ISTRUZIONE PER L’USO L’INSTALLAZIONE E LA MANUTENZIONE
INSTRUCCIONES DE USO, INSTALACIÓN Y MANTENIMIENTO
KULLANMA, KURULUM VE BAKIM TALIMATLARI
INSTRUCTIONS FOR USE, INSTALLATION AND MAINTENANCE
INSTRUCTIONS D’UTILISATION, D’INSTALLATION ET D’ENTRETIEN
ΩΔΗΓΙΕΣ ΧΡΗΣΗΣ, ΕΓΚΑΤΑΣΤΑΣΗ ΚΑΙ ΣΥΝΤΗΡΗΣΗΣ
AANWIJZINGEN VOOR GEBRUIK, INSTALLATIE EN ONDERHOUD
1. GENERAL INSTRUCTIONS

- Carefully read the instructions contained in this instruction booklet.
- After boiler installation, inform the user regarding its operation and give him this manual, which is an integral and essential part of the product and must be kept with care for future reference.
- Installation and maintenance must be carried out by professionally qualified personnel, according to current regulations and the manufacturer's instructions. Do not carry out any operation on the sealed control parts.
- Incorrect installation or inadequate maintenance can result in damage or injury. The Manufacturer declines any liability for damage due to errors in installation and use or failure to follow the instructions.
- Before carrying out any cleaning or maintenance operation, disconnect the unit from the power supply using the system switch and/or the special cut-off devices.
- In case of a fault and/or poor operation, deactivate the unit and do not attempt to repair it or directly intervene.
- Contact professionally qualified personnel. Replacement of the products must only be carried out by professionally qualified using original spare parts. Failure to comply with the above could affect the safety of the unit.
- This unit must only be used for its intended purpose. Any other use is considered improper and therefore dangerous.
- The packing materials are potentially hazardous and must not be left within the reach of children.
- The images given in this manual are a simplified representation of the product. In this representation there may be slight and insignificant differences with respect to the product supplied.

2. OPERATING INSTRUCTIONS

2.1 Introduction

Thank you for choosing a FERROLI boiler featuring advanced design, cutting-edge technology, high reliability and quality construction. Please read this manual carefully since it provides important information on safe installation, use and maintenance.

ATLAS D is a high-efficiency heat generator for domestic hot water production (optional) and heating, suitable for operation with blown oil or gas burners. The boiler shell consists of cast-iron elements, assembled with double cones and steel stays. The control system is with microprocessor and digital interface with advanced temperature control functions.

The boiler is arranged for connection to an external storage tank for hot water production (optional). In this manual all the functions relevant to domestic hot water production are only active with the optional hot water tank connected as indicated in sec. 3.3

2.2 Control panel

![fig. 1 - Control panel](image)

Key:

1. DHW temperature setting decrease button
2. DHW temperature setting increase button
3. Heating system temperature setting decrease button
4. Heating system temperature setting increase button
5. Display
6. Summer / Winter mode selection button
7. Eco (Economy) / Comfort mode selection button
8. Reset button
9. Unit On / Off button
10. "Sliding Temperature" menu button
11. Set DHW temperature reached
12. DHW symbol
13. DHW operation
14. DHW outlet temperature / setting
15. Eco (Economy) or Comfort mode
16. External sensor temperature (with optional external probe)
17. Appears on connecting the external Probe or the Remote Timer Control (optionals)
18. Room temperature (with optional Remote Timer Control)
20. Antifreeze operation
21. Heating system pressure
22. Fault
23. Heating delivery temperature / setting
24. Heating symbol
25. Heating operation
26. Set heating delivery temperature reached
27. Summer mode

2.3 Turning on and off

Exclude hot water tank (economy)

Hot water tank temperature maintaining/heating can be excluded by the user. If excluded, domestic hot water will not be delivered.

When hot water tank heating is activated (default setting), the COMFORT symbol (detail 15 - fig. 1) is activated on the display, and when off, the ECO symbol (detail 15 - fig. 1) is activated on the display.

The hot water tank can be deactivated by the user (ECO mode) by pressing the button eco comfort (detail 7 - fig. 1). To activate COMFORT mode, press the button eco comfort (detail 7 - fig. 1) again.

