EN

USE AND MAINTENANCE MANUAL

Filtering unit RAPID VAC 200

Contents:

Producer: **KLIMAWENT S.A.**
81-571 Gdynia, ul. Chwaszczyńska 194
tel. 58 629 64 80, 58 771 43 40
fax 58 629 64 19
email: klimawent@klimawent.com.pl

KLIMAWENT

25.10.2019

www.klimawent.com.pl

issue: October 2019

1. INTRODUCTION

The purpose of the present Use and Maintenance Manual is to supply User with directions within the range of application, assembly, start-up and operational use of the **RAPID VAC 200** filtering unit.

Prior to assembly at the place of operation and use, it is important to get thoroughly acquainted with the contents of the present instruction.

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.

Construction of **RAPID VAC 200** meets the requirements of the current state of technology as well as the safety and health assurances included in:

2006/42/EC Directive of the European Parliament and of the Council of the 17 May, 2006 on machinery, amending the 95/16/EC Directive (recast) / Official Journal EC L157 of the 09.06.2006, page 24);

2014/35/EC Directive of the European Parliament and of the Council of the 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 / Official Journal EC L96 of the 29.03.2014;

Is in accordance with the subsequent harmonised standards:

EN ISO-12100:2012 Safety of machinery – General principles of design – Assessment and reduction of hazard
EN 60204-1:2018-12 Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN ISO 13857:2010 Safety of machinery – Safe distances to prevent hazard zones from being reached by upper and lower limbs

2. PURPOSE

As a high-pressure category **RAPID VAC 200** filtering unit has been engineered for extraction and filtration of dry dust of various sort, of not aggressive properties and not creating explosion hazard. Especially, the appliance is efficient in extraction the contamination captured directly at the place it is emitted.
It is a proper solution for extraction the impurities straight from the hoods of grinding tools, polishing tools and cutters of **non-sparing materials**, for dry vacuum cleaning of the machines, installations and industrial rooms. Apart from this, it can be connected to small local exhausts. Due to the applied polyester fabric cartridge filter the device provides efficient capture of small dust particles, even below 0,4μm.

3. RESERVATIONS OF MANUFACTURER

- Manufacturer accepts no liability for any consequences following from the operational use that is in contradiction to the purpose of application.
- Installing of any additional elements that are not belonging to the normal device structure (or accessory set) is not acceptable.
- Do not introduce any structural or constructional modifications on the device on one's own.
- Protect the appliance from mechanical damage.
- The filtering unit cannot be used for extraction of the air containing viscous and aggressive contaminants that would damage the filters, or for dusts creating explosion hazard.
- **In the course of operational use, any ignition sources, i.e. cigarettebutts / embers must not get drawn into the filtration chamber**.

4. TECHNICAL DATA

Table No.1

Type	Suction efficiency	Motor rate	Supply voltage	Acoustic pressure level	Capacity of the waste container	Weight
	[m^3/h]	[kW]	[V; Hz]	[dB(A)]	[dm^3]	[kg]
RAPID VAC 200-S	225	1,6	230; 50	72	45	31,2
RAPID VAC 200-A	225	1,6	230; 50	72	45	32,6

CAUTION: **1**) Maximum vacuum of the suction turbine – 30000Pa
2) filtration efficiency 99,9%
3) marking: S – manual control; A – automatic control

Spare parts

Table No.2 – Cartridge filter

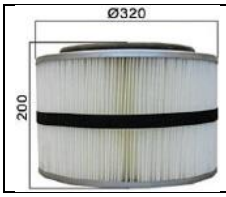
	Type	Weight [kg]	Filtration efficiency [%]	Remarks
	PN032032U	4,2	99,9	replacement frequency 1 – 2 years

Table No.3 – Turbine

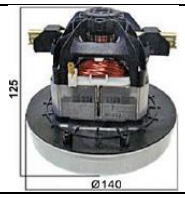
	**Type**	**Weight** [kg]	**Remarks**
	AS 309,5	1,4	replacement frequency approximately after 1000 hours of use

Table No.4 – Additional equipment

Name	Type	Remarks
dust collecting nozzle	SC-50	–
pipe	S-50	–
connector	Z50/44	–
hose	PCV FLEX-44	an extraction hose – standard length 15 metres

