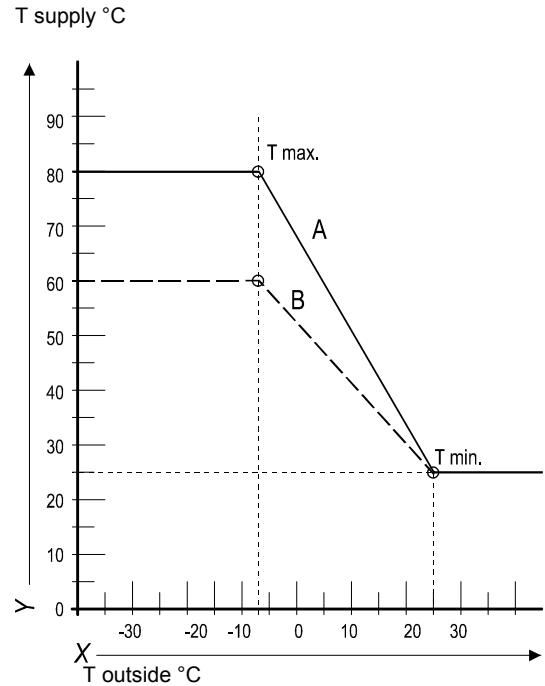


7.6 Weather-dependent control

When the outside sensor is connected, the supply temperature is automatically controlled dependent on the outside temperature in accordance with the set control line.

The T set CH (= CH supply temperature) is set via the temperature display. If required, the control line can be adjusted by the service code. See §7.3.

- X. T outside °C
- Y. T supply °C
- A. factory setting
- B. example



7.7 Conversion to other gas type



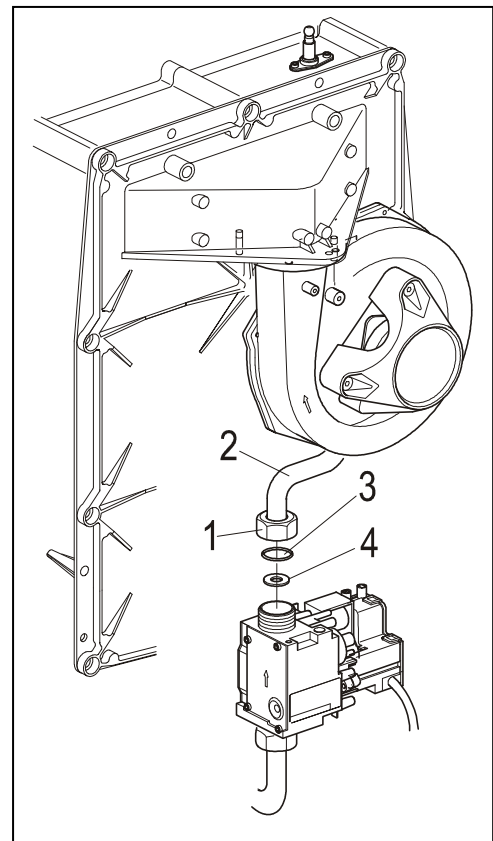
CAUTION

Activities on the gas-containing parts should only be executed by a qualified registered installer.

When the appliance is connected to another gas type than the type for which the manufacturer has set the appliance, the gas setting ring must be replaced. Conversion sets for other gas types can be ordered.

Conversion of the gas setting ring

1. Switch off the electrical supply to the appliance.
2. Close the gas tap.
3. Remove the front cover of the appliance.
4. Disconnect the coupling (1) above the gas valve and turn the gas mixing pipe (2) backwards.
5. Replace the O-ring (3) and the gas setting ring (4) by the rings of the conversion set.
6. Reassemble in reverse order.
7. Open the gas tap.
8. Check the gas connections for tightness/ leaks.
9. Switch on the electrical supply to the appliance.
10. Change the parameters c and F to the values given in the table.
11. Now check the setting of the gas/air ratio. (See below)
12. Attach a sticker of the set gas type over the existing sticker on the gas mixing pipe (2).
13. Apply a sticker of the set gas type at the appliance plate.
14. Remount the front cover of the appliance.



7.8 Gas-air control

Although the gas valve is factory-preset, because of variations in different boiler installations this setting must be checked and if necessary adjusted. The setting can be checked by measuring the CO₂ percentage in the flues or by measuring the pressure difference.

In case of any alterations, replacement of the gas valve or conversion to another gas type, the control must be checked and reset if necessary

according to the table below:-

Gas type	Natural gas H	Propane P
Gas category	2H G20	3P G31 (propane)
CO ₂ % at low position (L) (service and -)	8.8 – 9.2	9.3 – 9.7
CO ₂ % at high position (H) (service and +)	8.6 – 9.6	9.5 – 10.5
CO/CO ₂ ratio	0.004 or less	0.004 or less
Gas inlet pressure dynamic (mBar)	17-25	25-45
Gas inlet pressure static (mBar)	20	37
Gas setting ring diameter (mm) HE26	6.95	5.35
Gas setting ring diameter (mm) HE40C	6.55	5.25
Minimum speed (% of max) (parameter c)	25	40
Min. starting speed (% of max) (parameter F)	70	50




Note: See also §7.3 (Parameters)

7.9 Setting gas-air control

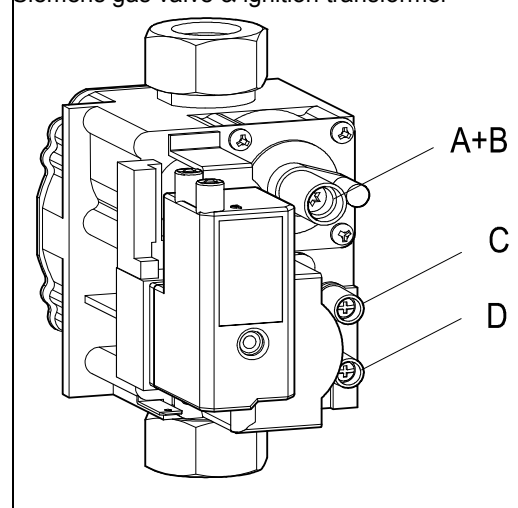
Setting by measuring the CO₂ content of the flue gases

- A flue gas test point must be mounted right above the appliance in the flue discharge.

