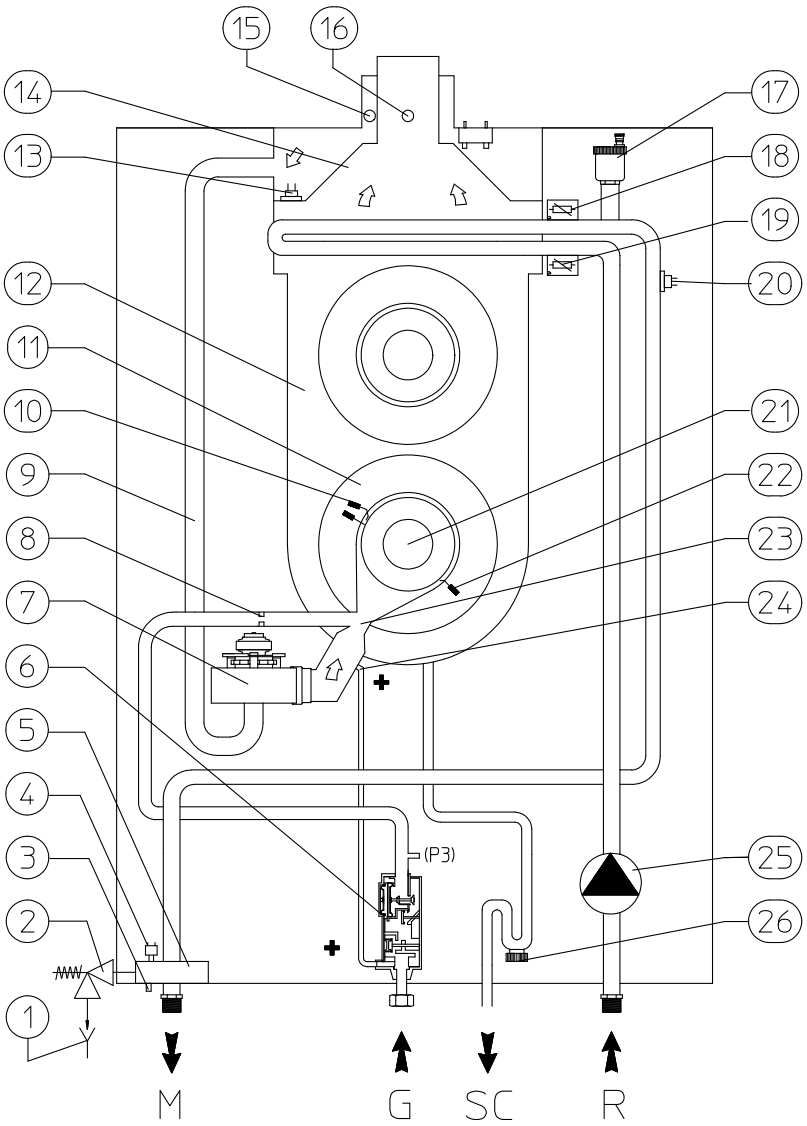
OPTIONAL ELECTRIC CONNECTIONS.
Bus M and O terminals are implemented in order to allow for cascade and zone regulator operation.
The room thermostat (S20) is to be connected to terminals F and E, while eliminating X40 jumper. The external probe (B4) must be connected to G and J terminals.
Domestic hot water probe (B2) is to be connected to terminals R and H.
The three-way valve (M30) is to be connected to terminals T, S and K.
Summer switch (S16) is to be connected to terminals V and U.



LEGEND:

B1	-	Flow probe
B2	-	Domestic hot water probe (option)
B4	-	External temperature probe (option)
B5	-	Return probe
E1	-	Ignition electrode
E2	-	Detection electrode
E4	-	Safety thermostat
E6	-	Flue thermostat
M1	-	Boiler pump
M20	-	Fan
M30	-	Three-way valve (option)
S1	-	Main switch
S5	-	System pressure micro switch
S16	-	Summer switch (option)
S20	-	Room thermostat (option)
T10	-	Low voltage transformer
X40	-	Room thermostat jumper
Y1	-	Gas valve (24 V DC)

15 HYDRAULIC LAYOUT



LEGEND:

1 - Transparent funnel outlet
2 - ISPESL-approved 4 bar safety valve
3 - Boiler unloading cock
4 - System pressure switch (absolute)
5 - Flow manifold
6 - Gas valve
7 - Air fan
8 - Gas nozzle
9 - Air intake pipe
10 - Ignition electrode
11 - Condensing module cover
12 - Condensing module
13 - Flue thermostat
14 - Flue hood
15 - Air sample point
16 - Flue sample point
17 - Automatic vent valve
18 - System flow adjusting probe
19 - System return adjusting probe
20 - Overheating safety thermostat
21 - Burner
22 - Detection electrode
23 - Air/gas Venturi manifold
24 - Venturi positive signal (P1)
25 - Pump
26 - Condensate siphon

"GREEN SERIES" INTAKE/EXHAUST KIT FOR VICTRIX 75

16 TYPE OF INSTALLATION

VICTRIX 75 boilers are approved for both indoor and outdoor installation.
VICTRIX 75" boiler leaves the factory in "B_{23}" configuration (open chamber and fan assisted). In order to change boiler configuration to type "C" (sealed chamber and fan assisted draught), dismount the Ø 80 adapter, the plate and the seal on the boiler cover so that the Ø 80/125 kit can be installed.
To correctly install the boiler, use Immergas designed "Green" series air/flue exhaust kit as the materials, components and accessories are specifically designed for such appliance.
kits are made out of composite material so as to provide high resistance to corrosion and allow them for fast and efficient installation, and also thanking to their push-in connection mechanism and silicone seals.

