LINEAR SLOT DIFFUSERS

OVERVIEW

KLV
KLS
SERIES

KL: series linear diffusers with central deflector designed to manage medium-high air flow levels.
Their particular structure allows to direct the flow of injected air along the ceiling. The effect is one of a progressive mix with the air in the room without the risk of creating air currents or air vortexes that may be perceptible even in cooling mode.

CHARACTERISTICS AND OPERATION
The KL series diffusers are constructed from an aluminium diffuser body lots and a series of deflectors, also in aluminium, for the horizontal or vertical air though. The change of direction of the air through can be easily made without removing the diffuser.

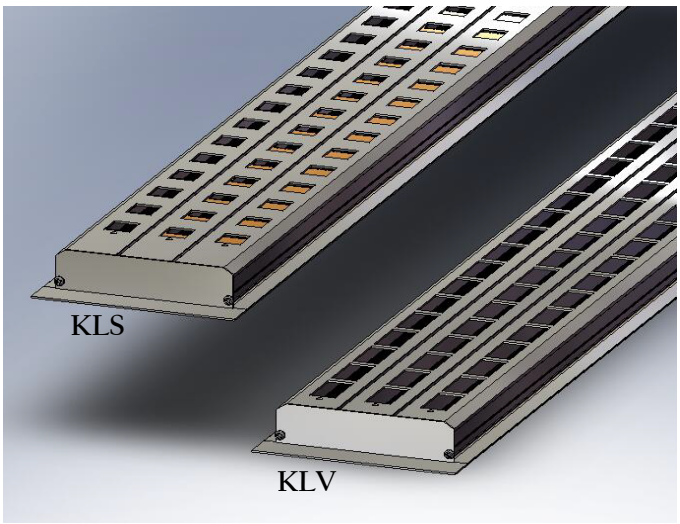
APPLICATIONS
The KL series diffusers are ideal in application with a ceiling height between 3 and 6 meters like open space offices, commercial galleries hospital wards or hotel rooms.

VERSIONS
KLV: characterised by the large area that allows to minimise the pressure loss and noise even at elevated air flow capacities.
Adjustment can be made to the air flow via a damper in the plenum connector.
KLS: characterised by the possibility of installing sliding regulation dampers inside the body of the diffuser to allow adjustment to the air flow individually for each linear slot.

DIFFUSER INSTALLATION:
The KL series diffusers are installed inside plenum boxes, by suspension using mounting bridges or springs.
This solution allows a quick installation even at the end of work carried out on the building site.
Possibilty of installation in continuos lines.

FINISH:
The KL diffusers are constructed from an aluminium body anodized or painted white RAL 9010.
The deflectors cam be anodized, painted white RAL 9010 or black painted.

UNSUITABLE ENVIRONMENTS
The aluminum products are not suitable for installation in environments with an atmosphere containing corrosive substances for this material and in particular containing chlorine, such as swimming pools, spas and some types of food industries.

