

# Use and Maintenance Manual



## Oil Mist Separator **MISTOL-1000** **MISTOL-2000**

## Contents:

1.	<b>Introductory Remarks</b> .....	3
2.	<b>Application</b> .....	3
3.	<b>Reservations of Producer</b> .....	4
4.	<b>Technical Data</b> .....	4
5.	<b>Structure and Function</b> .....	5
6.	<b>Assembly and Start-up</b> .....	7
7.	<b>Operational Use</b> .....	9
8.	<b>Troubleshooting Guide</b> .....	9
9.	<b>Maintenance</b> .....	9
10.	<b>Occupational Health and Safety</b> .....	9
11.	<b>Transport and Storage</b> .....	10
12.	<b>Terms of warranty</b> .....	10

## 1. Introductory Remarks

The purpose of the present User's Manual is to supply User with directions within the range of application, installation, start-up and the operational use of the **MISTOL Oil Mist Separator**.

**Installing, start up and operational use are exclusively admissible after getting acquainted with the contents of the User's 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 **MISTOL Oil Mist Separator** 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 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/*

The appliance meets the requirements included in:

- **2009/125/EC (ErP) Directive** of the European Parliament and of the Council of October 21<sup>th</sup>, 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 30<sup>th</sup>, 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:

- **PN-EN ISO 12100-1:2012** – “Safety of machinery. Basic concepts, general principles for design. Risk assessment and risk reduction”.
- **PN-EN 60204-1:2010** – “Safety of machinery. – Electrical equipment of machines. Part 1: General requirements”.
- **PN-EN ISO 13857:2010** – “Safety of machinery. Safe distances to prevent hazard zones being reached by upper and lower limbs”.
- **PN-EN 60529:2003** – “Degrees of protection provided by enclosures (IP Code)”
- **PN-EN 61439:2011** – “Low-voltage switchgear and controlgear assemblies – Part 1: General resolutions”.

## 2. Application

**MISTOL Oil Mist Separator** are designed for cleaning the air of oil mist, arising during various production processes.

Particularly, they are applied in extraction of oil particles from vapours of cooling-lubricant liquids used in machining (i.e. processing on a lathe, milling, drilling).

They are manufactured in three sizes varying in volume flow: **MISTOL-1000**, **MISTOL-2000** and **MISTOL-5000**.

### 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. Installing of any additional elements not belonging to the normal device structure (or accessory set) is not acceptable.
- C. Any structural changes or modification of the Oil Mist Separator, carried out by User on one's own are not permitted.
- D. Protect the housing from mechanical damage.
- E. Prior to installing, check the load-carrying capacity of the building structure where the appliance shall be placed.
- F. The device is inappropriate for conveying the air containing mixture of flammable substances in a form of gases, vapours and mists, that (in contact the air) create explosive mixtures.
- G. Do not use the Oil Mist Separator for cleaning the air polluted with aggressive substances which could exert destructive effect on the device.

