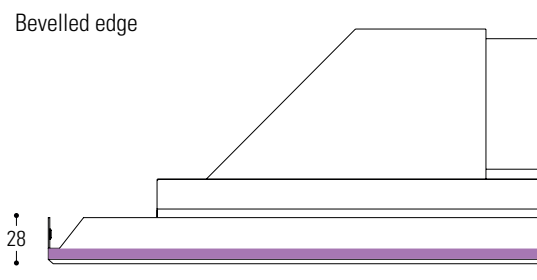




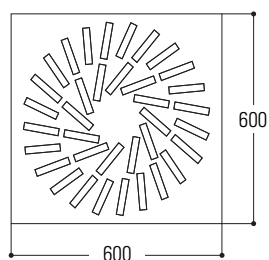
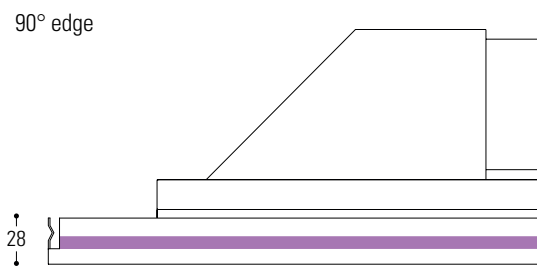
# PLENUM

for **Vert Sigillo** system - **bevelled / 90°**

Bevelled edge



90° edge



## DESCRIPTION

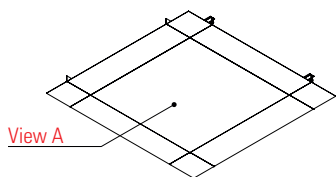
Plenum with a swirl diffuser with adjustable mobile deflectors arranged on a helix with a high induction ratio (mixing capacity) between injected and ambient air. It consists of a panel with holes in which adjustable plastic deflectors are housed. The plenum offers aesthetic and performance characteristics identical to those of our panels, guaranteeing an optimal result.

## TECHNICAL CHARACTERISTICS

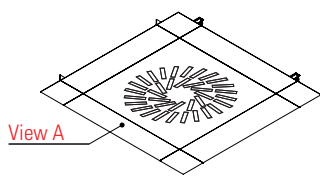
<b>European Standard:</b>	CE - EN 13964
<b>Durability:</b>	Class B
<b>Fire resistance:</b>	A1
<b>Sound absorption:</b>	EN ISO 354
<b>Panel material:</b>	Aluminium (Alloy 3000H46) Galvanised steel (DX51DZ)
<b>Plenum material:</b>	Aluminium (Alloy 3000H46) Galvanised steel (DX51DZ) Stainless steel 304
<b>Fin material:</b>	Thermoplastic - black
<b>Plenum colour:</b>	Prepainted DONN-WHITE, Silver, Mirrored aluminium Post-painted RAL - NCS - Sublimated
<b>Panel thickness:</b>	0,4 - 0,5 - 0,6 mm
<b>Body thickness:</b>	0,8 mm
<b>Standard module:</b>	600x600 mm - bevelled or 90°
<b>Product weight:</b>	4 kg

# ADVANTAGES AND APPLICATIONS

Vert Sigillo System



Vert Sigillo system with plenum



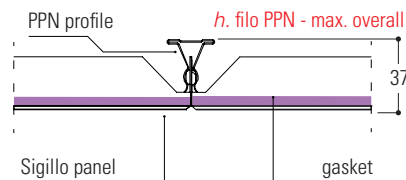
## DESCRIPTION

The **Plenum** has features that guarantee high quality performance such as:

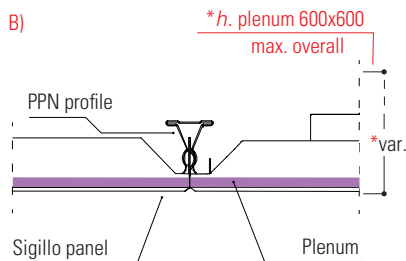
- Circular connection with a suitable temperature-resistant sealing
- Slotted bars for ceiling installation
- Slots for full integration of the diffuser panel. In addition, thanks to the strong inductive effect, the swirl diffusers generate a fast mixing of the supply air and the ambient air, thus allowing a powerful, draught-free exchange of air, particularly during the cooling phase, with a large difference between the temperature of the supply air and the ambient air. The entire system together with the plenum can be inspected punctually by means of a suction cup, which is supplied.

\* See "specifications" table below

A)

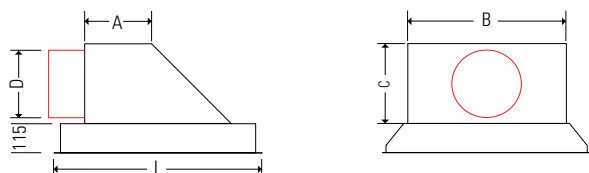


B)

