

ANTI-EXPLOSION PANELS

**NEW
SERIES!!
2009**



***TO AVOID THE FIRE AND EXPLOSION OF THE FILTERS AND SILOS WITH
AIRCOM'S FIREBREAK SASH SHUTTER AND ANTI-EXPLOSION PANELS***

CERTIFIED WITH THE NORM UNI EN14797 CERTIFIED CE 2049 DNV-MUN0 08 ATEX 3679 II GD

The anti-explosion panels at predetermined breaking, certified with the EN14797 norm, are safety devices against the overpressure in the storage's equipments or transport on inflammables materials. The anti-explosion panels at predetermined tensile stress are the solution to avoid the damages to people and things against the explosion pressure relief in box, silo or closed volume with dusts, liquids, fogs and gas explosion. They are safety elements not reusables and don't release fragmentations of their structure in case of explosion with purpose to avoid direct damages to people and things. With overpressure's explosion, the panels open in predetermined points and they allow the exit of the pressure through the complete surface of the panel open. The range of panels PA, built in AISI 316L, is developed in the following models that can be employed in vessel or closed volume in pressure or depression with steel support. An external flange assures a correct closing of the same panel to the structure where is fixed and an inside gasket eliminates the discharge of air in the environment by predetermined cuts on panel.

CERTIFICATED TECHNICAL DATA



Model	External dim. mm	Internal dim. mm	Unloading's surface m ²	Breaking pressure
PA 3138	310x385	230x305	0,068 * -	0,2 bar
PA 5767	570x670	490x590	0,285 * 0,270	0,1 bar
PA 6969	690x690	610x610	0,360 * 0,345	0,1 bar
PA 8888	880x880	800x800	0,630 * 0,615	0,1 bar
PA 10067	1000x666	920x586	0,530 * 0,515	0,1 bar
PA 100100	1000x1000	920x920	0,840 * 0,815	0,1 bar

KST_{max} : 900

* internal grille for depression system zinc plated

• external flange (paint + 2,5% on Panels PA)

Standard Gasket included: AERSTOP NIZ PTE

Gasket PTFE on request

External Flange

Panels

Internal grille



Explosion's outlet panel PA3138

Opening static pressure declared by the builder	$P_{\text{stat}} (25^{\circ}\text{C}) = 0,200 \pm 20\% [\text{bar}]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[\text{kg/m}^2]$
Opening's surface	$A_d=[0,069\text{m}^2]$
Opening's surface with grill of empty	$A_e=[\text{ - m}^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{\text{red max}}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Explosion's outlet panel PA5767

Opening static pressure declared by the builder	$P_{\text{stat}} (25^{\circ}\text{C}) = 0,100 \pm 20\% [\text{bar}]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[\text{kg/m}^2]$
Opening's surface	$A_d=[0,289\text{m}^2]$
Opening's surface with grill of empty	$A_e=[0,276\text{m}^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{\text{red max}}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Explosion's outlet panel PA6969

Opening static pressure declared by the builder	$P_{stat} (25^{\circ}C) = 0,100 \pm 20\% [bar]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[kg/m^2]$
Opening's surface	$A_d=[0,372m^2]$
Opening's surface with grill of empty	$A_e=[0,358m^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{red max}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Explosion's outlet panel PA8888

Opening static pressure declared by the builder	$P_{stat} (25^{\circ}C) = 0,100 \pm 20\% [bar]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[kg/m^2]$
Opening's surface	$A_d=[0,640m^2]$
Opening's surface with grill of empty	$A_e=[0,612m^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{red max}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Explosion's outlet panel PA10067

Opening static pressure declared by the builder	$P_{\text{stat}} (25^{\circ}\text{C}) = 0,100 \pm 20\% [\text{bar}]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[\text{kg/m}^2]$
Opening's surface	$A_d=[0,536\text{m}^2]$
Opening's surface with grill of empty	$A_e=[0,518\text{m}^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{\text{red max}}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Explosion's outlet panel PA100100

