



LINEAR DIFFUSERS

KM SERIES

OVERVIEW CHARACTERISTICS APPLICATIONS

OVERVIEW :

KM series linear diffusers are an excellent solution as air terminal devices. They are made in anodized aluminium and they are equipped with adjustable deflectors. These deflectors permit to obtain multidirectional flow of delivery air and the optimization of diffuser performance in the specific application. This kind of diffusers is suggested for all civil applications that require linear and specific air diffusion.

KM series is designed to be installed without mounting frame and without screws on frontal side. This kind of linear diffuser can be manufactured with a maximum of 8 slots in order to satisfy all possible applications.

CHARACTERISTICS AND OPERATION :

KM diffusers are equipped with adjustable deflector blades which permit high induction level. The possibility to change air flow direction into a range of 180 degree, leave constant the value of pressure drop and free area of ATD. Deflectors divide the main air flow to several vertical and horizontal air jets which cause a high induction effect. It's possible to obtain combined jets (vertical and horizontal, left and right) with the same slot.

APPLICATIONS :

Generally, KM series diffusers are installed on the ceiling for civil buildings which have a mixed air distribution system. The installation height is included between 2,6 and 6,0 m. The air flow rate is variable from 200 to 1.400 m³/h with temperature gradient between +15 °C and -10 °C.

DIFFUSER FIXING TO THE CEILING :

S2 mounting system (shown on following pages) is constituted from supports fixed on diffuser's lateral sides. These supports are joined to the ceiling by a traction system. This system can sustain the plenum.

S3 mounting system is constituted from supports fixed on diffuser lateral sides. In this case, these supports connect the diffuser to the plenum that is fixed to the ceiling.

DIFFUSER FIXING TO THE PLENUM :

S2 mounting system is carried out by self-threading screws applied to lateral sides of diffuser body.

S3 mounting system is fixed by mounting bridges.

STANDARD FINISHING :

KM series diffuser can be manufactured from anodized extruded aluminium or from extruded aluminium painted with colour white RAL 9010 (epoxy powder treatment).

MATERIALS :

Diffuser in extruded aluminium, plenum in galvanized sheet steel, external insulation self-extinguishing material class I.

CONTRAST CALIBRATING GATE :

The regulation is carried out by a command inside the diffuser.

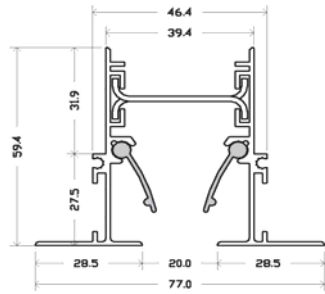


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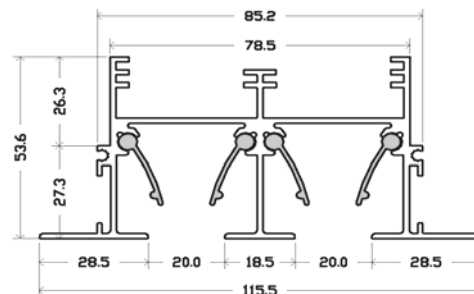
TECHNICAL DRAWINGS

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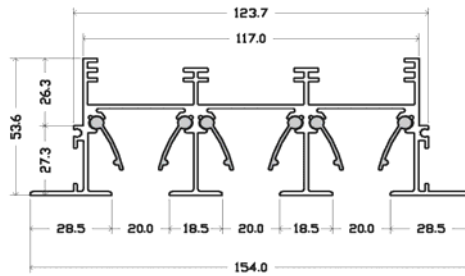
KM 1 slot linear diffuser.



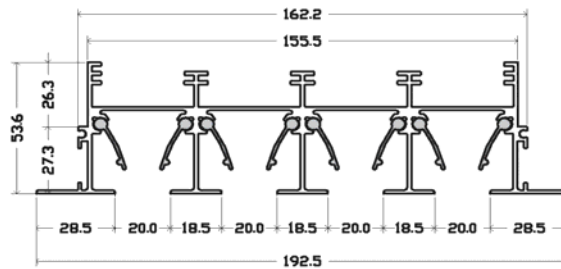
KM 2 slots linear diffuser.



KM 3 slots linear diffuser.



KM 4 slots linear diffuser.