- A. Dust cap (socket head wrench torx T15)
- B. Setting screw for the low position (socket head wrench torx T15)
- C. Off-set pressure measuring nipple
- D. Inlet pressure measuring nipple

- Switch off the appliance using the *On/Off* button ( on service display).
- Open the flue gas test point and insert the gas test probe.
- Switch on the appliance using the *On/Off* button.
- Set the boiler to the lowest output by simultaneously pressing the “Service” and “-” buttons on the operating panel until an  appears on the service display.
- Measure the CO₂ value and the CO/CO₂ ratio. Check that these correspond with the values in the table. If the CO₂ value does not correspond with the value in the table, proceed as follows for setting:
- Remove the front cover of the appliance.
- Remove the dust cap (A) with a torx T15 driver
- Using a torx driver (T15), adjust the setting screw (B) to the correct CO₂ value (clockwise higher and counter-clockwise lower).
- After measuring and setting, set the boiler to the highest output by simultaneously pressing the “Service” and “+” buttons (twice) on the operating panel until an  appears on the service display.
- Measure the CO₂ value and the CO/CO₂ ratio. Check that these correspond with the values in the table.
- If the high output CO₂ is not within the parameters allowed in the chart above, return to low output and adjust the CO₂ setting at low output before returning to high out put to check it again. Contact the manufacturer if you encounter difficulties.
- Exit the test mode by simultaneously pressing the “+” and “-” buttons on the operating panel. Replace the dust cap (A) and close the flue gas test point.
- Remount the front cover of the appliance.

Siemens gas valve & ignition transformer







Caution: On windy days or on installations with a long flue run it is necessary to replace the front cover of the boiler in order to obtain an accurate CO₂ measurement

Setting the gas valve by pressure measurement

This method is less accurate, but usually gives a sufficient result.

1. Switch off the appliance using the *On/Off* button ( on service display).
2. Remove the front cover of the appliance.
3. Turn the measuring nipple (C) on the gas valve open with two turns and connect this through a tube to the plus connection of the pressure gauge.
4. Switch on the appliance using the *On/Off* button.
5. Set the boiler to the lowest output by simultaneously pressing the “Service” and “–“ buttons on the operating panel until an  appears on the service display.
6. Read the pressure. This should be about – 0.05 mBar (between – 0,1 mBar and 0 mBar). When this is not the case, proceed as follows for setting:-
7. Remove the dust cap (A) with a torx T15 driver.
8. Set the pressure using setting screw (B) (clockwise higher and counter-clockwise lower).
9. After measuring and setting, replace the cover cap A and close the measuring nipple (C) again.
10. Remount the front cover of the appliance.

Caution: Check the measuring nipple (C) for gas tightness.

7.10 Carbon monoxide : carbon dioxide ratio (CO/CO₂ ratio)

Atmos recommends that a carbon monoxide : carbon dioxide ratio test is carried out when the boiler is commissioned. This is best done when the CO₂ content of the flue gasses is measured. See the procedure described in §7.9.

The CO/CO₂ ratio at low or high output should be no higher than 0.004.

A CO/CO₂ ratio between 0.004 and 0.008 means that the appliance is ‘At Risk’ (AR).

A CO/CO₂ ratio above 0.008 means that the appliance is ‘Immediately Dangerous’ (ID)

Where an ‘at risk’ or ‘immediately dangerous’ situation is encountered, measures **must** be undertaken to rectify the situation. Particular attention should be given to the gas/air ratio, the integrity of the flue, or blockage in the heat exchanger. **Contact the manufacturer for assistance.**

8. FAULTS

When the controller detects a fault, the red fault LED flashes (above the *Reset* button) and a fault code is shown on the *Temperature* display.


After the fault has been remedied, the controller can be restarted by pressing the *Reset* button for 5 seconds.

The following faults are detected and displayed:-

Temperature display	Description	Possible cause/remedy
10, 11, 12, 13, 14	Sensor fault S1	<ul style="list-style-type: none"> • Check the wires for breaks • Replace S1
20, 21, 22, 23, 24	Sensor fault S2	<ul style="list-style-type: none"> • Check the wires for breaks • Replace S2
0	Sensor fault after self-check	<ul style="list-style-type: none"> • Replace boiler sensor S1 and/or S2
1	Temperature too high	<ul style="list-style-type: none"> • Air in system • Pump does not run • Too little circulation in system, radiators closed, pump setting too low
2	Exchange S1 and S2	<ul style="list-style-type: none"> • Check the cable loom • Replace S1 or S2
4	No flame signal after 4 ignition attempts	<ul style="list-style-type: none"> • Gas tap closed • Incorrect ignition distance • Gas inlet pressure too low or disappears • Gas valve or ignition unit does not receive voltage • Further info can be found on Technical Data Sheet TDS012 available on www.atmos.co.uk
5	No flame signal after 4 restart attempts	<ul style="list-style-type: none"> • Condensate discharge blocked • Check setting of gas valve • Further info can be found on Technical Data Sheet TDS013 available on www.atmos.co.uk
6	Flame detection fault	<ul style="list-style-type: none"> • Replace ignition cable + spark probe • Replace ignition unit • Replace controller
8	Fan speed incorrect	<ul style="list-style-type: none"> • Fan rubs against casing • Wiring between fan and casing • Check the wires for poor contact (tacho signal) • Replace fan
29, 30	Gas valve relay fault	<ul style="list-style-type: none"> • Replace controller

8.1 Display last fault code.

It is possible to display the last fault code as follows:

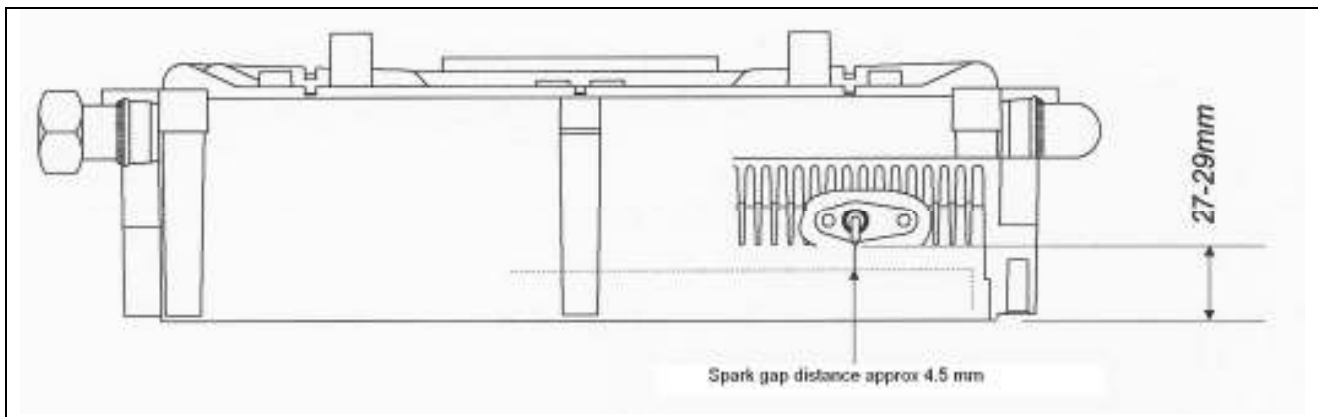
- Set the appliance in the off mode using the *On/Off* key ( on the service display).
- Press the *Service* key, until the last fault code appears flashing on the temperature display. When no fault has occurred no code will be displayed.
- By pressing simultaneously the *Service* key and the “-“ key the fault code will be erased.

