

HT112

Applies to models:

CPxG



How to: Set Up a Riello BSD Gas Burner



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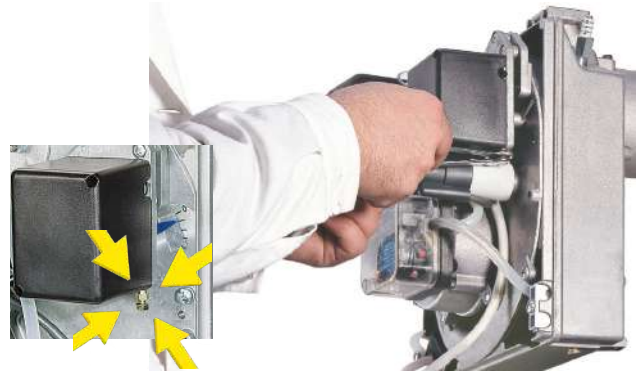


Procedure



Note: ALL THE RELEVANT SETTINGS ARE DETAILED IN THE SPECIFIC HEATER O&M INSTRUCTION MANUAL

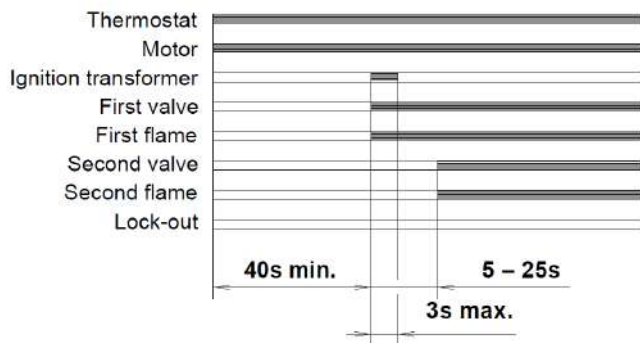
- Remove the burner cover by undoing the two screws either side of the housing.
- Adjustment of the first stage air damper position is carried out by setting the air damper motor.
- Loosen locknut (clockwise) and adjust by turning screw to the required setting as indicated on the adjacent scale. Once the setting is achieved, tighten locknut (anticlockwise). (When the burner stops, the air damper closes automatically under its own weight)
- Adjustment of the second stage air damper position is carried out by setting the air damper indicator.
- Slightly loosen locknut (clockwise) and adjust by turning screw till the required setting is shown level with the locknut. Once the setting is achieved, tighten locknut (anticlockwise) (may require re-adjust when the nut is locked down).
- Head pressure is achieved by adjusting a screw which moves a regulating rod. A test point on the burner casting allows reading the air pressure in the combustion head.
- Rotate the setting screw in a clockwise or anticlockwise direction until set point marked on the regulating rod is level with the outside plane of the head assembly.
- Gulliver burners are manufactured to EN 676 standard and fitted with a singular air pressure switch.
- Turn the switch at the lowest setting. With the burner working at the required output, adjust the dial clockwise, increasing its value until the burner shuts down. Reduce the value by one set point, turning the dial anti-clockwise. Check for reliable burner operation, if the burner shuts down, reduce the value by a half set point.



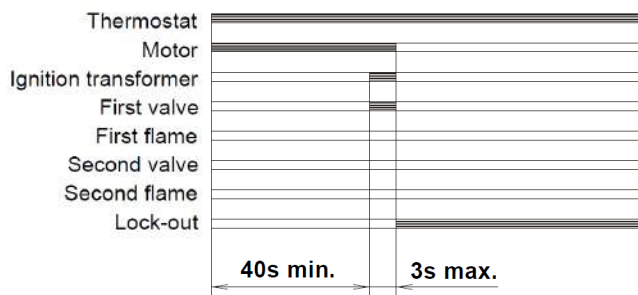
Correct operational start-up

0s	Start of heat demand. Burner begins the ignition cycle.
0s-4s	The burner is in stand-by.
4s-44s	Pre-purge with opened air damper
44s	Ignition 1st stage.
49s-69s	Ignition 2nd stage.

Normal Burner Start-Up Cycle



Lock-out, due to light failure



Lock-out due to ignition failure

- If the flame does not light within the safety limit (~ 3s) the burner locks-out.
- Lock-out is shown by a led on the appliance.
- Total number of recycle trials is 3.
- To carry out the control box reset, proceed as follows:
- Press the reset button for at least 1 second. In the event of the burner not restarting it is necessary to check if the limit thermostat (TL) is closed.

Indication of operation

- In normal operation, the various statuses are indicated in the form of colour codes according to the table below.

