



ProCon GWB Smartline

EN - Installer and user manual

ES - Manual de instalación y uso

PL - Instrukcja obsługi instalacji i konserwacji

RO - Manual de instalare si utilizare

DK - Installations- og brugervejledning

FR - Manuel d'installation et d'utilisation



EN

ProCon Smartline boiler complies with basic requirements of the following Directives: Gas directive 90/396/EEC; Yield directive 92/42/EEC; Electromagnetic compatibility directive 89/336/EEC; Low-voltage directive 2006/95/EEC; Regulation 677 for condensation boilers. Thus, it is EC-marked.

ES

La caldera **ProCon Smartline** es conforme a los requisitos esenciales de las siguientes Directivas: Directiva gas 90/396/CEE; Directiva rendimientos 92/42/CEE; Directiva compatibilidad electromagnética 89/336/CEE; Directiva baja tensión 2006/95/CEE; Normativa calderas de condensación 677. Y por lo tanto es titular de la marca CE.

PL

ProCon Smartline kocioł spełnia podstawowe wymagania następujących Dyrektyw: Dyrektywa dotycząca gazu 90/396/EEC Dyrektywa dotycząca wymogów sprawności 92/42/EEC; Dyrektywa dotycząca zgodności elektromagnetycznej 89/336/EEC; Dyrektywa niskonapięciowa 2006/95/EEC; Przepis 677 dotyczący kotłów kondensacyjnych W związku z tym, kocioł posiada oznaczenie CE.

RO

Centrala **ProCon Smartline** este fabricata in conformitate cu cerintele urmatoarelor Directive: Directiva gaz 90/396/EEC; Directiva eficienta 92/42/EEC; Directiva compatibilitatea electromagnetica 89/336/EEC; Directiva voltaj redus 2006/95/EEC; Regulamentul 677 referitor la boileierele cu condensare. Prin urmare, este marcat cu simbolul CE.

DK

Kedlen **ProCon Smartline** opfylder kravene i følgende direktiver: Direktiv 90/396/EØF om gasapparater; Direktiv 92/42/EØF om brugsvandskedler; Direktiv 89/336/EØF om elektromagnetisk kompatibilitet; Lavspændingsdirektiv 2006/95/EF; Bekendtgørelse 677 om kondenserende kedler. Kedlen er EC-mærket.

FR

ProCon Smartline est une chaudière conforme aux prescriptions essentielles des Directives suivantes: Directive Gaz 90/396/EEC; Directive rendement 92/42/EEC; Directive compatibilité électromagnétique 89/336/EEC; Directive basse tension 2006/95/EEC; Règlement 677 des chaudières à condensation. Elle est donc estampillée CE.

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EN

- ⚠ This handbook contains data and information for both users and installers. In detail:
- The chapters entitled "Installing the boiler, Water connections, Gas connection, Electrical connection, Filling and draining, Evacuating products of combustion, Technical data, Programming parameters, Gas regulation and conversion" are intended for installers;
 - The chapters entitled "Warnings and safety devices, Switching on and using" are for both users and installers.

PL

- ⚠ Podręcznik zawiera dane oraz informacje zarówno dla użytkowników, jak i dla instalatorów. Bardziej szczegółowo:
- Rozdziały zatytułowane "Instalowanie kotła, Podłączenia wody, Podłączenia gazu, Podłączenia elektryczności, Napełnianie i opróżnianie, Usuwanie produktów spalania, Dane techniczne, Parametry programowania, Regulacja gazu i konwersji" są przeznaczone dla instalatorów;
 - Rozdziały zatytułowane "Ostrzeżenia oraz elementy bezpieczeństwa, Włączanie oraz użytkowanie" są zarówno dla użytkowników, jak i instalatorów.

DK

- ⚠ Denne manual indeholder oplysninger til både bruger og installatør:
- Kapitlerne "Kedelinstallation, Vandtilslutning, Gastilslutning, Strømtislutning, Vandpåfyldning og -tomning, Aftræk og luftindtag, Tekniske data, Parameterprogrammering, Regulering og konvertering mellem gasarter" er møntet på installatøren;
 - Kapitlerne – "Aduarsler og sikkerhedsanordninger, Opstart og brug" henviser sig til både bruger og installatør.

ES

- ⚠ Este manual contiene datos e informaciones destinados tanto al usuario como al instalador. En especial:
- Los capítulos "Instalación de la caldera, Conexiones hidráulicas, Conexión gas, Conexión eléctrica, Llenado y vaciado, Evacuación productos de la combustión, Datos técnicos, Programación parámetros, Regulación y Transformación gas" son los que se refieren al instalador;
 - Los capítulos "Advertencias y seguridads, y Encendido y funcionamiento" son los que se refieren tanto al usuario como al instalador.

RO

- ⚠ Acest manual contine date si informatii atat pentru utilizator cat si pentru instalator. Si anume:
- Capitolele intitulate "Instalarea cazarului, Conectare la reteaua de apa, Conectare la reteaua de gaz, Conexiuni electrice, Umplerea si golirea instalatiei, Evacuarea produselor de ardere, Date tehnice, Programarea parametrilor, Reglare" sunt dedicate instalatorilor;
 - Capitolele intitulate "Avertizari si masuri de siguranta, Pornire si utilizare" sunt dedicate atat instalatorilor cat si utilizatorilor.

FR

- ⚠ Les données et les informations contenues dans ce manuel s'adressent aux utilisateurs et aux installateurs. Et plus exactement:
- Les chapitres Installation de la chaudière, Raccordements de l'eau, Raccordement du gaz, Branchement électrique, Remplissage et vidange, Evacuation des produits de la combustion, Données techniques, Paramètres de programmation, Réglage du gaz et conversion s'adressent aux installateurs;
 - Les chapitres Avertissements et dispositifs de sécurité, Mise en marche et utilisation s'adressent aussi bien aux utilisateurs qu'aux installateurs.

EN ENGLISH

1 - GENERAL SAFETY DEVICES

- ⚠** The boilers produced in our factory are built with care down to the last component to protect both the user and installer from eventual accidents. We therefore recommend qualified personnel that after working on the product they should pay particular attention to the wiring, especially the bare wires, that must not be exposed outside the terminal board for any reason to prevent any contact with the live parts of the wiring.
- ⚠** This instructions manual is integral parts of the product. Make sure they remain with the boiler, even if it is transferred to another owner or user or moved to another heating system. In case of loss or damage, please contact your local Technical Assistance Service for a new copy.
- ⚠** This boiler may only be installed and serviced by qualified fitters who satisfy the requirements of local rules. Work must be done in compliance with regulations in force and subsequent updates.
- ⚠** H-HS boilers don't have the expansion vessel, make sure that it is installed on the heating system otherwise assemble the specific kit on the boiler.
- ⚠** The boiler must be serviced at least once a year. This should be booked in advance with the Technical Assistance Service.
- ⚠** The installer shall instruct the user in the operation of the boiler and the safety devices.
- ⚠** This boiler may only be used for what it was expressly built to do. The manufacturer declines all contractual and non-contractual liability for injury to persons or animals or damage to property deriving from errors made during installation, adjustment and servicing and from improper use.
- ⚠** This appliance is used to produce hot water and must therefore be connected to a heating and/or a domestic hot water system, according to its performance and power
- ⚠** After removing the packaging, make sure the contents are undamaged and complete. If this is not the case, contact your dealer.
- ⚠** The safety and automatic adjustment devices on the appliance must never be modified during its lifetime, except by the maker or dealer.
- ⚠** If the appliance develops a fault and/or works badly, switch it off and do not attempt to repair it yourself.
- ⚠** Immediately after installation, inform the user that:
 - in the event of leaks, he/she must shut off the water supply and promptly inform the Technical Assistance Service
 - the operating pressure of the system ranges between 1 and 1,5 bar and must never be greater than 3 bar. If necessary, contact the Technical Assistance Service
 - if the boiler is not planned to be used for a long period, he/she should call in the Technical Assistance Service to perform the following operations:
 - turn off the main boiler and general system switches
 - close the gas and water taps on both the heating (S - HS - H) and domestic hot water circuits (S)
 - drain the heating (S - HS - H) and domestic hot water (S) circuits to prevent freezing.
- ⚠** Connect the outlet collector to a suitable outlet system (refer to chapter 5).

Safety measures:

- The boiler should not be used by children or unassisted disabled people
- Electrical devices or equipment, such as switches, appliances, etc., should not be used if there is a smell of gas or fumes. If there is a gas leak, open all the doors and windows to ventilate the area, turn off the general gas tap and immediately call the Technical Assistance Service.
- Do not touch the boiler barefoot or if parts of your body are wet or damp.
- Move the function selector to OFF-RESET until “- -” is shown on the display and disconnect the electricity supply by turning off the two-position system switch, before cleaning.
- It is forbidden to modify the safety or adjustment devices without the manufacturer's permission and relative instructions.
- Do not pull, detach or twist the wires from the boiler even if they are not connected to the power supply.

The following symbols are used in this manual:

⚠ CAUTION= operations requiring special care and adequate preparation

NOT ALLOWED= operations that MUST NOT be performed

H - HS - DHW functions refer only if a water tank is connected (accessory available on request).

- Do not block or reduce the size of the ventilation openings in the room.
- Do not leave inflammable containers or substances in the room.
- Keep packaging out of reach of children.
- Only use appliance for purposes it is devoted to.
- Do not lean any object on the boiler.
- Do not tamper with sealed elements.
- It is forbidden to block the condensate outlet.

2 - BOILER INSTALLATION

Boiler must only be installed by qualified personnel in compliance with current legislation.

ProCon Smartline is available in the following models:

| Model | Type | Category |
|---------|-----------|----------|
| 30S | combined | C |
| 15-25HS | CH only | C |
| 15 H | CH only * | C |

* Without internal 3 way

ProCon Smartline S are type C wall-mounted condensation boilers for heating and the production of domestic hot water.

ProCon Smartline H - HS are type C wall-mounted condensation boilers capable of operating in different conditions through a series of jumpers fitted on the electronic board (consult the “Boiler configuration” section):

CASE A: only heating. The boiler does not provide domestic hot water.

CASE B: only heating with an external thermostat-controlled water tank: in this condition, the boiler delivers hot water to the water tank whenever a demand is made by the relative thermostat.

CASE C: only heating with an external temperature probe-controlled water tank (accessory kit available on request), for the production of hot water. If the water tank is not supplied by our company, make sure that the relative NTC probe has the following characteristics: 10 kOhm at 25°C, B 3435 ±1%.

This kind of appliance can be installed in any kind of room and there are no limits as to ventilation or volume.

Depending on which fumes discharge accessory is used, it is classified in the following categories B23P; B53P; C13,C13x; C23; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x.

To position the boiler correctly, bear in mind that:

- it must not be fitted over a cooker or other cooking appliance
- it is forbidden to leave inflammable substances in the room
- suitably insulate heat-sensitive walls (e.g.: in wood)
- in order to allow access to the inside of the boiler for routine maintenance operations, the minimum installation distances must be observed: at least 50 mm on each side and 200 mm under the boiler.

Install as follows (fig. 3.1):

- put the boiler support plate (F) to the wall and use a spirit level to check they are perfectly horizontal
- mark out 4 holes (Ø 6 mm) for fixing the boiler support plate (F)
- check the measurements and then drill the holes in the wall using a drill and the correct size of bit as shown above
- fix the plate to the wall.

2.1 - Cleaning the system and characteristics of heating circuit water

After installing a new system or replacing a boiler, clean the heating system. To ensure the product works correctly, after cleaning, additivating and/or chemically treating the system (e.g.: anti-freeze, film-formers, etc.), make sure the characteristics of the water satisfy the parameters indicated in the table.

| Parameters | um | Water in heating circuit | Inlet water |
|------------|----|--------------------------|-------------|
| PH | | 7±8 | - |
| Hardness | °F | - | 15÷20 |
| Appearance | | - | limpid |

3 - HYDRAULIC CONNECTIONS (Fig. 3.1- 3.1a)

Position and dimensions of hydraulic connections:

| | |
|--------------------|----------|
| C - CH delivery | 3/4" |
| D - DHW outlet | 1/2" (S) |
| E - Gas connection | 3/4" |
| F - DHW inlet | 1/2" (S) |
| G - CH return | 3/4" |
| i - Support plate | |

If water hardness exceeds 28°Fr, it is recommended to use water softeners, to prevent any limestone deposit in boiler due to excessively hard water.

4 - INSTALLING THE EXTERNAL PROBE (Fig. 4.1)

The correct position of the external probe is essential for the climatic control function to run properly.

Install the supplied probe outside the building about 2/3 up the NORTH or NORTH-WEST wall and far from flue pipes, doors, windows and sunny areas.

Attaching the external probe to the wall

- Install the probe in an area of smooth wall; for brick walls or other irregular surfaces, prepare a smooth contact area if at all possible.
- Remove the upper plastic cover by turning it anti-clockwise.
- Identify the wall fixing point and drill a hole for the 5x25 expansion grip.
- Insert the expansion grip into the hole.
- Remove the card from its housing.
- Fix the housing to the wall using the supplied screw.
- Attach the bracket and tighten the screw.
- Loosen the cable grommet screw, push in the probe connection cable and connect it to the electrical terminal.
- Put the card back into its housing.
- Close the upper plastic cover by turning it clockwise. Firmly secure the cable grommet.

⚠ The probe must be positioned on a smooth surface. In the case of a brick wall or a wall with an irregular surface, provision must be made for a smooth contact surface.

⚠ The maximum length of the connection between the external probe and the boiler is 30 m.

⚠ The connection cable between the probe and the boiler must not have connections. If these prove to be necessary, they must be made watertight and suitably protected.

⚠ Any ducts for the connection cable must be separate from other power lines (230 V.a.C.).

5 - CONDENSATE COLLECTION

Collect the condensate water and any evacuation water from the safety valve to the discharge system in compliance with current legislation.

⚠ The outlet connection line must have a guaranteed seal.

⚠ The manufacturer is not responsible for any damage caused by the lack of a collection system.

6 - GAS CONNECTION

Before connecting appliance to gas pipe network, check the following:

- Regulations in force are met.
- Gas type used is the same as set for appliance operation.
- Pipes are clean.

Gas must be piped externally. If the pipe goes through a wall it must go through the central opening in the lower part of the template. It is recommended to install an appropriately sized filter on the gas line in case gas from the mains contains some small solid particles. After installation make sure that all the joints have been made airtight conforming to standard installation practices.

7 - ELECTRIC CONNECTION

To access the electrical connections, proceed as follows:

- loosen the fixing screws (D) and remove the shell (Fig. 7.1).
- release the panel and turn it forwards.
- open the terminal board cover by loosening the fasteners (Fig. 7.2).

Connect the appliance to the mains power supply with a switch featuring a distance of at least 3,5 mm (EN 60335-1, category III) between each wire. The appliance operates with an alternating current of 230 Volt/50 Hz, has a power input of 123W (30 S), 132W (25 HS), 96W (15 H - 15 HS) and complies with EN 60335-1 standard.

Connect the boiler to an safe earth circuit according to current legislation.

⚠ The installer is responsible for ensuring the appliance is suitably earthed; the manufacturer declines all liability for any damage deriving from **incorrect or omitted** earthing.

⚠ Live and neutral (L-N) connections should also be respected.

⚠ The earth conductor must be a couple of cm longer than the others.

The boiler can operate with phase-neutral or phase-phase power supply.

For floating power supply, without an earth-bonded conductor, it is necessary

to use an insulation transformer with secondary anchored to ground.

Gas and/or water pipes may not be used to earth electrical equipment.

Use the **supplied power cable** to connect the boiler to the mains power supply.

Connect the ambient thermostat and/or external programmable timer clock as shown in the electrical diagram on page 75.

When replacing the power cable, use a HAR H05V2V2-F cable, 3x 0,75 mm², max. external Ø 7 mm.

8 - FILLING AND EMPTYING THE SYSTEM

After making the hydraulic connections, fill the heating system. This must be done while the installation is cold by:

- Giving two or three turns to the cap of the lower automatic air vent valve (A, Fig. 8.1-8.2) to open it.
- ⚠ As the boilers don't have a manual filling tap, install an external tap or check whether the external water tank is fitted with one.**
- Fill the system using the external tap until the pressure indicated on the water gauge lies between 1 bar and 1.5 bar (Fig. 8.3).
- Close the external filling tap.

N.B. - The boiler is automatically vented through the two automatic air vent valves **A** (Fig. 8.1-8.2) and **E** (Fig. 8.4), the first is positioned on the circulator while the second is located inside the air distribution bus.

If the venting phase proves to be difficult, proceed as follows.

Suggestions for correctly venting the air from the heating circuit and the boiler

When installing the boiler or when carrying out extraordinary maintenance operations, proceed as follows:

1. Use a CH11 wrench to open the manual breather valve located over the air distribution box (Fig. 8.5): connect the hose supplied with the boiler to the valve in order to discharge the water into an external container.
2. Open the manual filling tap on the hydraulic assembly and wait until water starts flowing from the valve.
3. Power the boiler leaving the gas tap closed.
4. Use the room thermostat or the remote control panel to activate request for heat so that the three-way will turn to heating.
5. Turn on a tap to activate request for hot water (for instantaneous boilers only; use the water heater thermostat for boilers just for heating connected to an external water heater) for an interval of 30" every minute to make the three-way cycle from heating to hot water and vice versa about ten times (the boiler will go into alarm as there is no gas under these circumstances, it must therefore be reset every time this happens).
6. Continue the sequence until water only comes out of the manual air vent valve and the flow of air has finished; close the manual air vent valve at this point.
7. Make sure the system is at the correct pressure (1 bar is ideal).
8. Close the manual filling tap on the hydraulic assembly.
9. Open the gas tap and switch on the boiler.

CH system emptying

Before starting work, disconnect the mains power supply by turning off the main switch.

- Close the on-off taps of the heating system
- Connect the supplied rubber to the drain valve (D, Fig. 8.1-8.2-8.2a)
- Manually loosen the system drain valve (D)

DHW system emptying (S only)

The hot water system must be emptied every time there is risk of freezing by:

- Turning off the tap at the mains.
- Turning on all the hot and cold taps.
- Emptying out the lowest parts of the system.

9 - FUMES EXHAUSTION AND BURNING AIR SUCTION

9.1 - Exhaustion configurations (Fig. 9.1-9.2)

Boiler is homologated for the following exhaustion configurations:

B23P/B53P - Intake inside and outlet outside.

C13 - Concentric wall exhaustion. Pipes can separately start from boiler, but outlets must be concentric or close enough to be subject to similar wind conditions (within 50 cm).

C23 - Concentric exhaustion in common chimney (suction and exhaustion in the same chimney).

C33 - Concentric roof exhaustion. Outlets like C13.

C43 - Exhaustion and suction in common separate chimneys, but subject to similar wind conditions.

C53 - Wall or roof separate exhaustion and suction in different pressure areas. Exhaustion and suction must never be located on opposite walls.

C63 - Exhaustion and suction with separately certified and sold pipes (1856/1).

C83 - Single or common chimney exhaustion and wall suction.

Refer to regulations in force for exhaustion of combustion products.

Products of combustion are evacuated by a centrifuge fan located inside the air distribution box which is constantly monitored by the control board.

Boiler is provided for without fume exhaustion/air suction kit, since forced

draught sealed chamber accessories can be used, as they better adapt to installation characteristics.

For fume extraction and burning air restoration in boiler, use original pipes or other EC-certified pipes with equivalent characteristics; check connection is correct as shown on instructions fume accessories provided for with. More appliances can be connected to a single chimney, provided that all appliances are sealed chamber type.

Boiler is a C-type appliance (sealed chamber) and must be safely connected to fume exhaustion duct and burning air suction duct, both getting outside; appliance cannot operate without these ducts.

9.2 - "Forced open" installation (Type B23P/B53P)

Fumes outlet duct Ø 80 mm (9.3-A)

The fumes outlet duct can be aimed in the most suitable direction for installation needs.

To install follow the instructions supplied with the kit.

In this configuration, the boiler is connected to the Ø 80 mm fumes outlet duct by means of a Ø 60-80 mm adaptor.

