

Air mass sensor and exhaust fan test

The unit test below should be carried out on each customer visit after the activity has been completed.

The air volume sensor and fan test in particular are important for clean combustion. If the test ends negatively, the burner may overfire, or the boiler may be tarred, or burn-back may be detected.

In order to be able to carry out the test for the air mass sensor and the fan in the unit test, the boiler must be on standby.

- Switch the kettle to **OFF** (right arrow key)
- Switch off the boiler and switch it on again after 10 seconds
- Enter the PP program (arrow keys up + down --> as soon as -IP- appears in the display, press the ADDITIONAL arrow key to the right)
- Press the up arrow key until **P.-10** is displayed
- Then the arrow key to the right (the display shows **test**)
- Press the up arrow key until **24.-0**
- Press the up arrow key twice (air mass sensor display) • Open the combustion chamber door and wait 30 seconds
- Write down the value from the display [Target 11 - 15]
- If the value is too high, you can seal the air intake pipes with a cloth. **Don't forget to remove!**
- Close combustion chamber door and wait 30 seconds

- Write down the value from the display [Target 20 -40]
- Down arrow key once
- Right arrow key once

IF:

- If the value 5.0 is in the display, then a software update needs to be made AND ____ NO ____
--> continue to press the right arrow button until the exhaust fan starts to turn.

- If the value on the display is greater than 50.0, check whether the exhaust fan is already turning, if not, continue to press the right arrow button until the exhaust fan starts to turn.

- Write down the value from when the exhaust fan turns Value
- No software update necessary:
Turns from 81 --> check again with a new condenser, otherwise replace the exhaust fan.
Otherwise enter this value (from which the fan rotates) in the PP menu on line 86.

- Now press the right arrow key until the value 225 appears.

IMPORTANT! The fan noise must not become quieter up to a value of 225. The rotating noise must remain the same or become louder, if this is not the case or if the fan even stops, the condenser must be replaced immediately. • Have you reached the value 225:

- Press the up arrow key once (air mass sensor display)
- wait 30 seconds

- Write down the value from the display Cellar boiler: 1CA/4CA/6CA/A2A/A2B/A3A/A3B [Target value 65 - 80]
- Keller Kessel: 1AA [Target value 60 - 70]
- Living room boiler: 1CA/4CA/6CA/ [Target value 60 - 65]

- Value **lower** than the **target value** --> clean or check the flue gas paths and chimney connection pipe Value **greater** than the **target value** --> **replace the air mass sensor** --> repeat the test

You do not have an air mass sensor to replace on site (please order under part number 700700)

No software update necessary:

Switch on air mass sensor emergency operation (PP menu line 98 --> value 5.0)

Check whether the value from starting the fan is entered in line 86 of the PP menu.

Software update is required:

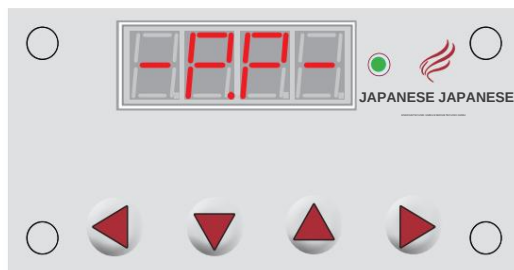
The fan already turns on at a value of **60**

Switch on air mass sensor emergency operation (PP menu line 98 --> value 5.0)

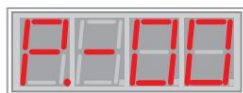
The fan only starts turning at a value of **61**

Do not put the boiler into operation! Call the hotline!

Started



Simultaneously press the  and  keys and then the  key. You are now in the parameter menu and the display shows



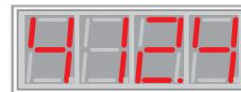
Press  to line 10. Now press  and it appears



The  key takes you from line to line in the unit test. The line sequence is analogous to the menu items described (digital inputs, temperatures, 0-10 V input, relay outputs, buffer pump, material screw, induced draft fan, air volume sensor)

temperatures

Display [-00.0] means sensor break



Combustion chamber temperature:
Measured combustion chamber temperature, power section X13 2



Boiler temperature:
Measured boiler temperature power section X15 2 There is none.



boiler temperature:
Measured boiler temperature power section X16 2 There is none.



Outside temperature:
Measured outside temperature power section X17 2 There is none.