Boiler classification varies in relation to the installation type:
Type C Configuration with sealed chamber and fan assisted flue exhaust.
Boiler air/flue system is implemented by using the relative Ø 80/125 concentric kit after removing the Ø 80 adapter, the plate and the seal from the boiler cover.
Air intake and flue exhaust is operated directly from the outside wall of the building.
When a concentric intake/exhaust kit is needed, the following components can be installed:

Horizontal concentric Ø 80/125 kit **Code 3.015242;**

Vertical concentric Ø 80/125 kit **Code 3.015243.**

B_{23} type configuration with open chamber and fan assisted flue exhaust.
The boiler is installed using the Ø 80 adapter provided with the boiler as part of the standard supply and to which the relevant Ø 80 flue exhaust kit is to be connected.
The air is taken straight from the room where the boiler is installed, while flue is exhausted through a chimney system or straightly outdoor via a flue exhaust system.
The above configuration samples are to remind that boiler air/flue system installation is only to be implemented by means of the following air intake/flue exhaust kits:

Ø 80 horizontal terminal kit for wall exhaust
Code 3.015255;

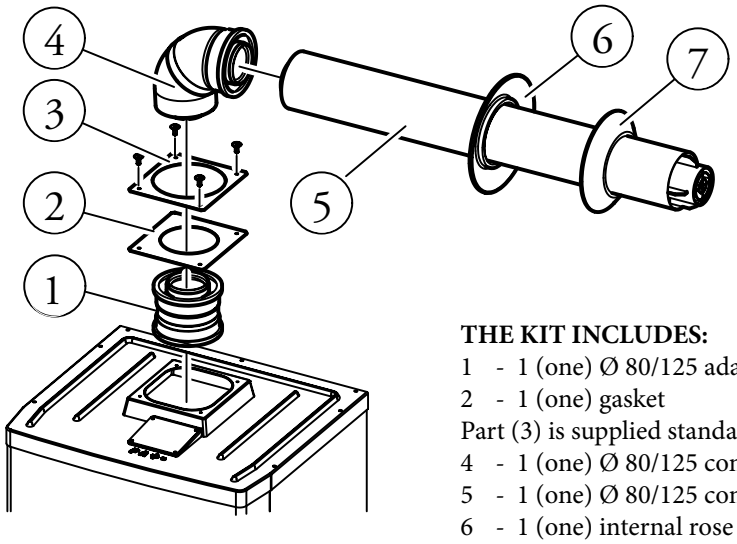
Ø 80 horizontal kit for chimney flue system exhaust
Code 3.015254;

Ø 80 vertical terminal kit for direct exhaust
Code 3.015256.

When the boiler is single installed, and in the "B_{23}" air/flue configuration, VICTRIX 50 can at any time be coupled with flexible Ø 80 hose pipe system for condensing boilers.
Such installation configuration is particularly suitable for chimneys or chimney systems, which might not be perfectly straight and where a rigid intake/exhaust system could not be feasible for installation.

When a cascade installation is implemented, inside a thermal power station, specifically engineered collectors are to be installed for chimney system exhaust, and equipped with one-way devices (locking gates), in order to prevent combustion products to become part in the flue exhaust system of any additional boiler which might be off at that time.

17 Ø 80/125 CONCENTRIC HORIZONTAL KIT (CODE 3.015242)

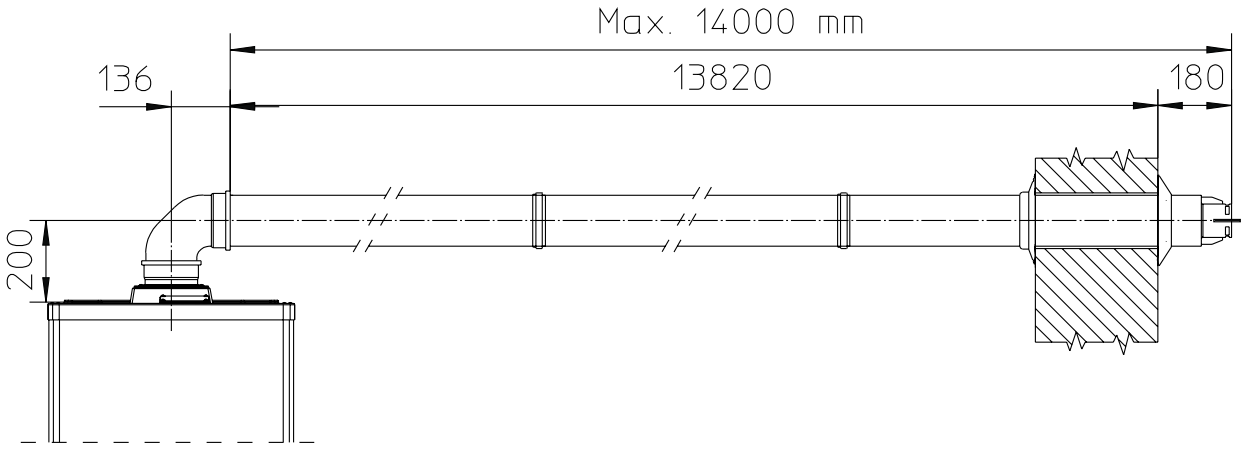


THE KIT INCLUDES:

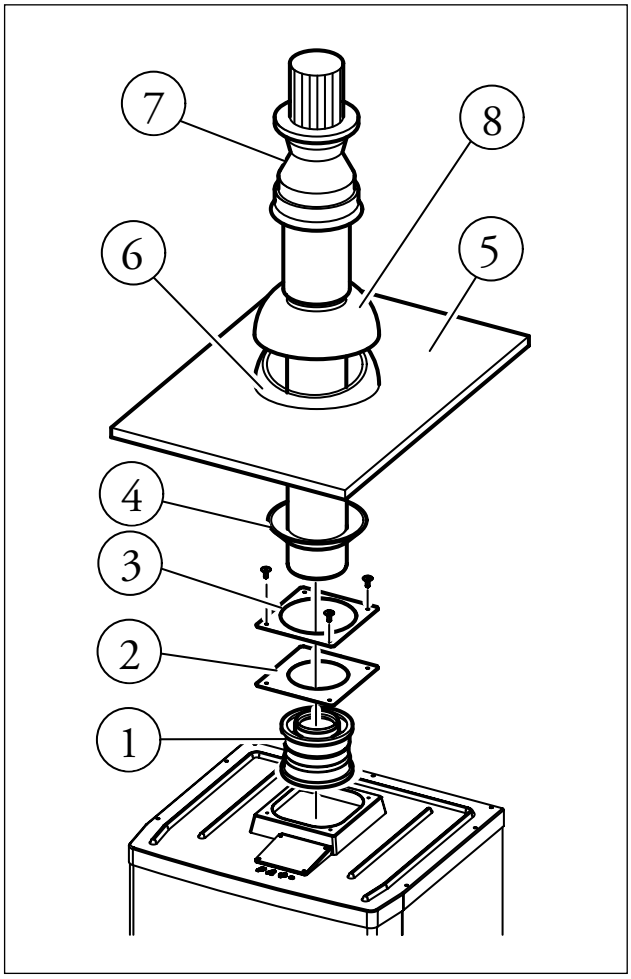
1 - 1 (one) Ø 80/125 adapter
2 - 1 (one) gasket
Part (3) is supplied standard with the boiler
4 - 1 (one) Ø 80/125 concentric 87° elbow
5 - 1 (one) Ø 80/125 concentric intake/exhaust terminal
6 - 1 (one) internal rose
7 - 1 (one) external rose