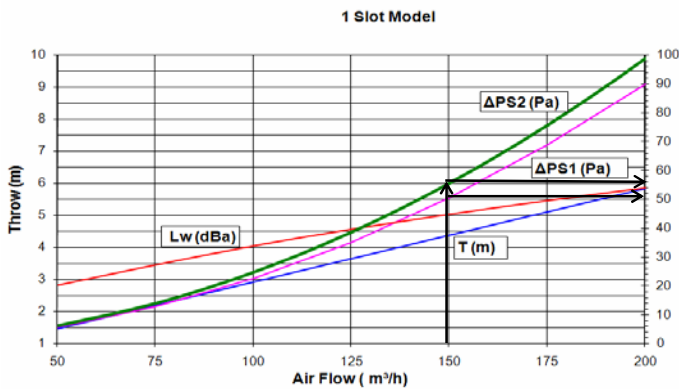
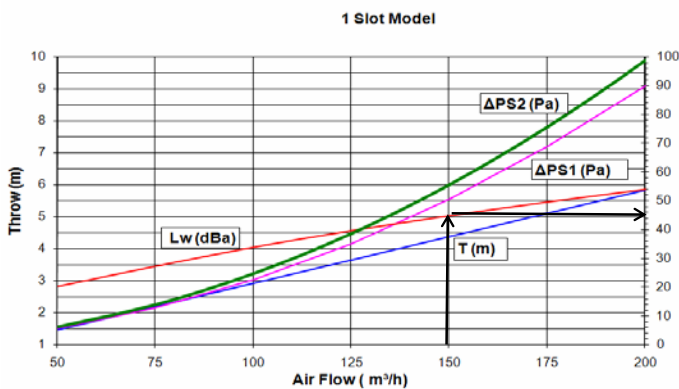
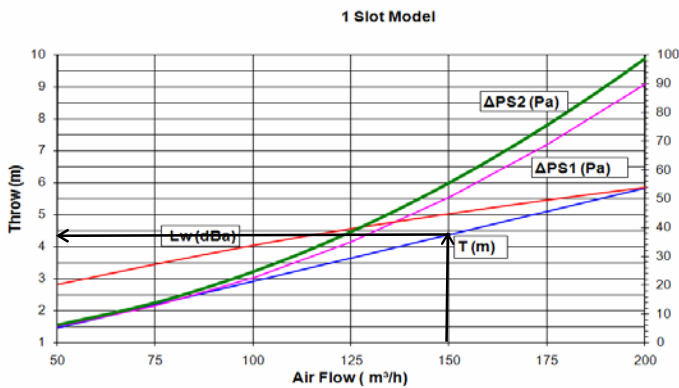


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SELECTION EXAMPLE

KM SERIES

CORRECT METHOD FOR USING THE KM SERIES GRAPHS



Sound power (L_w dB(A))
Pressure Loss (Δps (Pa))

INSTRUCTION 1

Calculation of the horizontal throw in relation to the air flow rate.

For diffuser lengths different to 1m, the air flow delivered must be divided by the length of the diffuser, expressed in metres.

Example:

length: 1,5m

flow rate: 200m³/h

200 / 1,5 = 133

flow rate per metre: 333m³/h

Sound power (L_w dB(A))
Pressure Loss (Δps (Pa))

INSTRUCTION 2

Calculation of the sound power in function to the flow rate.

For diffuser lengths different to 1m, the air flow delivered must be divided by the length of the diffuser, expressed in metres.

Example:

length: 1,5m

flow rate: 200m³/h

200 / 1,5 = 133

flow rate per metre: 333m³/h

Sound power (L_w dB(A))
Pressure Loss (Δps (Pa))

INSTRUCTION 3

Flow rate loss calculation (with and without equalizer) in relation to the flow rate.

For diffuser lengths different to 1m, the air flow delivered must be divided by the length of the diffuser, expressed in metres.

