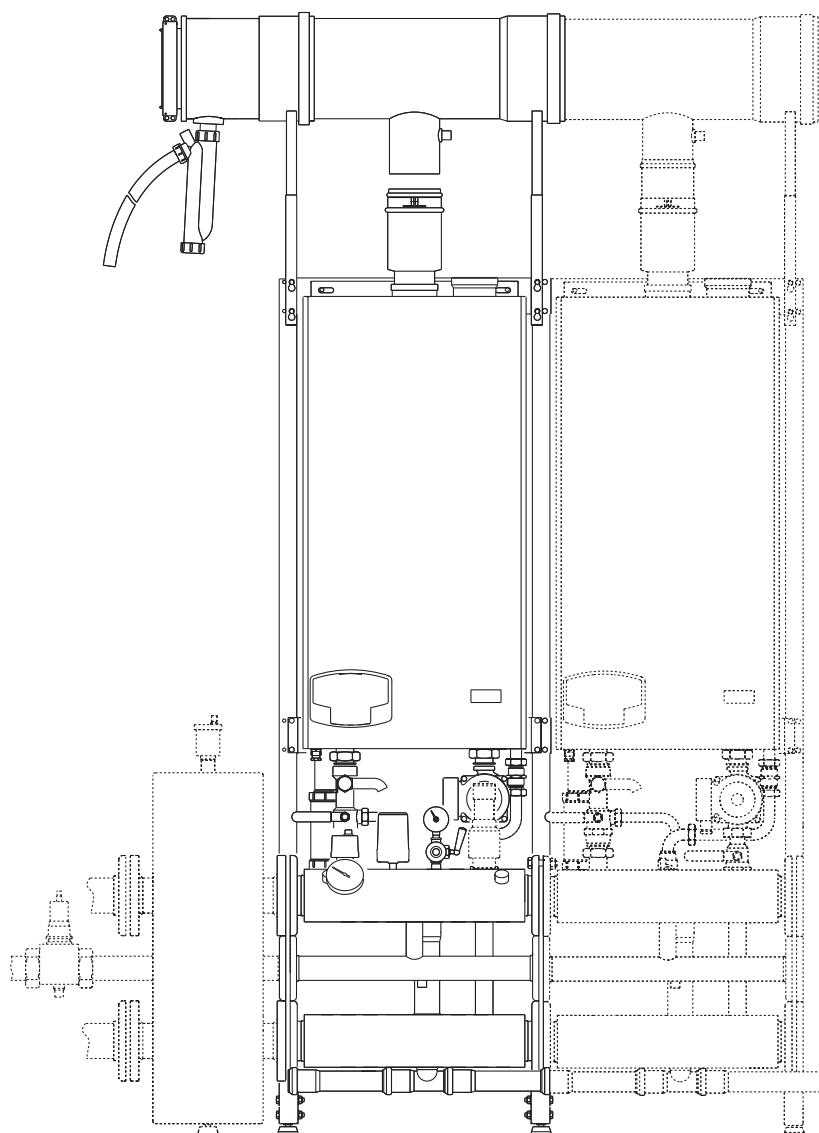


ENERGY TOP W



cod. 3540R570 - Rev. 05 - 10/2013



IT - KIT PER INSTALLAZIONE IN BATTERIA

ES - KIT FOR INSTALLATION IN BANK

KIT FOR INSTALLATION IN BANK - ENERGY TOP W

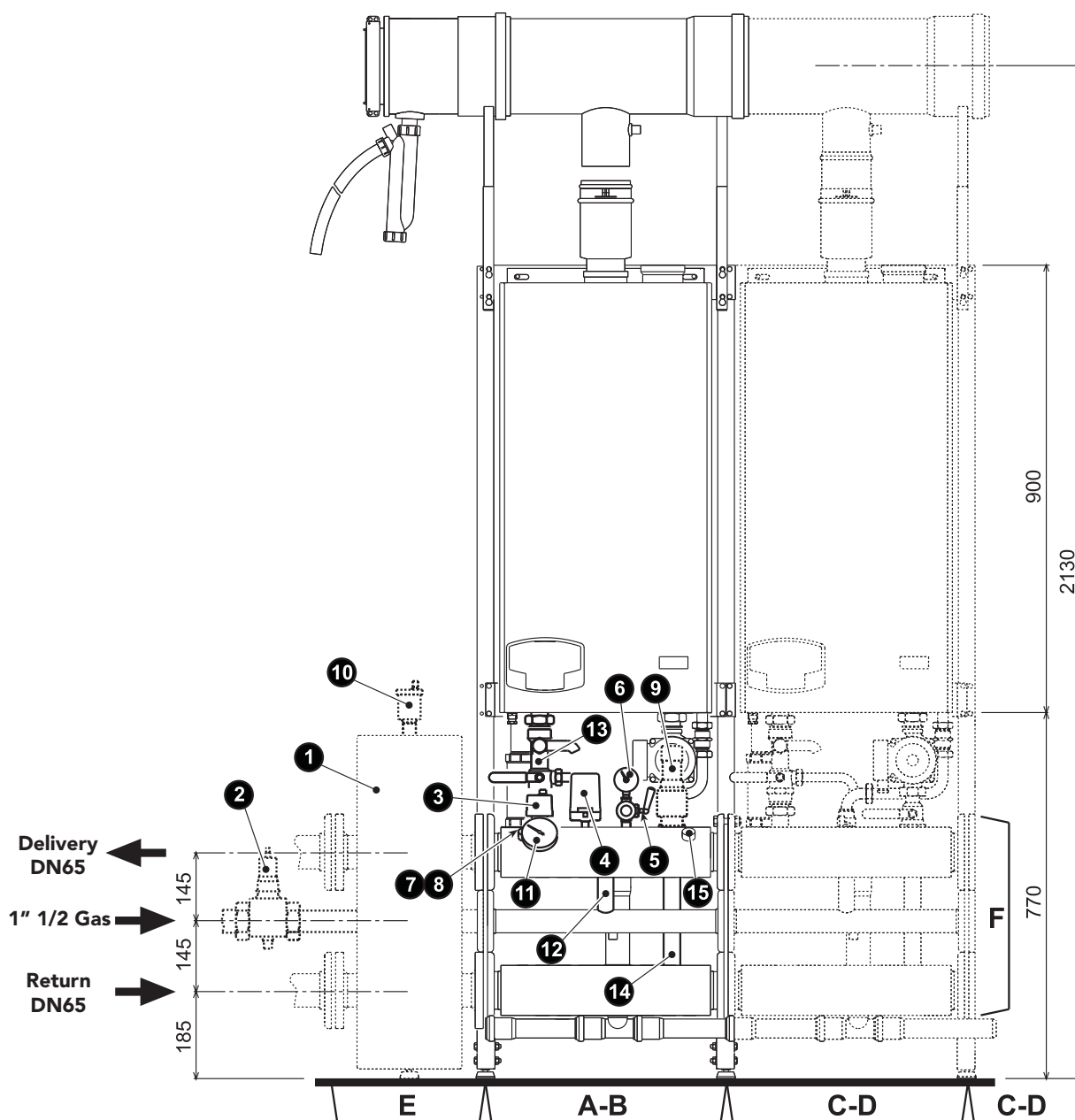


Fig. 1

Key

- | | |
|---|--|
| A "FRAME STARTING KIT" CODE 042031X0 | 5 3-way cock with ISPEL pressure gauge connection |
| B "HYDRAULIC MANIFOLD STARTING KIT" CODE 042028X0 | 6 Pressure gauge |
| C "FRAME EXTENSION KIT" CODE 042032X0 | 7 Connection ISPEL temperature measuring pocket |
| D "MANIFOLD EXTENSION KIT" CODE 042029X0 | 8 Pocket connection fuel shutoff valve probe |
| E "HYDRAULIC COMPENSATOR KIT" CODE 042030X0 | 9 ISPEL safety valve (not supplied as standard - see section 3) |
| F "FLANGE-GASKET KIT" CODE 042033X0 | 10 Air vent valve |
| 1 Hydraulic compensator (optional) | 11 Thermometer |
| 2 Gas valve (not supplied as standard - see section 3) | 12 Gas connection |
| 3 Safety Thermostat | 13 Water delivery connection |
| 4 Water pressure switch | 14 Water return connection |
| | 15 Caps |

1. DESCRIPTION

The kits given in this manual enable the installation of ENERGY TOP W series heat generators in bank (cascade). Basic kits and extension kits are available for each successive unit. Up to 4 units can be connected.

A hydraulic compensator (fig. 1) (optional) with air vent valve and thermal insulation is also available. The safety devices required by collection "R" section R3A and R3B, listed in Fig. 1, are fitted in the delivery manifold.

A connection pocket for the probe of a fuel shutoff valve (optional), to be installed in the system, is also foreseen.

2. HYDRAULIC COMPENSATOR (codE 042030X0)

The **hydraulic compensator** allows the primary circuit to be made independent from the hydraulic circuit of the slave heating system (secondary circuit) in **ENERGY TOP W** modules. The compensator is sized for proper operation up to 500 kW (4 **ENERGY TOP W** generators) The main advantages are:

- An external circulating pump does not have to be used for the primary circuit. The circulation in the primary circuit is ensured by just the circulating pumps inside the **ENERGY TOP W** generators.
- When the secondary pump is turned off, the circulation in the system circuit also stops; the entire flow from the circulating pumps inside the **ENERGY TOP W** generators is bypassed through the hydraulic compensator.
- The flow in the primary circuit can remain constant, whereas the secondary circuit can operate at variable or intermittent flow.
- There are no anomalous operating conditions where the system pumps interact with the circulating pumps inside the **ENERGY TOP W** generators, creating unwanted variations in flow rates and pressures in the circuits.
- The sizing of the system circulating pump can be according to just the requirements of the secondary circuit.