Excluding DHW (optional)

A DHW demand (generated by drawing domestic hot water) is indicated by flashing of the hot water under the tap (details 12 and 13 - fig. 1). Make sure the Comfort function (detail 15 - fig. 1) is activated.

The DHW graduation marks (detail 11 - fig. 1) light up as the DHW sensor temperature reaches the set value.

2.4 DHW (Comfort)

A DHW demand (generated by drawing domestic hot water) is indicated by flashing of the hot water under the tap (details 12 and 13 - fig. 1). Make sure the Comfort function (detail 15 - fig. 1) is activated.

The DHW graduation marks (detail 11 - fig. 1) light up as the DHW sensor temperature reaches the set value.

2.5 External sensor temperature (with optional external probe)

The external sensor temperature (with optional external probe) can be activated by pressing the button eco comfort (detail 7 - fig. 1). To activate COMFORT mode, press the button eco comfort (detail 7 - fig. 1) again.

2.6 Pool heater

A pool heater (built-in or external) can be deactivated by the user (ECO mode) by pressing the button eco comfort (detail 7 - fig. 1). To activate COMFORT mode, press the button eco comfort (detail 7 - fig. 1) again.

2.7 Heating

A heating demand (generated by the Room Thermostat or Remote Timer Control) is indicated by flashing of the hot air above the radiator (details 24 and 25 - fig. 1).

The heating graduation marks (detail 26 - fig. 1) light up as the heating sensor temperature reaches the set value.

2.8 Indication during operation

Heating

A heating demand (generated by the Room Thermostat or Remote Timer Control) is indicated by flashing of the hot air above the radiator (details 24 and 25 - fig. 1).

The heating graduation marks (detail 26 - fig. 1) light up as the heating sensor temperature reaches the set value.

DHW (Comfort)

A DHW demand (generated by drawing domestic hot water) is indicated by flashing of the hot water under the tap (details 12 and 13 - fig. 1). Make sure the Comfort function (detail 15 - fig. 1) is activated.

The DHW graduation marks (detail 11 - fig. 1) light up as the DHW sensor temperature reaches the set value.

2.9 Excluding DHW (optional)

Hot water tank temperature maintaining/heating can be excluded by the user. If excluded, domestic hot water will not be delivered.

2.10 Antifreeze

The antifreeze system does not work when the power and/or gas to the unit are turned off. To avoid damage caused by freezing during long idle periods in winter, it is advisable to drain all water from the boiler, DHW circuit and system; or drain just the DHW circuit and add a suitable antifreeze to the heating system, complying with that prescribed in sec. 3.3.

2.11 Boiler lighting

- Open the fuel on-off valves.
- Switch on the power to the unit.

![fig. 5 - Boiler lighting](image)
Turning the boiler off
Press the button \( \text{off} \) (detail 9 - fig. 1) for 1 second.

fig. 6 - Turning the boiler off
When the boiler is turned off, the electronic board is still powered. Domestic hot water and heating operation are disabled. The antifreeze system remains activated.

To relight the boiler, press the button \( \text{on} \) (detail 9 fig. 1) again for 1 second.

fig. 7
The boiler will be immediately ready to operate whenever domestic hot water is drawn or in case of a room thermostat demand.

2.4 Adjustments

Summer/Winter changeover
Press the button \( \text{SW} \) (detail 6 - fig. 1) for 1 second.

fig. 8
The display activates the Summer symbol (detail 27 - fig. 1): the boiler will only deliver domestic hot water. The antifreeze system remains activated.

To deactivate Summer mode, press the button \( \text{SW} \) (detail 6 - fig. 1) again for 1 second.

Heating temperature setting
Operate the heating buttons (details 3 and 4 - fig. 1) to adjust the temperature from a min. of 30°C to a max. of 90°C; it is advisable not to operate the boiler below 45°C.

fig. 9
Hot water temperature adjustment
Operate the DHW buttons (details 1 and 2 - fig. 1) to adjust the temperature from a min. of 10°C to a max. of 65°C.

fig. 10
Room temperature adjustment (with optional room thermostat)
Using the room thermostat, set the temperature desired in the rooms. If the room thermostat is not installed the boiler will keep the heating system at its setpoint temperature.