Example:

length: 1,5m

flow rate: 200m³/h

200 / 1,5 = 133

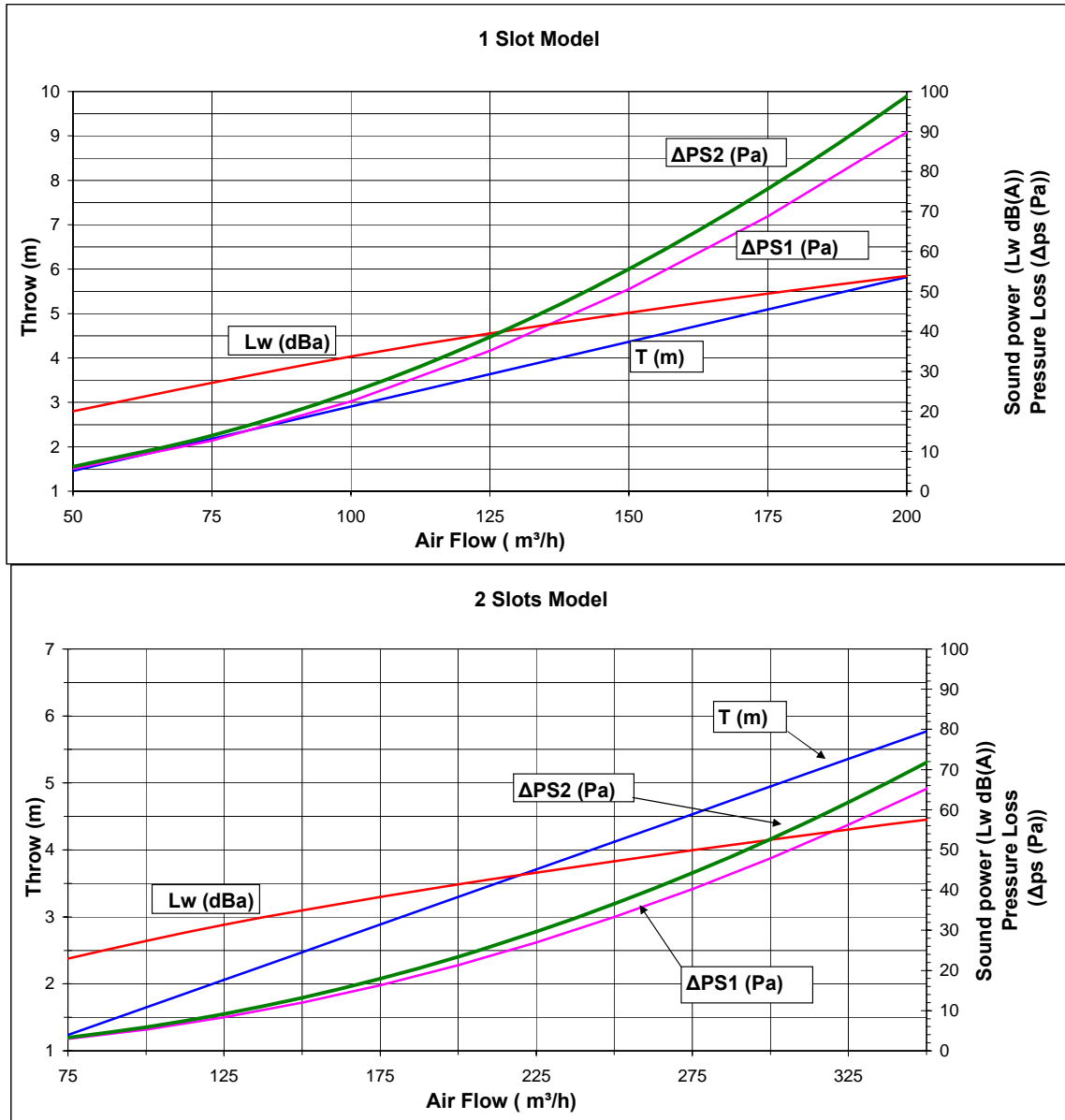
flow rate per metre: 333m³/h



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TECHNICAL DATA



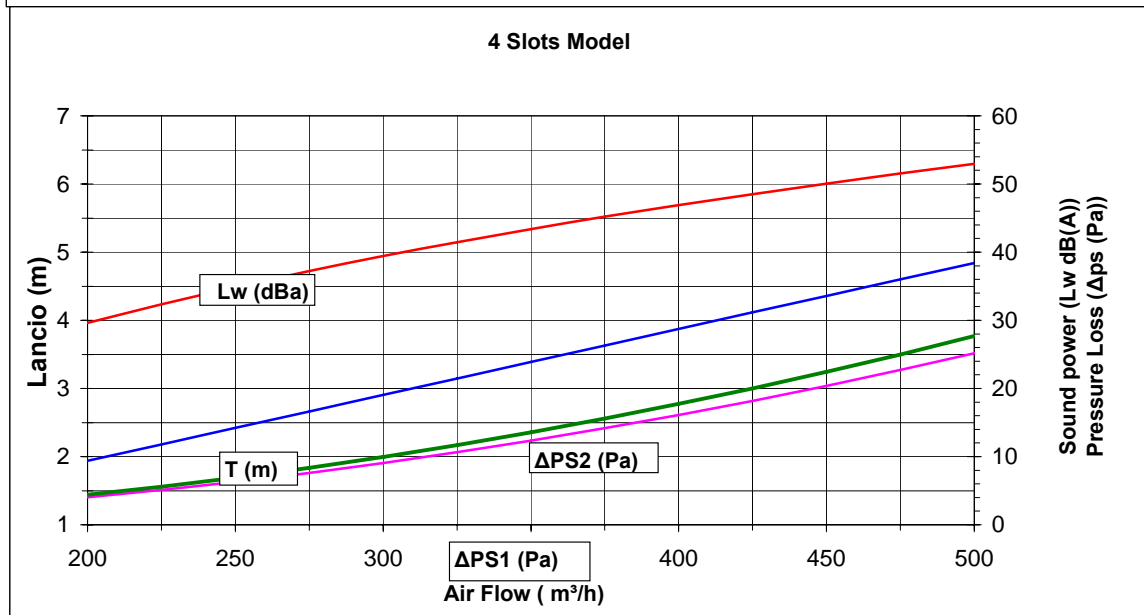
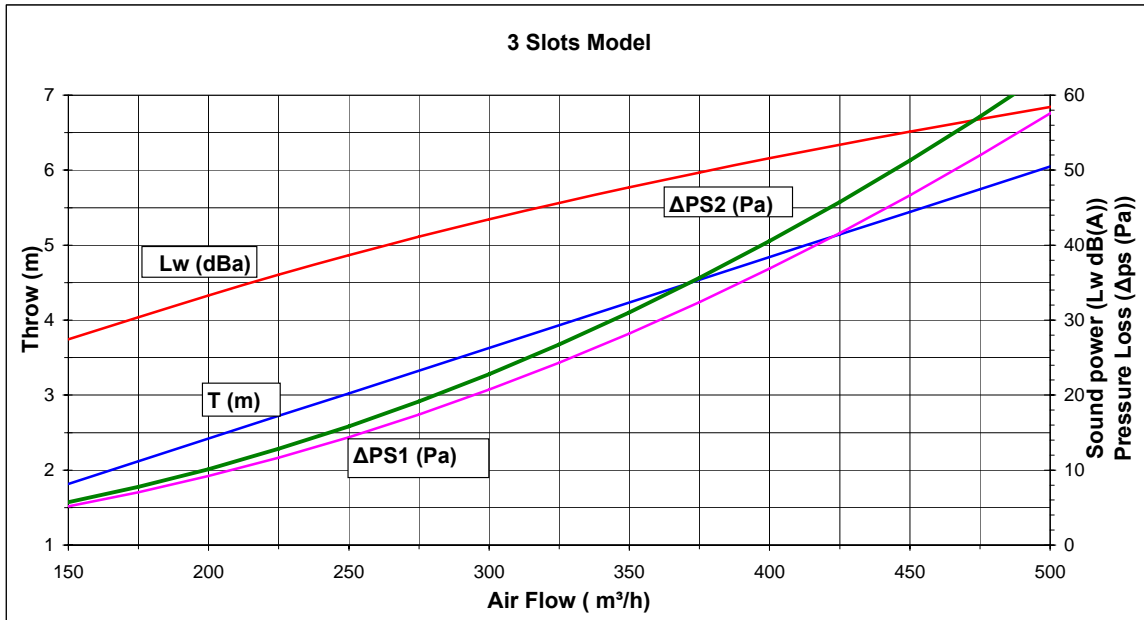
Throw T calculated for terminal velocity 0,3 m/s in isothermic conditions.
 Pressure loss per linear metre $\Delta PS1$ for diffuser without equaliser and with damper completely open.
 Pressure loss per linear metre $\Delta PS2$ for diffuser with equaliser and with damper completely open.
 Sound Power Lw for diffuser without equaliser and with damper completely open.



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TECHNICAL DATA



Throw T calculated for terminal velocity 0,3 m/s in isothermic conditions.
 Pressure loss per linear metre ΔPS1 for diffuser without equaliser and with damper completely open.
 Pressure loss per linear metre ΔPS2 for diffuser with equaliser and with damper completely open.
 Sound power Lw for diffuser without equaliser and with damper completely open.

