

# O<sub>2</sub> regulation

## User manual

Oxygen control is used to measure remaining oxygen inside boiler to increase combustion efficiency in every situation. No matter if the chimney draft is high or low or if pellets quality is not stable. Control unit keeps oxygen on the set level by changing fan speed and number of pellets. Fan speed has always priority. This means that control unit tries to keep the power on the set levels as long as possible.

Please read this manual carefully to understand proper setup and functions.

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## 1 PACKAGING

You can find two parts in the oxygen regulation package.

- Lambda probe



- Control modul



- Connection cables
  - Power supply cable
  - Lambda probe to Control modul link cable
  - Control modul to Control unit v8 link cable
- 2pcs of screws for Control modul attachment

Lambda probe and Control modul has to be assembled on the place. Follow instructions below to proper instalation.

### **IMPORTANT:**

Never connect power supply cable before mounting the lambda probe to the chimney. Lambda probe is hot and it is forbidden to touch it when connected to the power supply socket.

## 2 ASSEMBLY

Follow all steps below to instal O<sub>2</sub> regulation properly.

- Attach Control modul on the side of Biopel compact tank or to other plase by your choice. Control panel can be attached on the wall or external tank as well.



- Attach lambda probe into the hole which is on the chimney outlet.



- Link Lambda probe with Control modul by link cable.



- Connect Control modul in the power supply socket.



- Link Control modul with Connection board by link cable.



### 3 ACTIVATION AND SETUP

Go to Installer setup, Lambda:

- Activation – regulation process activation. You can see measured values on the first screen after lambda probe activation.
- First time act.Lam. – delay of regulation process. It takes time to heat up lambda probe. So there must be delay of regulation start for this reason. This delay is active after each ignition because regulation has to start after flame stabilisation which takes some time.
- Update time – after how much time combustion process is corrected. It is period of correction. We recommend to use from 5 to 15 min – lower burner power lower update time. To see some real influence of each change you have to wait at least 5 min and mostly even more so there is no need to update more often.
- Oxygen change – correction factor for number of pellets going on the grate for each Update time. Higher number makes higher correction.
- Fan change – correction factor for fan speed for each Update time. Higher number makes higher correction. Fan correction has priority over pellets change.
- Min. change – set the min range of correction. Lambda will not correct lower than set point.
- Max. change – set the maximum range of correction. Lambda will not correct higher than set point.
- Lambda 100% - set oxygen for maximum power. Should be around 8-10%.
- Lambda 1% - set oxygen for minimum power. Should be around 12-16%.

Check main screen to see all changes made by O<sub>2</sub> regulation. If you cannot see what is on the display than you have to change displayed values by Exit button and then turning the Navigation button.

#### **IMPORTANT:**

Keep in mind that each correction needs time to change the flame and measured oxygen. When lambda probe makes change it takes several minutes for the flame to react and stabilize on new set point. Therefore here are recommended values for lambda operation.

- First time act.Lam. – 5 min.
- Update time – 2 min.
- Oxygen change – 4 %
- Fan change – 2%
- Min. change – minus 40 %
- Max. change – plus 40 %
- Lambda 100% - 8-10%.
- Lambda 1% - 11-13%.

## 4 WARRANTY CONDITIONS

### Oxygen regulation:

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**Manufacturer:** OPOP spol. s r.o., Valašské Meziříčí, Czech republic

**Tel.:** 00420 571 675 589, **fax.:** 00420 571 611 225

### Warranty conditions:

This warranty certificate includes a certificate of quality and completeness. The manufacturer certifies that the product is inspected and meets its design specifications and EN 303-5. For quality, function and we guarantee the boiler for 24 months from the date of sale to the consumer, no longer than 30 months after expedition from the factory and in a way that demonstrably result of defects due to faulty materials, faulty design, faulty design or removed as soon as at our expense, provided that the boiler:

- it is in normal condition according to the Instruction manual
- is connected to a chimney according to CSN 73 4201:1989
- is not damaged mechanically (no unauthorized interference with the exception of interference allowed in the instructions)
- chimney draught must match the value listed in the table. 2, according to the type of boiler
- consumer complaints submitted with the application of this warranty certificate duly completed
- complying with the manufacturer's instructions for the use of pressure expansion vessels

#### Note:

When a fault is always necessary to submit the warranty certificate, give the exact address and the circumstances under which the defect occurred. The manner and place of repair will be decided in our company.

Date and stamp of manufacturer: \_\_\_\_\_

Date of sale: \_\_\_\_\_

OPOP, spol. s r. o.

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