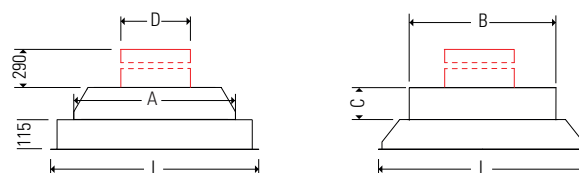


# DIMENSIONS AND SPECIFICATIONS

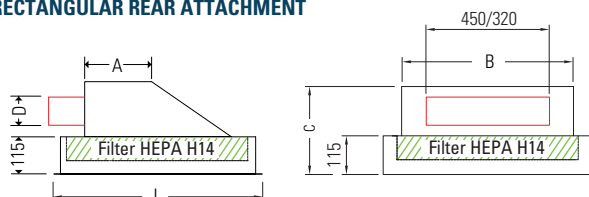
## REAR CIRCULAR ATTACHMENT



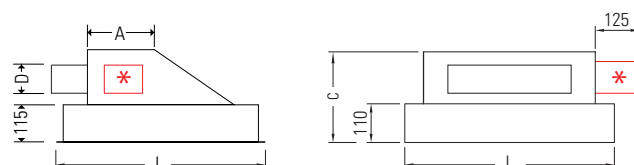
## SUPERIOR ATTACK



## RECTANGULAR REAR ATTACHMENT



## RECTANGULAR SIDE CONNECTION - (OPTIONAL)

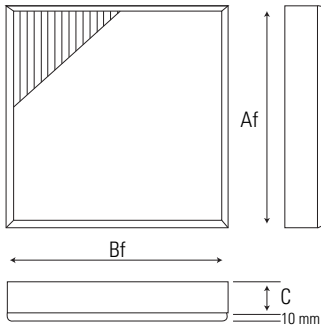


\* Rectangular connection with optional 80x350 regulation damper

Model	PLENUM SPECIFICATIONS							HEPA / H14 FILTER SPECIFICATIONS							
	Model	Nominal size	Dimensions (mm)					L	Filter dimensions (mm)			Nominal flow Q		filtering surface	initial pressure drop
			A	B	C	D**	Af		Bf	Cf	m³/h	m³/s X 10³	Pa		
<b>VS.PSAL305</b>	side connection	600x600	176	254	243	198	595	305	305	68	150	42	2,5	120	
<b>VS.PSAL457</b>			200	430	230			457	457	78	200	42	3,8	110	
<b>VS.PSAL513</b>			210	489	310	513		513	68	340	95	5,5	120		
<b>VS.PSAL610</b>			900x900	262	736	360		315	895	78	450	95	8,5	110	
<b>VS.PSAL762</b>										78	550	125	10,35	110	
<b>VS.PSAS305</b>	upper connection	600x600	176	254	100	198	595	305	305	68	150	42	2,8	110	
<b>VS.PSAS457</b>			200	430				457	457	78	200	42	3,8	110	
<b>VS.PSAS513</b>			210	489		513		513	68	340	95	5,5	120		
<b>VS.PSAL610</b>			900x900	262	736	315		895	78	450	95	8,5	110		
<b>VS.PSAL762</b>									78	550	125	10,35	110		
<b>VS.PSAS305</b>	attack rear rectangular	600x600	295/335	430/490	270	80/95	595	305	305	68	150	42	2,8	110	
<b>VS.PSAS457</b>			295/335	430/490	270	80/95		457	457	78	200	42	3,8	110	
<b>VS.PSAS513</b>			295/335	430/490	270	80/95		513	513	68	340	95	5,5	120	
										78	450	95	8,5	110	
										68	500	125	9,2	110	
										78	550	125	10,35	110	

\*1 m³/s x 10-3 = 1 l/s / \*\*for connections with different diameters, please contact technical department

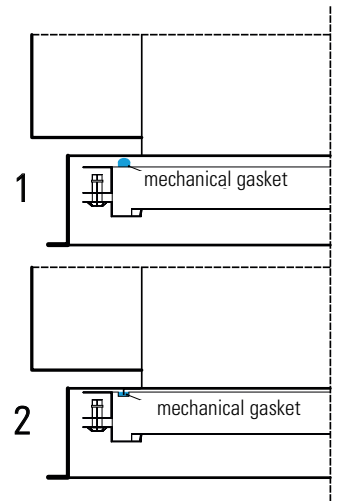
# PLENUM CHARACTERISTICS



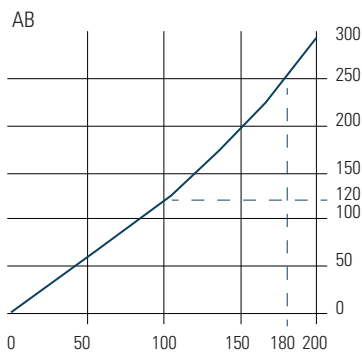
## DESCRIPTION

The filter is made with an anodised extruded aluminium frame with a depth of 69 mm, fitted with a micro-expanded aluminium protection with white epoxy paint. The filter media is made of glass microfibre, water-repellent and fireproof; the small pleats have continuous thermoplastic spacers while the seal is made of polyurethane elastomer. The seal of the filter to the plenum can be:

- Mechanical with a two-component pressure seal on the plenum (1).
- Liquid gasket (gel) inserted in a specific cavity in the frame into which a blade with a rounded profile is introduced (2). The low pressure loss of the filters allows the energy consumption of the fan to be limited. The filter is tested and labelled for performance; it is also anchored to the plenum so that there is a perfect seal between filter and plenum.



## FILTER CHARACTERISTIC CURVE



If filters are used in turbulent flows at maximum frontal speed, the efficiency is penalised by one class.

