

Replacement Gas Valve VR 4605 CB 04.30, G114/G124, G204/G224, G304/G324 - E and L

The replacement Gas Valve VR 4605 CB is suitable for natural gas and LPG operation.

Installation and adjustment of the replacement Gas Valve must only be carried out by an authorised and registered gas contractor.

To install and adjust the replacement tap, you will need the commissioning and maintenance instructions for the respective boiler as well as these repair instructions. If they are no longer available from the system owner, please contact Buderus to obtain a copy.

Scope of supply

Set 1: Conversion of VR 4905 to VR 4605 (except G124 L) or direct replacement VR 4605

- 1 Multi function gas valve VR 4605 CB
- 2 Pipe section with flange
- 3 Mounting part for burner plug
- 4 Power cable
- 5 Bag with start-up load adaptor, gaskets and installation material

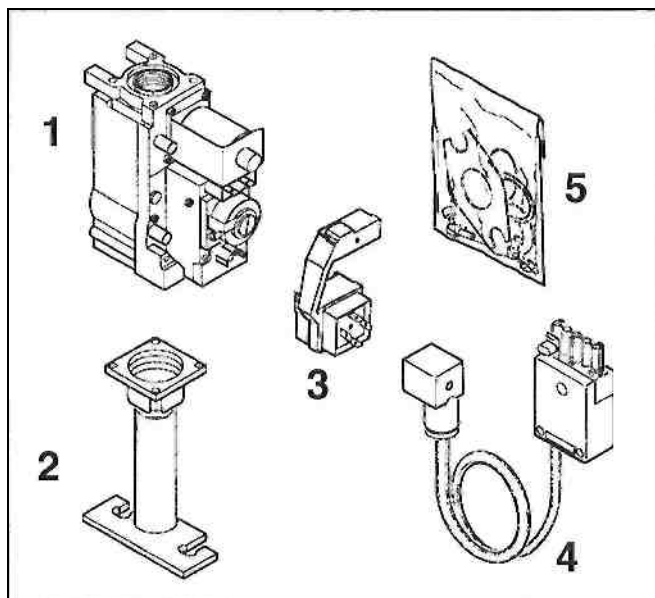


Fig. 1: Set 1

Set 2: Conversion of VR 4905 to VR 4605 - G124 L

- 1 Multi function gas valve VR 4605 CB
- 2 Pipe section with round flange
- 3 Mounting part for burner plug
- 4 Retaining plate with burner control unit plinth and power cable
- 5 Bag with start-up load adaptor, gaskets and installation material

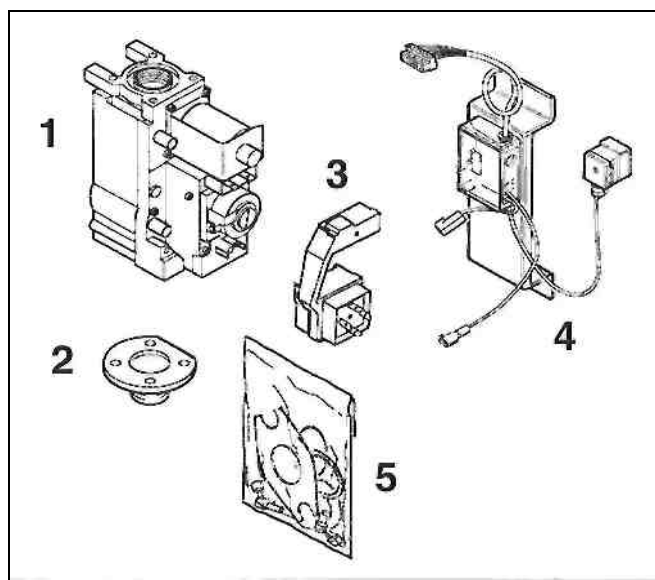


Fig. 2: Set 2

Set 3: Conversion of CE 423 to VR 4605

- 1 Multi function gas valve VR 4605 CB
- 2 Pipe section with flange
- 3 Pipe section with union nut, 63 long
- 4 Pipe section with union nut, 136 long
- 5 Mounting part for burner plug
- 6 Power cable
- 7 Bag with start-up load adaptor, gaskets and installation material

