

LINED COMBINED SERIES - ALUMINIUM



Lined Combined TP

USE

- Diffuser and dedicated plenum for combined and simultaneous air supply and exhaust, for all ventilation applications, especially air conditioning.
- Extremely low internal and external recirculation / bypass rate (<5%**) delivering excellent air diffusion efficiency and ensuring thermal and acoustic comfort of occupants.
- Adjustable diffusion using dirigible deflector in the centre of each slot. Vertical airflow possible.
- Possible to add a filter on the exhaust part to replace that of the ducted convector fan for example.
- Optional possibility to add fresh air connection on exhaust to ensure new air inlet for a convection fan.
- Ceiling-mounted.

CONSTRUCTION

- The combined air supply and exhaust components are aesthetically combined on the same diffuser, with the same 25 mm-wide slots.
- The air supply and exhaust deflectors are separated by a discreet partition in the diffuser to deliver one of the lowest recycling rates on the market.
- Air supply side: adjustable deflectors enabling horizontal diffusion in one or two directions or vertical diffusion depending on the slots. The deflectors are located in the centre of each slot to ensure excellent air diffusion by the Coanda effect and a seamless aesthetic finish.
- Exhaust side: on the opening version a filter can be installed to ensure filtration of fresh air before it reaches the ventilation unit installed. Opening core mounted on hinges and push clip closing method (minimum 3 slots).
- Available in Standard, TP or Slim linear versions to adapt to different ceiling types and integration styles.
 - **O**: air supply + exhaust (opening for access to filter using push clip system).
 - **F**: air supply + exhaust fixed (non-opening, no filter).

FINISH

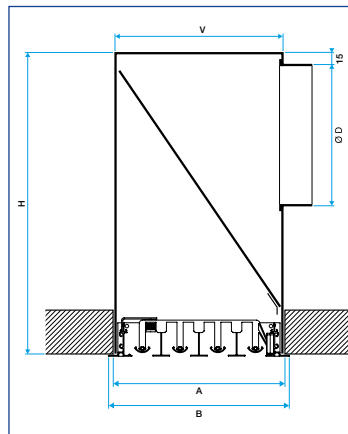
- Aluminium deflectors, paint coating RAL 7024 anthracite grey or RAL 9010 white 30% matt.
- Anodised aluminium body, natural satin hue (STANDARD models only) or paint coating, RAL 9010 white 30% matt.
- Paint finish from RAL colour chart. View the list of available colours in the Compulsor air diffusion appendix.
- Special finish on request.

ATTACHMENT

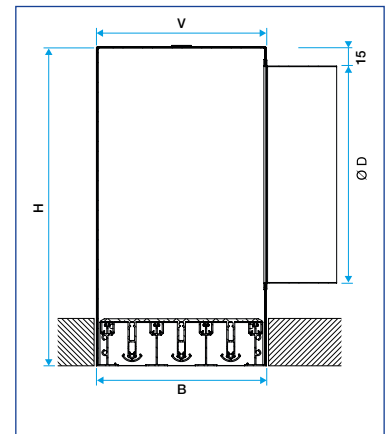
- Concealed attachment to plenum, either adjustable and accessible below the diffuser (type S3), or directly using self-tapping screws on the sides of the plenum (type S2).

** Internal and external recycling rate. Tests carried out on 1000-1400 mm models, 3-5 slots, using in-house lab, compared to market leaders in linear combined solutions (air supply + exhaust in same diffuser and plenum)

DIMENSIONS



Lined Combined Standard Opening Exhaust side



Lined Combined Slim Fixed Exhaust side

ACCESSORIES

- Galvanised steel plate connection plenum fitted with dividing partition between the air supply and exhaust airflows. Simple or insulated version (sound proofing or thermal-acoustic insulation). Equipped with brackets for attachment to concrete slab.
 - Optional fresh air connection on exhaust side.
 - Optional damper included in plenum, accessible from front of diffuser on non-TP versions and without filters.
 - G3 M1 filter included in exhaust part of plenum for opening diffusers.
- For more information, refer to the Combined plenum page below.

