

NESTA CHROME

Gas Conversion Procedure



- ▶ Conversion of the appliance from one gas type to another can only be performed by a qualified professional.
- ▶ Gas conversion shall be performed according to applicable local regulations. It is prohibited in some countries. Perform conversion according to the gas category specified for your country on the appliance data plate.
- ▶ If the boiler is intended to be used with liquid gas (propane), installing the boiler below ground level can be hazardous and prohibited in some countries. Please refer to applicable local regulations for installation requirements.
- ▶ If the boiler is already installed before conversion, the boiler must be turned off, the power supply must be disconnected through the external fuse or circuit breaker, and the gas supply to the gas valve must be closed.



- ▶ Make sure that the gas type and pressure of the distribution network are compatible with the appliance, as per the information on the appliance data plate.
- ▶ If the boiler was running before conversion, allow it to cool down before performing any task.



After gas conversion is performed, control the gas pressure and consumption at appliance start up, and perform the adjustment procedures provided in “Adjustment of Fan Speeds” on page 3 and “Combustion Adjustment” on page 4.

Summary

This procedure consists in replacing the factory-installed air-gas mixer for G20 natural gas attached to the fan, by a an air-gas mixer for either G25 natural gas or G31 liquid gas (Propane). See **Fig. 1** opposite for air-gas mixer location.

See table below for air-gas mixer top and bottom injector sizes:

Model	G25	G31
	Top - Bottom	Top - Bottom
N 60 - 80 WH	6.0 - 6.0	4.7 - 4.5
N 100 -115 - 120 WH	6.6 - 6.6	5.3 - 5.0

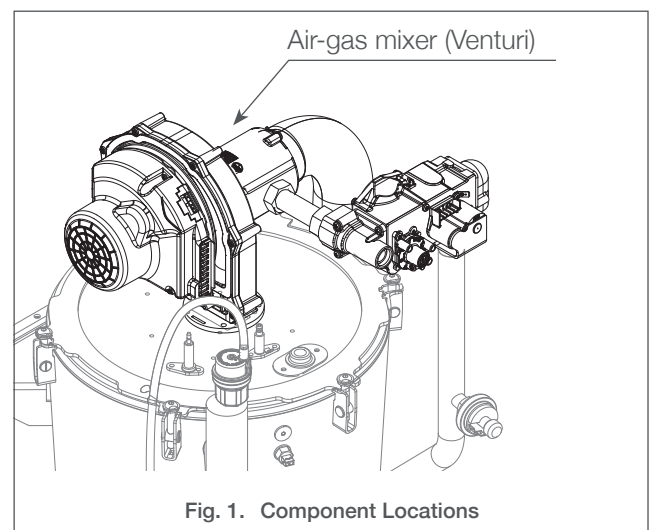


Fig. 1. Component Locations

NESTA CHROME - GAS CONVERSION PROCEDURE

Air-Gas Mixer Replacement

Conditions:

- › Boiler turned off using the appliance on/off switch
- › Power supply deactivated through external electrical box (fuse or circuit breaker)
- › Gas supply shut down
- › Boiler cooled down
- › Front and top panel removed. Please refer to the Installation and Maintenance Manual for the correct procedure.

Tools and material:

- › Wrench, hex head
- › Screwdriver, flat
- › Torque wrench

Air-Gas Mixer Removal Procedure (Fig. 2)

1. Disconnect all connectors and grounding wires from the fan and the gas valve.
2. Disconnect the air inlet duct (1) from the air-gas mixer (6).
3. Release union (3) securing the gas valve and tube (2) to the air-gas mixer (6).
4. Rotate the gas valve and tube (2) away from the air-gas mixer assembly (6).
5. Release 3 screws and washers (5) securing the air-gas mixer (6) to the fan (8).

6. Remove the air-gas mixer (6) and the hardware.
7. Retain hardware for reinstallation.



When removing the air-gas mixer, check the general condition of the O-ring. Discard and replace the O-ring if it is cracked or torn.

Air-Gas Mixer Installation Procedure (Fig. 2)

1. Install the new air-gas mixer (6) on fan using hardware retained at removal. Check the O-ring (7) condition and replace as required.
2. Rotate gas valve with pipe (2) on gas pipe back towards the air-gas mixer (6)
3. Install gasket (4) and fasten the gas valve with pipe (2) to the air-gas mixer (6) with union (3).
4. Connect the inlet duct (1) to the air-gas mixer (6).
5. Reconnect all connectors and grounding wires to the gas valve and fan.