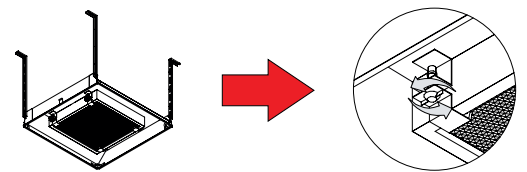
## TECHNICAL DATA

MPPS efficiency	99,995%
Classification EN 1822:2009	H14
Recommended final pressure drop	600 Pa
Maximum pressure drop	600 Pa
Operating temperature	70/90°C
Maximum pressure drop	90%

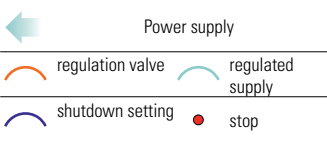
## OPTIONAL : MECHANICAL CONTROL VALVE CONTROL AND FILTER VALVE

Plenums in the version with mechanical shutoff allow precise flow setting. The shut-off can be motorised on request.

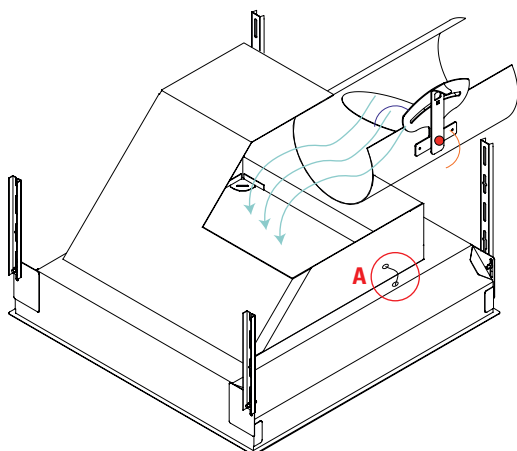
## FILTER COUPLING SYSTEM



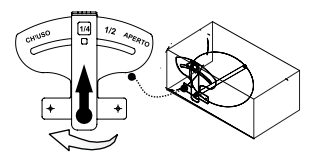
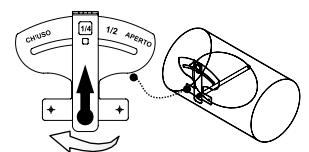
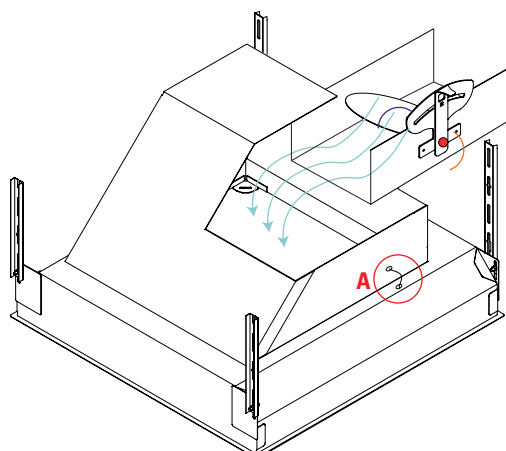
**N.B.** Turn the screw to remove the stop and release the filter.



