

# USE AND MAINTENANCE MANUAL



## Filtering unit SMOG Filter-2400/Ex

### CONTENTS

1. INTRODUCTION .....	2
2. PURPOSE .....	2
3. RESERVATIONS OF MANUFACTURER .....	3
4. TECHNICAL DATA .....	3
5. STRUCTURE AND FUNCTION .....	4
6. ASSEMBLY AND STARTUP .....	4
7. OPERATIONAL USE .....	6
8. TROUBLESHOOTING GUIDE .....	7
9. MAINTENANCE .....	7
10. OCCUPATIONAL HEALTH AND SAFETY .....	7
11. TRANSPORT AND STORAGE .....	7
12. TERMS OF WARRANTY .....	8
13. ABSORPTIVITY OF ACTIVATED CARBON FOR VARIOUS VAPOURS AND GASES .....	8
14. DECLARATION OF CONFORMITY .....	11

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](mailto:klimawent@klimawent.com.pl)



## 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 **SMOG Filter-2400/Ex** 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 **SMOG Filter-2400/Ex** 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;

**2014/34/EC ATEX 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 equipment and protective systems intended for use in potentially explosive atmospheres / 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

**EN 1127-1:2011** Explosive atmospheres – Explosion prevention and protection. Basic terminology and methodology

**EN ISO 80079-36:2016-07** Explosive atmospheres – Part 36: Non-electrical appliances in areas of explosion risk Methodology and requirements

**EN ISO 80079-37:2016-07** Explosive atmospheres – Part 37: Non-electrical appliances in areas of explosion risk Non-electrical type of protection: constructional safety “c”; control of ignition sources “b”; liquid immersion “k”

**HD 60364-6:2016/A11:2017-11** Low-voltage electrical installations – Part 6: Verification

**EN IEC 60079-0:2018-09** Electrical appliances in areas of gas explosion hazard – Part 0: General requirements

## 2. PURPOSE

In general **SMOG Filter-2400/Ex** filtering unit is designed for application in areas of explosion hazard, where explosive atmosphere, i.e. a mixture of flammable substances in a form of gases and vapours with the air can occur, whereby after the ignition occurrence, the burning mass spreads within the whole not burnt mixture.

**The appliance can work in areas where explosive atmosphere in a form of a mixture of flammable dusts with the air is likely to occur.** Absorbers are meant for cleaning the air from vapours and gases, in chemical laboratories, biological-, analytical labs. They are applicable in any areas where irritable and unpleasant smell is emitted, e.g. during the gluing or application of various aerosols. Additionally, absorbers neutralise tobacco smoke and contaminants contained in smog that infiltrates into the room.


The appliances can function in temperature range -20°C do +40°C and are designed for conveying the dry air of dustiness not exceeding 0,3 g/m<sup>3</sup>, without viscous substances, aggressive compounds.

**According to the 2014/34/EC ATEX Directive and EN ISO 80079-36 the device carries the level of protection: “HIGH” – as a device classified for Group II, Category 2, and it can work in areas where explosive atmospheres are likely to occur. The fan can be applied in zones 1, 2 (G).**

The appliance is marked on the nominal data plate:



**Marking of the operational conditions of the device: group / category / hazard / class**

-  marking for explosion proof properties of the appliance,
- **group II** – the device is designed for on-ground work, in factories, in areas of explosion hazard, **but this cannot be methane (firedamp) hazard** neither carbon dust occurrence,
- **category 2** – the device is designed for application in areas where **explosive atmospheres are likely to occur**,
- **gas hazard G**,
- “c” – constructional protection,

- **Ex** – mark of the electrical device – constructed and tested according to the European Standards for work in areas of explosion hazard,
- **execution “e”** – type of construction of the motor (a motor of increased safety)
- **gas explosion group II** – occurring in on-ground factories – the appliances are constructed according to the PN-EN 14986:2009, whereby they can be applied for gases in explosion groups II,
- **temperature class T3** – the surface temperature of any part of the appliance should not exceed **200°C** (during the normal operation). The device can be used safely in explosive atmospheres belonging to temperature classes **T3, T2, T1**.