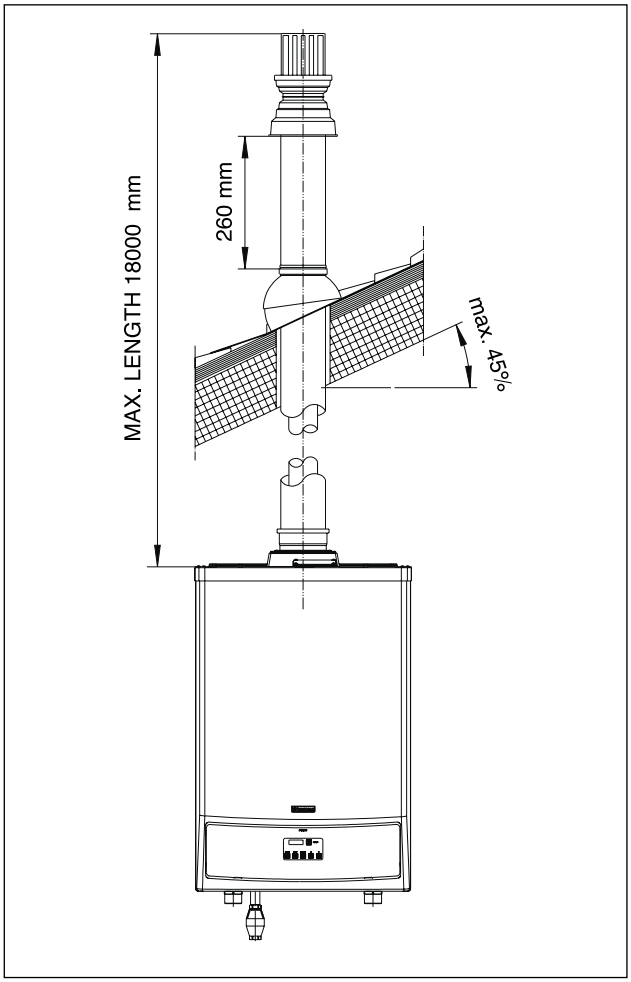
MAXIMUM AVAILABLE LENGTH OF Ø 80/125 HORIZONTAL KIT

Available resistance factor	**100**
Horizontal length in meters	**14 + the first 90° elbow**



18 Ø 80/125 CONCENTRIC VERTICAL KIT (CODE 3.015243)





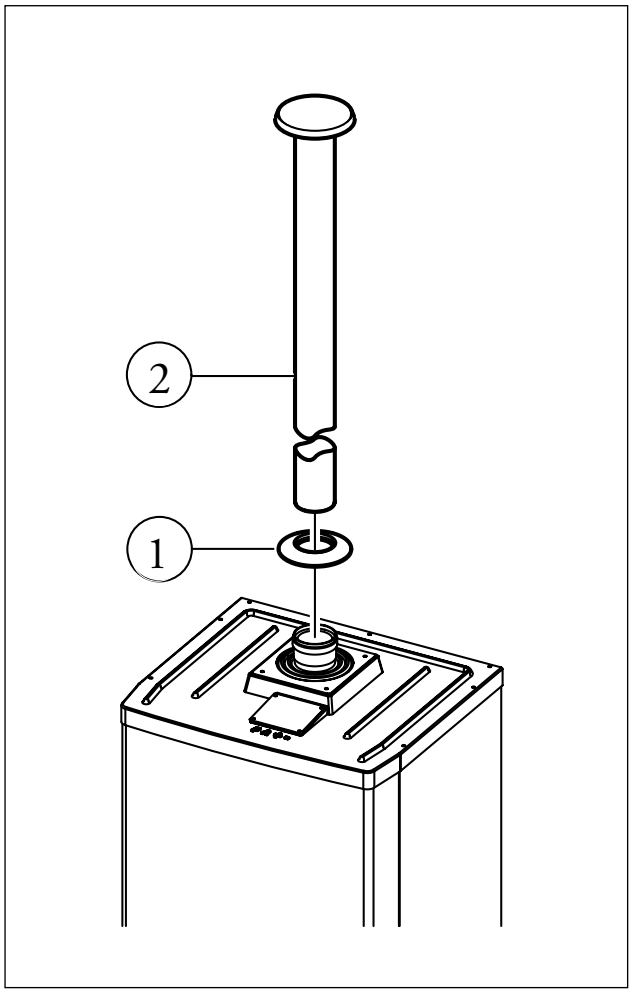
THE KIT INCLUDES:

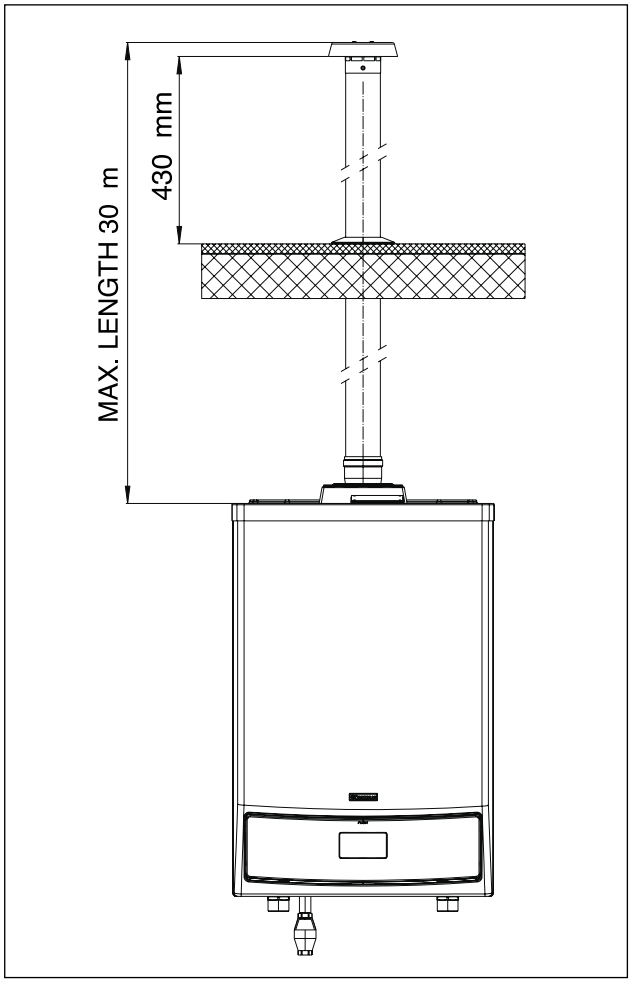
1 - 1 (one) Ø 80/125 adapter
2 - 1 (one) gasket
Part (3) is supplied standard with the boiler
4 - 1 (one) rose
5 - 1 (one) aluminium plate
6 - 1 (one) fixed half-shell
7 - 1 (one) Ø 80/125 concentric int./exh. terminal
8 - 1 (one) mobile half-shell