STANDARD DIMENSIONS

- 3 to 8 slots on LINED COMBINED O versions, Length 500-1500 mm (600 to 1500 on TP model).
- 1 to 8 slots on LINED COMBINED F versions, Length 500-2000 mm (600 to 1600 on TP models).

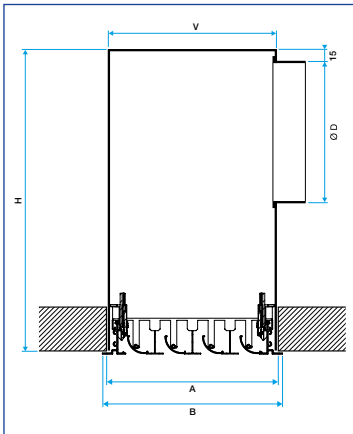
For more information, refer to the Range page.

TECHNICAL DETAILS

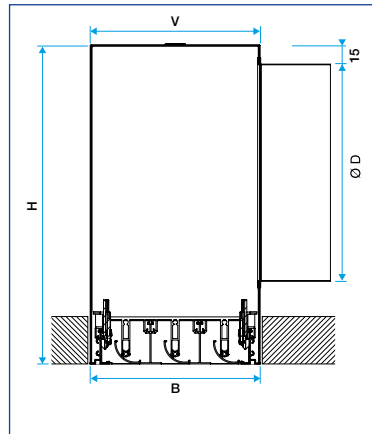
- See selection tables and scales on following pages.

LINED COMBINED SERIES - ALUMINIUM

DIMENSIONS



Lined Combined Standard Fixed
Air supply side



Lined Combined Slim Fixed
Air supply side

LINED COMBINED STANDARD AND COMBINED SLIM - FIXED AND OPENING

Number of slots	Comfort airflow < 35 dB(A)	W (mm)	Length of slots		Length of plenum		Opening A (mm)		B (mm)		V (mm)	H (mm)	Ø plenum connection (mm)
			Std	Slim	Std	Slim	Std	Slim	Std	Slim			
1	100 m³/h	500-2000	L-20	L-12	L-10	L-2	75	70	81	65	65	250	160
2	150 m³/h	550-2000	L-20	L-12	L-10	L-2	120	115	126	110	110	290	200
3	200 m³/h	550-2000 (1500 for opening)	L-20	L-12	L-10	L-2	165	160	171	155	155	290	200
4	250 m³/h	650-2000 (1500 for opening)	L-20	L-12	L-10	L-2	210	205	216	200	200	340	250
5	350 m³/h	650-2000 (1500 for opening)	L-20	L-12	L-10	L-2	255	250	261	245	245	340	250
6	350 m³/h	750-2000 (1500 for opening)	L-20	L-12	L-10	L-2	300	295	306	290	290	405	315
7	400 m³/h	750-2000 (1500 for opening)	L-20	L-12	L-10	L-2	345	340	351	335	335	405	315
8	450 m³/h	750-2000 (1500 for opening)	L-20	L-12	L-10	L-2	390	385	396	380	380	405	315

LINED COMBINED SERIES - STEEL CONNECTION PLENUM



Plenum

USE

- Plenums for LINED COMBINED series slot diffusers.
- Combined air supply and exhaust: minimum recirculation / bypass rate (<5%**).
- Ceiling-mounted.

CONSTRUCTION

- Plenum specific to LINED COMBINED performing air supply and exhaust functions simultaneously.
- The plenum is divided into 2 equal parts for air supply and exhaust intake.
- The exhaust part is fitted with a filter which can be accessed via the front panel of the diffuser.
- Made of galvanised steel plate.
- Air supply and exhaust connections of the same diameter.
- Optional possibility to add fresh air connection on exhaust to ensure new air inlet for a convection fan.