Opening static pressure declared by the builder	$P_{\text{stat}} (25^{\circ}\text{C}) = 0,100 \pm 20\% [\text{bar}]$
Thickness' material	AISI 316L (1.4404) - 5/10
Habit	$[\text{kg/m}^2]$
Opening's surface	$A_d=[0,846\text{m}^2]$
Opening's surface with grill of empty	$A_e=[0,824\text{m}^2]$
Kst max	900 [bar·m/sec]
Kg max	550 [bar·m/sec]
P_{max}	9 [bar]
$P_{\text{red max}}$	2 [bar]
E_f Kst Class: 1 2 3	95% 90% 80%

Protection's system description

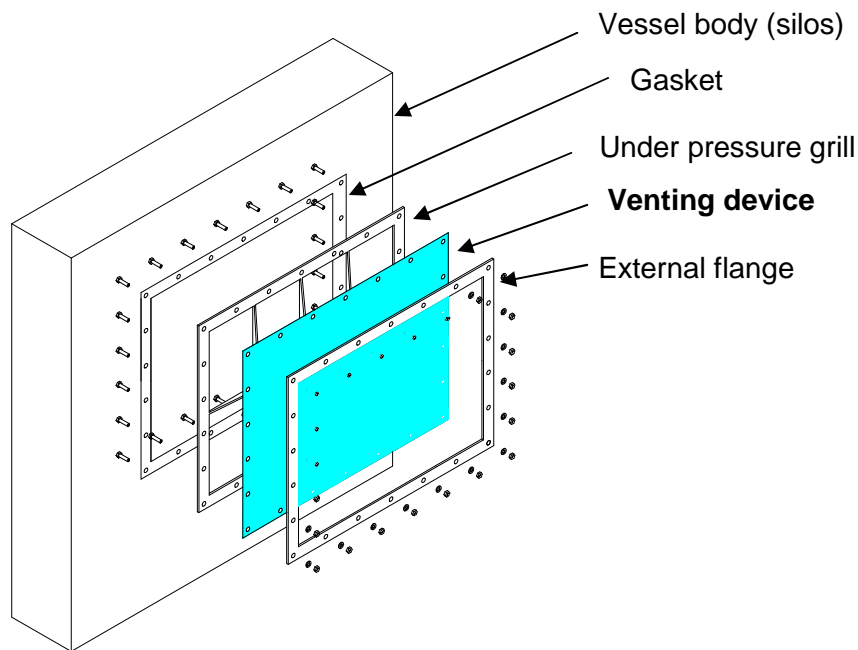
The explosion outlet's panel produced by AIRCOM s.r.l. series "PA", is a protection's

system ATEX to the senses of Directive 94/9/CE.

It is an outlet's device (or explosion's discharged) not re-closable therefore so not reusable that, to the prearranged opening's pressure (p_{stat}), opens through breaking leaving completely free the outlet's opening and without releasing parts of the same element.

This kind of system is destined to the protection, from the effects of a sudden increase of the pressure caused by an explosion in instruments containing air/gas mixture or air/dust or air/dust potentially explosive as silos, mixers, sieves, separators filters pipes, dusts collectors, driers, tanks etc.

The breaking antiexplosion panels PA are built to be set in plain surface the containers and to safeguard of the same from explosions of explosive's atmospheres caused by mixture of air/gas or air/dust.



The outlet's devices AIRCOM series "PA" are panels of geometric square or rectangular shape, that open with superior pressure to the operation field normally expected, allowing an outlet of overpressure inside the tanks and/or pipes for aeriform fluids.

The normal operation of such panels can be in overpressure or depression (with suitable support furnished on request by manufacturer), while the breaking's panel always and only happens from an overpressure.

The activation control's pressure of safety's element happens through seal's surfaces opportunely situated on it. The seal's parts are created in a peripheral zone of 3 sides of panel to allow the tear of the central position for yielding of the remaining zones of material's continuity.

In the explosion's phase the panel opens in the three sides and is held, without releasing fragments, from the fourth side left completely integral.

A special gasket assure the air's seal of cuts during the normal operation.

The panels geometry is of **smooth rounded** type or with stiffening with a plain frame in the peripheral zone where happens the yielding (that is where are extracted the holes and the cuts) and where are positioned the gasket's seal (that is in the contact's zone between the support's plain and panel).

The explosion outlet's panel must be fixed to welded frameworks or directly on the process's equipment to protect.

The dimensions and the fixing holes of the panel are indicated in a special section of this manual. Externally it must have fixed with an external frame indicated in the drawing and call external flange.

