

Nagrzewnica wodna Farmer 47 kW  
Water heater Farmer 47 kW  
Warmwasser-Lufterhitzer Farmer 47 kW  
Водяной тепловентилятор Farmer 47 кВт



**1. INTRODUCTION**

- 1.1 PRECAUTIONS
- 1.2 TRANSPORT
- 1.3 PACKAGE CONTENT
- 1.4 USE AND PRINCIPLE OF OPERATION
- 2. SCHEMATIC DIAGRAM
- 2.1 CONSTRUCTION
- 3. DESCRIPTION OF THE NEW TECHNOLOGY LCE COATING
- 3.1 ADVANTAGES OF LCE COATING
- 3.2 ANTI-CORROSION SOLUTION, WHICH REALLY WORKS
- 3.3 CERTIFICATES:
- 4. DIMENSIONS
- 5. TECHNICAL DATA
- 6. ASSEMBLY
- 7. INSTALLATION INSTRUCTIONS
- 8. PRECAUTIONS & WARNINGS
- 9. BLOWAIR AUTOMATICS
- 10. CONNECTION SCHEMES
- 11. TERMS OF WARRANTY
- 11.1 WARRANTY CARD
- 11.2 WARRANTY FORM
- 11.3 SERVICE FORM

**1. INTRODUCTION**

Thank you very much for purchasing our device. We would like to congratulate you on good choice.

**1.1. PRECAUTIONS**

The buyer and the user of the device should read carefully the following instructions and proceed to the content recommendations. Proceeding due to the following instruction guarantees the correct usage and safety. In case of any doubts please contact the producer.

The producer reserves the rights to make changes to the technical documentation without previous notice.

The producer is not responsible for the damages which occur due to improper installation, not keeping the device in repair or using the device out of line.

The installation should be carried out by the professional installers, who possess the qualifications to install these types of devices. The installers are responsible for making the installation as instructed in the technical data. Regulations and safety rules must be followed.

During the installation, use, service and periodical inspections all regulations and safety rules must be followed.

In case of unserviceable please plug out the device and contact with the authorized person or the producer.

**1.2 TRANSPORT**

During the acceptance of goods it is needed to check the device in order to exclude any damages. During the transport it is needed to use the proper equipment, it is necessary to carry the device by two people. In case of any damages please fill in the damage report in presence of the supplier.

**1.3 PACKAGE CONTENT**

- Heater
- Instruction and warranty card

**1.4 USE AND PRINCIPLE OF OPERATION**

Devices BLOWAIR Farmer 47 kW are used to heat large-size rooms. These units are suitable to work in aggressive environments, with high dustiness, humidity and concentration of ammonia in the air. Because of the LCE coating, the devices are fully covered with the protective layer. The deposit which occurs in aggressive environments does not stick to the units. Additionally water heaters FARMER 47 kW have antibacterial layer.

Air water heaters have to be connected to central heating system.

Application of new technologies in Blowair devices guarantees high effectiveness and comfort of the consumption. Original colors of the devices match to every interior. The devices are made very precisely and will work smoothly for many years. The product has got the two years of warranty.

**2. SCHEMATIC DIAGRAM**

**2.1 CONSTRUCTION**

- Casing
- Air stators
- Heating coil
- Axial fan
- Holders
- Rotational holder

**Casing-** is made of galvanizing steel, powder painting in RAL color 7035, covered with LCE coating.

**Air stators-** are made of galvanizing steel, powder painting in RAL color 7035. It is possible to set the air stators up manually to achieve the needed direction of the air flow.

**Heating coil-** is made of aluminum and copper. The maximum temperature of the heating factor is 110°C; maximum pressure 1,6 MPa; headers diameter 3/4". Water heater Farmer has two rows heating coils.

**Axial fan- fan casing** – metal, powder painting, steel wire galvanized. The motor has got the safety degree IP 54.

**Holders-** are additional elements to assemble the device. It is solid and durable, it is possible to assemble the device on the wall or ceiling. It is also possible to regulate the angle of slope in three versions.

**Rotational holder-** is an additional element to assemble the device. It is solid and durable, it is possible to assemble the device on the wall or ceiling. It is possible to assemble the device in parallel on the angle 60° and 45°.