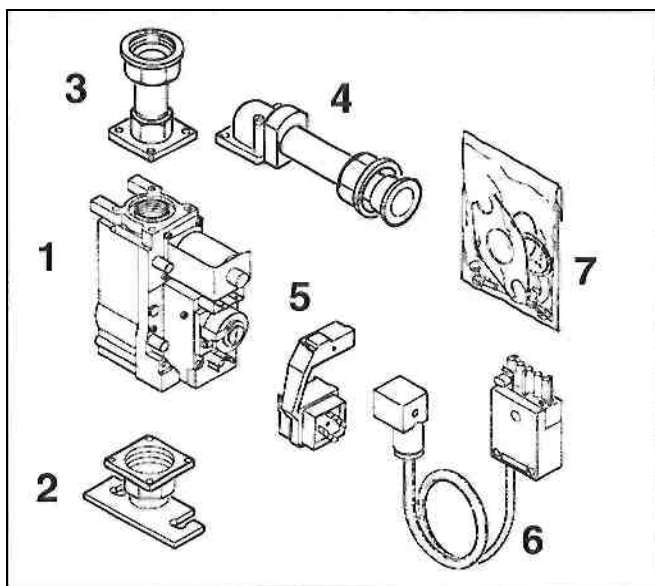


Fig. 3: Set 3

1. Removing the old Gas valve

- Close the gas shut-off valve.
- Isolate the power supply to the boiler.
- Remove the boiler front panel.
- Disconnect all electrical connections from the Gas valve.
- Detach the gas burner from the gas supply fitting.
- Remove Gas valve and unscrew connection flange from the Gas valve.

2. For LPG version: Adjusting the start-up load

- Remove the protective cap via the start-up load opening of the new Gas valve and screw in start-up load adaptor (ID: 230) (Fig. 4).
 - Put the protective cap on the adaptor.
- For safety reasons, it is absolutely essential to put the protective cap on.

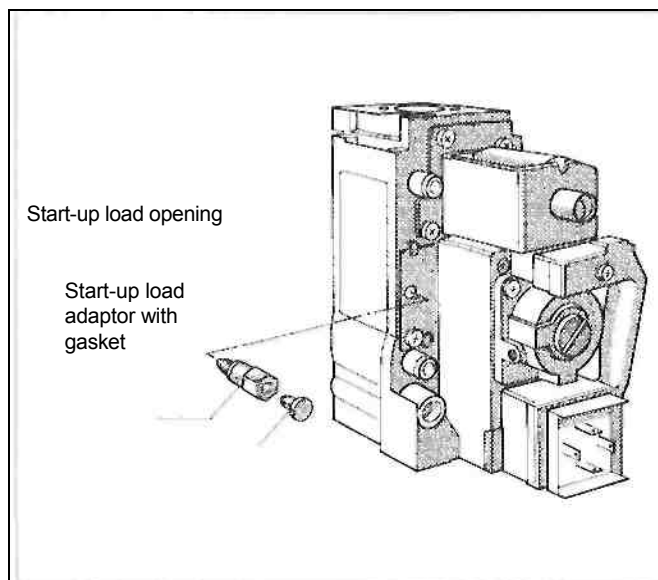


Fig. 4: Adjust start-up load for LPG

3. Installing the Gas valve

On all boilers, the potential equalisation cable (earth connection), wherever available, must be installed again between the Gas valve and burner shield.

New gaskets must be inserted at all gas-side joints!

All boilers with Gas valve VR 4605

- Install replacement Gas valve.

G114/G124E

- Install replacement Gas valve.

04.30, G204/G224 E/L, G304/G324 E/L with old Gas valve VR 4905

- Install pipe section with flange (Fig. 1, Pos. 2) between Gas valve and gas distributor bar (Fig. 5).

