



**dalap**  
Lüftungssysteme

## SAFETY INSTRUCTION

RAB EX-ATEX  
EPF EX-ATEX  
EPP EX-ATEX

### 1. INTRODUCTION

These Safety Instructions refer to the installation, use and maintenance of the fan series RAB EX-ATEX, EPF EX-ATEX and EPP EX-ATEX.

### 2. GENERAL INFORMATION

Dalap products RAB EX-ATEX series are axial fans for direct air or no-dust smoke extraction or into short ducts. Dalap products EPF EX-ATEX series and EPP EX-ATEX Series are centrifugal fans for extract/intake air or no-dust smoke **into ducts protected at least IP20 according to EN 60529 against the ingress of foreign particles. (X)**

This product is designed to conform with applicable CEE rules. It allows air exchange in rooms and environments with atmospheres where the risk of explosion is present due to gasses, vapors or mist. Don't use the product for anything other than here specified. Always keep these Safety Instructions available and follow the provisions to ensure the reliability of the product.

Dalap fans EX-ATEX have been designed and manufactured according to ATEX Directive 2014/34/UE, Group II, Category 2G (Gas), with protection mode II 2G c IIB (+H2) T4 (MAX 135°C).

The Reference Standards are EN 13463-1:2009 "Non-electrical equipment for use in potentially explosive atmospheres - Part 1: Basic method and requirements", EN 13463-5:2011 "Non-electrical equipment intended for use in potentially explosive atmospheres - Part 5: Protection by constructional safety 'c'" and EN14986:2007 "Design of fans working in potentially explosive atmospheres".

The classification of explosive atmospheres, where risks associated with the presence of flammable gasses, vapour or mist is the responsibility of the end user, who must consider his particular application, work activity and surrounding environmental conditions.

**Fan must work in a range of ambient atmospheres having temperatures from -20°C to +40°C, absolute pressures from 0,8 bar to 1,1 bar and maximum volume fraction of 21% oxygen content. The max inlet temperature for centrifugal fan is 60°C.**

Fans meet vibration level BV-3 according standard UNI EN 14986:2007.

The mechanical protection of the motor, for the Standard EN 60034-5, is:

- IP 55 for the frame
- IP 20 for the cover of the impeller (ventilated motors)

### 3. INSTALLATION

Correct installation is essential for health and safety.

during operation of the appliance. Therefore the regulations indicated in these instructions must be observed.

#### 3.1 General instructions

Follow carefully these instructions:

- 1) After unpacking, make sure that the appliance is undamaged. The elements of the packaging (plastic bags, clips, etc...) must not be left in places where children can reach them, as these are potentially a source of danger.
- 2) Check that your electrical voltage and frequency correspond to those marked on the fan rating label.
- 3) The appliance must only be used for the purpose for which it was made. The manufacturer cannot be held responsible for any damage caused by misuse.
- 4) Fan units are NOT to be exposed to DUST and corrosive atmosphere.
- 5) Make sure the product is completely assembled before it is operated. Verify that the impeller turns in the direction as indicated by the arrow present on the product.
- 6) Installation and maintenance must be carried out by highly qualified personnel. Incorrect installation may cause damage or injury to people, animals or property for which the manufacturer cannot be considered responsible.
- 7) The electrical installation shall be in accordance to EN 60079-14 Standard. The wiring diagram is reported on the fan. For the connection to the electric supply by through the cable entry supplied with the motor follow instruction supplied by manufacturer of the motor.
- 8) For RAB EX-ATEX series if the fan is designed to be installed and operated without inlet or outlet ducts, additional distance guard must be fitted. (X)

#### 3.2 Conformity of the Dalap fans to the installation place.

In order to use the fans in potentially explosive atmospheres, the fan must be suitable for the zone European Directives 2014/34/UE dated march, 29,2014 concerning the appliances and 1999/92/CE concerning the systems.

It's strictly forbidden to modify the product, that it should be used as it has been supplied by Dalap. Ensure that during installation the product get not damaged or deformed in such a way that could invalidate the conformity to the approval Standards.

**Due to the assembly process, complete gas tightness cannot be guaranteed. If a flammable substance is to be conveyed, especially in closed and small environment, the fan must be placed in a position where possible leakage can be dissolved.**

Our Technical Department can support users to choose the most suitable solution as each case requires.

The installer must take measures to ensure the acoustic pressure level of the appliance in the environment is contained in accordance with the limits indicated by the local legislation dealing with Machinery Noise.

Table 1 reports acoustic pressure level, dB (A), measured at 2 and 3 meters from the fan.