### 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.
- Maintenance and any repair can be performed exclusively by an authorised person after the instructions.
- **Do not apply the absorber for conveying the air containing viscous impurities that would build up on the device, especially on the impeller.**
- **The absorber cannot be used for forwarding the air containing aggressive compounds, that would effect destructively the device structure (e.g. damage of the filters).**
- **Manufacturer is not responsible for body lacerations, wounds, injuries experienced by operator during the careless use.**
- **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 volume flow [m <sup>3</sup> /h]	Maximum vacuum [Pa]	Motor rate [kW]	Supply voltage [V/Hz]	Acoustic pressure level [dB(A)]*	Weight [kg]
<b>SMOG Filter-2400/Ex</b>	2350	1750	1,1	3x400 / 50	61	375

\* Acoustic pressure level has been measured from distance of 1 metre of the device

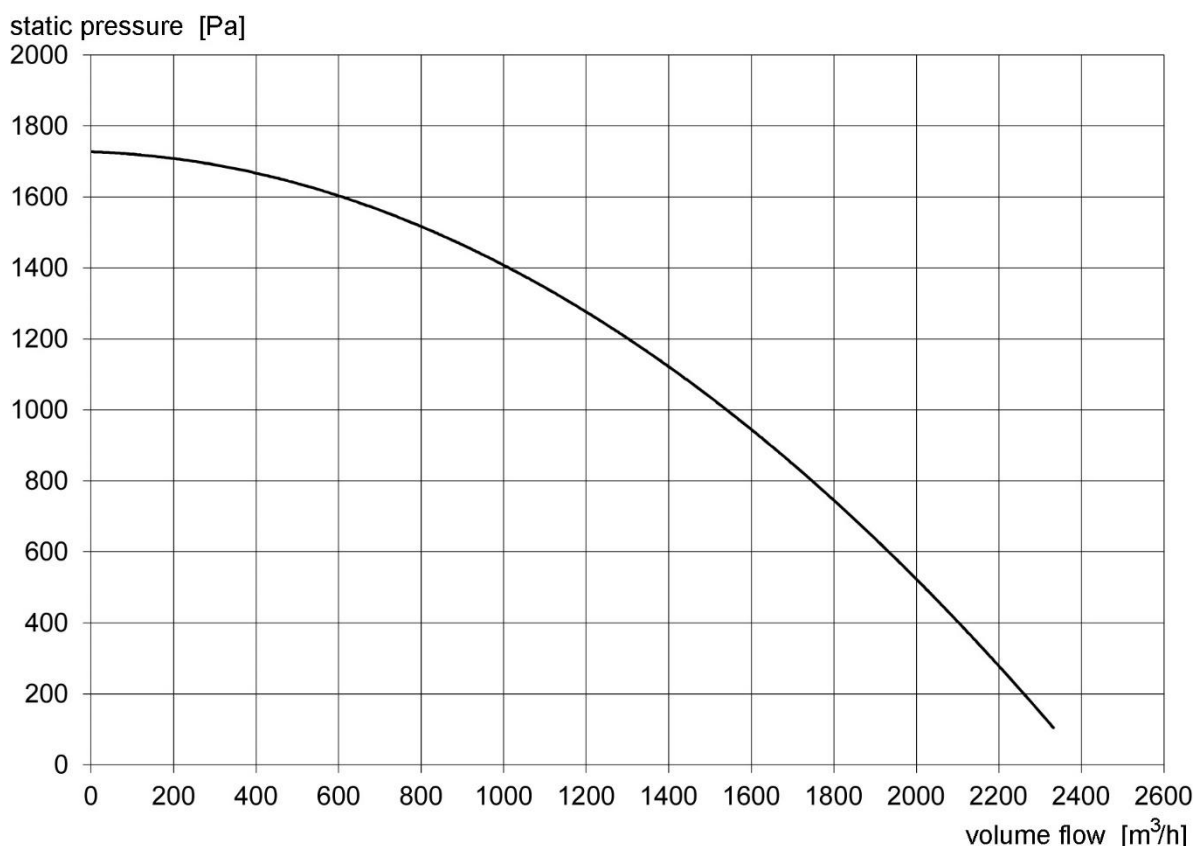


Fig. No. 1 – SMOG Filter-2400/Ex – Flow chart

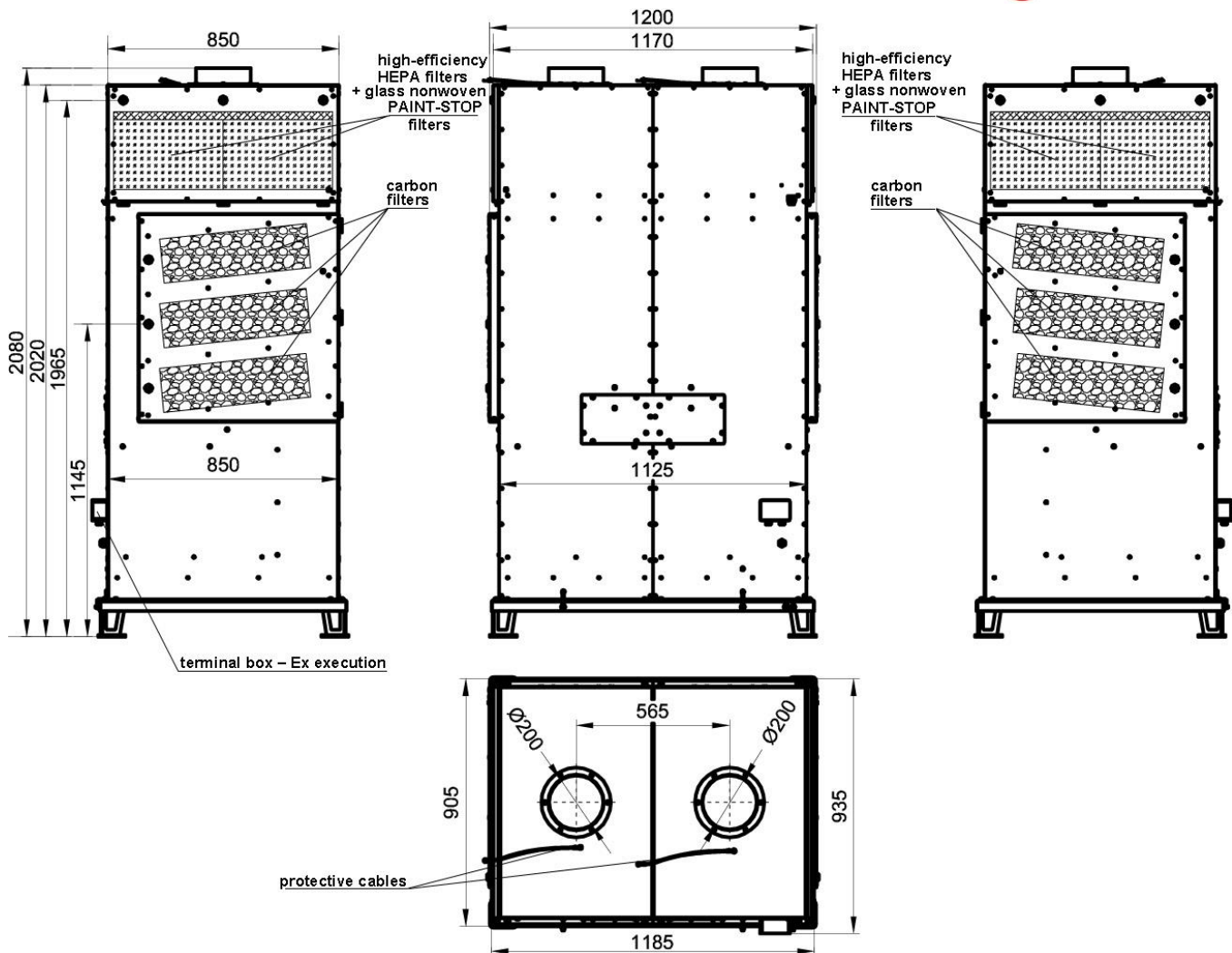


Fig. No.2 – SMOG Filter-2400/Ex – Structure and dimensions

## 5. STRUCTURE AND FUNCTION

SMOG Filter-2400/Ex consists of subsequent elements:

- housing of steel sheet,
- fan – located in the bottom part of the device, at the side of clean air,
- PAINT STOP filter – 2 pieces,
- high-efficiency HEPA filter – class H13 – 4 pieces,
- cassettes with granulated activated carbon – 6 pieces,
- terminal box – Ex execution
- inlet connections
- suction cover (on demand)

The polluted air is drawn in through the top, is cleaned while passing all the filters and subsequently is discharged. Terminal box of Ex execution is located on the device and serves as a connection for the supply cable. **All the elements are connected with protective cables, to avoid accumulation of the electrostatic charges within the device.**

The filtering unit is a stationary application and is equipped with grounding cables at the inlet connections and at the screw for LSU connection. To energise the device, simply put the plug into the 3x400V; 50Hz socket.

