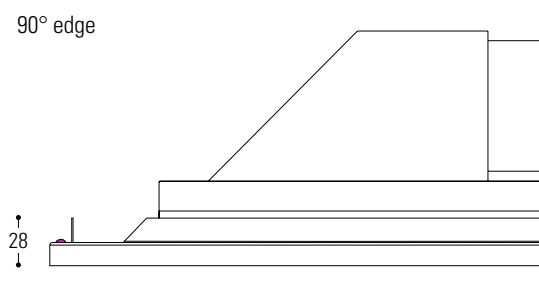




PLENUM

for **Vert Lab** system

90° edge

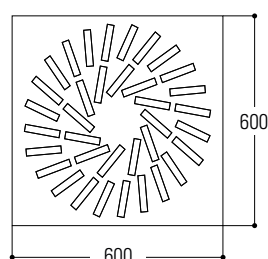


DESCRIPTION

Plenum with a helicoidal effect diffuser with adjustable mobile deflectors arranged on a helicoid with a high induction ratio (mixing capacity mixing capacity) between supply and ambient air. It is composed of a panel with holes in which adjustable plastic deflectors are accommodated. The plenum offers aesthetic and performance characteristics identical to the characteristics of our panels, guaranteeing an optimal result.

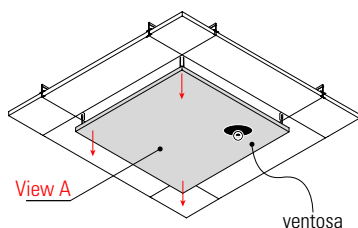
TECHNICAL CHARACTERISTICS

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

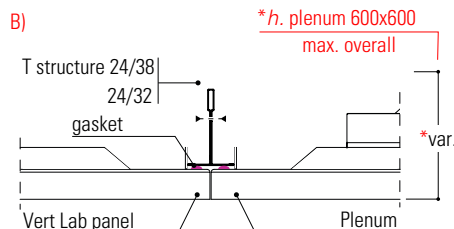
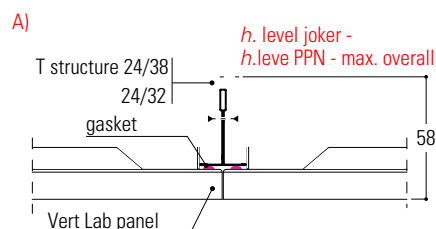
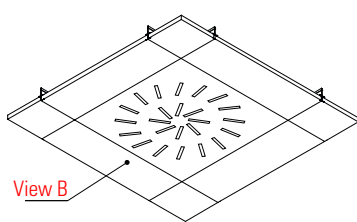


ADVANTAGES AND APPLICATIONS

Vert Lab system



Vert Lab system with plenum



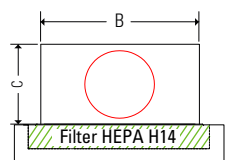
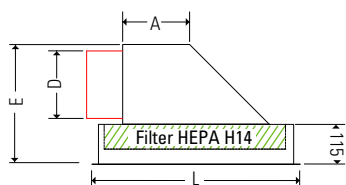
DESCRIPTION

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

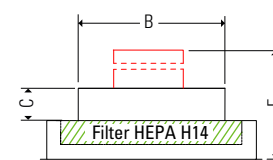
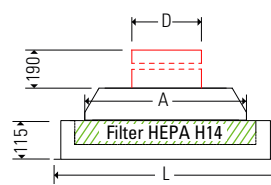
- Circular connection with a suitable high temperature resistant sealing
- Slotted bars for ceiling installation
- Slot for complete integration of the diffuser panel. In addition, due to the strong induction effect, the helicoidal throw diffusers generate a fast mixing of supply air and room air, thus allowing a powerful, draught-free exchange of air especially during the cooling phase, with a large difference between supply and room air temperature. The entire system together with the plenum can be inspected punctually by means of a suction cup that is supplied.

