

Gas type conversion

for Vitodens 100-W

Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained



Danger

This symbol warns against the risk of injury.



Please note

This symbol warns against the risk of material losses and environmental pollution.

Note

Details identified by the word "Note" contain additional information.

Installation, initial start-up, inspection, maintenance and repairs must only be carried out by a competent person (heating engineer/installation contractor).

Before working on the equipment/heating system, isolate the power supply (e.g. by removing a separate mains fuse or by means of a mains isolator) and safeguard against unauthorised reconnection.

When using gas as fuel, also close the main gas shut-off valve and safeguard against unauthorised reopening.

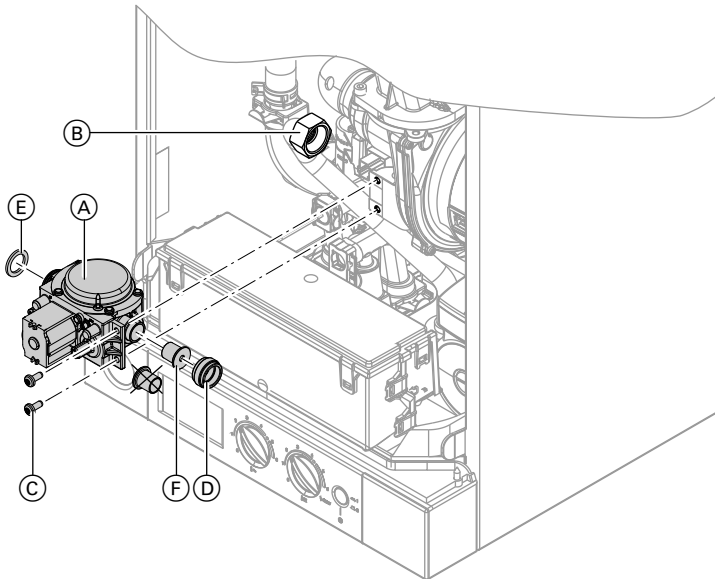
Repairing components which fulfil a safety function can compromise the safe operation of your heating system. For replacements, use only original spare parts supplied or approved by Viessmann.

Opening the Vitodens



Installation and service instructions

Replacing the gas restrictor



1. Disconnect cable from gas train (A).
2. Undo union nut (B).
3. Undo 2 screws (C) and remove gas train (A).
4. Fit gas train with new gasket (D) and, subject to gas type, "gas restrictor (F)" (see also page 4).
 - Operation with natural gas EG-E (G20):
Gasket (D) **without** gas restrictor (F).
 - Operation with natural gas EG-L (G25):
Gasket (D) **without** gas restrictor.
 - Operation with LPG (G31):
Gasket (D) **with** gas restrictor (F).
 - Operation with special gases (G230):
Gasket (D) **without** gas restrictor.
 - Operation with natural gas EG-Lw (G27):
Gasket (D) **with** gas restrictor (F).

Replacing the gas restrictor (cont.)

- Operation with natural gas EG-Ls (G2.350):
Gasket (D) **without** gas restrictor.
- Operation with natural gas EG-S (G25.1):
Gasket (D) **with** gas restrictor (F).



Please note

Ensure the gas restrictor is fitted correctly.

5. Mount gas train (A) with new gaskets (E).
Torque for fixing screws (C): 6 Nm
Torque for union nut (B): 30 Nm

6. Start the boiler and check for leaks.



Danger

Escaping gas leads to a risk of explosion.
Check all gas equipment for tightness.