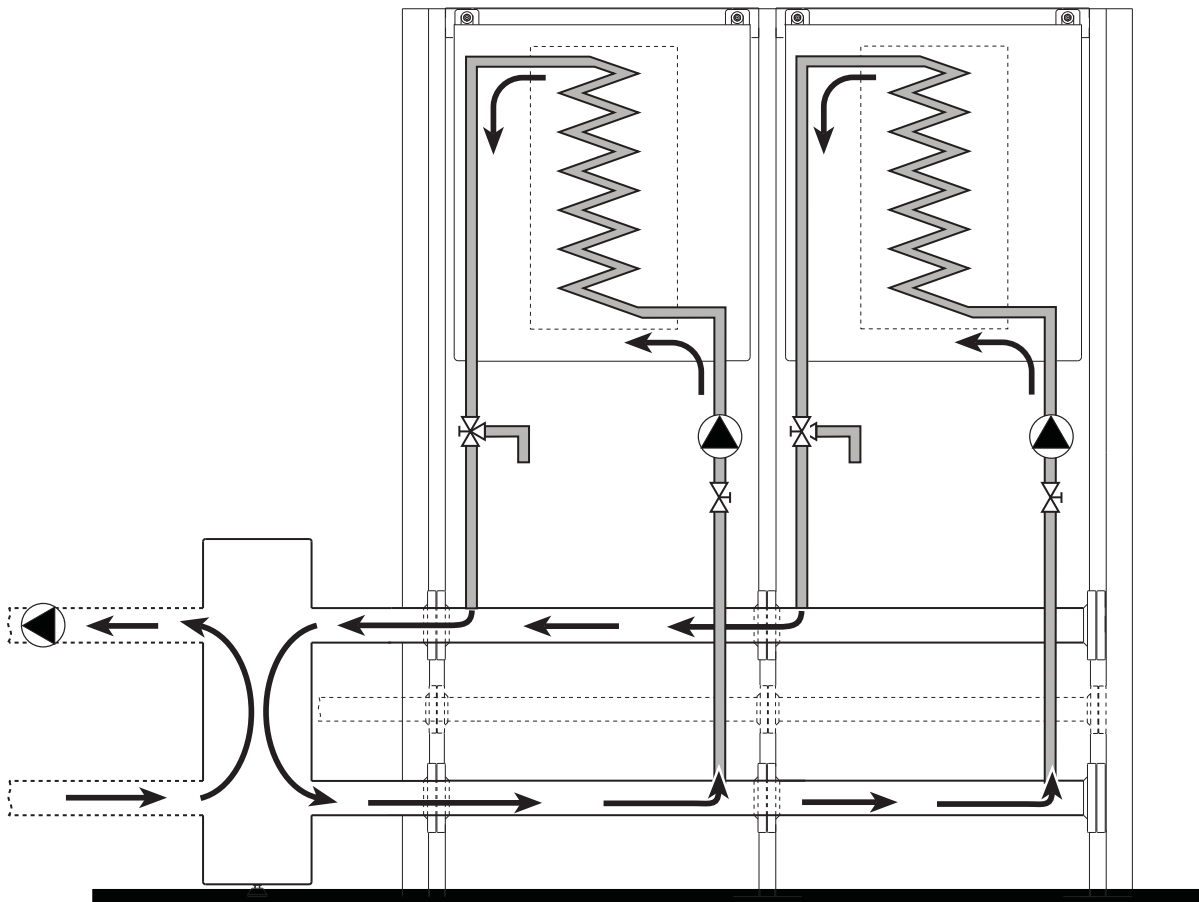


Fig. 2

3. SAFETY DEVICES

3.1 Devices contained in kit 042028X0

The safety and control devices **contained as standard** in the hydraulic manifold starting kit are:

- Manual-reset safety pressure switch. Silver alloy contacts, Maximum operating pressure 15 bar. Fluid temperature range: 0÷110°C. Ambient temperature range: -10÷55°C. Voltage 250 V. Contact rating 16 A Pressure regulating range of intervention from 1 to 5 bar. Factory setting 3 bar. I.S.P.E.S.L. approved
- Manual-reset safety thermostat with immersion probe. Contacts in Ag 1000/1000. Setting 100°C with tolerance of +0 -6 K. Tmax head 80°C. Tmax bulb 125°C. Pmax sheath 10 bar. Temperature gradient 1 K / min. Voltage from 24 to 380 V. Contact rating 15 A (2.5) at 250 V and 7 A at 380 V. I.S.P.E.S.L. approved.
- Bimetallic thermometer. Conforming to I.S.P.E.S.L. Temperature range from 0° to 120°C. Diam. 80 mm. Accuracy class 1.6.
- Pressure gauge conforming to I.S.P.E.S.L. Accuracy class 2.5. Scale 0 ÷ 10 bar connection 1/4" M radial ø 50.
- I.S.P.E.S.L. control pocket. Connection 1/2" M. Brass. Length 45 mm
- I.S.P.E.S.L. three-way cock for sample pressure gauge. Threaded connections F x M. Brass body. Connection 1/4"
- Air vent valve.

Each of these devices comes unassembled in its package complete with instructions and possible certification. The Compensator and Safety Devices must be installed inside the Module according to the instructions given in section 4.

3.2 Safety valve (not supplied as standard)

The Hydraulic Manifold is arranged for the installation of an ISPESEL safety valve. The valve is not included in the standard supply as it must be chosen according to the overall capacity of the generator (number of **ENERGY TOP W** modules) and the system operating pressure. The following items are available on request:

- **012005X0 - Safety valve 1/2" 6bar - for use up to 281 kW.**

The valve is a membrane type, ISPESEL qualified and calibrated. Tmax 110°C. Body and cover in brass. Membrane and gasket in EPDM. Opening overpressure 10%, blowdown 20%. Positive safety. Provided with bench calibration report.