Room temperature adjustment (with optional remote timer control)
Using the remote timer control, set the temperature desired in the rooms. The boiler unit will set the system water according to the required room temperature. For information on the remote timer control, please refer to its user’s manual.

Sliding Temperature
When the optional external probe is installed the control panel display (detail 5 - fig. 1) shows the actual outside temperature read by the probe. The boiler control system operates with "Sliding Temperature". In this mode, the temperature of the heating system is controlled according to the outside weather conditions, to ensure high comfort and energy saving throughout the year. In particular, as the outside temperature increases the system delivery temperature decreases according to a specific “compensation curve”.

With Sliding Temperature adjustment, the temperature set with the heating buttons (details 3 and 4 - fig. 1) becomes the maximum system delivery temperature. It is advisable to set the maximum value to allow system adjustment throughout its useful operating range.

The boiler must be adjusted at the time of installation by qualified personnel. Adjustments can in any case be made by the user to improve comfort.

Compensation curve and curve offset
Press the button mode (detail 10 - fig. 1) once to display the compensation curve (fig. 11), which can be modified with the DHW buttons (details 1 and 2 - fig. 1).

Adjust the required curve from 1 to 10 according to the characteristic (fig. 13).

By setting the curve to 0, sliding temperature adjustment is disabled.

fig. 11 - Compensation curve
Press the heating buttons (details 3 and 4 - fig. 1) to access parallel curve offset (fig. 14), modifiable with the DHW buttons (details 1 and 2 - fig. 1).

fig. 12 - Parallel curve offset
Press the button mode (detail 10 - fig. 1) again to exit parallel curve adjustment mode.

If the room temperature is lower than the required value, it is advisable to set a higher order curve and vice versa. Proceed by increasing or decreasing in steps of one and check the result in the room.

fig. 13 - Compensation curves
fig. 14 - Example of parallel compensation curve shift
Adjustments from Remote Timer Control

If the Remote Timer Control (optional) is connected to the boiler, the above adjustments are managed according to that given in table 1. Also, the control panel display (detail 5 - fig. 1) shows the actual room temperature read by the Remote Timer Control.

Table. 1

<table>
<thead>
<tr>
<th>Heating temperature adjustment</th>
<th>Adjustment can be made from the Remote Timer Control menu and the boiler control panel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic hot water temperature adjustment</td>
<td>Adjustment can be made from the Remote Timer Control menu and the boiler control panel.</td>
</tr>
<tr>
<td>Summer/Winter switchover</td>
<td>Summer mode has priority over a possible Remote Timer Control heating demand.</td>
</tr>
<tr>
<td>Eco/Comfort selection</td>
<td>On disabling DHW from the Remote Timer Control menu, the boiler selects the Economy mode. In this condition, the button 7 - fig. 1 on the boiler panel is disabled.</td>
</tr>
<tr>
<td>Sliding Temperature</td>
<td>Both the Remote Timer Control and the boiler card manage Sliding Temperature adjustment; of the two, the boiler card Sliding Temperature has priority.</td>
</tr>
</tbody>
</table>

System water pressure adjustment

The filling pressure with system cold, read on the display, must be approx. 1.0 bar. If the system pressure falls to values below minimum, the boiler card will activate fault F37 (fig. 15).

Water system characteristics

In the presence of water harder than 25° Fr (1°F = 10ppm CaCO3), use suitably treated water in order to avoid possible scaling in the boiler. Treatment must not reduce the hardness to values below 15° F (Decree 236/88 for uses of water intended for human consumption). Treatment of the water used is indispensable in case of very large systems or with frequent introduction of replenishing water in the system.

If water softeners are installed at the boiler cold water inlet, make sure not to reduce the water hardness too much, as this could cause early deterioration of the magnesium anode in the hot water tank.

