Instructions for conversion to LPG P (G31)

Gas condensing boilers MGK-130

Conversion kit, product no. 87 51 351 from G20 to G31

These installation instructions are to be retained by the user.
We cannot accept any warranty claims if these operating instructions have not been observed.

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GB

Standard delivery

Note Read the conversion instructions carefully before commencing the installation.

WOLF conversion kit to G31 for MGK-130

Prior to changing the gas restrictor, perform the standard settings at the gas combination valve. Otherwise there is a risk of injury and material losses on the boiler.

Standard delivery

Conversion kit, product no. 87 51 351 from G20/G25 to G31			
No.	**Material**	**Mat no.**	**Pce**
1	Gas restrictor 6.7	17 30 640	1
2	Conversion type plate	87 51 389	1
3	Installation instructions	30 61 675	1
4	Gasket gas combination valve outlet O-ring 23.47 x 2.62	39 10 126	1
5	Gasket gas combination valve inlet O-ring 26 x 4	39 03 010	1
6	Gas combination valve LPG	27 44 621	1
7	Boiler coding card for LPG P MGK-130	27 44 356	1

The following symbols and references are used in conjunction with these important instructions concerning personal safety, as well as operational reliability.

"Safety instructions" are instructions with which you must comply exactly, to prevent risks and injuries to individuals and material losses on the boiler.

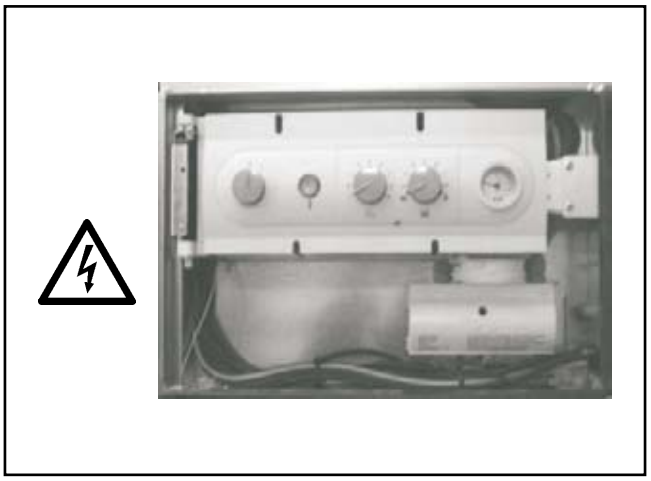


Fig.: Junction box:
Danger from electrical voltage.

Danger from 'live' electrical components!
NB: Switch OFF the ON/OFF switch before removing the casing.

Never touch electrical components or contacts when the ON/OFF switch is in the ON position! This results in a risk of electrocution that may lead to injury or death.

The main supply terminals are 'live' even when the ON/OFF switch is in the OFF position.

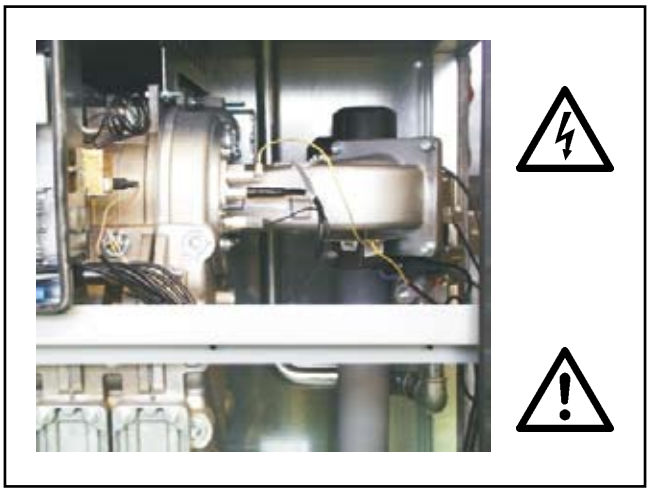


Fig.: Ignition transformer, high voltage ignition electrode, combustion chamber.
Danger from 'live' electrical components, risk of burning through hot components.