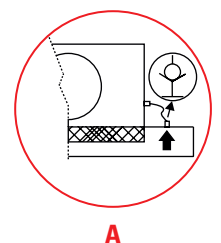
## PLENUM WITH CIRCULAR REAR CONNECTION



## PLENUM WITH RECTANGULAR REAR CONNECTION

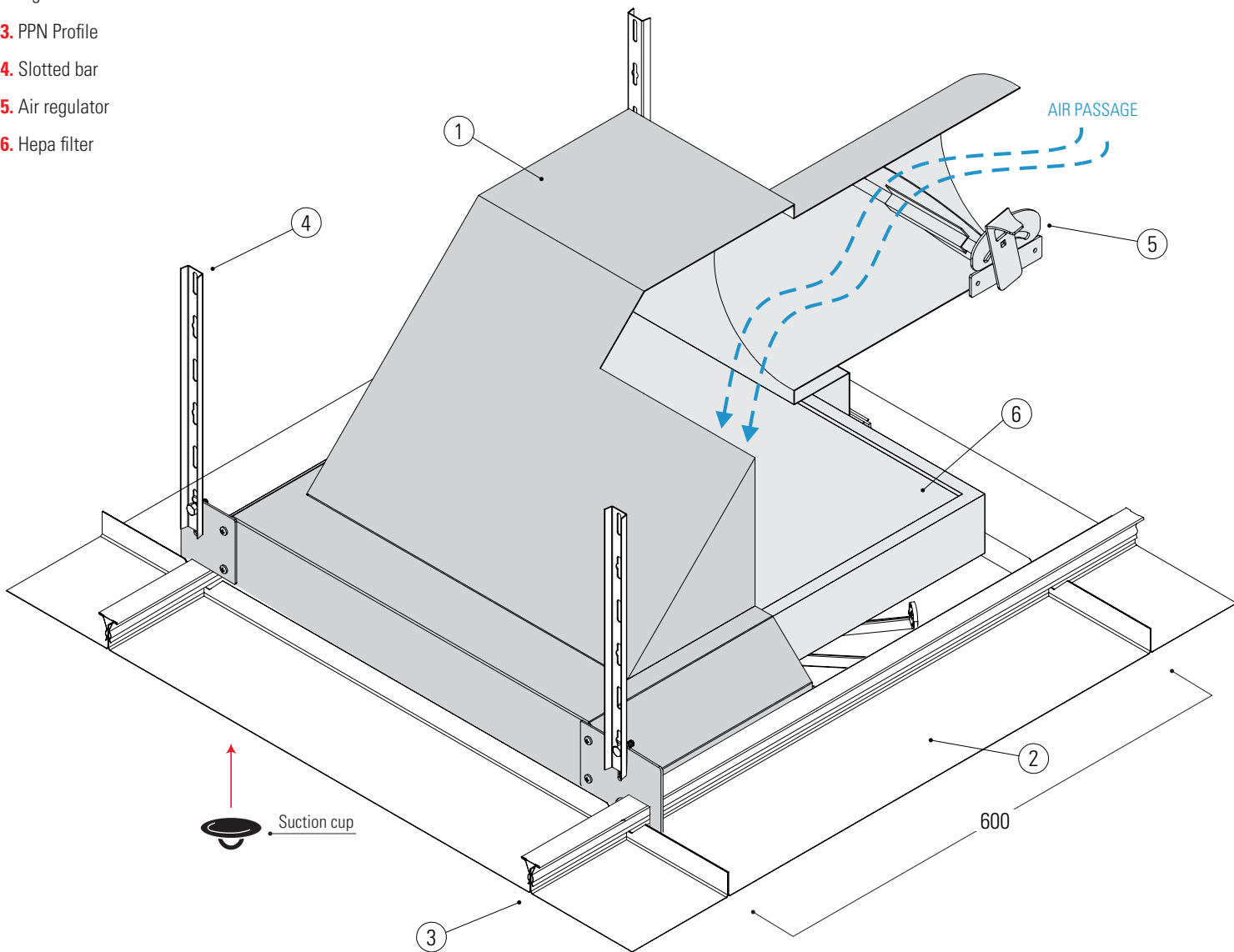


- turn to open or close  
- one-touch fitting for filter control



## SYSTEM ELEMENTS

1. Plenum
2. Sigillo Panel
3. PPN Profile
4. Slotted bar
5. Air regulator
6. Hepa filter

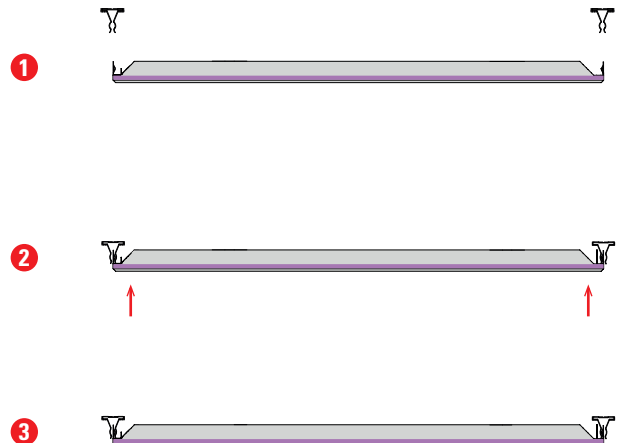


## ASSEMBLY DESCRIPTION

Installation is simple and intuitive:

Position the plenum at the structure under the ceiling, using the slotted bars located on the four sides of the plenum and fix with screws. Then fix the panel:

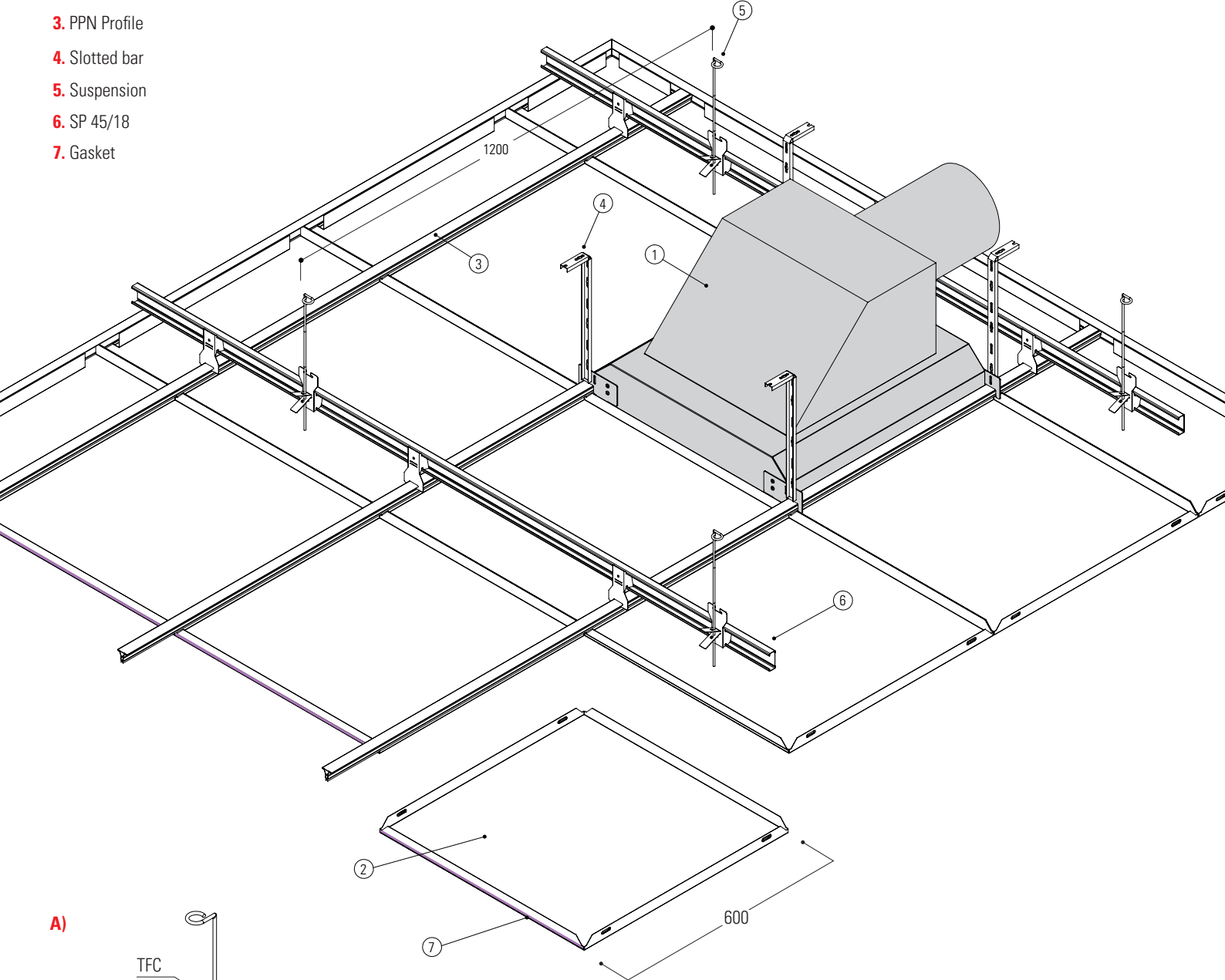
1. Position the panel (1) at the structure
  2. Insert the panel by matching the sides where the embossing is located inside the PPN profile(3)
  3. Ensure that the embossing snaps into the PPN(3) profile
- Use the suction cup in the corner to access the plenum.