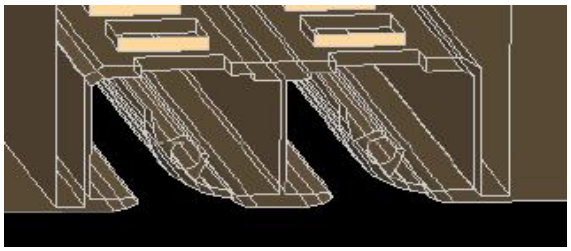


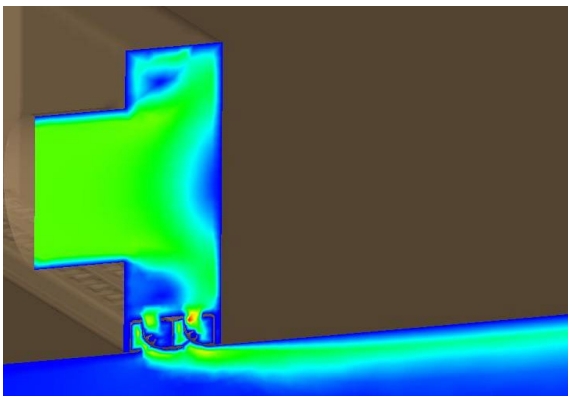
LINEAR SLOT DIFFUSERS

AIR FLOW REGULATION

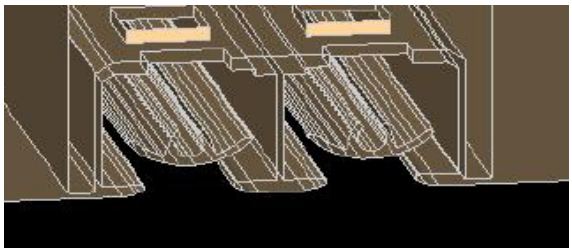
KLV
KLS
SERIES

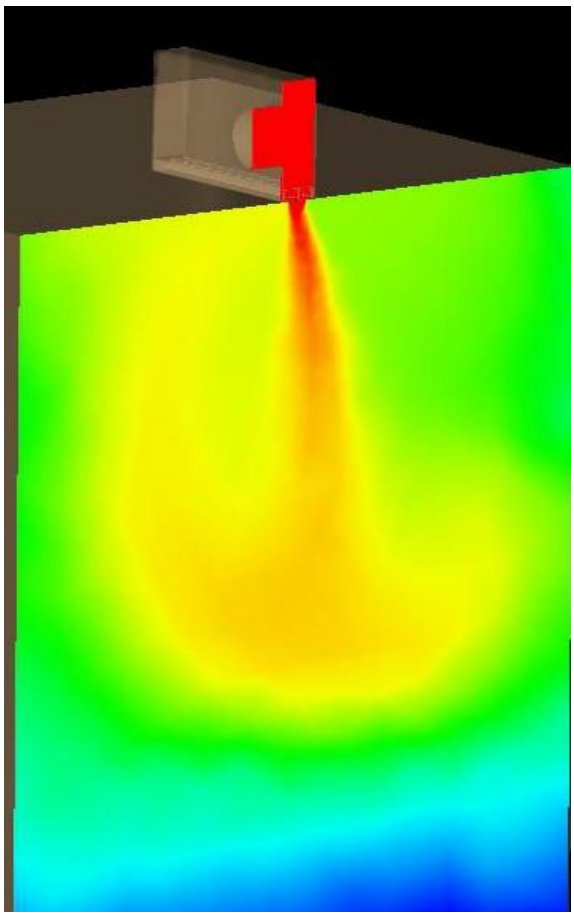
Configuration for horizontal Flow
The flow follows the line of the ceiling
Ensures the absence of draughts in the occupied area both in heating and cooling.





Configuration for vertical flow
The flow penetrates the room directly
Prevents the presence stratification when used for heating.



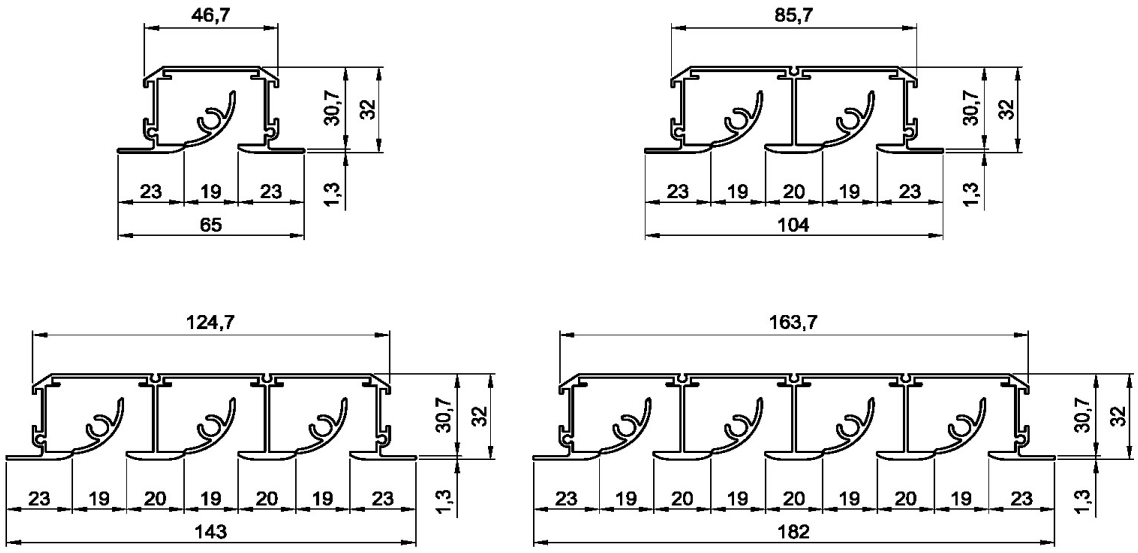


CHOICE OF DIRECTION OF THE THROW:
Horizontal throw is the most common use of this type of diffuser for both heating and cooling. The flow remains close to the ceiling and spreads horizontally within the room. This generates a vertical pull-back effect of the air already present, ensuring perfect mixing without the presence of air currents within the occupied zone.
The vertical throw, used during heating, allows warm air to be sent directly into the occupied zone, counteracting the tendency of warm air to stratify due to lower density in the upper parts of the room.
The change of flow direction is achieved by rotating the deflector from inclined to horizontal and vice versa.The deflector is adjusted from outside the diffuser with a lever at either end of each slot.

LINEAR SLOT DIFFUSERS

SIZES

KLV
KLS
SERIES

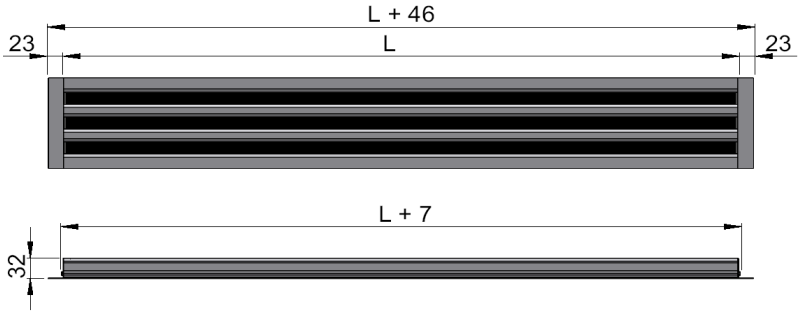


Ak Effective area for diffuser L=1 m (m²)				
	1 slot	2 slots	3 slots	4 slots
Horizontal throw	0,00845	0,01650	0,02287	0,03070
Vertical throw	0,01478	0,02890	0,04328	0,05700