**3. DESCRIPTION OF THE NEW TECHNOLOGY LCE COATING**

**3.1 ADVANTAGES OF LCE COATING:**

- increase lifetime of water heaters in aggressive environments;
- antibacterial layer, which prevents development of bacteria inside the heating coils;
- LCE coating has no influence on capacity;
- LCE coating is spread on the water heater by deep immersion, because of it LCE coating reaches each slit of the coils;
- hydrophobic surface;
- LCE coating has strong bond to the water heater's surface.

**3.2 ANTI-CORROSION SOLUTION, WHICH REALLY WORKS:**

LCE coating gives elastic layer on the whole surface of the coil. This layer is able to last thermal dilatation of the coil without cracking.

The end with corrosion.

Water heaters very often work in aggressive environments such as: ocean coast, food production lines, animal shelters, piggery, chicken farms and so on where standard protection is not enough. LCE coating offers perfect solution for heaters in such environments.

**3.3 CERTIFICATES:**

**ASTM B1 1 7** Neutral Salt Spray Test 1 0000 hours in heating/cooling cycles changing temperatures between 60 °C and 5°C;

**ASTM G 85 A1** Acetic Acid-Salt Spray Test to prove positive impact on coils used in food industry;

**ASTM G 87** Same as G85 utilizing acidic SO2 electrolyte;

**ASTM D552** Flexibility Test, which investigates flexibility of coating to bond to the substrate surface of coil;

**ASTM G 85 A5** Indirect spray of dilute salt and ammonium sulphate at 23°C and followed by 1 hour exposure of dry air at 35°C. Test proving resistance in salt containing environment and industrial applications;

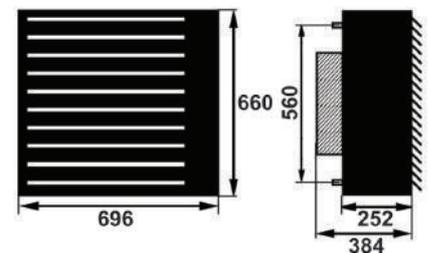
**ASTM G 21** Resistance of polymer coatings to fungi. Important aspect for evaporators.

New technology called LCE coating protects the water heaters from corrosion, mould and bacteria in a very efficient way. LCE coating is based on water, and it brings additional effects as: antibacterial and waterproof effects.

Total immersion application, while LCE coating fills into all spaces in the coil.

What is more, the whole casing is being put into the LCE coating so it is also protected from aggressive environments.

**4. DIMENSIONS**



**3.1 ADVANTAGES OF LCE COATING:**

## 5. TECHNICAL DATA

Technical data	Unit of measure	FARMER 47 kW
Nominal heating capacity water 90/70°C and inlet air temperature 0°C.	kW	46,8
Heating power range.	kW	20-47
Maximum airflow.	m <sup>3</sup> /h	4400
Maximum range of air stream.	m	10-25
Number of rows in heater.	number	2
Weight including water/ without water.	kg	29/27
Capacity of water.	dm <sup>3</sup>	2,0
Air temperature rise. *	°C	29,6
Maximum temperature of heating agent.	°C	110
Maximum operating pressure.	MPa	1,6
Rated current.	A	0,82
Power supply voltage.	V/Hz	230/50
Motor power	W	180
Motor speed	rev/min	1380
Motor IP	-	54
Ferrules diameter	"	3/4
Dimensions (height/depth/width)	mm	660/696/384

\*Temperature rise according to parameters: water 90/70°C and inlet air temperature 0°C.

### Technical data of Blowair Farmer 47 kW:

Parameters	Farmer 47 kW			
Inlet and outlet water temperature[°C]	90/70			
Inlet air temperature [°C]	-20	-10	0	10
Heating capacity [kW]	61,9	54,2	46,8	39,7
Outlet air temperature [°C]	16,2	23,0	29,6	36,0
Water flow[m <sup>3</sup> /h]	2,73	2,39	2,06	1,75
Pressure drop in the heat exchanger [kP]	24	19	14	11