8.2 Burner does not ignite

Possible causes		Remedies
Gas tap is closed	⇒ Yes	1. Open the gas tap.
↓ No		
Air in the gas pipe.	⇒ Yes	1. De-aerate the gas pipe.
↓ No		
Inlet pressure too low.	⇒ Yes	1. Contact the gas company.
↓ No		
No ignition	⇒ Yes	1. Replace the ignition probe.
↓ No		
No spark. Ignition unit on gas unit faulty	⇒ Yes	1. Check the cabling. 2. Check the spark probe 3. Replace the ignition unit.
↓ No		
Gas-air control not adjusted properly.	⇒ Yes	1. Check the adjustment, see Gas-air control.
↓ No		
Fan faulty	⇒ Yes	1. Check the wiring. 2. Check the fuse. 3. Replace the fan if necessary.
↓ No		
Fan blockage	⇒ Yes	1. Clean the fan.
↓ No		
Gas valve faulty	⇒ Yes	1. Replace the gas valve. 2. Re-adjust the gas valve, see Gas-air control.

8.3 Burner ignites with much noise

Possible causes		Remedies
Inlet pressure too high.	⇒ Yes	1. The house gas meter may be faulty. Contact the gas company.
↓ No		
Incorrect ignition distance.	⇒ Yes	1. Replace the ignition probe. 2. Check the ignition probe distance.
↓ No		
Gas-air mixture not adjusted properly.	⇒ Yes	1. Check the adjustment. See Gas-air control.
↓ No		
Weak spark.	⇒ Yes	1. Replace the ignition probe. 2. Replace the ignition unit on the gas valve. 3. Check the ignition spark gap.



8.4 Burner resonates

Possible causes		Remedies
Inlet pressure too low.	⇒ Yes	1. The house gas meter may be faulty. Contact the gas company.
↓ No		
Re-circulation of the flue gases.	⇒ Yes	1. Check the flue gases and air supply.
↓ No		
Gas-air mixture not adjusted properly.	⇒ Yes	1. Check the adjustment, see Gas-air control.

8.5 No heating (CH)

Possible causes		Remedies
Room thermostat/weather-dependent control not closed or faulty.	⇒ Yes	1. Check the wiring. 2. Replace the thermostat. 3. Replace the weather-dependent control.
↓ No		
No voltage (24 V).	⇒ Yes	1. Check the wiring according to the diagram. 2. Check the connector x4. 3. Replace defective controller
↓ No		
Pump does not run.	⇒ Yes	1. Check the voltage. 2. Check the connector x4. 3. Replace defective pump. 4. Replace defective controller.
↓ No		
Burner does not operate on CH: - Sensor S1 or S2 faulty.	⇒ Yes	1. Replace sensor S1 or S2. See Fault code display: 1 or 2.
↓ No		
Burner does not ignite.	⇒ Yes	1. See Burner does not ignite.

8.6 Reduced output

Possible causes		Remedies
At high speed, the power has decreased by not more than 5%.	⇒ Yes	<ol style="list-style-type: none"> 1. Check appliance and flue system for pollution. 2. Clean appliance and flue system.

8.7 CH does not reach the correct temperature

Possible causes		Remedies
Room thermostat settings not correct.	⇒ Yes	<ol style="list-style-type: none"> 1. Check the setting and adjust if necessary: set to 0.1 A.
↓ No		
Temperature set too low.	⇒ Yes	<ol style="list-style-type: none"> 1. Raise the CH temperature, see CH operation. 2. Check the outside sensor for short circuit: remedy this..
↓ No		
Pump does not run well. Pump setting too low.	⇒ Yes	<ol style="list-style-type: none"> 1. Raise the pump setting or replace the pump.
↓ No		
No circulation in the system.	⇒ Yes	<ol style="list-style-type: none"> 1. Check for circulation: at least 2 or 3 radiators must be open.
↓ No		
The boiler power is not set well for the system.	⇒ Yes	<ol style="list-style-type: none"> 1. Adjust the power, see Setting maximum CH power.
↓ No		
No heat transfer due to scaling or pollution in the heat exchanger.	⇒ Yes	<ol style="list-style-type: none"> 1. Descale or flush the heat exchanger on the CH side.

Table 6. NTC resistances

NTC 12 kOhm / 25°C					
T [°C]	R[ohm]	T [°C]	R[ohm]	T [°C]	R[ohm]
-15	76020	25	12000	65	2752
-10	58880	30	9805	70	2337
-5	45950	35	8055	75	1994
0	36130	40	6653	80	1707
5	28600	45	5522	85	1467
10	22800	50	4609	90	1266
15	18300	55	3863	95	1096
20	14770	60	3253	100	952

9. SERVICING THE BOILER AND COMPONENT REPLACEMENT

9.1 SERVICING THE BOILER

The appliance and the system should be serviced annually by a qualified service engineer.

For appliances connected to propane gas, a six monthly service for the first two years to simply clean the condensate trap and pipe may be necessary. Due to the nature of propane gas, a jelly like substance can build up in the trap, causing it to become blocked.

9.1.1 Preparation

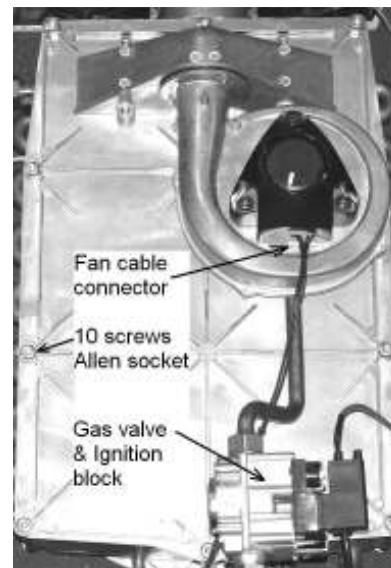
Switch off the appliance using the *On/Off* button on the operating panel.