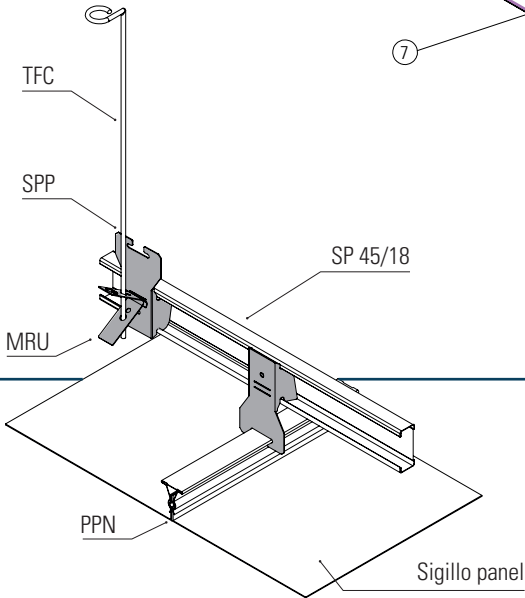


SYSTEM ELEMENTS

- 1. Plenum
- 2. Sigillo Panel
- 3. PPN Profile
- 4. Slotted bar
- 5. Suspension
- 6. SP 45/18
- 7. Gasket



A)

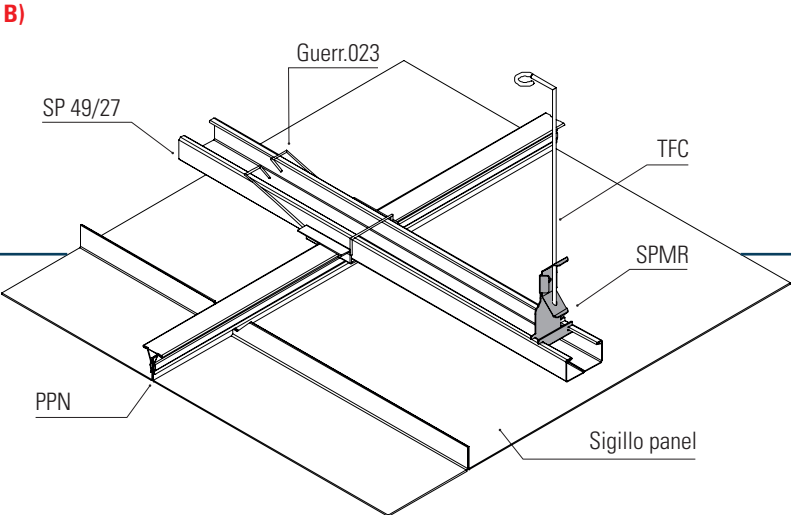
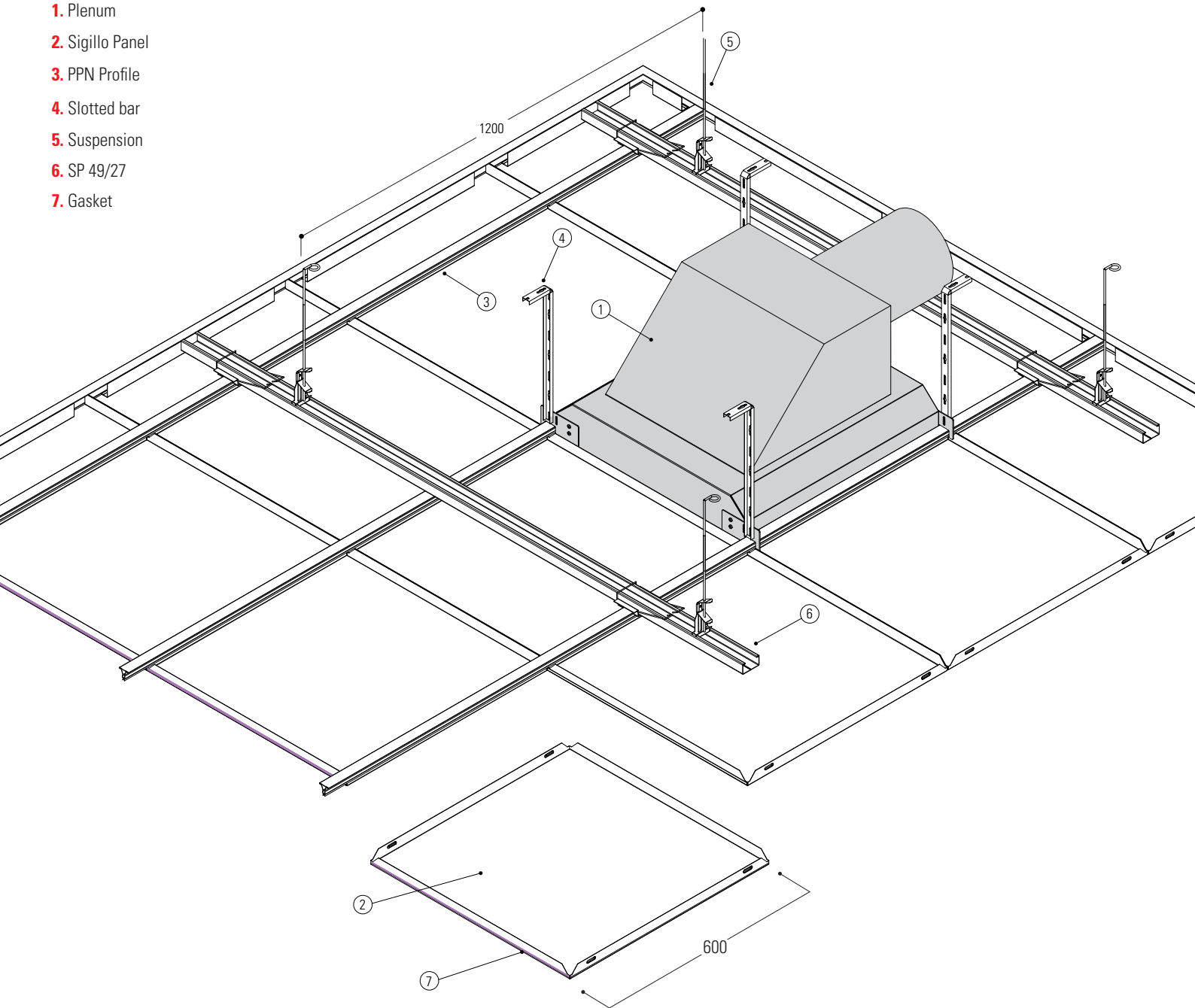