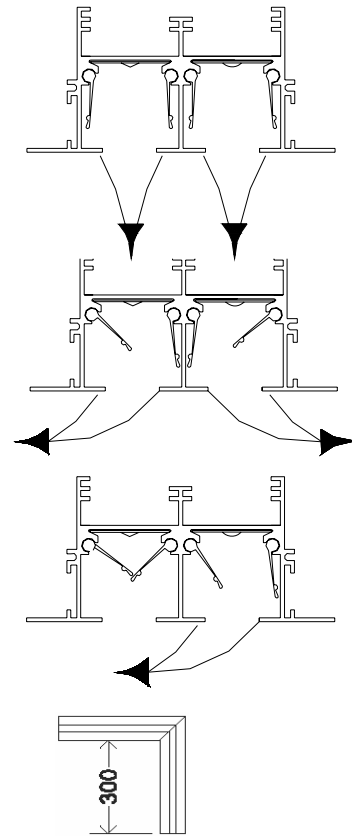
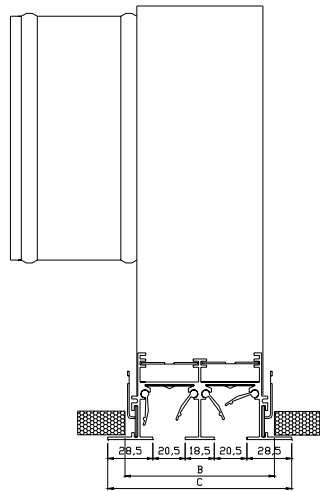


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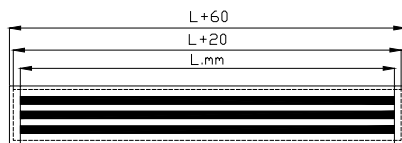
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TECHNICAL DATA

KM
Linear diffusers with fixing supports and plenum.



slots n°	B	C
1	66	77,5
2	105	116,5
3	144	155,5
4	183	194,5



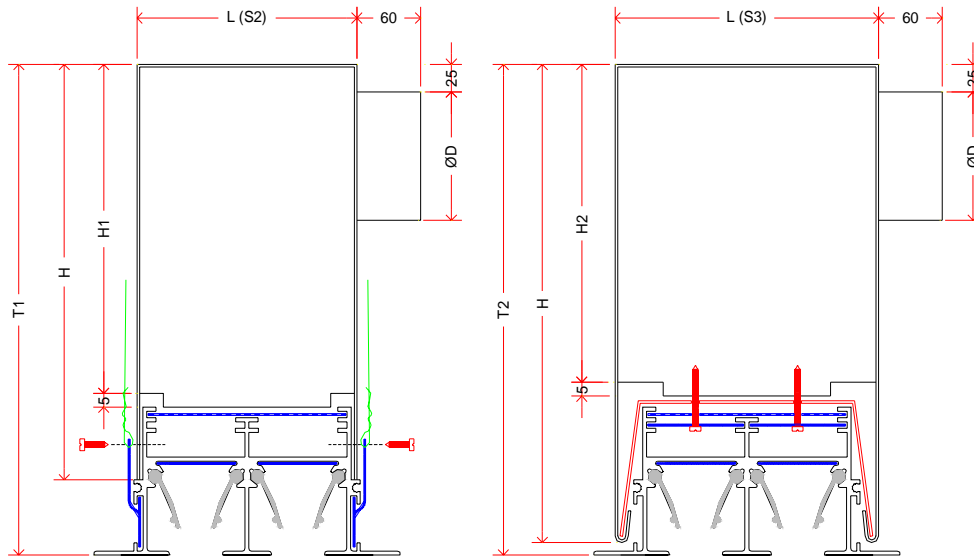
L	L + 20	L + 60
800	820	860
1000	1020	1060
1500	1520	1560
2000	2020	2060