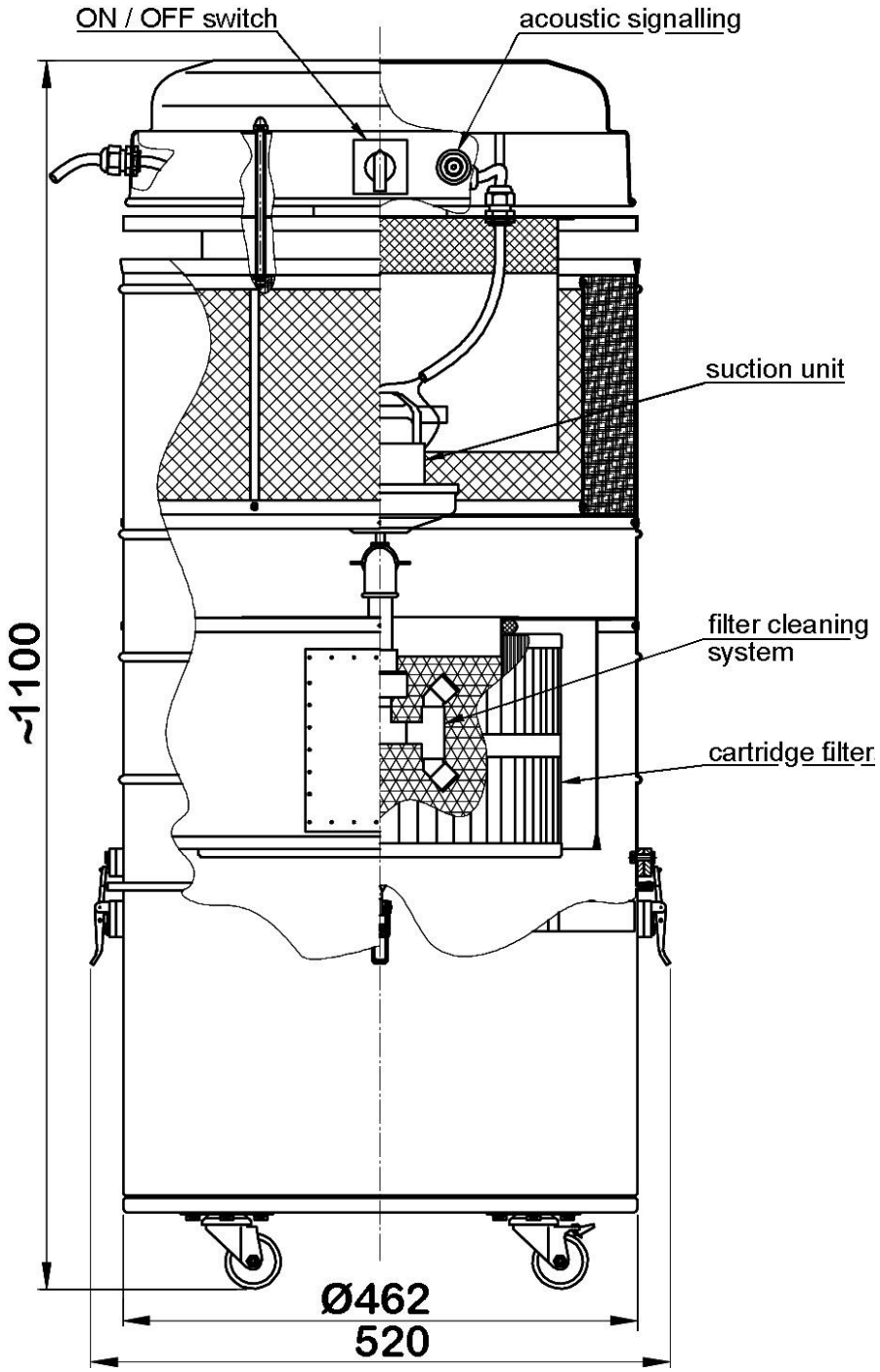


Fig. No.1 – RAPID VAC 200 – Structure, dimensions

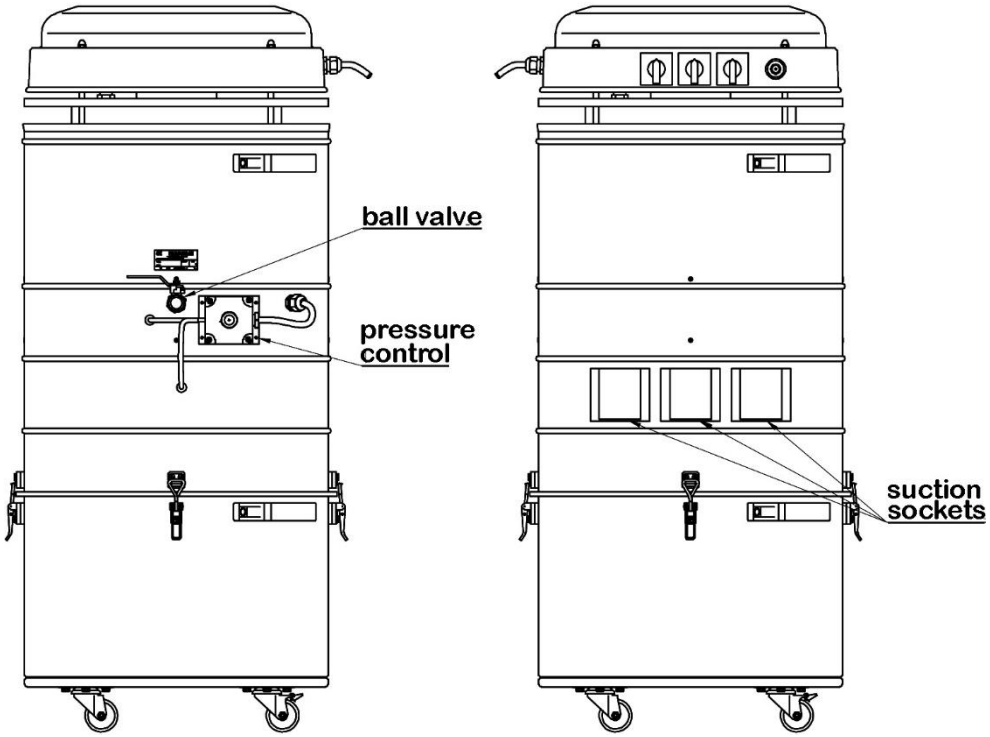


Fig. No.2 – RAPID VAC 200-S