NB **"NB" indicates technical instructions that you must observe to prevent material losses and malfunctions on the boiler.**

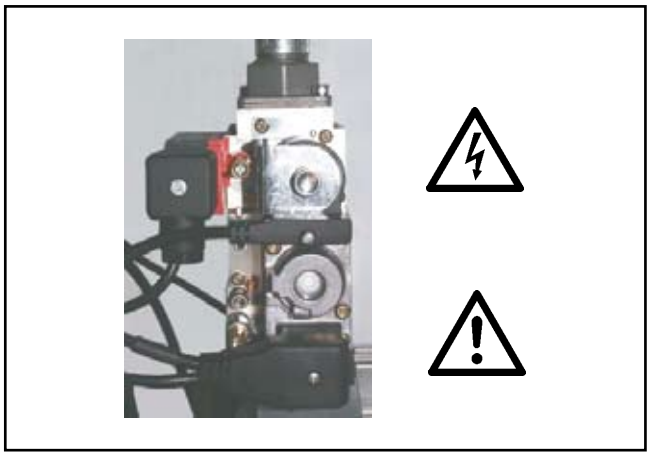


Fig.: Gas combination valve.
Danger from electrical voltage.
Escaping gas may cause poisoning or an explosion.

General information

Maintenance work must only be carried out by a qualified heating contractor.
Regular maintenance and the exclusive use of original Wolf spare parts are of crucial importance to the trouble-free operation and long service life of your appliance.

We therefore recommend you arrange a maintenance contract with your local heating contractor.

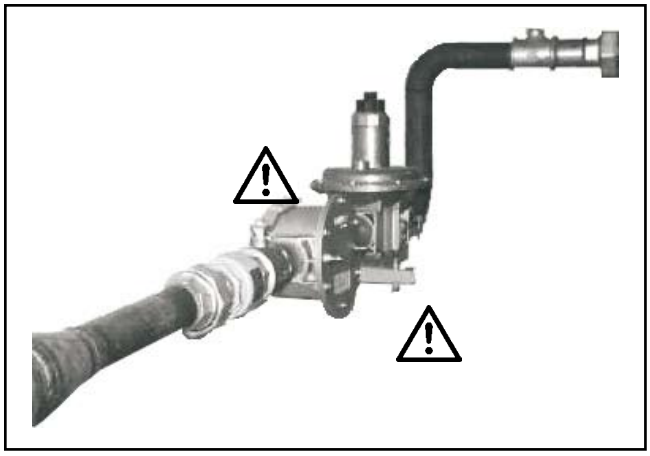


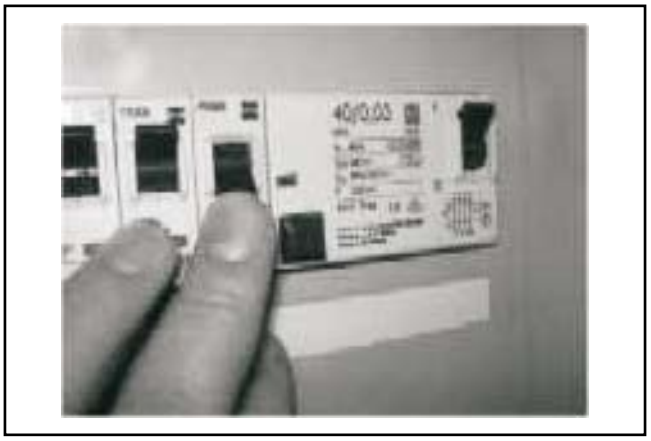
Fig.: Gas connection: Risk of poisoning and explosion through escaping gas.

Installation

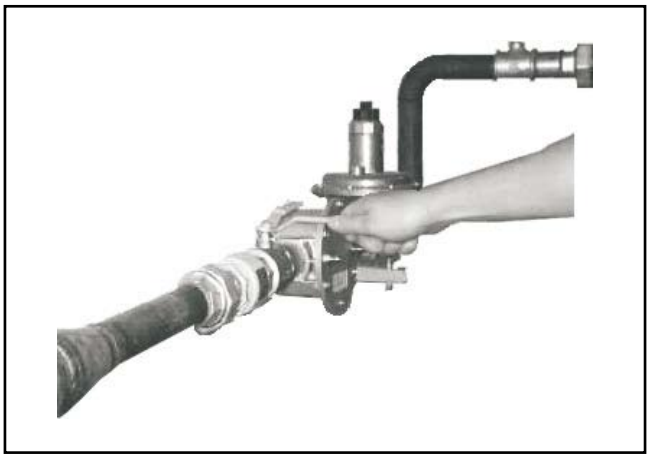
Pivot the control unit lid down. Switch OFF the ON/OFF switch at the gas condensing boiler.

The mains terminals are 'live' even when the ON/OFF switch has been switched OFF.

Isolate the appliance from the power supply, otherwise there is a risk to life from electrocution.