- **012006X0 - Safety valve 1" 6bar - for use up to 500 kW.**

The valve is a membrane type, ISPESEL qualified and calibrated. Tmax 110°C. Body and cover in brass. Membrane and gasket in EPDM. Opening overpressure 10%, blowdown 20%. Positive safety. Provided with bench calibration report.

3.3 Fuel Shutoff valve (not supplied as standard)

The hydraulic manifold has a connection for the fuel shutoff valve probe pocket. The valve is not included in the standard supply as it must be chosen according to the overall capacity of the generator (number of **ENERGY TOP W** modules), gas type, type of system, etc. The following articles are available:

- **044012X0 - Fuel shutoff valve 1 1/2"- for use up to 250 kW**
- **014006X0 - Fuel shutoff valve 2"- for use up to 500 kW**

3.4 I.S.P.E.S.L. pocket - Gas valve pocket

The installation of parts 7 and 8 (I.S.P.E.S.L. pocket and gas valve pocket) must be carried out following the indications given in fig. 3.

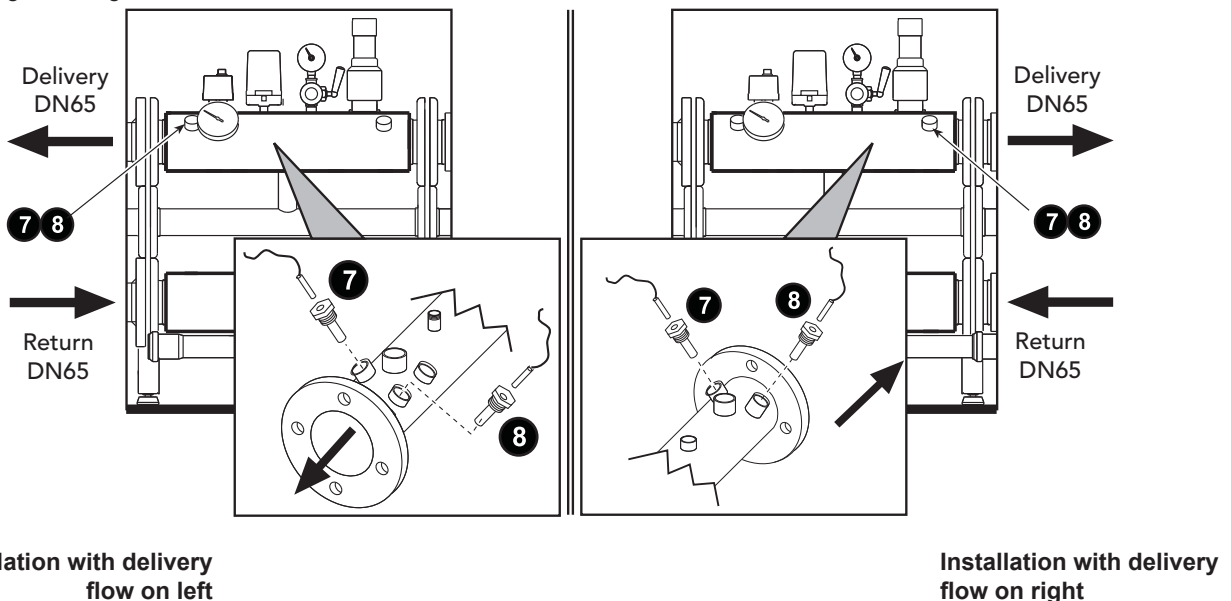


Fig. 3

4 INSTALLATION

4.1 Assembly of FRAME STARTING KIT AND EXTENSIONS

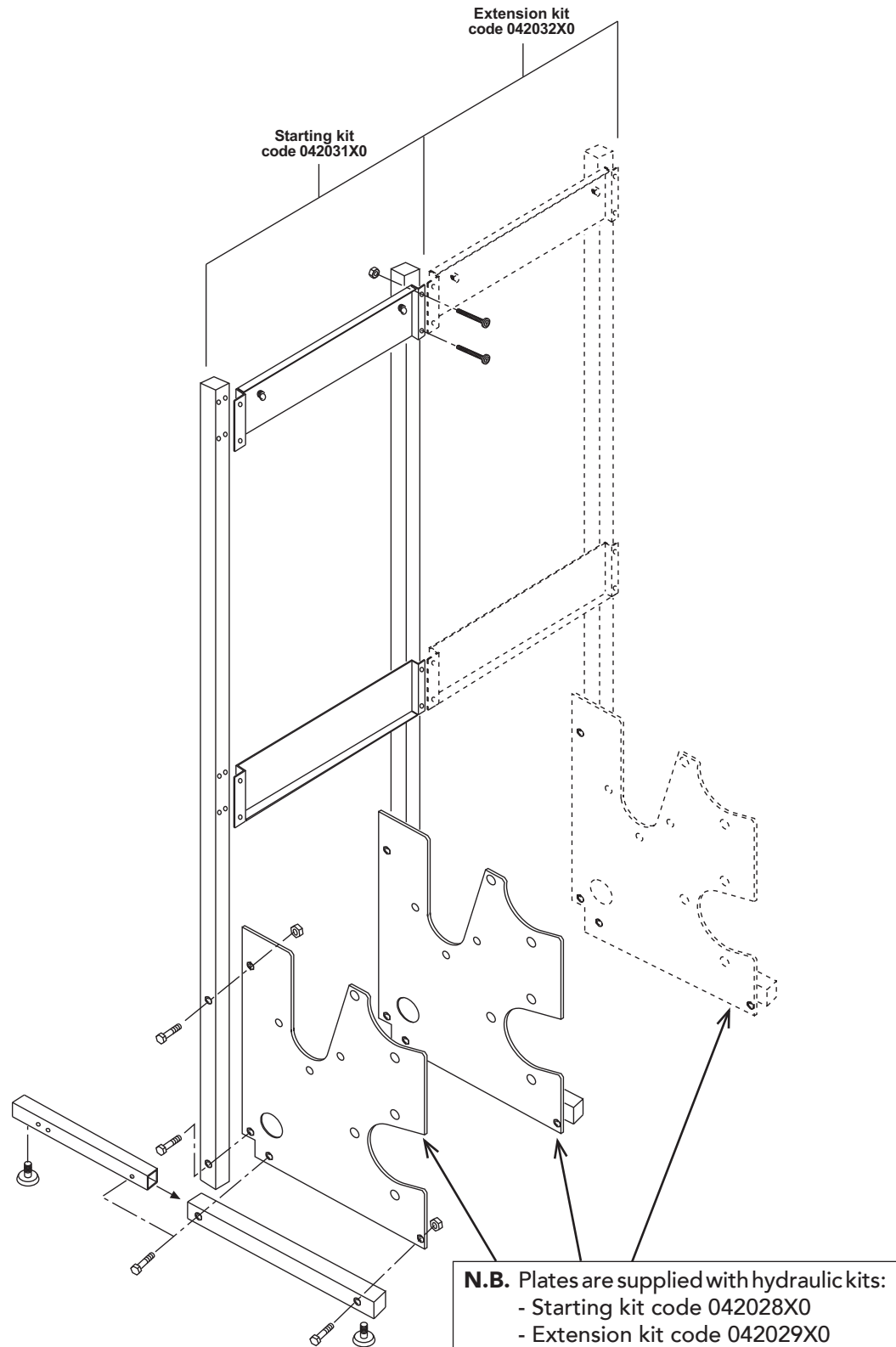
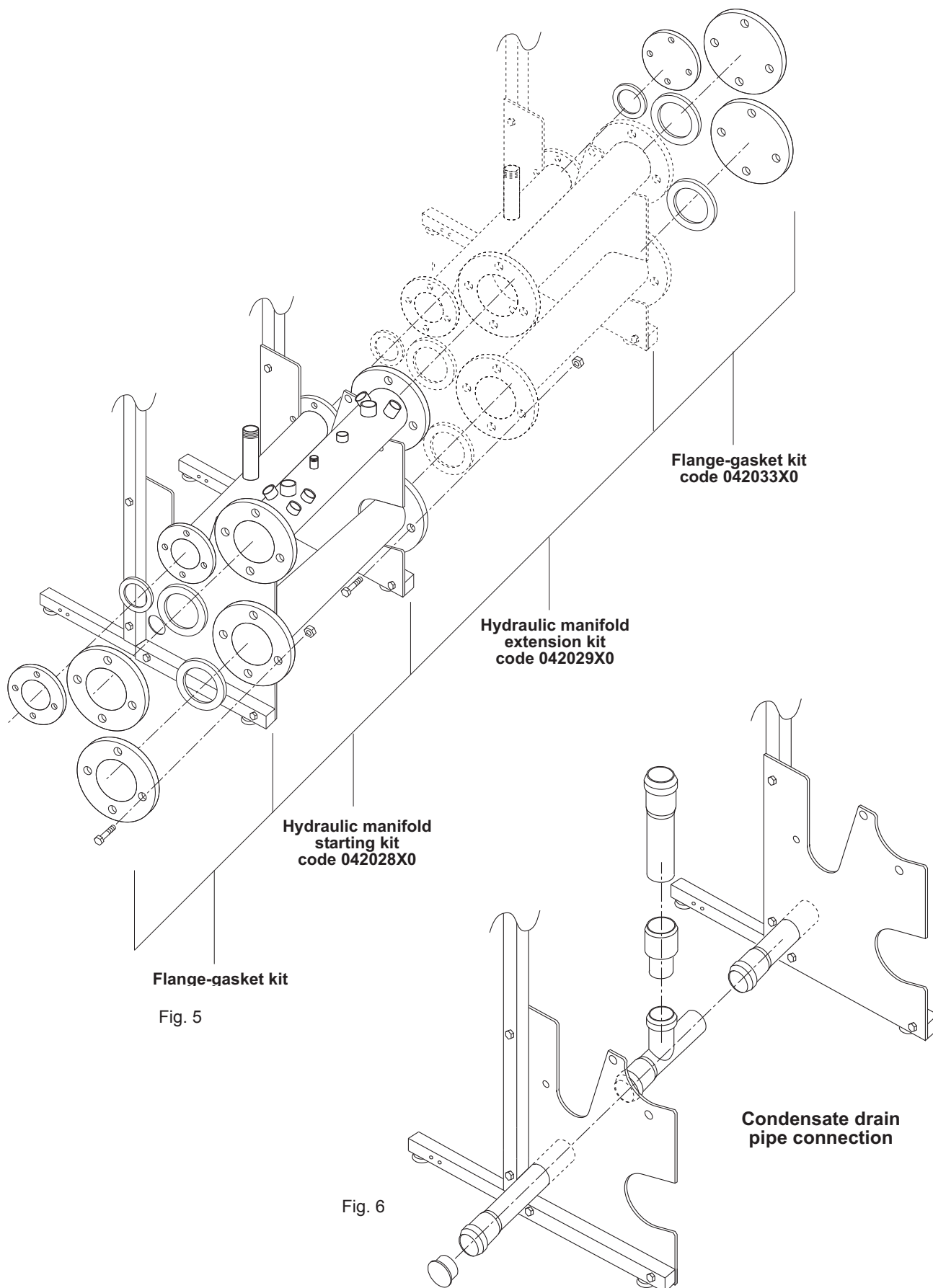


