

USE AND MAINTENANCE MANUAL



Filtering unit DRAGON VAC 200

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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 **DRAGON 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 **DRAGON 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 **DRAGON VAC 200** filtering unit is designed for extraction and filtration of various sorts of dry dusts that are not aggressive or do not create explosion hazard. Especially, it is applicable for capturing the welding fumes at mobile workplaces. It is a perfect solution for extraction the fatty / oil laden fumes, arising during the welding and point welding of the oil-laden steel sheets with supportive agents stimulating the welding process (e.g. silspaw).

Additionally, it can be connected to the welding faceshields with extraction or to other small local exhausts. Basic accessory is the high-vacuum suction turbine and the compact filter. Therefore the appliance 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.
- Maintenance and any repair ought to be carried out by an authorised person.
- The filtering unit cannot be used for extraction of the air containing aggressive contaminants that would damage the filters.
- **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 | Maximum vacuum of the suction unit | Suction efficiency | Motor rate | Supply voltage | Acoustic pressure level | Weight |
|----------------|------------------------------------|---------------------|------------|----------------|-------------------------|--------|
| | [Pa] | [m ³ /h] | [kW] | [V; Hz] | [dB(A)] | [kg] |
| DRAGON VAC 200 | 30000 | 225 | 1,6 | 230; 50 | 70 | 30,5 |

Compact filter – class F9 – filtration efficiency 99,6%

Spare parts

Table No.2 – Compact filter


|  | Type | Weight [kg] | Class | Filtration efficiency [%] | Remarks |
|---|------------|-------------|-------|---------------------------|---|
| | FC-292/K/9 | 7,1 | F9 | 95,6 | after the filter is worn out, it should be replaced for a new; it cannot be subject to regeneration |

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 |
|------------------------|-------------|--|
| magnetic slot nozzle | SMS-44-500 | nozzle is designed for extraction of welding fumes during longitudinal welding |
| | SMS-44-650 | |
| magnetic point nozzle | SMP-44-400 | nozzle is designed for extraction of welding fumes during point welding |
| dust collecting nozzle | SC-50 | – |
| pipe | S-50 | – |
| connector | Z50/44 | – |
| hose | PCV FLEX-44 | an extraction hose – standard length 15 metres |

5. STRUCTURE AND FUNCTION

DRAGON VAC 200 consists of subsequent elements:

- cylindrical steel housing
- suction turbine
- compact filter – class F9
- suction socket – an accessory for the socket is the connector for the hose $\varnothing 44$ mm
- control unit

The air is drawn in through an inlet connection. Subsequently it is cleaned within the compact filter and returned into the process room after filtration.