LINEAR SLOT DIFFUSERS

KLV
KLS
SERIES

SIZES

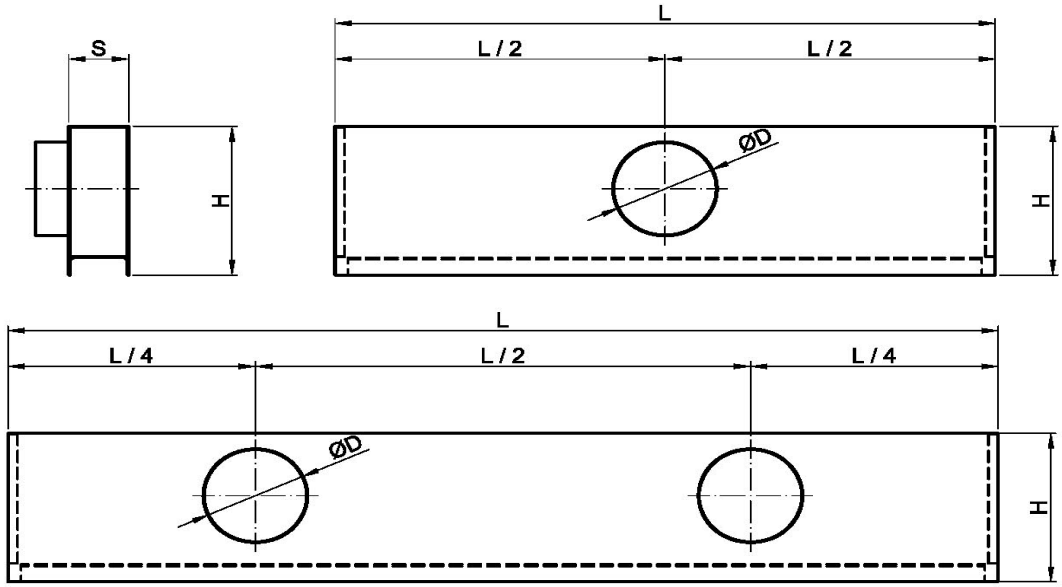


Holes in counter ceiling

Given L as the nominal length of the diffuser, the holes in the counter ceiling will need to be:

	length		width	
diffuser 1 slot	L+15	x	57	mm
diffuser 2 slots	L+15	x	95	mm
diffuser 3 slots	L+15	x	134	mm
diffuser 4 slots	L+15	x	177	mm

Example:
1 slot diffuser L=2000
hole 2015x57 mm



OVERALL DIMENSIONS			L < 1500 mm			1500≤ L ≤ 2000 mm		
Slots	H mm	S mm	connector qty	ØD mm		connector qty	ØD mm	
1	200	52	1	123	ABS(*)	2	123	ABS(*)
2	250	91	1	155	ABS(*)	2	155	ABS(*)
3	300	130	1	195	ABS(*)	2	195	ABS(*)
4	300	172	1	195	ABS(*)	2	195	ABS(*)

(*) Steel on request

LINEAR SLOT DIFFUSERS

METHOD OF ANALYSIS OF PERFORMANCE

KLV
KLS
SERIES

Test Method
The analysis of the aeraulic performances of the KLV series diffusers have been carried out by means of a "virtual test laboratory".
All the tests and the relative measurements have been conducted by means of an advanced CFD (Computational Fluid Dynamics) software.
This applies the method of the finished elements to the fluid dynamic for the analysis of speeds, air flow distribution and pressures drop.

The dimensions of the virtual room in the test configuration for each single diffuser are:

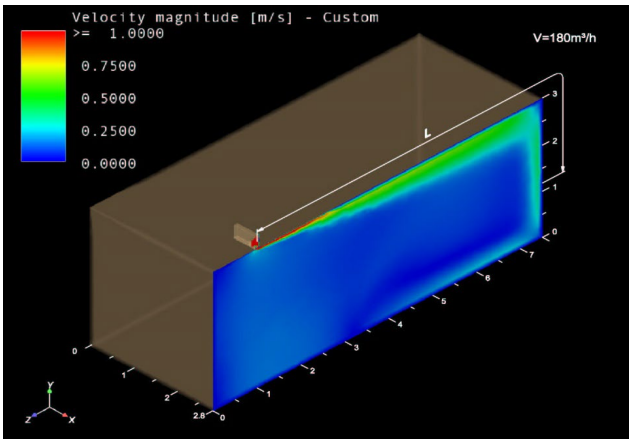
Width of the test room: br=5.6 m
Length of the test room: lr=7.5 m
Height of the test room: hr=3.0 m

The Values of **throw length** of each diffuser have been defined in isothermal conditions in accordance with ISO 5219 regulation with deflectors angled in "cooling" position, for horizontal throw. The length of the flow is indicated by values obtained from the speed along the trajectory of the air vain.
An analysis has also been carried out of the intersection of the flow of two diffusers with equal flow rate placed opposite at a distance of 4.5 meters. In this case the obtained results show the air speed of the intermediate zone between the two diffusers at different heights.