MAXIMUM AVAILABLE LENGTH OF Ø 80/125 VERTICAL KIT

Available resistance factor	**100**
Vertical length in meters	**18**

19 Ø 80 VERTICAL KIT (CODE 3.015256)





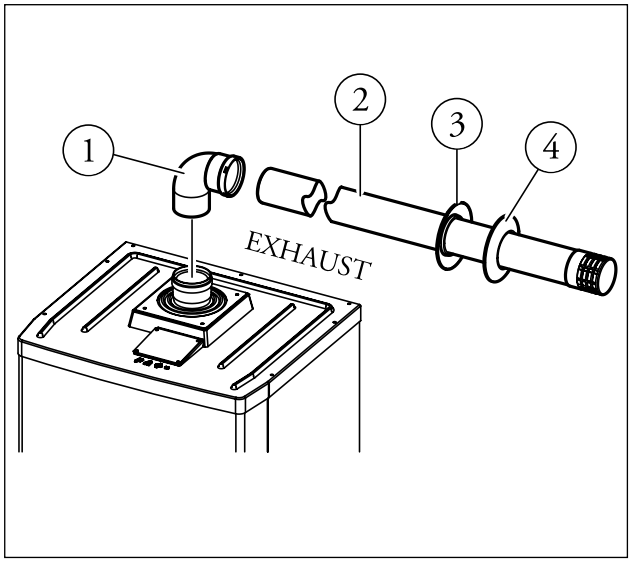
THE KIT INCLUDES:

1 - 1 (one) rose
2 - 1 (one) Ø 80 exhaust terminal

MAXIMUM AVAILABLE LENGTH OF Ø 80 VERTICAL KIT

Available resistance factor	**100**
Vertical length in meters	**30**

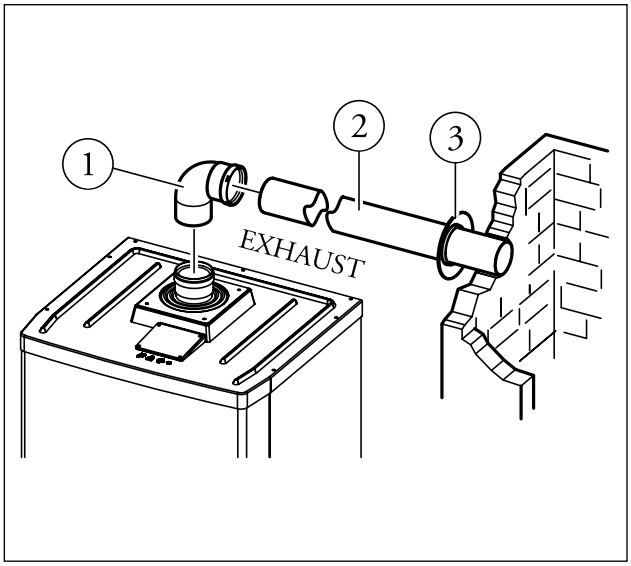
20 Ø 80 HORIZONTAL TERMINAL KIT FOR WALL-MOUNTED FLUE EXHAUST (CODE 3.015255)



THE KIT INCLUDES:

1 - 1 (one) 90° Ø 80 elbow
2 - 1 (one) Ø 80 exhaust pipe
3 - 1 (one) internal rose

20.1 Ø 80 HORIZONTAL TERMINAL KIT FOR CHIMNEY SYSTEM (CODE 3.015254)

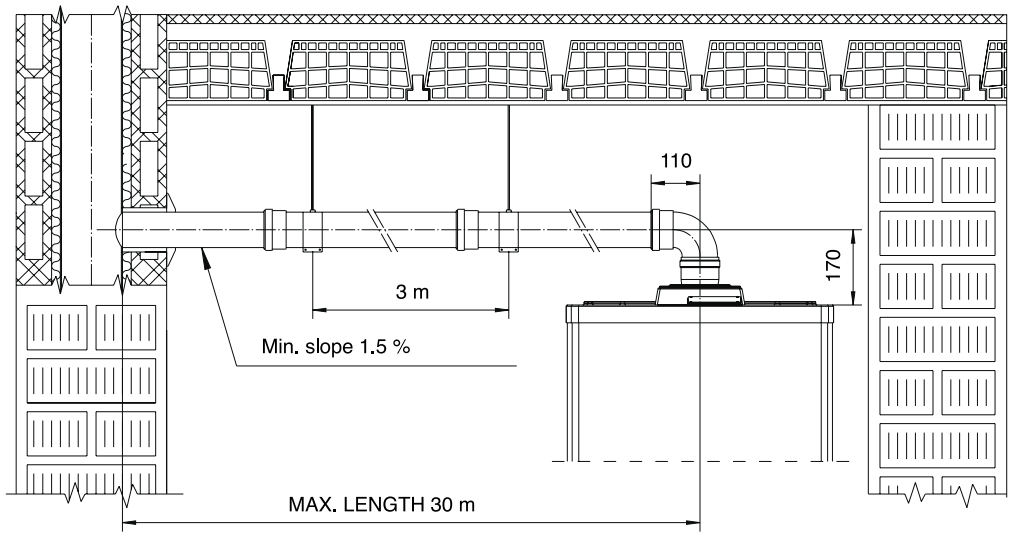


THE KIT INCLUDES:

1 - 1 (one) 90° Ø 80 elbow
2 - 1 (one) Ø 80 exhaust pipe
3 - 1 (one) internal rose
4 - 1 (one) external rose