Fig. 4

4.2 Assembly of HYDRAULIC MANIFOLD STARTING KIT AND EXTENSIONS



Flange-gasket kit

Fig. 5

Hydraulic manifold starting kit code 042028X0

Hydraulic manifold extension kit code 042029X0

Flange-gasket kit code 042033X0

Condensate drain pipe connection

Fig. 6

4.3 Assembly of PUMP KIT AND ACCESSORIES

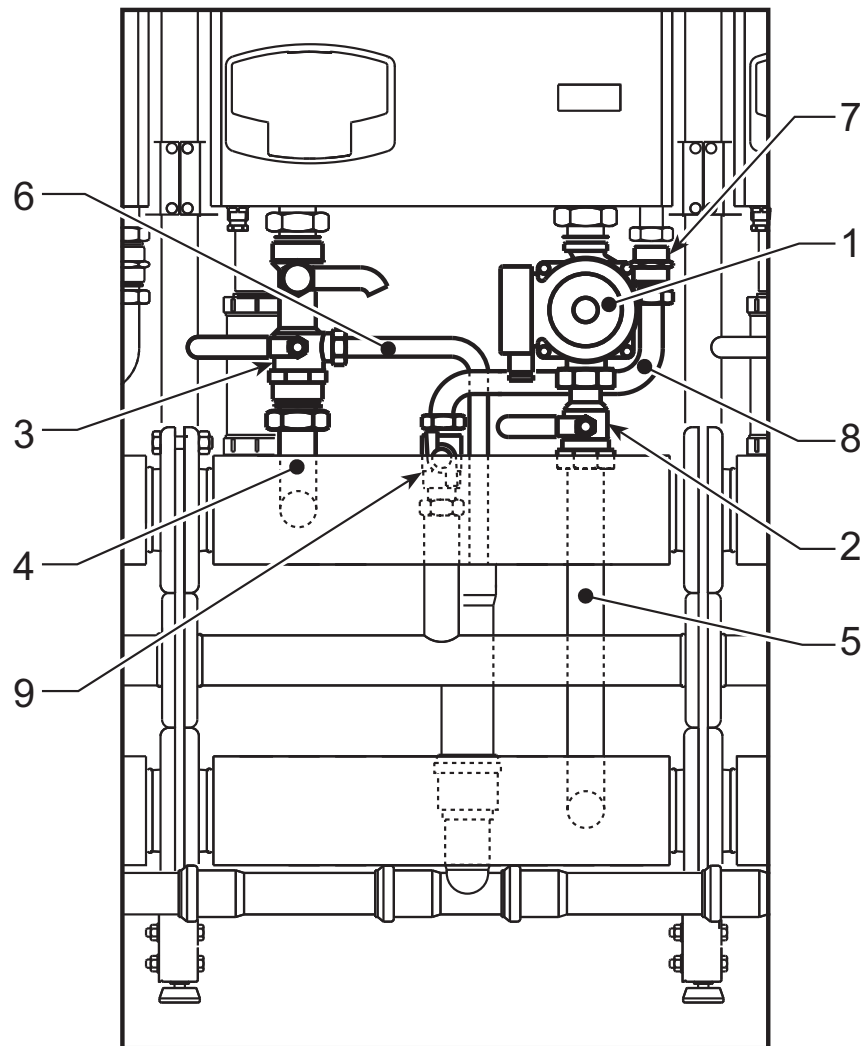


Fig. 7

Key

Pump kit 042021X0:

- 1 Pump
- 2 Cock MF 1" 1/2
- 3 3-way cock M 1" 1/2 + V/NR + VS

Accessories:

- 4 Water delivery pipe
- 5 Water return pipe
- 6 Boiler drain connection pipe
- 7 Gas connection nipple
- 8 Gas connection pipe
- 9 Gas cock MF 1"

NB. Connect the boiler trap drain to the condensate drain pipe cutting to size the special corrugated pipe supplied with the strap. With the remaining length of the tube also connect the 3-way cock safety valve discharge.

Fume manifold installation

- Fix the brackets (1p, 2p, 3p, 4p) as shown in fig. 8, adjusting the height using the holes (see fig. 8.1) so that the fume manifold is sloping and the condensate drain trap “S” is in the lowest point of the manifold.
- Fit together the fume manifolds “T” (Kit code 041028X0), using slippery agent or grease, and position them on previously fixed brackets.
- Press fit the cap - trap kit “S” (Kit code 041026X0) at the lowest end of the fume manifolds.