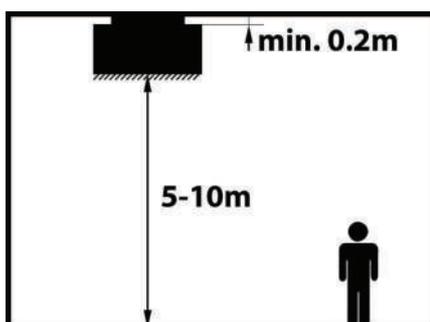
Parameters	Farmer 47 kW			
Inlet and outlet water temperature[°C]	80/60			
Inlet air temperature [°C]	-20	-10	0	10
Heating capacity [kW]	55,0	47,4	40,2	33,3
Outlet air temperature [°C]	12,2	18,9	25,4	31,8
Water flow[m <sup>3</sup> /h]	2,42	2,08	1,77	1,46
Pressure drop in the heat exchanger [kP]	20	15	11	8

Parameters	Farmer 47 kW			
Inlet and outlet water temperature[°C]	70/50			
Inlet air temperature [°C]	-20	-10	0	10
Heating capacity [kW]	48,1	40,7	33,7	26,9
Outlet air temperature [°C]	8,2	14,8	21,3	27,6
Water flow[m <sup>3</sup> /h]	2,1	1,78	1,47	1,18
Pressure drop in the heat exchanger [kP]	16	11	8	5

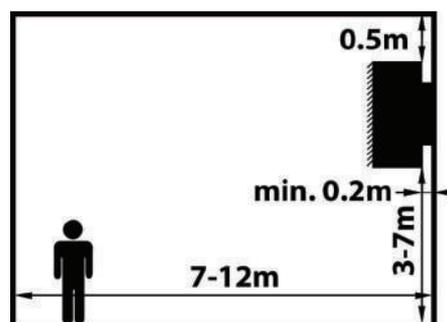
Parameters	Farmer 47 kW			
Inlet and outlet water temperature[°C]	50/30			
Inlet air temperature [°C]	-20	-10	0	10
Heating capacity [kW]	34,2	27,1	20,4	13,9
Outlet air temperature [°C]	0,0	6,5	12,9	19,1
Water flow[m <sup>3</sup> /h]	1,48	1,18	0,88	0,6
Pressure drop in the heat exchanger [kP]	9	6	3	2

## 6. 3 ASSEMBLY

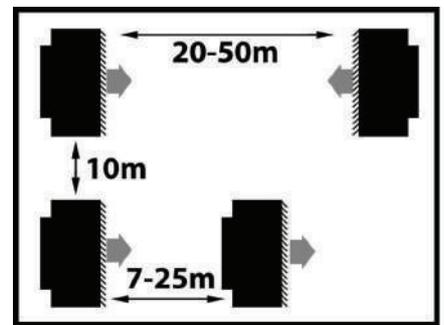
Blowair Farmer devices can be assembled on the wall or ceiling via holders or rotational holder, which are additional elements. The drawings below show the ways of assembly. In the bigger accommodation it is recommended to assemble more than one device. Follow the parameters which are provided on the drawings.



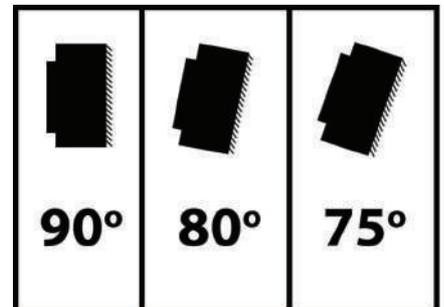
Drawing 2. Assembly on the ceiling.



Drawing 3. Assembly on the wall.

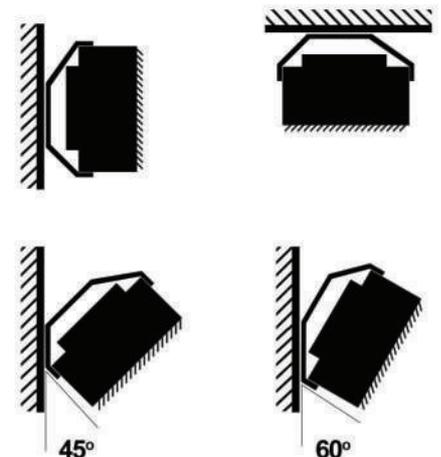


Drawing 4. Example arrangement for few devices in the room.



Drawing 5. Three versions of the assembly position while using the holders.