MAXIMUM AVAILABLE LENGTH OF Ø 80 HORIZONTAL WALL DISCHARGING KIT

Available resistance factor	**100**
Horizontal length in meters	**30**



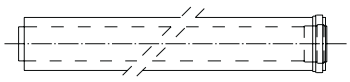
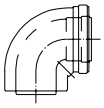
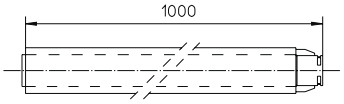
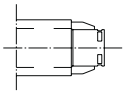
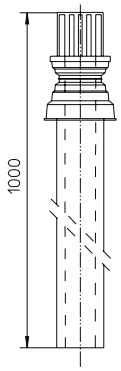
21 RESISTANCE FACTORS AND EQUIVALENT LENGTHS

Each component of air intake/flue exhaust system reveals a resistance dynamic calculated by means of tests as stated in the following charts. The resistance factor of each individual component cannot be measured by actual unit of measures, as such parameter is measurable function of the temperature of the fluid and, thus it **varies depending on whether the component is installed in the air intake or in the flue exhaust section.**
In addition to the above, each component has a resistance factor corresponding to a the length in meters of same diameter pipe : this is the so-called **"equivalent length"** obtained from the ratio between the relevant resistance factors.
In order to identify the link between such two parameters in the most admissible manner, first, consider an Ø 80 mm 90° elbow as a sample. It shows a 2.6 resistance factor on exhaust. However, when an Ø 80 mm and 1 meter long pipe is taken as reference, it will show a 1.2 resistance factor. The equivalent length "L_{eq}" of the considered elbow will therefore to be:

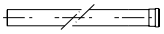
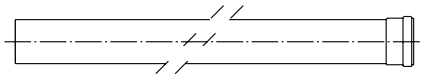
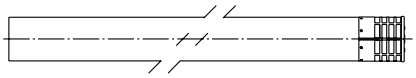
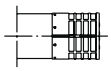
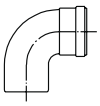
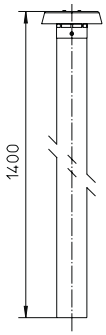
L_{eq} = 2,6 : 1,2 = 2,1 m of Ø 80 mm pipe (on the exhaust side).

In brief, the head loss of an Ø 80 mm 90° elbow is the same of a 2.1 m length straight pipe bearing the same diameter (installed on the flue exhaust system).
All boilers have a maximum resistance factor of 100, experimentally calculated.
Maximum allowable resistance factor corresponds to the resistance found with the maximum allowable pipe length.
All this information allow for calculations to be made in order to ascertain whether the various configurations of the system are feasible. In brief, in order to ensure correct appliance operation, **any air intake/flue exhaust configuration is to have a maximum overall resistance factor of 100.**
Therefore such limit is not be exceeded when the resistance actors of the individual components are added together.

Resistance factors and equivalent losses in meters are stated in the catalogue and in relation to:
- "Green series" air/flue system to be used when implementing a combustion air supply pipe and flue exhaust system;
- the components to be installed in implementing an Ø 80 mm hose pipe flexible ducting system for condensing boilers, as further described in this manual (and involving vertical piping system installed for collection and exhaust of combustion residues as well as being able to withstand time and condensation wear and tear, and appropriate for installation in an existing and not perfectly straight chimney/chimney system/pre existing "technical" opening).

DUCT TYPE	Resistance Factor (R)	Equivalent length in m of Ø 80/125 concentric pipe	Equivalent length in m of Ø 80 pipe
Ø 80/125 m 1 concentric pipe 	4.9 Intake and exhaust	**1.0 m**	4.0 m exhaust
Ø 80/125 90° elbow concentric pipe 	9.5 Intake and exhaust	**1.9 m**	7.9 m exhaust
Ø 80/125 45° elbow concentric pipe 	6.8 Intake and exhaust	**1.4 m**	5.6 m exhaust
Complete terminal with Ø 80/125 horizontal concentric intake-exhaust pipe 	26.8 Intake and exhaust	**5.5 m**	22.3 m exhaust
Ø 80/125 horizontal concentric intake-exhaust terminal 	22.9 Intake and exhaust	**4.7 m**	19.0 m exhaust
Complete terminal with Ø 80/125 vertical concentric intake-exhaust pipe 	16.7 Intake and exhaust	**3.4 m**	13.9 m exhaust
Ø 80/125 vertical concentric intake-exhaust terminal 	13.3 Intake and exhaust	**2.7 m**	11.0 m exhaust

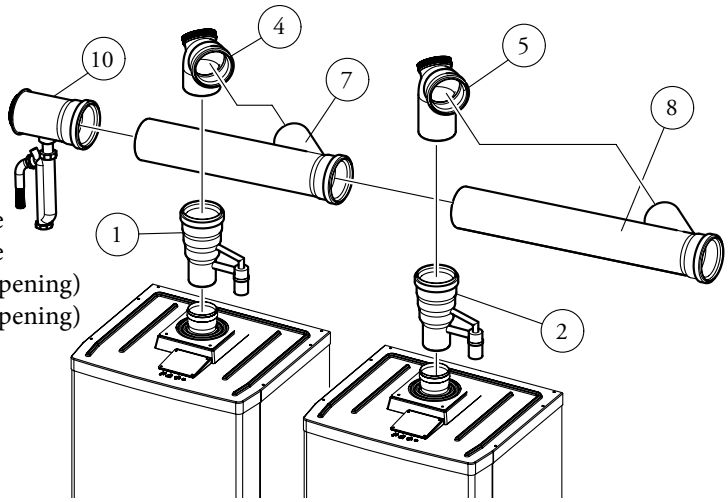
VICTRIX 75

DUCT TYPE	Resistance factor (R)	Equivalent length in m of Ø 80/125 concentric pipe 	Equivalent length in m of Ø 80 pipe 
Ø 80 m 1 pipe 	1.2 exhaust	0.24 m	**1.0 m exhaust**
Complete terminal with Ø 80 m 1 exhaust pipe 	3.1 exhaust	0.63 m	**2.6 m exhaust**
Ø 80 exhaust terminal 	1.9 exhaust	0.38 m	**1.6 m exhaust**
Ø 80 90° elbow 	2.6 exhaust	0.53 m	**2.1 m exhaust**
Ø 80 45° elbow 	1.6 exhaust	0.32 m	**1.3 m exhaust**
Complete terminal with Ø 80 vertical exhaust pipe 	3.6 exhaust	0.73 m	**3 m exhaust**