Antifreeze system, antifreeze fluids, additives and inhibitors

The boiler is equipped with an antifreeze system that turns on the boiler in heating mode when the system delivery water temperature falls under 6°C. The device will not come on if the electricity and/or gas supply to the unit are cut off. If it becomes necessary, it is permissible to use antifreeze fluid, additives and inhibitors only if the manufacturer of these fluids or additives guarantees they are suitable for this use and cause no damage to the heat exchanger or other components and/or materials of the boiler unit and system. It is prohibited to use generic antifreeze fluid, additives or inhibitors that are not expressly suited for use in heating systems and compatible with the materials of the boiler unit and system.

Connection to a storage tank for domestic hot water production

The unit’s electronic board is arranged for managing an external storage tank for domestic hot water production. Carry out the plumbing connections according to the diagram fig. 16 (pumps and non-return valves must be supplied separately). Carry out: electrical connections as shown in the wiring diagram in cap. 5.4. A probe FERROLImust be used. At the next lighting, the boiler’s control system recognises the presence of the hot water tank probe and automatically configures the DHW function, activating the display and relevant controls.

3. INSTALLATION

3.1 General Instructions

BOILER INSTALLATION MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL. IN ACCORDANCE WITH ALL THE INSTRUCTIONS GIVEN IN THIS TECHNICAL MANUAL, THE PROVISIONS OF CURRENT LAW, THE PRESCRIPTIONS OF NATIONAL AND LOCAL STANDARDS AND THE RULES OF PROPER WORKMANSHIP.

3.2 Place of installation

The boiler must be installed in a special room with ventilation openings towards the outside in conformity with current regulations. If there are several burners or extraction units that can work together in the same room, the ventilation openings must be sized for simultaneous operation of all the units. The place of installation must be free of flammable objects or materials, corrosive gases, volatile substances or dusts which, sucked by the burner fan, can obstruct the pipes inside the burner or the combustion head. The room must be dry and not exposed to rain, snow or frost.

If the unit is enclosed in a cabinet or mounted alongside, a space must be provided for removing the casing and for normal maintenance operations. In particular, after boiler installation with burner on the front door, make sure the front door can open freely without the burner striking walls or other obstacles.

3.3 Plumbing connections

The heating capacity of the unit must be previously established by calculating the building’s heat requirement according to current regulations. The system must be provided with all the components for correct and regular operation. It is advisable to install on-off valves between the boiler and heating system allowing the boiler to be isolated from the system if necessary.

The safety valve outlet must be connected to a funnel or collection pipe to prevent water spurtting onto the floor in case of overpressure in the heating circuit. Otherwise, if the discharge valve cuts in and floods the room, the boiler manufacturer cannot be held liable.

Do not use the water system pipes to earth electrical appliances. Before installation, carefully wash all the pipes of the system to remove any residuals or impurities that could affect proper operation of the unit.

Carry out the relevant connections according to the diagram in cap. 5 and the symbols given on the unit.
3.6 Connection to the flue

The unit must be connected to a flue designed and built in compliance with current regulations. The pipe between the boiler and flue must be made from material suitable for the purpose, i.e. heat and corrosion resistant. Ensure the seal at the joints and insulate the entire pipe between boiler and flue, to prevent the formation of condensate.

4. SERVICE AND MAINTENANCE

All adjustments, conversion, start-up and maintenance operations described below must only be carried out by Qualified Personnel (meeting the professional technical requirements prescribed by current regulations) such as those of the Local After-Sales Technical Service.

FERROLI declines any liability for damage and/or injury caused by unqualified and unauthorised persons tampering with the unit.

4.1 Adjustments

TEST mode activation

Press the heating buttons (part. 3 and 4 - fig. 1) at the same time for 5 seconds to activate TEST mode. The boiler lights at maximum power.

The heating symbol (detail 24 - fig. 1) and DHW symbol (detail 12 - fig. 1) flash on the display.

fig. 17 - Accessing the terminal board

4.2 Start-up

Checks to be made at first lighting, and after all maintenance operations that involved disconnection from the systems or an intervention on safety devices or parts of the boiler.

Before lighting the boiler

- Open any on-off valves between the boiler and the systems.
- Check the seal of the fuel system.
- Check correct prefilling of the expansion tank.
- Fill the water system and make sure that all air contained in the boiler and the system has been vented, by opening the air valve on the boiler and any air valves on the system.
- Make sure there are no water leaks in the system, domestic hot water circuits, connections or boilers.
- Check correct connection of the electrical system and efficiency of the earthing system.
- Make sure there are no flammable liquids or materials in the immediate vicinity of the boiler.