 In this case, the combustion supporting air is taken from the room in which the boiler is installed, which must be a suitable and ventilated technical room.

 Non-insulated fumes outlet ducts are potential sources of danger.

 The fumes outlet duct must be inclined 1% towards the boiler.

 The boiler automatically adapts ventilation according to the type of installation and the length of the duct.

Twin ducts (Ø 80 mm) (Fig. 9.3-C)

The twin ducts can be aimed in the most suitable direction for installation needs.

To install, follow the instructions supplied with the specific kits for condensation boilers.

 The fumes outlet duct must be inclined 1% towards the boiler.

 The boiler automatically adapts ventilation according to the type of installation and the length of the ducts. Do not obstruct or narrow the ducts in any way.

 The maximum lengths of individual pipes are shown in the graphs (Fig. 9.4).

 The use of longer ducts will reduce the power output of the boiler.

 Rectilinear length means without bends, outlet ends and connections.

| | Linear length twin duct Ø 80 mm | Pressure drop for each bend (45°/90°) [m] |
|------------------|------------------------------------|--|
| 30 S | 35 + 35 m | |
| 25 HS | 40+40 m | 0,5 / 0,8 |
| 15 H - HS | 50 + 50 m | |

| Max. length fumes outlet | Pressure drop for each bend (45°/90°) [m] |
|-----------------------------|--|
| 30 S | 55 m |
| 25 HS | 48 m |
| 15 H - HS | 80 m |

9.3 - Installation "sealed" (Type C)

The boiler must be connected to concentric or twin fumes discharge and air intake ducts which must both be taken outside. Do not use the boiler without them.

Concentric ducts (Ø 60-100 mm) (Fig. 9.3-B)

The concentric outlets can be placed in the most suitable direction for the requirements of the installation, respecting the maximum lengths shown in the table.

 The fumes outlet duct must be inclined 1% towards the boiler.

 Non-insulated fumes outlet ducts are potential sources of danger.

 The boiler automatically adapts ventilation according to the type of installation and the length of the duct.

 Do not obstruct or narrow the comburent air inlet duct in any way.

To install, follow the instructions supplied with the kits.

 Rectilinear length means without bends, outlet ends and connections.

Horizontal

| Max. linear length concentric duct Ø 60-100 mm | Pressure drop for each bend (45°/90°) [m] |
|---|--|
| 30 S | 7,85 m |
| 25 HS | 7,85m |
| 15 H - HS | 7,85m |

Vertical

| Max. linear length concentric duct Ø 60-100 mm | Pressure drop for each bend (45°/90°) [m] |
|---|--|
| 30 S | 8,85 m |
| 25 HS | 8,85 m |
| 15 H - HS | 8,85 m |

Concentric ducts (Ø 80-125) (Fig. 9.3-B)

The relative adapter kit must be installed for this configuration. Concentric ducts can be arranged in the most suitable direction for installation requirements. To install, follow the instructions provided with the specific kits for condensation boilers.

 Rectilinear length means without bends, outlet ends and connections.

| Linear length concentric duct Ø 80-125 mm | Pressure drop for each bend (45°/90°) [m] |
|--|--|
| 30 S | 17 m |
| 25 HS | 17 m |
| 15 H - HS | 17 m |

10 - TECHNICAL DATA

| | | 15 H | 15 HS | 25 HS |
|--|--|-------------|------------------------|------------------------|
| CH | Nominal thermal flow rate | kW | 15,00 | 15,00 |
| | | kcal/h | 12.900 | 21.500 |
| | Nominal thermal power (80°/60°) | kW | 14,5 | 14,5 |
| | | kcal/h | 12.500 | 20.898 |
| | Nominal thermal power (50°/30°) | kW | 15,70 | 15,70 |
| | | kcal/h | 13.532 | 22.575 |
| | Reduced thermal flow rate | kW | 3,50 | 3,50 |
| | | kcal/h | 3.010 | 6.020 |
| | Reduced thermal power (80°/60°) | kW | 3,4 | 3,4 |
| | | kcal/h | 2.926 | 5.863 |
| | Reduced thermal power (50°/30°) | kW | 3,8 | 3,8 |
| | | kcal/h | 3.269 | 6.405 |
| | Working efficiency Pn max - Pn min (80°/60°) | % | 96,9 - 97,2 | 97,2 - 97,4 |
| | Working efficiency 30% (47° return) | % | 101,5 | 102,2 |
| | Combustion efficiency | % | 97,4 | 97,9 |
| | Working efficiency Pn max - Pn min (50°/30°) | % | 104,9 - 108,6 | 105,0 - 106,4 |
| | Working efficiency 30% (30° return) | % | 108,4 | 108,1 |
| | Electric power | W | 96 | 96 |
| | Category | | II2H3P | II2H3P |
| | Supply voltage | V - Hz | 230 - 50 | 230 - 50 |
| | Protection level | IP | X5D(Ctype)- X4D(Btype) | X5D(Ctype)- X4D(Btype) |
| | Chimney and skirt losses with burner on | % | 2,60 - 0,50 | 2,10 - 0,70 |
| CH operation | | | | |
| | Maximum pressure - temperature | bar - °C | 3 - 90 | 3 - 90 |
| | Minimum pressure for standard operating | bar | 0,25 - 0,45 | 0,25 - 0,45 |
| | Selection field of CH water temperature | °C | 20/45-40/80 | 20/45-40/80 |
| | Pump: maximum head available for system capacity | mbar | 240 | 300 |
| | | l/h | 1000 | 1000 |
| Gas pressure | | | | |
| | Natural gas pressure (G20) | mbar | 20 | 20 |
| | LPG pressure (G31) | mbar | 37 | 37 |
| Hydraulic connections | | | | |
| | CH input-output | Ø | 3/4" | 3/4" |
| | Water tank delivery-return | Ø | 3/4" | 3/4" |
| | Gas input | Ø | 3/4" | 3/4" |
| Boiler dimensions and weight | | | | |
| | Height | mm | 780 | 780 |
| | Width | mm | 400 | 400 |
| | Depth | mm | 358 | 358 |
| | Weight | kg | 38 | 40 |
| Fan performance | | | | |
| | Residual head separated pipes 0,5 m + Ø 80 mm | Pa | 80 | 80 |
| Flow rates (G20) | | | | |
| | Air capacity | Nm³/h | 18,742 | 39,689 |
| | Fumes capacity | Nm³/h | 20,246 | 42,697 |
| | Mass flow (max-min) | gr/s | 6,79 - 1,59 | 14,37 - 3,17 |
| Fume exhaustion and air suction concentric pipe | | | | |
| | Diameter | mm | 60 - 100 | 60 - 100 |
| | Max lenght | m | 7,85 | 7,85 |
| | Loss for a 90°/45° bend | m | 0,85/0,5 | 0,85/0,5 |
| | Hole in wall (diameter) | mm | 105 | 105 |
| Fume exhaustion and air suction concentric pipe | | | | |
| | Diameter | mm | 80 - 125 | 80 - 125 |
| | Max lenght | m | 17 | 17 |
| | Loss for a 90°/45° bend | m | 0,85/0,5 | 0,85/0,5 |
| | Hole in wall (diameter) | mm | 130 | 130 |
| Fume exhaustion and air suction separated pipe | | | | |
| | Diameter | m | 80 | 80 |
| | Max lenght | m | 50 + 50 | 40 + 40 |
| | Loss for a 90°/45° bend | m | 0,8/0,5 | 0,8/0,5 |
| Forced open installation (B23P/B53P) | | | | |
| | Diameter | mm | 80 | 80 |
| | Max lenght | m | 80 | 48 |
| | Loss for a 90°/45° bend | m | 0,8/0,5 | 0,8/0,5 |
| | NOx | 5 class | 5 class | 5 class |
| Emission values at maximum and minimum of gas G20 *** | | | | |
| Maximum | CO s.a. lower than | p.p.m. | 90 | 93 |
| | CO ₂ | % | 9,0 | 8,5 |
| | NOx s.a. lower than | p.p.m. | 35 | 25 |
| | Δt fumes | °C | 64 | 72 |
| Minimum | CO s.a. lower than | p.p.m. | 10 | 15 |
| | CO ₂ | % | 9,0 | 9,0 |
| | NOx s.a. lower than | p.p.m. | 25 | 20 |
| | Δt fumes | °C | 58 | 58 |

** Estimated with one 90° bend, 24 one-metre extensions and a horizontal 1-metre manifold.

*** Tested with ø 60-100 concentric - lenght 0,85m - water temperature 80-60°C.

| | | 30 S |
|--|---|--------|
| CH | Nominal thermal flow rate | kW |
| | | kcal/h |
| | Nominal thermal power (80°/60°) | kW |
| | | kcal/h |
| | Nominal thermal power (50°/30°) | kW |
| | | kcal/h |
| | Reduced thermal flow rate | kW |
| | | kcal/h |
| | Reduced thermal power (80°/60°) | kW |
| | | kcal/h |
| | Reduced thermal power (50°/30°) | kW |
| | | kcal/h |
| DHW | Nominal thermal flow rate | kW |
| | | kcal/h |
| | Maximum thermal power * | kW |
| | | kcal/h |
| | Reduced thermal flow rate | kW |
| | | kcal/h |
| | Minimum thermal power * | kW |
| | | kcal/h |
| | Working efficiency Pn max - Pn min (80°/60°) | % |
| | Working efficiency 30% (47° return) | % |
| | Combustion efficiency | % |
| | Working efficiency Pn max - Pn min (50°/30°) | % |
| | Working efficiency 30% (30° return) | % |
| | Electric power | W |
| | Category | II2H3P |
| | Supply voltage | V - Hz |
| | Protection level | IP |
| | Chimney and skirt losses with burner on | % |
| CH operation | | |
| | Maximum pressure - temperature | bar·°C |
| | Minimum pressure for standard operating | bar |
| | Selection field of CH water temperature | °C |
| | Pump: maximum head available for system capacity | mbar |
| | Membrane expansion tank | l/h |
| | Expansion vessel pre-charge (CH) | bar |
| DHW operation | | |
| | Maximum pressure | bar |
| | Minimum pressure | bar |
| | Hot water quantity Δt 25° C | l/min |
| | Δt 30° C | l/min |
| | Δt 35° C | l/min |
| | DHW minimum capacity | l/min |
| | Selection field of DHW temperature | °C |
| | Flow regulator | l/min |
| Gas pressure | | |
| | Natural gas pressure (G20) | mbar |
| | LPG pressure (G31) | mbar |
| Hydraulic connections | | |
| | CH input-output | Ø |
| | DHW input-output | Ø |
| | Gas input | Ø |
| Boiler dimensions and weight | | |
| | Height | mm |
| | Width | mm |
| | Depth | mm |
| | Weight | kg |
| Fan performance | | |
| | Residual head, separated pipes 0,5 m + Ø 80 mm | Pa |
| Flow rates (G20) | | |
| | Air capacity | Nm³/h |
| | Fumes capacity | Nm³/h |
| | Mass flow (max-min) | gr/s |
| Fume exhaustion and air suction concentric pipe | | |
| | Diameter | mm |
| | Max lenght | m |
| | Loss for a 90°/45° bend | m |
| | Hole in wall (diameter) | mm |
| Fume exhaustion and air suction concentric pipe | | |
| | Diameter | mm |
| | Max lenght | m |
| | Loss for a 90°/45° bend | m |
| | Hole in wall (diameter) | mm |
| Fume exhaustion and air suction separated pipe | | |
| | Diameter | mm |
| | Max lenght | m |
| | Loss for a 90°/45° bend | m |
| Forced open installation (B23P/B53P) | | |
| | Diameter | mm |
| | Max lenght | m |
| | Loss for a 90°/45° bend | m |
| NOx | | |
| | Emission values at maximum and minimum of gas G20 *** | |
| Maximum | CO s.a. lower than | p.p.m. |
| | CO ₂ | % |
| | NOx s.a. lower than | p.p.m. |
| | Δt fumes | °C |
| Minimum | CO s.a. lower than | p.p.m. |
| | CO ₂ | % |
| | NOx s.a. lower than | p.p.m. |
| | Δt fumes | °C |

* Average value among various sanitary running conditions./ *** Tested with ø 60-100 concentric - lenght 0,85m - water temperature 80-60°C.

11 - MULTIGAS TABLE

| | | G20 | G31 |
|--|----------------------------|------------|------------|
| Lower Wobbe index (15°C-1013 mbar) | MJ/m³S | 45,67 | 70,69 |
| Lower heat value | MJ/m³S | 34,02 | 88 |
| Supply nominal pressure | mbar (mm H ₂ O) | 20 (203,9) | 37 (377,3) |
| Supply minimum pressure | mbar (mm H ₂ O) | 10 (102,0) | |
| ProCon Smartline 15 H - 15 HS | | | |
| Number of main burner nozzles | n° | 1 | 1 |
| Gas diaphragm | Ø mm | 5,0 | 3,8 |
| CH maximum gas capacity | mm | 1,59 | |
| | Sm³/h | | 1,16 |
| CH minimum gas capacity | kg/h | 0,37 | |
| | Sm³/h | | 0,27 |
| Numbers of fan revolutions at slow start | kg/h | 3.700 | 3.700 |
| Maximum speed of fan (CH) | rpm | 4.800 | 4.600 |
| Minimum speed of fan | rpm | 1.500 | 1.400 |
| ProCon Smartline 25 HS | | | |
| Number of main burner nozzles | n° | 1 | 1 |
| Gas diaphragm | Ø mm | 6,7 | 4,7 |
| CH maximum gas capacity | Sm³/h | 2,64 | |
| | kg/h | | 1,94 |
| CH minimum gas capacity | Sm³/h | 0,74 | |
| | kg/h | | 0,54 |
| Numbers of fan revolutions at slow start | rpm | 3.700 | 3.700 |
| Maximum speed of fan (CH) | rpm | 5.100 | 4.800 |
| Minimum speed of fan | rpm | 1.400 | 1.400 |
| ProCon Smartline 30 S | | | |
| Number of main burner nozzles | n° | 1 | 1 |
| Gas diaphragm | Ø mm | 6,1 | 4,6 |
| CH maximum gas capacity | Sm³/h | 3,17 | |
| | kg/h | | 2,33 |
| DHW maximum gas capacity | Sm³/h | 3,49 | |
| | kg/h | | 2,56 |
| CH minimum gas capacity | Sm³/h | 0,74 | |
| | kg/h | | 0,54 |
| DHW minimum gas capacity | Sm³/h | 0,74 | |
| | kg/h | | 0,54 |
| Fan speed at slow start | rpm | 3.700 | 3.700 |
| Maximum speed of fan (DHW) | rpm | 5.600 | 5.200 |
| Maximum speed of fan (CH) | rpm | 6.300 | 6.300 |
| Minimum speed of fan CH/DHW | rpm | 1.500 | 1.500 |

12 - START-UP AND OPERATION

ProCon Smartline wall-mounted condensation boiler designed for the production of heating and domestic hot water (for H-HS models if connected to an external water tank).

The control panel (Fig. 12.1) contains the main boiler control and management functions.

12.1 - Switching on the appliance

Switch on the boiler as follows:

- set the digital clock as described in the paragraph 17.
- open the gas tap under the boiler by turning it anti-clockwise
- turn on the general switch of the system and then, after lowering the door, turn the function selector to summer ☀, winter ☃ or winter comfort ☁ (only for S models) (Fig. 12.3) depending on the chosen operating mode.

After being powered, the boiler begins an automatic vent cycle lasting approximately 2 minutes.

During this phase the two digits light up alternatively (fig. 12.16).

To interrupt the automatic vent cycle, pull out the handle A and press button B (fig. 12.17).

For S models:

SUMMER (☀): with the selector in this position, just the traditional domestic hot water function is activated. The display indicates the temperature of the domestic hot water (Fig. 12.4).

WINTER (☃): with the selector in this position, the heating water and domestic hot water functions are activated. The display indicates the delivery temperature of the heating water (Fig. 12.5) and that of the domestic hot water depending on current demand (Fig. 12.4).

WINTER COMFORT (☁): with the selector in this position, as well as the traditional function of heating water and domestic hot water, the preheating function is also activated which keeps the water in the domestic hot water exchanger hot in order to reduce waiting times. The display indicates the delivery temperature of the heating water (Fig. 12.5) and that of the domestic hot water depending on current demand (Fig. 12.4).

For H - HS models:

SUMMER (☀, only with the external water tank connected): with the selector in this position the traditional domestic hot water function provided by the water tank is activated. The display indicates the delivery temperature (Fig. 12.4).

WINTER (☃): with the selector in this position, the boiler produces hot water for heating and, if connected to an external water tank, it provides water to it to allow it to prepare domestic hot water. The display indicates the delivery temperature of the heating water (Fig. 12.4 and Fig. 12.5).

Adjusting heating water temperature

To adjust the heating water temperature turn the knob marked  (fig. 12.6) clockwise to increase and anticlockwise to decrease.

When turning the knob, the required temperature automatically appears on the digital display.

 Depending on the type of system, it is possible to pre-select the suitable temperature range:

- standard systems 40-80°C
- floor systems 20-45°C.

For further details, consult the "Boiler configuration" section.

Adjusting heating water temperature with an external probe connected

When an external probe is connected, the value of the delivery temperature is automatically chosen by the system which rapidly adjusts ambient temperature to the changes in external temperature.

To increase or decrease the temperature with respect to the value automatically calculated by the electronic board, turn the heating water selector (Fig. 12.6) clockwise to increase and anticlockwise to decrease.

Adjustment settings range from comfort levels - 5 to + 5 which are indicated on the digital display when the knob is turned.

Adjusting domestic hot water temperature

For S models: to adjust the domestic hot water temperature (baths, showers, kitchen, etc.) turn the knob marked  (Fig. 12.7) clockwise to increase and anticlockwise to decrease.

When turning the knob, the required temperature automatically appears on the digital display. The domestic hot water adjustment ranges between 35 and 60 °C. When choosing the temperature, both for heating and domestic hot water, the display shows the value being selected. About 4 seconds after the selection has been made, the modification is memorised and the display returns to the delivery or domestic hot water temperature read by the probe.

For H - HS models:

- **CASE A** heating only - adjustment inapplicable
- **CASE B** heating only + external water tank with thermostat - adjustment inapplicable
- **CASE C** heating only + external water tank with probe - to adjust the temperature of the domestic hot water in the water tank, turn the temperature selector clockwise to increase and anticlockwise to decrease.

The adjustment range lies between 35 and 60°C.

When choosing the temperature, both for heating and domestic hot water, the

display shows the value being selected. About 4 seconds after the selection has been made, the modification is memorised and the display returns to the delivery temperature.

Working the boiler

If a programmable timer or ambient thermostat are mounted, these must be switched on and adjusted to higher than ambient temperature in order to allow the boiler to start.

The boiler remains on standby until the burner ignites as a result of a demand for heat. The green indicator LED (A, Fig. 12.8), located on the left-hand side of the panel, lights up to indicate the flame is present.

The boiler continues to work until the selected temperatures have been reached. It then returns to "stand-by" while displaying delivery temperature.

In the event of a starting or operating fault, the boiler performs a "SAFETY STOP": the green indicator LED on the control panel goes out, a fault code flashes on the display (Fig. 12.9) and a red indicator LED (B) lights up in the event of a shutdown.

To identify the fault codes and reset the boiler, consult the "Indicator LEDs and faults" section".

Reset function

To reset the boiler, turned the function selector to  (Fig. 12.10), then move it to the required position and check that the red indicator LED has gone out. At this point, the boiler starts automatically if correct operating conditions have been restored; when the burner ignites, the green indicator led lights up and the digital display indicates the instantaneous operating temperature.

 Simply turning the selector to  does not reset the boiler.

If the boiler continues not to work, call in the local Technical Assistance Service. In normal operating conditions, when the function selector is turned to , the digital display indicates "--" (Fig. 12.11) unless the anti-freeze phase (AF) is in progress or the combustion analysis function is activated (CO).

12.2 - Switching off

For short absences (weekends, brief journeys, etc.) turn the function selector to  OFF/RESET.

The digital display will look like Fig. 12.11.