## 6. ASSEMBLY AND STARTUP

The appliance should be put in the place of operational use, whereas the protective cable has to be connected with the grounding. The inlet can be connected with a local exhaust, ducting of the general ventilation or equipped with a suction cover (additional equipment). In all configurations, after filtration, the air is returned back (through the perforated sheet underneath), into the process room.

Power supply: 3x400V; 50Hz. **Power supply system connections and protections ought to be carried by an authorised person with qualifications, according to the Connection Diagram.**

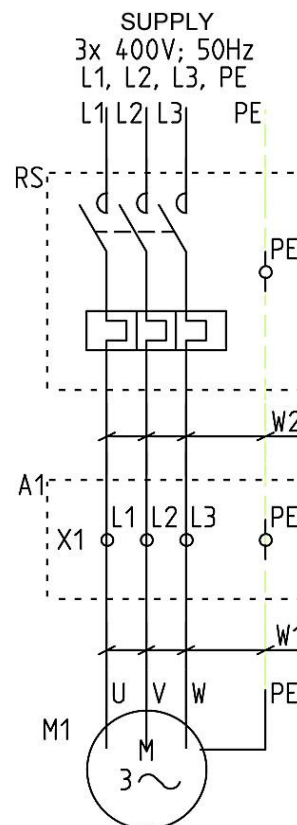


Fig. No.3 – SMOG Filter-2400/Ex Connection Diagram

Table No.2 includes specification of the subsequent elements of the energising system.

Table No.2

Symbol	Name	Technical Data	Producer	Quantity
M1	fan	SMOG Filter-2400/Ex- WPA-7-E-N/Ex 1,1 kW 2,4 A		1
W1	cable	H07RN-F 4X1,5		1,5 m
A1	housing	the housing is in Ex execution TB-P5/P0102	QUINT Ex	1
W2	cable	to be selected by Investor – section 1,5 mm <sup>2</sup>		
RS	starter	SMOG Filter-2400/Ex – motor starter LE1M35Q7708	SCHNEIDER	1

### 6.1 Guidelines to the installing



**a/ VENTILATION SYSTEM**

– a system to which the device is connected, ought to be designed and carried out in accordance with being in force valid regulations and standards – with reference to the local hazard of explosion



**b/ ELECTRICAL INSTALLATION**

– a system to which the device is connected, ought to be designed and carried out in accordance with being in force valid regulations and standards – with reference to the local hazard of explosion

- Prior to connection – make sure if the parameters of the existing system is compatible with the parameters on the nominal data plate. In case of inconsistency, connection cannot be carried out.
- Connection should be performed exclusively by an authorised person with confirmed qualifications, according to the valid regulations and standards.
- Check if the metal ducts are appropriately grounded. All the elements of the ventilation system should be equipped with an appropriate system do lead the electrostatic charges away (dissipation). Ventilation ducts ought to be equipped with an equilibration system by means of a protection cable.
- The appliance should be connected to the equilibration profile.

### 6.2 Safety control before the startup

- a/ Check if all mechanical connections have been carried out correctly,
- b/ Examine the correctness of the electrical connections and the sequence of phases,
- c/ Check the correctness of the connection to the equilibration profile.



Overload protection of the motor should feature such current-time performances that provide disconnection of the motor (from the power supply) in time that is shorter than the specified for this system tE, whereby the current equals the inrush current of the motor.

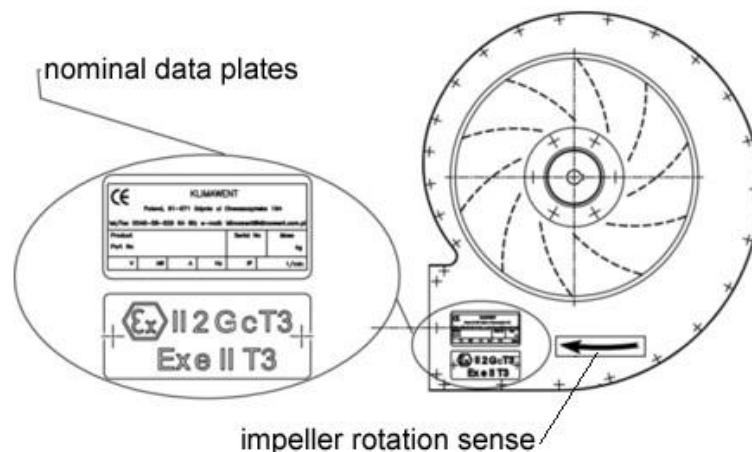


Fig. No. 4 – Placement of the nominal data plates and the arrow of the correct impeller rotation sense

