

Use and Maintenance Manual



High-pressure radial blowers **WW**

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843W20 WW-2-1-1100 04.06.2019/EN

843W55 WW-2-3-1100 04.06.2019/EN

843W56 WW-3-3-3000 04.06.2019/EN

843W57 WW-4-3-7500 04.06.2019/EN

1. Introductory Remarks

The purpose of the present Use and Maintenance Manual is to supply User with directions within the range of application, installation, start-up and the operational use of the **WW high-pressure radial fans**.

Installing, start up and operational use are exclusively admissible after getting acquainted with the contents of the Use and Maintenance Manual.

With regard to continuity of work carried on improvement of our products, we reserve for ourselves the revision possibility of the draft and technological changes improving their functional features and safety.

The construction of the WW high-pressure radial fans meets the requirements of the current state of technology as well as the safety and health assurances included in:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of May 17th, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*
- **2014/35/EC Directive** of the European Parliament and of the Council of February 26th, 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. /*Journal of Laws EC L96 of 29.03.2014/*

The appliance meets the requirements included in:

- **2009/125/EC (ErP) Directive** of the European Parliament and of the Council of October 21th, 2009 establishing a framework for the setting of ecodesign requirements for energy-related products / *Journal of Laws L 285 of 31.10.2009 /*
- **327/2011 (EU) Regulation** of March 30th, 2011 on implementing the **2009/125/EC Directive** of the European Parliament and of the Council with regard to ecodesign requirements for fans driven by motors with an electric input power between 125W and 500 kW / *Journal of Laws L No. 90 of 06.04.2011 /*

The device has been constructed and produced on the basis of following harmonized standards:

- | | |
|--------------------------------------|--|
| • EN ISO-12100:2012 | - "Safety of machinery. Basic concepts, general principles for design. Risk assessment and risk reduction" |
| • EN 60204-1:2018-12 | - "Safety of machinery – Electrical equipment of machines. Part 1: General requirements" |
| • EN 60034-1:2011 | - "Rotating electrical machines – Part 1: Rating data and parameters" |
| • EN ISO 5802:2008/A1:2015-07 | - "Industrial Fans – Performance testing in situ of installing" |
| • EN ISO 13857:2010 | - "Safety of machinery – Safe distances to prevent hazard zones being reached by upper and lower limbs". |

2. Application

WW high-pressure blowers have been developed for conveying the dry air, of dustiness not exceeding 0,3 g/m³, without viscous impurities, aggressive media or compounds of explosive properties.

They are especially useful where high pressure or vacuum is needed. Particularly, they are applied in industrial vacuum cleaners, high-vacuum filtering units, as well as in applications in aeration systems for water basins (sewage-treatment plants) or to form the "water geysers" in swimming pools.

3. Reservations of Producer

- A.** Manufacturer accepts no liability for any consequences following from the operational use that is in contradiction to the purpose of application.
- B.** It is unacceptable to install on the device structure any additional elements not belonging to its normal construction or accessory set.
- C.** Do not introduce any structural changes or modification of the appliance on one's own.

- D. Protect the housing from mechanical damage.
- E. The blowers cannot be applied for conveying the air contaminated with a mixture of flammable substances in form of gas, vapour, mist and dust, that in connection with the air could create the explosive atmosphere.
- F. Do not use the fans for conveying the air containing viscous impurities that could accumulate on the device surface, especially on the impeller.
- G. Neither use them for forwarding the air with aggressive pollutants which will destructively effect the device structure.
- H. During operation, the maximum impeller rotations should not exceed the nominal rotations.
- I. Producer is not responsible for wounds, injuries, body laceration experienced by User or personnel during the improper operational use.