### 4. Technical Data

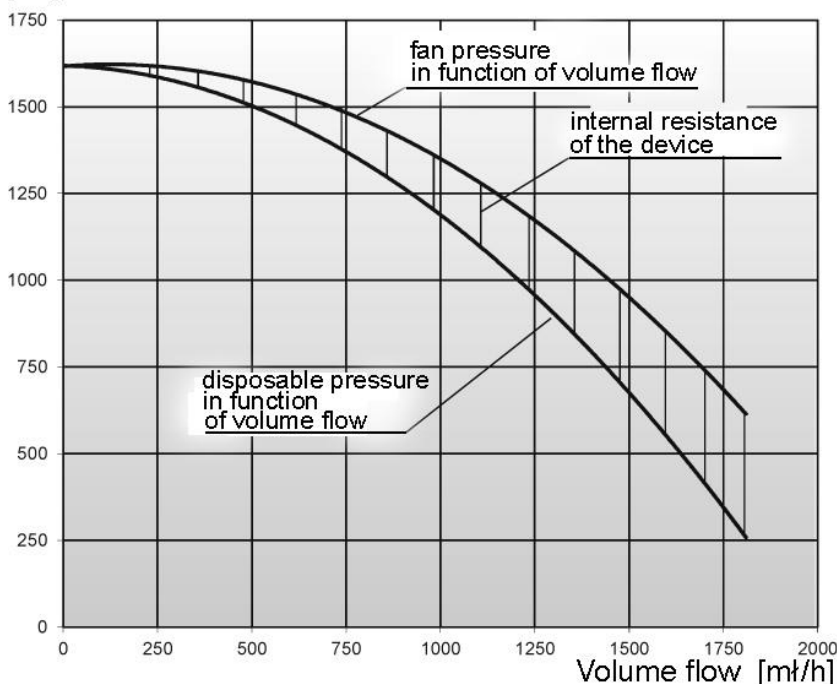
Table No.1

Type	Maximum volume flow [m <sup>3</sup> /h]	Maximum vacuum [Pa]	Supply voltage [V/Hz]	Motor rate [kW]	Acoustic pressure level [dB(A)]		Weight [kg]
					1m	5m	
<b>MISTOL-1000</b>	1750	1700	230/50	<b>0,75</b>	69	64,5	90
<b>MISTOL-2000</b>	3100	2000	230/50	<b>1,5</b>	73,5	68	130

**Caution:** Ingress protection IP44

#### MISTOL-1000

Static pressure  
[Pa]



**Fig. No.1 – Flow chart of the Oil Mist Separator MISTOL-1000**

## MISTOL-2000

Static pressure  
[Pa]