## 7. OPERATIONAL USE

SMOG filter/Ex absorbers provide full recirculation of the extracted air. Cassettes with granulated activated carbon efficiently absorb the majority of the noxious chemical compounds, such as styrene, toluene, alcohols, phenol and many others. Dust contamination is captured by the high-efficiency HEPA filter. Absorptivity of activated carbon for various vapours and gases is specified in Table No.8.

### Incorrect use:

- forwarding of media exceeding the admissible temperature +60°C
- forwarding of aggressive media
- forwarding of media of high dustiness and content of contamination particles
- operational use in a place, where the ambient temperature is higher than +40°C

### Consequences of improper use:

- damage of bearings
- damage caused due to corrosion
- loss of balance of the rotary elements
- vibrations
- deformations
- damages caused by friction

### Hazards that could occur due to incorrect use:

- breakage of the impeller
- crack of the shaft
- material fatigue crack
- fire and explosion caused by sparks

In case when symptoms of device malfunction are spotted (increased noise, vibrations, lowered flow efficiency) necessarily disconnect the fan from the power supply and undertake revision to find the reason of malfunction / failure.

**WARNING** Every repair or replacement of the spare part (according to the ATEX 2014/34/EC Directive) should be followed by a notice on an additional place or information applied in the accompanying documentation (a log of repairs, etc.). This is the duty of User!

### Replaceable parts

Table No.3 – High-efficiency HEPA filter

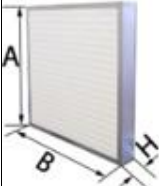
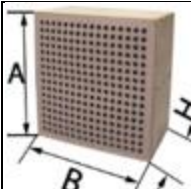
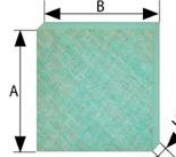
	Type	Weight [kg]	Dimensions AxBxH [mm]	Class	Quantity of filters [pieces]	Filtration material
	FA-292/KL	11	390x535x292	H13	4	hydrophobic glass paper 99,95%

Table No.4 – Cassette with activated carbon

	Type	Weight [kg]	Dimensions AxBxH [mm]	Quantity of filters [pieces]	Caution
	WA-ECO-20	24*	534x534x155	6	cassette of cardboard and plywood

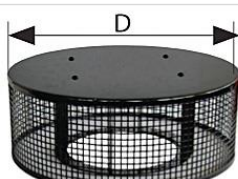
\* Weight of the activated carbon 20 kg

**Table No.5 – PAINT-STOP nonwoven (spunbond)**

	Type	Weight [kg]	Dimensions AxBxH [mm]	Class	Quantity of filters [pieces]	Caution
	PS-SF	0,5	800x535x50	G3	2	glass fibre nonwoven of progressive growing density

**Table No.6 – Additional equipment**

**Suction cover**

	Type	Weight [kg]	Diameter D [mm]
	K-SF	0,7	400

Maintenance of the device consists in several operations:

- periodical replacement of the HEPA filter – when the flow efficiency decreases,
- periodical replacement of the cassettes with activated carbon – after organoleptic evaluation by User (depending on the intensity of pollution and its sort),
- periodical replacement of the PAINT-STOP filter (when device efficiency drop is noticed).

**CAUTION:**

The worn out cassettes with activated carbon should be submitted to utilisation, according to the regulations, being valid in the whole country.

**8. TROUBLESHOOTING GUIDE**

**Table No.7 – Typical malfunctions, reasons and corrective measures**

	Problem	Possible reason	Corrective action
1.	the flow capacity of the fan decreases	filtration nonwoven (spunbond) PAINT-STOP is excessively polluted	replace the nonwoven (spunbond) PAINT-STOP
		the high-efficiency filter is excessively polluted	replace the high-efficiency filter
2.	unpleasant smell is perceptible near the device	the carbon bed is saturated	replace the activated carbon bed in the filtration cassette
3.	sudden vibrations of the device are occurring	failure of the fan impeller	replace the impeller for new

**CAUTION:** Upon replacement of the filters, follow the rules of Occupational Health and Safety included in the corresponding regulations regarding the work with noxious agents.