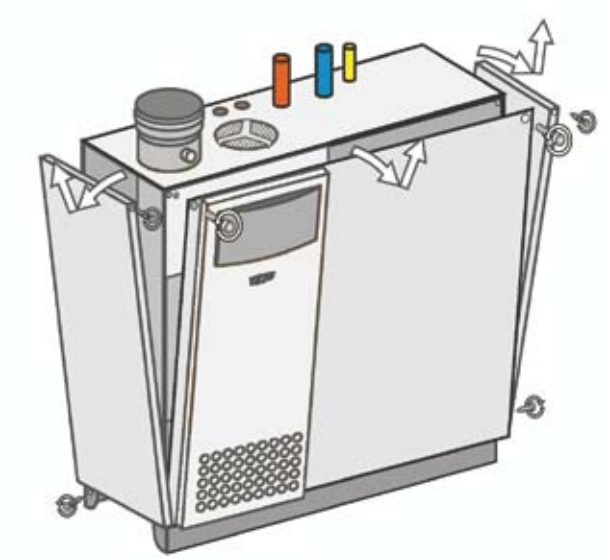


Close the on-site gas tap, otherwise there is a risk of suffocation or explosion.



Removing the front casing

Undo the front casing with a no. 5 Allen key and the r.h. side panel with a screwdriver.



Risk of burns!

Various components can get very hot. Let them cool down or wear protective gloves, otherwise there is a risk of burns.

1. Standard setting at the gas combination valve

NB **Make the standard settings at the gas combination valve in accordance with the table. Otherwise there is a risk of damage to the appliance.**

Carefully turn the screw fully home and then undo as follows:
Standard setting for different gas types: Turn anti-clockwise.

Gas type	Zero point
G20	1 ¾ turns
G31	1 ¾ turns

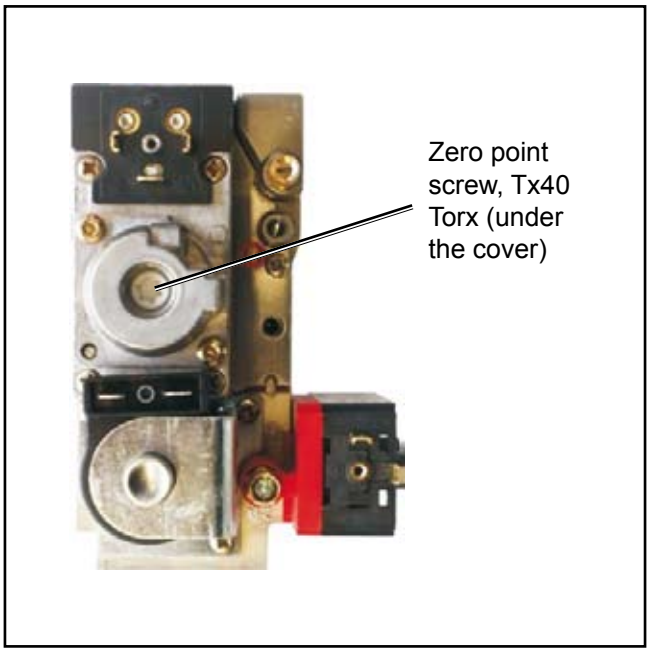


Fig.: Gas combination valve.

2. Replacing the gas combination valve and the gas restrictor

a) Undo the electrical connections at the gas combination valve (GCV) (3 screws).