Accessing the electrical terminal block

Undo the two screws “A” located on the top part of the control panel and remove the cover.

fig. 18 - Operation in TEST mode

To deactivate TEST mode, repeat the activation sequence.

In any case, TEST mode is automatically deactivated after 15 minutes.

Burner adjustment

Boiler efficiency and correct operation depend above all on accurate burner adjustments. Carefully follow the Manufacturer's instructions. The two-stage burners must be the kind of device.

4.3 Maintenance

Periodical check

To ensure correct operation of the unit over time, have qualified personnel carry out a yearly check, providing for the following:

- The control and safety devices must function correctly.
- The fume exhaust circuit must be perfectly efficient.
- Check there are no obstructions or dents in the fuel supply and return pipes.
- Clean the filter of the fuel suction line.
- Measure the correct fuel consumption.
- Clean the combustion head in the fuel outlet zone, on the swirl disc.
- Leave the burner running at full rate for approximately ten minutes, then analyse the combustion, checking:
  - All the elements specified in this manual are set correctly
  - Temperatures of the fumes at the flue
  - CO2 percentage content
- The air-fume end piece and ducts must be free of obstructions and leaks
- The burner and exchanger must be clean and free of deposits. For possible cleaning do not use chemical products or wire brushes.
- The gas and water systems must be airtight.
- The water pressure in the cold water system must be approx. 1 bar; otherwise, bring it to that value.
- The circulating pump must not be blocked.
- The expansion tank must be filled.
- Check the magnesin anode and replace it if necessary.

The boiler casing, control panel and aesthetic parts can be cleaned with a soft and damp cloth, if necessary soaked in soapy water. Do not use any abrasive detergents and solvents.

Boiler cleaning

1. Disconnect the power supply to the boiler.
2. Remove the front top and bottom panel.
3. Open the door by undoing the knobs.
4. Clean the inside of the boiler and the entire path of exhaust fumes, using a tube brush or compressed air.
5. Then close the door, securing it with the knob.

To clean the burner, refer to the Manufacturer’s instructions.

4.4 Troubleshooting

Diagnostics

The boiler is equipped with an advanced self-diagnosis system. In case of a boiler anomaly, the display will flash together with the fault symbol (detail 22 - fig. 1) indicating the fault code.

There are faults that cause permanent shutdown (marked with the letter “A”): to restore operation press the RESET button (detail 8 - fig. 1) for 1 second or RESET on the optional remote timer control if installed; if the boiler fails to start, it is necessary to eliminate the fault indicated by the operation LEDs.

Other faults (marked with the letter “F”) cause temporary shutdowns that are automatically reset as soon as the value returns within the boiler’s normal working range.

Table 2 - Fault list

<table>
<thead>
<tr>
<th>Fault code</th>
<th>Fault</th>
<th>Possible cause</th>
<th>Cure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01</td>
<td>Burner shutdown (RESET ONLY OCCURS ON THE BURNER)</td>
<td>Refer to the burner manual</td>
<td></td>
</tr>
<tr>
<td>A03</td>
<td>Overtemperature protection activation</td>
<td>Heating sensor damaged</td>
<td>Check the correct positioning and operation of the heating sensor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No water circulation in the system</td>
<td>Check the circulating pump</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Air in the system</td>
<td>Vent the system</td>
</tr>
<tr>
<td>F07</td>
<td>Wiring fault</td>
<td>Connector X5 not connected</td>
<td>Check the wiring</td>
</tr>
<tr>
<td>F10</td>
<td>Delivery sensor 1 fault</td>
<td>Sensor damaged</td>
<td>Check the wiring or replace the sensor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wiring shorted</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wiring disconnected</td>
<td></td>
</tr>
<tr>
<td>F11</td>
<td>DHW sensor fault</td>
<td>Sensor damaged</td>
<td>Check the wiring or replace the sensor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wiring shorted</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wiring disconnected</td>
<td></td>
</tr>
<tr>
<td>F13</td>
<td>Wiring fault</td>
<td>Connector X12 not connected</td>
<td>Check the wiring</td>
</tr>
</tbody>
</table>
5. TECHNICAL DATA AND CHARACTERISTICS