**9. MAINTENANCE**

Within the scope of technical revisions, every 12 months check the technical state of the fan, strictly according to the specific rules of operational use of the electrical driving devices. During the maintenance examine the mechanical and electrical connections. Additionally, examine the conductivity of the cables leading the electrostatic charges away (dissipation). **Revisions ought to be carried out exclusively after the appliance is disconnected from the power supply system.**

**10. OCCUPATIONAL HEALTH AND SAFETY**

**SMOG Filter-2400/Ex** can exclusively be operated after getting acquainted with the contents of the present Use and Maintenance Manual. **Circuits of the plugs 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.

**CAUTION:** Any repair ought to be performed after the fan is switched off and disconnected from the power supply system. In overall, follow strictly the general rules of Occupational Health and Safety.

**11. TRANSPORT AND STORAGE**

**SMOG Filter-2400/Ex** is transported on a pallet, in foil and protected against atmospheric factors. During the transport the appliance must be kept in vertical position and protected from displacement / slide and from being overturned. The filtering unit ought to be stored in dry rooms and 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 malfunctions caused by User,
- device failures caused during the use which is in contradiction with the purpose of application and with the present Use and Maintenance Manual,
- malfunctions resulting from the improper transport, storage or incorrect maintenance.

Infringement of the Section 3 “Reservations of Producer” of the present Use and Maintenance Manual and, especially modifications undertaken by User on one’s own or use in contradiction with the purpose of application – shall result in the loss of warranty validity.

## 13. ABSORPTIVITY OF ACTIVATED CARBON FOR VARIOUS VAPOURS AND GASES

Table No.8

Highly absorbed gases	Medium absorbed gases	Poorly absorbed gases
ethyl acrylate – C <sub>5</sub> H <sub>8</sub> O <sub>2</sub> methyl acrylate – C <sub>4</sub> H <sub>6</sub> O <sub>2</sub> acrylonitrile – C <sub>3</sub> H <sub>3.5</sub> N valeric aldehyde – C <sub>5</sub> H <sub>10</sub> O amyl alcohol (pentanol) – C <sub>5</sub> H <sub>12</sub> O butyl alcohol – C <sub>4</sub> H <sub>10</sub> O propyl alcohol – C <sub>3</sub> H <sub>7</sub> OH aniline (aminbenzene) – C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub> heavy petrol (naphtha) of petroleum heavy petrol (naphtha) of coal tar bromine – Br <sub>2</sub> Butoxyethanol - - butyl cellosolve – C <sub>6</sub> H <sub>14</sub> O <sub>2</sub> - cellosolve – C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> - cellosolve acetate – C <sub>6</sub> H <sub>10</sub> O <sub>2</sub> butyl chloride – C <sub>4</sub> H <sub>9</sub> Cl propyl chloride – C <sub>3</sub> H <sub>7</sub> Cl chlorobenzene – C <sub>6</sub> H <sub>5</sub> Cl chloroethanol – C <sub>2</sub> H <sub>5</sub> ClO chloroform – CHCl <sub>3</sub> chloronitropropane – C <sub>3</sub> H <sub>6</sub> ClNO <sub>2</sub> chloropicrin (nitro-chloroform) – CCl <sub>3</sub> NO <sub>2</sub> chloroprene – C <sub>4</sub> H <sub>5</sub> Cl cyclo-hexanol – C <sub>6</sub> H <sub>12</sub> O cyclo-xenon – C <sub>6</sub> H <sub>10</sub> O acetylene tetrachloride – C <sub>2</sub> H <sub>2</sub> Cl <sub>4</sub> ethylene tetrachloride – C <sub>2</sub> Cl <sub>4</sub> czterochlore węgla – CCl <sub>4</sub> decane – C <sub>10</sub> H <sub>22</sub> dioxan – C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> di-bromomethane – CH <sub>2</sub> Br <sub>2</sub>	acetone - C <sub>3</sub> H <sub>6</sub> O acetylene – C <sub>2</sub> H <sub>2</sub> acrolein - C <sub>3</sub> H <sub>4</sub> O butyric aldehyde – C <sub>4</sub> H <sub>8</sub> O ethyl alcohol – C <sub>2</sub> H <sub>5</sub> OH methyl alcohol – CH <sub>3</sub> OH benzene – C <sub>6</sub> H <sub>6</sub> bromoethane – CH <sub>3</sub> Br bromomethane – CH <sub>3</sub> Br butadiene – C <sub>4</sub> H <sub>6</sub> chlorine – Cl <sub>2</sub> ethyl chloride – C <sub>4</sub> H <sub>5</sub> Cl vinyl chloride – C <sub>2</sub> H <sub>3</sub> Cl cyclo-hexen – C <sub>6</sub> H <sub>10</sub> dichloro-difluoromethane – CCl <sub>2</sub> F <sub>2</sub> di-ethylamine – C <sub>4</sub> H <sub>11</sub> N carbon disulphide – CS <sub>2</sub> ethyl ether – C <sub>4</sub> H <sub>10</sub> O ethylamine – C <sub>2</sub> H <sub>7</sub> N fluoro-trichloro-methane – CCl <sub>3</sub> F phosgene – COCl <sub>2</sub> anaesthetic gas hexane – C <sub>6</sub> H <sub>14</sub> hexylene – C <sub>6</sub> H <sub>12</sub> hexyne – C <sub>6</sub> H <sub>10</sub> isoprene – C <sub>5</sub> H <sub>8</sub> hydrogen iodide – HI xylene – C <sub>8</sub> H <sub>10</sub> formic acid – HCOOH methyl mercaptan – CH <sub>3</sub> SH ethyl formate – C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> nitromethane – CH <sub>3</sub> NO <sub>2</sub> methyl acetate – C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> pentane – C <sub>5</sub> H <sub>12</sub> pentylene – C <sub>5</sub> H <sub>8</sub> pentyne – C <sub>5</sub> H <sub>8</sub> propanol – C <sub>3</sub> H <sub>6</sub> O	acetic aldehyde – C <sub>2</sub> H <sub>4</sub> O ammonia – NH <sub>3</sub> hydrogen bromide – HBr butane – C <sub>4</sub> H <sub>10</sub> butanone – C <sub>4</sub> H <sub>8</sub> O butylene – C <sub>4</sub> H <sub>8</sub> butyne – C <sub>4</sub> H <sub>6</sub> chloromethane – CH <sub>3</sub> Cl hydrogen chloride – HCl hydrogen cyanide – HCN nitrogen dioxide – NO <sub>2</sub> sulphur dioxide – SO <sub>2</sub> hydrogen fluoride – HF formaldehyde – CH <sub>2</sub> O propane – C <sub>3</sub> H <sub>8</sub> propylene – C <sub>3</sub> H <sub>6</sub> propyne – C <sub>3</sub> H <sub>4</sub> hydrogen selenide – H <sub>2</sub> Se hydrogen sulphide – H <sub>2</sub> S sulphur trioxide – SO <sub>3</sub>