Follow-on Task(s)

- › Open gas supply to the boiler.
- › Check the absence of leaks
- › Restart the boiler and perform the fan speed adjustment. See **“Adjustment of Fan Speeds” on page 3.**

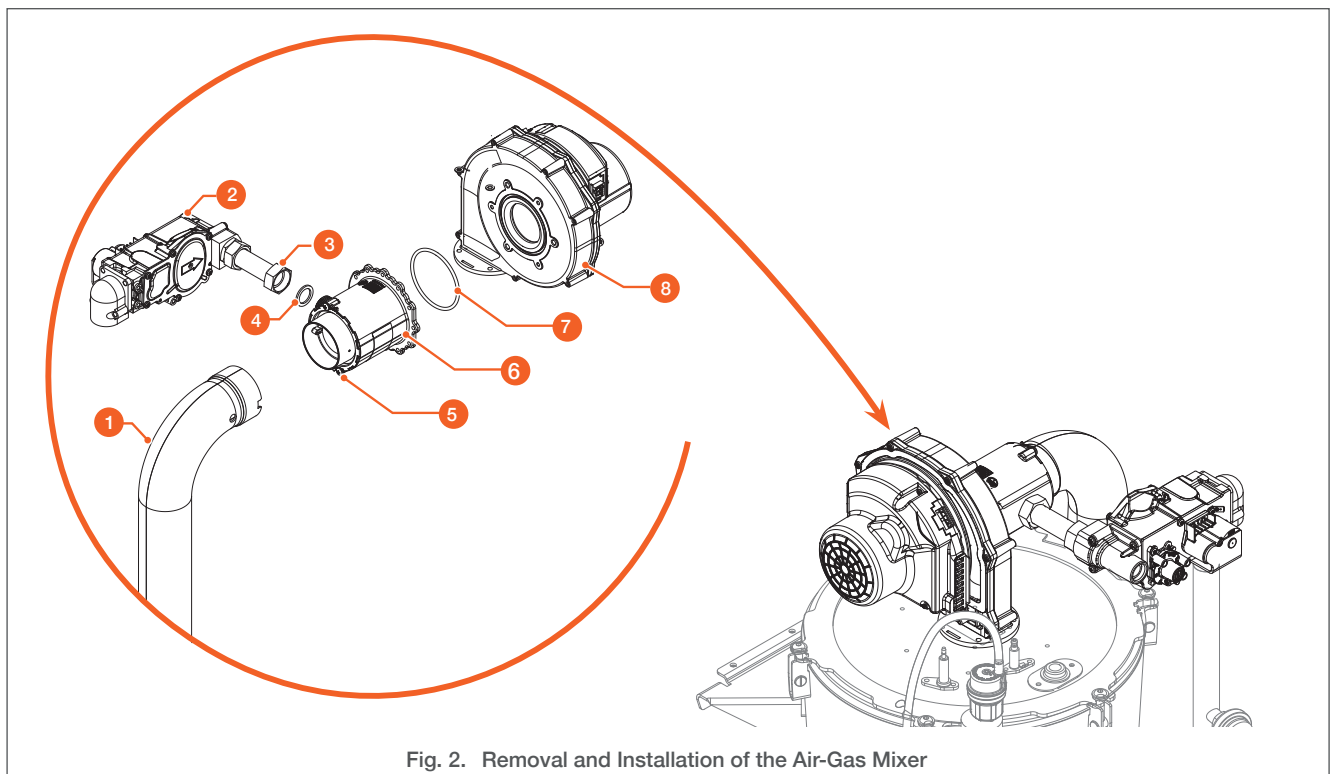


Fig. 2. Removal and Installation of the Air-Gas Mixer

Adjustment of Fan Speeds

Conditions:

- Boiler full of water
- Gas supply open
- Power supply activated through external electrical box (fuse or circuit breaker)

Adjustment Procedure (Fig. 3)

1. Press the On/Off switch located on the right side of the control panel.



If starting the boiler for the first time after installation, the controller will open the commissioning screen automatically.

2. Perform the commissioning setting of the boiler (refer to the appliance installation manual), as required.
3. Press the ESC (3) button.
4. Press the OK (2) button.
5. Press the Info (1) button for more than 3 seconds. The access levels are displayed.
6. Rotating the selection knob (4), go to:
 - “**Engineer**”. Press OK (2) to confirm.
 - “**Burner Control**”. Press OK (2) to confirm.