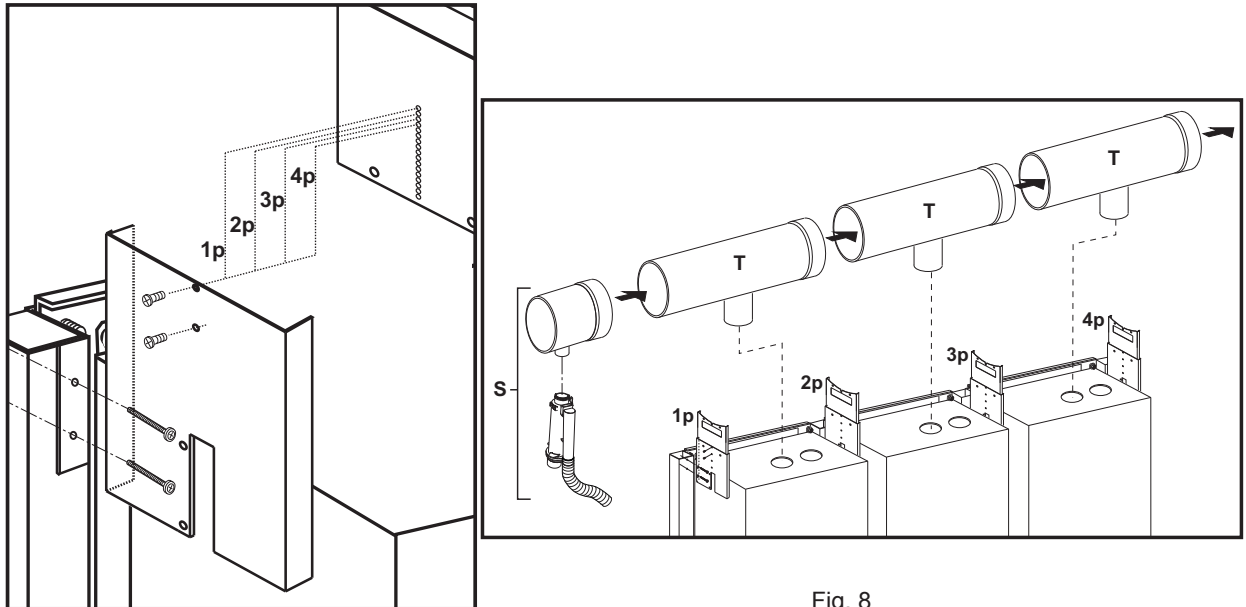


Fig. 8

Fig. 8.1

- Insert the dampers “F”, loosening the screw “4” and fit it properly to the fume manifold “T”. Then tighten the screw “4”.
- Secure the fume manifolds using the clamps “G”.
- Fit the air inlet protection “H” (see fig. 9).

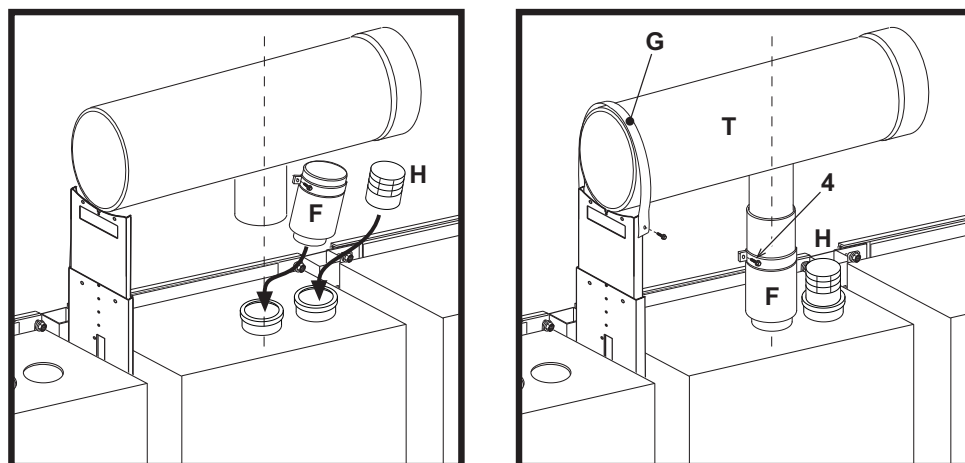
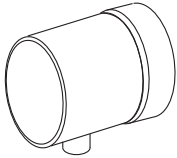
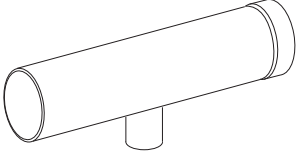
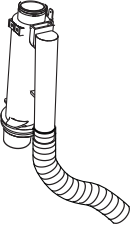

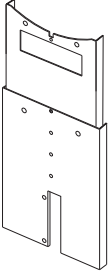
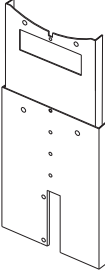