22 FLUE EXHAUSTING MANIFOLD KIT AND TWO CASCADE BOILERS INSTALLATION (CODE 3.015240)

THE KIT INCLUDES:

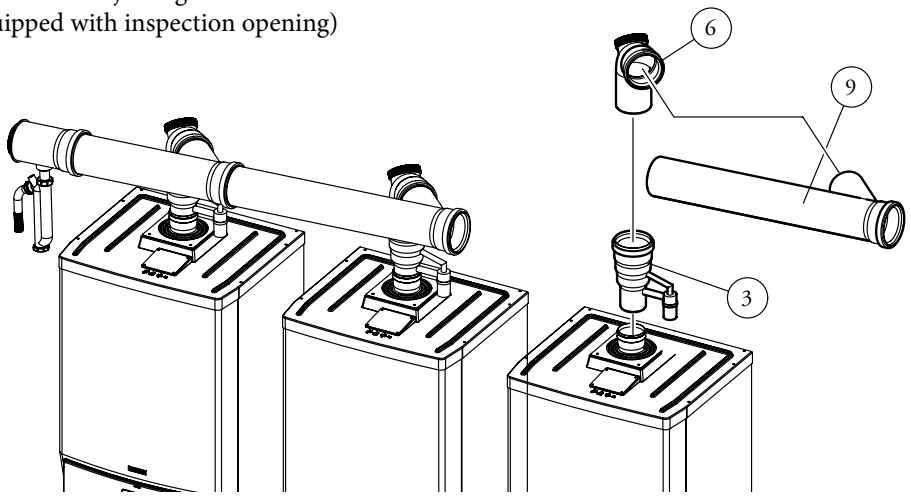
1 - 1 (one) stub pipe with flue adjusting device
2 - 1 (one) stub pipe with flue adjusting device
4 - 1 (one) elbow (equipped with inspection opening)
5 - 1 (one) elbow (equipped with inspection opening)
7 - 1 (one) short pipe
8 - 1 (one) long pipe
10 - 1 (one) condensate drain pipe



22.1 FLUE EXHAUST MANIFOLD KIT, TWO CASCADE AND AN ADDITIONAL BOILER INSTALLATION (CODE 3.015241)

THE KIT INCLUDES:

3 - 1 (one) stub pipe with flue adjusting device
6 - 1 (one) elbow (equipped with inspection opening)
9 - 1 (one) long pipe

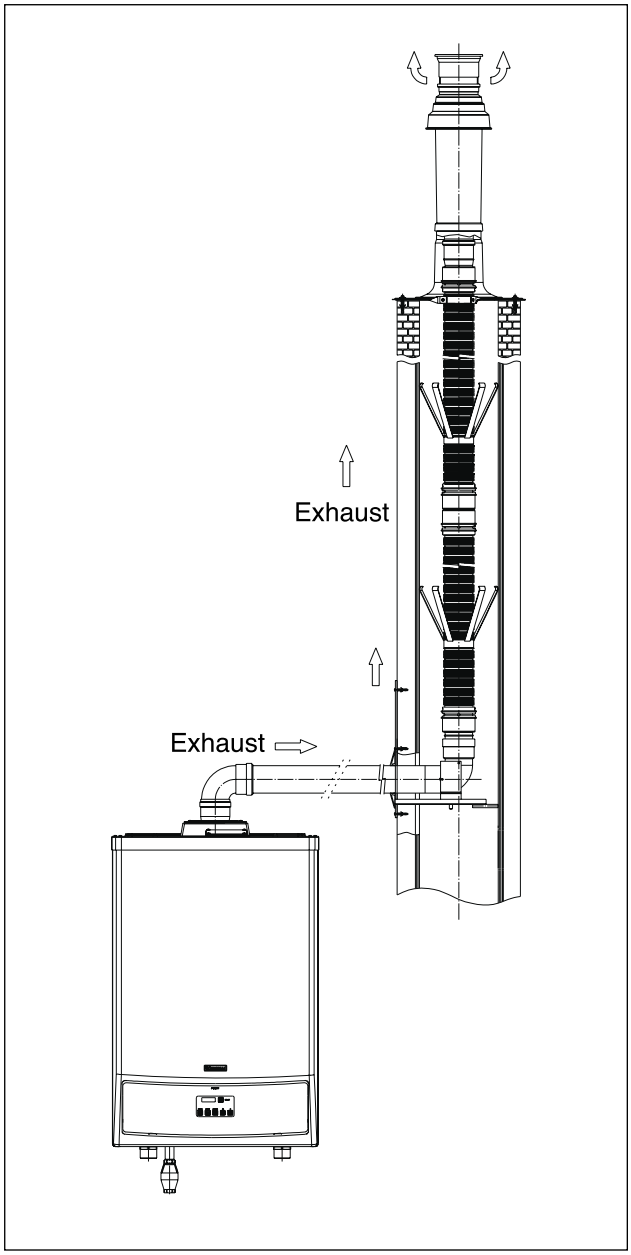


In order to complete the installation and connect the flue manifold to the chimney, a kit including a 1 m length Ø 125 mm extension pipe is to be installed **Cod. 3.016371.**

23 Ø 80 HOSE PIPE FLEXIBLE DUCTING SYSTEM

Immergas Ø 80 mm hose pipe flexible ducting system for existing chimney systems comprises a series of components, considered as single kits, which are to be assembled in order to suit specific installation requirements; the system is supplied in a configuration which includes an 87° rising inlet elbow vertically proceeding with the Ø 80 hose pipe and the exhaust terminal. Ducted system pipes can be inspected where it connects to the boiler by means of a factory designed door.
The kit consists of a 12 m long hose pipe, should the pipe result to short, it can be prolonged by joining other units by means of adapters.
Centering spacers with expanding fins are to be added on the hose pipe at every necessary distance in order to ensure that the pipe is straightly shaped and develops following the middle area of the chimney system.
Maximum length that can be covered with such type of piping system is 30 m (approx.).
Calculations of the above mentioned maximum length is obtained considering:
- 1 (one) Ø 80 mm 90° elbow for connection to the boiler (on exhaust);
- 1 m of Ø 80 mm exhaust pipe;
- two direction variations in the vertical developing section;
- the Ø 80 mm supporting elbow;
- the Ø 80/125 vertical terminal kit for such pipe configuration.