5.1 Dimensions, connections and main components

Fig. 19 - Dimensions, connections and main components

- **1** 1/2" system delivery
- **11** 1/2" system return
- **34** Heating temperature sensor
- **275** Heating system drain cock
- **292** Ø105 burner connection hole
- **294** Heating system pressure sensor

5.2 Loss of head

Fig. 20 - Pressure loss

<table>
<thead>
<tr>
<th>Pressure loss water side</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>0</td>
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<tr>
<td>10</td>
</tr>
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<td>20</td>
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<td>40</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>70</td>
</tr>
</tbody>
</table>

5.3 Technical data table

<table>
<thead>
<tr>
<th>Data</th>
<th>Unit</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of elements</td>
<td>No</td>
<td><strong>D 30</strong></td>
<td><strong>D 42</strong></td>
<td><strong>D 55</strong></td>
<td><strong>D 70</strong></td>
<td><strong>D 87</strong></td>
</tr>
<tr>
<td>Max. heating capacity</td>
<td>kW</td>
<td>32.2</td>
<td>45</td>
<td>58.8</td>
<td>74.7</td>
<td><strong>93</strong></td>
</tr>
<tr>
<td>Min. heating capacity</td>
<td>kW</td>
<td>16.9</td>
<td>31.8</td>
<td>44.7</td>
<td>58.5</td>
<td><strong>74</strong></td>
</tr>
<tr>
<td>Max. heat output in heating</td>
<td>kW</td>
<td>30</td>
<td>42</td>
<td>55</td>
<td>70</td>
<td><strong>87</strong></td>
</tr>
<tr>
<td>Min. heat output in heating</td>
<td>kW</td>
<td>16</td>
<td>30</td>
<td>42</td>
<td>55</td>
<td><strong>70</strong></td>
</tr>
<tr>
<td>Efficiency Pmax (80/60°C)</td>
<td>%</td>
<td>93</td>
<td>93.3</td>
<td>93.5</td>
<td>93.7</td>
<td><strong>94</strong></td>
</tr>
<tr>
<td>Efficiency 30%</td>
<td>%</td>
<td>94.6</td>
<td>94.1</td>
<td>93.7</td>
<td>93.8</td>
<td><strong>95</strong></td>
</tr>
<tr>
<td>Efficiency class Directive 92/42 EEC</td>
<td><strong>MT48</strong></td>
<td><strong>MT50</strong></td>
<td><strong>MT52</strong></td>
<td><strong>MT53</strong></td>
<td><strong>MT55</strong></td>
<td><strong>MT57</strong></td>
</tr>
<tr>
<td>Max. working pressure in heating</td>
<td>bar</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td><strong>6</strong> (PMS)</td>
</tr>
<tr>
<td>Min. working pressure in heating</td>
<td>bar</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td><strong>1</strong></td>
</tr>
<tr>
<td>Max. heating temperature</td>
<td>°C</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td><strong>95</strong> (max)</td>
</tr>
<tr>
<td>Heating water content</td>
<td>L</td>
<td>18</td>
<td>23</td>
<td>28</td>
<td>33</td>
<td><strong>38</strong></td>
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<tr>
<td>Protection rating</td>
<td>IP</td>
<td>X0</td>
<td>X0</td>
<td>X0</td>
<td>X0</td>
<td>X0</td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>V/Hz</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
</tr>
<tr>
<td>Electrical power input</td>
<td>W</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td><strong>5</strong></td>
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<td>Empty weight</td>
<td>kg</td>
<td>127</td>
<td>166</td>
<td>205</td>
<td>244</td>
<td><strong>283</strong></td>
</tr>
<tr>
<td>Combustion chamber length</td>
<td>mm</td>
<td>350</td>
<td>450</td>
<td>550</td>
<td>650</td>
<td><strong>750</strong></td>
</tr>
<tr>
<td>Combustion chamber diameter</td>
<td>mm</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td><strong>300</strong></td>
</tr>
<tr>
<td>Load loss on fumes side</td>
<td>mbar</td>
<td>0.59</td>
<td>0.50</td>
<td>0.45</td>
<td>0.55</td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