ATTACHMENT

- S2: concealed screw attachment for diffuser on plenum, accessible on the sides of the diffuser. CAUTION: this attachment method is not compatible with plaster or BA13 plasterboard ceilings.
- S3: concealed screw and clip attachment of diffuser to plenum, accessible underneath the diffuser.
- Attachment to concrete ceiling using brackets on the plenum. CAUTION: the weight of the diffuser must not be borne by the ceiling framework.

ACCESSORIES

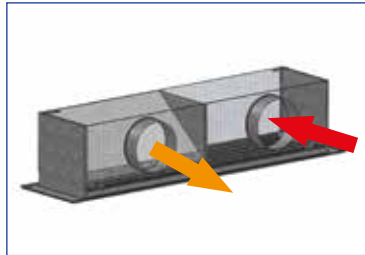
- G3 M1 filter included in exhaust part of plenum for "O" opening diffusers.

OPTIONS

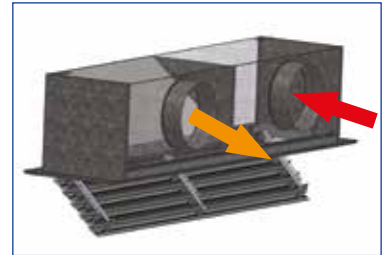
- Special height H.
- Special connection diameter (circular or oblong equivalent to \varnothing 200 mm or \varnothing 250 mm).
- G3 flat filter (M1 fire rating) for exhaust part. Positioned diagonally in plenum for maximum possible filtration surface. Fixed in place using cleats.
- Supplementary connection for fresh air management. Available in 80, 100 and 125. (Positioned opposite to exhaust connection).
- A diffuser longer than the plenum can be fitted in order to create installations with inactive diffusion sections (for decorative reasons).
- Internal acoustic or thermal-acoustic insulation on request.
 - Acoustic: 20 mm melamine panel facing the connection (recommended on exhaust part only).
 - Thermal-acoustic: melamine panel + 4 x 5 mm foam panels (recommended on air supply part only).

** Internal and external recycling rate. Tests carried out on 1000-1400 mm models, 3-5 slots, using in-house lab, compared to market leaders in linear combined solutions (air supply + exhaust in same diffuser and plenum)

DIMENSIONS



LINED COMBINED TP Opening, LEFT version with plenum Closed position



LINED COMBINED Opening, LEFT version with plenum Open position

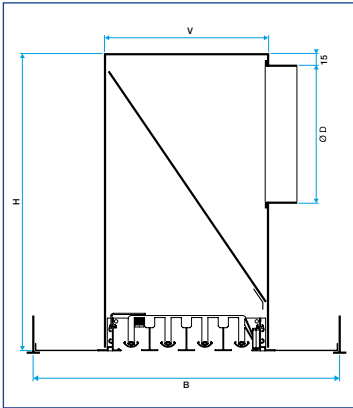
STANDARD DIMENSIONS

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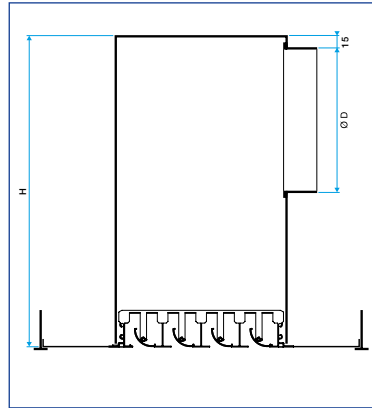
For more information, refer to the Range page.