Please note that:
- **only one appliance can be installed with such piping system;**
- **the system can only be implemented with condensing appliances.**



24 TECHNICAL SPECIFICATIONS

			VICTRIX 75
Maximum nominal heat input		kW (kcal/h)	74.6 (64,169)
Maximum nominal heat output		kW (kcal/h)	72.6 (62,436)
Minimum nominal heat input		kW (kcal/h)	18.5 (15,949)
Minimum nominal heat output		kW (kcal/h)	18.1 (15,566)
100% nominal heat output efficiency (80/60°C)		%	97.3
Efficiency at 30% of load (80/60°C)		%	101.0
100% nominal heat output efficiency (50/30°C)		%	104.5
Efficiency at 30% of load (50/30°C)		%	107.6
100% nominal heat output efficiency (40/30°C)		%	107.0
Efficiency at 30% of load (40/30°C)		%	107.6
Central Heating circuit			
Central heating temperature adjustment		°C	20-85
Maximum central heating working temperature		°C	90
Maximum system working pressure		bar	4.4
Available head with 1000 l/h flow rate		kPa (m H_2O)	65.5 (6.7)
Gas supply			
NATURAL GAS (G20)	MIN - MAX	rpm fan number	1500 - 5500
	nozzles	n°- ø mm	1 x 13.00
LPG (G30)	MIN - MAX	rpm fan number	1500 - 5100
	nozzles	n°- ø mm	1 x 7.80
LPG (G31)	MIN - MAX	rpm fan number	1600 - 5500
	nozzles	n°- ø mm	1 x 7.80
Electric power supply		V/Hz	230 - 50
Nominal power absorption		A	1.26
Electric power installed		W	270
Fan power consumption		W	72
Pump power consumption		W	168
Electrical insulation rating	IP		X5D
Storage tank capacity		liters	4.0
Weight of empty boiler		kg	68

25 VICTRIX 75 COMBUSTION SPECIFICATIONS

		Nat. gas (G20)	LPG (G30)	LPG (G31)
100% nominal heat output combustion efficiency (80/60°C)	%	97.7	97.7	98.75
Min nominal heat output combustion efficiency (80/60°C)	%	98.3	98.3	98.3
100% nominal heat output useful efficiency (80/60°C)	%	97.3	97.3	97.3
Min nominal heat output useful efficiency (80/60°C)	%	97.6	97.6	97.6
100% nominal heat output useful efficiency (50/30°C)	%	104.5	104.5	104.5
Min nominal heat output useful efficiency (50/30°C)	%	106.3	106.3	106.3
100% nominal heat output useful efficiency (40/30°C)	%	107.0	107.0	107.0
Min nominal heat output useful efficiency (40/30°C)	%	107.0	107.0	107.0
Chimney system losses with burner on (100% Pn) (80/60°C)	%	2.30	2.30	2.30
Chimney system losses with burner on (P min) (80/60°C)	%	1.70	1.70	1.70
Chimney system losses with burner off	%	0.01	0.01	0.01
Casing losses with burner off	%	0.32	0.32	0.32
Casing losses with burner on (100% nominal heat output) (80/60°C)	%	0.40	0.40	0.40
Casing losses with burner on (at reduced heat output) (80/60°C)	%	0.70	0.70	0.70
Flue temperature at Max. nominal heat input	°C	61	68	62
Flue temperature at Min. nominal heat input	°C	48	52	48
Flue flow rate at Max. nominal heat input	kg/h	121	107	120
Flue flow rate at Min. nominal heat input	kg/h	31	28	32
CO2 at maximum heat input	%	9.2	12.1	10.5
CO2 at minimum heat input	%	8.9	11.3	9.7
CO at maximum heat input	mg/kWh	182	538	179
CO at minimum heat input	mg/kWh	7	17	12
NOx at maximum heat input	mg/kWh	191	697	240
NOx at minimum heat input	mg/kWh	95	140	92
Weighted CO	mg/kWh	43	-	-
Weighted NOx	mg/kWh	50	-	-
NOx class	-	5	5	5
Fan available head (Min. – Max.)	Pa	80 -339		

Gas flow rates refer to the Lower Calorific Value (NCV) at 15°C and with 1013 mbar pressure.
Flue temperature refer to 15°C inlet air temperature and 50°C flue exhaust temperature.

26 OPTIONS

Cascade and zone regulator kit
code 3.015244

Support kit for wall fixing of regulator
code 3.015265

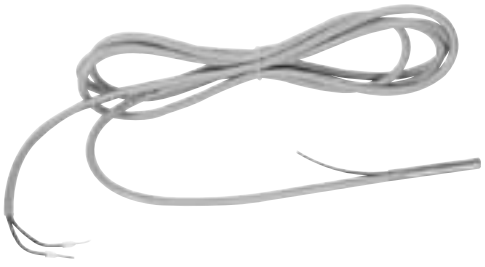
Zone regulator kit
code 3.015264

External probe kit
code 3.015266

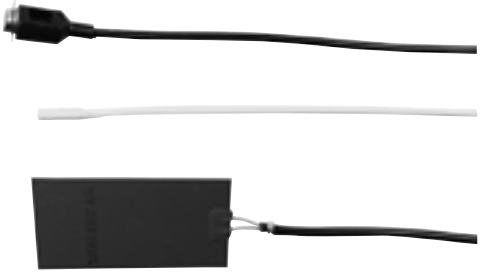
Modulating room thermostat kit
code 3.015245

System flow probe kit
code 3.015267

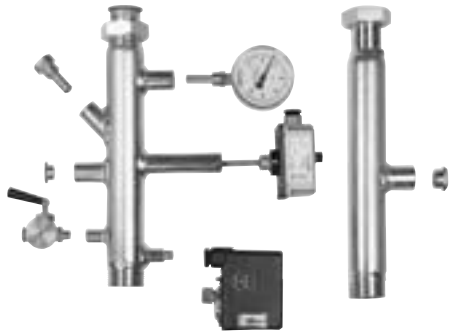
Domestic water probe kit for external water tank
code 3.015268



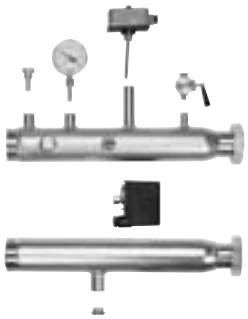
Anti-freeze (-15°C) electric resistance kit
code 3.015361