4. Technical Data

Table No.1

Type	Supply voltage	Synchronous rotations	Motor rate	Weight	Maximum volume flow	Acoustic pressure level
	[V]	[r.p.m.]	[kW]	[kg]	[m ³ /h]	[dB(A)]
WW-2-1-1100	230	3000	1,1	25	180	80
WW-2-1-1100	3x400	3000	1,1	25	180	80
WW-3-1-3000	3x400	3000	3,0	39	300	81
WW-4-1-7500	3x400	3000	7,5	74	600	87

CAUTION: ingress protection IP54

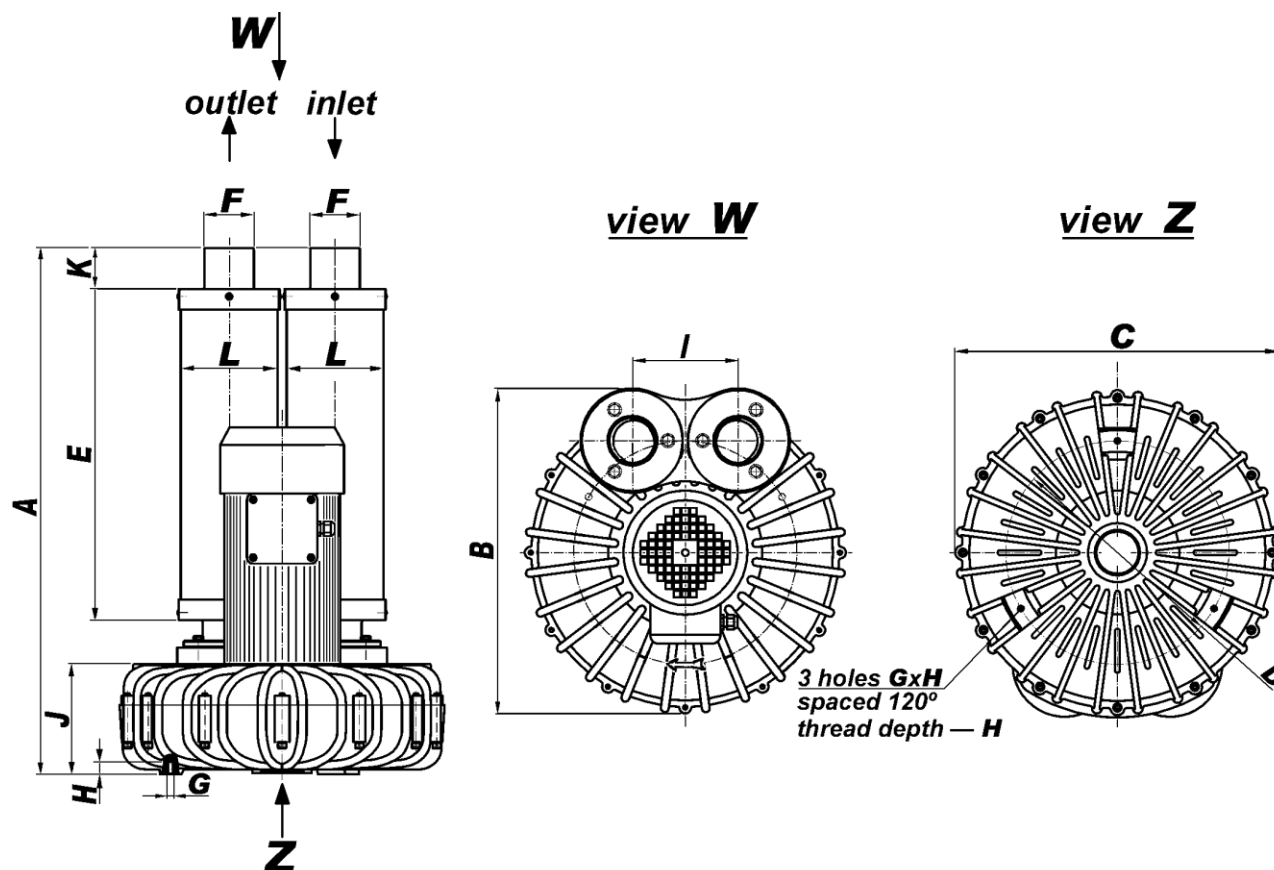
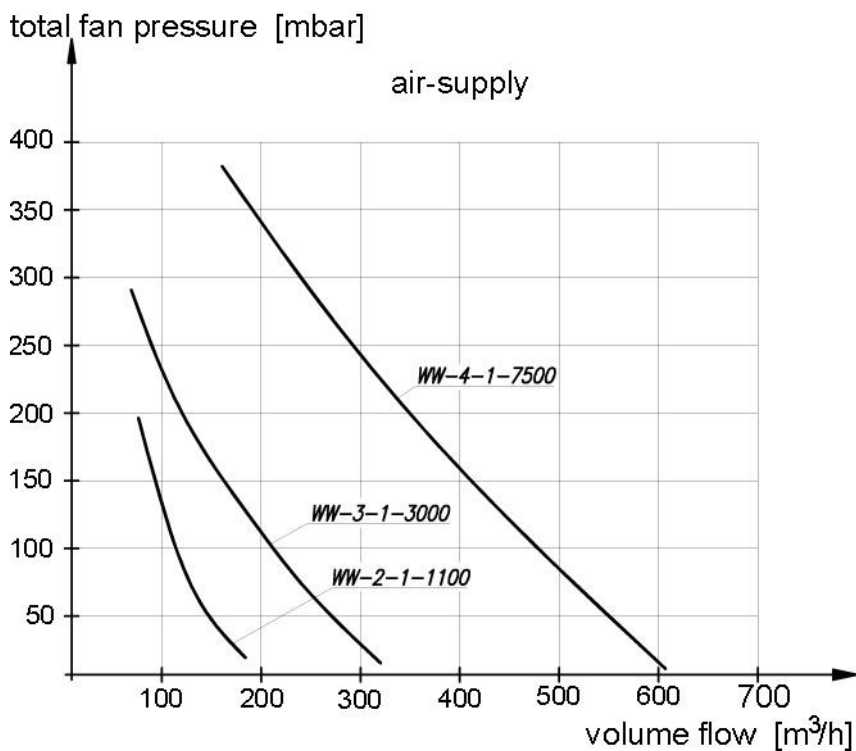
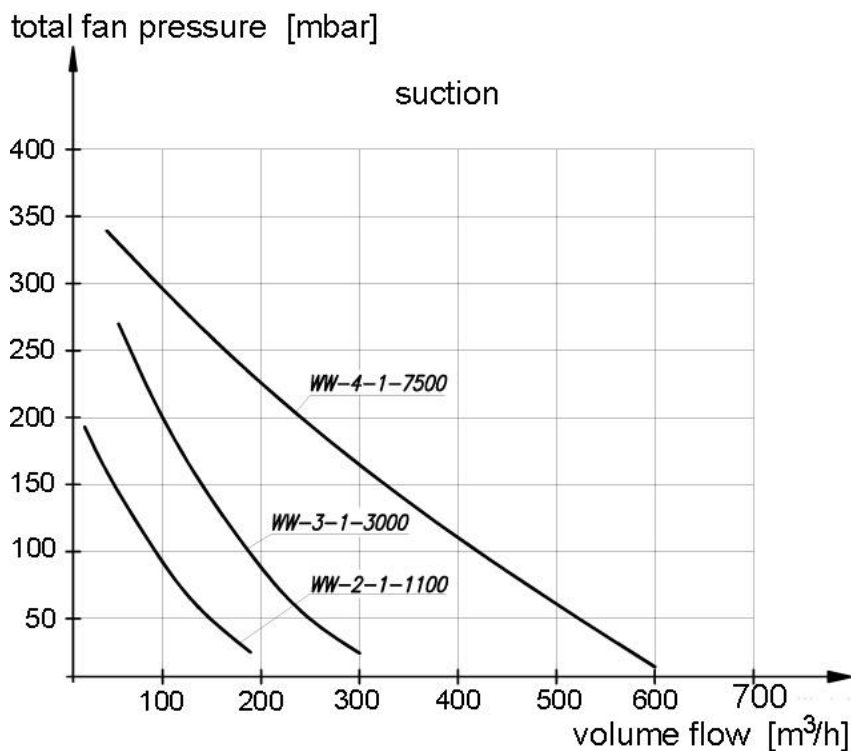