As the boiler remains powered with the gas tap open, it is protected by the following systems:

- **anti-freeze:**

Heating

the function starts if the temperature measured by the delivery probe falls below 6°C. In this phase, a heat demand is generated and the burner ignites at minimum power. This is maintained until the temperature of the delivery water reaches 35°C.

Domestic hot water (for H-HS only with connection to an external water tank with probe)

the function starts if the temperature measured by the domestic hot water probe (water tank probe for H-HS models) falls below 4°C. In this phase, a heat demand is generated and the burner ignites at minimum power. This is maintained until the temperature of the delivery water reaches 55°C for S - 35°C for HS.

 During the anti-freeze phase, AF flashes on the display (Fig. 12.12).

- **circulator anti-block:** if the boiler remains inactive, the circulator performs a 30-second operating cycle every 24 hours.

If the boiler is planned not to be used for a long period, proceed as follows:

- move the function selector to OFF-RESET
- turn the main system switch to "off"
- close the fuel and the heating and hot water taps (for S).

In this case, the anti-freeze and anti-block systems are disabled. Drain the heating and hot water system (for S) if there is danger of freezing.

12.3 - Indicator LEDs and faults

Green indicator LED

Off = boiler on stand-by, no flame

On = burner on, the boiler works regularly.

Red indicator LED

Stop: just the fault code flashes on the digital display.

Block: the red indicator LED lights up and the fault code flashes on the digital display.

The fault code is not displayed in the OFF/RESET () mode. To display it, move the function selector to ☀ or ☃. During combustion analysis and the anti-freeze phase, instead, it is displayed.

To reset the boiler, turn the function selector to  (OFF/RESET) and then move it to be required position: summer, winter or winter with preheating (for S) (Fig. 12.3).

If the boiler still doesn't work, call in the local Technical Service Centre.

For AL41 faults

If the pressure on the water gauge located on the control panel is less than 0.5 bar, proceed as follows:

- Turn the function selector to .
- Fill the system until the pressure indicated on the water gauge lies between 1 and 1.5 bar (Fig. 8.3).

| Code | Description of alarm | Status |
|------|--|-----------------------|
| AL10 | Ignition attempts finished (no flame/condensate present) | Block |
| AL20 | Limit thermostat fault | Block |
| AL21 | Low temperature thermostat/condensate pump safety device fault | Block |
| AL29 | Fumes probe overtemperature | Block |
| AL60 | Domestic hot water probe fault (S) | See dedicated section |
| AL60 | Water tank probe fault (H-HS) | Block |
| AL71 | Delivery probe fault (open/short circuit) | Stop |
| AL73 | Return probe fault (open/short circuit) | Stop |
| AL28 | Return/delivery probe differential fault | Block |
| AL26 | Return over temperature | Block |
| AL79 | Delivery over temperature / return-delivery probe differential fault | Block |
| AL41 | System water pressure low | Stop |
| AL40 | System water pressure low (after 10 minutes) | Block |
| AL34 | Fan tacho fault | Block |
| AL52 | Generic electronic fault | Block |
| AL55 | No boiler mode configuration fault (corresponding jumper absent) | Block |
| AL91 | Clean primary exchanger (call the technical assistance service) | Signal |

- Move the function selector to the desired position.
- In case of frequent pressure drops, call in the Technical Service Centre.

Only for S.: AL60 fault

The boiler works regularly but does not ensure the stability of the hot water temperature which, however, is delivered at a temperature of approximately 50°C.

Contact the Technical Assistance Centre.

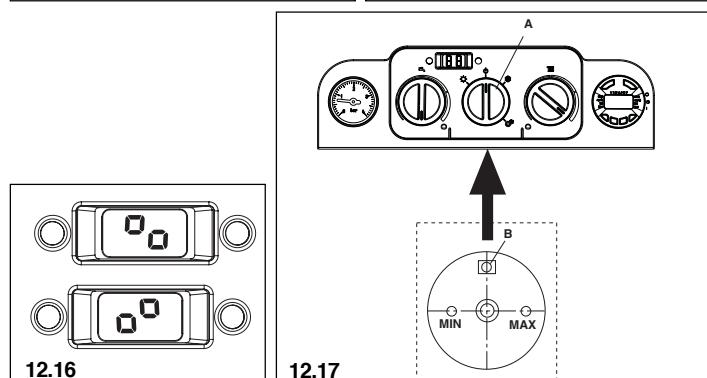
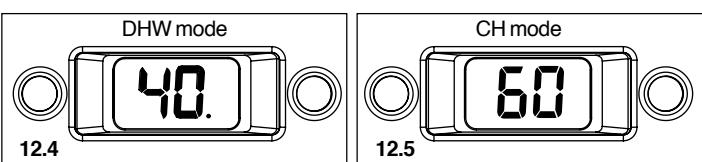
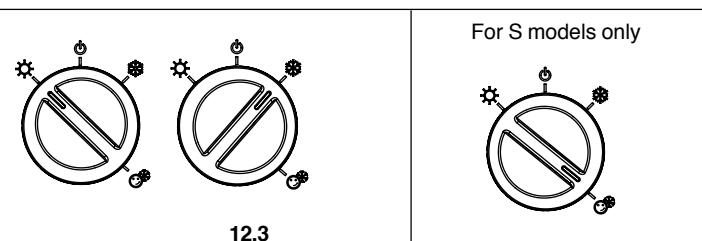
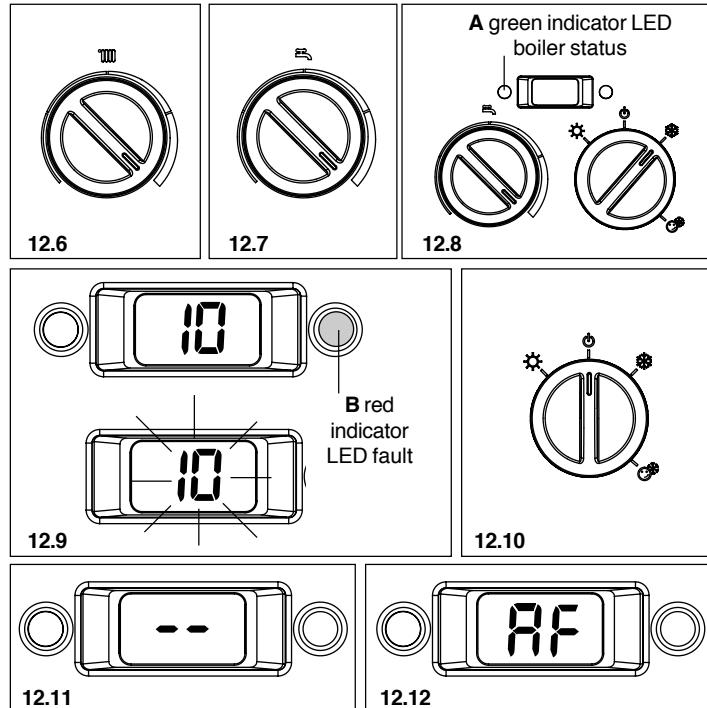
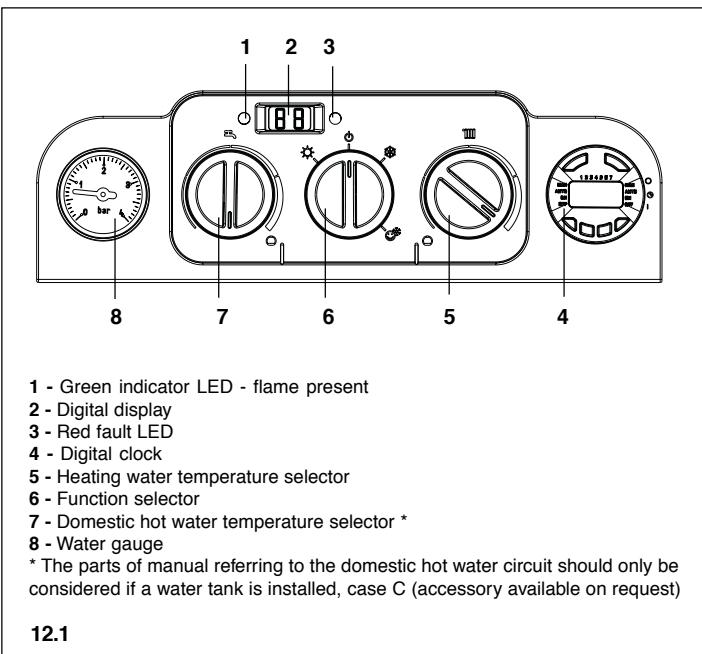
Fault code 91

The boiler has a self-diagnosis system which, on the basis of the hours totalised in particular operating conditions, signals the need for maintenance or cleaning of the primary exchanger (alarm code 91). After cleaning using the kit supplied as an accessory, reset the hour counter as follows:

- disconnect the mains power supply
- pull out handle A (Fig. 12.17)
- switch on the boiler by pressing and holding down button B (Fig. 12.17) for at least 4 seconds
- to check the counter has been reset, switch the boiler off and back on again; after all the digit segments have lit up, the counter value will be displayed.

To check the number of hours, multiply the value by 100 (e.g.: value displayed 18 = 1800 hours totalised – value displayed 1 = 100 hours totalised).

N.B.: perform the counter reset procedure every time the primary exchanger is thoroughly cleaned or replaced.



12.4 - Boiler configuration

The electronic board contains a series of jumpers (JP4) that can be used to configure the boiler; access these by loosening the fasteners B (Fig. 7.2) and removing the control panel cover A (Fig. 7.2) after turning off the main switch.

JUMPER IN POSITION 1:

pre-selection of the most suitable heating temperature adjustment field according to the type of system.

Jumper not inserted - case A

Standard system 40-80°C

Jumper inserted - case B

Floor system 20-45°C.

The boiler has been factory-configured for standard systems.

For S models (Fig. 12.14):

JUMPER IN POSITION 2: (unused)

JUMPER IN POSITION 3: (unused)

JUMPER IN POSITION 4: (unused)

JUMPER IN POSITION 5: COMBINED

JUMPER IN POSITION 6: (unused)

For H-HS models (Fig. 12.15):

JUMPER IN POSITION 2: (water tank with probe)

JUMPER IN POSITION 3: (water tank with thermostat)

JUMPER IN POSITION 4: (unused)

JUMPER IN POSITION 5: (unused)

JUMPER IN POSITION 6: (unused)

The boiler HS is supplied standard with the jumper in position 2 (water tank with probe); if you wish to use an external water tank with thermostat, move this jumper from position 2 to position 3 (case C, Fig. 12.15).

ATTENTION

If the boiler is not connected to an external water tank, put the jumper in position 3.

13 - SETTING THE THERMOREGULATION

Heat adjustment only works with the external probe connected, therefore, after installation, connect the external probe to the relative connections on the boiler terminal board.

This enables the THERMOREGULATION function.

Selecting the offset heating curve (Fig. 13.1)

The offset heating curve maintains a theoretical ambient temperature of 20°C at external temperatures ranging from +20°C to -20°C. The choice of the curve depends on the rated minimum external temperature (on the geographical area, therefore) and the rated delivery temperature (on the type of system, therefore) and must be carefully calculated by the fitter using the following formula:

$$KT = \frac{\text{Nominal delivery } T_{\text{--}} T_{\text{shift}}}{20 - \text{min. rated external } T}$$

Tshift = 30°C standard systems

25°C floor systems

If the calculation generates an intermediate value between two curves, choose the nearest offset heating curve to that value.

E.g.: if the value obtained by the calculation is 1.3, it lies between curve 1 and curve 1.5. In this case, select the nearest curve, i.e.: 1.5.

Select KT by turning the trimmer located under the domestic hot water temperature knob (A, Fig. 13.2).

The settable values of KT are:

- standard system: 1,0-1,5-2,0-2,5-3,0
- floor system: 0,2-0,4-0,6-0,8

Type of heat request

If an ambient thermostat is connected to the boiler (parameter 51 = 0 - manufacturer's default setting) (Fig. 13.3)

The ambient thermostat makes a heat request when its contact closes, while it stops it when its contact opens. Though delivery temperature is automatically calculated by the boiler, the user may manually override it. By modifying HEATING on the user interface (C, Fig. 13.2), the HEATING SET POINT will no longer be available but just a value that can be set from +5 to -5°C as required. Modifications to this value do not directly change delivery temperature but affect the calculation made to automatically determine its value by modifying the reference temperature of the system (0 = 20°C).

If a programmable timer is connected to the boiler, set parameter 51 = 1 (this parameter can only be modified from the remote control unit) (Fig. 13.4)

When the contact is closed, the heat request is made by the delivery probe on the basis of the external temperature in order to maintain the rated ambient temperature at the DAY level (20 °C). When the contact opens, it does not stop the heat request but reduces (parallel shift) the temperature curve to the NIGHT level (16 °C).

This activates the night mode.

Though delivery temperature is automatically calculated by the boiler, the user may manually override it.

By modifying HEATING on the user interface (C, fig. 13.2), the HEATING SET POINT will no longer be available but just a value that can be set from +5 to -5°C as required.

Modifications to this value do not directly change delivery temperature but affect the calculation made to automatically determine its value by modifying the reference temperature of the system (0 = 20°C for DAY level; 16°C for NIGHT level).

14 - ADJUSTMENTS

The boiler has already been factory-adjusted by the manufacturer. If a new adjustment is required, for example, after extraordinary maintenance, replacing the gas valve or converting from natural gas to LPG, proceed as follows.

⚠ Maximum and minimum power, maximum heating and slow start must be adjusted in the indicated sequence by qualified staff.

- Power the boiler.
- Turn the function selector to OFF/RESET (digit "--").
- Pull off the 3 function buttons (domestic hot water A, command B and heating C, Fig. 13.2).
- Turn the trimmers in the following sequence and adjust them until their values correspond with those indicated in the table:

- Max (maximum fan rpm)
- Min (minimum fan rpm)
- Max risc. (maximum heating fan rpm)
- Slow start LA (set to 3.7=3700 rpm)

⚠ Calibration does not switch on the boiler.

⚠ When the trimmers are turned the value expressed in thousands (e.g.. 2.5=2500 rpm) is indicated on the 2-digit display).

⚠ Slow start LA must be adjusted after calibrating all the other trimmers.

Maximum fan rpm

| | Natural gas (G20) | LPG propane (G31) | |
|-----------|----------------------|----------------------|-----|
| 30 S | 63 | 63 | rpm |
| 25 HS | 51 | 48 | rpm |
| 15 H - HS | 48 | 46 | rpm |

Minimum fan rpm

| | Natural gas (G20) | LPG propane (G31) | |
|-----------|----------------------|----------------------|-----|
| 30 S | 15 | 15 | rpm |
| 25 HS | 14 | 14 | rpm |
| 15 H - HS | 15 | 14 | rpm |

Maximum CH fan rpm

| | Natural gas (G20) | LPG propane (G31) | |
|-----------|----------------------|----------------------|-----|
| 30 S | 56 | 52 | rpm |
| 25 HS | 51 | 48 | rpm |
| 15 H - HS | 48 | 46 | rpm |

Gas valve calibration

- Power the boiler.
- Open the gas tap.
- Turn the function selector to OFF/RESET (digit "--").
- Pull off the domestic hot water temperature selector knob (7, Fig. 12.1) and the domestic hot water function selector knob (6, Fig. 12.1).
- Press the combustion analysis button CO.
- Wait for the burner to ignite. "CO" is displayed on the digital display and the boiler works at maximum heating power. The flue cleaner function remains active for a maximum of 15 min; if a delivery temperature of 95°C is reached, the burner switches off. It is re-ignited when this temperature falls below 75°C.
- Remove the plug and insert the fumes analysis probe.
- Turn the max. heating trimmer clockwise until it reaches the maximum fan rpm (see table).

CO₂ max

| | Natural gas (G20) | LPG propane (G31) | |
|-----------|----------------------|----------------------|---|
| 30 S | 8,5 | 10,0 | % |
| 25 HS | 8,5 | 10,0 | % |
| 15 H - HS | 9,0 | 10,0 | % |

- Check the CO₂ value: if the value does not match that indicated in the table, turn the maximum gas valve adjustment screw.
- Turn the max. heating trimmer anti-clockwise until it reaches the minimum fan rpm (see table).
- Check the CO₂ value: if the value does not match that indicated in the table, turn the minimum gas valve adjustment screw.
- Turn the max. heating trimmer to the maximum heating fan rpm (see table).

CO₂ min

| | Natural gas (G20) | LPG propane (G31) | |
|-----------|----------------------|----------------------|---|
| 30 S | 9,0 | 10,0 | % |
| 25 HS | 9,0 | 10,0 | % |
| 15 H - HS | 9,0 | 10,0 | % |

- To exit the flue cleaner function, turn the control knob 6
 - Remove the fumes analysis probe and put back the plug.
- Remount the knobs on the panel. The "combustion analysis" function automatically deactivates if the board generates an alarm.
- If a fault develops during the combustion analysis phase, perform the release procedure as follows:
- Turn the function selector 6 to , then to , and then move it to the required function.

15 - GAS CONVERSION

It is easy to convert from one gas family to another even after the boiler has been installed.

This operation must be performed by professionally qualified staff.

The boiler is designed to work with natural gas (G20), as indicated on the product plate.

The boiler can be converted to propane using the relative kit supplied as an accessory.

To disassemble, proceed as follows (Fig. 15.1):

- disconnect the boiler from the power supply and close the gas tap
- remove the shell and cover of the air distribution box
- release the panel and turn it forwards
- remove the gas pipe (D)
- remove the nozzle (E) contained in the gas train and replace it with the one contained in the kit
- remount the gas train (check that the gas pipe connected to the fan mixer is in position)
- put back the air distribution box cover
- power the boiler and open the gas tap.

Adjust the boiler as described in the "Adjustments" section, referring to LPG data.

The boiler may only be converted by qualified staff.

After conversion, apply the new identification plate contained in the kit.

16 - CHECKING COMBUSTION PARAMETERS

To analyse combustion, proceed as follows:

- turn the function selector to OFF/RESET (digit "--")
- pull out the central knob (6, Fig. 12.1) on the panel
- press the combustion analysis button (CO, Fig. 13.2)
- insert the analyser probes in the relative positions on the air distribution box, after removing the screw F and the plug G (Fig. 15.2)
- check that the values of CO₂ correspond to those indicated in the table. If the value displayed is different, modify it as indicated in the "Gas valve calibration" section
- check combustion.

Then:

- remove the analyser probes and close the combustion analysis taps with the relative screw cap
- put back the central knob 6 on the panel.

The fumes analysis probe must be fully inserted.

IMPORTANT

The function that switches off the boiler when water temperature reaches a maximum of about 95°C is still enabled during the combustion analysis phase.

17 - SERIAL NUMBER PLATE

| | |
|---------------|----------------------|
| | DHW operation |
| | CH operation |
| Qn | nominal capacity |
| Pn | nominal power |
| IP | protection level |
| P. min | minimum pressure |
| Pmw | DHW maximum pressure |
| Pms | CH maximum pressure |
| T | temperature |
| η | working efficiency |
| D | specific capacity |
| NOx | NOx value class |

| | | | | |
|--|---|--|--|----------|
| | MHG Heiztechnik GmbH - Brauerstraße 2 - 21244 Buchholz i.d. Nordheide | Gas Art: Rodzaj gazu: | Gas Type: Tip gaz: | |
| Brennkessel Brennwertkessel Kombikessel Kocioł gazowy kondensacyjny Centrala de pelete în condensare | | | | |
| N. | | | | η = ★★★★ |
| | Pmw = 6 bar T= 60 °C | Qn = | | |
| | Pms = 3 bar T= 90 °C | Pn = | | |
| | | Engestellt auf: DE: I2E Empf. auf: DE: I2H Indretninget til DK: I2D Przygotowany do PL: I2E Regat: RO: I2H | G20-20mbar G20-20mbar G20-20mbar G20-20mbar G20-20mbar | |
| <small>Bitte lesen Sie vor der Installation des Kessels die Montage und Betriebsanleitung. Guruinstallasjonsvejledningen for kælden installeres og opstilles. Należy przeczytać instrukcję instalowania przed zainstalowaniem kotła. Consultati brosura de instrucții înainte de a instala si utiliza centrala termica</small> | | | | |

18 - CHANNEL DIGITAL CLOCK

SETTING THE DAY & TIME

- Press and hold the button for 4-seconds or until the clock display flashes
- Press either the + or - button to increase or decrease the displayed value of minutes to the correct (actual) time and press to confirm.
- Press either the + or - button to increase or decrease the displayed value of hours to the correct (actual) time and press to confirm.
- Press either the + or - button to increase or decrease the displayed day to the correct (actual) day of the week and press to confirm.