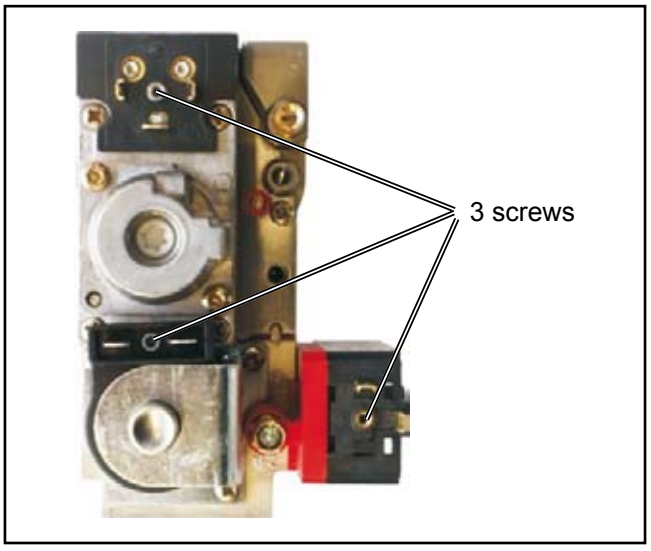
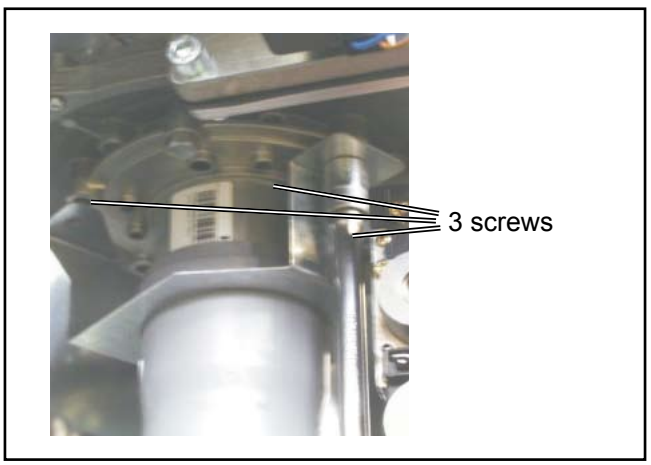
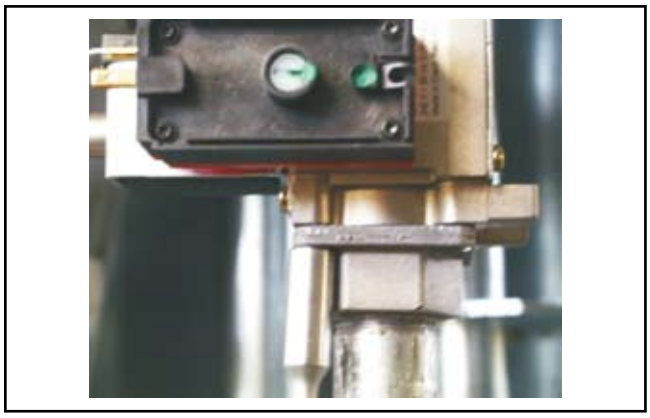


Fig.: Gas combination valve.

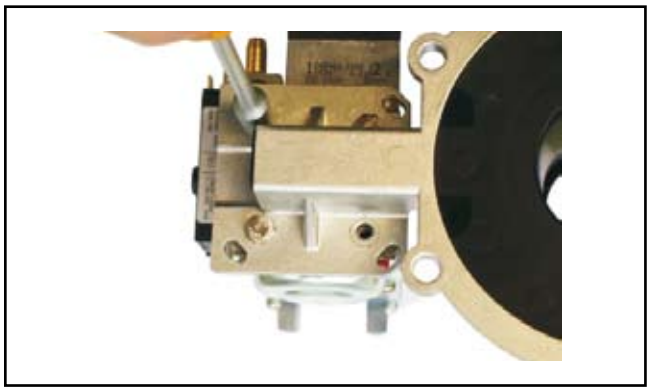
b) Undo the mixer with its mounting plate and inlet pipe from the fan (3 screws).



c) Undo the screws between the gas pipe and the GCV (4 screws).

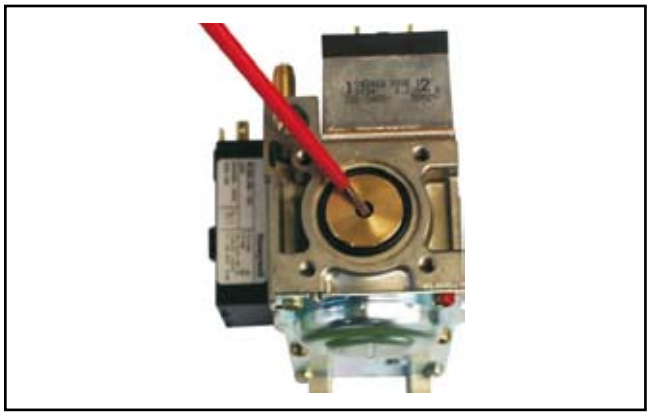


d) Undo the GCV from the mixer (4 screws).

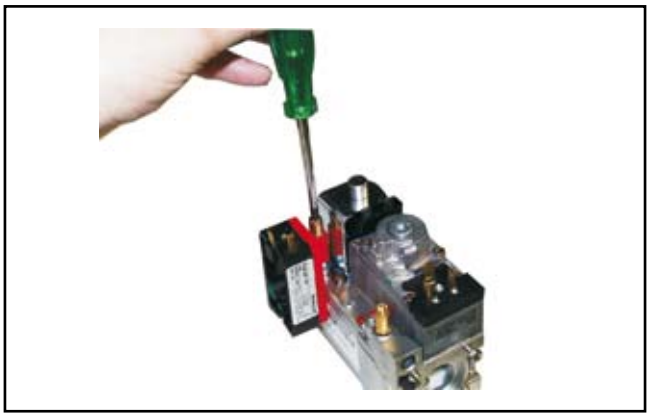


e) Remove the gas restrictor.