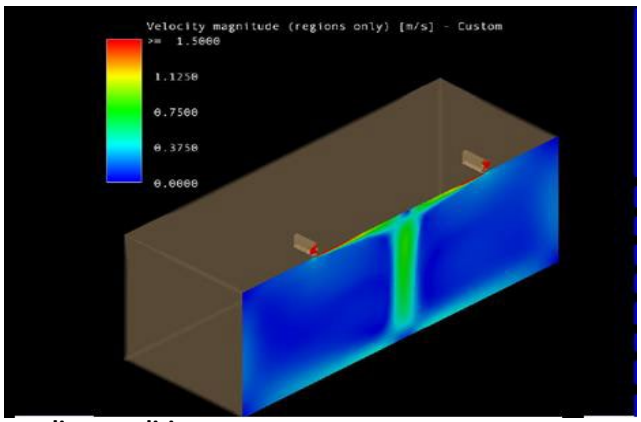
The values of the **depth of penetration** have been defined with the deflectors angled in "heating" position with a temperature difference between injected and room temperature of 10 °C. The best possible adherence to real conditions has been followed considering the dissipation of heat throw surfaces of the virtual test room.

The values of **pressure drop** have been defined in isothermal conditions with deflectors angled both at "heating" and "cooling" positions.

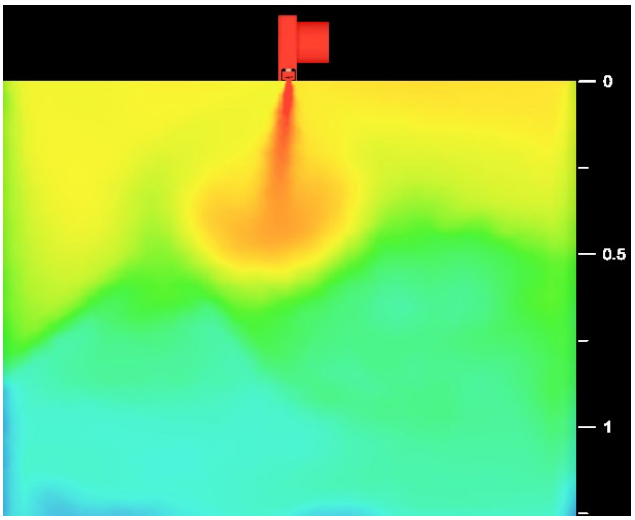
The Ak values (effective section for the expulsion of the air flow) have been defined in accordance with ISO 5219 standard.



cooling conditions
deflectors angled for horizontal throw



cooling conditions
joining of flows



heating conditions
deflectors setted for vertival throw

LINEAR SLOT DIFFUSERS

QUICK SELECTION
1 - 2 SLOTS

KLS
SERIES

Model		Air flow rate																			
A_k [m²]		m³/h	30	50	75	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700
		l/s	(8)	(14)	(21)	(28)	(35)	(42)	(49)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(181)	(194)
KLS - 1 sl.	L_{WA}	[dB(A)]	20	35	46															
L=600	V_k	[m/s]	1,6	2,8	4,1															
(0,0051)	Δp_t	[Pa]	10	31	69															
	L 0,2	[m]	1,2	2,6	4,4															
KLS - 1 sl.	L_{WA}	[dB(A)]		<20	20	28	34	39	43	46										
L=1000	V_k	[m/s]		1,5	2,2	3	3,7	4,4	5,2	5,9										
(0,0094)	Δp_t	[Pa]		3	7	13	21	30	41	53										
	L 0,2	[m]		1,4	2	2,6	3,2	3,8	4,3	4,9										
KLS - 1 sl.	L_{WA}	[dB(A)]			<20	24	30	35	39	42	48									
L=1200	V_k	[m/s]			1,9	2,5	3,1	3,7	4,3	4,9	6,1									
(0,0113)	Δp_t	[Pa]			5	9	14	21	28	37	56									
	L 0,2	[m]			1,9	2,4	3	3,5	4	4,5	5,5									
KLS - 1 sl.	L_{WA}	[dB(A)]			<20	<20	25	30	34	37	43	48								
L=1500	V_k	[m/s]			1,5	2	2,5	3	3,5	4	4,9	5,9								
(0,0142)	Δp_t	[Pa]			3	6	9	13	18	24	36	52								
	L 0,2	[m]			1,7	2,2	2,7	3,2	3,7	4,1	5	5,9								
KLS - 1 sl.	L_{WA}	[dB(A)]				<20	<20	23	27	31	37	41	46	49						
L=2000	V_k	[m/s]				1,5	1,9	2,2	2,6	3	3,7	4,4	5,1	5,9						
(0,0189)	Δp_t	[Pa]				3	5	7	10	13	20	29	40	52						
	L 0,2	[m]				2	2,4	2,9	3,3	3,7	4,5	5,3	6,1	6,8						
KLS - 2 sl.	L_{WA}	[dB(A)]			<20	24	30	35	39	42	48									
L=600	V_k	[m/s]			1,9	2,5	3,1	3,7	4,3	4,9	6,1									
(0,0113)	Δp_t	[Pa]			5	9	14	21	28	37	56									
	L 0,2	[m]			1,9	2,4	3	3,5	4	4,5	5,5									
KLS - 2 sl.	L_{WA}	[dB(A)]				<20	<20	23	27	31	37	41	46	49						
L=1000	V_k	[m/s]				1,5	1,9	2,2	2,6	3	3,7	4,4	5,1	5,9						
(0,0189)	Δp_t	[Pa]				3	5	7	10	13	20	29	40	52						
	L 0,2	[m]				2	2,4	2,9	3,3	3,7	4,5	5,3	6,1	6,8						
KLS - 2 sl.	L_{WA}	[dB(A)]					<20	<20	23	27	33	37	42	45	48					
L=1200	V_k	[m/s]					1,5	1,9	2,2	2,5	3	3,7	4,3	4,9	5,5					
(0,0227)	Δp_t	[Pa]					4	5	7	9	14	20	28	36	46					
	L 0,2	[m]					2,2	2,7	3	3,4	4,1	4,9	5,6	6,4	7,1					
KLS - 2 sl.	L_{WA}	[dB(A)]					<20	<20	<20	22	28	32	37	40	43	46	49			
L=1500	V_k	[m/s]					1,2	1,5	1,7	2	2,4	2,9	3,4	3,9	4,4	4,9	5,4			
(0,0283)	Δp_t	[Pa]					2	3	5	6	9	13	18	23	29	36	44			
	L 0,2	[m]					2,1	2,4	2,8	3,1	3,8	4,5	5,1	5,8	6,5	7,1	7,8			
KLS - 2 sl.	L_{WA}	[dB(A)]							<20	<20	21	26	30	34	37	40	42	45	47	49
L=2000	V_k	[m/s]							1,3	1,5	1,8	2,2	2,6	2,9	3,3	3,7	4,1	4,4	4,8	5,1
(0,0378)	Δp_t	[Pa]							3	3	5	7	10	13	16	20	25	29	35	40
	L 0,2	[m]							2,5	2,8	3,4	4	4,6	5,2	5,8	6,3	6,9	7,5	8	8,6