DESCRIPTION AND DETAILS

The SIGILLO system shown to the side is a non-coplanar double frame, which can be accessed at each point, and is composed of a primary profile type SP45/18 that is suspended from the ceiling and a secondary profile type PPN. In addition to being easy to assemble, the suspension and connection systems are also adjustable at every point. The panel, on the other hand, is assembled from below and after installing the gasket, it must be snapped into the PPN profile.

SYSTEM ELEMENTS

- 1. Plenum
- 2. Sigillo Panel
- 3. PPN Profile
- 4. Slotted bar
- 5. Suspension
- 6. SP 49/27
- 7. Gasket



DESCRIPTION AND DETAILS

The SIGILLO system shown to the side is a non-coplanar double frame and is particularly suitable for solutions with limited space. The ceiling can be accessed at any point. It consists of a primary profile type SPN 49/27 that is suspended from the ceiling and a secondary profile type PPN. The suspension and connection systems are not only easy to install, but are also adjustable at every point. the panel, on the other hand, is mounted from below, and after installing the gasket, it must be snapped into the PPN profile.

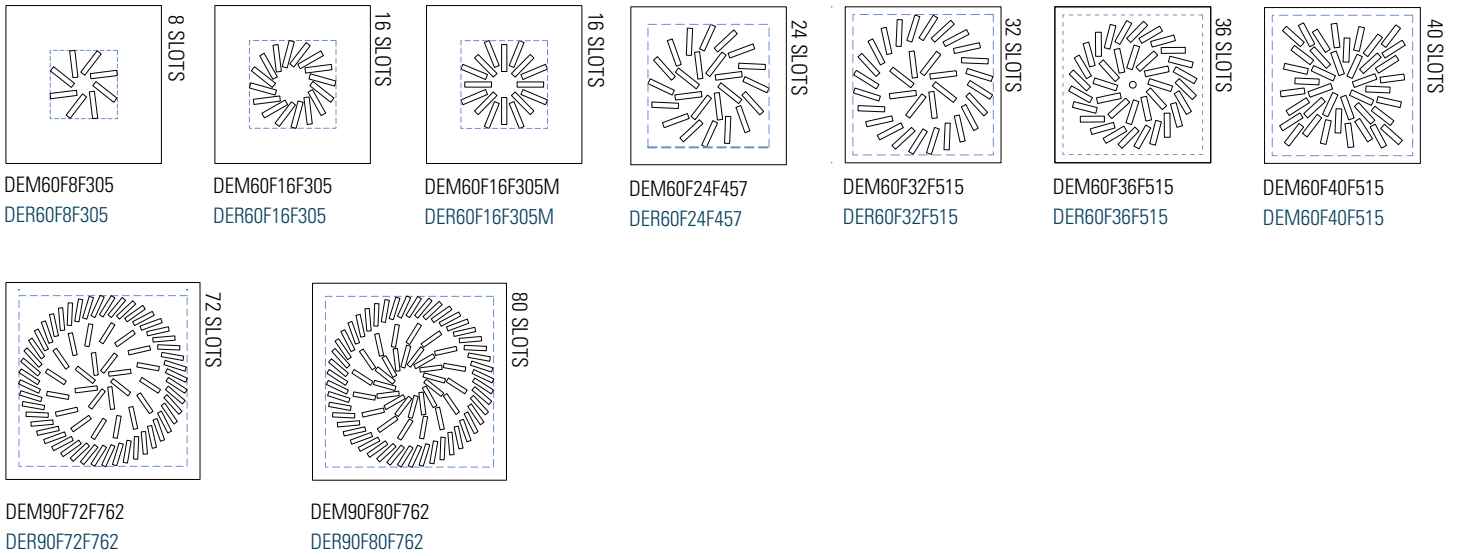
# SWIRL DIFFUSERS

## DESCRIPTION

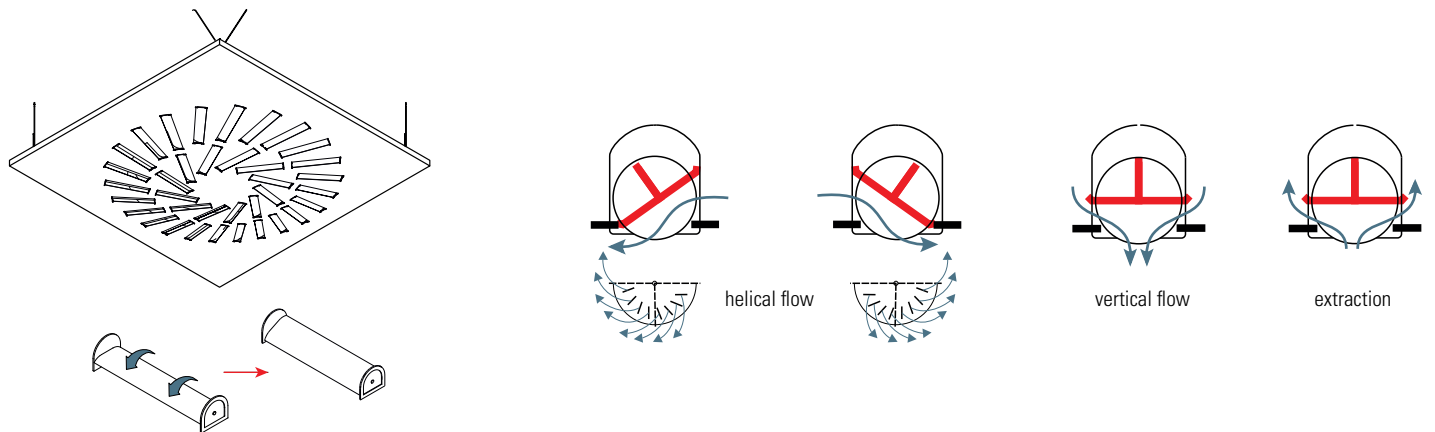
Air diffuser with or without adjustable slots (supply and extract), arranged in a daisy-chain pattern, particularly suitable for swirl flows. It is used for both cooling and heating with installation on low to medium height ceilings (2.7-3.5 m). Unidirectional flow diffusers on request.

## SPECIFICATIONS

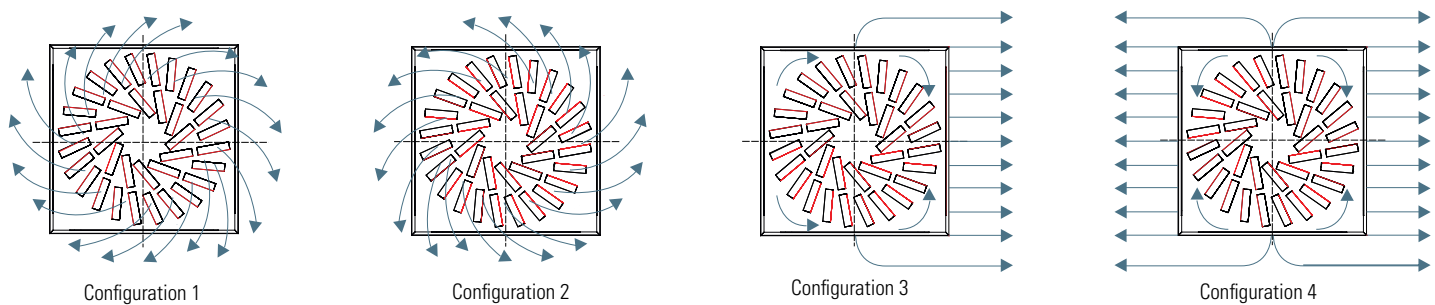
- Suitable for systems with variable flow rates between 100% and 40%.
- Suitable for low and medium space installations.



## FLOW BASED ON DEFLECTOR CONFIGURATION



## INLET BASED ON DEFLECTOR CONFIGURATION



# TECHNICAL-GEOMETRICAL INFORMATION

Data table Plenum supply + Diffuser / DEM60F32F515

Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	7	14	23	34	47	79	96	116	160
Capacity	mc/h	335	503	670	838	1005	1341	1508	1676	2011
Drop	mt	0,7	1,1	1,4	1,8	2,2	2,9	3,2	3,6	4,3

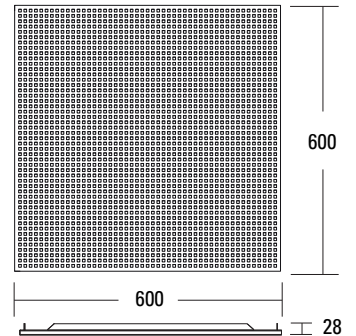
## DIFFUSER AND RETURN PANELS FOR VERTICAL DROP

### DESCRIPTION

Perforated diffuser suitable for unidirectional flows. It is used for both cooling and heating with installation on low to medium height ceilings (2.7 - 3.5 m).