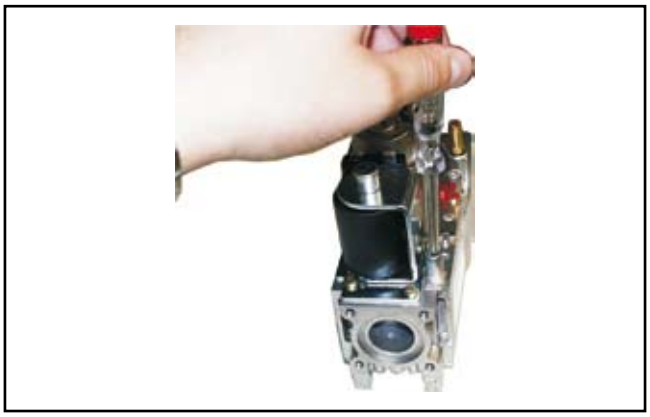
For G20 and G31
Fit suitable restrictor with O-ring 23.47 x 2.62 into GCV.



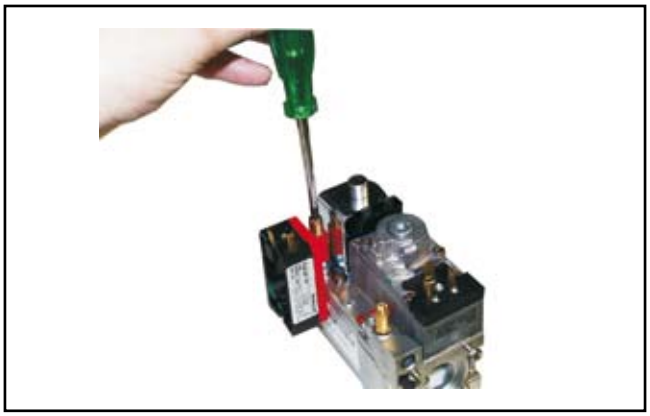
f) **Replacing the gas combination valve when converting from natural gas to LPG**
Remove the gas pressure limiter from the old gas combination valve.



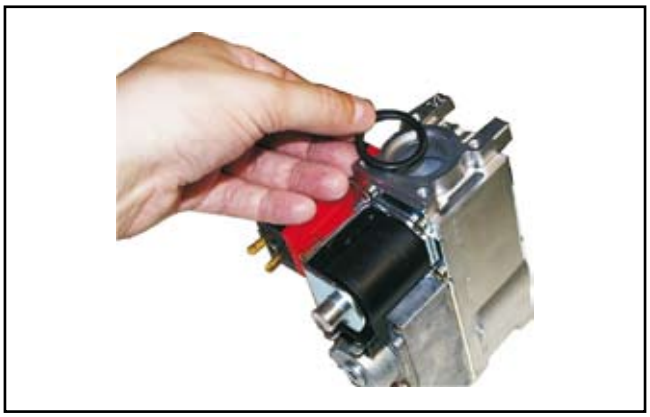
Undo and remove the screw for the gas supply pressure on the new gas combination valve.



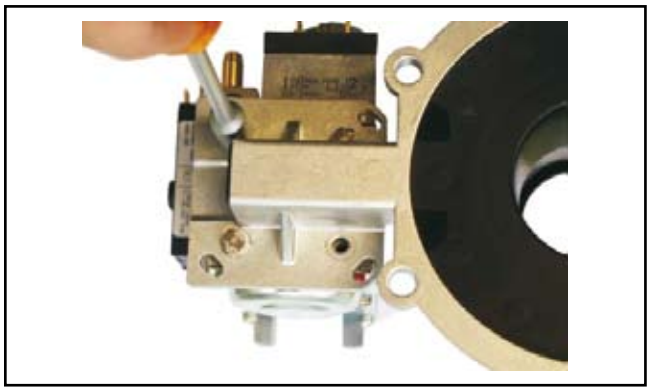
Fit the gas pressure limiter to the new gas combination valve.



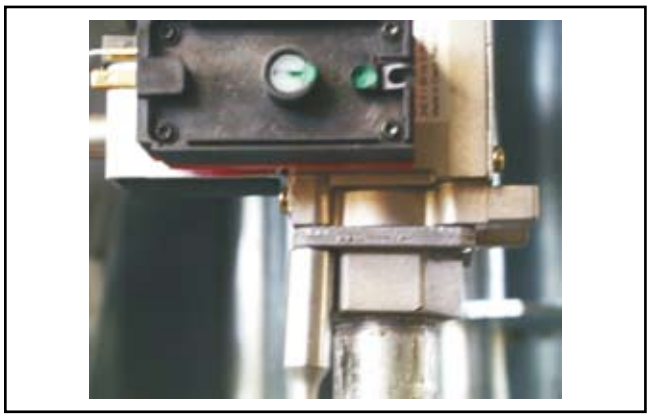
Replace O-ring 26 x 4 at the gas inlet.



g) Refit the GCV and mixer.