10 ≤ LwA < 30 | 30 ≤ LwA < 40 | 40 ≤ LwA < 50

LINEAR SLOT DIFFUSERS

QUICK SELECTION
3 - 4 SLOTS

KLS
SERIES

Model A_k [m²]			Air flow rate																		
		m³/h	50	100	150	200	250	300	350	400	450	500	550	600	675	750	825	900	975	1050
		l/s	(14)	(28)	(42)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(188)	(208)	(229)	(250)	(271)	(292)
KLS - 3 sl.	L_{WA}	[dB(A)]	<20	31	42																
L=600	V_k	[m/s]	1	2	3,1																
(0,0137)	Δp_t	[Pa]	4	14	33																
	L 0,2	[m]	1,5	3,4	5,5																
KLS - 3 sl.	L_{WA}	[dB(A)]			<20	22	28	32	37	40	43	46	49								
L=1000	V_k	[m/s]			1,5	2	2,4	2,9	3,4	3,9	4,4	4,9	5,4								
(0,0283)	Δp_t	[Pa]			3	6	9	13	18	23	29	36	44								
	L 0,2	[m]			2,4	3,1	3,8	4,5	5,1	5,8	6,5	7,1	7,8								
KLS - 3 sl.	L_{WA}	[dB(A)]			<20	<20	24	28	33	36	39	42	45	47	50						
L=1200	V_k	[m/s]			1,2	1,6	2	2,4	2,9	3,3	3,7	4,1	4,5	4,9	5,5						
(0,034)	Δp_t	[Pa]			2	4	6	9	12	16	20	25	31	36	46						
	L 0,2	[m]			2,3	2,9	3,5	4,2	4,8	5,4	6	6,6	7,2	7,8	8,7						
KLS - 3 sl.	L_{WA}	[dB(A)]				<20	<20	24	28	31	34	37	40	42	45	48	50				
L=1500	V_k	[m/s]				1,3	1,6	2	2,3	2,6	2,9	3,3	3,6	3,9	4,4	4,9	5,4				
(0,0425)	Δp_t	[Pa]				3	4	6	8	10	13	16	20	23	29	36	44				
	L 0,2	[m]				2,7	3,2	3,8	4,4	4,9	5,5	6,1	6,6	7,1	7,9	8,7	9,5				
KLS - 3 sl.	L_{WA}	[dB(A)]					<20	<20	21	25	28	31	33	36	39	41	44	46	48	50	
L=2000	V_k	[m/s]					1,2	1,5	1,7	2	2,2	2,5	2,7	2,9	3,3	3,7	4	4,4	4,8	5,2	
(0,0566)	Δp_t	[Pa]					2	3	4	6	7	9	11	13	17	20	25	29	34	40	
	L 0,2	[m]					2,9	3,4	3,9	4,4	4,9	5,4	5,9	6,4	7,1	7,8	8,5	9,1	9,8	10,5	
KLS - 4 sl.	L_{WA}	[dB(A)]			<20	27	33	37	42	45	48										
L=600	V_k	[m/s]			1,9	2,5	3	3,7	4,3	4,9	5,5										
(0,0227)	Δp_t	[Pa]			5	9	14	20	28	36	46										
	L 0,2	[m]			2,7	3,4	4,1	4,9	5,6	6,4	7,1										
KLS - 4 sl.	L_{WA}	[dB(A)]				<20	21	26	30	34	37	40	42	45	48	50					
L=1000	V_k	[m/s]				1,5	1,8	2,2	2,6	2,9	3,3	3,7	4,1	4,4	5	5,5					
(0,0378)	Δp_t	[Pa]				3	5	7	10	13	16	20	25	29	37	46					
	L 0,2	[m]				2,8	3,4	4	4,6	5,2	5,8	6,3	6,9	7,5	8,3	9,1					
KLS - 4 sl.	L_{WA}	[dB(A)]				<20	<20	22	26	30	33	36	38	41	44	46	49				
L=1200	V_k	[m/s]				1,2	1,5	1,8	2,1	2,4	2,8	3,1	3,4	3,7	4,1	4,6	5,1				
(0,0453)	Δp_t	[Pa]				2	3	5	7	9	11	14	17	20	26	32	38				
	L 0,2	[m]				2,6	3,1	3,7	4,3	4,8	5,4	5,9	6,4	7	7,7	8,5	9,2				
KLS - 4 sl.	L_{WA}	[dB(A)]					<20	<20	21	25	28	31	33	36	39	41	44	46	48	50	
L=1500	V_k	[m/s]					1,2	1,5	1,7	2	2,2	2,5	2,7	2,9	3,3	3,7	4	4,4	4,8	5,2	
(0,0566)	Δp_t	[Pa]					2	3	4	6	7	9	11	13	17	20	25	29	34	40	
	L 0,2	[m]					2,9	3,4	3,9	4,4	4,9	5,4	5,9	6,4	7,1	7,8	8,5	9,1	9,8	10,5	
KLS - 4 sl.	L_{WA}	[dB(A)]						<20	<20	<20	22	24	27	29	32	35	38	40	42	44	
L=2000	V_k	[m/s]						1,1	1,3	1,5	1,7	1,8	2	2,2	2,5	2,8	3	3,3	3,6	3,9	
(0,0755)	Δp_t	[Pa]						2	2	3	4	5	6	7	9	11	14	16	19	22	
	L 0,2	[m]						3	3,5	3,9	4,4	4,8	5,2	5,7	6,3	6,9	7,5	8,2	8,8	9,4	