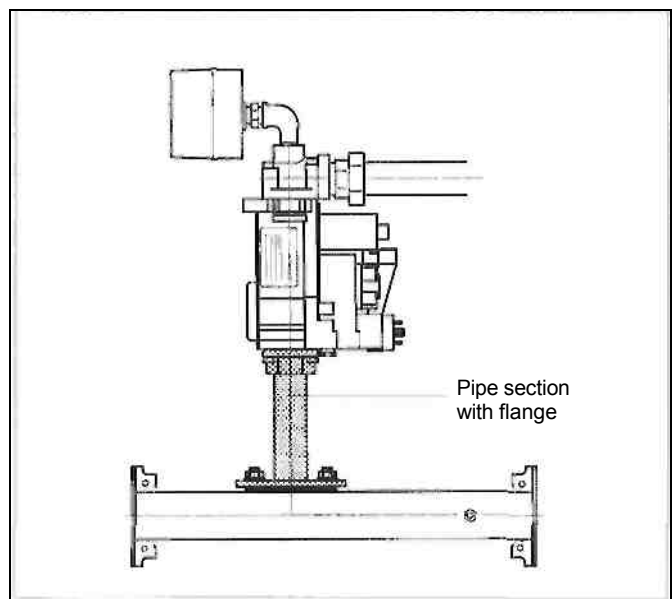


Fig. 5: G224 L as example with VR 4605 (Set 1); previously VR 4905

G124 L

- Install pipe section with round flange (Fig. 2, Pos. 2) between Gas valve and vertical gas connection pipe (Fig. 6). The straight side of the round flange must point towards the gas output side of the Gas valve.

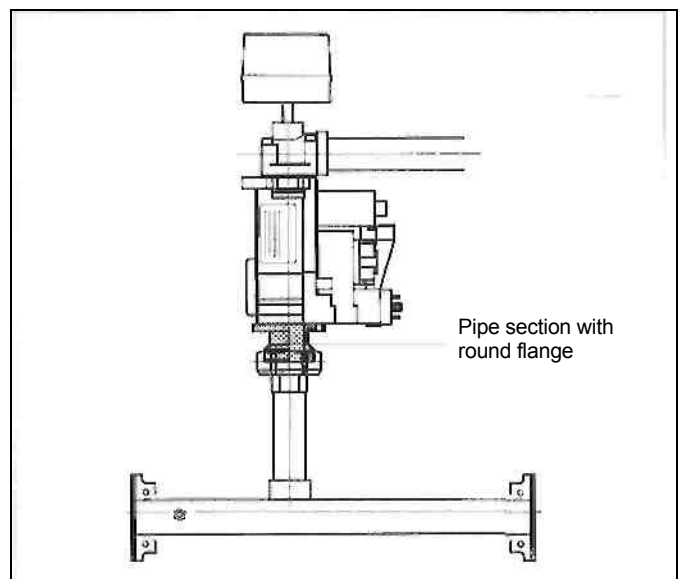


Fig. 6: G124 L with VR 4605 (Set 2)

**04.30 up to size 55/7, G204/G224 E/L
with old Gas valve CE 423**

- Install pipe section with flange (Fig. 3, Pos. 2) between Gas valve and gas distributor bar (Fig. 7).
- Install pipe section with union nut, 63 long, (Fig. 3, Pos. 3) vertically between Gas valve and gas connection pipe (Fig. 7).