Blowair devices can be assembled on the wall or ceiling via holders or rotational holder, which are additional elements. It is possible to assemble the device in parallel on the angle 60° and 45°.



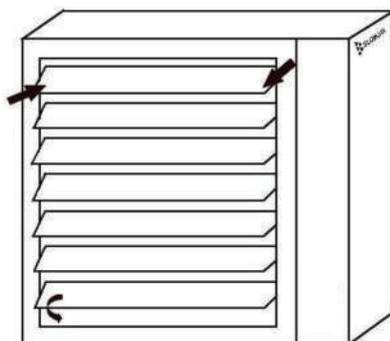
## 7. INSTALLATION INSTRUCTIONS.

The installation should be made by the qualified stuff, who possess the needed rights to install electrical devices, as instructed in the following documentation. To install the air waster heaters Blowair Farmer 47 kW use the duct size 2 x 2,5mm<sup>2</sup>.

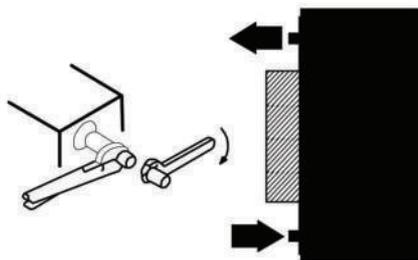
## 8. PRECAUTIONS & WARNINGS

- All works concerning electrical installation should be made by the qualified stuff, who possess the qualifications due to the domestic and local norms. These recommendations include service and disassembly as well. Not following to the recommendations may cause electrocution, device damages or its incorrect work.
- Before service or exchange of the device it is obligatory to cut off the current supply.
- Do not cover the inlet and outlet of the device.
- Do not use the device in room with high moisture or close to the water basin.
- Do not install, service the device with wet hands or barefoot.

- Do not use the device in room with inflammable fumes and gas.
- The device should be kept out of reach of children and animals.
- During the assembly use the filter on the hydraulic supply.
- Please use the following valves.
  - vent valve in the highest place on the hydraulic installation,
  - cut off valve on the supply and return of the device.
- The device should be secured against pressure increase in the water installation.
- Before plugging the electric supply check the leak tightness.
- The device does not consist of the anti-frost protection. The temperature in the room should not go below 0°C. In such case please empty the device out of water.
- It is recommended to check the electric installation before the first start.
- It is recommended to use the external current differential protection.
- After the turn off, the elements of device may be warm.
- After operating time of the device, please utilize it concerning the local norms and regulations.
- It is recommended to clean the device periodically:
  - heating coil blow through by compressed air,
  - fan casing and blades clean from the dirt.
- If the device is not used for a longer time disconnect the voltage supply.
- The device is transported with the closed air stators. It is essential to open them in 30 % before first start. Not keeping to the following recommendation may cause the damages of the fan.
- Opening the air stators must be made by two hands in parallel. Not keeping to the following recommendation may cause the damages of the air stators.



- While plugging the device to the water installation do remember to hold its stub pipes by pipes spanner, not keeping to the recommendation may cause the damages of the heating coil.



### 9. Blowair automatics.

To make easier the usage of the Blowair devices we also offer the additional automatics:

**5-stage speed controller Blowair RX 1,2A-** is used to control the speed in single-phase fans. It consists of 5 controls 0 - 70 - 85 - 105 - 145 - 230V, power supply voltage-230VAC / 50-60Hz, allowable current output: 1,2A; protection: thermal breaker switch; dimensions: 126mm x 176mm x 56mm; weight: 1,3 kg. It is recommended to use one speed controller to each Blowair device.