DIMENSIONS AND SPECIFICATIONS

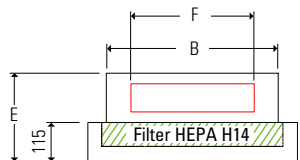
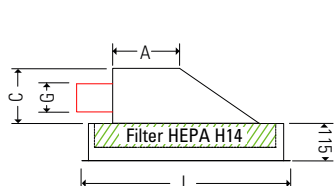
REAR CIRCULAR ATTACHMENT



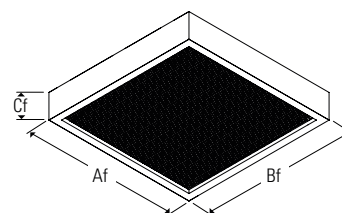
SUPERIOR ATTACK



RECTANGULAR REAR ATTACHMENT - (OPTIONAL)



FILTER HEPA 14

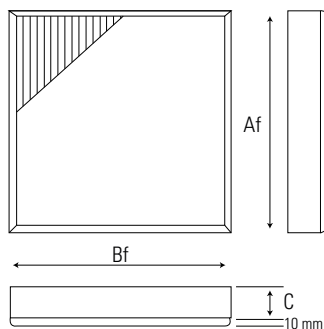


Model	PLENUM SPECIFICATIONS										HEPA / H14 FILTER SPECIFICATIONS							
	Model	Nominal size	Dimensions (mm)								Filter dimensions (mm)			Nominal flow Q		filtering surface	initial pressure drop	
			A	B	C	D**	E	F**	G**	L	Af	Bf	Cf	m³/h	m³/s X 10 ^{-3*}			m²
VL.PSAL305	lateral attachment	600x600	176	254	243	198	358			595	305	305	68	150	42	2,5	120	
VL.PSAL457			200	430	243						457	457	78	200	42	3,8	110	
VL.PSAL513			210	489	310	250	425				513	513	68	450	125	7	120	
VL.PSAL610		900x900	262	736	360	315	475				895	762	610	68	750	209	12	120
VL.PSAL762												762	762	68	940	261	15	120
VL.PSAS305		upper attachment	600x600	176	254	100	198			405			595	305	305	68	150	42
VL.PSAS457	200			430	457			457	78					200	42	3,8	110	
VL.PSAS513	210			489	250	425	513	513	68	500				125	9,2	110		
VL.PSAS610	900x900		262	736	315			895	762	610			68	750	209	12	120	
VL.PSAS762									762	762			68	940	261	15	120	
VL.PSALR305	attachment rear rectangular	600x600	230	281	186	-	283	210	126	595	305	305	68	150	42	2,8	110	
VL.PSALR457			230	281	186	-	283	210	126				78	200	42	3,8	110	
			300	430	135	-	255	320	95		457	457	68	340	95	5,5	120	
VL.PSALR513			300	430	135	-	255	320	95				78	450	95	8,5	110	
			330	490	135	-	255	450	80		513	513	68	500	125	9,2	110	
			330	490	135	-	255	450	80				78	550	125	10,35	110	

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

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

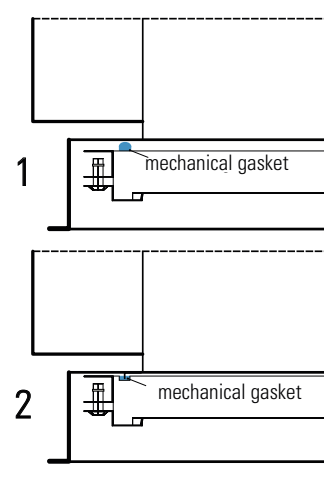
PLENUM CHARACTERISTICS



DESCRIPTION

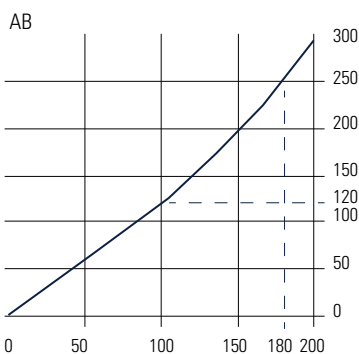
The filter is made with an anodised extruded aluminium frame with a depth of 69 mm, fitted with a micro-expanded aluminium protection with white epoxy paint. The filter media is made of glass microfibre, water-repellent and fireproof; the small pleats have continuous thermoplastic spacers while the seal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

Filter characteristic curve



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

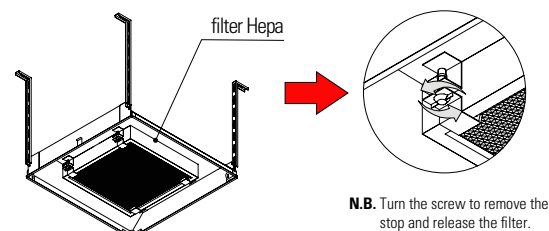
TECHNICAL DATA

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.