Fig. No.1 – WW blower – dimensions

Table No.2 – WW blower – dimensions

	637 [mm]	378 [mm]	368 [mm]	265 [mm]	400 [mm]	60 [mm]	M6 [mm]	15 [mm]	118 [mm]	105 [mm]	50 [mm]	110 [mm]
WW-2-1-1100	637	378	368	265	400	60	M6	15	118	105	50	110
WW-2-3-1100	637	378	368	265	400	60	M6	15	118	105	50	110
WW-3-1-3000	637	393	393	270	400	60	M8	18	128	132	50	110
WW-4-1-7500	670	482	482	350	400	60	M8	20	144	160	50	110

**Fig. No.2 – Flow charts**

5. Structure and Function

The fan consists of a aluminium cast housing, radial aluminium cast impeller, motor and two silencers. The impeller is directly mounted on the motor shaft. To reduce the noise level are applied silencers at the inlet and outlet. The fan is adapted for function in horizontal or vertical position.

6. Assembly and Start-up

Device connection to the power system ought to be carried out by User on one's own, by selecting the appropriate sort and section of the supply cables (according to the local operational conditions). According to the being in force regulations, apply protection from the short-circuit and overload effects.

WARNING Any activities regarding to connection to the power supply system should be executed exclusively by an authorised person with qualifications and in accordance with the valid regulations.

Prior to start up check following aspects:

- supply voltage
- connection correctness of the PE protective cable
- connection correctness of the electrical system and proper selection of the protections
- once the fan is energized, check if the impeller rotation sense (three-phase motor only) is matching the arrow on the fan housing; in case of opposite impeller rotation, change the phase connection sense.

It is recommended to start the fan at maximally opened inlet and outlet, i.e. at the minimum power input. It is not acceptable to run the fan when the inlet (or outlet) is completely closed – because this causes overload to the motor.