CLOCK CHANGE

To accommodate any change from summer time to winter time, simply press and hold either the + or - button to advance or retard the hours value by one hour.



BUILT-IN PROGRAMME

The programmer is supplied with a built-in default programme that can be stored/used for convenience. To store the default programme, simply press and hold both the + and - buttons for 3-seconds.

Default programme

| Day 1 | HTG | HW |
|-------|-------|-------|
| ON1 | 6:30 | 6:30 |
| OFF1 | 8:30 | 8:30 |
| ON2 | 16:30 | 16:30 |
| OFF2 | 22:30 | 22:30 |
| Day 2 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 8:30 | 8:30 |
| ON2 | 16:30 | 16:30 |
| OFF2 | 22:30 | 22:30 |
| Day 3 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 8:30 | 8:30 |
| ON2 | 16:30 | 16:30 |
| OFF2 | 22:30 | 22:30 |
| Day 4 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 8:30 | 8:30 |
| ON2 | 16:30 | 16:30 |
| OFF2 | 22:30 | 22:30 |
| Day 5 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 8:30 | 8:30 |
| ON2 | 16:30 | 16:30 |
| OFF2 | 22:30 | 22:30 |
| Day 6 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 9:00 | 9:00 |
| ON2 | 16:00 | 16:00 |
| OFF2 | 22:30 | 22:30 |
| Day 7 | HTG | HW |
| ON1 | 6:30 | 6:30 |
| OFF1 | 9:00 | 9:00 |
| ON2 | 16:00 | 16:00 |
| OFF2 | 22:30 | 22:30 |

PROGRAMMING PROCEDURE

For each channel (C1 & C2) there are 2 timed ON settings, and 2 timed OFF settings for each day of the week. The programming sequence for each channel is as follows:

- Programme the C1 channel (Heating) 1st ON then 1st OFF, then 2nd ON and then 2nd OFF for each day of the week starting from day 1 (Monday). The same procedure will be carried out for the remaining subsequent days (day 2 till day 7)
- After the final OFF (2nd OFF, day-7) setting has been programmed on C1, the display will move to show the programming icons on channel C2 (Hot water). C2 can then be programmed in the same sequence as detailed for C1.

To adjust or re-programme the default programme, please proceed as follows:

- Press and hold the **P** button for 4-seconds, the display will show **PRO** for 1-second to signal that the programmer is now ready to be re-programmed/adjusted (programming mode).
- The first day of the week will blink on the display, followed by the HTG 'ON' icon, then followed by the stored value (time).
- To adjust the current – stored – value, press either the + or - button to increase or decrease the displayed value to the desired setting.

- Press **P** to confirm and store the new value
- Use the same (above) sequence for the subsequent ON/OFF settings and subsequent days.
- Once the programming of C1 (Heating) channel has been completed, the programmer sequence will automatically move on to C2 (Hot water).

NOTE

If no buttons are pressed within a 10-second period, the programmer will exit the programming mode and revert to the normal display.

To review the current stored programmes, press and release the **P** button whereby the display will scroll through the current stored programmes. To exit and return to the current operating mode, press and release the **P** button.

OPERATING MODES

Each channel (C1 & C2) has 3-different modes of operation:

Automatic: using the stored ON/OFF settings

ON: 24-hours each day

OFF: 24-hours each day

To change the operating mode, press either C1 or C2 (depending on your preference) and select the desired mode of operation.

ATTENTION

The device keep the correct watch value until 168 hours absence of alimentation. This is right if the device has been powered continuously fro 48 hours. Only after this continuously alimentation period the watch retention is guaranteed.

If the device have loss the watch value, the 00:00 watch value blink in the display and is necessary a new watch set.

In this case watch is stopped and channels disable.

Manual operation - OFF

| | | 1 2 3 4 5 6 7 | | |
|-----|------|---------------|-------------|--|
| | | ◀ ● ▶ | MAN AUTO | |
| | | 12:34 | | |
| MAN | AUTO | ◀ | | |
| OFF | ON | ▶ | OFF ON | |

Manual operation - ON

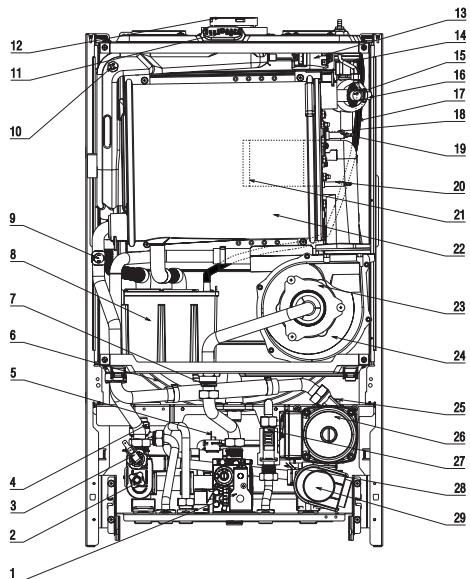
| | | 1 2 3 4 5 6 7 | | |
|-----|------|---------------|-------------|--|
| | | ◀ ● ▶ | MAN AUTO | |
| | | 12:34 | | |
| MAN | AUTO | ◀ | | |
| OFF | ON | ▶ | OFF ON | |

Automatic (programmed settings)

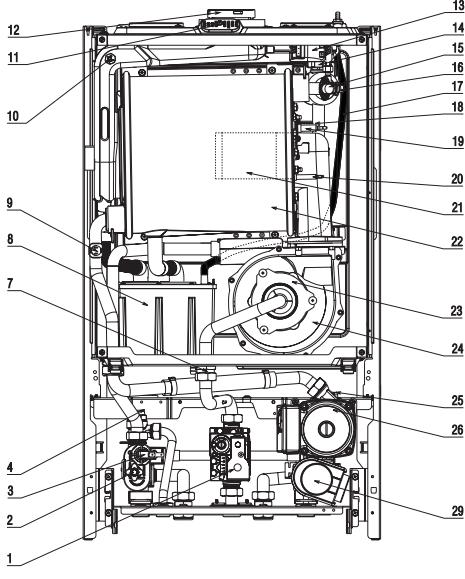
| | | 1 2 3 4 5 6 7 | | |
|-----|------|---------------|-------------|--|
| | | ◀ ● ▶ | MAN AUTO | |
| | | 17:34 | | |
| MAN | AUTO | ◀ | | |
| OFF | ON | ▶ | OFF ON | |

| | | 1 2 3 4 5 6 7 | | |
|-----|------|---------------|-------------|--|
| | | ◀ ● ▶ | MAN AUTO | |
| | | 15:22 | | |
| MAN | AUTO | ◀ | | |
| OFF | ON | ▶ | OFF ON | |

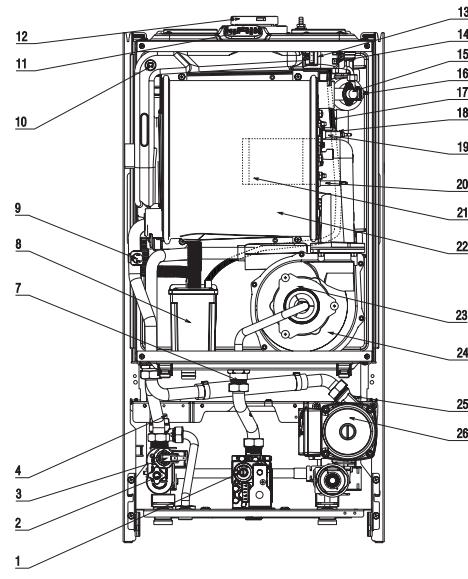
ProCon Smartline S



ProCon Smartline HS



ProCon Smartline H



[EN] - Boiler operating elements (S-HS-H)

- 1 - Gas valve
- 2 - Drain valve
- 3 - Water pressure switch
- 4 - Safety valve
- 5 - Domestic hot water NTC probe (S)
- 6 - Expansion vessel
- 7 - Gas nozzle
- 8 - Siphon
- 9 - Return NTC probe
- 10 - Fumes probe
- 11 - Fume analysis sample cap
- 12 - Fumes outlet
- 13 - Ignition transformer
- 14 - Upper air vent valve
- 15 - High limit thermostat
- 16 - Delivery NTC probe
- 17 - Air separator tube
- 18 - Flame detection electrode
- 19 - Ignition electrode
- 20 - Condensate level sensor
- 21 - Burner
- 22 - Main heat exchanger
- 23 - Mixer
- 24 - Fan
- 25 - Lower air vent valve
- 26 - Circulation pump
- 27 - Flow switch (S)
- 28 - Domestic hot water heat exchanger (S)
- 29 - Three-way valve motor

[PL] - Elementy obsługi kotła (S-HS-H)

- 1 - Zawór gazu
- 2 - Zawór spustowy
- 3 - Przełącznik hydrauliczny
- 4 - Zawór bezpieczeństwa
- 5 - Sonda NTC gorącej domowej wody (S)
- 6 - Naczynie rozprężne
- 7 - Dysza gazu
- 8 - Syfon
- 9 - Powrót sondy NTC
- 10 - Sonda spalin
- 11 - Zaślepkę próbkowania analizy spalin
- 12 - Wylot spalin
- 13 - Transformator zapłonu
- 14 - Górný zawór odpowietrzający
- 15 - Termostat górnej granicy
- 16 - Sonda NTC zasilania
- 17 - Rura separatorka powietrza
- 18 - Elektroda wykrywania płomienia
- 19 - Elektroda zapłonu
- 20 - CzuJNIk poziomu skroplin
- 21 - Palnik
- 22 - Główny wymiennik ciepła
- 23 - Mieszalnik
- 24 - Wentylator
- 25 - Dolny zawór odpowietrzający
- 26 - Pompa cyrkulacji
- 27 - Przełącznik przepłybowy (S)
- 28 - Wymiennik ciepła gorącej domowej wody (S)
- 29 - Silnik zaworu trójdrożnego

[DK] - Kedlens betjeningselementer (S-HS-H)

- 1 - Gasventil
- 2 - Afløbsventil
- 3 - Vandtrykrelæ
- 4 - Sikkerhedsventil
- 5 - Brugsvandets NTC-sonde (S)
- 6 - Ekspansionsbeholder
- 7 - Gasdyse
- 8 - Sifon
- 9 - Retur NTC-sonde
- 10 - Røggassonde
- 11 - Røggasanalysehætte
- 12 - Aftræk
- 13 - Tændingstransformator
- 14 - Øvre udluftningsventil
- 15 - Termostat, øvre grænse
- 16 - Fremløbs NTC-sonde
- 17 - Luftudskilningsslang
- 18 - Flammeregistreringselektrode
- 19 - Tændingselektrode
- 20 - Kondensniveausensor
- 21 - Brænder
- 22 - Hovedvarmeveksler
- 23 - Mikser
- 24 - Ventilator
- 25 - Nedre udluftningsventil
- 26 - Cirkulationspumpe
- 27 - Flow-afbryder (S)
- 28 - Brugsvandets varmeveksler (S)
- 29 - Trevejsventilmotor

[ES] - Componentes funcionales de la caldera (S-HS-H)

- 1 - Válvula gas
- 2 - Válvula de vaciado
- 3 - Presostato agua
- 4 - Válvula de seguridad
- 5 - Sonda NTC agua sanitaria (S)
- 6 - Vaso de expansión
- 7 - Boquilla gas
- 8 - Sifón
- 9 - Sonda NTC retorno
- 10 - Sonda humos
- 11 - Tapón toma de análisis humos
- 12 - Evacuación de humos
- 13 - Transformador de encendido
- 14 - Válvula de purgado del aire superior
- 15 - Termostato límite
- 16 - Sonda NTC alimentación
- 17 - Tubito desgasificador
- 18 - Electrodo detección
- 19 - Electrodo encendido
- 20 - Detector del nivel de condensación
- 21 - Quemador
- 22 - Intercambiador principal
- 23 - Mixer
- 24 - Ventilador
- 25 - Válvula de purgado del aire inferior
- 26 - Bomba de circulación
- 27 - Flusostato (S)
- 28 - Intercambiador agua sanitaria (S)
- 29 - Motor de la válvula de tres vías

[RO] - Elementele functionale ale centralei (S-HS-H)

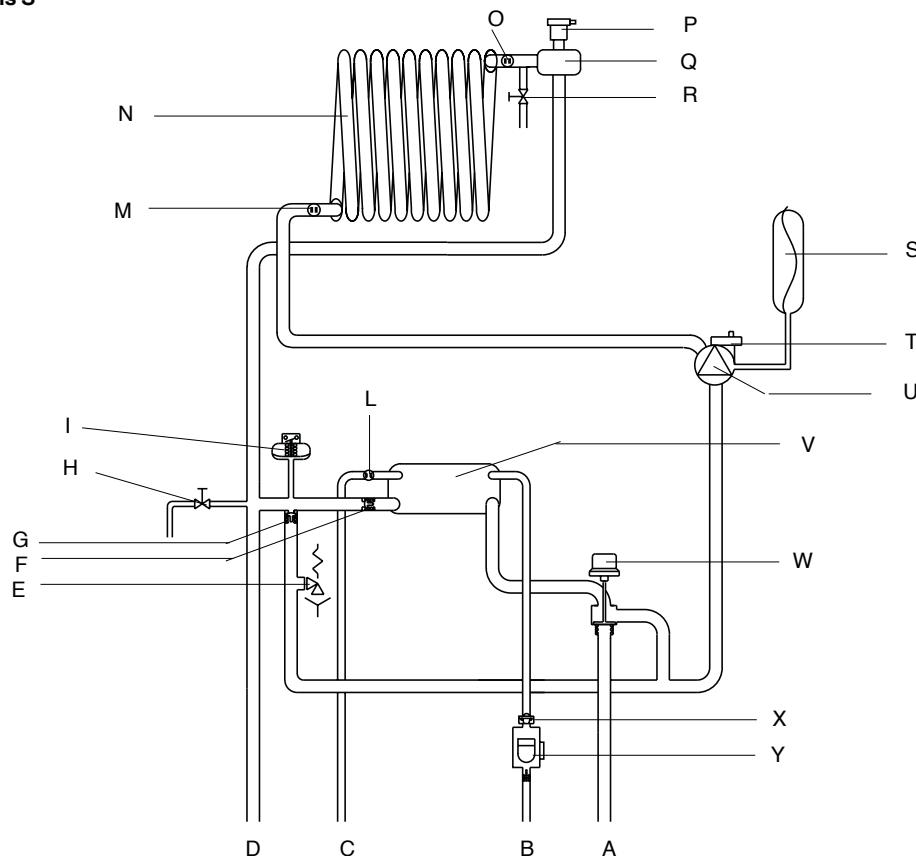
- 1 - Vana gaz
- 2 - Valva de golire a instalatiei
- 3 - Presostat de apa
- 4 - Supapa de siguranta
- 5 - Sonda NTC sanitar (S)
- 6 - Vas de expansiune
- 7 - Duza gaz
- 8 - Sifon
- 9 - Sonda NTC return
- 10 - Sondă fum
- 11 - Capac gaura de acces analizor de gaze
- 12 - Evacuare fum
- 13 - Trasformator aprindere
- 14 - Valva de evacuare aer superioara
- 15 - Termostat limita
- 16 - Sonda NTC tur
- 17 - Furtun colector aerisitor
- 18 - Electrod de relevare flacara
- 19 - Electrod de aprindere
- 20 - Senzor nivel condens
- 21 - Arzator
- 22 - Schimbator principal
- 23 - Mixer
- 24 - Ventilator
- 25 - Valva de evacuare aer inferioara
- 26 - Pompa de circulatie
- 27 - Fluxostat (S)
- 28 - Schimbator de apa calda menajera (S)
- 29 - Motor vana cu 3 cai

[FR] - Eléments fonctionnels de la chaudière (S-HS-H)

- 1 - Vanne de gaz
- 2 - Robinet de vidange
- 3 - Pressostat de l'eau
- 4 - Souape de sécurité
- 5 - Sonde NT de l'eau chaude sanitaire (S)
- 6 - Vase d'expansion
- 7 - Buse de gaz
- 8 - Siphon
- 9 - Sonde NTC de retour
- 10 - Sonde des fumées
- 11 - Embout échantillon d'analyse des fumées
- 12 - Sortie fumées
- 13 - Transformateur d'allumage
- 14 - Purgeur d'air supérieur
- 15 - Thermostat de limite haute
- 16 - Sonde NTC de refoulement
- 17 - Tube séparateur d'air
- 18 - Electrode de détection de flamme
- 19 - Electrode d'allumage
- 20 - Capteur de niveau des condensats
- 21 - Brûleur
- 22 - Echangeur de chaleur principal
- 23 - Mélangeur
- 24 - Ventilateur
- 25 - Purgeur d'air inférieur
- 26 - Pompe de circulation
- 27 - Fluxostat (S)
- 28 - Echangeur de chaleur de l'eau chaude sanitaire (S)
- 29 - Moteur de la vanne à trois voies

ECOHEAT Gas ProKondens S

ProCon Smartline S



[EN] - Hydraulic circuit (S)

- A - Heating return
- B - Domestic hot water inlet
- C - Domestic hot water outlet
- D - Heating delivery
- E - Safety valve
- F - Non-return valve
- G - Automatic by-pass
- H - Drain valve
- I - Pressure switch
- L - Domestic hot water NTC probe
- M - Return NTC probe
- N - Primary heat exchanger
- O - Delivery NTC probe
- P - Upper air vent valve
- Q - Water/air separator
- R - Manual air vent valve
- S - Expansion vessel
- T - Lower air vent valve
- U - Circulator
- V - Domestic hot water heat exchanger
- W - Three-way valve
- X - Flow regulator
- Y - Flow switch

[PL] - Obwód hydrauliczny

- A - Powrót ogrzewania
- B - Wlot gorącej domowej wody
- C - Wylot gorącej domowej wody
- D - Zasilanie ogrzewania
- E - Zawór bezpieczeństwa
- F - Zawór zwrotny
- G - Automatyczne obejście
- H - Zawór spustowy
- I - Przelącznik ciśnieniowy
- L - Sonda NTC gorącej domowej wody
- M - Sonda NTC powrotu
- N - Podstawowy wymiennik ciepła
- O - Sonda NTC zasilania
- P - Górný zawór odpowietrzający
- Q - Separator wody/powietrza
- R - Zawór ręcznego odpowietrzania
- S - Naczynie rozprężne
- T - Dolny zawór odpowietrzający
- U - Cykulator
- V - Wymiennik ciepła gorącej domowej wody
- W - Zawór trójdrożny
- X - Regulator przepływu
- Y - Przelącznik przepływowaty

[DK] - Hydraulisk kredsløb (S)

- A - Opvarmning retur
- B - Brugsvandsindtag
- C - Brugsvandsudtag
- D - Opvarmningsfremløb
- E - Sikkerhedsventil
- F - Kontraventil
- G - Automatisk by-pass
- H - Aflossventil
- I - Trykrelæ
- L - Brugsvandets NTD-sonde
- M - Retur NTC-sonde
- N - Primær varmeveksler
- O - Fremløbs NTC-sonde
- P - Øvre udluftningsventil
- Q - Vand/luftudsikning
- R - Manuel udluftningsventil
- S - Ekspansionsbeholder
- T - Nedre udluftningsventil
- U - Cirkulator
- V - Brugsvandets varmeveksler
- W - Trevejsventil
- X - Flow-regulator
- Y - Flow-afbryder

[ES] - Circuito hidráulico (S)