Switch off the electrical supply to the appliance.

Close the gas tap.

Unscrew the two recessed screws left and right at the front underneath the appliance and lift/remove the front panel. See photo in §4.5.3.

Wait until the appliance and the burner have cooled down. Swing out the expansion vessel by undoing the clip to raise the vessel slightly.



9.1.2 Checking the heat exchanger and spark ignition probe

Remove the connector from the fan and the ignition block from the gas valve.

Disconnect the lower gas valve union.

Unscrew the 10 socket screws (Allen socket M8x40) from the front cover and remove this forwards complete with gas valve and fan.

While removing the front cover do not hold this at the gas valve or the fan.

Be careful not to damage the burner and the fan while removing the front plate.

The burner does not need any maintenance.

Never clean the burner with a brush or compressed air. This causes damage to the metal fibre.

Check the spark ignition probe and gently clean any deposits. As the spark gap cannot be checked directly, use a flat surface across the corner of the heat exchanger to measure the distance to the probe. See the diagram in §8.3. The distance should be in the range 27 to 29mm. Replace the probe if necessary.

Remove the baffles that have been placed crosswise in the fins of the heat exchanger (HE26 only).

If necessary, clean the baffles and the fins of the heat exchanger from top to bottom with a brush or with compressed air.

Clean the bottom of the heat exchanger and disconnect and clean the black plastic condensate sump at the bottom of the flue discharge behind the heat exchanger.

Reassemble the baffles in the heat exchanger (HE26 only).

Check the silicone gasket of the front cover for damage (hair) cracks and/or discolouring and replace if necessary.

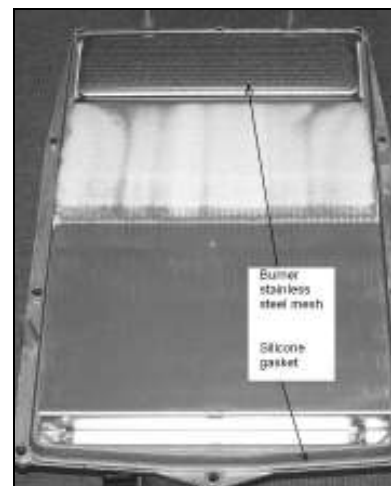
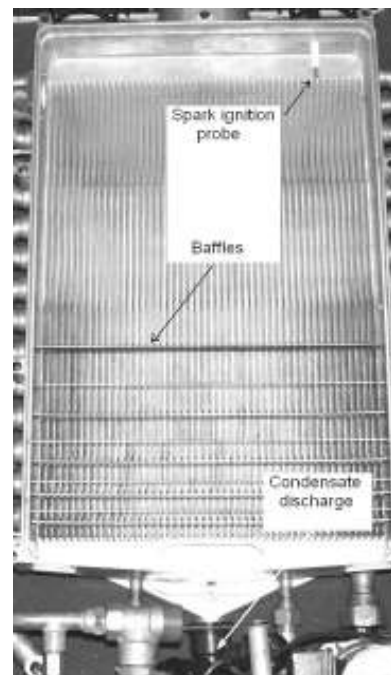
Mount the front cover to the heat exchanger and attach this with the socket screws with spring washers. Crosswise tighten the socket screws evenly by hand. Using an Allen key, tighten the screws so that the front cover is closed onto the heat exchanger all round the edge, and then tighten them hand tight (approximately 10 Nm torque).

Make sure that the silicon gasket is well placed around the front cover.

Reconnect the gas union below the gas valve.

Check the sealing ring for damage and replace if necessary.

Fit the connector on the fan and the ignition block on the gas valve.



Open the gas tap and check the gas couplings below the gas valve and on the mounting bracket for leaks.

Switch on the electrical supply to the appliance

Switch on the appliance, using the *On/Off* button on the operating panel.

Check the front cover and the connection of the fan to the front cover for leaks.

9.1.3 Checking the condensate discharge

See the diagram in §4.7.

Clean the condensate trap and the condensate discharge pipe.

After cleaning, fill the trap with water.

9.1.4 Inspect air supply / flue gas discharge system

Inspect the air supply / flue discharge system throughout its entirety, ensuring that it is in sound condition with no damage to the pipes or joints.

Inspect the terminals ensuring that they are clear and unobstructed.

9.1.5 Checking the gas-air control

Check the gas-air control as given in §7.9, and adjust as necessary.

9.1.6 Check the CO/CO₂ ratio

The CO/CO₂ ratio should be checked on each service. See §7.9 and §7.10

9.1.7 Completion of inspection and service

Check the pressure of the expansion vessel using a pump into the Schroeder valve if necessary. With a pre charge pressure of 1 bar the pressure in the expansion vessel should be equal to the CH system water pressure or at least 1 bar if the system pressure is lower than 1 bar.

Check the CH system water pressure shown on the display. This should be at least 1 bar and at most 2 bar for a cold system. Top up the system if necessary.

Check the central heating system and the hot water supply for leaks and check the boiler, controls and system for correct operation.

Check the corrosion inhibitor concentration level within the CH system, topping up when necessary.

Refit the front panel and replace the screws at the bottom of the appliance.

Note

After servicing, the Benchmark Checklist and Service Record (located at the back of this manual) must be completed and signed and the manual left with the customer.

9.2 COMPONENT REPLACEMENT

9.2.1 Preparation

Switch off the appliance using the *On/Off* button on the operating panel.

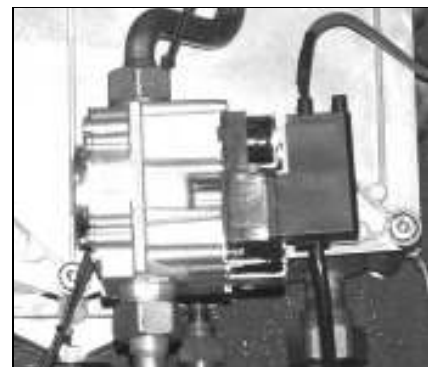
Switch off the electrical supply to the appliance.

Close the gas tap.

Unscrew the two recessed screws left and right at the front underneath the appliance and lift / remove the front panel. See photo in §4.5.3.