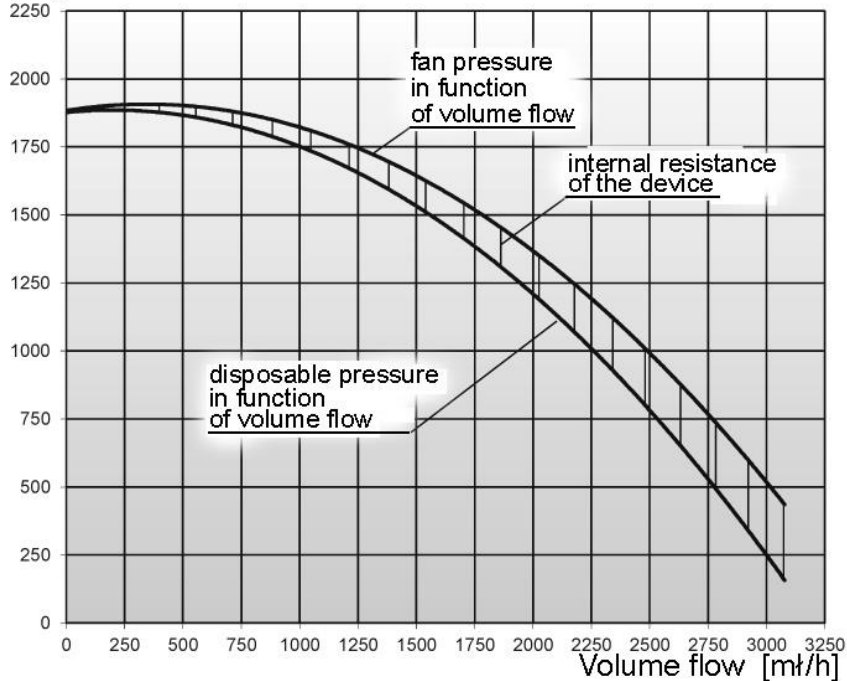


Fig. No.2 – Flow chart of the Oil Mist Separator MISTOL-2000

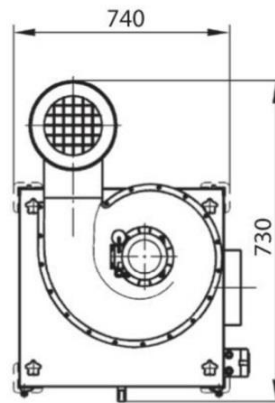
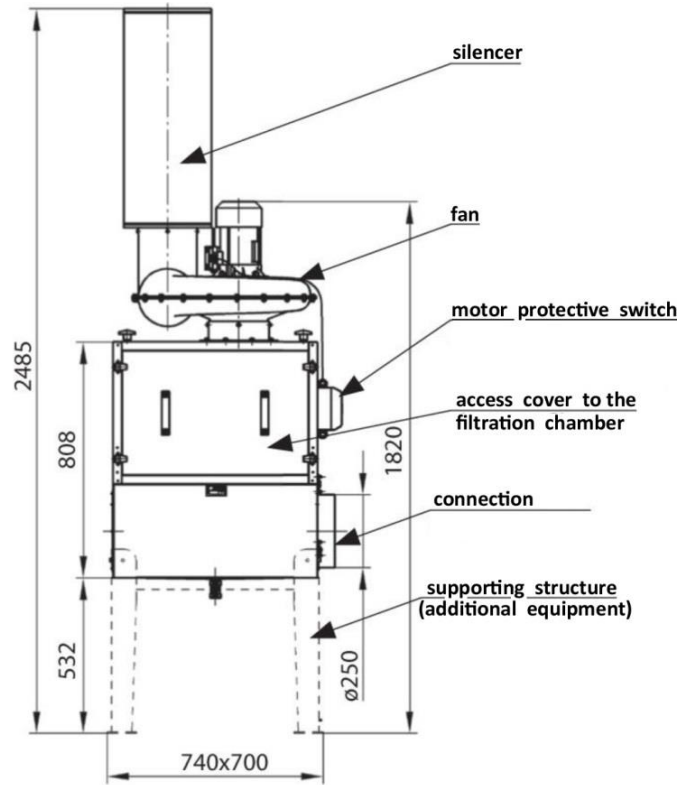
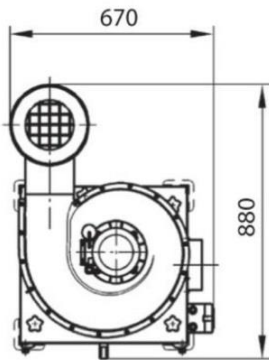
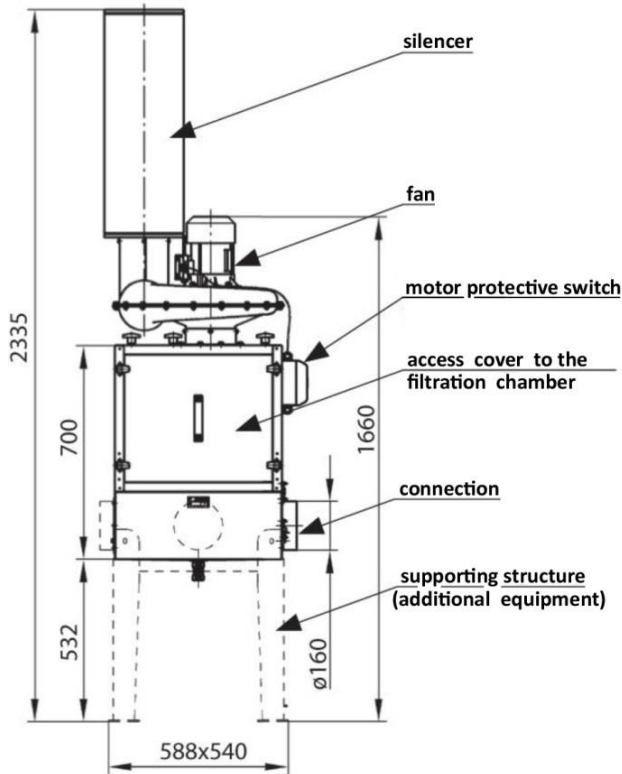
## 5. Structure and Function

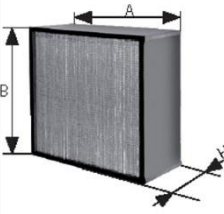
MISTOL consists of subsequent elements:

- housing – steel sheet,
- radial fan – housing of cast aluminium,
- filtration chamber – equipped with a pre-filter and EHPA H13 high-efficiency filter,
- sedimentation chamber – equipped with a connection for the oil laden air, silencer – at the fan outlet,
- motor protective switch – with short-circuit- and overload protection,
- supporting structure – (additional equipment),
- draining valve.

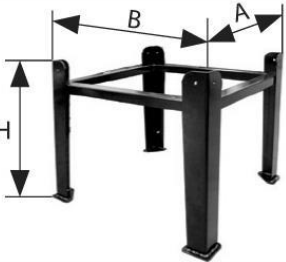
At the beginning, the intake air is primarily cleaned on the net filter, subsequently it passes through the HEPA high-efficiency filter. The filtration medium of the HEPA filter is hygroscopic cardboard of glass-fibre.

The separated oil is draining into the sedimentation chamber – from where it is easy to remove.

**MISTOL-1000**
**MISTOL-2000**

**Fig. No.3 – Structure and dimensions – MISTOL**
**Table No.2 – Replaceable filters**

	Type	Weight [kg]	Dimensions A x B x H	Q-ty	Class	Filtration medium	Application
			[mm]	[pcs]			
	FW-MISTOL-1000	10,5	457 x 457 x 292	1	H13	non-hygroscopic cardboard of fibre-glass. Efficiency 99,5%	MISTOL-1000
	FW-MISTOL-2000	18,8	610 x 610 x 292	1	H13		MISTOL-2000

**Table No.3 – Additional equipment**

	Type	Dimensions A x B x H [mm]	Weight [kg]	Application
	KW-MISTOL-1000	511 x 558 x 630	18	MISTOL-1000
	KW-MISTOL-2000	704 x 662 x 625	20	MISTOL-2000

## 6. Assembly and Start-up

The separator is delivered in a completely assembled state, ready for use. The appliance is designed for operation in closed room. It is important to put the device stably on even, levelled floor surface.