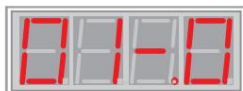
0 - 10 volt input



0-10 Volts:
Measured voltage input power section X18 2 There is none.

Digital inputs

value 0 = no digital input
value 1 = digital input



Sensor multifunction drive:
sensor for multifunction motor, power section X21 3 None.



Bimetallic switch auger duct: Bimetallic switch at conveyor auger, power section X22 2 poles.



Sensor Pelletsfüllstand:
sensor at pellet tank, power section X23 3 None.



Digital input external contact: (potential-free)
04-.1 = operation, 04-.0 = no operation Power section X24 2 poles.



Without function: Reserve 1
Reserve without function power section X25 3 None.



Without function: Reserve 2
Reserve without function power section X26 3 None.



Without function: Reserve 3
Reserve without function power section X27 3 None.



STB:
safety temperature limiter power section X12 2 There is none.

relay outputs

The relays can only be switched when the system is switched off [OFF] and in stand-by mode.



Belimo (rack and pinion drive): Pressing the  button switches the relay Power unit X4 3 poles.



Multifunction motor: Relay cannot be switched Power section X5 3 poles.



Ignition rod:
Press the  switch the relay. Power section X6 3 poles.



Boiler circuit pump: The relay is switched by pressing the  button. Power section X7 3 poles.



Boiler pump: By pressing the  button the relay is switched. Power unit X8 3 poles.



Suction turbine (pellets conveyance):
Pressing the  button switches the relay Power unit X9 3 poles.



Storage room auger (pellets conveyance): Pressing the  button switches the relay Power unit X10 3 poles.



Potential-free contact: (relay 8)
Pressing the  button switches the relay Power unit X11 3 poles.

buffer pump



Buffer pump: (if available)

Pressing the button switches the relay. See wiring plan.



Solar pump: (if available)

Pressing the button switches the relay. See wiring plan.

Materialschnecke 24V



Material screw (day container - combustion chamber):

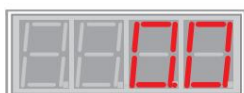
Pressing the button switches the auger once

power section

X20

4 There is none.

induced draft fan



Induced draft fan:

Pressing the button increases the speed of rotation by five points.

Pressing the button (menu line 24) resets the value to zero.

power section

X3

3 None.

Air flow sensor



Air flow sensor:

power section

Plug white 5 poles.

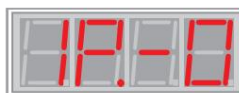
Values during the check: With an

open ash drawer without an induced draft fan, the air volume value should be between 13.0 and 18.0.

With a closed ash pan and a running induced draft fan (value 225.0), the air volume value should rise to at least 65.0.

Heating circuit pump / mixer

The relays can also be switched while the system is running.



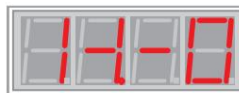
Module slot 1 (pump)

Pressing the button switches the relay. See wiring plan.



Module slot 1 (mixer OPEN / solar pump)

Pressing the button switches the relay. See wiring plan.



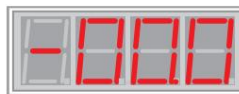
Module slot 1 (mixer CLOSED)

Pressing the button switches the relay. See wiring plan.



Module slot 1 (flow temperature / buffer TOP)

See wiring diagram.



Module slot 1 (buffer temperature BOTTOM)

See wiring diagram.



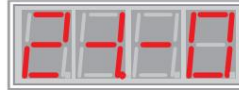
Module slot 2 (pump)

Pressing the button switches the relay. See wiring plan.



Module slot 2 (mixer OPEN / solar pump)

Pressing the button switches the relay. See wiring plan.



Module slot 2 (mixer CLOSED)

Pressing the button switches the relay. See wiring plan.



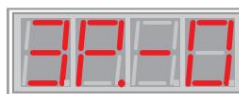
Module slot 2 (flow temperature / buffer ABOVE)

See wiring diagram.



Module space 2 (buffer temperature BOTTOM)

See wiring diagram.



Module slot 3 (pump)

Pressing the button switches the relay. See wiring plan.



Module slot 3 (mixer OPEN / solar pump)

Pressing the button switches the relay. See wiring plan.



Module slot 3 (mixer CLOSED)

Pressing the button switches the relay. See wiring plan.



Module slot 3 (flow temperature / buffer ABOVE)

See wiring diagram.



Module space 3 (buffer temperature BOTTOM)

See wiring diagram.