

Exhaust fan Biopel

Exhaust fan is additional device for Biopel boilers. Exhaust fan increases natural chimney draught up to values recommended for proper Biopel boilers operation. Consider exhaust fan installation in cases, when your chimney doesn't match minimum criteria for chimney draught mentioned in user manual of Biopel boilers.

Exhaust fan is delivered with main module which has to be connected into the connection board of the boiler. Fan speed is then modulated by boiler's control unit according the actual boiler power.

This manual is for the installer to mount, connect and activate exhaust fan properly, so the combustion process is all the time as it should be. Follow steps below.

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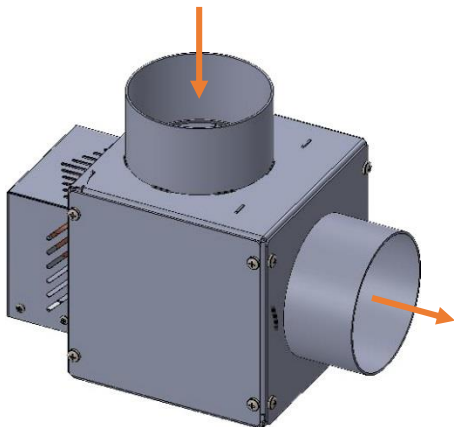
1. PACKAGING

You can find all following parts in the package of exhaust fan:

1. Exhaust fan
2. Main module
3. Power cable
4. Connection cable
5. RS data cable
6. Silicon
7. Connection material
8. User manual

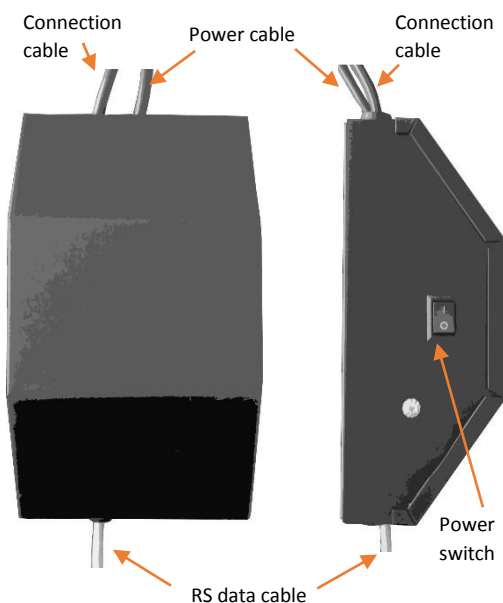
2. BASIC DESCRIPTION

Exhaust fan is assembled in OPOP, hidden inside the metal cover. Radial fan mounted inside the cover extracts air out of the boiler to the chimney.



- Fan has one inlet and one outlet with 130mm or 150mm diameter. Choose the right diameter of exhaust fan inlet and outlet according your boiler size.
- Exhaust fan is installed directly on the boiler flue gas outlet.
- On the left side of the metal cover box is fan's motor with electrical socket. This is where you connect the Connection cable from Main module into the exhaust fan.
- Exhaust fan can be installed on following boilers:
 - Biopel 10/15
 - Biopel 20/30
 - Biopel 40

Main module is packaged together with exhaust fan in one box. It is necessary to connect main module with exhaust fan and boiler's connection board. You can see electrical description down below with all 3 cables which has to be connected during main module installation.



- Main module can be attached on the wall in close distance of the exhaust fan or directly on the exhaust fan with help of screws.
- Cables are fixed on the main module and the other side of cables must be connected into:
 - Data cable – into the connection board, RS data output
 - Connection board – into the exhaust fan
 - Power cable – into the 230V socket
- Do not place main module on surfaces with temperatures higher than 40°C.

