VICTRIX 50

VICTRIX 50 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 50’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).

### SPECIFICATIONS

50 kW (43,000 kcal/h) wall-mounted premixed condensing boiler with open chamber forced draught or sealed chamber forced draught, high efficiency and forced circulation. Approved for installation in both heating plants and outside of buildings. Can be used in two configurations:

- **Open chamber and forced draught (appliance type B₂/M₂)**
  - The Boiler is factory assembled in such configuration and does not need any additional kit for such arrangement.

- **Sealed chamber and forced draught (appliance type C₁/ C₂/C₃)**
  - Installation with vertical or horizontal concentric kits.

The generator consists of:

- fully premix combustion system with stainless steel multi-gas burner, ignition and ionization flame sensing electrodes;
- pneumatic gas valve with double shutter;
- stainless steel primary gas/water exchanger;
- metal sheet combustion chamber, equipped with ceramic side insulation panels;
- flue gas exhaust fan with electronically controlled variable speed;
- condensation disposal circuit including siphon and flexible drain hose;
- hydraulics including: delivery manifold, primary circuit pressure switch, circulation pump with automatic air vent;
- 4 bar safety valve (ISPESL approved), central heating pressure gauge and exhaust funnel;
- over-heating safety thermostat;
- electronics with microprocessor equipped control panel and central heating P.I.D. monitoring flame modulation device modulation range: 10.0 to 50.0 kW - 8,600 to 43,000 kcal/h);
- system delivery probe;
- system return probe;
- delivery temperature factory set within 20 to 85°C;
- CH ignition delay system, antifreeze protection, pump anti-blocking system, chimney-sweep function;
- the 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;
- self diagnostic system with temperature, operation status and error codes digital display;
- IPX5D electrical insulation rating;
- pre-arranged connection for cascade and zone regulator and external probe;
- pre-arranged connection to an external three-way valve for external domestic hot water tank;
- pre-arranged for cascade operation (up to 3 generators);
- pre-arranged for installation of the ISPESL-approved safety tub pipe;
- pre-arranged for installation with Ø 80 mm flue ducting system.

The boiler is supplied with flue sample points, bottom protection grille and gas on-off cock.

*NOTE:* to correctly install the boiler employ the “Green series” Immergas air intake/flue exhaust kit designed for VICTRIX 50 boiler in both single and cascade configurations.

### 50 kW (43,000 kcal/h) wall-mounted premixed condensing boiler

Natural gas and L.P.G. fired Class II₂₆H₃ appliance. CE marking.

The following model is available:

- **VICTRIX 50 Export code 3.016359**
LEGEND:
1 - P.C.B.
2 - Delivery manifold
3 - System pressure switch
4 - Condensation drain pipe
5 - Air intake pipe
6 - Fan
7 - Gas nozzle
8 - Venturi
9 - Detection electrode
10 - Cover of condensing module
11 - Sleeve with Venturi housing
12 - Condensing module
13 - Flue hood
14 - Air/flue sample points (air A) - (fumes F)
15 - Positive signal pressure point
16 - Negative signal pressure point
17 - System return NTC probe
18 - Flue safety thermostat
19 - Overtemperature safety thermostat
20 - Dummy electrode
21 - Ignition plug
22 - Condensate syphon
23 - Current transformer
24 - Air vent
25 - Gas valve
26 - Pump
27 - Drain funnel
28 - System delivery NTC probe
29 - Burner
30 - 4-bar safety valve
3 MAIN DIMENSIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Height mm</th>
<th>Width mm</th>
<th>Depth mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>VICTRIX 50</td>
<td>950</td>
<td>600</td>
<td>525</td>
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</tbody>
</table>

3.1 CONNECTIONS

**Model**

VICTRIX 50

**System delivery**

M 1" 1/2

**System return**

R 1" 1/2

**Gas supply**

G 3/4"

**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**
**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.
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.
VICTRIX 50 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.

**GRUNDFOS UPS 15-70 AO H9**

<table>
<thead>
<tr>
<th>Flow rate l/h</th>
<th>Head (m H₂O)</th>
<th>Head (kPa)</th>
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<tbody>
<tr>
<td>0</td>
<td>7.14</td>
<td>70</td>
</tr>
<tr>
<td>200</td>
<td>6.12</td>
<td>60</td>
</tr>
<tr>
<td>400</td>
<td>5.10</td>
<td>50</td>
</tr>
<tr>
<td>600</td>
<td>4.08</td>
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</tr>
<tr>
<td>800</td>
<td>3.06</td>
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</tr>
<tr>
<td>1000</td>
<td>2.04</td>
<td>20</td>
</tr>
<tr>
<td>1200</td>
<td>1.02</td>
<td>10</td>
</tr>
<tr>
<td>1400</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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
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 50 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 50 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 50 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.