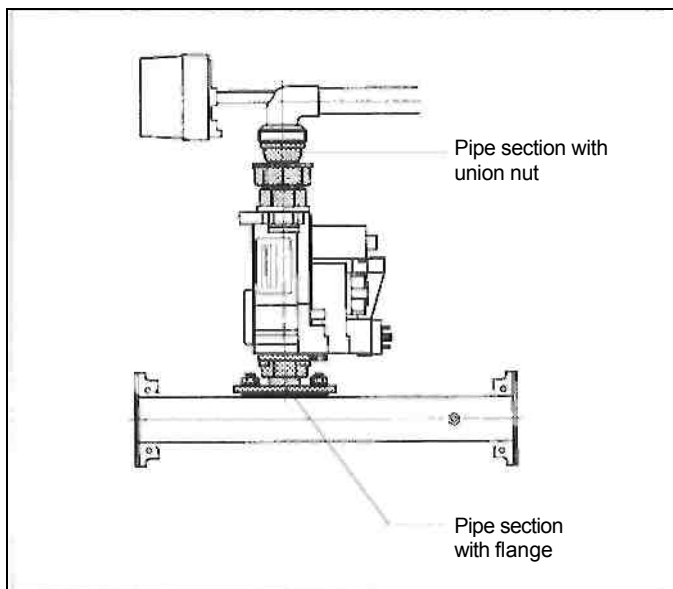


Fig. 7: G224 L as example with VR 4605 (Set 3);
previously VR 423

**04.30 from size 63/8, G304/G324 E/L
with old Gas valve CE 423**

- Install pipe section with flange (Fig. 3, Pos. 2) between Gas valve and gas distributor bar (Fig. 8).
- Install pipe section with union nut, 136 long, (Fig. 3, Pos. 4) horizontally between Gas valve and gas connection pipe (Fig. 8).

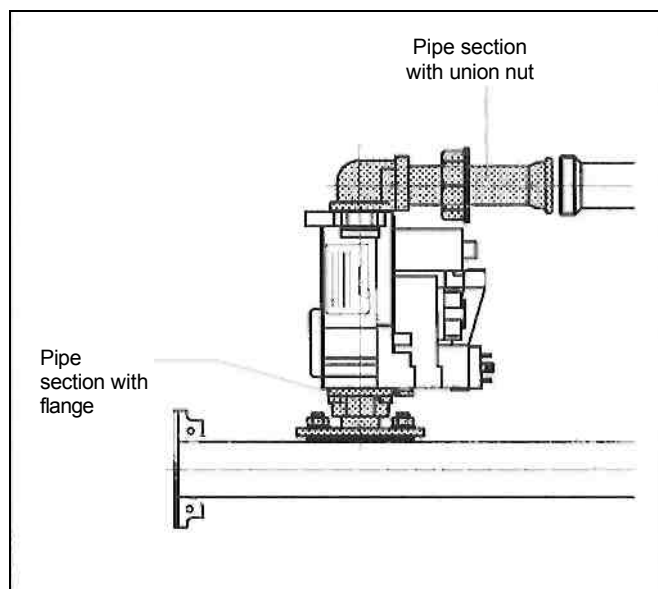


Fig. 8: G324 L as example with VR 4605 (Set 3);
previously VR 423

4. Making electrical connections

G124L

- Remove timed ignition and burner control units from the old retaining plate, unscrew the old retaining plate with plinth from the boiler, screw on the new retaining plate with plinth and fit the timed ignition and burner control unit (Fig. 9).

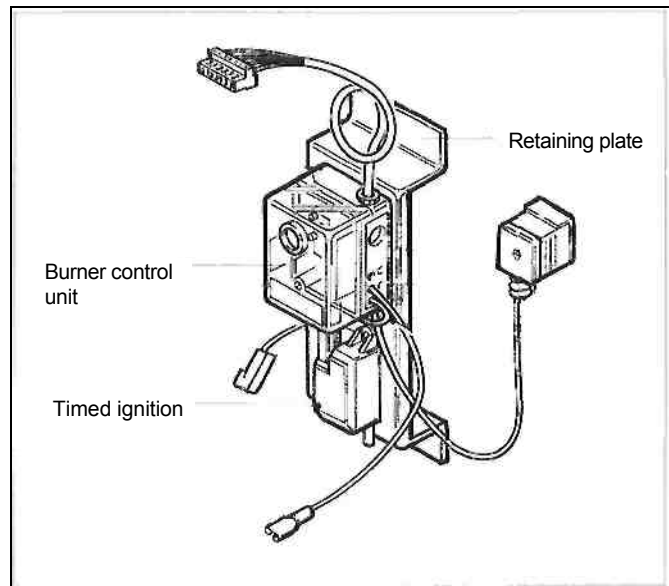


Fig. 9: G124 L, burner control unit and timed ignition

04.30 from size 63/8, G304/G324 E/L, if right Gas valve (burner 2) was replaced

- Remove upper housing of the multiple plug on the supplied power cable (label 1) by releasing the two screws, and replace with the upper housing of the old multiple plug from the burner control (label 2) (Fig. 10).