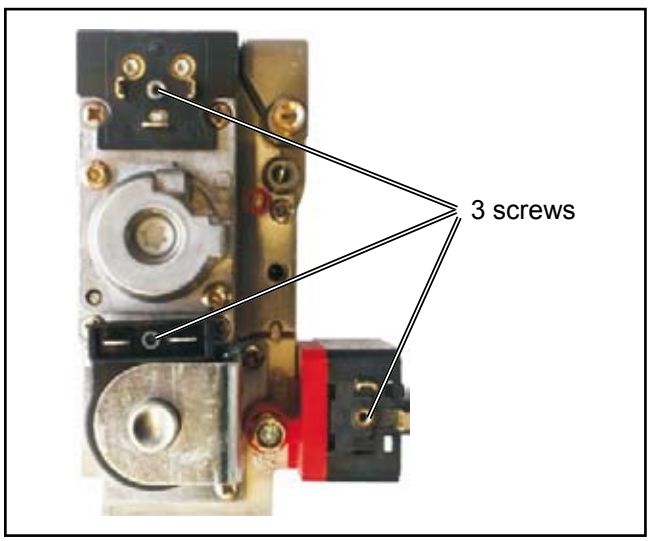


h) Secure the GCV and mixer on the gas pipe. Do not forget the O-ring.



i) Secure the mixer with its mounting plate and inlet pipe to the fan.

j) Secure the electrical connections on the GCV.



CO_2 settings

3. Setting the gas / air mixture prior to replacing the boiler coding card for conversions from LPG to natural gas

NB **Settings must be made with the natural gas boiler coding card to be able to set the lower output in soft start for LPG P.**

NB **Carry out the adjustments in the order given below. At the factory, the gas combination valve has been set up for natural gas H (G20). Only adjust the gas combination valve after the system has been changed to a different gas type.**

A) CO_2 setting at the upper load (emissions test mode) for natural gas

- Pivot the control unit lid down.
  Unlock the casing cover with the l.h. and r.h. turnbuckles. Release the bottom of the casing cover and unhook at the top.
- Remove the screw from the l.h. "Flue gas" test port.
- Insert the test probe of the CO_2 test instrument into the "flue gas" test port (approx. 120 mm).
- Turn the temperature selector to "Emissions test" .

  (Status indicator ring flashes yellow.)
- Ensure that the boiler is not limited electronically.
- Check the CO_2 content at full load, and compare the actual values with those in the table below.
- Correct the CO_2 setting as required using the gas throughput screw on the gas combination valve in accordance with the table.

The upper load cannot be adjusted for LPG.

- **Turn clockwise - lowers CO_2 content**
- **Turn anti-clockwise - raises CO_2 content**

Appliance open (without casing) at **upper** load	
G20 9.2% ± 0.2%	G31 (check) 11.0% ± 0.2%

- Terminate the emissions test mode by returning the temperature selector to its original position.

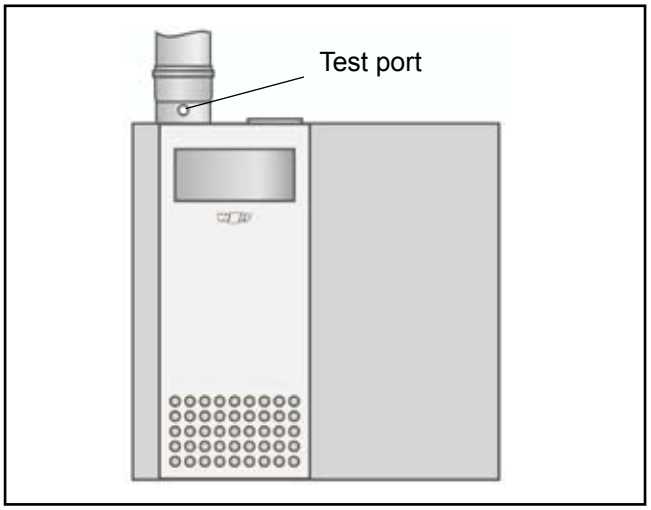


Fig.: Flue gas test at the integral test port.