Wait until the appliance and the burner have cooled down.

Note – When removing cables / wires to the controller, the cable clamp must be released first by unscrewing 2 posidrive screws and the controller hinged down by unscrewing 2 posidrive screws as shown in diagram §5.3.



9.2.2 Gas valve/ ignition block

Note: The gas valve is factory-preset and therefore only Atmos or their agents can supply these.

Remove the spark ignition block by pulling apart horizontally. Undo the upper and lower unions, making sure that the 'O' rings and gas setting ring are not lost or damaged (see diagram in §7.7). Replace the gas valve, and refit the 'O' rings, the gas setting ring, the unions and the ignition block.

Note: After replacing the gas valve, carry out the gas analysis adjustments and the CO/CO2 ratio check as given in §7.9 and §7.10.

If replacing the ignition block, then pull apart as above. Remove the push-fit cable to the probe and undo the X1 connections at the controller and earth. Replace the ignition block and make the connections.

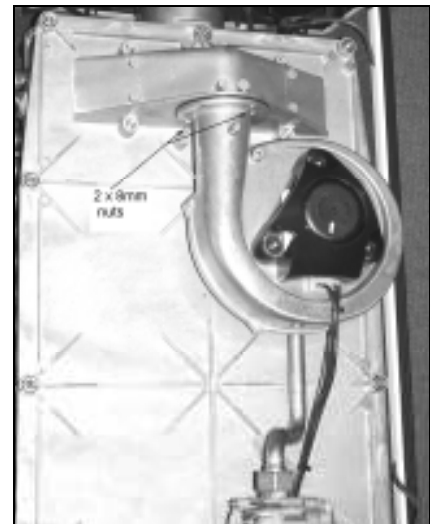
Note

The ignition block is held on the gas valve by a Torx T10 screw. Remove this screw prior to pulling the ignition unit off.

9.2.3 Fan

Remove the electrical connector. Undo the upper union from the gas valve. Undo the two 8mm nuts as shown in the photo. Remove the assembly including the sealing ring. Undo the three Allen screws (M4x10) to remove the gas inlet sub assembly. Fit the replacement fan in reverse order. Check the sealing ring is not damaged and replace if necessary; check that it seals correctly.

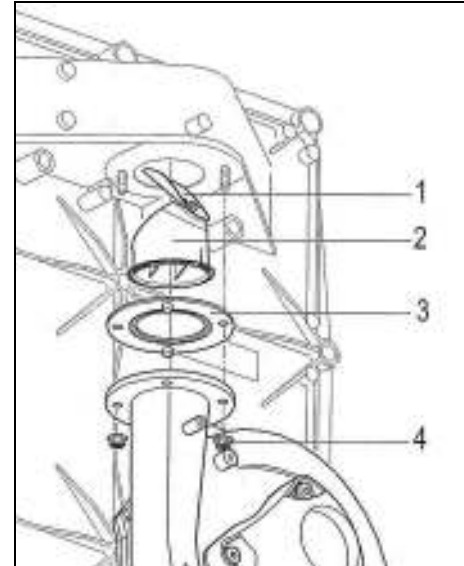
See also §9.2.4 below for appliances fitted with Non Return Valve (flue gas).



9.2.4 Note for CFS systems with Non Return Valve (flue gas)

When refitting the fan, the NRV MUST be refitted (see diagram). Fold the silicon valve (1) of the NRV carefully into a U-form.

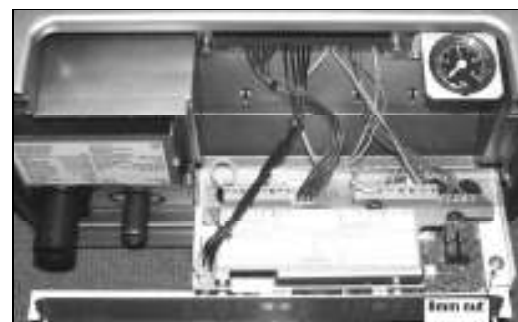
Place the valve + holder (1+2) into the hole of the front plate, making sure the valve is placed in the correct position (direction toward the front plate as shown). Replace the fan + seal back on the front plate, and screw both nuts (4) tight, making sure the valve stays in the right position.



9.2.5 Controller

If possible, record the parameter settings as described in §7.3. Remove the display cover and undo the two positive screws to drop down the controller panel as shown in the diagram in §5.3.

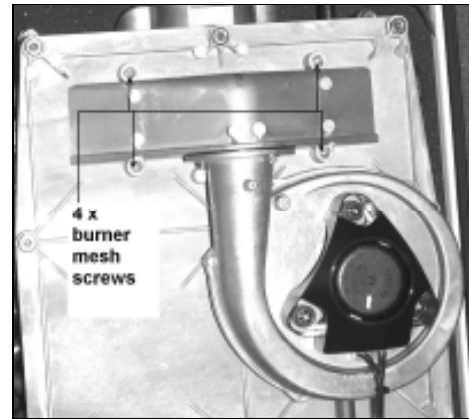
Pull apart the connectors and undo the 8mm nut to allow the controller assembly to be removed and replaced. After replacement, set the required parameter settings as described in §7.2 and §7.3.



9.2.6 Burner / spark ignition probe

Remove the front cover of the heat exchanger as described in § 9.1.2. Unscrew the 4 screws shown on the photo to allow the stainless steel burner mesh to be removed. These screws are Torx 20 (RVS A2 4,2x25") or Allen bolt M4x20 (units before 2006). The burner gasket should be checked and replaced if damaged. Replace the burner mesh assembly and refit the screws.

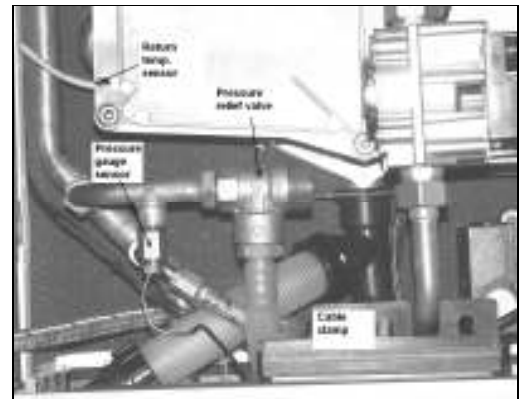
The spark ignition probe is shown in the photo in §9.1.2 and also the diagram in §8.3. To replace the probe, pull off the ignition cable and unscrew the 2 screws (Allen bolt M4x8). The seal should be checked and replaced if damaged. Replace the probe and refit the seal and the screws. Check the spark gap and replace the front cover, as described in §9.1.2.