- A - Retorno calefacción
- B - Entrada agua sanitaria
- C - Salida agua sanitaria
- D - Alimentación calefacción
- E - Válvula de seguridad
- F - Válvula de no retorno
- G - By-pass automático
- H - Válvula de vaciado
- I - Presostato
- L - Sonda NTC sanitaria
- M - Sonda NTC retorno
- N - Intercambiador primario
- O - Sonda NTC alimentación
- P - Purgador de aire superior
- Q - Separador agua/aire
- R - Purgador de aire manual
- S - Vaso de expansión
- T - Purgador de aire inferior
- U - Circulador
- V - Intercambiador agua sanitaria
- W - Válvula de tres vías
- X - Limitador de capacidad
- Y - Flusostato

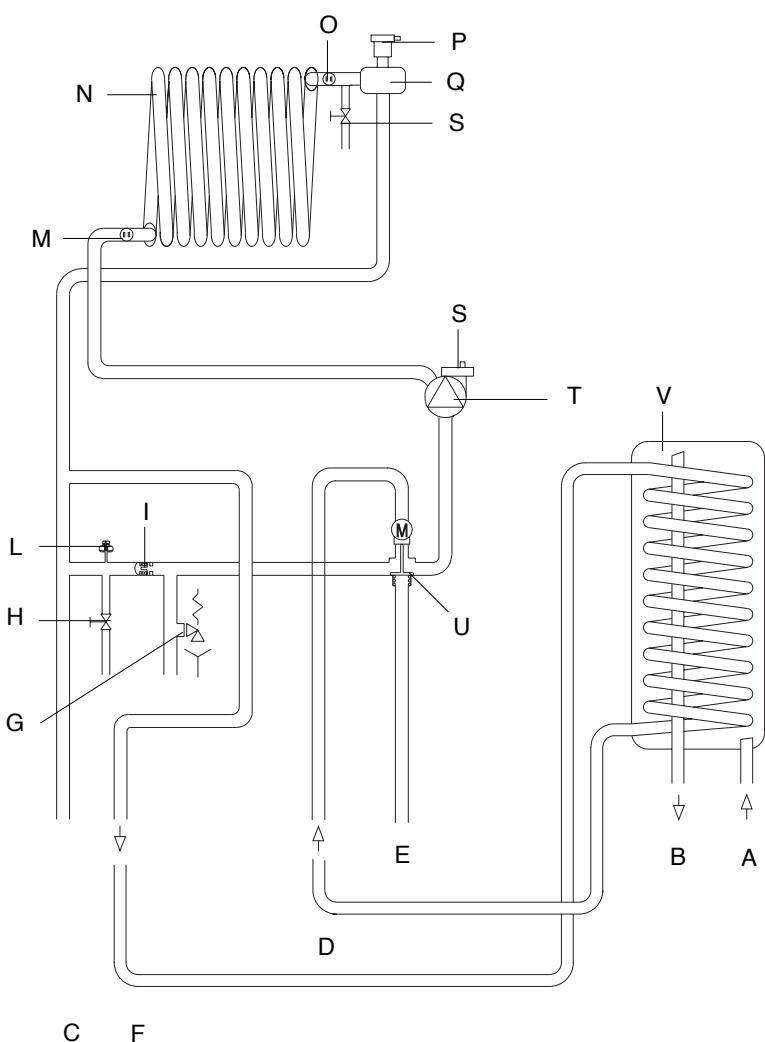
[RO] - Circuit hidraulic (S)

- A - Retur incalzire
- B - Intrare apa calda menajera
- C - Iesire apa calda menajera
- D - Tur incalzire
- E - Supapa de siguranta
- F - Supapa anti-retur
- G - By-pass automat
- H - Valva de golire a instalatiei
- I - Presostat
- L - Sonda NTC sanitar
- M - Sonda NTC retur
- N - Schimbator primar
- O - Sonda NTC tur
- P - Valva de evacuare aer superioara
- Q - Separator apa/aire
- R - Valva de evacuare aer manuala
- S - Vas de expansiune
- T - Valva de evacuare aer inferioara
- U - Pompa de circulatie
- V - Schimbator de apa calda menajera
- W - Vana cu 3 cai
- X - Limitator de debit
- Y - Fluxostat

[FR] - Circuit hydraulique (S)

- A - Retour chauffage
- B - Entrée eau chaude sanitaire
- C - Sortie eau chaude sanitaire
- D - Refoulement chauffage
- R - Soupape de sécurité
- F - Clapet anti-retour
- G - Déivation automatique
- H - Robinet de vidange
- I - Pressostat
- L - Sonde NTC de l'eau chaude sanitaire
- M - Sonda NTC de retour
- N - Echangeur de chaleur primaire
- O - Sonde NTC de refoulement
- P - Purgeur d'air supérieur
- Q - Séparateur air/eau
- R - Purgeur d'air manuel
- S - Vase d'expansion
- T - Purgeur d'air inférieur
- U - Circulateur
- V - Echangeur de chaleur de l'eau chaude sanitaire
- W - Vanne à trois voies
- X - Régulateur de débit
- Y - Fluxostat

ProCon Smartline HS



C F

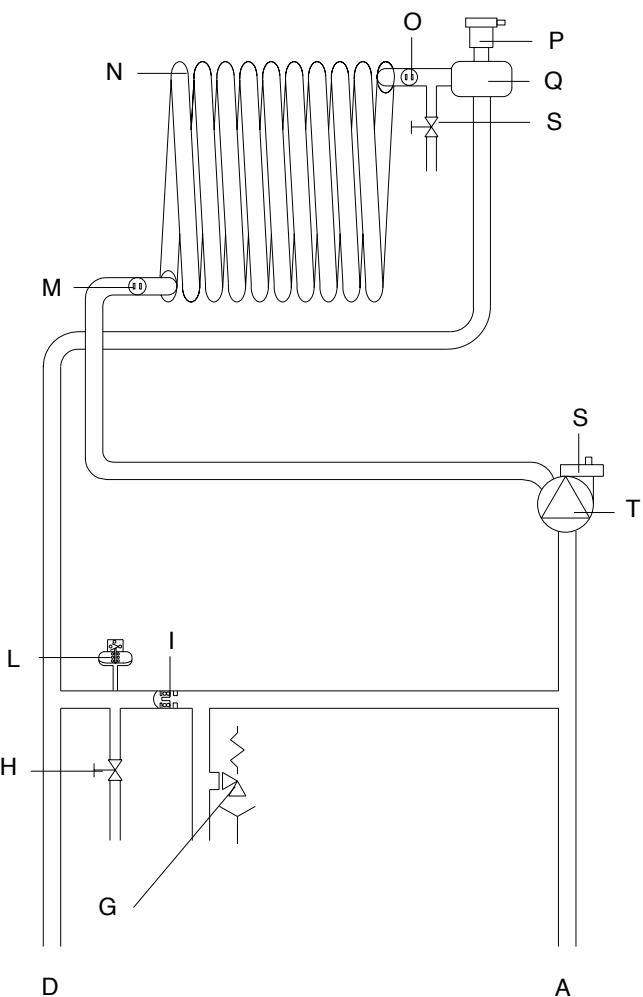
[EN] - Hydraulic circuit (H-HS)

- A - Cold water inlet
- B - Hot water outlet
- C - Water tank return
- D - Heating delivery
- E - Water tank delivery
- F - Heating return
- G - Safety valve
- H - Drain valve
- I - Automatic by-pass
- L - Pressure switch
- M - Return NTC probe
- N - Primary heat exchanger
- O - Delivery NTC probe
- P - Upper air vent valve
- Q - Water/air separator
- R - Manual air vent valve
- S - Lower air vent valve
- T - Circulator
- U - Three-way valve motor
- Z - Water tank (available on request)

[ES] - Circuito hidráulico (H-HS)

- A - Entrada agua fría
- B - Salida agua caliente
- C - Retorno interacumulador
- D - Alimentación calefacción
- E - Alimentación interacumulador
- F - Retorno calefacción
- G - Válvula de seguridad
- H - Válvula de vaciado
- I - By-pass automático
- L - Presostato
- M - Sonda NTC retorno
- N - Intercambiador primario
- O - Sonda NTC alimentación
- P - Purgador de aire superior
- Q - Separador agua/aire
- R - Purgador de aire manual
- S - Purgador de aire inferior
- T - Circulador
- U - Motor válvula tres vías
- V - Interacumulador (opcional)

ProCon Smartline H



D A

[PL] - Obwód hydrauliczny (H-HS)

- A - Wlot zimnej wody
- B - Wylot gorącej wody
- C - Powrót zbiornika wody
- D - Zasianie ogrzewania
- E - Zasianie zbiornika wody
- F - Powrót ogrzewania
- G - Zawór bezpieczeństwa
- H - Zawór spustowy
- I - Automatyczne obejście
- L - Przelącznik ciśnieniowy
- M - Sonda NTC powrotu
- N - Podstawowy wymiennik ciepła
- O - Sonda NTC zasilania
- P - Górný zawór odpowietrzający
- Q - Separator wody/powietrza
- R - Zawór ręcznego odpowietrzania
- S - Dolny zawór odpowietrzający
- T - Cirkulator
- U - Silnik zaworu trójdrożnego
- V - Zbiornik wody (dostępny na żądanie)

[RO] - Circuit hidraulic (H-HS)

- A - Intrare apa rece
- B - Iesire apa calda
- C - Retur boiler acumulare
- D - Tur incalzire
- E - Tur boiler acumulare
- F - Retur incalzire
- G - Supapa de siguranță
- H - Valva de golire a instalatiei
- I - By-pass automat
- L - Presostat
- M - Sonda NTC retur
- N - Schimbator primar
- O - Sonda NTC tur
- P - Valva de evacuare aer superioara
- Q - Separator apa/aire
- R - Valva de evacuare aer manuala
- S - Valva de evacuare aer inferioara
- T - Pompa de circulatie
- U - Motor vana cu trei cai
- V - Boiler acumulare (disponibil la cerere)

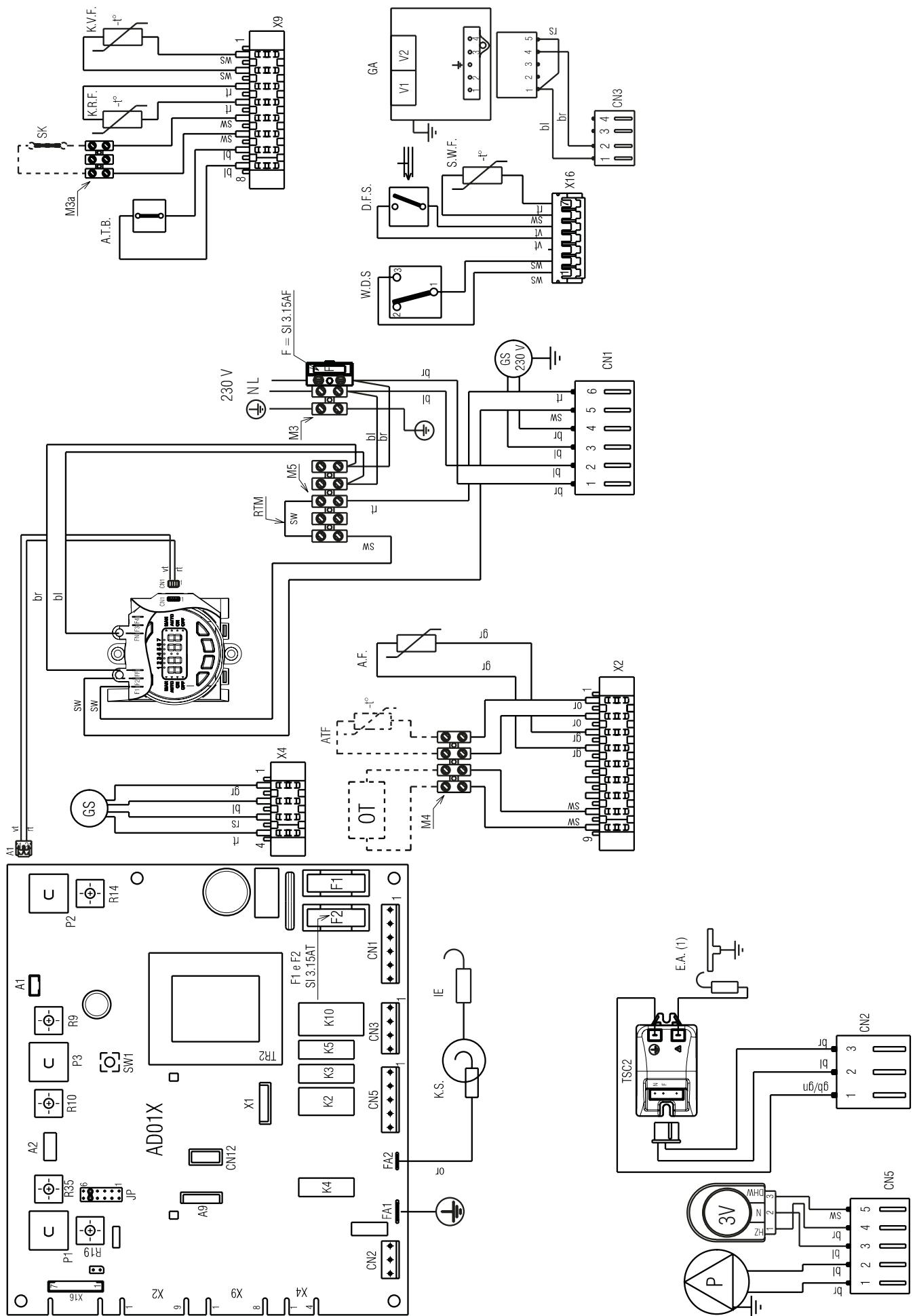
[DK] - Hydraulisk kredsloeb (H-HS)

- A - Koldvandsindtag
- B - Varmtvandsudtag
- C - Vandtank retur
- D - Opvarmningsfremløb
- E - Vandtankfremløb
- F - Opvarmning retur
- G - Sikkerhedsventil
- H - Aflossventil
- I - Automatisk by-pass
- L - Trykrelæ
- M - Retur NTC-sonde
- N - Primær varmeverksler
- O - Fremløbs NTC-sonde
- P - Øvre udluftningsventil
- Q - Vand/luftudskilning
- R - Manuel udluftningsventil
- S - Nedre udluftningsventil
- T - Cirkulator
- U - Trevejsventilmotor
- Z - Vandtank (leveres på forespørgsel)

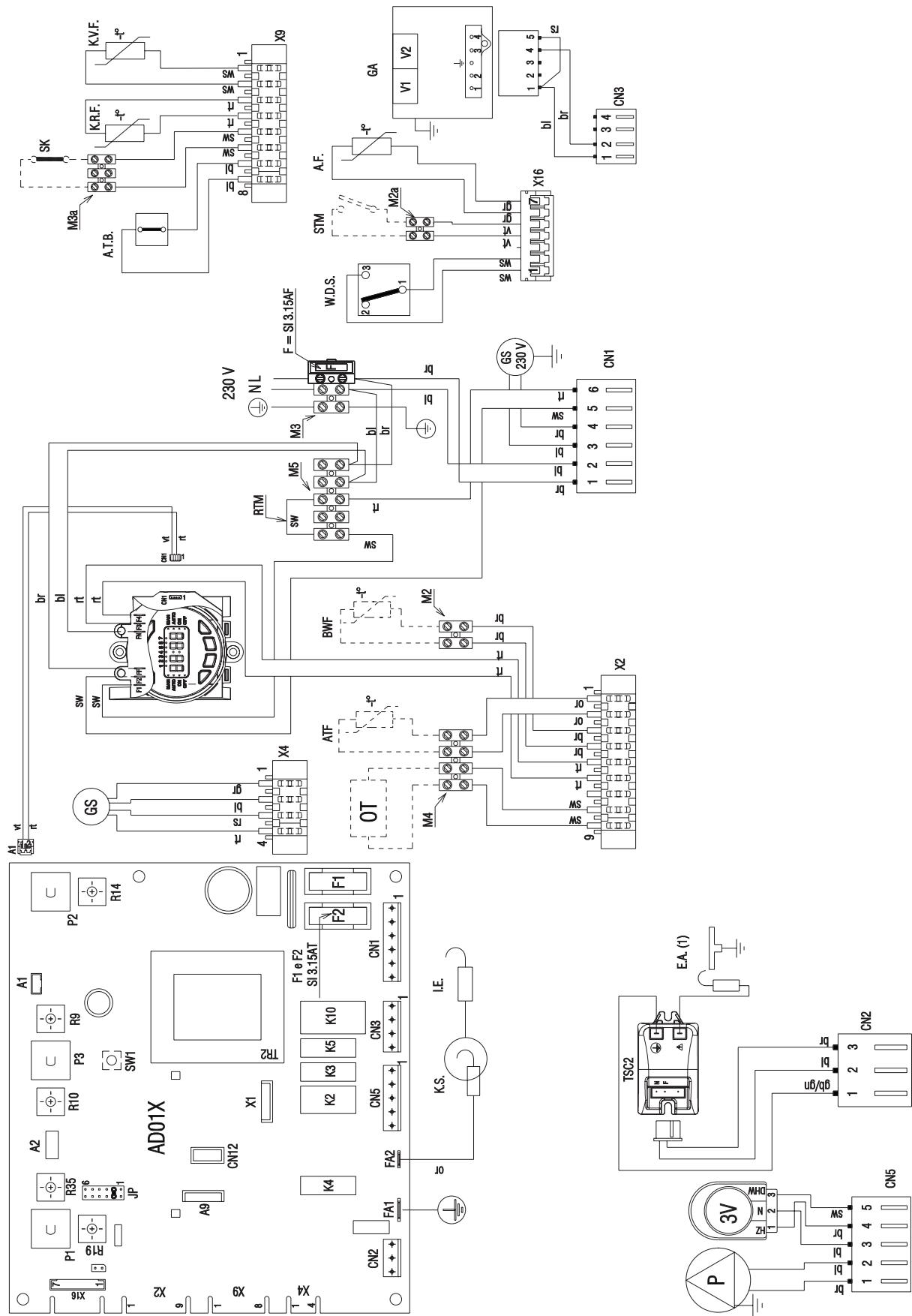
[FR] - Circuit hydraulique (H-HS)

- A - Entrée eau froide
- B - Sortie eau chaude
- C - Retour chauffage
- D - Refoulement réservoir d'eau
- E - Retour réservoir d'eau
- F - Refoulement chauffage
- G - Souape de sécurité
- H - Robinet de vidange
- I - Déivation automatique
- L - Pressostat
- M - Sonde NTC de retour
- N - Echangeur de chaleur primaire
- O - Sonde NTC de refoulement
- P - Purgeur d'air supérieur
- Q - Séparateur air/eau
- R - Purgeur d'air manuel
- S - Purgeur d'air inférieur
- T - Circulateur
- U - Moteur de la vanne à trois voies
- Z - Réservoir d'eau (à la demande)