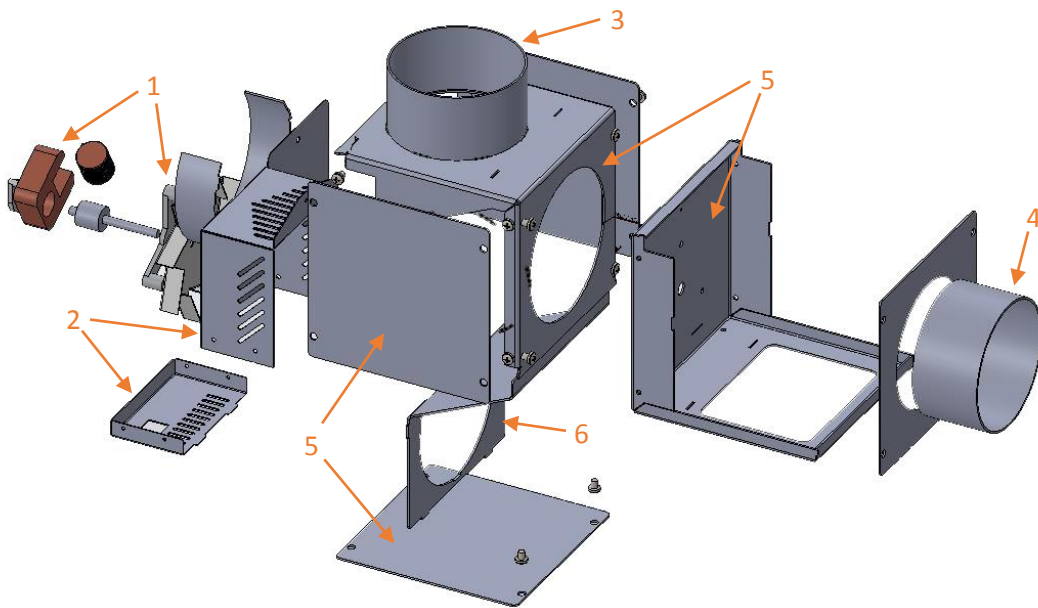
Main module changes fan rotations with help of boiler's control unit. Exhaust fan speed is regulated automatically according actual boiler power. Exhaust fan speed is the same as the speed of burner's fan.

Technical specification follows activation and proper setup of exhaust fan speed. Follow steps below.

3. TECHNICAL SPECIFICATION

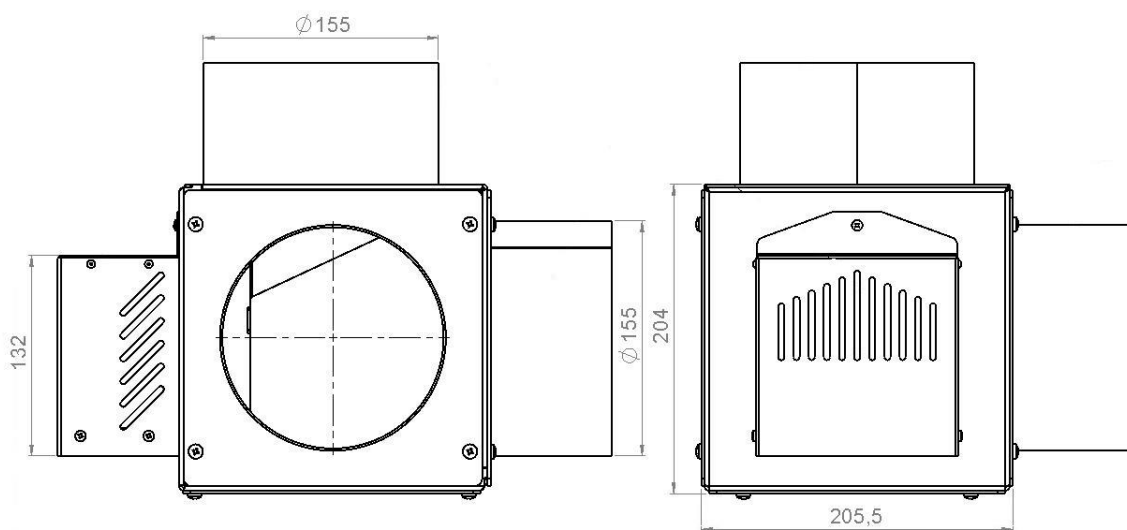
Main technical parameters of exhaust fan and main module.