- “**Required speed LF**” (Program number 9524). Press OK (2) to modify value. The value starts flashing (5).

7. Rotating the knob, adjust the minimum fan speed for the gas type and boiler type according to the table shown at the bottom of the page.
8. Press OK (2) to confirm and save the value.
9. Rotating the knob, go to “**Required speed HF**” (Program number 9529).
10. Press OK (2) to modify value. The value starts flashing (5).
11. Rotating the knob, adjust the nominal fan speed for the gas type and boiler type according to the table shown at the bottom of the page.
12. Press OK (2) to confirm and save the value.
13. Press ESC (3) to exit the settings.

Follow-on Task(s)

- Perform the combustion adjustment. See “**Combustion Adjustment**” on page 4.

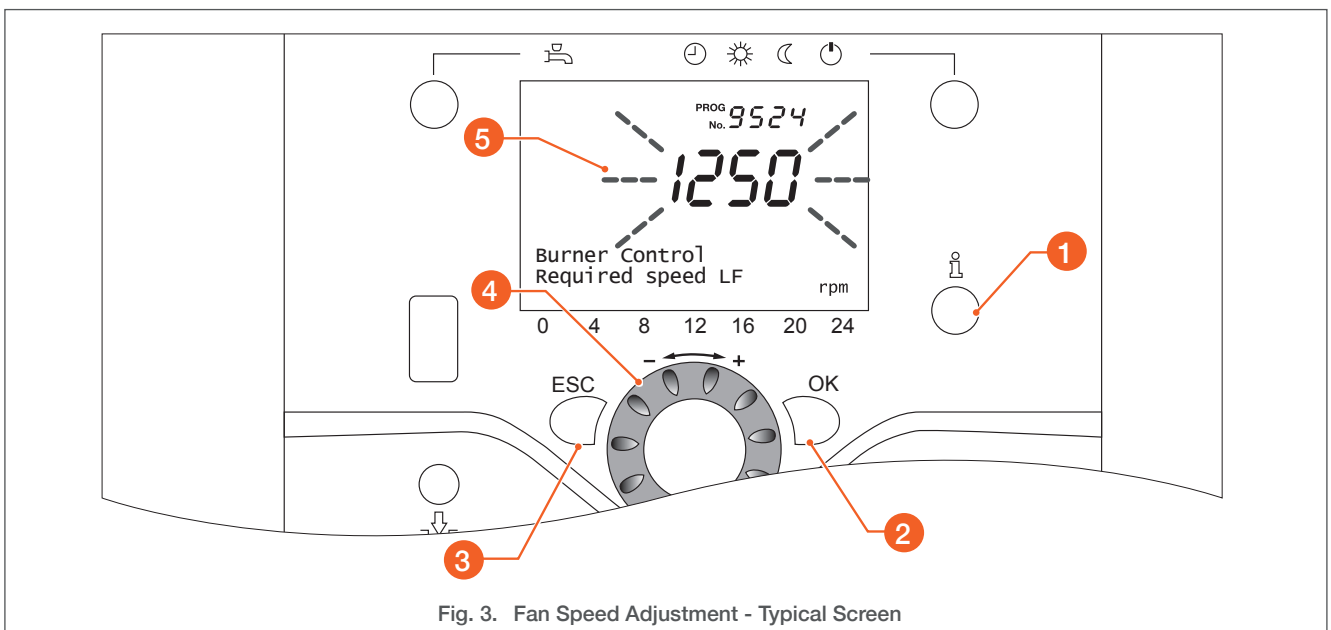


Fig. 3. Fan Speed Adjustment - Typical Screen

			N 60 WH	N 80 WH	N 100 WH	N 115 WH	N 120 WH
Fan speeds for G25 (Natural Gas)	Minimum	rpm	1,400	1,400	1,400	1,400	1,400
	Nominal	rpm	5,790	7,080	7,180	8,050	8,350
Fan speeds for G31 (Liquid Gas)	Minimum	rpm	1,400	1,400	1,300	1,300	1,300
	Nominal	rpm	5,350	6,500	6,570	7,300	7,600

NESTA CHROME - GAS CONVERSION PROCEDURE

Combustion Adjustment

Conditions:

- Boiler full of water
- Gas supply activated
- Power supply activated through external electrical box (fuse or circuit breaker)
- Boiler turned on using the On/Off switch

Tools and material:

- Flue gas analyser
- Screwdriver, flat head, size 3
- Wrench, hex head, sizes 2 and 2.5

Adjustment Procedure (Figs. 3 & 4):

1. Activate the required heating mode by pressing the heating mode selection button (1).
2. Allow the boiler to operate for a few minutes.
3. Connect the flue gas analyser probe to the measuring port of the flue gas pipe.
4. Press the heating mode selection button (1) for more than 3 seconds.