Highly absorbed gases	Medium absorbed gases	Poorly absorbed gases
<p>ethylene di-chloride – C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>                      di-chlorobenzene – C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>                      di-chloroethane – C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>                      di-chloroethylene – C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>                      di-chloronitro-ethane –CH<sub>3</sub>CCl<sub>2</sub>No<sub>2</sub>                      di-chloropropane – C<sub>3</sub>H<sub>6</sub>Cl<sub>2</sub>                      di-methylaniline – C<sub>8</sub>H<sub>11</sub>N                      amyl ether – C<sub>10</sub>H<sub>22</sub>O                      di-butyl ether – C<sub>8</sub>H<sub>18</sub>O                      di-chloroethyl ether – C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O                      di-isopropyl ether – C<sub>6</sub>H<sub>14</sub>O                      propyl ether – C<sub>6</sub>H<sub>14</sub>O                      ethylbenzene – C<sub>8</sub>H<sub>10</sub>                      phenol – C<sub>6</sub>H<sub>6</sub>O                      heptane – C<sub>7</sub>H<sub>16</sub>                      heptylene – C<sub>7</sub>H<sub>14</sub>                      indole – C<sub>8</sub>H<sub>7</sub>N                      isophorone – C<sub>9</sub>H<sub>14</sub>O                      iodine – I                      iodoform – CHI<sub>3</sub>                      camphor – C<sub>10</sub>H<sub>16</sub>O                      di-ethyl ketone – C<sub>5</sub>H<sub>10</sub>O                      di-propyl ketone – C<sub>7</sub>H<sub>14</sub>O                      methyl-butyl ketone – C<sub>6</sub>H<sub>12</sub>O                      methyl-iso-butyl ketone – C<sub>6</sub>H<sub>12</sub>O                      methyl-ethyl ketone – C<sub>4</sub>H<sub>8</sub>O                      creosol – C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>                      cresol – C<sub>7</sub>H<sub>8</sub>O                      croton-aldehyde – C<sub>4</sub>H<sub>6</sub>O                      ethyl silicate – C<sub>8</sub>H<sub>20</sub>O<sub>4</sub>Si                      acrylic acid – C<sub>3</sub>H<sub>4</sub>O<sub>2</sub>                      caprylic acid – C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>                      butyric acid – C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>                      lactic acid – C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>                      uric acid – C<sub>5</sub>H<sub>4</sub>N<sub>4</sub>O<sub>3</sub>                      acetic acid – CH<sub>3</sub>COOH                      propanoic acid – C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>                      valeric acid – C<sub>5</sub>H<sub>10</sub>O<sub>2</sub></p>	<p>ethylene monoxide – C<sub>2</sub>H<sub>4</sub>O                      carbon monoxide - CO</p>	
<p>mentol – C<sub>10</sub>H<sub>20</sub>O                      merkaptan etylu – C<sub>2</sub>H<sub>6</sub>S                      merkaptan propylowy – C<sub>3</sub>H<sub>8</sub>S                      methyl cellosolve – C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>                      methyl cellosolve acetate – C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>                      methyl-cyclo-hexane – C<sub>7</sub>H<sub>14</sub>                      methyl-cyclo-hexanol – C<sub>7</sub>H<sub>14</sub>O                      urea, (carbamide) – CH<sub>4</sub>N<sub>2</sub>O                      kerosene (kerosine)                      nicotine – C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>                      nitrobenzene – C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>                      nitroethane – C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>                      nitroglycerin –C<sub>3</sub>H<sub>5</sub>N<sub>3</sub>O<sub>9</sub>                      nitropropane – C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>                      nitrotoluene – C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>                      nonane – C<sub>9</sub>H<sub>20</sub>                      amyl acetate – C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>                      butyl acetate – C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>                      ethyl acetate – C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>                      iso-propyl acetate – C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>                      propyl acetate – C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>                      octalene – C<sub>12</sub>H<sub>8</sub>Cl<sub>6</sub></p>		