10 ≤ LwA < 30 | 30 ≤ LwA < 40 | 40 ≤ LwA < 50

LINEAR SLOT DIFFUSERS

QUICK SELECTION
1 - 2 SLOTS

KLV
SERIES

Model		Air flow rate																			
A_k [m²]		m³/h	50	70	80	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700
		l/s	(14)	(19)	(22)	(28)	(35)	(42)	(49)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(181)	(194)
KLV - 1 sl.	L_{WA}	[dB(A)	24	33	37															
L=600	V_k	[m/s]	2,8	3,7	4,3															
(0,0051)	Δp_t	[Pa]	26	48	65															
	L 0,2	[m]	2,6	3,9	4,7															
KLV - 1 sl.	L_{WA}	[dB(A)	<20	<20	22	28	34	39	43	46										
L=1000	V_k	[m/s]	1,5	2	2,3	3	3,7	4,4	5,2	5,9										
(0,0094)	Δp_t	[Pa]	3	6	8	13	21	30	41	53										
	L 0,2	[m]	1,4	1,8	2,1	2,6	3,2	3,8	4,3	4,9										
KLV - 1 sl.	L_{WA}	[dB(A)		<20	<20	24	30	35	39	42	48									
L=1200	V_k	[m/s]		1,7	1,9	2,5	3,1	3,7	4,3	4,9	6,1									
(0,0113)	Δp_t	[Pa]		4	6	9	14	21	28	37	56									
	L 0,2	[m]		1,7	2	2,4	3	3,5	4	4,5	5,5									
KLV - 1 sl.	L_{WA}	[dB(A)			<20	<20	25	30	34	37	43	48								
L=1500	V_k	[m/s]			1,6	2	2,5	3	3,5	4	4,9	5,9								
(0,0142)	Δp_t	[Pa]			4	6	9	13	18	24	36	52								
	L 0,2	[m]			1,8	2,2	2,7	3,2	3,7	4,1	5	5,9								
KLV - 1 sl.	L_{WA}	[dB(A)				<20	<20	23	27	31	37	41	46	49						
L=2000	V_k	[m/s]				1,5	1,9	2,2	2,6	3	3,7	4,4	5,1	5,9						
(0,0189)	Δp_t	[Pa]				3	5	7	10	13	20	29	40	52						
	L 0,2	[m]				2	2,4	2,9	3,3	3,7	4,5	5,3	6,1	6,8						
KLV - 2 sl.	L_{WA}	[dB(A)		<20	<20	24	30	35	39	42	48									
L=600	V_k	[m/s]		1,7	1,9	2,5	3,1	3,7	4,3	4,9	6,1									
(0,0113)	Δp_t	[Pa]		4	6	9	14	21	28	37	56									
	L 0,2	[m]		1,7	2	2,4	3	3,5	4	4,5	5,5									
KLV - 2 sl.	L_{WA}	[dB(A)				<20	<20	23	27	31	37	41	46	49						
L=1000	V_k	[m/s]				1,5	1,9	2,2	2,6	3	3,7	4,4	5,1	5,9						
(0,0189)	Δp_t	[Pa]				3	5	7	10	13	20	29	40	52						
	L 0,2	[m]				2	2,4	2,9	3,3	3,7	4,5	5,3	6,1	6,8						
KLV - 2 sl.	L_{WA}	[dB(A)					<20	<20	23	27	33	37	42	45	48					
L=1200	V_k	[m/s]					1,5	1,9	2,2	2,5	3	3,7	4,3	4,9	5,5					
(0,0227)	Δp_t	[Pa]					4	5	7	9	14	20	28	36	46					
	L 0,2	[m]					2,2	2,7	3	3,4	4,1	4,9	5,6	6,4	7,1					
KLV - 2 sl.	L_{WA}	[dB(A)					<20	<20	<20	22	28	32	37	40	43	46	49			
L=1500	V_k	[m/s]					1,2	1,5	1,7	2	2,4	2,9	3,4	3,9	4,4	4,9	5,4			
(0,0283)	Δp_t	[Pa]					2	3	5	6	9	13	18	23	29	36	44			
	L 0,2	[m]					2,1	2,4	2,8	3,1	3,8	4,5	5,1	5,8	6,5	7,1	7,8			
KLV - 2 sl.	L_{WA}	[dB(A)							<20	<20	21	26	30	34	37	40	42	45	47	49
L=2000	V_k	[m/s]							1,3	1,5	1,8	2,2	2,6	2,9	3,3	3,7	4,1	4,4	4,8	5,1
(0,0378)	Δp_t	[Pa]							3	3	5	7	10	13	16	20	25	29	35	40
	L 0,2	[m]							2,5	2,8	3,4	4	4,6	5,2	5,8	6,3	6,9	7,5	8	8,6