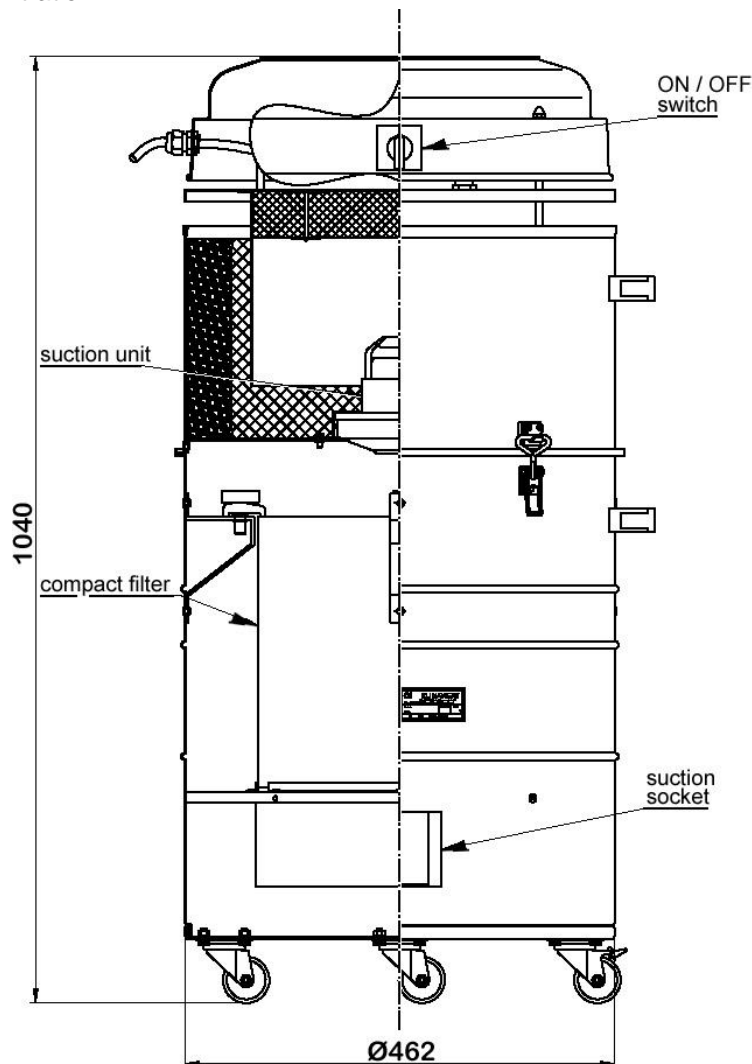


Fig. No.1 – DRAGON VAC 200 – Structure, dimensions

6. ASSEMBLY AND STARTUP

DRAGON VAC 200 is energised from power supply by means of a 5 metres long power lead with a 230V, 50Hz plug. Connection is illustrated in Fig. No.2.