Fig. 19 - Dimensions, connections and main components

<table>
<thead>
<tr>
<th>Model</th>
<th>D 30</th>
<th>D 42</th>
<th>D 55</th>
<th>D 70</th>
<th>D 87</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of elements</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Max. heating capacity</td>
<td>32.2</td>
<td>45</td>
<td>58.8</td>
<td>74.7</td>
<td><strong>93</strong></td>
</tr>
<tr>
<td>Min. heating capacity</td>
<td>16.9</td>
<td>31.8</td>
<td>44.7</td>
<td>58.5</td>
<td><strong>74</strong></td>
</tr>
<tr>
<td>Max. heat output in heating</td>
<td>30</td>
<td>42</td>
<td>55</td>
<td>70</td>
<td><strong>87</strong></td>
</tr>
<tr>
<td>Min. heat output in heating</td>
<td>16</td>
<td>30</td>
<td>42</td>
<td>55</td>
<td><strong>70</strong></td>
</tr>
<tr>
<td>Efficiency Pmax (80/60°C)</td>
<td>93</td>
<td>93.3</td>
<td>93.5</td>
<td>93.7</td>
<td><strong>94</strong></td>
</tr>
<tr>
<td>Efficiency 30%</td>
<td>94.6</td>
<td>94.1</td>
<td>93.7</td>
<td>93.8</td>
<td><strong>95</strong></td>
</tr>
<tr>
<td>Efficiency class Directive 92/42 EEC</td>
<td><strong>MT48</strong></td>
<td><strong>MT50</strong></td>
<td><strong>MT52</strong></td>
<td><strong>MT53</strong></td>
<td><strong>MT55</strong></td>
</tr>
<tr>
<td>Max. working pressure in heating</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td><strong>6</strong> (PMS)</td>
</tr>
<tr>
<td>Min. working pressure in heating</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td><strong>1</strong></td>
</tr>
<tr>
<td>Max. heating temperature</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td><strong>95</strong> (max)</td>
</tr>
<tr>
<td>Heating water content</td>
<td>18</td>
<td>23</td>
<td>28</td>
<td>33</td>
<td><strong>38</strong></td>
</tr>
<tr>
<td>Protection rating</td>
<td>IP</td>
<td>X0</td>
<td>X0</td>
<td>X0</td>
<td>X0</td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
<td>230/50</td>
</tr>
<tr>
<td>Electrical power input</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td><strong>5</strong></td>
</tr>
<tr>
<td>Empty weight</td>
<td>127</td>
<td>166</td>
<td>205</td>
<td>244</td>
<td><strong>283</strong></td>
</tr>
<tr>
<td>Combustion chamber length</td>
<td>350</td>
<td>450</td>
<td>550</td>
<td>650</td>
<td><strong>750</strong></td>
</tr>
<tr>
<td>Combustion chamber diameter</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td><strong>300</strong></td>
</tr>
<tr>
<td>Load loss on fumes side</td>
<td>0.59</td>
<td>0.50</td>
<td>0.45</td>
<td>0.55</td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>
fig. 21 - Wiring diagram

32  Heating circulating pump (optional)
42  DHW temperature probe (optional)
72  Room thermostat (optional)
130  DHW circulating pump (optional)
138  External probe (optional)
139  Room unit (optional)
211  Burner connector
246  Pressure transducer
278  Double sensor (heating + safety)
304  2nd stage burner connector (version with 6 and 7 elements only)
Declaración de conformidad

El fabricante: FERROLI S.p.A.

Dirección: Via Ritonda 78/a 37047 San Bonifacio (Verona)

declara que este equipo satisface las siguientes directivas CEE:
• Diretiva de Aparatos de Gas 90/396
• Diretiva Rendimientos 92/42
• Diretiva Bassa Tensión 73/23 (modificada dalla 93/68)
• Diretiva Compatibilidad Elettromagnetica 89/336 (modificada dalla 93/68)

Presidente y representante legal
Cav. del Lavoro
Dante Ferroli

Declaración de conformidad

El fabricante: FERROLI S.p.A.