10 ≤ LwA < 30 | 30 ≤ LwA < 40 | 40 ≤ LwA < 50

LINEAR SLOT DIFFUSERS

QUICK SELECTION
3 - 4 SLOTS

KLV
SERIES

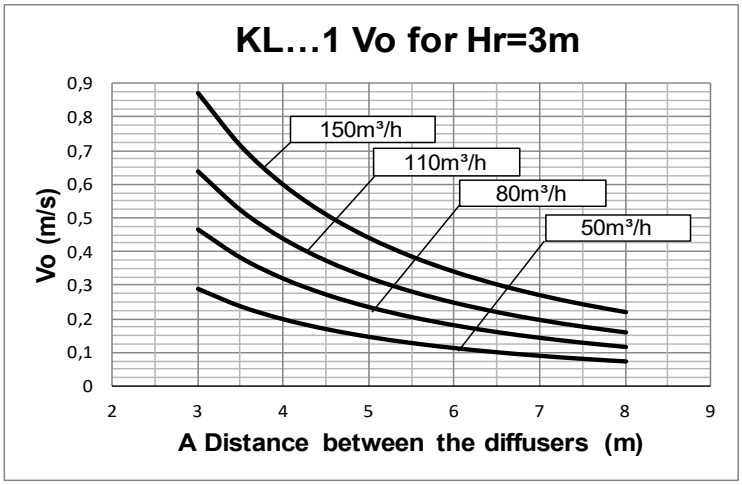
Model A_k [m²]			Air flow rate																		
		m³/h	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000
		l/s	(28)	(42)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(181)	(194)	(208)	(222)	(236)	(250)	(278)
KLV - 3 sl.	L_{WA}	[dB(A)]	21	32	41															
L=600	V_k	[m/s]	2	3,1	4,1															
(0,0137)	Δp_t	[Pa]	12	28	50															
	L 0,2	[m]	3,4	5,5	7,7															
KLV - 3 sl.	L_{WA}	[dB(A)]		<20	22	28	32	37	40	43	46	49								
L=1000	V_k	[m/s]		1,5	2	2,4	2,9	3,4	3,9	4,4	4,9	5,4								
(0,0283)	Δp_t	[Pa]		3	6	9	13	18	23	29	36	44								
	L 0,2	[m]		2,4	3,1	3,8	4,5	5,1	5,8	6,5	7,1	7,8								
KLV - 3 sl.	L_{WA}	[dB(A)]		<20	<20	24	28	33	36	39	42	45	47	49						
L=1200	V_k	[m/s]		1,2	1,6	2	2,4	2,9	3,3	3,7	4,1	4,5	4,9	5,3						
(0,034)	Δp_t	[Pa]		2	4	6	9	12	16	20	25	31	36	43						
	L 0,2	[m]		2,3	2,9	3,5	4,2	4,8	5,4	6	6,6	7,2	7,8	8,4						
KLV - 3 sl.	L_{WA}	[dB(A)]			<20	<20	24	28	31	34	37	40	42	44	46	48	50			
L=1500	V_k	[m/s]			1,3	1,6	2	2,3	2,6	2,9	3,3	3,6	3,9	4,3	4,6	4,9	5,2			
(0,0425)	Δp_t	[Pa]			3	4	6	8	10	13	16	20	23	27	31	36	41			
	L 0,2	[m]			2,7	3,2	3,8	4,4	4,9	5,5	6,1	6,6	7,1	7,7	8,2	8,7	9,2			
KLV - 3 sl.	L_{WA}	[dB(A)]				<20	<20	21	25	28	31	33	36	38	40	41	43	45	46	49
L=2000	V_k	[m/s]				1,2	1,5	1,7	2	2,2	2,5	2,7	2,9	3,2	3,4	3,7	3,9	4,2	4,4	4,9
(0,0566)	Δp_t	[Pa]				2	3	4	6	7	9	11	13	15	18	20	23	26	29	36