#### 3.3 Environments with flammable gas, vapour or mist

Criteria for classification of the potentially explosive



atmosphere are reported in the Standard EN 60079-10.  
 Technical requirements for electrical equipment in the  
 classified areas are contained in EN 60079-14.

type of equipment

Group I (mines), group II (surface plants)

Zone classification 0,1,2 (corresponding to the features of  
 the appliances of the category 1,2,3)

Group: IIA, IIB and IIC.

temperature classes

T1,T2,T3,T4,T5,T6 (identify the max surface temperature  
 which can act as an ignition source.

Data reported in the product Label, besides the nominal  
 functional data, include: >

the necessary information for a correct installation and  
 start up.

the reference to the Notified Body in charge of certificate

#### 1.4 Safety Data Label



TYPE fan  
 Mod **SSS/VVV MMM EX-ATEX P-poles CCW**  
 Cod. AAAAAAA SERIAL NUMBER 0000000-00

S1 3~ 50Hz Y 400V 2.3A / Δ 230V 4.0A  
 1.4KW 1400RPM 26Kg 2900m³/h 490Pa



The meanings of the symbols reported in the product  
 label are the following:

II 2G	Electrical equipment intended for use in places with an explosive gas atmosphere other than mines susceptible to firedamp
c	Non-electrical equipment intended for use in potentially explosive atmospheres – Protection by constructional safety 'c'
IIB (+H <sub>2</sub> )	Gas Group IIB. Electrical equipment suitable for IIB-gases marking is followed by chemical formula or gas name (+H <sub>2</sub> or hydrogen).
TN	Temperature class depending on the maximum surface temperature as for the Group IIG refers to T <sub>4</sub> =135°C or superior class (T <sub>5</sub> =100°C, T <sub>6</sub> =85°C).
	Marking to 2014/34/UE Directive and to related technical Standards.
	Conformity Marking to the applicable European Directives
CESI ZZ ATEX ZZZ	CESI: name of Notified Body that released the type examination certificate ZZ ATEX ZZZ: number of the type examination certificate
SSS	Product Series
VVV	Voltage supply(230V there is no marking)
MMM	Product Model
P	Number of motor poles
B	Supply: M-Single-phase; T-Three-phase
EX-ATEX	Trade name of the product
CCW	Casing Orientation EPF/EPP series (CW "clockwise", CCW "counter clockwise")
SERIAL NUMBER	With -00 are indicated the last two digits of the year of production

#### 4. VERIFICATION AND MAINTENANCE

The maintenance and cleaning of the product which requires disassembly of the appliance must be carried out by qualified personnel.

Before working on the product, always disconnect the electrical supply. Dismount the product and verify at least once a year that there are no deformations or breakages. Clean the air passages and the impeller blades.

Check that screws and nuts of the product are correctly tightened. Pay attention to electrical part not to get wet. Verification and maintenance of the appliance must be carried out according to the EN 60079-17 Standard.

Replacement of some parts of the motor that can wear such as shaft sealing, ball bearings or terminals, must be replaced with original parts supplied by the manufacturer to ensure that type of protection grade is maintained.

Surfaces of the joint parts of the motor (cover/box, box/frame, frame/shields, shaft joints ) MUST NOT BE altered OR PAINTED. These surfaces must be kept clean and a layer of silicon grease must be maintained to avoid corrosion or water entrance.

#### 5. REPAIRING

The repairs of explosion equipment must be carried out exclusively by the manufacturer.

TABLE 1

Type	dB(A)	
	2m	3m
RAB EX ATEX 250 4-poles	76	72
RAB EX ATEX 300 4-poles	83	79
RAB EX ATEX 350 4-poles	76	72
RAB EX ATEX 400 4-poles	83	79
RAB EX ATEX 500 4-poles	64	61
RAB EX ATEX/400V 250 4-poles	67	64
RAB EX ATEX/400V 300 4-poles	64	61
RAB EX ATEX/400V 350 4-poles	67	64
RAB EX ATEX/400V 400 4-poles	70	67
RAB EX ATEX/400V 500 4-poles	73	69
EPF 230 EX ATEX 2-poles	76	72
EPF/400V 230 EX ATEX 2-poles	80	76
EPF 240 EX ATEX 2-poles	84	80
EPF/400V 240 EX ATEX 2-poles	88	84
EPP 310 EX ATEX 4-poles	55	52
EPP/400V 310 EX ATEX 4-poles	59	56
EPP 320 EX ATEX 4-poles	63	60
EPP/400V 320 EX ATEX 4-poles	66	63
EPP/400V 330 EX ATEX 4-poles	72	68
EPP/400V 340 EX ATEX 4-poles	55	52
EPP/400V 350 EX ATEX 4-poles	59	56
EPP/400V 360 EX ATEX 4-poles	63	60
EPP/400V 370 EX ATEX 4-poles	66	63
EPP/400V 380 EX ATEX 4-poles	72	68

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