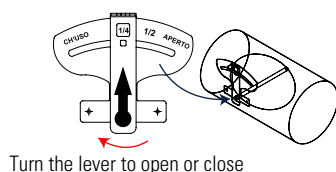
FILTER COUPLING SYSTEM



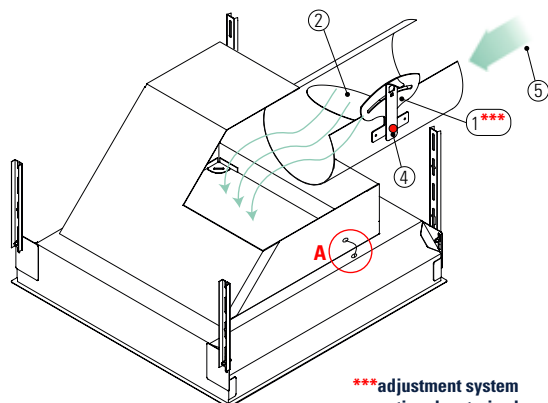
N.B. Turn the screw to remove the stop and release the filter.

PLENUM WITH CIRCULAR REAR CONNECTION

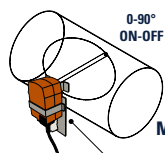
1. regulation
2. regulation damper
3. regulated supply
4. damper stop
5. delivery



Turn the lever to open or close



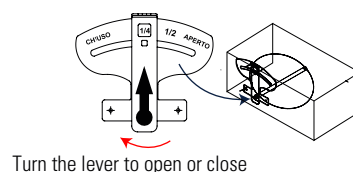
*** adjustment system optional motorized



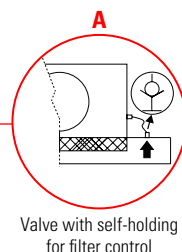
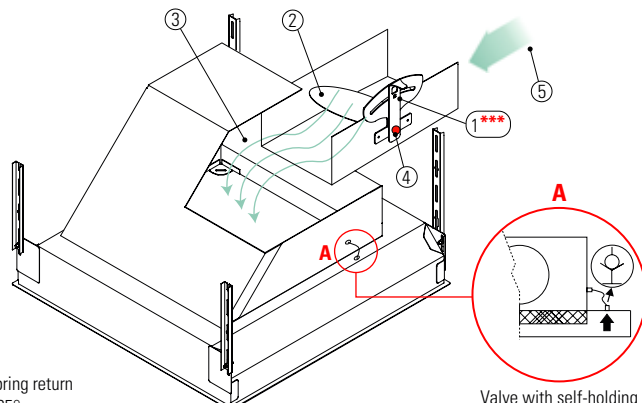
Motorized damper

PLENUM WITH RECTANGULAR REAR CONNECTION

1. regulation
2. regulation damper
3. regulated supply
4. damper stop
5. delivery