Please note

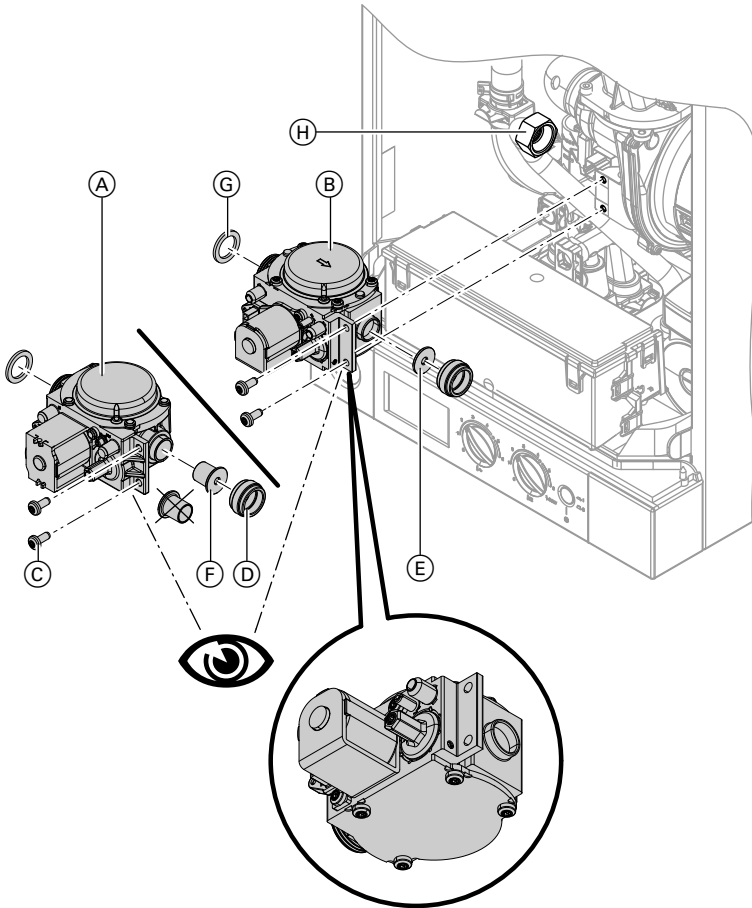
The use of leak detection spray can result in faulty operation.
Leak detection spray must not come into contact with electrical contacts or block the diaphragm opening on the gas valve.

Different gas train versions

Note

The Vitodens may be equipped with different gas train versions.

- Pressure die cast casing (A)
- Bolted casing (B)



1. Disconnect the cable from the gas train.
2. Undo union nut (H) and remove the old gas gasket.
3. Undo 2 screws (C) and remove the gas train.

Different gas train versions (cont.)

4. For boilers equipped with gas train (A), insert new gasket (D) **with** new "gas restrictor" (F) from the conversion kit.

Note

Conversion to gas type EG-L or EG-Ls and special gas (G230) for gas train A and B without gas restrictor.



Please note

Ensure the gas restrictor is fitted correctly.

For boilers equipped with gas train (B) (bolted casing), insert new gasket (D) with "gas restrictor (E)" from the conversion kit.

5. Mount the gas train with new gas gasket (G).
Torque for fixing screws (C): 6 Nm
Torque for union nut (B): 30 Nm

6. Start the boiler and check for leaks.



Danger

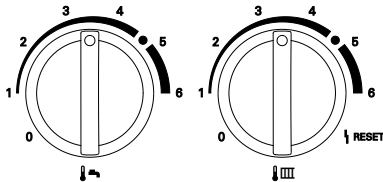
Escaping gas leads to a risk of explosion.
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Please note

The use of leak detection spray can result in faulty operation.
Leak detection spray must not come into contact with electrical contacts or block the diaphragm opening on the gas valve.

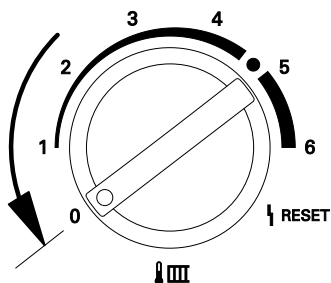
Changing the gas type at the control unit



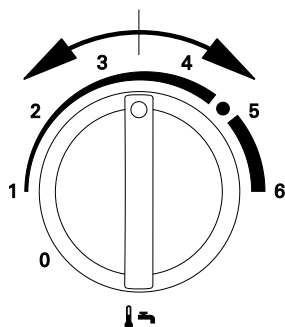
1. Turn on the ON/OFF switch.
2. Turn both rotary selectors "I" and "III" simultaneously to the central position.
"SERV" appears on the display.



Changing the gas type at the control unit (cont.)

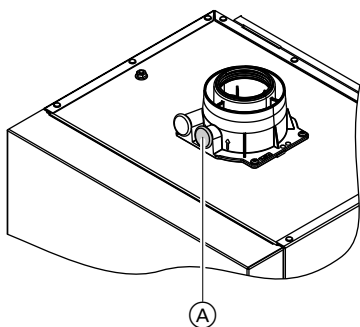


3. Turn rotary selector "🔥" fully anti-clockwise within 2 s.
The set value and "👁️" flash on the display.



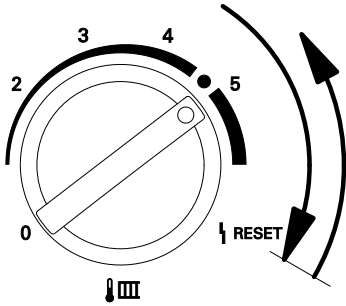
4. Use rotary selector "🔥" to change the gas type at the control unit.
 - Gas types Lw (G27), LL (G25), Ls (G2.350), S (G25.1):
"0"
 - Gas types P (G31), M (G230):
"1"
5. The selected gas type has been saved when the value stops flashing. The control unit returns to standard operation.