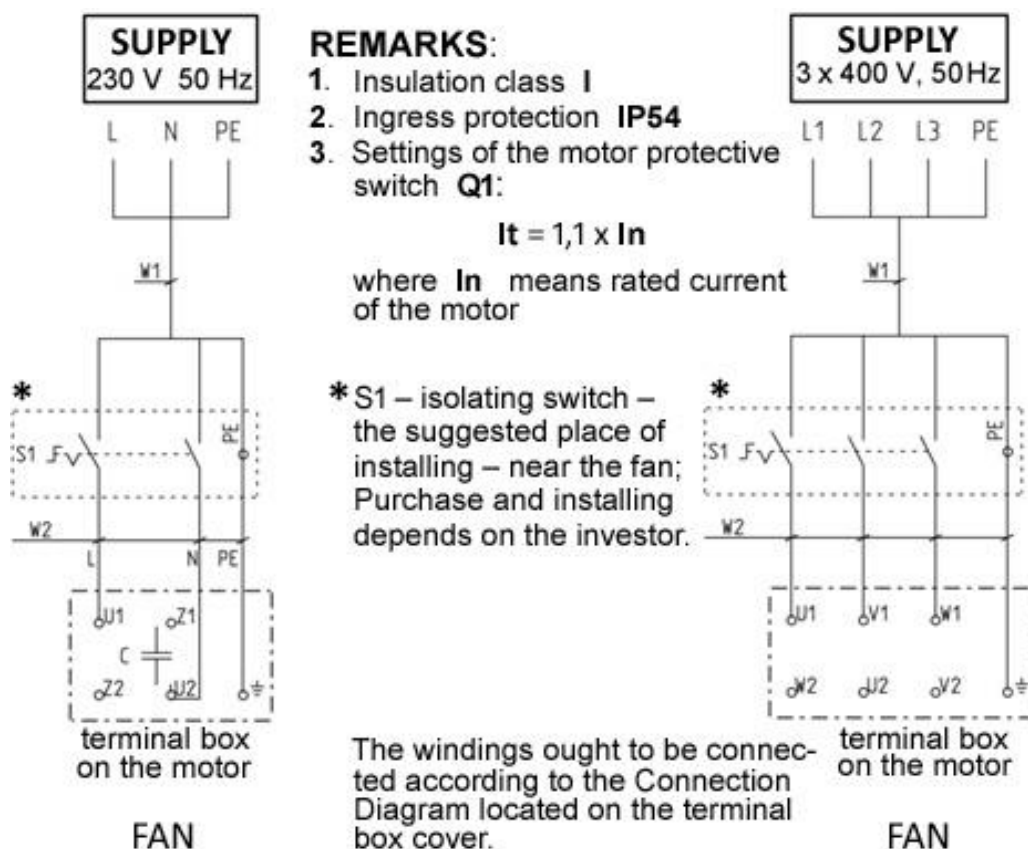


Fig. No.3 – Connection Diagram

7. Operational Use

The construction and a solid execution of the fan guarantees its operational use without constant routine maintenance.

8. Trouble Shooting Guide

Table No.3

	Problem	Possible reason	Corrective action
1.	sudden and significant decrease in the intake volume flow	some barrier objects / obstruction got stuck at the inlet grill	clean the inlet grill
2.	sudden vibrations of the fan are observed	the impeller is defective	replace the impeller with the motor for new
3.	significant decrease in the flow efficiency of the fan along with the increased noise	wrong impeller rotation sense	change the phase connection sense (3-phase motors only)

9. Maintenance

Construction of the fan allows its operational use without the routine everyday technical supervision. Once a year, submit the fan (motor) to revision and check the mechanical and electrical connections. Moreover, in case when improper device function is visually or by noise noticed – undertake its control.



Any activities regarding to connection to the power supply system have to be carried out, exclusively by an authorised person with qualifications and after disconnection from the power supply system.

10. Occupational Health and Safety

Start up and the operational use is only admissible exclusively after getting acquainted with the contents of the present Use and Maintenance Manual. The fan will not cause any hazard to User / personnel, if it is stably installed on the wall bracket or another structural element of the building.

For safety reasons, the fan motor has to be connected to the power system according to the present regulations within the range of personal protection from electrical shock and overload and short-circuit effects. Necessarily, connect the fan to the PE protective cable.



Do not look into the fan, neither approach with loose garment / hand towards the open fan inlet, as this could result in body injuries, eye damages, caused by the debris of impurities contained in the conveyed air.

11. Transport and Storage

The device is delivered to Customer in completely assembled state, wrapped in foil and placed on a pallet. During the transport protect the device from uncontrolled displacement and overturn. At the time of transport and reloading – protect the device from scratching and indents and pay attention that the marking on surface would not get detached or wiped out.

The device ought to be stored in dry and in areas of efficient ventilation.

12. Terms of warranty

The period of warranty for the purchased device is indicated in the “Card of Warranty”. The warranty does not comprise:

- mechanical damage and dysfunctions caused by User,
- device failures caused during use which was in contradiction with the purpose of operational use and the present Use and Maintenance Manual,
- any damages being caused during the improper transport, storage or incorrect maintenance.

Infringement of the Section 3 “Reservations of producer” of the User’s Manual and especially modifications undertaken by User on one’s own or operational use that is in contradiction with its purpose shall cause the loss of warranty validity.

13. Sample of the Declaration of Conformity

Declaration of conformity EC No.

Manufacturer (eventually the authorized representative / importer):

name: **KLIMAWENT S.A.**

address: **81-571 Gdynia, Chwaszczyńska 194**

A person, authorized for issuing the technical documentation: Teodor Świrbutowicz, KLIMAWENT S.A.

hereby declares that the appliance:

name: **High-pressure radial blower**

type/model: **WW**

serial number: year of production:

meets the requirements of the subsequent European Directives:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of 17 May, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*
- **2014/35/EC Directive** of the European Parliament and of the Council of 26 February, 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. /*Journal of Laws EC L96 of 29.03.2014/*

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- **EN ISO 13857:2010** – “Safety of machinery – Safe distances to prevent hazard zones being reached by upper and lower limbs”.

.....
place, date

.....
signature of authorised person

.....
name, surname, function
of the signatory

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District Court Gdańsk-Północ
in Gdańsk, VII Wydział Gospodarczy
of the National Register of Court
KRS 0000308902 company stock
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