Turn the lever to open or close

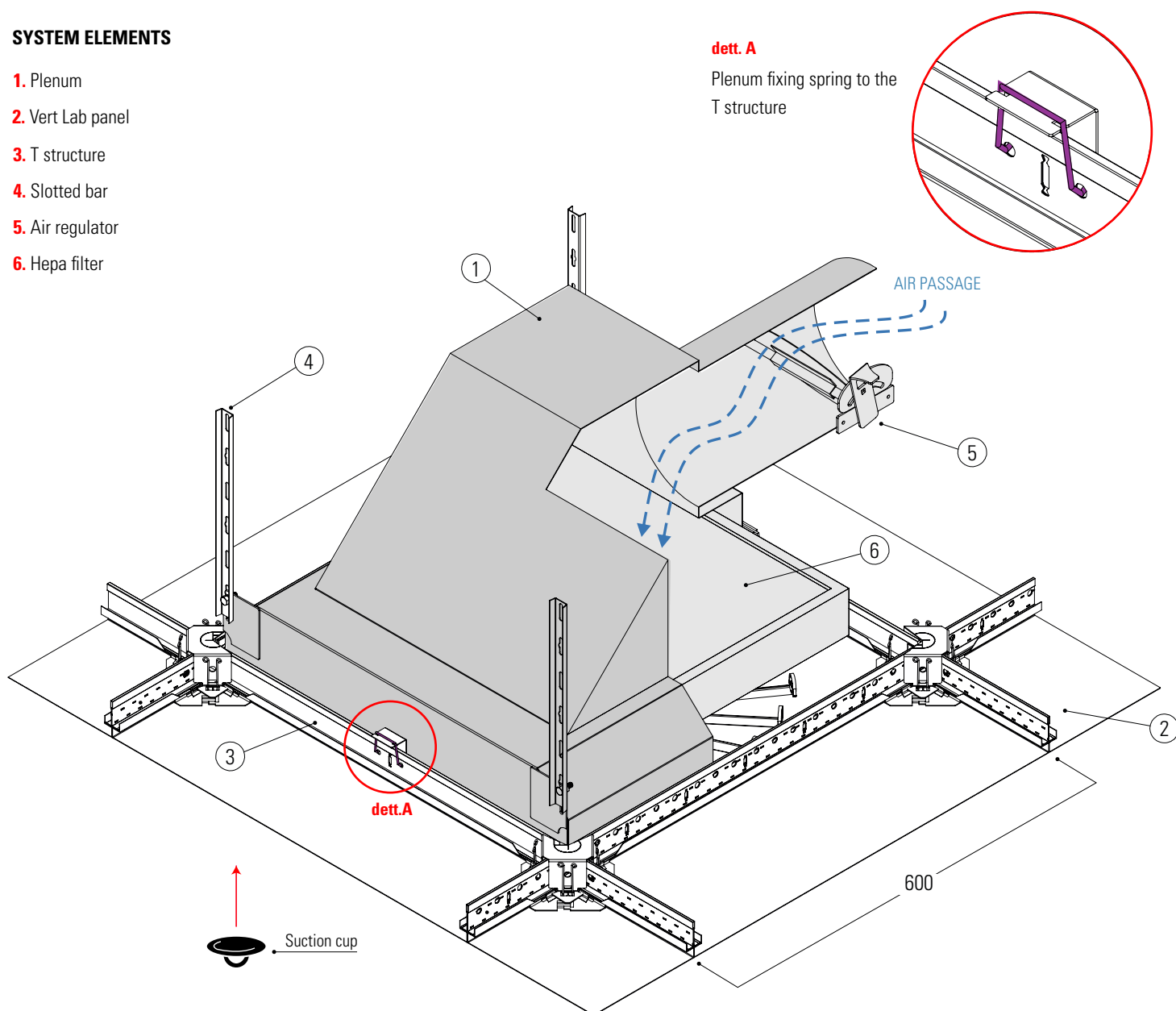


Valve with self-holding for filter control

- Actuator with spring return
- 2.5 Nm, < 75 s, 95°
- AC 230 V, On-Off
- IP42
- Spring intervention time < 25 s
- On-Off control with 1-wire control
- Cable connection PVC 1 m
- Pivot actuator Universal clamp
- Reversible direction of rotation (R/L) with mechanical stop and position indicator