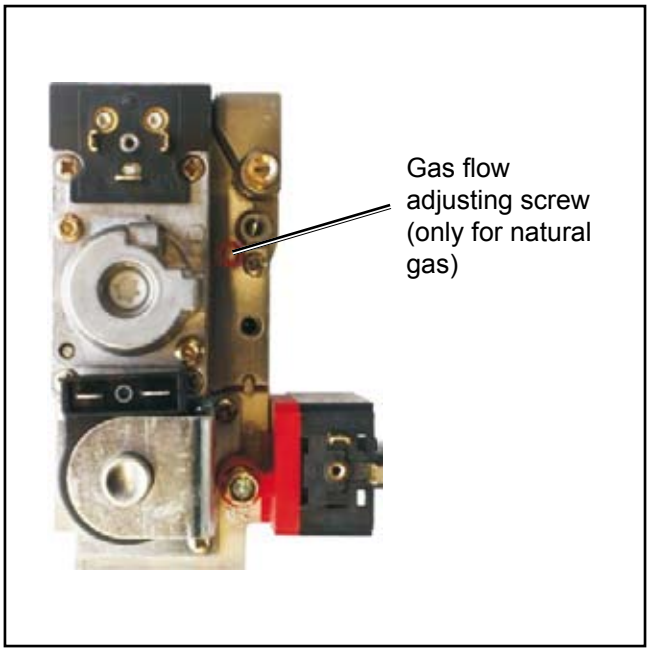


Fig.: Gas combination valve.

CO_2 settings

B) CO_2 setting at the lower load (soft start)

- Restart the gas condensing boiler by pressing the "Reset button".
- Check and if necessary correct the CO_2 content approx. 30 s after the burner start with the CO_2 tester, by fine adjusting the zero point adjusting screw in accordance with the table. Make this adjustment within 120 s of the burner start. If necessary, repeat the start phase for setting procedures by pressing the reset button.

- **Turn clockwise - raises CO_2 content.**
- **Turn anti-clockwise - lowers CO_2 content.**

Appliance open (without casing) at **lower** load
G31 12.5% ± 0.2%

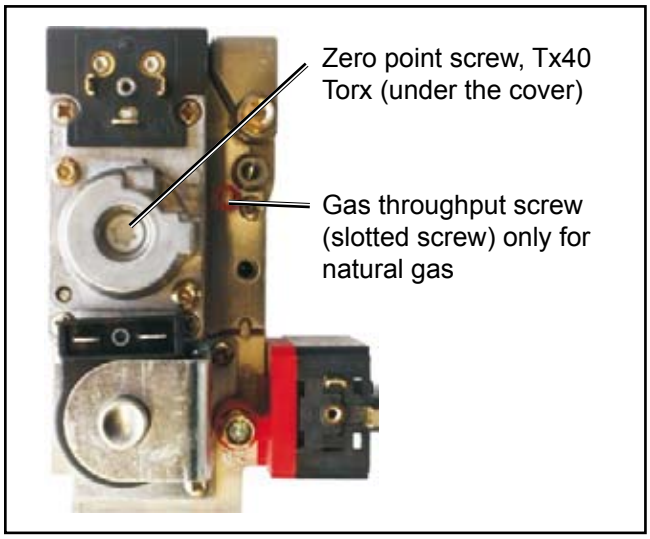


Fig.: Gas combination valve.

3. Changing the boiler coding card

a) Where appropriate, record the parameter changes compared to their factory settings (e.g. output, Tvmax, output 1, input 1, address setting).

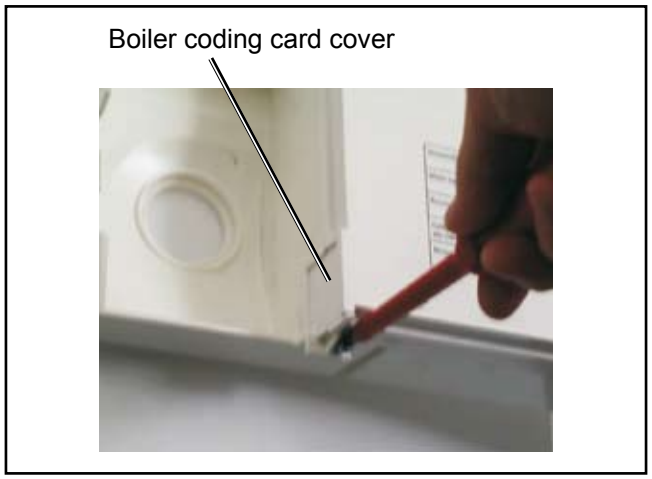
b) Isolate the appliance from the power supply.