9.2.7 Flow / return temperature sensors

The supply temperature sensor is located above the return temperature sensor. The latter is shown in the photo. Disconnect the two pin connector and release the spring clip. Pull out the sensor and replace.

Note: The replacement of the components below this box requires the appliance to be drained:-
 CH side – Drain the appliance using the drain tap and drain the system at the lowest point.
 After replacement, refill the appliance as given in § 6.1.



9.2.8 Pressure relief valve

Remove the plastic pipe from the safety discharge. Undo the pressure sensor capillary and undo the union at the connection with the CH flow pipe. Remove the pressure relief valve and inlet pipe. Remove the plastic fitting from the discharge and undo the pipe connection to allow removal of the valve. Fit replacement valve in reverse order using a sealant suitable for potable water.

9.2.9 Pressure gauge sensor

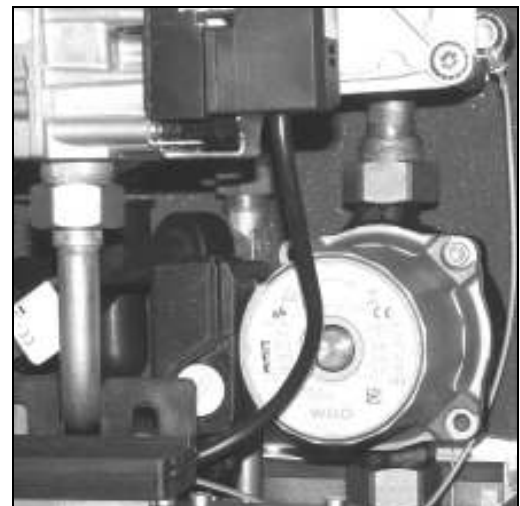
Undo the pressure sensor capillary and unscrew the two posidrive screws to release the cable clamp. Remove the gauge and capillary, and replace.

9.2.10 Pump head

Disconnect the pump wires from the controller (see note in §9.2.1). Undo two Allen bolts on the Wilo pump head to remove the pump head from the body. Fit replacement pump head in reverse order. The pump must be vented via its vent plug after refilling the appliance.

9.2.11 Expansion vessel (HE26 only)

Unscrew the flexible hose connection, making sure that the sealing ring is not damaged. Unclip the bracket holding the vessel and fit replacement including the sealing ring. Using the Schroeder valve on the expansion vessel, and pump if required, check the pressure is 1 bar.



10. TECHNICAL SPECIFICATIONS

Appliance category	B13; B33; C13; C 33; C 43; C53; C63; C83
Gas inlet pressure	20 mbar
Suitable for gas	ll ₂ H ₃ P

Technical data			
	InterSystem HE 26	InterSystem HE 40C	

CH				
Heat power input (gross)*	kW	8.0 – 30.3	8.7 – 47.1	
Heat power input (net)*	kW	7.2 – 27.3	7.8 – 42.5	
Heat output at 80/60°C*	kW	7.0 – 26.2	7.0 – 40.9	
Heat output at 50/30°C*	kW	7.7 – 26.8		
Max. CH water pressure	bar	3 (see note 1)	3 (see note 1)	
CH operating pressure	bar	1 – 2 (see note 2)	1 – 2 (see note 2)	
Max. CH water temperature	°C	90	90	

Other data				
Gas consumption	m ³ /h	0.85 - 3.25	0.81 – 4.00	

Electrical data				
Mains voltage	V	230	230	
Protection class		IP44 (B(.)=IP20)	IP44 (B(.)=IP20)	
Consumed power: full load	W	105	105	
Consumed power: partial load	W	40	40	
Consumed power: standby	W	2.4	2.4	

Overall dimensions and weight				
Height	mm	810	810	
Width	mm	450	450	
Depth	mm	270	270	
Weight	kg	39	37	

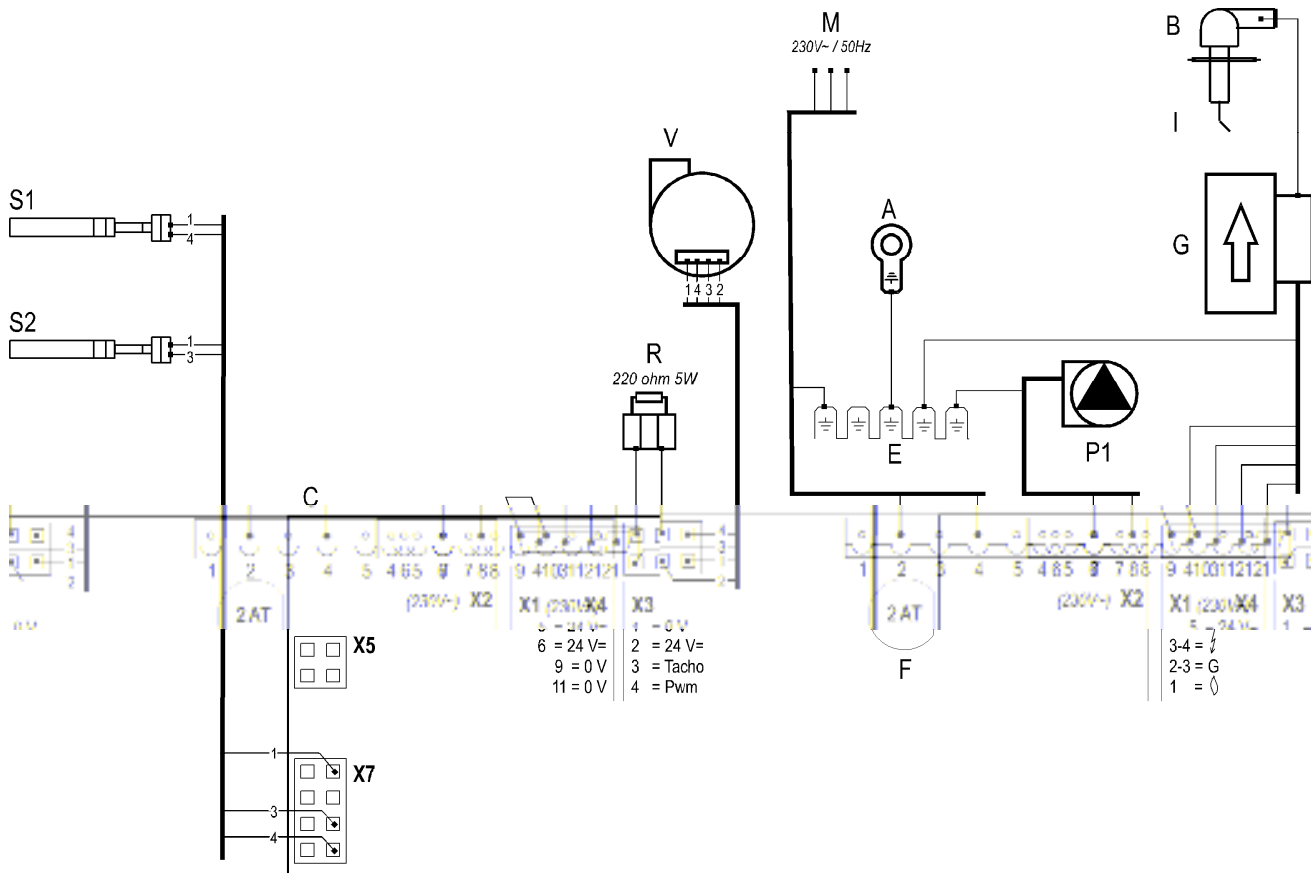
Registration				
GC registration number		41-249-05	41-249-07	