LINED COMBINED SERIES - STEEL CONNECTION PLENUM

DIMENSIONS



Lined Combined TP Opening
Exhaust side



Lined Combined TP Fixed
Air supply side

LINED COMBINED TP - FIXED AND OPENING

Number of slots	Comfort airflow < 35 dB(A)	A (mm) - Length of ceiling slab	Length of TBAR slot (mm)	Length of FLINE slot (mm)	Length of plenum (mm)	B (mm) - Width of ceiling slab	V (mm)	H (mm)	Ø plenum connection (mm)
1	100 m³/h	600-1600	A-70	A-82	Length of slot + 10	200-700	65	250	160
2	150 m³/h	600-1600	A-70	A-82	Length of slot + 10	200-700	110	290	200
3	200 m³/h	600-1600	A-70	A-82	Length of slot + 10	200-700	155	290	200
4	250 m³/h	650-1600	A-70	A-82	Length of slot + 10	250-700	200	340	250
5	350 m³/h	650-1600	A-70	A-82	Length of slot + 10	300-700	245	340	250
6	400 m³/h	750-1600	A-70	A-82	Length of slot + 10	350-700	290	405	315
7	450 m³/h	750-1600	A-70	A-82	Length of slot + 10	400-700	335	405	315
8	450 m³/h	750-1600	A-70	A-82	Length of slot + 10	450-700	380	405	315

LINED - LINED TP - LINED SLIM - LINED COMBINED SERIES ATTACHMENT AND FILTER REPLACEMENT



Lined diffuser

S2 ATTACHMENT METHOD

- Attachment using self-tapping screws on side of plenum.

Note: this attachment method is recommended for suspended ceilings and is not compatible with plaster or BA13 plasterboard ceilings.

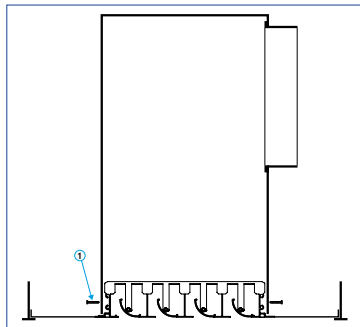
S3 ATTACHMENT METHOD

- Concealed, adjustable attachment to plenum under the diffuser.

Note: this attachment method is simple and quick to use, with the possibility of adjusting the diffuser position in order to position it flush with the ceiling. Recommended for plaster or BA13 plasterboard ceilings.

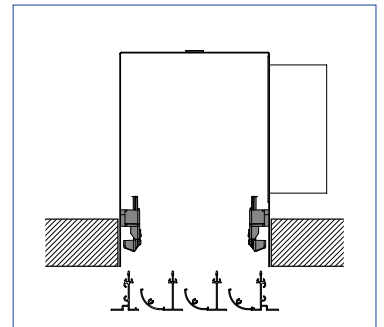
INSTALLATION

S2 attachment method



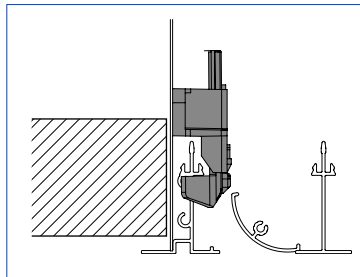
Air supply diffuser with S2 attachment
① Self-tapping screw

S3 attachment - step 1



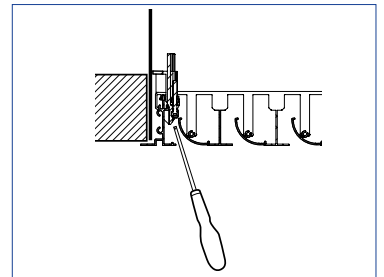
Insert the diffuser under the plenum

S3 attachment - step 2



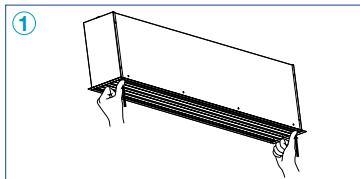
Push and clip the 4 attachments

S3 attachment - step 3

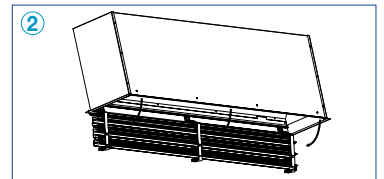


Screw to position the diffuser flush against the plaster ceiling

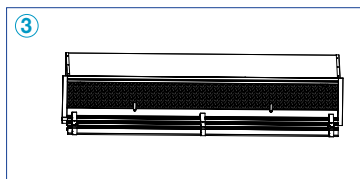
PROCEDURE



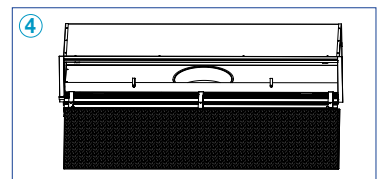
① Push the two clips at the ends of the core to open it
Take care to mount the diffuser in the plenum with the hinges of the opening core on the cleat side