Preparing for a gas check



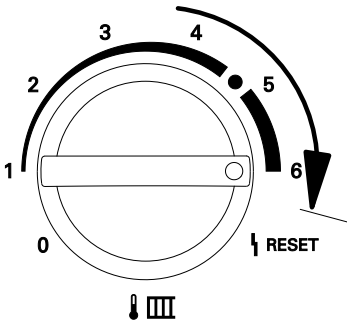
1. Connect a flue gas analyser at flue gas port (A) on the boiler flue connection.
2. Start the boiler.

Preparing for a gas check (cont.)



- Turn rotary selector "🌡️" fully clockwise for less than 2 s and then back into the r.h. section of the control range.
The display shows "SERV", "▶️" and the boiler water temperature.

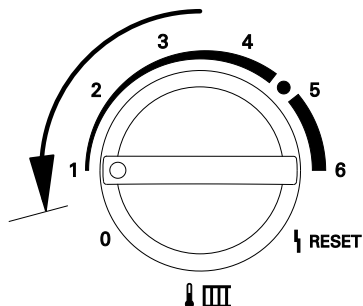
Checking the CO₂ content



- Set the upper heating output:
Turn rotary selector "🌡️" into the r.h. section of the control range until the display shows 5 bars for the upper heating output.
- Measure the CO₂ content for the upper heating output.
The CO₂ content must be within the following ranges for the respective gas type. See table.

Gas type	CO ₂ content in %
Ls (G2.350)	7.5 – 9.7
E or H (G20)	7.0 – 10.5
L or LL (G25)	7.0 – 10.5
Lw (G27)	7.8 – 10.6
P (G31)	10.0 – 12.0
M (G230)	10.0 – 12.0

Checking the CO₂ content (cont.)

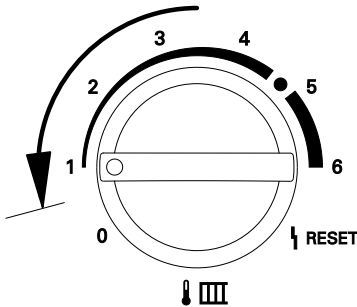
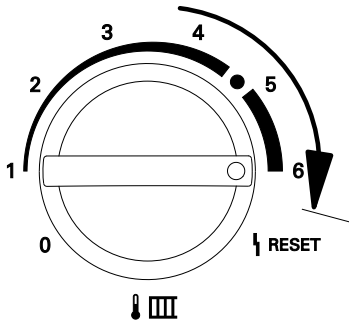


3. Set the lower heating output:
Turn rotary selector "↓ III" into the l.h. section of the control range until the display shows 1 bar for the lower heating output.
4. Measure the CO₂ content for the lower heating output.
The CO₂ content must be at least 0.4 % below the value for the upper heating output.
5.
 - If the CO₂ content is within the indicated range, continue on page 10.
 - If the CO₂ content is **not** within the indicated range, check the flue gas/ventilation air system for tightness; remedy any leaks. Replace the gas train if required.
6. Measure the CO₂ content for the upper and lower heating output again.

Only for gas type S (G25.1): Check the O₂ content

Standard limit gas S (G25.1):
CO₂ content 14 %.

Only for gas type S (G25.1): Check the O₂ content (cont.)



1. Set the upper heating output:
Turn rotary selector "↓ IIII" into the r.h. section of the control range until the display shows 5 bars for the upper heating output.
2. Measure the O₂ content for the upper heating output.
The O₂ content must be within 6.4 – 3.4 %.
3. Set the lower heating output:
Turn rotary selector "↓ IIII" into the l.h. section of the control range until the display shows 1 bar for the lower heating output.
4. Measure the O₂ content for the lower heating output.
The O₂ content must be at least 0.7 % above the value for the upper heating output.
5.
 - If the O₂ content lies within the indicated range, continue with page 10.
 - If the O₂ content is **not** within the indicated range, check the flue gas/ventilation air system for tightness; remedy any leaks. Replace the gas train if required.
6. Measure the O₂ content for the higher and lower heating output again.

Starting the boiler

1. Shut down the boiler, remove the flue gas analyser and close flue gas test port (A).
2. Turn both rotary selectors "🔥🚰" and "🔥🏠" back to their respective original positions.
3. Select the appropriate label from the "Gas type" labels supplied and affix it next to the type plate on the top of the boiler.

Note

The factory setting shown on the type plate then no longer applies.

4. Mount the front panel and start the boiler.





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