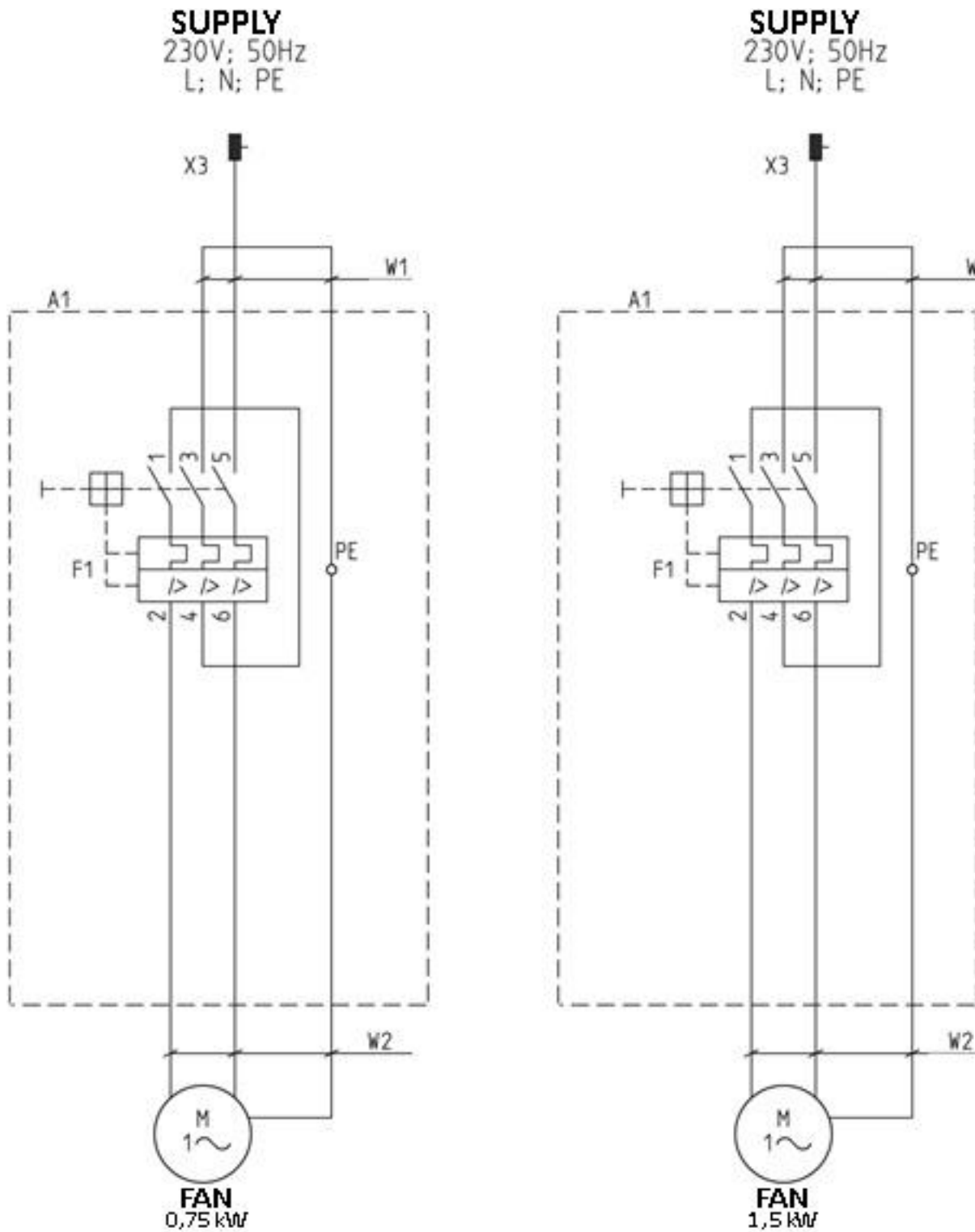
MISTOL-1000 and MISTOL-2000 separators ought to be placed on a supporting frame, being additional equipment of the device.

User may construct a supporting structure on one's own for installing the separator in another place – in this case there is no need to buy the supporting structure.