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declara que este equipo satisface las siguientes directivas CEE:
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• Diretiva Bassa Tensión 73/23 (modificada dalla 93/68)
• Diretiva Compatibilidad Elettromagnetica 89/336 (modificada dalla 93/68)

Presidente y representante legal
Cav. del Lavoro
Dante Ferroli

Uygunluk beyani

İmalatçı: FERROLI S.p.A.

Adres: Via Ritonda 78/a 37047 San Bonifacio VR

bu cihazin; asagida yer alan AET(EEC) yönergelerine uygunluk içinde oldugunu beyan etmektedir:
• 90/396 Gazla çalistirilan üniteler için Yönetmelik
• 92/42 Randiman/Verimlilik Yönetmeligi
• Yönerge 73/23, Düşük Voltaj (93/68 nolu direktifte degisiklige ugratildi)
• 89/336 Elektromanyetik Uygunluk Yönetmeligi (93/68 ile degisiklik yapilmistir)

Baskan ve yasal temsilci
İş. Dep.
Dante Ferroli

Declaration of conformity

Manufacturer: FERROLI S.p.A.

Address: Via Ritonda 78/a 37047 San Bonifacio VR Italy

declares that this unit complies with the following EU directives:
• Gas Appliance Directive 90/396
• Efficiency Directive 92/42
• Low Voltage Directive 73/23 (amended by 93/68)
• Electromagnetic Compatibility Directive 89/336 (amended by 93/68)

President and Legal Representative
Cav. del Lavoro
Dante Ferroli
Déclaration de conformité

Le constructeur : FERROLI S.p.A.
Adresse: Via Ritonda 78/a 37047 San Bonifacio VR
déclare que cet appareil est conforme aux directives CEE ci-dessous:
• Directives appareils à gaz 90/396
• Directive rendements 92/42
• Directive basse tension 73/23 (modifiée 93/68)
• Directive Compatibilité Electromagnétique 89/336 (modifiée 93/68)

Président et fondé de pouvoirs
Cav. du travail
Dante Ferroli

Δήλωση συμμόρφωσης

Ο κατασκευαστής: FERROLI S.p.A.
Διεύθυνση: Via Ritonda 78/a 37047 San Bonifacio VR
dηλώνει ότι η παρούσα συσκευή συμμορφώνεται με τις ακόλουθες των οδηγιών ΕΟΚ:
• Οδηγία συσκευών στο αερίο 90/396
• Οδηγία αποδόσεων 92/42
• Οδηγία μαχητής Τάξης 73/23 (προτοποποίηση από την 93/68)
• Οδηγία Ηλεκτρομαγνητικής Συμβατότητας 89/336 (προτοποποίηση από την 93/68)

Presidente e Legale rappresentante
O Προέδρος και νόμιμος εκπρόσωπος
Dante Ferroli

Conformiteitsverklaring

De fabrikant: FERROLI S.p.A.
Adres: Via Ritonda 78/a 37047 San Bonifacio VR
verklaart dat dit apparaat conform is aan de volgende EEG richtlijnen:
• Richtlijn Gastoestellen 90/396/EEG
• Richtlijn Rendementseisen 92/42/EEG
• Laagspanningsrichtlijn 73/23/EEG (gewijzigd door 93/68)
• Richtlijn Elektromagnetische compatibiliteit 89/336/EEG (gewijzigd door 93/68)

Voorzitter Raad van Bestuur en wettelijk vertegenwoordiger
Onderscheiden voor verdiensten op economisch gebied
Dante Ferroli

Декларация соответствия

Изготовитель: FERROLI S.p.A.,
адрес: Via Ritonda 78/a 37047 San Bonifacio VR,
заявляет, что настоящее изделие соответствует следующим директивам СЕЕ:
• Директива по газовым приборам 90/396
• Директива по К.П.Д. 92/42
• Директива по низкому напряжению 73/23 (с изменениями, внесенными директивой 93/68)
• Директива по электромагнитной совместимости 89/336 (с изменениями, внесенными директивой 93/68).

Президент и уполномоченный представитель
Кавальере дель лаворо (почетный титул, присуждаемый государством за заслуги в руководстве промышленностью)
Dante Ferroli