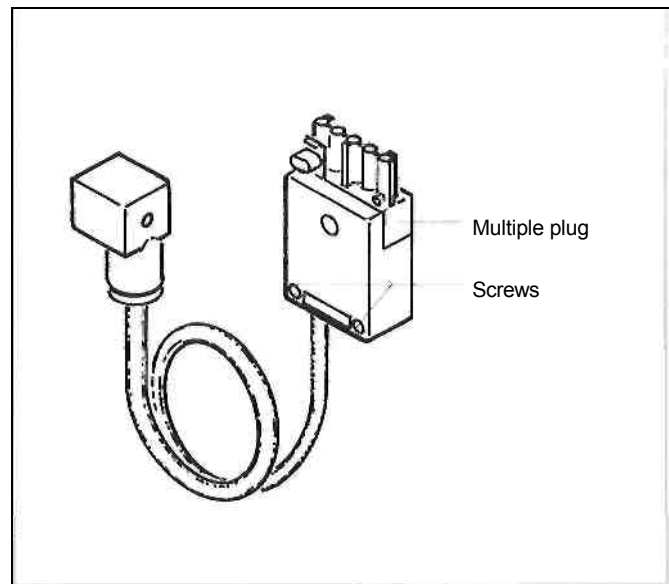


Fig. 10: Power cable with multiple plug

All boilers

- Plug multiple plug of the supplied power cable into the burner control (not for G 124 L).
- Attach mounting part for burner plug to Gas valve, plug in burner plug of the supplied power cable and secure with screw M3x60 (Fig. 11).
- Re-establish all plug-in connections which were disconnected during disassembly.

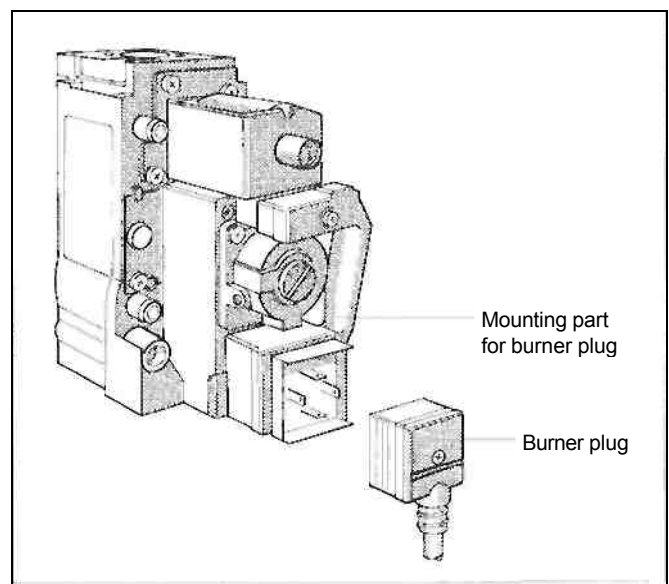


Fig. 11: Burner plug

5. Commissioning

- Put the burner into operation - see Commissioning and maintenance instructions.

Measuring gas supply pressure (Working pressure)

- Release the locking screw of the test nipple for supply pressure and venting (Fig. 12) two full turns, and push the test hose of the U-tube pressure gauge onto the nipple.
- With the burner running, measure the supply pressure and note the value in the commissioning record.

The gas supply pressure must be as follows:

Natural gas E (H):

min. 17 mbar, max. 25 mbar,

Nominal supply pressure 20 mbar,

Natural gas LL (L):

min 18 mbar, max. 25 mbar,

Nominal supply pressure 20 mbar,

LPG:

min. 30 mbar, max. 50 mbar,

Nominal supply pressure 37 mbar.