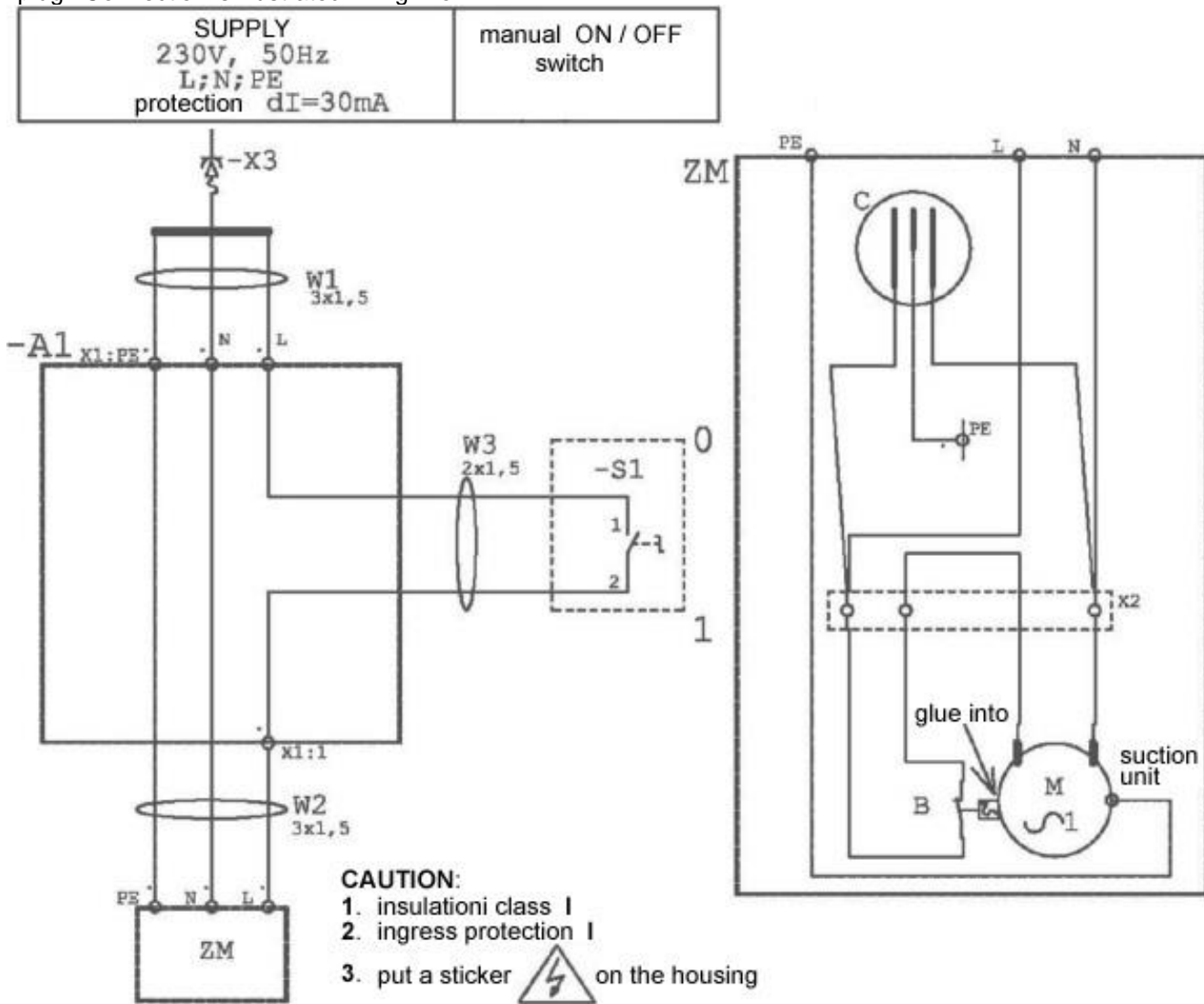


Fig. No.2 – DRAGON VAC 200 – Connection Diagram

7. OPERATIONAL USE

The appliance is equipped with a compact filter that has to be replaced after a period of use, when it shows excessive pollution degree (indication: excessive suction efficiency drop).

To replace the compact filter, remove the upper body (release 4 clasp locks). Subsequently unscrew four bolts and release the clamps that are holding the filter, as in the Photo No.1 below.

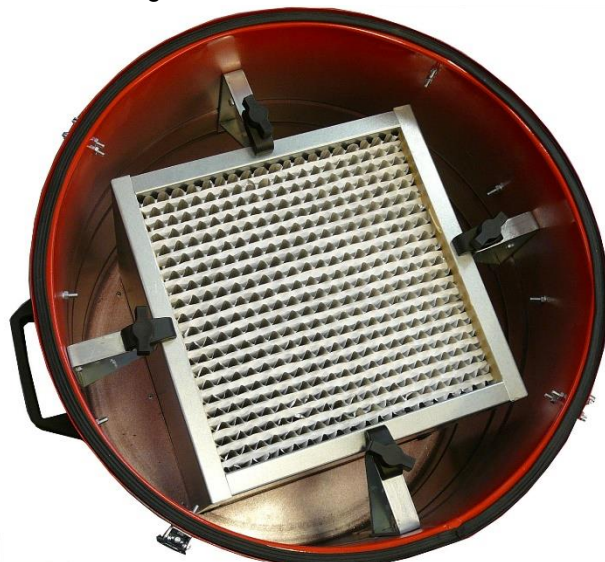


Photo No.1

Along with the DRAGON VAC 200 it is recommended to use nozzles presented in the **Photo No.2** below:

magnetic point nozzle



magnetic slot nozzle



Photo No.2 – Nozzles for fume extraction for point welding and longitudinal welding



Photo No.3 – Example of application of the device for longitudinal welding

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 in the suction hose | unclog the nozzle / suction hose |
| 2. | impurities are emerging outside the device | the filter is faulty | replace the filter |

9. MAINTENANCE

Construction of the appliance provides its operational use without the continuous routine 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 connections. **Any technical supervision ought to be performed exclusively after the filtering unit is unplugged from the power supply!**

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). The appliance meets the requirements of the 2006/42/EC Directive and do not require additional protections for a safe operational use.**

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 they have restricted operational life; **their longevity is estimated for 1000 hours of continuous work.**

Infringement of the instructions of the present Use and Maintenance Manual shall result in the loss of warranty validity.

13. DECLARATION OF CONFORMITY**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: **DRAGON 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:

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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*