Highly absorbed gases	Medium absorbed gases	Poorly absorbed gases
octane – C <sub>8</sub> H <sub>18</sub> decay (decomposition) vapours – C <sub>4</sub> H <sub>12</sub> N <sub>2</sub> ozone – O <sub>3</sub> para-di-chlorbenzene – C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> penthanone – C <sub>5</sub> H <sub>10</sub> O perchloroethylene – C <sub>2</sub> Cl <sub>4</sub> pyridine – C <sub>5</sub> H <sub>5</sub> N dimethyle sulphate – C <sub>2</sub> H <sub>6</sub> O <sub>4</sub> S skatole – C <sub>9</sub> H <sub>9</sub> N styrene – C <sub>8</sub> H <sub>8</sub> turpentine – C <sub>10</sub> H <sub>16</sub> mesityl oxide – C <sub>6</sub> H <sub>10</sub> O toluene – C <sub>7</sub> H <sub>8</sub> toluidine – C <sub>7</sub> H <sub>9</sub> N tri-chloroethylene – C <sub>2</sub> HCl <sub>3</sub>		

## 14. 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:* **SMOG Filter-2400/Ex**

*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:

**2014/34/EC ATEX 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 equipment and protective systems intended for use in potentially explosive atmospheres / Official Journal EC L96 of the 29.03.2014 /

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

**EN 1127-1:2011** Explosive atmospheres – Explosion prevention and protection. Basic terminology and methodology

**EN ISO 80079-36:2016-07** Explosive atmospheres – Part 36: Non-electrical appliances in areas of explosion risk. Methodology and requirements

**EN ISO 80079-37:2016-07** Explosive atmospheres – Part 37: Non-electrical appliances in areas of explosion risk; Sort of non-electrical type of protection: constructional safety “c”; control of ignition sources “b”; liquid immersion “k”

**HD 60364-6:2016/A11:2017-11** Low-voltage electrical installations – Part 6: Verification

**EN IEC 60079-0:2018-09** Electrical appliances in areas of gas explosion hazard – Part 0: General requirements

*place, date*

*signature of the  
authorised person*

*name, surname,  
function of the signatory*

**NOTES:**