*The maximum CH power is set to 50% of the highest value at the factory (see Setting CH power).

Notes 1 - Safety discharge valve is 3 bar.

2 - Min pressure 1 bar (expansion vessel pre-charge is 1 bar).

10.1 Electrical diagram HE26

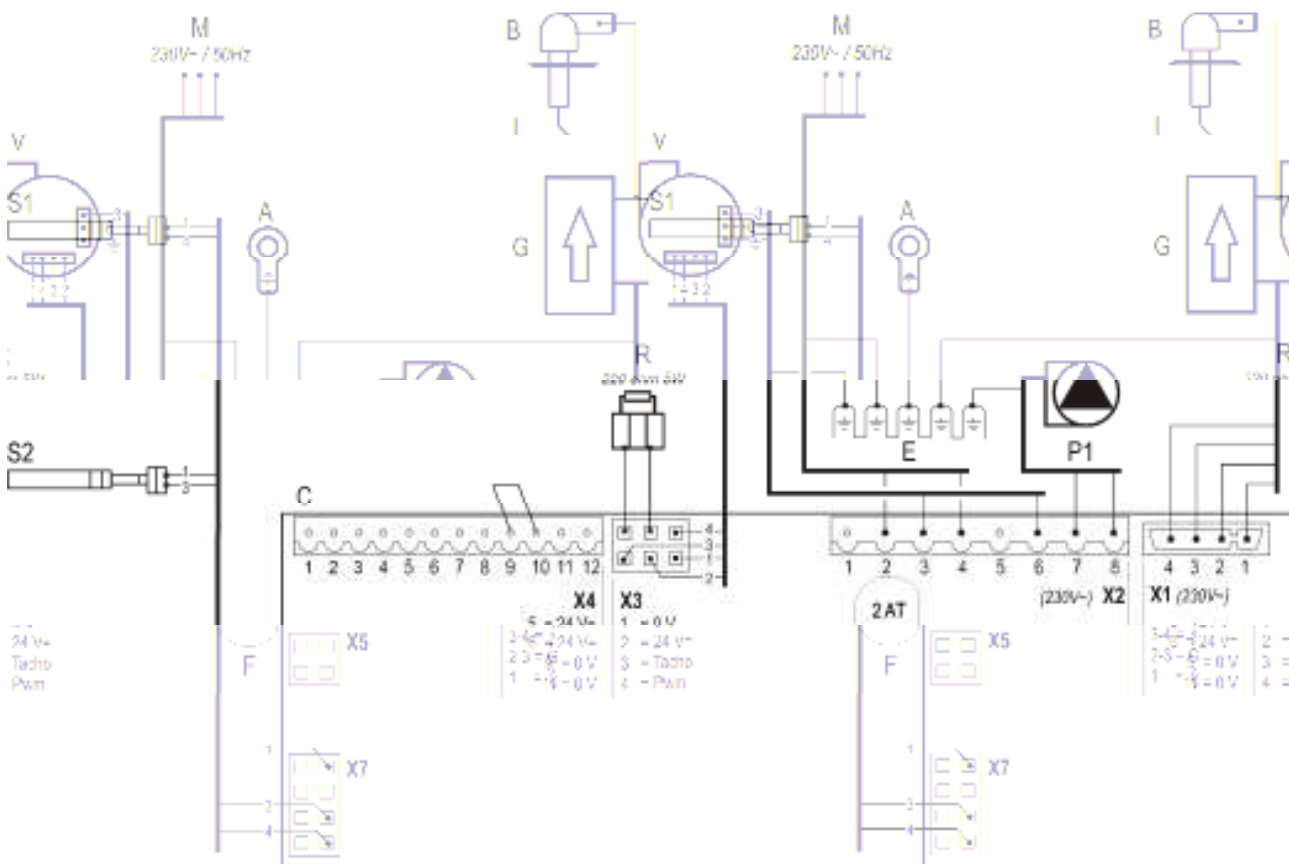















Connector X4 24V=	1-3		Cascade control contacts (not available on standard controller)
	4-5		External economy switch (for hot water)
	6-7		On/off room thermostat 0,1A 24V= and/or Frost thermostat.
	6-7-9		Power supply clock thermostat (6= positive, 7=switched live, 9= negative) 24V= max.3VA
	8-9		Outdoor sensor 12kOhm/25°C
	9-10		Hot water cylinder thermostat (normally closed connections). If used remove link 9-10
	11-12		OpenTherm modulating thermostat (When in use 6-7 must be open)
Connector X2 230V~	1		230 switched live from room thermostat
	2-4		Mains (2=Live, 4=Neutral)
	7-8		CH pump (8=Live, 7=Neutral)
	3-5-6		Valve underfloor heating (3=Live(brown), 5=Switch (black), 6=Neutral(blue)). e.g. VC4013 Honeywell 230V~
3-5-6		Three way valve (3=Live (brown), 5=Switch live (black), 6=Neutral(blue)), (e.g. VC4013 Honeywell 230V~)	
Connector X5		PC interface	

Notes

1. F: 5x20mm anti-surge fuse, 2A.
2. **230Vac stat circuit:** Available for room stat, etc. The switched live (X2/1) can also be used for S plan or Y plan circuits (note that the 230Vac live to the Wiring Centre must come from the same fused spur as the 230Vac supply to the boiler).
3. **OpenTherm:** When using an OpenTherm thermostat, 6-7 must not be used.