In case of depression's operation, it is provided a stiffening shaped grill in the **inside concave** side to avoid a "curling up" of the panel in case there are ram's blows in depression.

This grill must be required to the manufacturer during the order.

MATERIAL'S LIST

Explosion outlet's panel : steel ASTM A240 (316L)

Gasket : AERSTOP NIZ PTE (or SILICONCELL on request)

External flange : S235JR varnished

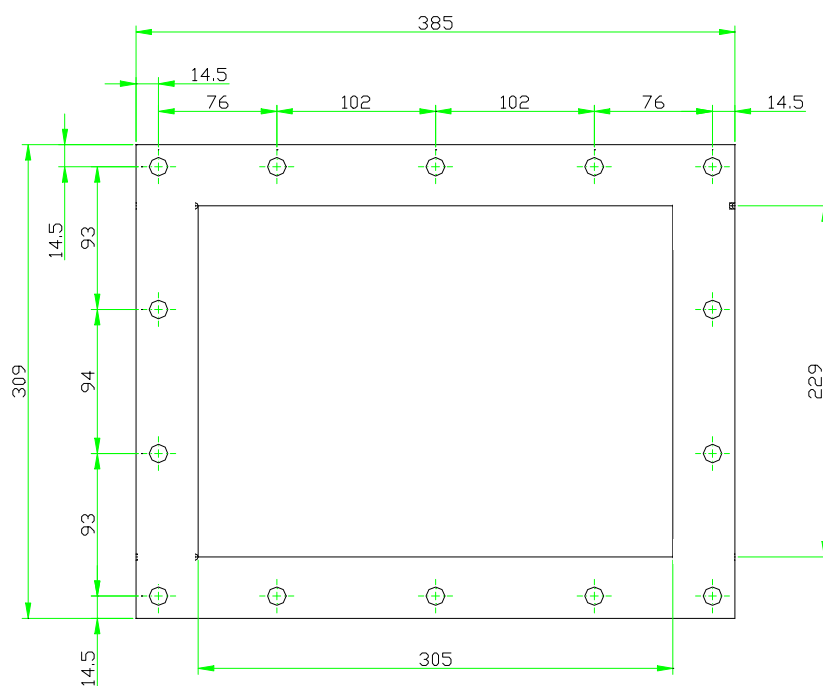
Material to use for the assemblage :