- Power supply voltage/frequency 230V/50Hz
- El. consumption 38W
- Max current 1A
- Diameters:
 - Height 205mm
 - Depth 250mm
 - Length 250mm
- Max flue gas temperature 180°C
- Max ambient temperature -20 to 45°C
- Total weight 5Kg



1. Motor and fan
2. Motor covering
3. Flue gas outlet

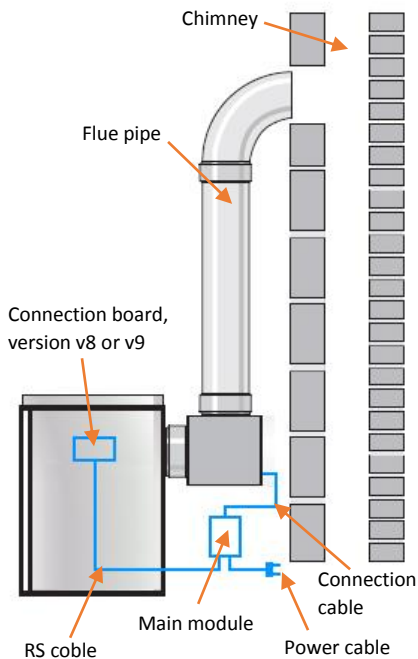
4. Flue gas inlet
5. Fan cover
6. Inside flue gas chamber



To connect electrical components properly follow next chapter.

4. INSTALLATION

Exhaust fan installation is divided to following steps. Exhaust fan mounting on the flue path outlet of the boiler, flue pipe connection to the exhaust fan outlet, electrical connection of main module and connection of main module to the control unit of the boiler. Follow steps below including simple wiring diagram to perform each step properly.



- Exhaust fan is installed directly on the flue path outlet of the boiler. Check tightness of all connections and seal it with silicon so no smoke escapes out during operation.
- Main module regulates fan speed according the boiler power.
- Main module must be connected as follows:
 - Power cable – into the 230V socket.
 - RS data cable – into one of the RS outputs inside the connection board of v8 or v9 Biopel boilers.
 - Connection cable – into the socket located on the back side of the exhaust fan.
- All cables should be positioned so hot air inside the boiler and flue path cannot damage them in any situation.
- Main module must be protected against dust and ash created during boiler operation and pellet filling into the hopper. Electrical components must be installed only by certified person.
- Proper exhaust fan operation, including speed modulation, should be checked with help of Manual mode in Installers settings of v8 or v9 control unit.

Activation and setup of exhaust fan follows. Next steps are performed inside v8 or v9 control unit's menu layout. Follow steps below.

5. ACTIVATION

Exhaust fan speed is important to adjust so combustion process is as mentioned inside chapter Combustion adjustment of Biopel boiler user manual. Selected fan speed is influenced mainly by chimney draft and by oxygen inside the boiler. We can influence the combustion quality directly by changing exhaust fan speed. Before you proceed read chapter Combustion adjustment of Biopel's user manual to understand how the ideal flame at maximal and minimal power should look like.

If the flame is red with dark edges = there is low oxygen inside the boiler, you need to increase exhaust fan speed. If the flame is bright yellow and aggressive = there is too high oxygen inside the boiler, you need to decrease exhaust fan speed. Ideal flame type is orange color, touching the opposite boiler wall when at maximum power.

- Activate exhaust fan in Installer settings, Exhaust fan, Activation.
- Set fan speed for maximal power so flame matches the description above.
- Installer settings, Coefficients, activate Forced minimal power. Boiler goes to minimal power operation. It takes 5-10min to stabilize minimal power flame. Check the flame after this time and change fan speed for minimal power so flame matches description mentioned above.
- Don't forget to deactivate Forced minimal power feature when you finish your exhaust fan speed setup. So boiler goes back to normal operation.

In ideal situation the draught measuring device should be used to measure proper value and adjust exhaust fan rotations so chimney draft matches values recommended in Biopel user manual.

Exhaust fan now modulates its speed in selected range according the actual boiler power.

6. WARRANTY CONDITIONS

Exhaust fan for Biopel v8 a v9 control units

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 we guarantee the warranty 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. Fault will be removed as soon as possible at our expense, provided that the device:

- 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 user manual of the boiler
- customer's complaints are submitted with the application of this warranty certificate duly completed

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.

Zašovská 750

757 01 Valašské Meziříčí

Bank account: Komerční banka a.s., no.:1608851/0100

IČO: 47674105, DIČ: CZ 47674105

Contacts: Sales: +420 571 675 589, Secretariat: +420 571 611 250, Production: +420 571 675 405

Sourcing: +420 571 675 114, Accounting: +420 571 675 472