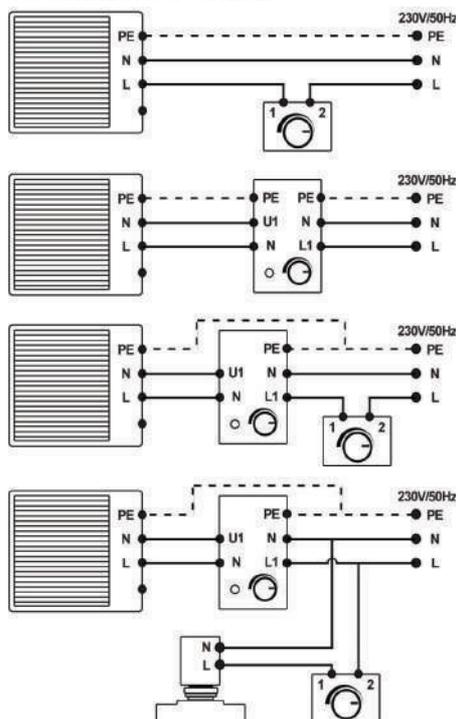
**5-stage speed controller Blowair RX 3A-** is used to control the speed in single-phase fans. It consists of 5 controls 0 - 70 - 85 - 105 - 145 - 230V, power supply voltage-230VAC / 50-60Hz, allowable current output: 3A; protection: thermal breaker switch; dimensions: 126mm x 176mm x 56mm; weight: 1,3 kg. It is possible to use one RX 3A speed controller for a few Blowair devices.

**Two-way valve with actuator BR 3/4"**- connection diameter 3/4". It should be installed on the return (outlet) pipe. Using it, lowers the living costs. It is essential to use it with the temperature controller. After reaching the wanted temperature the valve cuts off the water inlet. Water runs in cycle and does not cool. The valve is not noisy. It is recommended to use one two-way valve with actuator to each Blowair device.

**Room thermostat RT 100-** work environment parameters 0°C-40°C; setting range 10°C-30°C; regulation accuracy 1°C; temperature number levels 1; power supply voltage 230V. It is possible to use one room thermostat to maximum 5 Blowair devices.

**Programmable temperature controller FL-** saving energy up to 30%. It is possible to regulate the temperature up and down. LCD liquid crystal display. Temperature setting every 0,2°C. It consists of 9 programmers. 3 levels of temperature-day, night, anti-frozen. Work environment parameters 0°C-40°C. Setting range 5°C-30°C. Power supply 2 alkaline battery AA (1,5V). Permitted control output load 230 VAC 50Hz 5 (3) A. It is possible to use one programmable temperature controller to maximum 5 Blowair devices.

### 10. CONNECTION SCHEMES



PE- protective earthing, duct yellow-green colour;  
 N- neutral, duct black-black colour;  
 L- phase duct, duct brown colour;  
 Empty clamp, duct blue-black colour.



## 11. TERMS OF WARRANTY

I. WTS Wysocki Tomasz 3b Montażowa Street , 43-300 Bielsko-Biała, Poland, is the producer of the Blowair brand. The warranty concerns the following devices and it is valid for 2 years:

- air heater S1,
- air heater S2,
- air heater S3,
- air heater S4,
- air heater Farmer.

II. Warranty is valid in the European Union.

III. The terms of warranty are valid from purchasing the device (the date issuing a document confirming the purchase of the device) but not further than 30 months from leaving the Blowair's warehouse.

IV. The defects revealed during the warranty period will be removed free of charge in 14 working days. The service will be done by the installation company due to the terms of warranty included in warranty card. The elements will be supplied by the Blowair producer during the warranty period.

V. Warranty does not cover the parts of the device subject to normal maintenance and the cases as below:

a) Mechanical defects, damages from the impact of the improper transportation or damages through improper storage.

b) Defects through:

- improper usage and service,
- using the device in the improper conditions (too high humidity, too high or too low temperature, impact of the surrounding, sun ect.,
- modified equipment that has been modified or repaired without written agreement of the producer;
- connecting additional equipment, which is not recommended by the producer or inconsistent with the technical documentation,
- improper power supply.

c) Elements which wear and tear such as discolor or using.

VI. All changes in record in the warranty terms or any constructive modifications, independent service outside the Blowair service or use, uncaring, makes the warranty not valid.

VII. To obtain the service it is needed to send to the producer warranty card with the signature, document confirming the purchase, (copy of the invoice) and correctly filled the warranty form.

VIII. Not following to any of warranty regulations makes the warranty not valid.

IX. All correspondence, returns, complains should be send to the following address: Blowair WTS Wysocki Tomasz 3b Montażowa Street, 43-300 Bielsko-Biała, Poland or e-mail: [serwis@blowair.pl](mailto:serwis@blowair.pl)

**The producer reserves the rights to make changes to the technical documentation without previous notice.**