Screws : TE M8X30 UNI EN 5739

Washers : B8

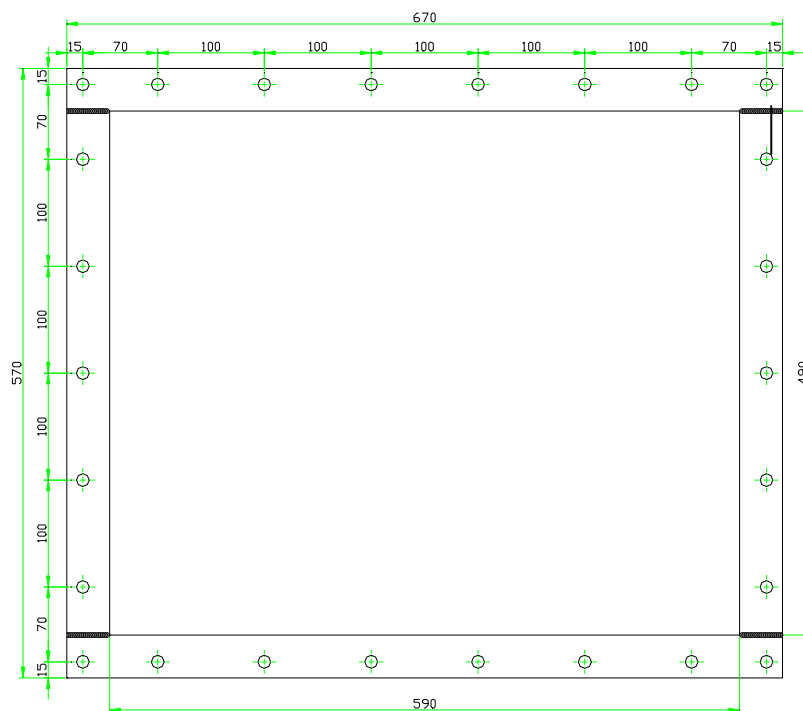
Nuts : UNI 5588

EXTERNAL FLANGE FOR PA3138



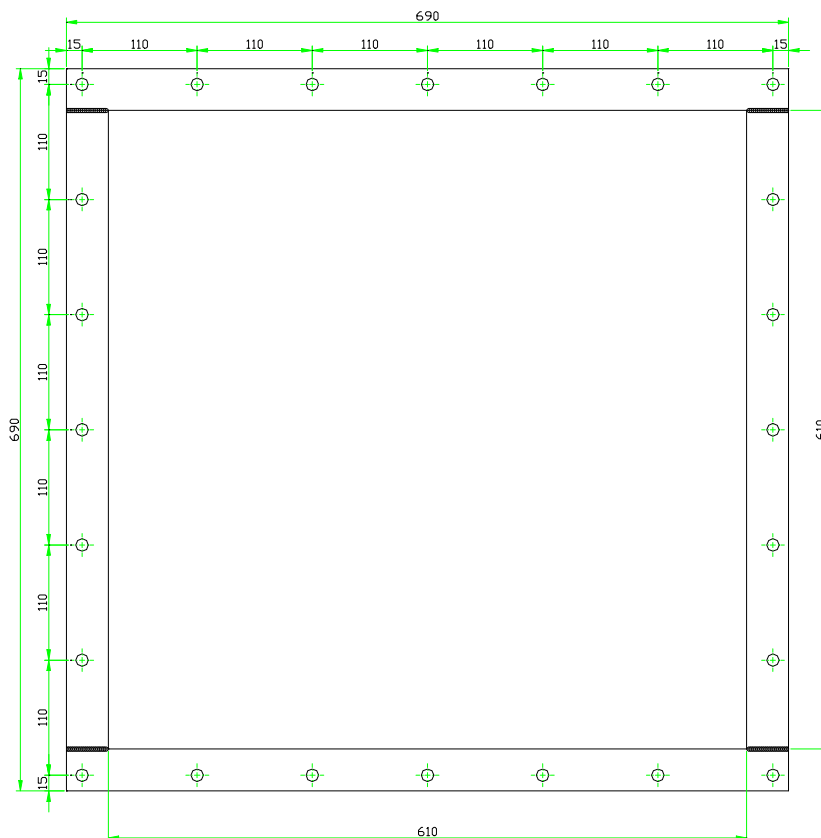
The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm

EXTERNAL FLANGE FOR PA5767



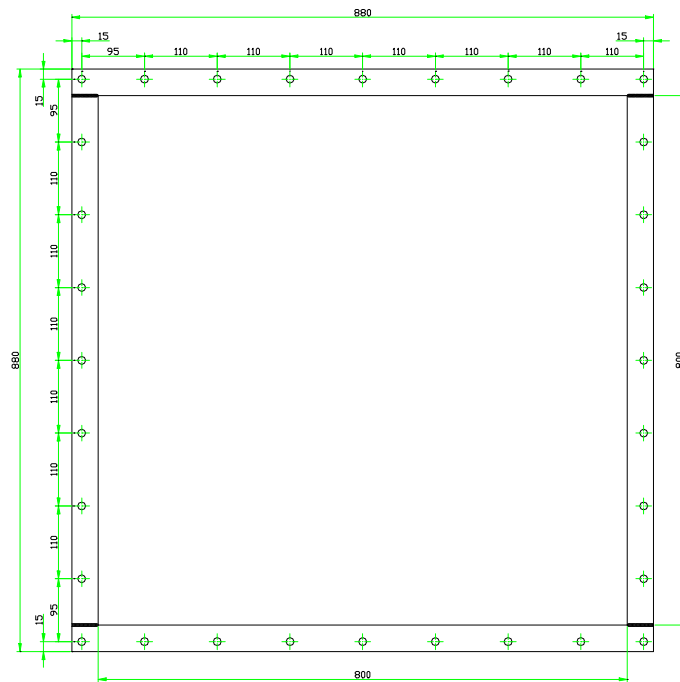
The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm

EXTERNAL FLANGE FOR PA6969



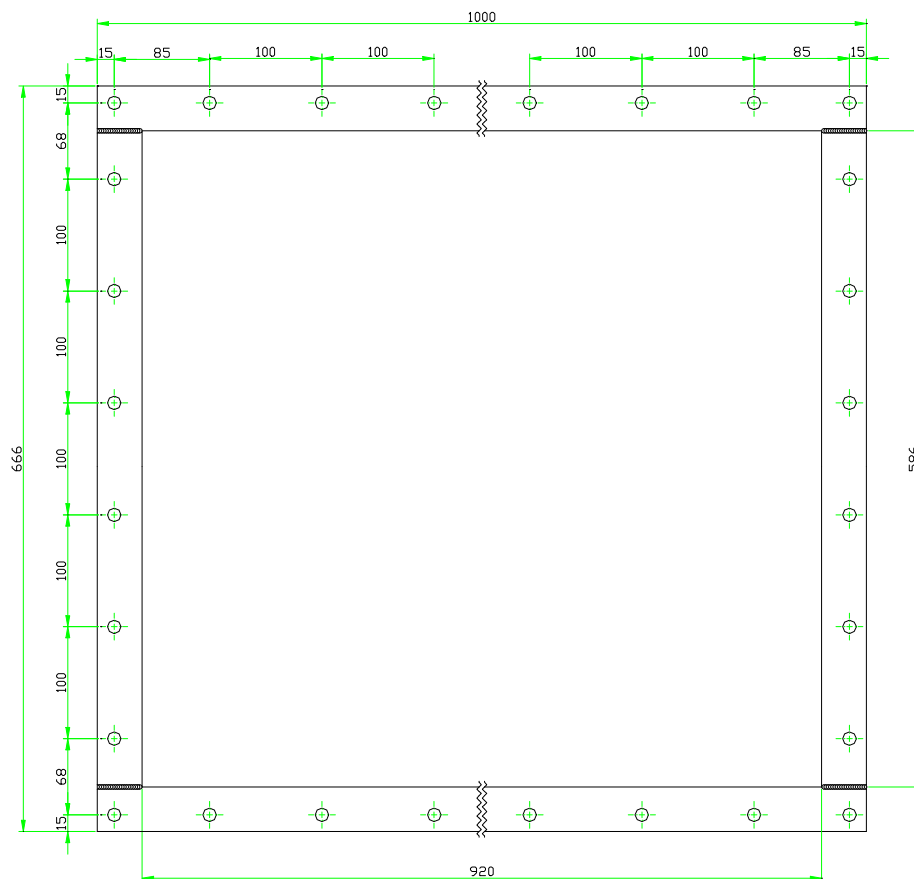
The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm

EXTERNAL FLANGE FOR PA8888



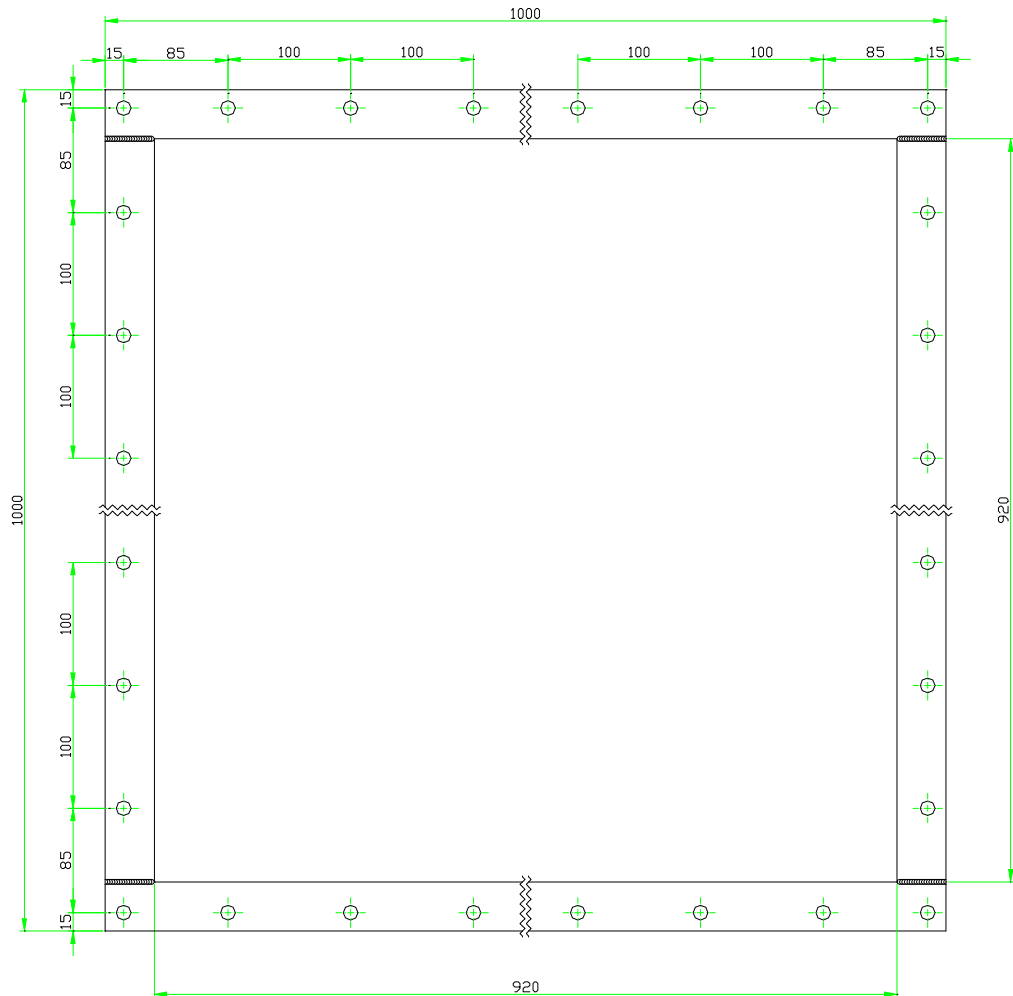
The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm

EXTERNAL FLANGE FOR PA10067

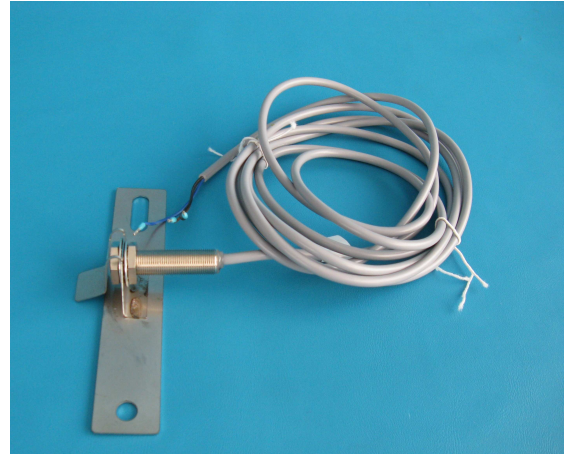
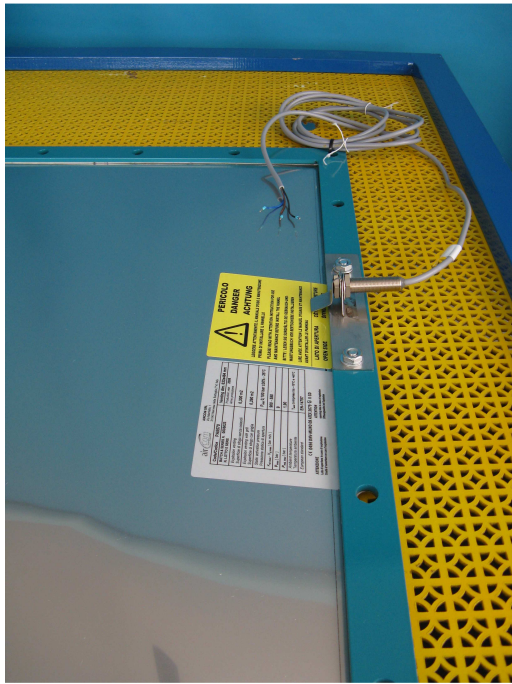


The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm

EXTERNAL FLANGE FOR PA100100



The flange can be used as dimension for the drilling of the support panel (silos or other).
Diameter hole to effect on the support: 8 mm



Breaking signal sensor of Anti explosion Panels

The sensor is fixed to a universal support suitable on all anti explosion panels and on existing installation too.

It send a signal when anti explosion panels open, in order to switch off the suction system or other mechanism you have to stop.

Standard Version art. SENSPA

ATEX Version art. SENSPAQ