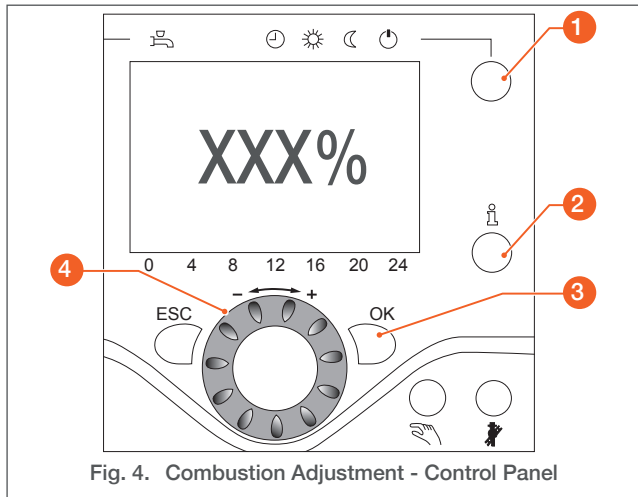


Fig. 4. Combustion Adjustment - Control Panel

5. Check CO₂ contents in the flue gas at max. output as follows:
 - Press the Information button (2). The modulation indicator is displayed (in %).
 - Press the OK button (3), the indicator starts flashing.
 - Rotate the knob (4) to increase to 100% for maximum power.
 - Check the CO₂ contents, and compare the values with those in the table below.

		@Min output	@Max output
G25	%CO ₂	8.5 (±0.2)	9.0 (±0.2)
G31	%CO ₂	10.0 (±0.2)	10.5 (±0.2)
G25	%O ₂	5.5 (±0.2)	4.5 (±0.2)
G31	%O ₂	5.7 (±0.2)	4.6 (±0.2)

- If the value is outside the range, adjust the combustion value by turning the gas valve throttle (5) in small steps, to allow the value to stabilise before performing additional adjustments.
 - Rotate throttle screw **clockwise (to the right) to decrease** the CO₂ contents.
 - Rotate throttle screw **counter-clockwise (to the left) to increase** the CO₂ contents.
6. Check CO₂ contents in the flue gas at min. output as follows:
 - Repeat steps 3 and 4.
 - Press the Information button (2). The modulation indicator is displayed (in %).
 - Press the OK button (3), the indicator starts flashing.
 - Rotate the knob (4) to decrease to 0% for minimum power.
 - Check the CO₂ contents, and compare the values with those in the table at the bottom of the page.

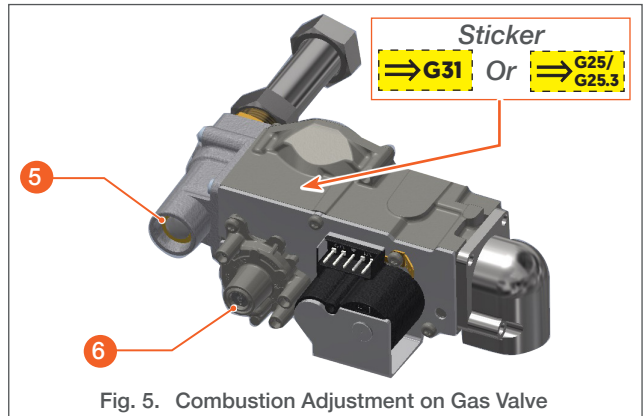


Fig. 5. Combustion Adjustment on Gas Valve

- If the value is outside the range, adjust the combustion value by turning the offset screw (6) in small steps to allow the value to stabilise before performing additional adjustments.



The offset screw is factory-sealed. After adjustment, make sure to reseal it.

7. Restart the boiler to check the ignition behaviour. Control the correct operation of the boiler by repeating steps 1 to 6.
8. Reseal the offset screw (6) using some paint or tape.

Follow-on Task(s):

- On the gas valve (Fig. 5), place the yellow sticker indicating that a gas conversion has been carried out.
- On the data plate (below the boiler), place the white sticker indicating that a gas conversion has been carried out.
- Reinstall front and top panels, Please refer to the appliance Installation and Maintenance manual for the correct procedure.
- Record the combustion values in the log sheet available in the installation manual of the appliance.