**Prior to operation, User should connect the device to the ventilation discharge ductwork and to the power supply system as well as put a container underneath the oil drainage valve.**

As standard, the appliance is equipped with equipped with the air inlet, in three locations. User can choose in which place to fasten the air inlet, as convenient: at the back, or on side walls (of the device).

It is possible to change the outlet direction of the fan. Simply, turn the fan on the suction flange or turn the silencer on the outlet connection of the fan.



**CAUTION:**

1. Setting of the overload protection  $I_t = 1,1 \times I_n$
2. Insulation class I
3. Ingress protection IP44

**Fig. No.4 – Connection diagram – Oil Mist Separators MISTOL-1000, MISTOL-2000**



## 7. Operational Use

Separators during operation do not need continuous, everyday technical supervision, it is sufficient to switch it ON / OFF through the motor protective switch **Q1** (see Fig. No. 4). The switch protects the device from damage of overload and short-circuit.

Moreover, the HEPA high-efficiency filter ought to be replaced when the flow efficiency significantly decreases. In general, they can be used several years without replacement.

Daily, it is important to empty the sedimentation chamber of the deposited oil. First, open the draining valve.

**The appliance cannot work day and night, as there is not enough time for the excessive oil to drip down of the filter.**

## 8. Troubleshooting Guide

Table No.4

	Problem	Possible reason	Corrective action
1.	The intake air volume decreases gradually.	The pre-filter and the high-efficiency filter are polluted.	Clean the pre-filter and replace the high-efficiency filter.
2.	Sudden vibrations of the device are occur.	Failure of the impeller.	Replace the impeller with the motor for new.
3.	The fan do not switch on.	The Q1 protection is switched off.	Check the reasons, why the protection got activated, switch the Q1 protection on.

## 9. Maintenance

The construction does not require continuous maintenance, except revisions of the mechanical and electrical connections, **especially the grounding and the protective cable (every several years)**.

After one year of operational use, the fan ought to be disassembled, thoroughly cleaned and examined. The eventual failures ought to be fixed.

## 10. Occupational Health and Safety

The Oil Mist Separator can exclusively be operated after getting acquainted with the contents of the present User's Manual. The appliance shall not cause any risk, provided that it is correctly installed – according to the present Use and Maintenance Manual.

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

**WARNING** Any activity associated with repair/technical revision has to be executed exclusively after the device is switched off and disconnected from the power supply system. Additionally, activities connected with the electrical wiring must be executed by a person with adequate qualifications.

## 11. Transport and Storage

The device ought to be transported on a pallet in foil. During the transport, it is important to protect the device from damages, uncontrolled slide (displacement), indentations and from atmospheric factors.

Store the Oil Mist Separator in a dry room and 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***,
- damages being effected during improper transport, storage or incorrect maintenance.

**Infringement of the section 3 “Reservations of Producer” of the Use and Maintenance Manual and especially modifications undertaken by User on one’s own shall cause the loss of warranty validity.**

## DECLARATION OF CONFORMITY No. ....

Manufacturer (eventually the authorized representative / importer):  
 name: **KLIMAWENT S.A.**  
 address: **81-571 Gdynia,**

A person authorized for issuing the technical documentation:  
 name and address:

hereby declares that the appliance:  
 name: **Oil Mist Separator**

type/model: **MISTOL-1000; MISTOL-2000**  
 serial number: ..... year of production: .....

meets the requirements of the subsequent European Directives:

- **2006/42/EC Directive** of the European Parliament and Council of May 17<sup>th</sup>, 2006 – for machines – amending the 95/16/EC directive (recast); *Journal of Laws EC L 157 of 09.06.2006, page 24*
- **2014/35/EC Directive** of the European Parliament and Council of February 26<sup>th</sup>, 2014 on harmonizing 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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- **327/2011 (EU) Regulation** of March 30<sup>th</sup>, 2011 on implementing the **2009/125/EC Directive** of the European Parliament and Council 2009/125/EC with reference to the requirements on ecodesign for fans driven by electromotors with an electric input power between 125 W to 500 kW *Journal of Laws L 90 of 06.04.2011*

meets the requirements of following harmonized standards:

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- **EN ISO 13857:2010** Safety of machinery – Safe distances to prevent hazard zones being reached by upper and lower limbs.
- **EN 60529:2003** Degrees of protection provided by enclosures (IP Code).
- **EN 61439:2011** Switchgear and controlgear assemblies – Part 1: General resolutions.

.....  
 place, date

.....  
 signature of authorised person

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

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District Court Gdańsk-Północ  
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 13.779.200 zł. paid in total

NIP: 958 159 21 35  
 REGON: 220631262  
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