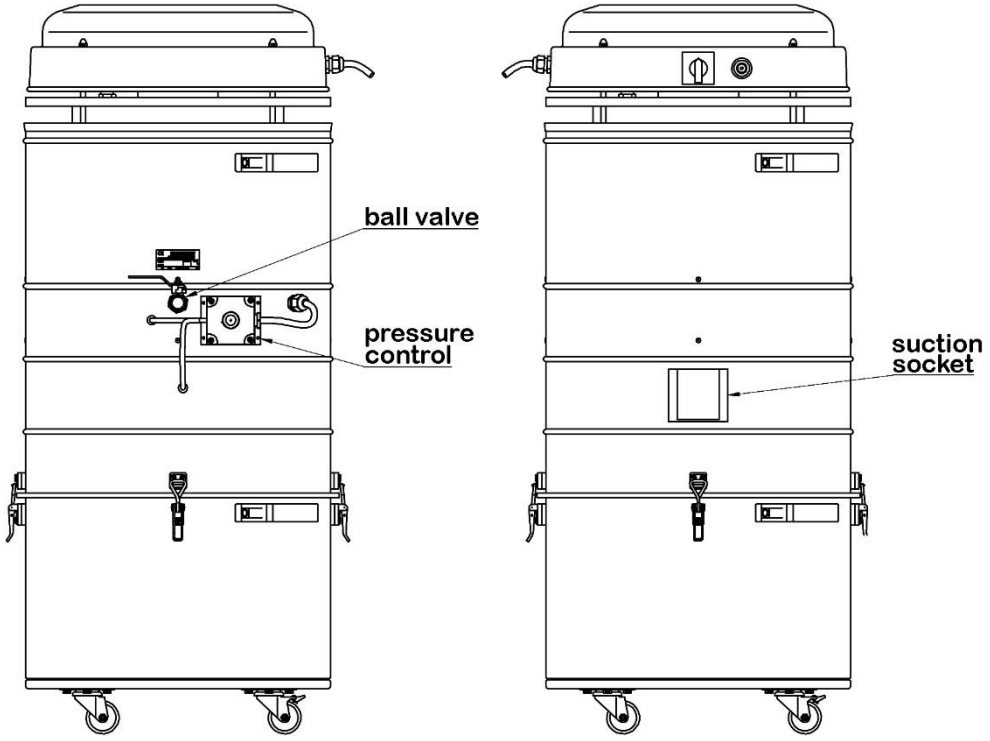


Fig. No.3 – RAPID VAC 200-A

5. STRUCTURE AND FUNCTION

RAPID VAC 200 consists of subsequent elements:

- cylindrical steel housing
- suction turbine
- cartridge polyester filter
- rotary nozzle – for regeneration of the cartridge filter
- suction socket – an accessory for the socket is the connector for the hose ∅44 mm
- compressed air valve at the connection to the rotary nozzle – manual or electromagnetic, depending on the control mode
- control unit (version for manual- or automatic control)
- waste container – with a set of castor wheels

Each of the models of RAPID VAC 200 includes two options of control

- standard control (manual) RAPID VAC 200-S
- automatic control RAPID VAC 200-A

6. ASSEMBLY AND STARTUP

RAPID VAC 200 requires connection to the external compressed air system of pressure at least 0,6 MPa. The appliance is energised by a 5 metres length power supply cable with a plug 230V; 50Hz.
RAPID VAC 200-S is operated manually by a motor switch – before that the compressed air valve should be opened for several seconds.
RAPID VAC 200-A is started by means of a switch – first the electromagnetic valve opens automatically for 3 seconds – subsequently the turbine is operated automatically.

7. OPERATIONAL USE

When the acoustic signalling switches on – the cartridge filter is over-polluted. In such a case it is important to disconnect the device and to carry out the filter cleaning. In order to regenerate the filter follow subsequent steps described in Section 6. The jets are blowing the filter through, the struck off dust accumulates in the waste container, which has to be emptied periodically. After opening the four clasp locks, the container on castors wheels can be pulled out from underneath. The cartridge filter ought to be replaced every 1 – 2 years.