10.2 Electrical diagram HE40C



Connector X4 24V=	1-3		Cascade control contacts
	4-5		External economy switch (for hot water)
	6-7		On/off room thermostat 0,1A 24V= and/or Frost thermostat.
	6-7-9		Power supply clock thermostat (6= positive, 7=switched live, 9= negative) 24V= max.3VA
	8-9		Outdoor sensor 12kOhm/25°C
	9-10		Hot water cylinder thermostat (normally closed connections). If used remove link 9-10
	11-12		OpenTherm modulating thermostat (When in use 6-7 must be open)
Connector X2 230V~	1		230 switched live from room thermostat
	2-4		Mains (2=Live, 4=Neutral)
	3-6		Blower (power supply)
	7-8		CH pump (8=Live, 7=Neutral)
	3-5-6		Valve underfloor heating (3=Live(brown), 5=Switch (black), 6=Neutral(blue)). e.g. VC4013 Honeywell 230V~
3-5-6		Three way valve (3=Live (brown), 5=Switch live (black), 6=Neutral(blue)), (e.g. VC4013 Honeywell 230V~)	
Connector X5		PC interface	

Notes

1. **F:** 5x20mm anti-surge fuse, 2A.
2. **230Vac stat circuit:** Available for room stat, etc. The switched live (X2/1) can also be used for S plan or Y plan circuits (note that the 230Vac live to the Wiring Centre must come from the same fused spur as the 230Vac supply to the boiler).
3. **OpenTherm:** When using an OpenTherm thermostat, 6-7 must not be used.

11. CE DECLARATION

Declaration of conformity according to ISO IEC GUIDE 22.

Manufacturer: Atmos Heating Systems
Address: West March, DAVENTRY, Northants, NN11 4SA

Hereby declares that the application:

Atmos, Type InterSystem HE26

Meets the stipulations of the following directives:

- Machine directive (89/392/EC) as amended in directive (93/68/EC)
- Low voltage directive (73/23/EC) as amended in directive (93/68/EC)
- Directive concerning gas appliances (90/396/EEG)
- Boilers Efficiency Directive for new oil and gas fired central heating boilers (92/42/EC)
- EMC Directive (89/336/EC) as most recently amended in directive (93/68/EC).

Daventry, 1 November 2011



J.A. Thomason BSc (Eng)
Director

GAS BOILER SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the boiler as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturer's instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

Customer Name _____ Telephone Number _____
 Address _____
 Boiler Make and Model _____
 Boiler Serial Number _____
 Commissioned by (print name) _____ Gas Safe Register Number _____
 Company Name _____ Telephone Number _____
 Company Address _____ Commissioning Date _____

To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:

Building Regulations Notification Number (if applicable) _____

CONTROLS Tick the appropriate boxes

Time and Temperature Control to Heating	Room Thermostat and Programmer/Timer <input type="checkbox"/>	Programmable Room Thermostat <input type="checkbox"/>	Load/Weather Compensation <input type="checkbox"/>	Optimum Start Control <input type="checkbox"/>
Time and Temperature Control to Hot Water	Cylinder Thermostat and Programmer/Timer <input type="checkbox"/>		Combination Boiler <input type="checkbox"/>	
Heating Zone Valves			Fitted <input type="checkbox"/>	Not Required <input type="checkbox"/>
Hot Water Zone Valves			Fitted <input type="checkbox"/>	Not Required <input type="checkbox"/>
Thermostatic Radiator Valves			Fitted <input type="checkbox"/>	Not Required <input type="checkbox"/>
Automatic Bypass to System			Fitted <input type="checkbox"/>	Not Required <input type="checkbox"/>
Boiler Interlock				Provided <input type="checkbox"/>

ALL SYSTEMS

The system has been flushed and cleaned in accordance with BS7593 and boiler manufacturer's instructions. Yes

What system cleaner was used? _____

What inhibitor was used? _____ Quantity litres

CENTRAL HEATING MODE Measure and Record:

Gas Rate m³/hr OR ft³/hr
 Burner Operating Pressure (if applicable) mbar OR Gas Inlet Pressure mbar
 Central Heating Flow Temperature °C
 Central Heating Return Temperature °C

COMBINATION BOILERS ONLY

Is the installation in a hard water area (above 200ppm)? Yes No

If yes, and if required by the manufacturer, has a water scale reducer been fitted? Yes No

What type of scale reducer has been fitted? _____

DOMESTIC HOT WATER MODE Measure and Record:

Gas Rate m³/hr OR ft³/hr
 Burner Operating Pressure (at maximum rate) mbar OR Gas Inlet Pressure (at maximum rate) mbar
 Cold Water Inlet Temperature °C
 Hot water has been checked at all outlets. Yes Temperature °C
 Water Flow Rate l/min

CONDENSING BOILERS ONLY

The condensate drain has been installed in accordance with the manufacturer's instructions and/or BS5546/BS6798. Yes

If the condensate pipe terminates externally has the pipe diameter been increased and weatherproof insulation fitted? Yes

ALL INSTALLATIONS

If required by the manufacturer, record the following CO₂ % OR CO ppm OR CO/CO₂ Ratio

The heating and hot water system complies with the appropriate Building Regulations. Yes

The boiler and associated products have been installed and commissioned in accordance with the manufacturer's instructions. Yes

The operation of the boiler and system controls have been demonstrated to and understood by the customer. Yes

The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer. Yes

Commissioning Engineer's Signature _____

Customer's Signature _____

(To confirm satisfactory demonstration and receipt of manufacturer's literature)

*An installation in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.



Service Record

It is recommended that your heating system is serviced regularly and that the appropriate Service Interval Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

Always use the manufacturer's specified spare part when replacing controls.

Service 1 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 2 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 3 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 4 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 5 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 6 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Operative ID No. _____

Comments: _____

Signature: _____

Service 7 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 8 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 9 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Service 10 Date: _____

Engineer Name: _____

Company Name: _____

Telephone No. _____

Gas Safe Register No. _____

Comments: _____

Signature: _____

Atmos Heating Systems
West March
Daventry
Northants NN11 4SA

Tel: 01327 871990
Fax: 01327 871905
e-mail: sales@atmos.co.uk
Internet: www.atmos.co.uk