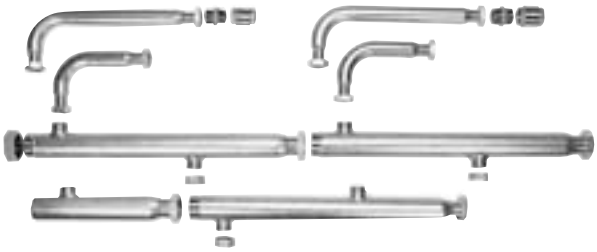
ISPESL stub pipe safety kit for single boiler
code 3.015222



ISPESL stub pipe safety kit for cascade installed boilers
code 3.015227



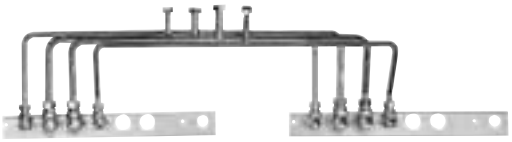
Hydraulic manifold kit for connection of two boilers in cascade
code 3.015225



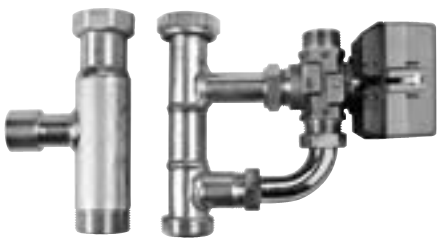
Hydraulic manifold kit for additional boiler in cascade
code 3.015226

Hydraulic disconnecting kit for single boiler
code 3.015224

Twin UB 200 water tank connection kit
code 3.015273



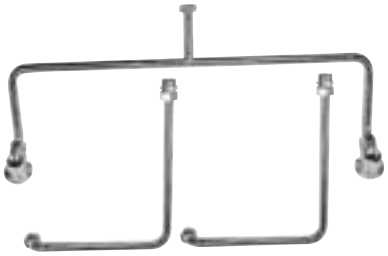
Three-way valve kit for installation with external water tank
(it includes water tank probe)
(it is not to be installed along with a cascade regulator)
code 3.015223



UB 200 and solar panel connection kit
code 3.015150

UB 200 re-circulation kit
code 3.015274

Re-circulation connection kit for in parallel UB 200 installation
code 3.015342



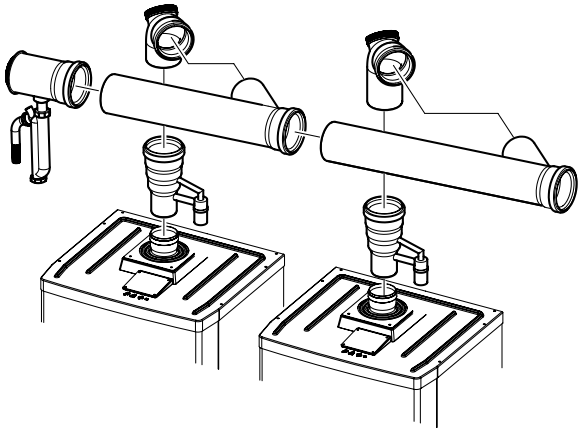
2 meter long, Ø 125 extension pipe kit for flue exhaust collector
code 3.015250

1 meter long, Ø 125 extension pipe kit for flue exhaust collector
code 3.016371

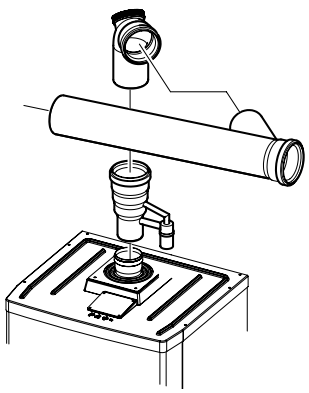
0.5 meter long, Ø 125 extension pipe kit for flue exhaust collector
code 3.016370

Solar panel connection kit for in parallel UB 200 twin installation
code 3.015341

Flue exhaust manifold kit with flue adjusting device and two cascade installed boilers
code 3.015240



Flue exhaust manifold kit with flue adjusting device when an additional boiler is added to the cascade
code 3.015241



CERTIFICATO DI ESAME CE DI TIPO

EC TYPE EXAMINATION CERTIFICATE

NO. 51BO2448

VISTO L'ESITO DELLE VERIFICHE CONDOTTE IN CONFORMITÀ ALL'ALLEGATO II, PUNTO 1, DEL DPR 15/11/96, N. 661, ATTUAZIONE DELLA DIRETTIVA 90/396/CEE, SI DICHIARA CHE I SEGUENTI PRODOTTI (MODELLO/TIPO):

On the basis of our assessment carried out according to Annex II, section 1, of Legislative Decree of 1996/11/15, No. 661, national transposition of the Directive 90/396/EEC, we hereby certify that the following products (model/type):

Caldaie murali

Wall mounted boilers

Modelli VICTRIX 50, VICTRIX 50 U, VICTRIX 75

Models VICTRIX 50, VICTRIX 50 U, VICTRIX 75

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

COSTRUITI DA:
Manufactured by:

IMMERGAS SPA
VIA CISA LIGURE 95
42041 BRESCELLO RE

SODDISFANO LE DISPOSIZIONI DEL DECRETO SUDDETTO.
Meet the requirements of the aforementioned national legislation.

QUESTO CERTIFICATO DI ESAME CE DI TIPO È RILASCIATO DA IMQ S.P.A. QUALE ORGANISMO NOTIFICATO PER LA DIRETTIVA 90/396/CEE.
IL NUMERO IDENTIFICATIVO DELL'IMQ S.P.A. QUALE ORGANISMO NOTIFICATO È: **0051**

This EC Type Examination Certificate is issued by IMQ S.p.A. as Notified Body for the Directive 90/396/EEC. Notified Body notified to European Commission under number: 0051

2007-08-07

DATA

IMQ S.p.A.
VIA QUINTILIANO 43 - 20138 MILANO

IL PRESENTE CERTIFICATO ANNULLA E SOSTITUISCE IL PRECEDENTE DEL 2006-10-12
This Certificate cancels and replaces the previous one of

Il presente certificato è soggetto alle condizioni previste dall'IMQ nel "Regolamento relativo al rilascio di Certificati di esame di tipo e all'utilizzo delle Marcature CE su apparecchi a gas e dell'attestato per i relativi dispositivi di sicurezza, in base alla Direttiva 90/396/CEE".
This Certificate is subjected to the provisions laid down in the "Rules concerning the issuing of EC Type Examination Certificates and the use of CE marking on gas appliances and the certificate for gas fittings, following the provisions of the Directive 90/396/EEC."