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UNI EN ISO 9001

## - SAFETY MANUAL -

### DAMPERS

This document was written referring to the Directive 94/9/CE concerning equipment and protective systems intended for use in potentially explosive atmospheres.

The under discussion dampers have the **ATEX II2 GD** marking, so they are suitable for installations in areas classified 1 - 2 on the basis of gas presence (EN 60079-10) and in areas classified 21 - 22 on the basis of powders presence (EN 61241-10).

**Therefore, the dampers are not suitable for installations in areas classified as 0 and 20 according to the over-mentioned laws.**

<b>RIFERIMENTI FORNITORE / SUPPLIER REFERENCE :</b>		<b>Europair</b>
<b>RIF. COMMESSA N°</b> <i>JOB REF.</i>		Data/e:
<b>MATRICOLA N°</b> <i>MATERIAL CODE</i>		

<b>RIFERIMENTI CLIENTE / CUSTOMER REFERENCE:.....</b>		
<b>ORDINE N°</b> <i>ORDER</i>		Data/e:
<b>RIF. COMMESSA N°</b> <i>JOB REF.</i>		Data/e:

#### **WARNING !!**

**THE AIM OF THIS MANUAL IS TO PERMIT A SAFE INSTALLATION AND USE OF OUR DAMPERS, SO THE MENTIONED INSTRUCTIONS MUST BE FOLLOWED AND APPLIED.**

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## I – SUMMARY OF THE ATEX DIRECTIVE

### ATEX (94/9/CE Directive)



Equipment Group	Equipment Category	Kind of Area GAS (G)	Kind of Area POWDERS (D)
I - Mines	M1 – Very High Protection		
	M2 – High Protection		
II – Non Mines	1 – Very High Protection	0	20
	2 – High Protection	1	21
	3 – Normal Protection	2	22

## II- SUITABILITY OF THE INSTALLATION AREA

The damper is declared adequate to be installed in Category 2 Area, with gas and powders presence. Dangerous substances can concern the whole damper body.

The temperature class ascribed to the equipment in discussion is T3 (200° C).

This manual examines the precautions the user must take for a safe use of the equipment in discussion.

There must not be present gases, fumes or mists with a lower or equal than 200 °C autoignition temperature, and powders with a higher than 300°C in-cloud ignition temperature and a higher than 275°C layer ignition temperature.

These considerations are valid if the room temperature and the temperature of the substance concerning the damper are included between -20 and +40°C.

ASSOCIATION FAN/MOTOR DEPENDING ON THE AREAS CLASSIFIED ACCORDING TO THE 99/92/EC DIRECTIVE			
GAS EXPLOSIVE ATMOSPHERE	AREA	DAMPER	MOTORIZED ACTUATOR
PERMANENT PRESENCE	0	NOT APPLICABLE	
PROBABLE PRESENCE	1	ATEX II 2GD	ATEX II 2 G EE xd / de ATEX II 2 G EE xe
IMPROBABLE PRESENCE	2	ATEX II 2GD	ATEX II 2 G EE xd / de ATEX II 2 G EE xe
POWDERS EXPLOSIVE ATMOSPHERE			
PERMANENT PRESENCE	20	NOT APPLICABLE	
PROBABLE PRESENCE	21	ATEX II 2GD	ATEX II 2 D IP 65
IMPROBABLE PRESENCE	22	ATEX II 2GD	ATEX II 2 D IP 65

### **III.– STORAGE MODALITY**

The damper must be stored following these precautions:

- Store the damper in a sheltered and dry place.

### **IV.– CONTROL PANEL AND ELECTRICAL SYSTEM**

The control panel and the electrical system must be compliant with the existing law in relation to the area in which the damper will be installed.

The enabled manufacturer must certify both the control panel and the electrical system.

The frame and all the damper metallic parts must be electrically connected to the grounding system through an adequate section conductor and they must be made equipotential in relation to the electric motor.

The possible motorized actuator must not be installed in areas with obstructed ventilation to avoid that the temperature exceeds the expected one.

### **V.– PRECAUTIONS FOR INSTALLATION**

Handle the damper as indicated in the instruction manual for use and maintenance.

Avoid stresses on the frame and the structure so as to prevent possible components misalignments and local overheating.

Avoid shocks and hits during the mounting operations.

During the mounting operations check that no foreign objects are in the aspiration ducts, because they could generate sparks or overheating into the same fan.

When the damper is installed in an area with lightning strike risk, the damper must be protected by that risk - through the adoption of a suitable system.

In proximity of the fan there must not be present bottles containing under-pressured gas, to avoid heating by adiabatic compression in case of losses.

In case of use of different powder substances, it must be controlled that they don't generate exothermic reactions.

The fan installation must count the protection from possible:

- Radio-frequency radiations.
- Laser Beams.
- X-Rays.
- Ultrasounds.

### **VI.– CHECK AND MAINTENANCE**

The user must have done corrosion tests, or anyway he must be sure of the selected building materials corrosion stability: corrosion causes thickness reduction and consequently the equipment mechanical strength decreases; corrosion products can provoke solid formations, which could cause sparks and overheating when detaching.

In case of disassembling the mechanical parts of the transmission system, the maintenance operator must restore the components alignment - so as to avoid efforts that could compromise their tolerances causing unforeseen overheating.

When necessary, the potential motorized actuators must be replaced with motor characterized by the same features.  
antistatic.

During the maintenance operations avoid the use of heating devices, seal or grinding devices, before the area has been tempered and all the present dangerous substances have been removed.

At the end of the installation and periodically, the electrical continuity towards the ground of all the equipotential links must be checked.

At the end of the maintenance operations, it is obligatory to restore all the potentially interrupted equipotential links.

## VII.– OTHER WARNINGS

A. The user must have done the risk analysis on the basis of the following laws, and he must be sure that these planning and practice requirements are observed and that the conditions provided for the relative documents are kept.

Laws and regulations:

89/391 CEE, 89/654 CEE, 89/655 CEE, 89/656 CEE, 90/269 CEE, 90/270 CEE, 90/394 CEE, 90/270 CEE, 90/679 CEE, 93/88 CEE, 95/63 CE, 95/63 CE, 98/24 CE 99/38 CE, 99/92 CE e 2001/45 CE.

Norms and technical guides.

EN 60079-10 Electrical Apparatus for Explosive Gas Atmospheres. Part 10: Classification of Hazardous Areas.

EN 61241-10 Electrical apparatus for use in the presence of combustible dust. Part 10: Classification of areas where combustible dusts are or may be present.

B. In case of possible variations of the operative conditions please contact Europair S.r.l., so as to control the general construction characteristics congruence.

C The Warrantee and the certifications of the present fan decay when it is installed in an area not scheduled at Point I, without a preventive licence from Europair S.r.l..

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