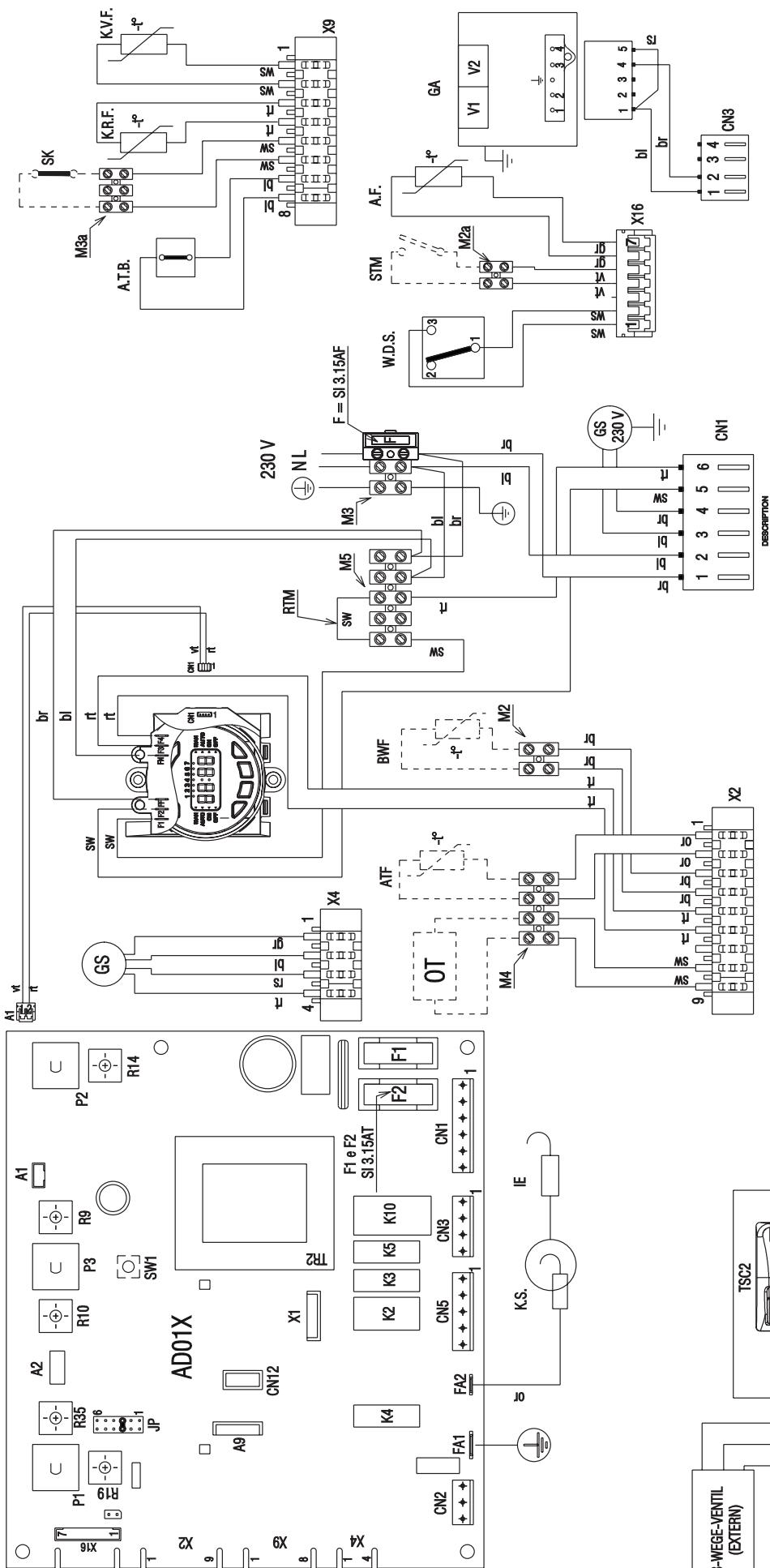
ProCon Smartline S



ProCon Smartline HS



ProCon Smartline H



[EN] - Multi-wire diagram (S - HS - H)
“L-N” polarisation is recommended

Bl=Blue / Br=Brown / Sw=Black / Rt=Red / Ws=White / Vt=Violet / Gb=Yellow / Or=Orange / Gr=Gris / Verde=Gn / Rs=Pink
GA=Gas valve / F=Fuse
Hz - CH
DHW - DHW
AD01X - Control board
SK - Condensate pump alarm- Low temperature thermostat
OT - Remote control
CN1-CN5 - High-voltage connections
CN12 - Service connector
E.A. (1) - Ignition electrode
I.E. (2) - Flame detection electrode
F - Fuse 3.15A F (fast)
F1-F2 - Fuse 3.15A T (delayed)
DFS - Domestic hot water flow switch (S)
JP5 - Boiler configuration pre-selection jumper (pos. 5 for S)
JP2 - Boiler configuration pre-selection jumper (pos. 2 for HS)
JP3 - Boiler configuration water tank thermostat (H)
M3 Electric supply
M3-M5 Clock/ambient thermostat terminal strip
M3a - Condensate pump/low temperature thermostat
M2a - Water tank thermostat
M2-M4 - water tank probe terminal strip (HS)/External probe/remote control
M4 - External probe/remote control
V1-V2 - Gas valve operator
P - Pump
W.D.S. - Water pressure switch
P1 - Domestic hot water temperature adjustment potentiometer
P2 - Heating temperature adjustment potentiometer
P3 - Function selector
R9 - Maximum fan speed trimmer
R10 - Minimum fan speed trimmer
R14 - Slow start speed trimmer
R19 - Maximum heating fan speed trimmer
R35 - Heat adjustment curve selection trimmer
K.S. - Condensate sensor
ATF - External probe
K.V.F. - Primary circuit delivery temperature probe
K.R.F. - Primary circuit return temperature probe
S.W.F. - Domestic hot water circuit probe (NTC) (S)
SW1 - Flue cleaner
TSC2 - Ignition transformer
TR2 - Main transformer
A.T.B. - Limit thermostat over-temperature water
GS 230V - Fan power input 230V
GS - Fan control signal
X2-X16 - Low voltage connections
3V - 3-way solenoid servomotor
RTM - Ambient thermostat
BWF - Water tank probe
A.F. - Fumes probe

[ES] - Esquema eléctrico multihielo (S- HS-H)**La polarización L-N es aconsejada**

Bl=Azul /Br=Marrón /Sw=Negro /Rt=Rojo / Ws=Blanco /
 Vt=Violeta /Gb=Amarillo /Or=Naranja / Gr=Gris /Gn=Verde
 /Rs=Rosa
 GA=Válvula gas /F=Fusible
 Hz - CALEF.
 DHW - SAN.
 AD01X - Tarjeta mandos
 SK - Alarma bomba condensación - Termostato baja temperatura
 OT - Mando remoto
 CN1:CN5 - Conexiones alta tensión
 CN12 - Conector de servicio
 E.A. (1) - Electrodo encendido
 IE (2) - Electrodo detección llama
 F - Fusible 3.15A F (rápido)
 F1-F2 - Fusible 3.15A T (retardador)
 DFS - Flusostato agua sanitaria (S)
 JP5 - Puente preselección configuración caldera (pos.5 para S)
 JP2 - Puente preselección configuración caldera (pos.2 para HS)
 JP3 - Puente preselección termostato interacumulador
 M3 Suministro eléctrico
 M3-M5 - Terminales de conexión del reloj/termostato ambiente
 M3a - Terminales de conexión de la bomba condensación/termostato baja temperatura
 M2a - Terminales de conexión del termostato interacumulador
 M2-M4 - Sonda interacumulador (HS)/mando remoto/sonda exterior
 M4 - Mando remoto/sonda exterior
 V1-V2 - Operador válvula gas
 P - Bomba
 W.D.S. - Presostato agua
 P1 - Potenciómetro regulación temperatura sanitaria
 P2 - Potenciómetro regulación temperatura calefacción
 P3 - Selector de función
 R9 - Trimmer velocidad máxima ventilador
 R10 - Trimmer velocidad mínima ventilador
 R14 - Trimmer velocidad lenta encendido
 R19 - Trimmer velocidad máxima ventilador calefacción
 R35 - Trimmer selección curvas de termoregulación
 K.S. - Sensor condensado
 A.T.F. - Sonda exterior
 K.V.F. - Sonda alimentación temperatura circuito primario
 K.R.F. - Sonda retorno temperatura circuito primario
 S.W.F. - Sonda (NTC) temperatura circuito agua sanitaria (S)
 SW1 - Limpia-chimeneas
 TSC2 - Transformador encendido
 TR2 - Transformador principal
 A.T.B. - Termostato límite agua sobre temperatura
 GS 230V - Alimentación ventilador 230V
 GS - Señal control ventilador
 X2-X16 - Conexiones baja tensión
 3V - Servomotor válvula de 3 vías
 R.T.M. - Termostato ambiente
 STM - Termostato interacumulador
 BWF - Sonda interacumulador
 A.F. - Sonda humos

[PL] - Schemat wieloprzewodowy (S- HS-H)**Zalecana jest polaryzacja „L-N”**

Bl=Niebieski/Br=Brązowy/Sw=Czarny/Rt=Czerwony /
 Ws=Biały /Vt=Fioletowy /Gb=Żółty / Or=Pomarańczowy /
 Gr=Popielaty /Gn=Zielony/ Rs=Różowy
 GA=Zawór gazu /F=Bezpiecznik
 Hz - CH
 SAN. - DHW
 AD01X - Tablica sterownicza
 SK - Alarm pompy kondensatu – Termostat niskiej temperatury
 OT – Sterowanie zdalne
 CN1:CN5 – Połączenia wysokiego napięcia
 CN12 – Złącze serwisowe
 E.A. (1) – Elektroda zapłonowa
 I.E. (2) – Elektroda wykrywająca płomień
 F - Bezpiecznik 3,15 A F (szybki)
 F1-F2 - Bezpiecznik 3,15 A T (opóźniony)
 D.F.S. - Wewnętrzny przełącznik gorącej wody (S)
 JP5 - Zwórka wyboru wstępniego do konfiguracji kotła (poz. 5 dla S)
 JP2 - Zwórka wyboru wstępniego do konfiguracji kotła (poz. 2 dla HS)
 JP3 - Zwórka wyboru wstępniego termostatu zbiornika wody M3 Źródło zasilania
 M3-M5 - Kostka przyłączeniowa zegara/termostatu temperatury otoczenia
 M3a - Pompa kondensatu/termostat niskiej temperatury
 M2a - Kostka przyłączeniowa termostatu zbiornika wody M2-M4 - sondy zbiornika wody (HS) - zdalne sterowanie - Sonda zewnętrzna
 M4 - zdalne sterowanie - Sonda zewnętrzna
 V1-V2 - Operator zaworu gazowego
 P - Bomba
 W.D.S. - Przelacznik ciśnienia wody
 P1 - Wewnętrzny potencjometr regulacyjny temperatury gorącej
 P2 - Potencjometr regulacyjny temperatury podgrzewania
 P3 - Przelacznik funkcji
 R9 - Regulator maksymalnej prędkości wentylatora

R10 – Regulator minimalnej prędkości wentylatora
 R14 – Regulator prędkości powolnego rozruchu
 R19 – Regulator maksymalnej prędkości wentylatora grzewczego
 R35 – Regulator wyboru krzywej podgrzewania K.S. - Czujnik kondensatu
 ATF - Sonda zewnętrzna
 K.V.F. - Sonda NTC zasilania obiegu c.o.
 K.R.F. - Sonda NTC powrotna obiegu c.o.
 S.W.F. - Wewnętrzna sonda obwodu gorącej wody (NTC) (S)
 SW1 - Oczyszczacz paliwa
 TSC2 - Transformator zapłonu
 TR2 - Transformator główny
 ATB - Termostat granicznej temperatury wody GS 230V - Wejście zasilania 230 V
 GS - Sygnal sterowania wentylatorem X2-X16 - Połączenia niskiego napięcia 3V - 3-drózny siłownik cylindryczny
 RTM. - Termostat temperatury otoczenia STM - Termostat zasobnika
 BWF - Sonda NTC zasobnika A.F. - Czujnik spalin

[RO] - Schema electrica multifilara (S - HS-H)**Este recomanda polarizarea “L-N”**

Bl=Albastru/Br=Maro /Sw=Negru /Rt=Rosu / Ws=Alb/
 Vt=Violet /Gb=Galben /Or=Portocaliu /Gr=Gri/
 Gn=Verde/Rs=Roz
 GA=Vâna gaz /F=Siguranta fuzibilă
 HZ - INCALZIRE
 CHW - ACM
 AD01X - Placa de control
 SK - Alarma pompa condens - Termostat joasa temperatură
 OT - Panou de comanda la distanta
 CN1:CN5 - Conexiuni inalta tensiune
 CN12 - Conector de rezerva
 E.A. (1) - Electrod de aprindere
 I.E. (2) - Electrod de relevare flacara
 F - Siguranta 3.15A F (rapida)
 F1-F2 - Siguranta 3.15A T (intarziata)
 DFS - Fluxostat sanitar (S)

JP5 - Jumper preselectare config. centrala (poz.5 pentru S)
 JP2 - Jumper preselectare config. centrala (poz.2 pentru HS)
 JP3 - Jumper preselectare termostat boiler
 M3 Alimentare electrică
 M3-M5 - Riglete conectare programator orar/termostat de ambient
 M2-M4 - sonda boiler (HS)/panou de comanda la distanta/sonda externa
 M4 - Panou de comanda la distanta/sonda externa
 M3a - Pompa condens/termostat joasa temperatura
 M2a - Riglete conectare termostat boiler
 V1-V2 - Operator vana gaz
 P - Pompa
 W.D.S. - Presostat de apa
 P1 - Potentiometru reglare temperatura apa calda menajera
 P2 - Potentiometru reglare temperatura incalzire
 P3 - Selector de functie

R9 - Trimmer viteza maxima ventilator
 R10 - Trimmer viteza minima ventilator
 R14 - Trimmer viteza de aprindere lenta
 R19 - Trimmer viteza maxima ventilator incalzire
 R35 - Trimmer selectare curbe de termoreglare K.S. - Senzor condens
 ATF - Sonda externa
 K.V.F. - Sonda tur temperatura circuit primar
 K.R.F. - Sonda retur temperatura circuit primar
 S.W.F. - Sonda (NTC) temp. circuit apa calda menajera (S)
 SW1 - Functia Cosar
 TSC2 - Transformator zapłonu
 TR2 - Transformator główny
 A.T.B. - Termostat limita supratemperatura apa GS 230V - Alimentare ventilator 230V
 GS - Semnal control ventilator X2-X16 - Connexiuni de joasa tensiune 3V - Servomotor vana cu 3 cai
 RTM - Termostat de ambient STM - Termostat boiler
 BWF - Sonda boiler
 A.F. - Sonda de fum

[DK] - Multi-wirediagrammer (S - HS-H)
“L-N” polaritet anbefales

Bl=Blå / Marrone=Brun / Nero=Sort / Rosso=Röd /
 Bianco=Hvid / Viola=Violet / Giallo=Gul /
 Arancione=Orange / Grigio=Grå / Verde=Grön /
 Rosa=Pink
 VG=Gasventil / Fusibile=Sikring
 RISC. - OPVARMING
 SAN. - BRUGSVAND
 AD01X - Styretavle
 SK - Kondenseringspumpalarm
 OT - Fjernbetjening
 CN1:CN5 - Højspændingstilslutninger
 CN12 - Servicetilslutning
 E.A. (1) - Tændingselektrode
 I.E. (2) - Flammercællingselektrode
 F - Sikring 3.15A F (hurtig)

F1-F2 – Sikring 3.15A T (forsinket)

DFS – Brugsvandets flow-afbryder (S)

JP5 – Kedelkonfiguration forindstilling af krydsforbindelse (pos. 5 på S)
 JP2 – Kedelkonfiguration forindstilling af krydsforbindelse (pos. 5 på S)
 JP3 – Kedelkonfiguration forindstilling vandtanktermostat

M3 Elektrisk forsyning

M3-M5 Ur/omgivelsestermostatens tilslutningsbånd
 M2-M4 - Vandtanksøndens tilslutningsbånd (HS)/
 Fjernbetjening/Udvendig sonde

M4 - Fjernbetjening/Udvendig sonde

M2a - Vandtanktermostat

V1-V2 - Gasventil operatør

P - Pumpe

WDS - Vandtrykrelæ

P1 - Brugsvandets temperaturjusteringspotentiometer

P2 - Opvarmningens temperaturjusteringspotentiometer

P3 - Funktionsvælger

R9 - Maksimumsventilatorhasighedstrimmer

R10 - Minimumsventilatorhasighedstrimmer

R14 - Hastighedstrimmer til langsom start

R19 - Maksimumsparmningshastighedstrimmer

R35 - Varmejusteringens markeringskurvetrimmer

KS - Kondensensor

ATF - Udvendig sonde

KVF - Fremløbsttemperatursonde på primært kredsløb

KRF - Returtemperatursonde på primært kredsløb

SWF - Brugsvandets kredsløbssonde (NTC) (S)

SW1 - Aftræksrensering

TSC2 - Tændingstransformator

TR2 - Hovedtransformator

ATB - Vandovertemperaturbegrensningstermostat GS230 - Ventilatoreffektinput 230V

GS - Ventilatorstyrsignal

X2-X16 - Lavspændingstilsutninger

3V - 3-vejsmagnetservomotor

RTM - Omgivelsestermostatens

STM - Vandtanktermostat

BWF - Vandtanksønde

AF - Røggassonde

[FR] - Diagrammes multiconducteur (S - HS - H)

La polarisation L-N est recommandéeBl=Bleu / Br=Marron / Sw=Noir / Rt=Rouge / Ws=Blanc /
 Vt=Violet / Gb=Jaune / Or=Orange / Gr=Gris / Vert=Gn /
 Rs=Rose

Hz - CH

DHW - DHW

AD01X – Pupitre de commande

SK - Alarme pompe condensats / Thermostat de température basse
 OT – Commande à distance

CN1:CN5 – Connexions haute tension

CN12 – Connecteur de service

E.A. (1) – Electrode d'allumage

I.E. (2) – Electrode de détection de flamme

F – Fusible 3.15 F (rapide)

F1-F2 - Fusible 3.15A T (retardé)

DFS - Fluxostat de l'eau chaude sanitaire (S)

JP5 - Cavalier de préélection de la configuration de la chaudière (pos. 5 pour S)

JP2 - Cavalier de préélection de la configuration de la chaudière (pos. 2 pour HS)

JP3 - Cavalier de préélection du thermostat réservoir d'eau

M3-M5 Bornier thermostat d'ambiance/horloge

M2a – Bornier thermostat réservoir d'eau (H-HS)

M3a - Thermostat de température basse/pompe à condensats

M2-M4 - Bornier sonde réservoir d'eau/sonde externe/Commande à distance

M4 - Sonde externe/Commande à distance

V1-V2 - Actionneur vanne de gaz

P - Pompe

W.D.S. - Pressostat de l'eau

P1 – Potentiomètre de réglage de la température de l'eau chaude sanitaire

P2 – Potentiomètre de réglage de la température du chauffage

P3 – Sélecteur de fonction

R9 – Déclencheur de vitesse maximum du ventilateur

R10 – Déclencheur de vitesse minimum du ventilateur

R14 – Déclencheur de vitesse de démarrage lent

R19 – Déclencheur de vitesse maximum du ventilateur de chauffage

R35 – Déclencheur de sélection de la courbe de réglage du chauffage

K.S. – Capteur de condensats

ATF – Sonde externe

K.V.F. – Sonde de température de refoulement du circuit primaire

K.R.F. – Sonde de température de retour du circuit primaire

S.W.F. – Sonde NTC du circuit de l'eau chaude sanitaire (S)

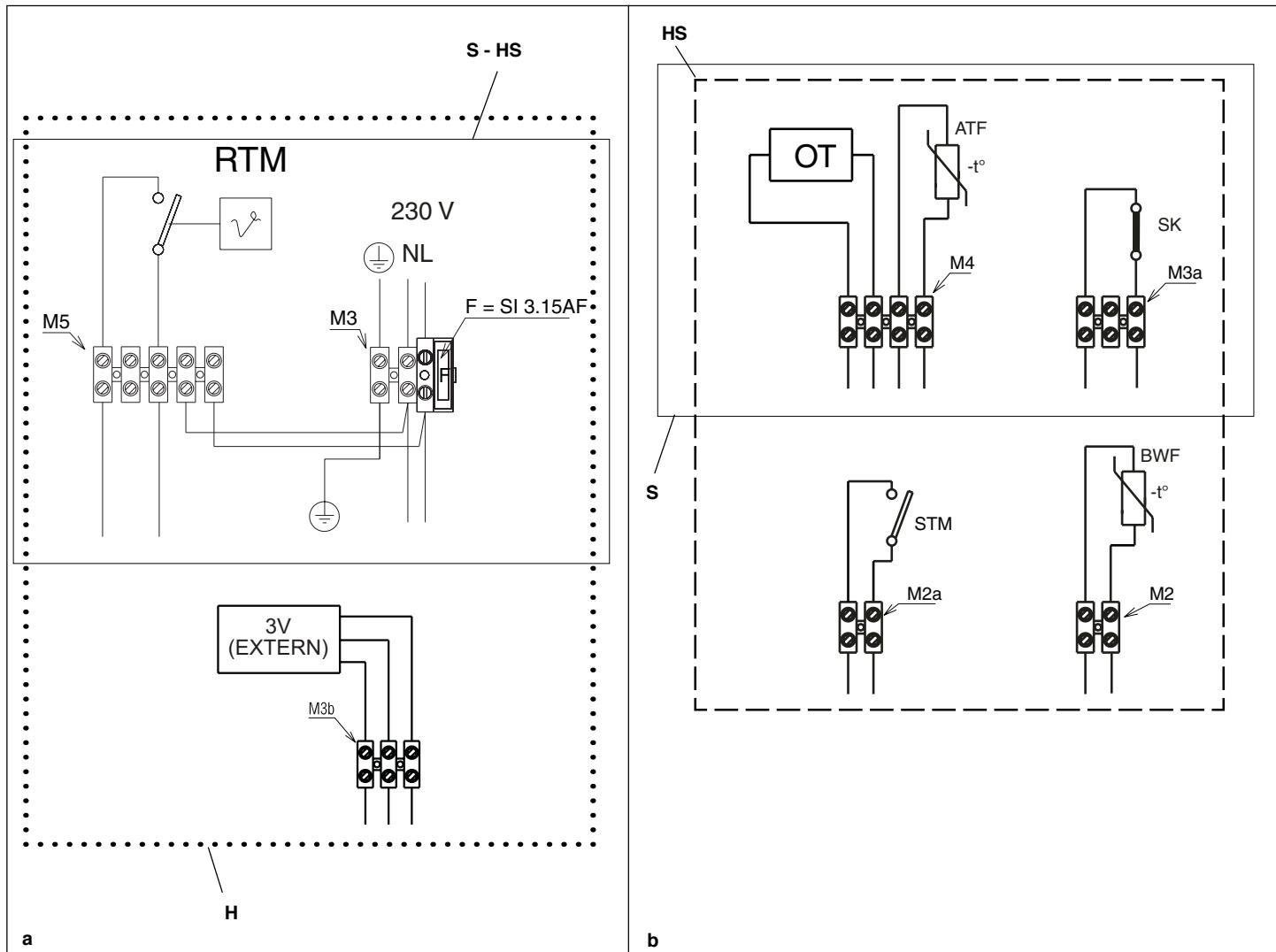
SW1 – Nettoyeur de fumées

TSC2 – Transformateur d'allumage

TR2 – Transformateur principal

A.T.B. - Thermostat de limite de sur-température de l'eau GS 230V – Entrée électrique ventilateur 230V

GS – Signal de commande du ventilateur



[EN] - Connecting the ambient thermostat and/or time clock (S - HS - H)

- a Fit the ambient thermostat as shown in the diagram after removing the jumper on the 5-pin terminal board (M5). The ambient thermostat contacts must be suitable for V=230 Volts.