Diagnosis of fault causes

- After lock-out has occurred, the red signal lamp is steady on.
- The control box has a diagnostic function that can identify the likely causes of any malfunctions (indicator: RED LED).
- In order to be able to use this function, press and hold the reset button for at least

3 seconds from when the appliance is made safe (lock-out).

- The control box sends a sequence of pulses that are repeated at 2-second intervals.

Color code table

Operation statuses	Color code
Stand-by	○ Led off
Pre-purging	● Green
Ignition phase	● Green
Flame OK	● Green
Post purge	● Green
Undervoltage, built-in fuse	○ Led off
Fault, alarm	● Red

Blink code

2 blinks



Possible cause of fault

No flame at the end of safety time:
faulty or soiled gas valves.
faulty ionisation probe.
poor adjustment of burner, no gas.
faulty ignition transformer.
neutral / phase exchange.

3 blinks



Air pressure switch does not close or is already closed before heat demand:
faulty air pressure switch.
air pressure switch incorrectly regulated.

4 blinks



Presence of flame (light) in chamber:
in stand-by position.
with thermostat of heat demand in idle or working position.
during pre-purge.
during post-purge.

6 blinks



Loss of air pressure:
during pre-purge.
during or after safety time.

7 blinks



Loss of flame during operations after 3 attempts of re-cycle:
faulty or soiled gas valves.
faulty ionisation probe.
short circuit between ionisation probe and earth of the burner.
poor adjustment of burner, no fuel

To reset the control box after the diagnostics display, press the lockout-reset button.

FAULTS	POSSIBLE CAUSES	SOLUTION
The burner doesn't start when the limit thermostat closes.	Lack of electrical supply.	Check presence of voltage in the L1-N clamps of the 7 pin plug.
		Check the condition of the fuses.
		Check that safety thermostat is not lock out.
	Lack of gas	Check the manual cock opening
		Check that the valves change over to the opening position and there are not short circuits.
		Adjust them.
The gas pressure switch does not close its contact.	The connections in the control box are wrongly inserted.	Check and connect all the plugs
		Replace the pressure switch
The air pressure switch is changed over to the operational position.	Output ratio between 1st and 2nd stage greater than 1:2.	Restore correct maximum ratio of 1:2, making sure 1st stage output is no less than the operating range's minimum.
		High air excess in 1st stage
The burner runs normally in the prepurge and ignition cycle and locks out after about 3 seconds.	Phase and neutral connection is inverted.	Invert them.
	The earth connection lacks or is inefficient.	Make the earth connection efficient.
	The ionization probe is earthed or not in contact with the flame, or its wiring to the control box is broken, or there is a fault on its insulation to the earth.	Check the right position and if necessary set it according to the instructions.
		Reset the electrical connection.
The burner starts with an ignition delay.	Replace the faulty connection.	
	The ignition electrodes is wrongly positioned.	Adjust it according to the instructions.
	Air output is too high.	Set the air output according to the instructions.
The burner doesn't change over the 2nd stage.	Valve brake is too close with insufficient gas output.	Adjust it.
	The air damper is locked.	Check the right working.
		Check the right electrical connection
The 2nd stage gas valve doesn't pull in.	Failed valve: replace it.	
	The air damper doesn't close completely and therefore it doesn't pull in the 2nd stage valve micro: check the micro working.	
The burner locks out after the prepurge phase due to flame failure.	The solenoid valves is passing too little gas.	Check the pressure in the network and/or adjust the solenoid valve according to the instructions of this manual.
	The solenoid valves are defective.	Change them
	The ignition arc is irregular or has failed.	Check the right insertion of the connectors.
	The pipe has not been purged from the air.	Check the right position of the electrode according to the instructions of this manual.
The burner locks out during the prepurge phase.	The pressure test point is badly positioned.	Carry out a complete breathing of the line of gas-supply.
	The air pressure switch does not change over to the operational position.	The pressure switch is faulty, change it.
		The air pressure is too low, (the head is bad adjusted).
The flame exists.	Faulty valves: replace them.	
The burner continues to repeat the starting cycle without going on lock-out.	The gas pressure in the gas main lies very close to the value to which the gas pressure switch has been set. The sudden falling off pressure at the opening of the valve causes the opening of the pressure switch. However this only temporarily, because the valve immediately closes again, so then does the pressure switch, because the pressure builds up again, causing the cycle to be repeated over and over.	Place it in the right position according to the instructions.
		Lower and set the pressure switch.

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Every effort is made to ensure accuracy at time of going to press. However as part of continued product improvement, we reserve the right to alter specification without prior notice.