SYSTEM ELEMENTS

1. Plenum
2. Vert Lab panel
3. T structure
4. Slotted bar
5. Air regulator
6. Hepa filter

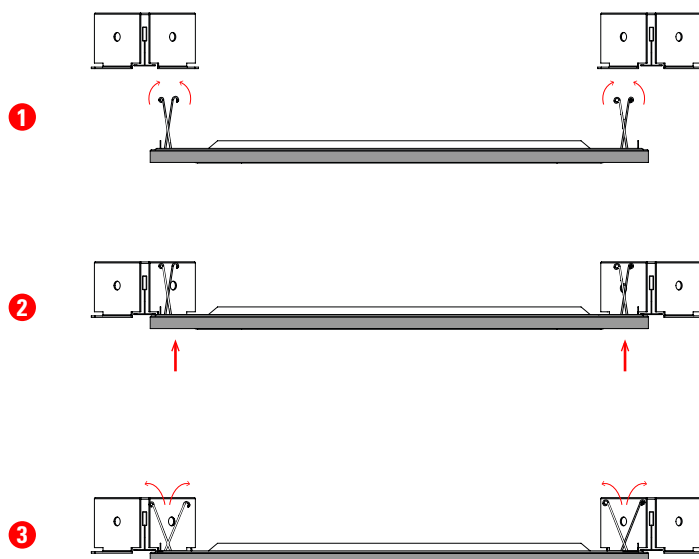


ASSEMBLY DESCRIPTION

Assembly is simple and intuitive:

Position the plenum in correspondence with the structure under the attic, using the slotted bars located on the four sides of the plenum, proceed to fix it with screws. Then proceed with panel assembly:

1. Position the panel (1) in correspondence with the T structure
 2. Insert the panel by matching the sides where the harmonic springs are present
 3. Make sure that the springs are inserted inside the jokers
- To inspect the plenum use the suction cup in the corner.