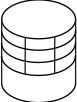


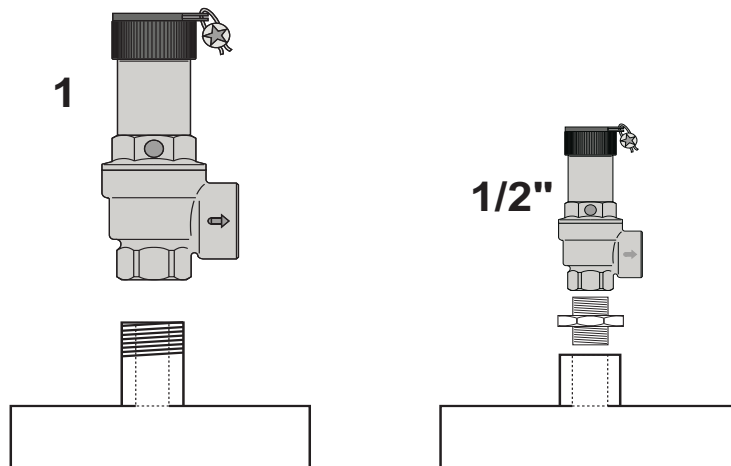
Fig. 9

Kit Contents

KIT 041026X0	Description	KIT 041028X0	Description
	Cap Ø 200		Fume manifold Ø 200
	Trap		Damper
	Manifold support bracket		Manifold support bracket
	Manifold fixing clamp		Manifold fixing clamp
			Air inlet protection

4.3 Installation of safety valve (not supplied as standard)

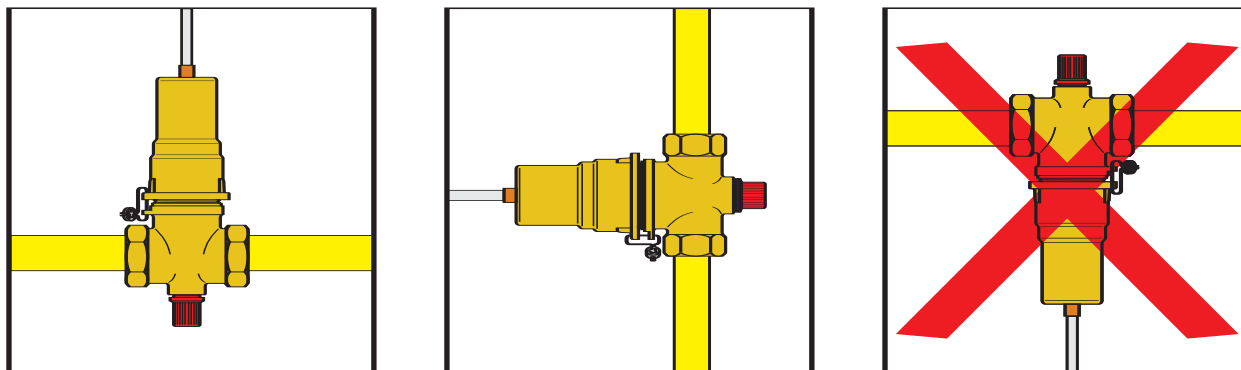
The delivery manifold has the connection for the installation of a safety valve. The choice of valve and its sizing must be done by qualified technical personnel.



Once the valve is installed, connect its discharge to a suitable collection funnel.

4.4 Installation of fuel shutoff valve (not supplied as standard)

The hydraulic manifold has a coupling for installation of the sensitive element of a fuel shutoff valve. The choice of valve and its sizing must be done by qualified technical personnel. The shutoff valve must be installed on the fuel delivery pipe. It can be installed in a vertical or horizontal position, respecting the direction of flow indicated by the arrow on the valve body.



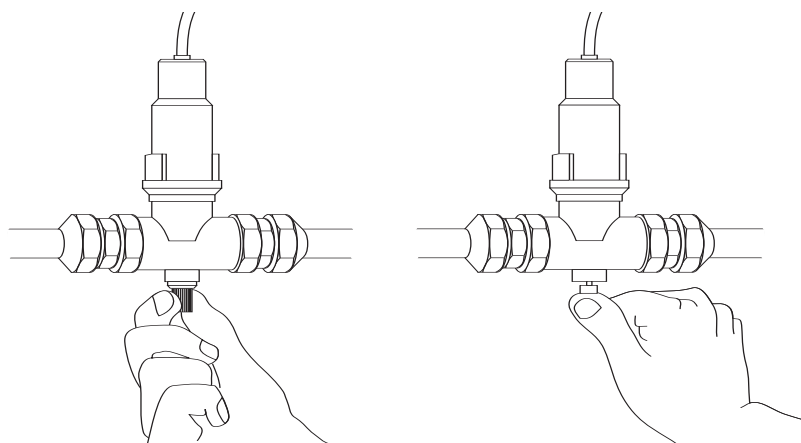
The valve sensor must be inserted in the special coupling. When installing the device it is necessary take precautions so that the capillary connecting the sensor to the valve is not pinched or bent excessively. In order to prevent tampering or the sensor coming out, it must be sealed in the pocket (seal and pigtail are included in the valve package).

Resetting fuel shutoff valve.

If the shutoff device has intervened, to restore activation conditions, proceed as follows:

- a) Wait until the water temperature falls 10°C below the activation temperature (otherwise the device cannot be reset).
- b) Unscrew the protection cap.
- c) Press the reset button.
- d) Screw the protection cap.

The valves are devices with positive action: in case of failure of the sensitive element, or the capillary is broken, the positive action intervenes through the upward movement of the control part which causes the release of the shutter closing the valve. In this situation, the valve must be replaced.





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