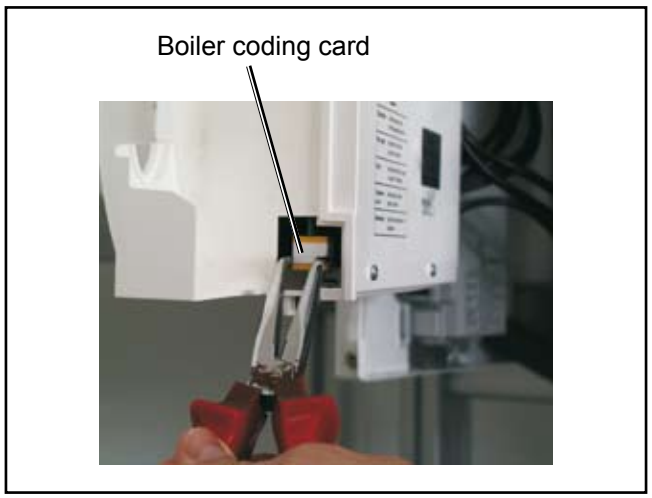
c) Pivot out the control unit.

d) Open the boiler coding card cover.

e) Pull off the boiler coding card and plug in the new one.

f) Refit the boiler coding card cover.





4. Function check

a) After commissioning, the multi-function indicator on the ON/OFF switch begins to flash. Press the reset button twice.

b) The burner starts.

c) Function check: Close the gas tap.
Fault code 12 or indicator ring flashes red.

d) Open gas tap, press reset button.
The burner starts.

e) Adjust parameters if changes from the factory settings are required.

f) Check the function of control accessories.

5. Checking the CO_2 setting

NB **Check in soft start following the installation of the LPG boiler coding card. The load in soft start with the LPG boiler coding card is not equal to the lower load.**

- After completing the work, refit the casing cover and check the CO_2 value with the appliance closed.

⚠ Observe the CO emissions whilst making CO_2 adjustments. The gas combination valve is incorrectly adjusted if the CO value is >200ppm when the CO_2 value is correct. Take the following steps:

Standard setting: Carefully turn the screw fully home and then undo as described under point 1 "Standard setting at the gas combination valve".

Appliance closed (with casing) in soft start	
G20 / 9.1% ± 0.5%	G31 11.5 ± 0.5%

Appliance closed (with casing) at **upper** load	
G20 / 9.3% ± 0.5%	G31 11.3 ± 0.5%

6. Completing the settings

- Shut down the boiler and close the test ports and hose nipples; check for tightness.

7. Updating the type plate

- From the conversion type plate, cut out the area that corresponds to the gas type.
- Overlay the respective type plate on the appliance with the cut-out section.

Eingestellt auf 3P - G31 - 50 mbar Art B23, B33, C33, C43, C53, C83 C63 gem. Montageanleitung Nennwärmebelastung Warmwasser Q = 29 - 120 kW Heizen Q = 29 - 120 kW Nennleistung Heizen 50/30℃ P = 30 - 126 kW Heizen 80/60℃ P = 28 - 117 kW	MGK-130
Eingestellt auf 3P - G31 - 50 mbar Art B23, B33, C33, C43, C53, C83 C63 gem. Montageanleitung Nennwärmebelastung Warmwasser Q = 43 - 160 kW Heizen Q = 43 - 160 kW Nennleistung Heizen 50/30℃ P = 46 - 167 kW Heizen 80/60℃ P = 41 - 156 kW	MGK-170
Eingestellt auf 3P - G31 - 50 mbar Art B23, B33, C33, C43, C53, C83 C63 gem. Montageanleitung Nennwärmebelastung Warmwasser Q = 53 - 200 kW Heizen Q = 53 - 200 kW Nennleistung Heizen 50/30℃ P = 56 - 208 kW Heizen 80/60℃ P = 51 - 194 kW	MGK-210
Eingestellt auf 3P - G31 - 50 mbar Art B23, B33, C33, C43, C53, C83 C63 gem. Montageanleitung Nennwärmebelastung Warmwasser Q = 60 - 240 kW Heizen Q = 60 - 240 kW Nennleistung Heizen 50/30℃ P = 62 - 250 kW Heizen 80/60℃ P = 58 - 233 kW	MGK-250
Eingestellt auf 3P - G31 - 50 mbar Art B23, B33, C33, C43, C53, C83 C63 gem. Montageanleitung Nennwärmebelastung Warmwasser Q = 74 - 280 kW Heizen Q = 74 - 280 kW Nennleistung Heizen 50/30℃ P = 78 - 294 kW Heizen 80/60℃ P = 71 - 275 kW	MGK-300
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Conversion type plate.