If the required gas supply pressure is not sufficient, discuss the situation with the relevant gas supply utility.

Where the gas supply pressure is high, an additional gas pressure regulator must be fitted upstream of the gas burner tap.

- Remove test hose again and carefully re-tighten test nipple locking screw.

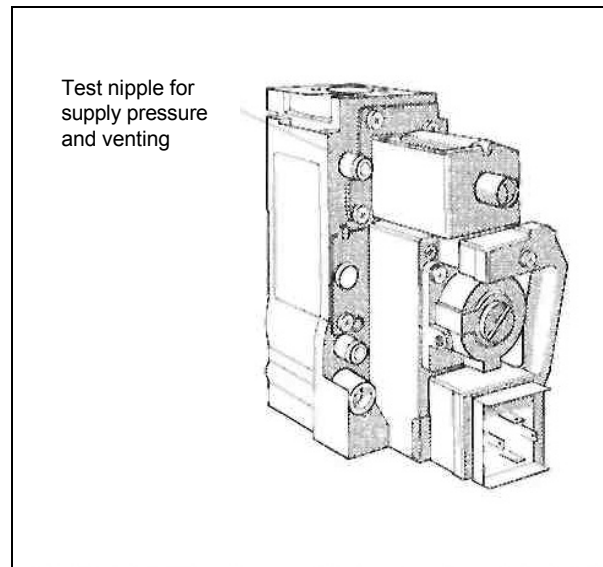


Fig. 12: Test nipple for supply pressure and venting

For natural gas: Adjusting the burner output (Burner pressure)

- Release the locking screw of the test nipple on the gas distributor pipe two full turns, and push the test hose of the U-tube pressure gauge onto the nipple.
- With the burner running, read the burner pressure and compare with the values from the technical data in the commissioning and maintenance instructions for the respective boiler.

In case of deviations from the set value:

- Remove the safety screw in front of the burner pressure adjusting screw (Fig. 13).
- Correct the burner pressure by turning the adjusting screw in the plus or minus direction (Fig. 13).
- Refit the safety screw.
- Remove test hose and re-tighten test nipple locking screw.

For LPG operation: Stopping pressure regulator

- Remove the safety screw in front of the nozzle pressure adjusting screw (Fig. 13).
- Screw in the nozzle pressure adjusting screw fully (Fig. 13).
- Refit the safety screw.
- Leak test while operating - see commissioning and maintenance instructions.

Include all sealed connections concerned with the operations in the leak test!

- Record measurements and perform function checks (see commissioning and maintenance instructions), then fill in commissioning record.

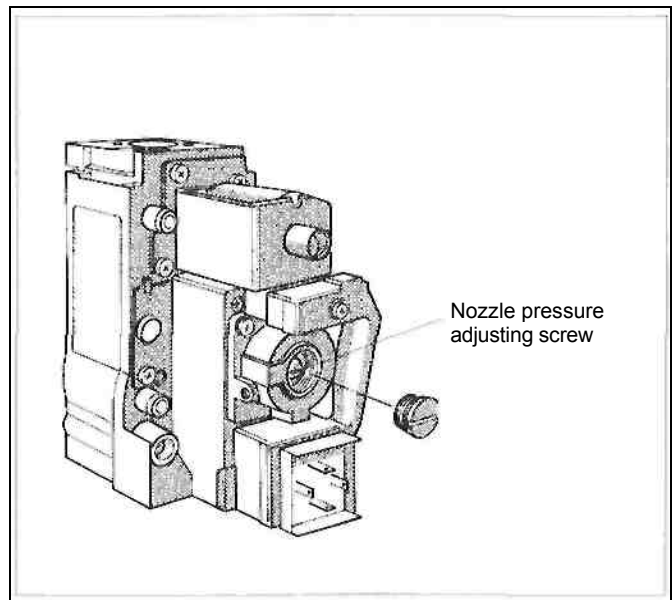


Fig. 13: Nozzle pressure adjusting screw