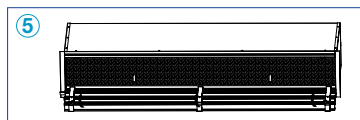
② Open the diffuser core



③ Lift the cleats to remove the old filter



④ Insert the new filter by pressing on the corners of each side of the plenum and lower the cleats



⑤ Close the core with the push clips

LINED - LINED TP - LINED SLIM - LINED COMBINED SERIES

RANGE WITH CHOICE OF OPTIONS

Linear model	Code	TP model	Code	Slim model	Code
LINED S	11002297	LINED TP S	11002307	LINED Slim S	11002294
LINED E	11002298	LINED TP E	11002308	LINED Slim E	11002295
LINED EO	11002299	LINED TP EO	11002309	LINED Slim EO	11002296
Plenum for LINED	11002135	Plenum for LINED TP	11002114	Plenum for LINED Slim	11002136

Combined opening model	Code	Combined plenum	Code
LINED Combined O	11002377	LINED Combined plenum	11002197
LINED Combined Slim O	11002378	LINED Combined Slim plenum	11002198
LINED Combined TP O	11002379	LINED Combined TP plenum	11002199

Combined fixed model	Code	Combined plenum	Code
LINED Combined F	11002387	LINED Combined plenum	11002197
LINED Combined Slim F	11002388	LINED Combined Slim plenum	11002198
LINED Combined TP F	11002389	LINED Combined TP plenum	11002199

Model	Code
LINED KS Angle 90°	11002289
LINED KE Angle 90°	11002290

Model	Code
Filter for LINED EO	11003256
Filter for LINED TP EO	11003257
Filter for LINED Slim EO	11003258
Filter for LINED Combined O	110002404
Filter for LINED Combined TP O	11002405
Filter for LINED Combined Slim O	11002406
Pack of 20 S3 Lined attachments	21109237

OPERATIONAL DIMENSIONS LINED LINEAR SERIES - SLIM

H / L (mm)	600	800	1000	1200	1400	1600	1800	2000
1	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X
3	•	•	•	•	•	X	X	X
4	•	•	•	•	•	X	X	X
5	•	•	•	•	•	X	X	X
6	•	•	•	•	•	X	X	X
7	•	•	•	•	•	X	X	X
8	•	•	•	•	•	X	X	X

• Dimensions available on EO models: exhaust filter holder

AVAILABLE OPTIONS

Attachment	Finish	Diffuser	Plenum
<ul style="list-style-type: none"> S2: attachment using self-tapping screws on side of plenum. S3: concealed, adjustable attachment to plenum under the diffuser. 	<ul style="list-style-type: none"> Anodised finish, natural satin hue or RAL 9010 white 30%. Anthracite grey or white deflectors. Epoxy paint from RAL colour chart. 	<ul style="list-style-type: none"> Whole element*. Left or right end piece*. Intermediate element*. 	<ul style="list-style-type: none"> Special depth. Special diameter on branch connection. Supplementary connection.* Fresh air connection Ø 80, 100 or 125 mm. Soundproofing or thermal-acoustic insulation. Shorter plenum than diffuser (for inactive sections). Damper fitted in plenum branch connection.** G3 filter incorporated.