Photo No.1 – Example of application for stone processing

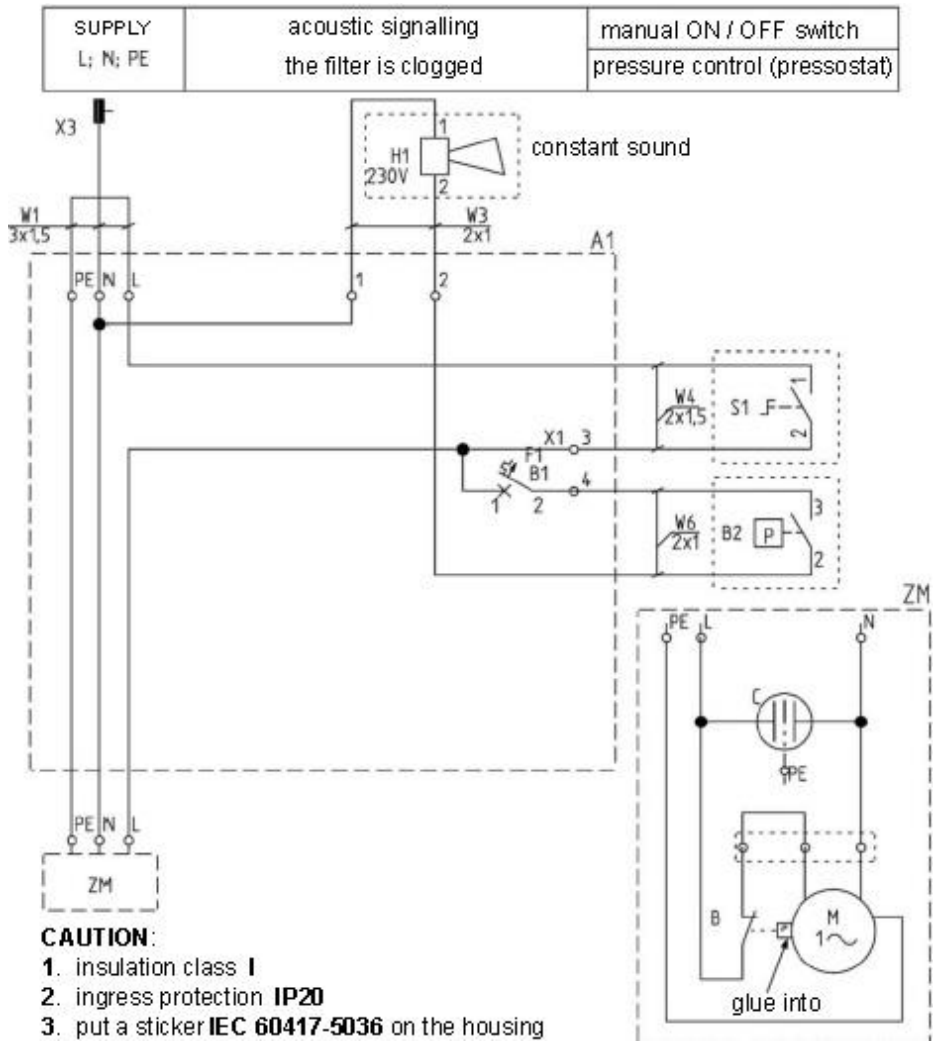


Fig. No.4 – RAPID VAC 200-S – Connection Diagram

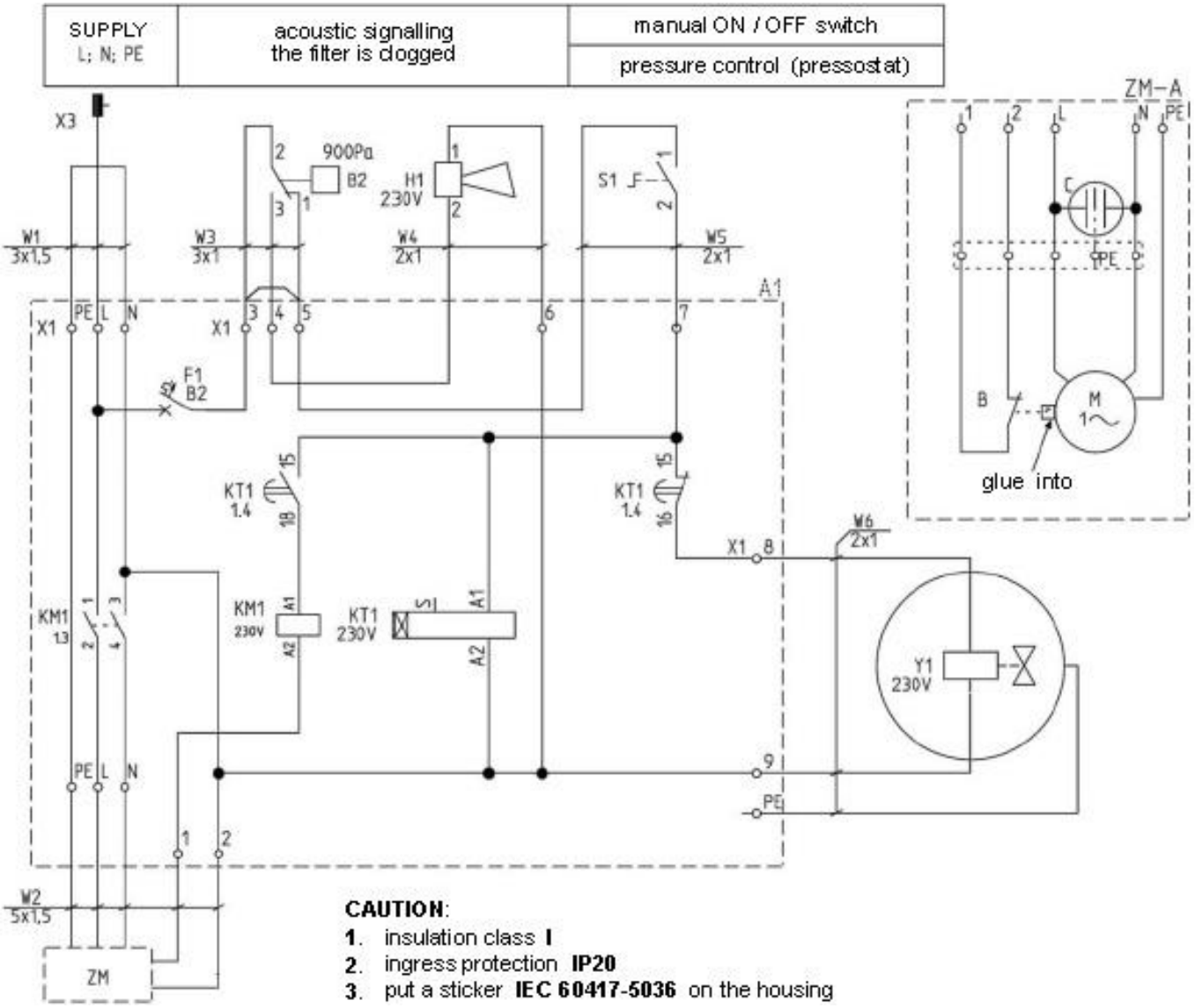


Fig. No.5 – RAPID VAC 200-A – Connection Diagram

8. TROUBLESHOOTING GUIDE

Table No.5

	Problem	Possible reason	Corrective action
1.	the suction capacity decreases along with the increased noise level	an obstacle element / barrier throttling the air flow got stuck in the nozzle or suction hose	unclog the nozzle / hose
2.	impurities are emerging outside the device	the filter is faulty	replace the filter
		the waste container is not covered tightly	close correctly the waste container

9. MAINTENANCE

In the course of operational use, maintenance consists in periodical emptying the waste container, systematic filter cleaning and replacement of the cartridge filter. The cartridge filter ought to be replaced every 12 – 24 months, depending on the intensity of use. The construction of the device ensure its operational use without continuous everyday technical supervision. In case when defective function is by noise or visually noticed – undertake its revision. During the revision check: the state of the filter, technical state of the suction turbine – according to the appropriate rules of operational use of electrical drive devices, as well as check the electrical and pneumatic connections.

Revisions ought to be carried out exclusively at the device disconnected (unplugged) from the power supply system and from the external pneumatic installation!

10. OCCUPATIONAL HEALTH AND SAFETY

For the safety reasons, connect the device to the power supply according to the being in force regulations within the range of personal protection against the electrical shock and the short-circuit- and overload effects.

Any connection activities ought to be executed by a person of adequate qualifications. **Circuits of the sockets ought to be equipped with short-circuit- and differential-current protections** (**see Connection Diagram**).

After the completed work, set the appliance in such position that it would not cause barrier / obstacle to the operator or people in the vicinity. In overall, follow strictly the general rules of Occupational Health and Safety during the use.

11. TRANSPORT AND STORAGE