SYSTEM WITH PLENUM

SYSTEM ELEMENTS

1. Plenum

2. Vert Lab panel

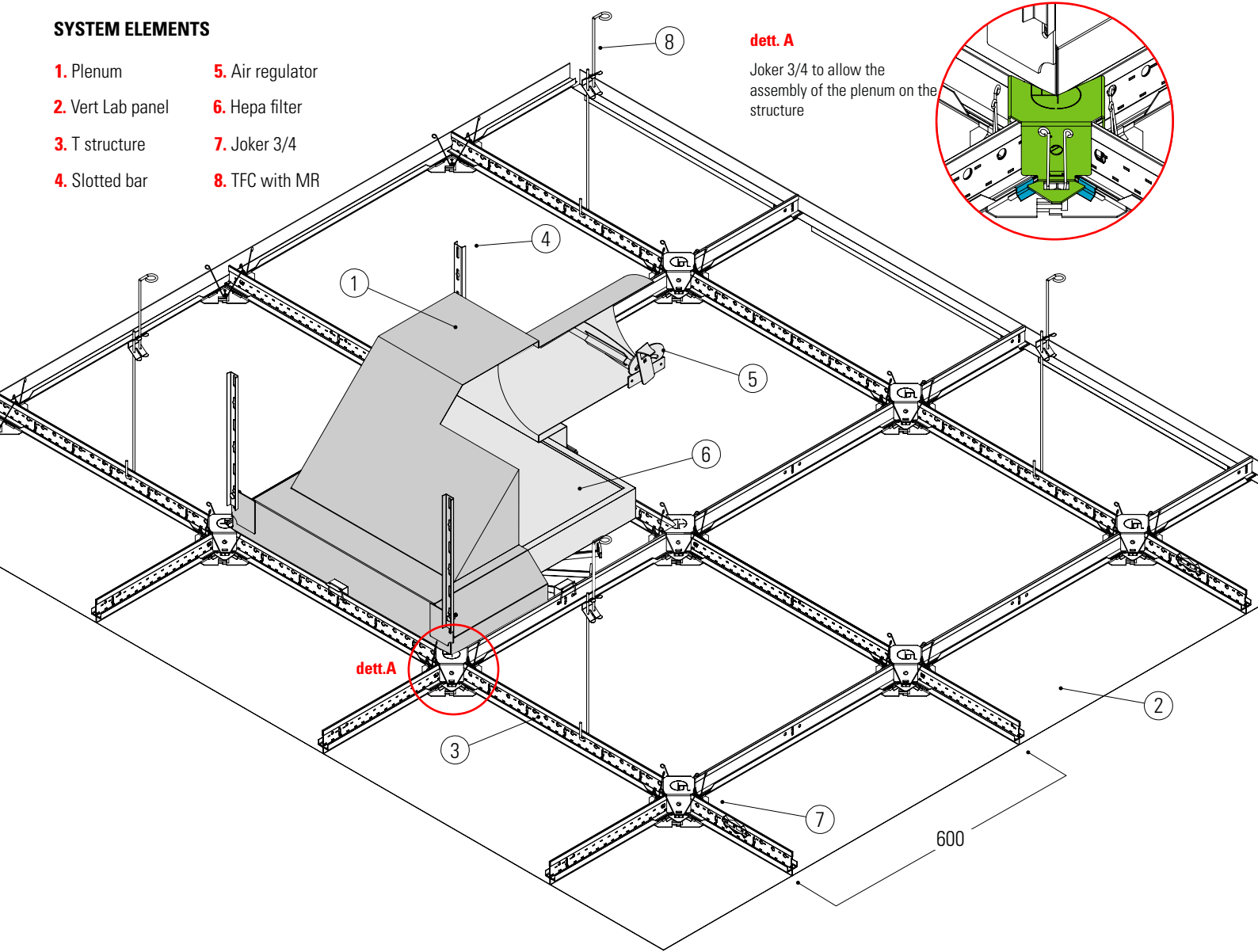
3. T structure

4. Slotted bar
5. Air regulator

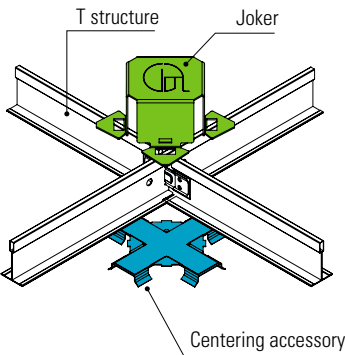
6. Hepa filter

7. Joker 3/4

8. TFC with MR

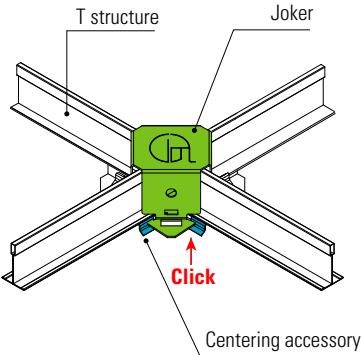


● Joker ● Centering accessory



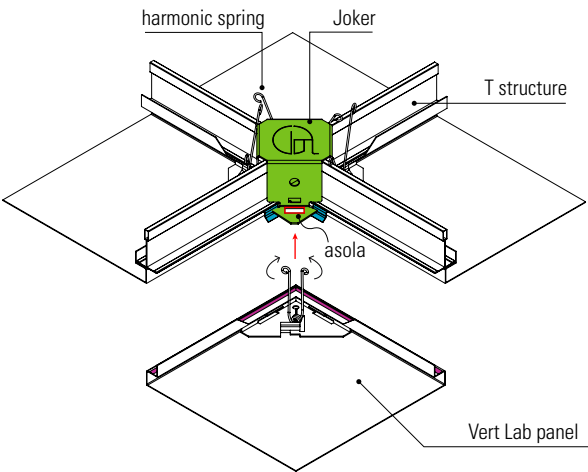
PHASE 1

Assemble the T-shaped structure by positioning the profiles that make up the structure such as PP 3700 - IL 1200 - IC 600, creating a 600x600mm square.



PHASE 2

After assembling the T-structure, assemble the Joker and the centering accessory at the crossroads as shown in the first two figures.



PHASE 3

Position and center the panel between the profiles of the T-shaped structure. Then tighten the springs located on the four sides of the panel and insert them into the slots positioned on the Jokers.