* Not available for LINED Combined

** Not available on models with filter and not available on single-slot models

OPERATIONAL DIMENSIONS LINED TP SERIES

H / AxB (mm)	600x300	1200x300	1350x300	1500x300	600x600	1200x600	1350x600	1500x600
1	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X
3	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	-	-	-	-	•	•	•	•
7	-	-	-	-	•	•	•	•
8	-	-	-	-	•	•	•	•

• Dimensions available on EO models: exhaust filter holder

AVAILABLE OPTIONS

Attachment	Finish	Diffuser	Plenum
<ul style="list-style-type: none"> S2: attachment using self-tapping screws on side of plenum. 	<ul style="list-style-type: none"> Paint coating RAL 9010 white 30%. Anthracite grey or white deflectors. Epoxy paint from RAL colour chart. 	<ul style="list-style-type: none"> For Tbar or Fine-line suspended ceilings. Protective film. 	<ul style="list-style-type: none"> Special depth. Special diameter on branch connection. Supplementary connection. Fresh air connection Ø 80, 100 or 125 mm. Soundproofing or thermal-acoustic insulation. Damper fitted in plenum branch connection.** G3 filter incorporated.

** Not available on models with filter and not available on single-slot models

LINED COMBINED SERIES

SELECTION - AIR SUPPLY + EXHAUST FOR 1 M LENGTH WITH CEILING EFFECT

Connection diameter	Number of slots	Airflow (m³/h)	100	150	200	250	300	400	500	600	800
160	1	Lw (dB(A))	38	49							
		ΔP1 (Pa)	34	74							
		ΔP2 (Pa)	27	60							
		ΔP3 (Pa)	54	121							
		Lt (m)	5.2	7.8							
200	2	Lw (dB(A))	23	34	41	47					
		ΔP1 (Pa)	9	19	34	52					
		ΔP2 (Pa)	7	15	27	42					
		ΔP3 (Pa)	13	30	54	84					
		Lt (m)	3.7	5.5	7.3	9.2					
200	3	Lw (dB(A))		25	32	38	43	50			
		ΔP1 (Pa)		9	15	24	34	59			
		ΔP2 (Pa)		7	12	19	27	47			
		ΔP3 (Pa)		13	24	37	54	96			
		Lt (m)		4.5	6.0	7.5	9.0	12.0			
250	4	Lw (dB(A))		18	25	31	36	43	49		
		ΔP1 (Pa)		5	9	13	19	34	52		
		ΔP2 (Pa)		4	7	11	15	27	42		
		ΔP3 (Pa)		8	13	21	30	54	84		
		Lt (m)		3.9	5.2	6.5	7.8	10.4	13.0		
250	5	Lw (dB(A))			21	26	31	39	44	49	
		ΔP1 (Pa)			6	9	12	22	34	48	
		ΔP2 (Pa)			5	7	10	17	27	39	
		ΔP3 (Pa)			9	13	19	35	54	78	
		Lt (m)			4.6	5.8	7.0	9.3	11.6	13.9	
315	6	Lw (dB(A))				23	26	35	41	46	
		ΔP1 (Pa)				6	9	15	24	34	
		ΔP2 (Pa)				5	7	12	19	27	
		ΔP3 (Pa)				9	13	24	38	54	
		Lt (m)				5.3	6.4	8.5	10.6	12.7	
315	7	Lw (dB(A))				20	25	32	38	43	50
		ΔP1 (Pa)				5	6	11	17	25	44
		ΔP2 (Pa)				4	5	9	14	20	35
		ΔP3 (Pa)				7	10	18	28	40	70
		Lt (m)				4.9	5.9	7.8	9.8	11.8	15.7
315	8	Lw (dB(A))						30	36	41	48
		ΔP1 (Pa)						9	13	19	34
		ΔP2 (Pa)						7	11	15	27
		ΔP3 (Pa)						13	21	30	54
		Lt (m)						7.3	9.2	11.0	14.7

Data valid for a standard diffuser (with central partition, so air supply length = exhaust intake length)

The Lw (dB(A)) values do not take into account any noise attenuation in the room. Vt = 0.37 m/s

Tests conducted with standard plenum

ΔP1 = air supply only

ΔP2 = exhaust air only

ΔP3 = exhaust with filter