The appliance ought to be stored in a dry and well ventilated room. The area should be free from aggressive substances. During the transport protect the device from overturn and an uncontrolled slide / displacement. The transport / reloading ought to eliminate the hazard of damage, scratching, indents of the housing. Pay attention that the packages would not get damaged, and the markings on the surface would not get obliterated or detached.

12. TERMS OF WARRANTY

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

- device failures caused during the use which is in contradiction with the purpose of application and with the present Use and Maintenance Manual,
- mechanical damage and malfunctions caused by User,
- changes / structural modifications undertaken by User on one's own,
- malfunctions resulting from the improper transport, storage or incorrect maintenance.
- inefficiency following from the normal operational exhaustion,
- suction units – as the have restricted operational life; **their longevity is estimated for 1000 hours of continuous work**.

13. DECLARATION OF CONFORMITY

CE

KLIMAWENT

DECLARATION OF CONFORMITY EC No. _____

Manufacturer (eventually also the authorised representative / importer):
name: **KLIMAWENT S.A.**
address: **81-571 GDYNIA, ul. Chwaszczyńska 194**

A person, authorised for issuing the technical documentation:
name and address: Teodor Świrbutowicz, **KLIMAWENT S.A.**

hereby declares that the product: **Filtering unit**

type / model: **RAPID VAC 200**

*serial number:*_____ *year of production:* _____

Meets the requirements of the subsequent European Directives:
2006/42/EC Directive of the European Parliament and of the Council of the 17 May, 2006 on machinery, amending the 95/16/EC Directive (recast) / Official Journal EC L157 of the 09.06.2006, page 24);
2014/35/EC Directive of the European Parliament and of the Council of the 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 / Official Journal EC L96 of the 29.03.2014;
The appliance meets the requirements included in:

Meets the requirements of the following harmonised standards:
EN ISO-12100:2012 Safety of machinery – General principles of design – Assessment and reduction of hazard
EN 60204-1:2018-12 Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN ISO 13857:2010 Safety of machinery – Safe distances to prevent hazard zones from being reached by upper and lower limbs

place, date	*signature of the authorised person*	*name, surname, function of the signatory*