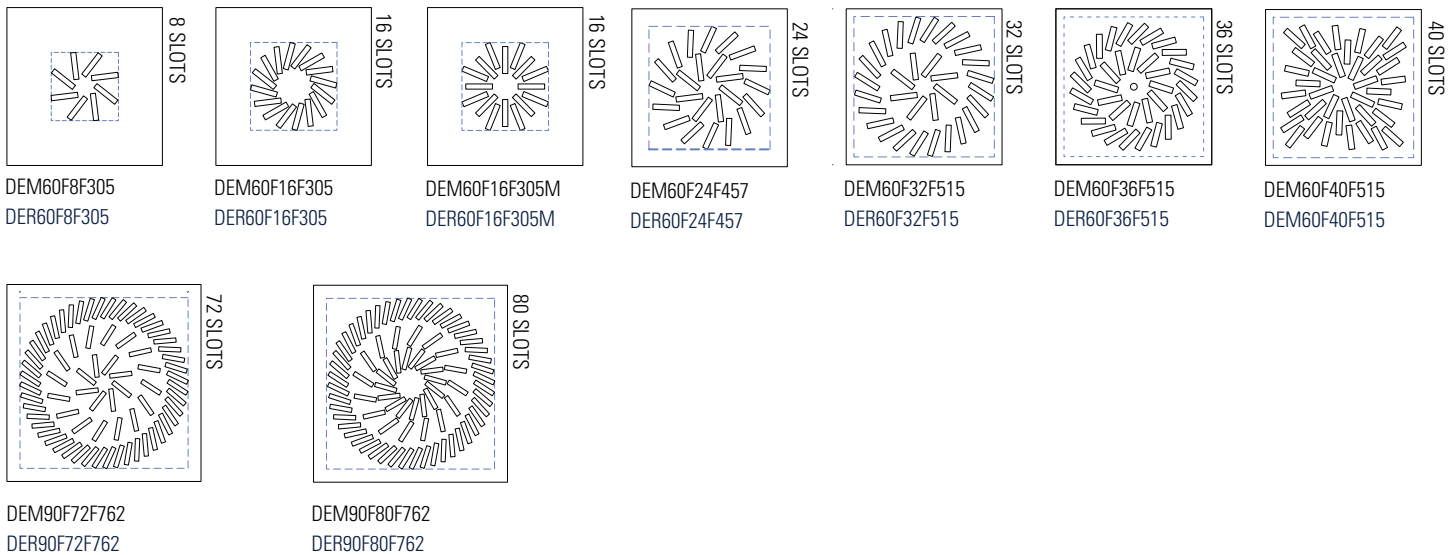
SWIRL DIFFUSERS

DESCRIPTION

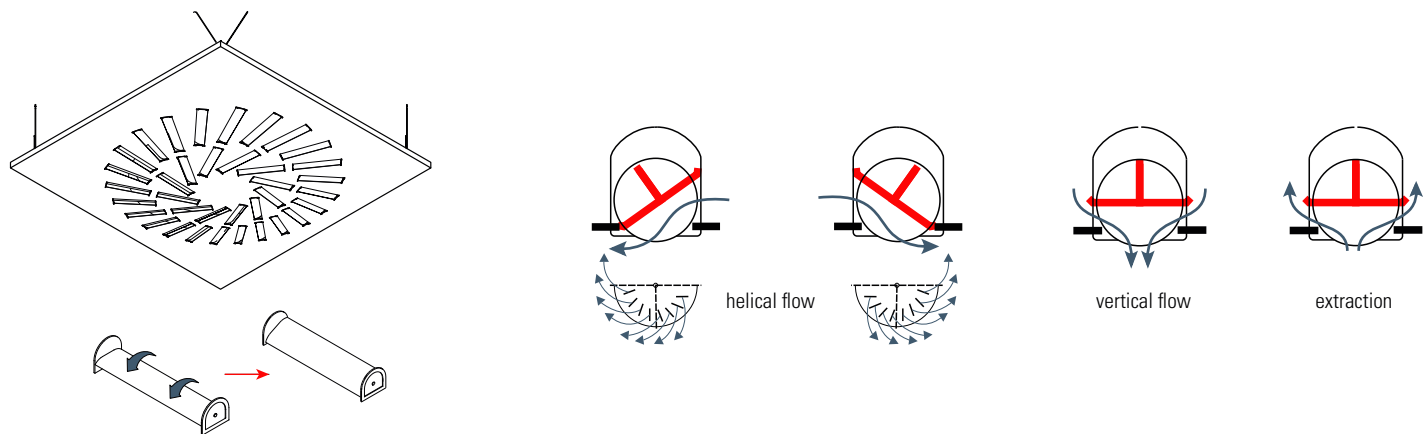
Air diffuser with or without adjustable slots (supply and extract), arranged in a daisy-chain pattern, particularly suitable for swirl flows. It is used for both cooling and heating with installation on low to medium height ceilings (2.7-3.5 m). Unidirectional flow diffusers on request.