RTM= Ambient thermostat

F = fuse 3.15AF

M3b= if necessary fit the external three way valve for the connection of external sanitary tank (H).

- b The low voltage users are connected to the M2, M2a, M3a, M4 terminal boards fitted for connecting low voltage users:

STM= water tank thermostat

SK= low temperature thermostat/condensate pump alarm

OT= remote control

ATF= external probe

BWF= water tank probe

[ES] - Conexión termostato ambiente y/o programador horario (S - HS - H)

- a El termostato ambiente se instalará como se indica en el esquema, después de haber quitado el puente presente en el terminal de conexión de 5 polos (M5). Los contactos del termostato ambiente se tienen que calcular para V= 230 Volt.

RTM= termostato ambiente

F = fusible 3.15AF

M3b= En el caso de la conexión de un hervidor sanitario exterior, efectuar la conexión de la válvula externa de tres vías en el borne M3b (H)

- b Los servicios de baja tensión e conectarán a los terminales de conexión M2, M2a, M3a, M4 predisuestos para la conexión de los servicios en baja tensión:

STM= termostato interacumulador

SK= termostato baja temperatura/alarma bomba condensación

OT= mando remoto

ATF= sonda exterior

BWF= sonda interacumulador

[PL] - Podłączenie termostatu i/lub zegara (S - HS - H)

- a Zamontować termostat otoczenia jak ukazano na rysunku, po wyjęciu zworki z 5 szpilki płytki zacisków (M5). Styki termostatu otoczenia muszą być odpowiednie do napięcia V = 230 woltów..

RTM= Termostat otoczenia

F= bezpiecznik 3,15AF

M3b = W wypadku kiedy podłączany jest zewnętrzny zasobnik c.w.u., należy podłączyć zewnętrzny zawór trójdrogowy do zacisku M3b (H).

- b Użytkownicy niskiego napięcia są podłączeni do końcówek M2, M2a, M3a i M4 płytek zacisków zamontowanych dla podłączenia użytkowników niskiego napięcia:

STM= termostat zbiornika wody

SK= termostat niskiej temperatury/alarm pompy skroplin

OT= zdalne sterowanie

ATF= sonda zewnętrzna

BWF= sonda zbiornika wody

[DK] – Tilslutning af omgivelsestermostat og/eller ur (S - HS - H)

- a Anbring omgivelsestermostaten som vist i diagrammet efter at have taget krydsforbindelsen på styretavlens 5-bensstik (M5). Omgivelsestermostatens kontakter skal passe til V=230 Volts.

RTM= Omgivelsestermostat

F = sikring 3.15AF

M3b= Ved tilslutning til en sanitærvandskedel til udendørsmontering skal den udvendige trejeventil tilsluttes klemmskrue M3b (H)

- b Lavspændingsaftagere tilsluttes tilslutningskortene M2, M2a, M3a, M4, som passer til lavspændingsaftagere:

STM.= vandtanktermostat

SK= Lav temperaturtermometer/condensatpumpalarm

OT= Fjernbetjening

ATF= Fjernbetjening

BWF= Vandtanksonde

[FR] - Branchement du thermostat d'ambiance et/ou de la minuterie (S - HS - H)

- a. Préparez le thermostat d'ambiance de la façon illustrée sur le diagramme après avoir retiré le cavalier du bornier à 5 broches (M5). Les contacts du thermostat d'ambiance doivent supporter un courant V=230 Volts.

RTM = Thermostat d'ambiance

F = fusible 3.15AF

M3b= En cas de raccordement d'une chaudière sanitaire externe, relier la vanne trois voies au bornier M3b (H).

- b. Les usagers basse tension sont branchés sur les borniers M2, M2a, M3a.

M4 préparés pour les usagers basse tension.

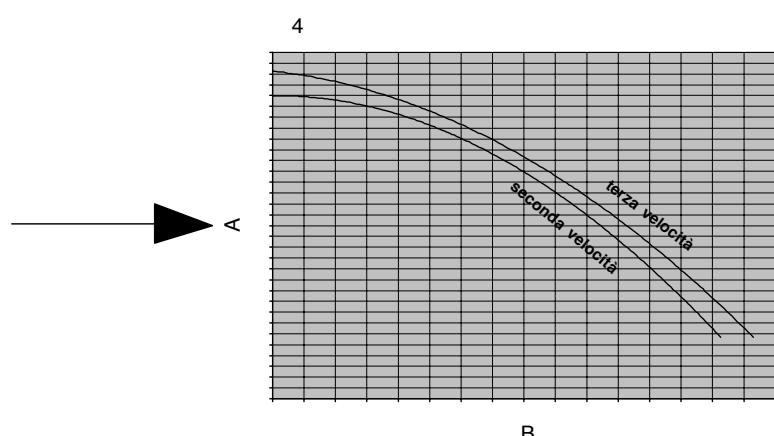
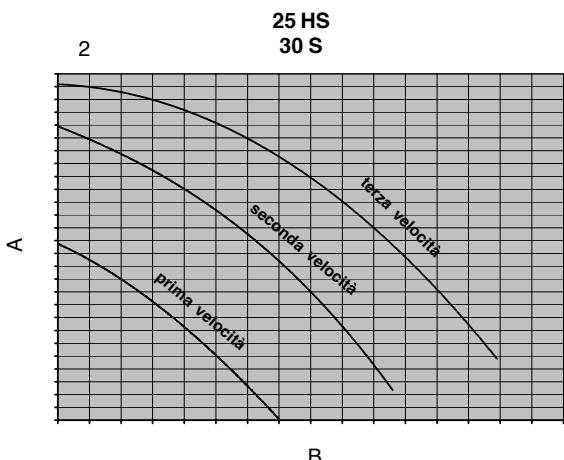
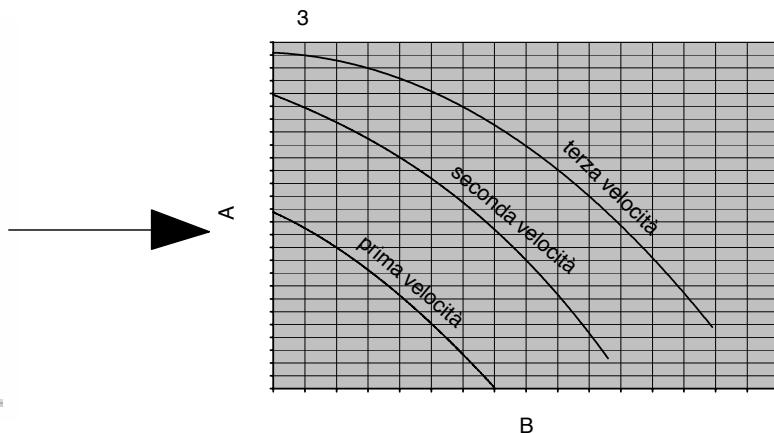
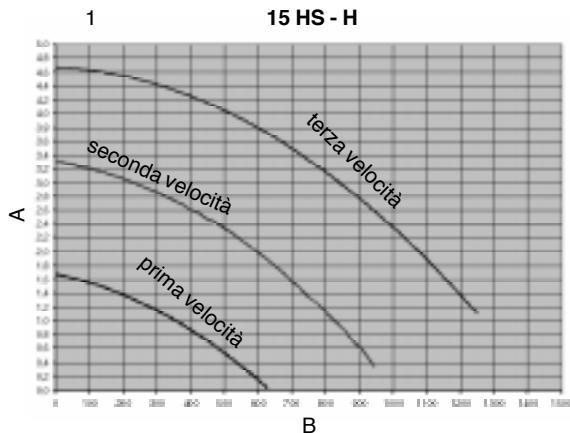
STM = Thermostat du réservoir d'eau

SK= alarme pompe de condensats/ thermostat basse température

OT = Commande à distance

ATF = Sonde externe

BWF = sonde réservoir externe

**[EN] - Circulator residual head**

A - Residual head (x 100 mbar)

B - Capacity (l/h)

Graphs 1 and 2 show the residue head for the heating system according to flow values. Calculate the dimensions of the heating system pipes bearing in mind the available residue head. The boiler works correctly if sufficient water circulates in the heating exchanger. The boiler is fitted with an automatic by-pass for this purpose which adjusts the flow of water to the heating exchanger according to the condition of the system. If a higher head is required, the "high head circulator" kit is available on request (graphs 3 - 4).

prima velocità = first speed

seconda velocità = second speed

terza velocità = third speed

[ES] - Altura de carga residual del circulador

A - Carga hidrostática residual (x 100 mbar)

B - Caudal (l/h)

La carga hidrostática residual para la instalación de calefacción está representada, en función de la capacidad, por los gráficos 1 y 2. El dimensionamiento de las tuberías de la instalación de calefacción se tiene que efectuar teniendo presente el valor de la altura de carga residual disponible. Hay que considerar que la caldera funciona correctamente si en el intercambiador del calefacción si existe una suficiente circulación de agua. Por eso la caldera está dotada de un by-pass automático que provee regular un correcto caudal de agua en el intercambiador calefacción para cualquier tipo de instalación.

En el caso de que haya que obtener una mayor elevación, se puede disponer si se requiere de un kit "circulador alta carga hidrostática" (gráficos 3 - 4).

prima velocità = primera velocidad

seconda velocità = segunda velocidad

terza velocità = tercera velocidad

[PL] - Szczątkowy słup wody cyrkulatora

A - Szczątkowy słup wody (x 100 mbar)

B - Wydajność (l/godz.)

Wykresy 1 i 2 ukazują szczątkowy słup wody dla systemu ogrzewania, odpowiednio do wartości przepływu. Obliczać wymiary rur systemu ogrzewania mając na względzie dostępny szczątkowy słup wody. Kocioł działa prawidłowo, jeżeli w wymienniku ciepła cyrkuluje wystarczająca ilość wody. Kocioł jest wyposażony w automatyczne obejście do tego celu, które reguluje przepływ wody do wymiennika ciepła, zgodnie z warunkami w systemie.. Jeżeli wymagany jest wyższy słup wody, dostępny na żądanie jest zestaw "cyrkulatora wysokiego słupa wody" (wykresy 3 - 4).

prima velocità = pierwsza prędkość

seconda velocità = druga prędkość

terza velocità = trzecia prędkość

[RO] - Caracteristica de debit a pompe

A - Cap rezidual (x 100 mbar)

B - Capacitate (l/h)

Sarcina hidraulică disponibilă pentru instalatia de incalzire este reprezentată, în funcție de debit, în graficele 1 și 2. Dimensionarea instalației de incalzire trebuie realizată tinând cont de valoarea sarcinii hidraulice disponibile. Trebuie să aveți în vedere că centrala funcționează corect dacă în schimbatorul de căldură există o circulație suficientă de apă.

De aceea centrala a fost dotată cu un by-pass automat care să regleză un debit corespunzător de apă în schimbator, indiferent de condițiile din instalație.

Dacă este necesară o sarcină hidraulică mai mare, este disponibilă la cerere kit-ul "pompa de circulație cu sarcină hidraulică mare" (graficele 3 - 4).

prima velocita' = prima viteza

seconda velocita' = a doua viteza

terza velocita' = a treia viteza

[DK] - Resterende cirkulator-spidseffekt

A - Resterende spidseffekt (x 100 mbar)

B - Kapasitet (l/h)

Graf 1 og 2 viser den resterende spidseffekt på varmesystemet i henhold til flow-værdierne. Beregnet varmesystemets rørledningsdimensioner i funktion af den disponible resterende spidseffekt. Kedlen virker korrekt, hvis der cirkulerer tilstrækkeligt med vand i varmeverksleren. Kedlen er udstyret med automatisk by-pass til dette formål, som justerer vandstrommen til varmeverksleren i funktion af systemets forhold. Der står et sæt til "høj cirkulator-effekt" til rådighed på forespørgsel (graf 3 - 4) ved behov for større spidseffekt.

prima velocità = første hastighed

seconda velocità = anden hastighed

terza velocità = tredje hastighed

[FR] Chaleur de charge résiduelle du circulateur

A - Chaleur de charge résiduelle (x100 mbar)

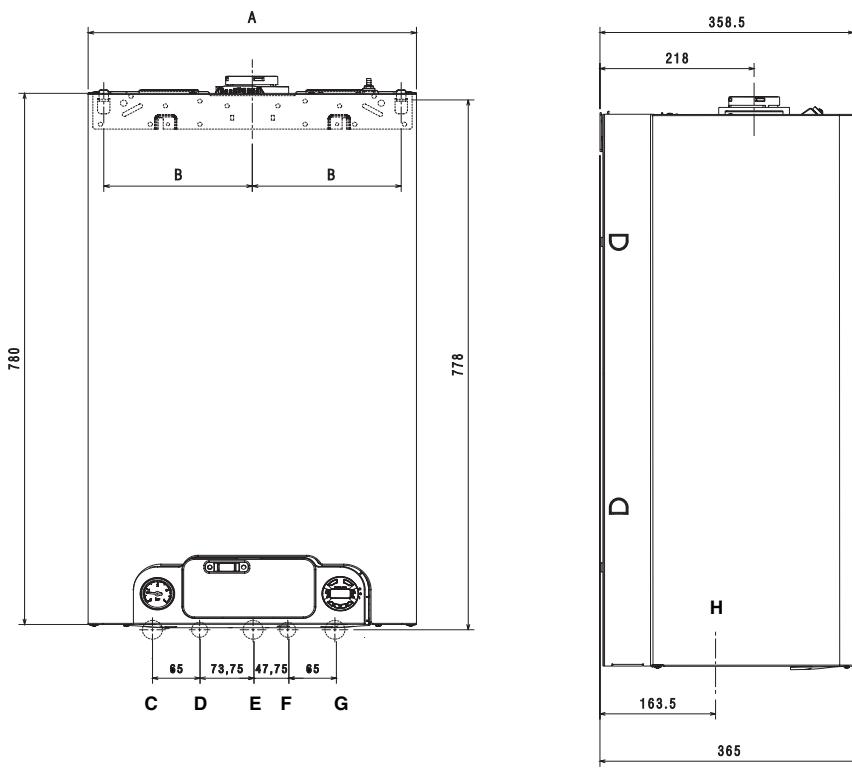
B - Capacité (l/h)

Les graphiques 1 et 2 montrent la chaleur de charge résiduelle du système de chauffage conformément aux valeurs de débit. Calculez la dimension des tuyaux du système de chauffage en tenant compte de la chaleur de charge résiduelle disponible. La chaudière travaille correctement s'il y a suffisamment d'eau qui circule dans l'échangeur de chaleur. Dans ce but la chaudière est équipée d'une dérivation automatique qui règle le débit de l'eau vers l'échangeur de chaleur en fonction des conditions du système. S'il faut une chaleur de charge plus élevée, il existe un kit Circulateur de chaleur de charge à la demande (graphiques 3 - 4)

prima velocità = première vitesse

seconda velocità = deuxième vitesse

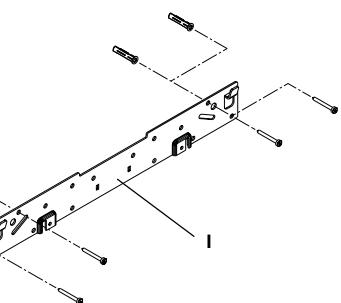
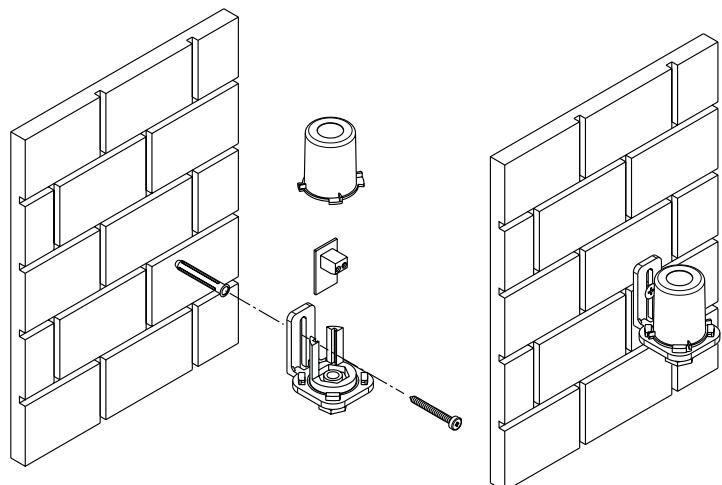
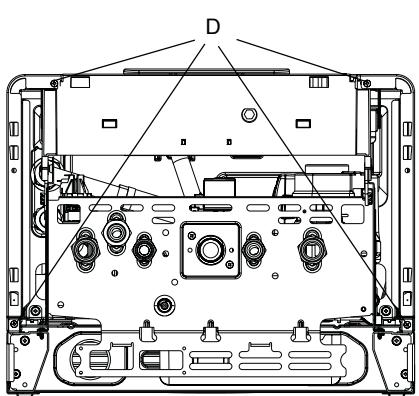
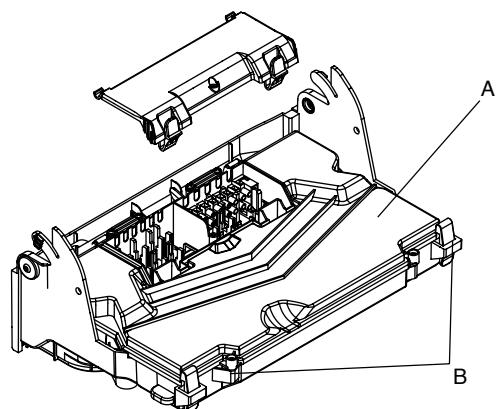
terza velocità = troisième vitesse