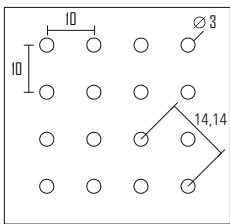
### FEATURES

- Suitable for variable flow systems with ranges between 100% and 40%.
- Suitable for installation on low to medium height rooms



### Return panels air passage 7%

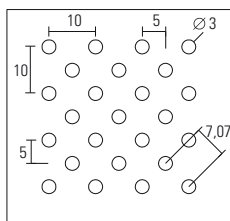
Data table Air supply Plenum + Circular perforated diffuser Ø 3



Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	8	16	23	28	50	81	98	120	165
Capacity	mc/h	170	290	290	480	590	800	901	980	1010
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

### Return panels air passage 14%

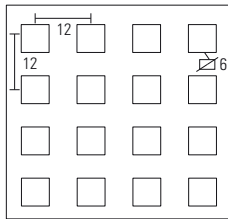
Data table Plenum supply + Circular perforated diffuser Ø 3



Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	8	16	23	28	50	81	98	120	165
Capacity	mc/h	190	290	400	504	608	810	900	950	1100
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

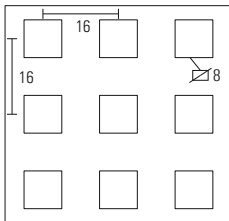
## Return panels air passage 25 %

Data table Supply air Plenum + square perforated diffuser 6X6



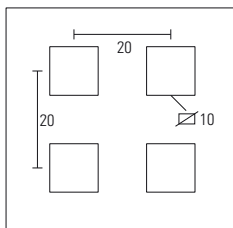
Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	8	16	23	28	50	81	98	120	165
Capacity	mc/h	210	315	420	525	630	840	945	1050	1260
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

Data table Supply air Plenum + square perforated diffuser 8X8



Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	6	7,3	19	22	45	72	78	113	140
Capacity	mc/h	220	335	442	558	659	875	971	1082	1310
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

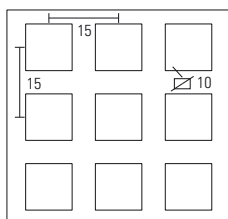
Data table Supply air Plenum + square perforated diffuser 10X10



Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	6	7,3	19	22	45	72	78	113	140
Capacity	mc/h	228	342	450	560	670	890	990	1050	1320
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

## Return panels air passage 45 %

Data table Supply air Plenum + square perforated diffuser 10X10



Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	Pa	8,9	20	27	32	55	88	102	130	180
Capacity	mc/h	260	360	480	590	690	900	1001	1130	1390
Drop	mt	0,7	0,9	1,1	1,3	2	2,3	2,8	3,1	3,6

## NORMATIVE REFERENCES

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### - Air and dust tightness tests carried out in collaboration with Istituto Giordano:

The impermeability of the object was tested according to the method prescribed by UNI EN 1026: 2016 and obtained permeability values in CLASS 2 according to UNI EN 14351-1 (test report no. 356263 dated 8.11.2018)

## PRODUCT STORAGE

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Store parcels in covered places with a relatively dry atmosphere and at a temperature as constant as possible in order to avoid condensation phenomena that may reduce the passivation state protecting the galvanised surface. In the case of outdoor storage (not recommended), use a cover that perfectly protects the material against the weather (rain, fog, snow), taking care to place the packages at a slight angle. This cover must in any case be such as to allow adequate ventilation (not putting the two surfaces in direct contact), so that moisture does not build up and create condensation.

## LEED PROTOCOL

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This certification is establishing itself as the new world standard for environmentally friendly construction and promotes a sustainability-oriented approach. Integrated process evaluation, energy performance optimisation, construction and demolition waste management planning, interior lighting and acoustic performance.

## PACKAGING MATERIAL

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The packaging is made of cardboard with a plastic bag inside containing the plenum, all sealed with tape on the outside. The pallet is made of plastic strapping and a wooden lath. The packaging is suitably sized to facilitate handling in warehouses and on construction sites.

## WARNINGS

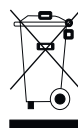
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### General Warnings

- Please read the following warnings carefully as they are important instructions for safe installation, use and maintenance.
- After removing the product from its packaging, make sure that it is intact, otherwise contact the seller.
- Packaging elements (plastic bags etc.) must not be left within reach of children as they are potential sources of danger.
- Failure to comply with the above may compromise the safety of the product.
- The manufacturer cannot be held liable for any damage resulting from improper, incorrect and unreasonable use.

### Important warnings

- The product must not be subject to modification; any modification voids the warranty and may render the product dangerous.
- Antonio Guerrasio s.r.l. shall not be held liable for any damage caused by its products not being installed in accordance with the instructions.
- The products must be installed in a workmanlike manner.
- The product is also intended to be installed on normally flammable surfaces.



### Recycling

the crossed-out bin serves as a reminder to collect the product separately from other waste at the end of its life or to return it to the dealer when purchasing a new appliance of an equivalent type. This helps to preserve the environment from contamination and promotes the recycling of product components. Unauthorised disposal is subject to sanctions according to the law.

Features subject to change and improvement without notice