SPECIFICATIONS

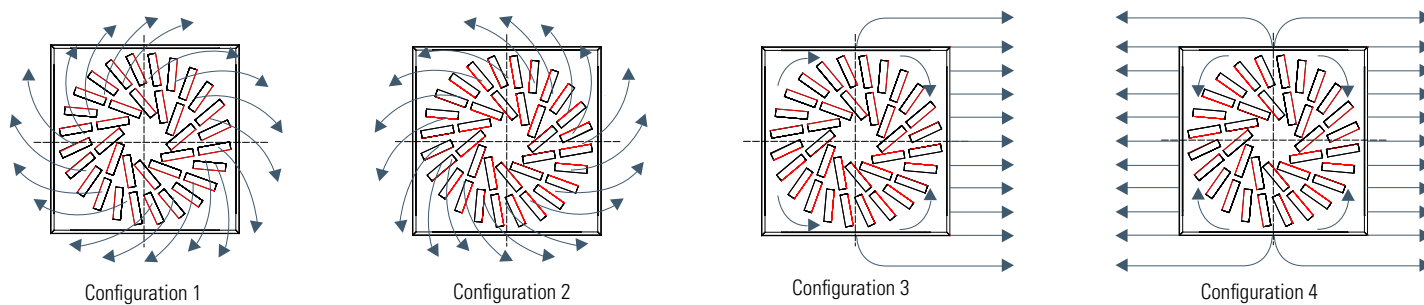
- Suitable for systems with variable flow rates between 100% and 40%.
- Suitable for low and medium space installations.



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

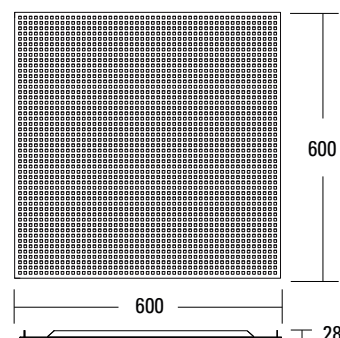
DIFFUSER AND RETURN PANELS FOR VERTICAL DROP

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).

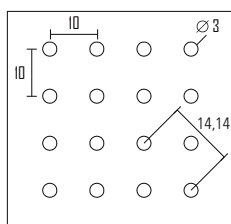
FEATURES

- 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%

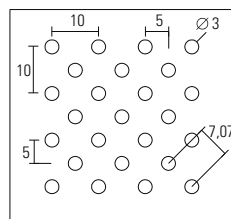
Data table Air supply Plenum + Circular perforated diffuser Ø 3



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 %

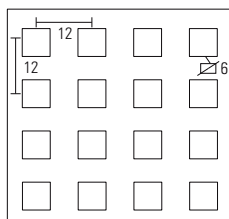
Data table Plenum supply + Circular perforated diffuser Ø 3



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

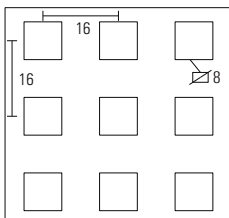
Return panels air passage 25 %

Data table Supply air Plenum + square perforated diffuser 6X6



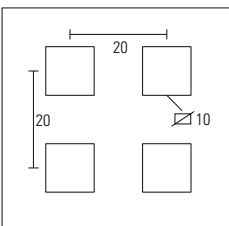
Noise NRdB		<20	20	25	30	35	40	45	50	55
Churches and libraries										
Hospitals										
Flats and offices										
Commercial Buildings										
Installation height (mt)	min	2,6	2,7	2,8	2,9	3	3,1	3,2	3,4	3,4
	max	3,3	3,4	3,4	3,5	3,6	3,7	3,9	4	4,1
Output speed	m/s	2	3	4	5	6	8	9	10	12
Load loss	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

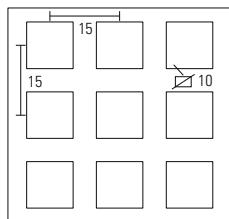
Data table Supply air Plenum + square perforated diffuser 10X10



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

- 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

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

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

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.

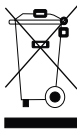
WARNINGS

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