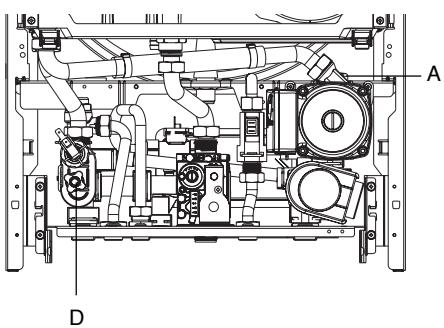
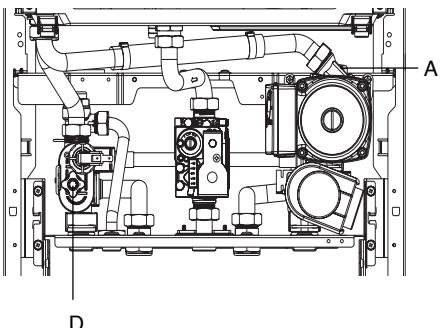
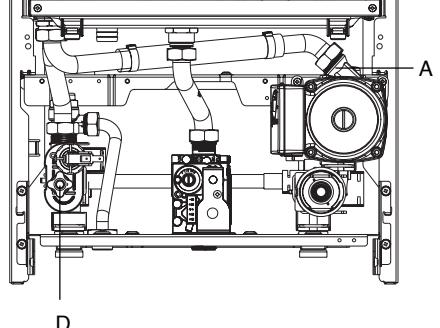
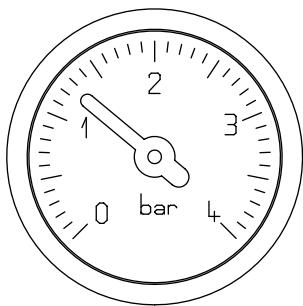
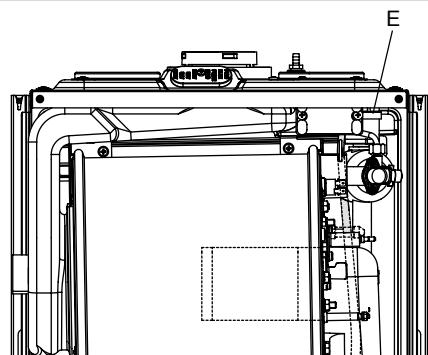
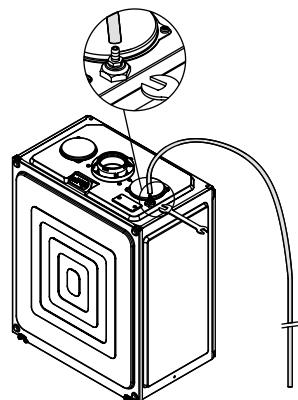
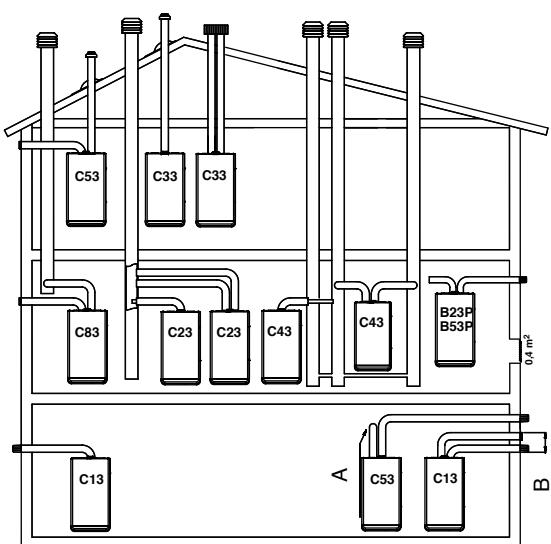
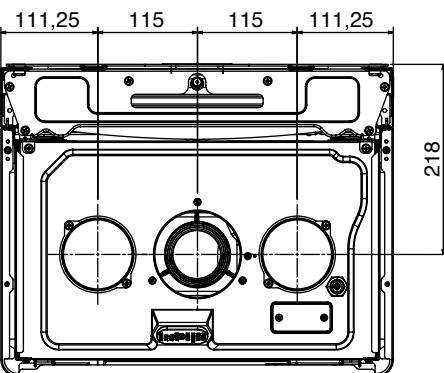
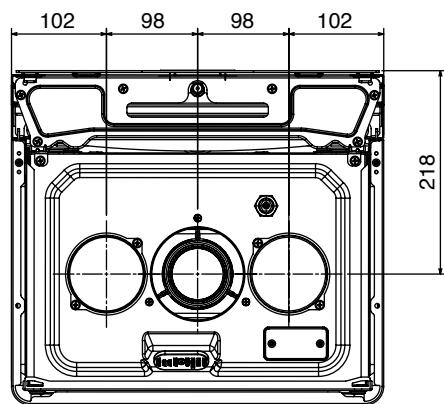
- 3.1 -

[EN] Dimensions in mm
 [ES] Medidas en mm
 [PL] Wymiary w mm
 [RO] Dimensiuni in mm
 [DK] Dimensioner i mm
 [FR] Dimension en mm

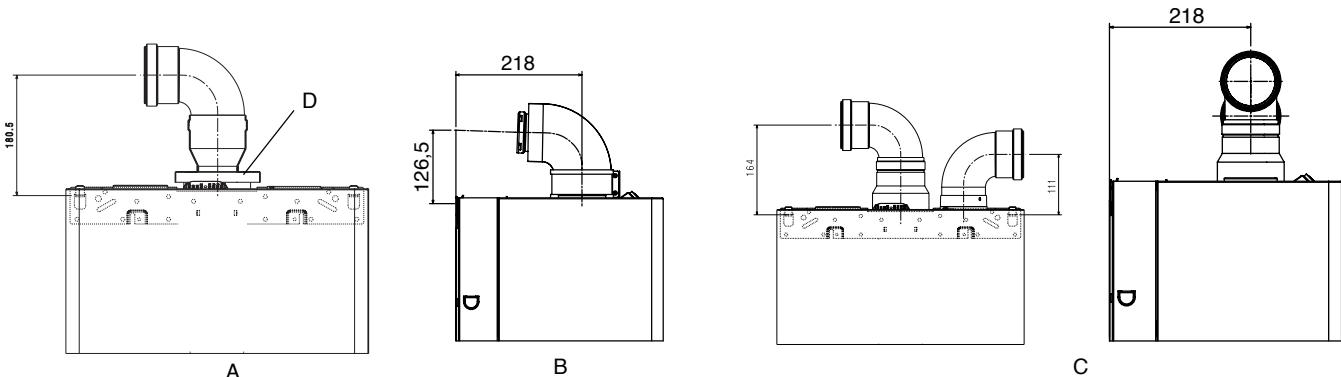
| | A | B |
|---------|----------|----------|
| 30 S | 452,5 | 205 |
| 25 HS | 452,5 | 205 |
| 15 HS-H | 400 | 180 |

[EN] H- Water-gas
 [ES] H - Agua-gas
 [PL] H - Woda-gaz
 [RO] H - Apa-gaz
 [DK] H - Vand-gas
 [FR] H – Gaz-eau

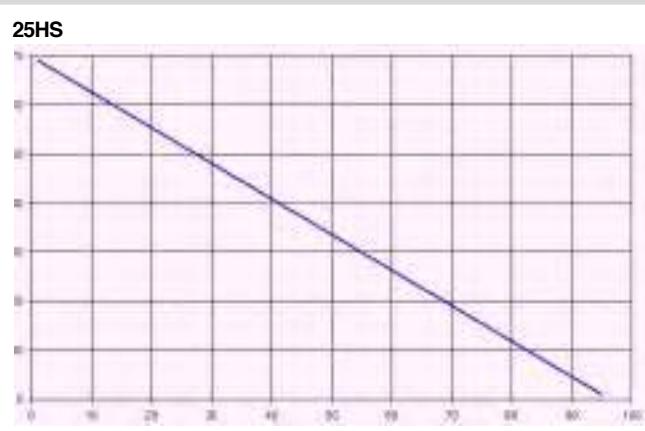
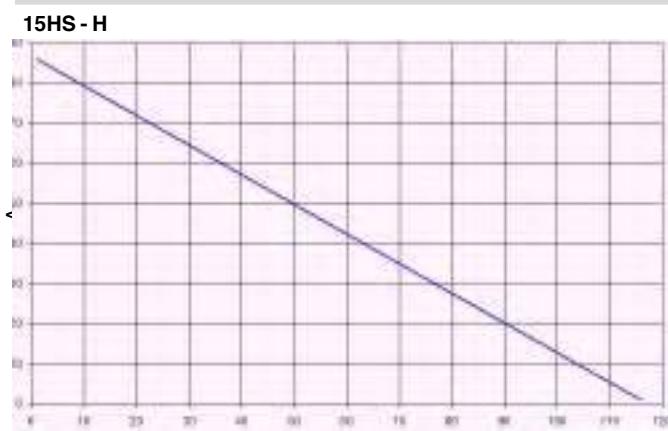
- 3.1a -**- 4.1 -****- 7.1 -****- 7.2 -**

- 8.1 -**- 8.2 -****- 8.2a -****- 8.3 -****- 8.4 -****- 8.5 -****- 9.1 -****- 9.2 -**

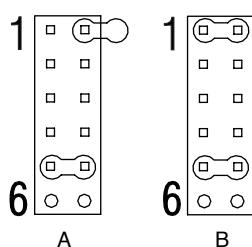
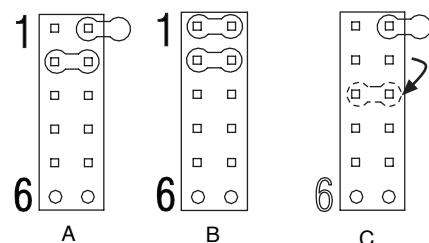
[EN] A - Rear outlet / B - Max 50 cm
 [ES] A - Salida trasera / B - Màx 50 cm
 [PL] A - Tylny wylot / B - Maks. 50 cm
 [RO] A - Supapa posterioara / B - Max 50 cm
 [DK] A - Bagerste udtag / B - Max 50 cm
 [FR] A - Sortie arrière / B - Maxi 50 cm

- 9.3 -

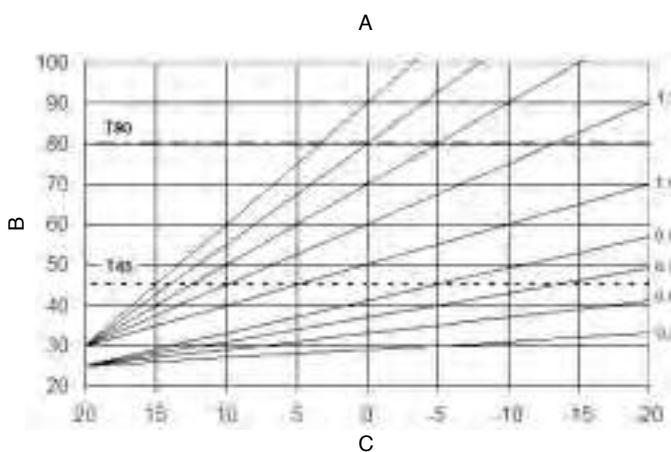
[EN] A - Fumes duct for intake in environments / B - Concentric duct for fumes outlet/air intake / C - Twin duct for fumes outlet/air intake / D - Adaptor Ø 60-80
 [ES] A - Conducto humos aspiración en ambientes / B - Conducto concéntrico para evacuación de humos/extracción aire / C - Conducto desdoblados para evacuación de humos/extracción aire / D - Adaptador Ø 60-80
 [PL] A - Kanał spalin dla pobierania z otoczenia / B - Koncentryczny kanał dla wylotu spalin/ pobierania powietrza / C - Podwójny kanał dla wylotu spalin/ pobierania powietrza / D - Adapter Ø 60-80
 [RO] A - Tub evacuare fum/aspirare aer din ambianta / B - Tub concentric pentru evacuare fum/aspirare aer / C - Tuburi separate pentru evacuare fum/aspirare aer / D - Adaptor Ø 60-80
 [DK] A – Røggasaftræk til indtag i omgivelser / B – Balanceret aftæk til røggasudtag/luftindtag / C – Splitkanal til røggasaftræk/luftindtag / D - Adapter Ø 60-80
 [FR] A – Conduit fumées pour aspiration dans environnement / B - Conduit pour évacuation fumées/aspiration air / C – Double conduit pour évacuation fumées/aspiration air / D - Adaptateur Ø 60-80

- 9.4 -

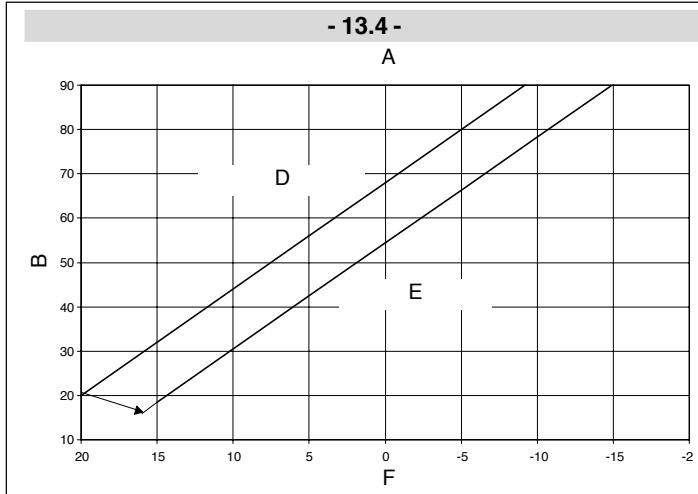
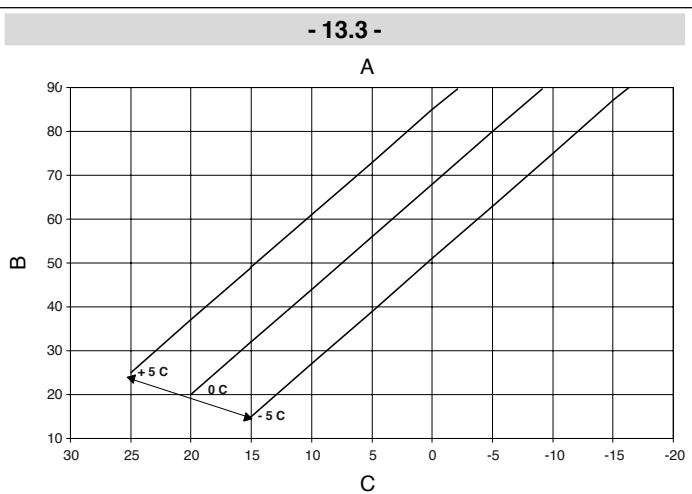
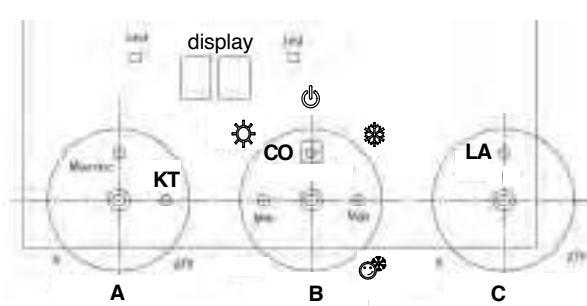
[EN] A - Exhaustion lenght (m) / B - Length of the intake duct (m)
 [ES] A - Longitud conducto evacuación (m) / B - Longitud conducto extracción (m)
 [PL] A - Długość wywiewu (m) / B - Długość kanału pobierania (m)
 [RO] A - Lungime evacuare (m) / B - Lungime tub aspiratie (m)
 [DK] A - Aftrækslængde (m) / B – Længde på indtagskanal (m)
 [FR] A – Longueur évacuation (m) / B – Longueur conduit aspiration (m)

- 12.14 -**- 12.15 -**

- 13.1 -



- 13.2 -



[EN]

A - Thermoregulation curves
B - Climate curve correction
C - Parallel night time reduction
D - Delivery temperature (°C)
E - External temperature (°C)
F - T80 - Maximum heating temperature set point for std systems (jumper pos. 1 not inserted) / T45 - Maximum heating temperature set point for floor systems (jumper pos. 1 inserted)

[ES]

A - Curvas de termorregulación
B - Corrección de la curva climática
C - Reducción nocturna paralela
D - Temperatura de alimentación (°C)
E - Temperatura exterior (°C)
F - T80 - Máxima temperatura set point calefacción instalaciones estándar (jumper pos.1 no montado) / T45 - Máxima temperatura set point calefacción instalaciones de pavimento (jumper pos.1 montado)

[PL]

A - Krzywe termoregulacji
B - Korekta krzywej klimatu
C - Równolegle zmniejszenie w porze nocnej
D - Temperatura zasilania (°C)
E - Temperatura zewnętrzna (°C)
F - T80 - Maksymalna nastawa temperatury ogrzewania dla systemów standardowych (zwinka w poz. 1 nie wstawiona) / T45 - Maksymalna nastawa temperatury ogrzewania dla systemów podłogowych (zwinka w poz. 1 wstawiona)

[RO]

A - Curbe de termoreglare
B - Corectarea curbei de temperatură
C - Paralele diminuare grad confort
D - Temperatura de pe tur (°C)
E - Temperatura exteră (°C)
F - T80 - Set point temperatura maxima de incalzire instalatii standard (jumperul din pozitia 1 nu este inserat) / T45 - Set point temperatura maxima de incalzire instalatii in pardoseala (jumperul din pozitia 1 este inserat)

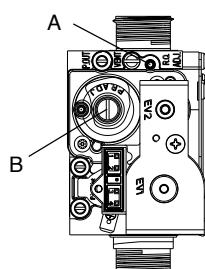
[DK]

A - Termoreguleringskurver
B - Klimakurvekorrektion
C - Parallel nattereduktion
D - Fremlobstempertatur (°C)
E - Udvendig temperatur (°C)
F - T80 – Maksimal opvarmningstemperatur-setpoint til std-systemer (jumper pos.1 ikke sat) / T45 – Maksimal opvarmningstemperatur-setpoint til gulvvarmesystemer (krydsforbindelse pos. 1 sat)

[FR]

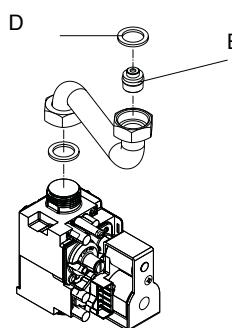
A - Courbes de thermorégulation
B - Correction de courbe climatique
C - Réduction nocturne parallèle
D - Température refoulement (°C)
E - Température extérieure (°C)
F - T80 – Point de consigne de la température de chauffage maximum des systèmes classiques (cavalier pos. 1 pas engagé) / T45 - Point de consigne de la température de chauffage maximum des systèmes au sol (cavalier 1 engagé)

- 14.1 -

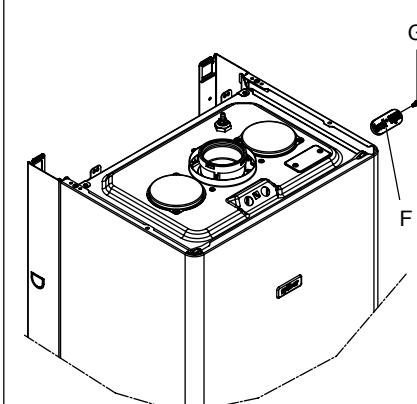


[EN] A - Maximum power adjustment screw / B - Minimum power adjustment screw
[ES] A - Tornillo de regulación máxima potencia / B - Tornillo de regulación mínima potencia
[PL] A - Sruba regulacji maksymalnej mocy / B - Śruba regulacji minimalnej mocy
[RO] A - Surub de reglaj putere maxima / B - Surub de reglaj putere minima
[DA] A - Justeringsskrue maksimal effekt / B - Justeringsskrue mindste effekt
[FR] A - Vis de réglage de la puissance maximum / B - Vis de réglage de la puissance minimum

- 15.1 -



- 15.2 -





MHG Heiztechnik GmbH
Brauerstraße 2
21244 Buchholz i.d.N.
Hotline: 01803-00 12 24 (9 Cent/Min.
aus dem deutschen Festnetz –
abweichender Mobilfunktarif möglich)

kontakt@mhg.de
www.mhg.de