KM LINEAR DIFFUSERS AND PLENUM

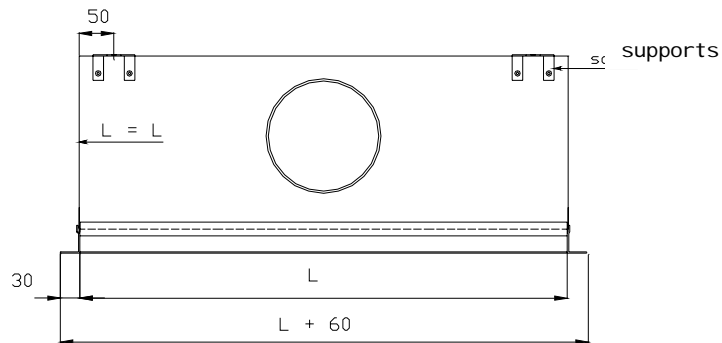
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TECHNICAL DATA AND MOUNTING SYSTEM



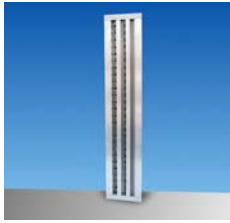
S2 FIXING

S3 FIXING



n° slots	Ø flex duct	D	depth	T1	T2	H	H1	H2	L (S2)	L (S3)
1	127	124	60	228	205	200	170	140	45	60
2	160	158		278	255	250	220	190	83	98
3	203	198		328	305	300	270	240	121	137
4	203	198		328	305	300	270	240	160	175
5	254	248		328	305	300	270	240	198	213
6	305	298	90	393	370	365	335	305	236	252
7	305	298		393	370	365	335	305	274	290
8	305	298		393	370	365	335	305	313	328

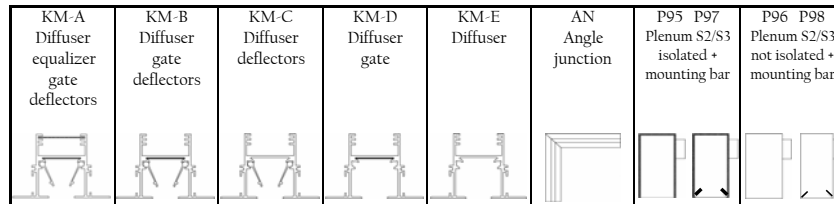
Number of coupling: 1 for lengths to 1599 mm, 2 for lengths to 1600 a 2000 mm.



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CONSTRUCTION DIMENSIONS



1 Slot Diffusers Length [mm]	KM - A1	KM - B1	KM - C1	KM - D1	KM - E1	AN 1	P 95 1	P 96 1
							P 97 1	P 98 1
800	X	X	X	X	X	X	X	X
1000	X	X	X	X	X	X	X	X
1500	X	X	X	X	X	X	X	X
2000	X	X	X	X	X	X	X	X

2 Slot Diffusers Length [mm]	KM - A2	KM - B2	KM - C2	KM - D2	KM - E2	AN 2	P 95 2	P 96 2
							P 97 2	P 98 2
800	X	X	X	X	X	X	X	X
1000	X	X	X	X	X	X	X	X
1500	X	X	X	X	X	X	X	X
2000	X	X	X	X	X	X	X	X

3 Slots Diffusers Length [mm]	KM - A3	KM - B3	KM - C3	KM - D3	KM - E3	AN 3	P 95 3	P 96 3
							P 97 3	P 98 3
800	X	X	X	X	X	X	X	X
1000	X	X	X	X	X	X	X	X
1500	X	X	X	X	X	X	X	X
2000	X	X	X	X	X	X	X	X

4 Slot Diffusers Length [mm]	KM - A4	KM - B4	KM - C4	KM - D4	KM - E4	AN 4	P 95 4	P 96 4
							P 97 4	P 98 4
800	X	X	X	X	X	X	X	X
1000	X	X	X	X	X	X	X	X
1500	X	X	X	X	X	X	X	X
2000	X	X	X	X	X	X	X	X

Fixing Components S3	Number of Slots	1		2		3		4	
		Min Length [m]	Max Length [m]	Min Length [m]	Max Length [m]	Min Length [m]	Max Length [m]	Min Length [m]	Max Length [m]
Code	Max Length [m]	1200	2250	1200	2250	1200	2250	1200	2250
KM-S3-CAV1FMM47	S3 Support - 1 Slot	2	3						
KM-S3-CAV2FMM85	S3 Support - 2 Slots			2	3				
KM-S3-CAV3FMM123	S3 Support - 3 Slots					2	3		
KM-S3-CAV3FMM161	S3 Support - 4 Slots							2	3
KM-S3-PFS3ZNB	fixing Plate	2	3	4	6	4	6	4	6
KM-S3-VTCT5X50	M5 Screw x 50	2	3	4	6	4	6	4	6