	L 0,2	[m]				2,9	3,4	3,9	4,4	4,9	5,4	5,9	6,4	6,8	7,3	7,8	8,2	8,7	9,1	10,1
KLV - 4 sl.	L_{WA}	[dB(A)]		<20	27	33	37	42	45	48										
L=600	V_k	[m/s]		1,9	2,5	3	3,7	4,3	4,9	5,5										
(0,0227)	Δp_t	[Pa]		5	9	14	20	28	36	46										
	L 0,2	[m]		2,7	3,4	4,1	4,9	5,6	6,4	7,1										
KLV - 4 sl.	L_{WA}	[dB(A)]			<20	21	26	30	34	37	40	42	45	47	49	50				
L=1000	V_k	[m/s]			1,5	1,8	2,2	2,6	2,9	3,3	3,7	4,1	4,4	4,8	5,1	5,5				
(0,0378)	Δp_t	[Pa]			3	5	7	10	13	16	20	25	29	35	40	46				
	L 0,2	[m]			2,8	3,4	4	4,6	5,2	5,8	6,3	6,9	7,5	8	8,6	9,1				
KLV - 4 sl.	L_{WA}	[dB(A)]			<20	<20	22	26	30	33	36	38	41	43	45	46	48	50		
L=1200	V_k	[m/s]			1,2	1,5	1,8	2,1	2,4	2,8	3,1	3,4	3,7	4	4,3	4,6	4,9	5,2		
(0,0453)	Δp_t	[Pa]			2	3	5	7	9	11	14	17	20	24	28	32	36	41		
	L 0,2	[m]			2,6	3,1	3,7	4,3	4,8	5,4	5,9	6,4	7	7,5	8	8,5	9	9,5		
KLV - 4 sl.	L_{WA}	[dB(A)]				<20	<20	21	25	28	31	33	36	38	40	41	43	45	46	49
L=1500	V_k	[m/s]				1,2	1,5	1,7	2	2,2	2,5	2,7	2,9	3,2	3,4	3,7	3,9	4,2	4,4	4,9
(0,0566)	Δp_t	[Pa]				2	3	4	6	7	9	11	13	15	18	20	23	26	29	36
	L 0,2	[m]				2,9	3,4	3,9	4,4	4,9	5,4	5,9	6,4	6,8	7,3	7,8	8,2	8,7	9,1	10,1
KLV - 4 sl.	L_{WA}	[dB(A)]					<20	<20	<20	22	24	27	29	31	33	35	37	38	40	43
L=2000	V_k	[m/s]					1,1	1,3	1,5	1,7	1,8	2	2,2	2,4	2,6	2,8	2,9	3,1	3,3	3,7
(0,0755)	Δp_t	[Pa]					2	2	3	4	5	6	7	9	10	11	13	15	16	20
	L 0,2	[m]					3	3,5	3,9	4,4	4,8	5,2	5,7	6,1	6,5	6,9	7,3	7,7	8,2	9

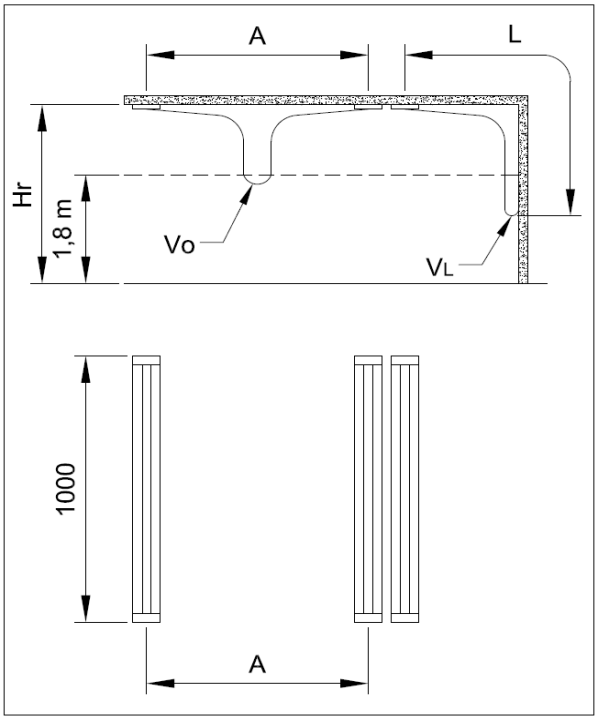
10 ≤ LwA < 30 | 30 ≤ LwA < 40 | 40 ≤ LwA < 50

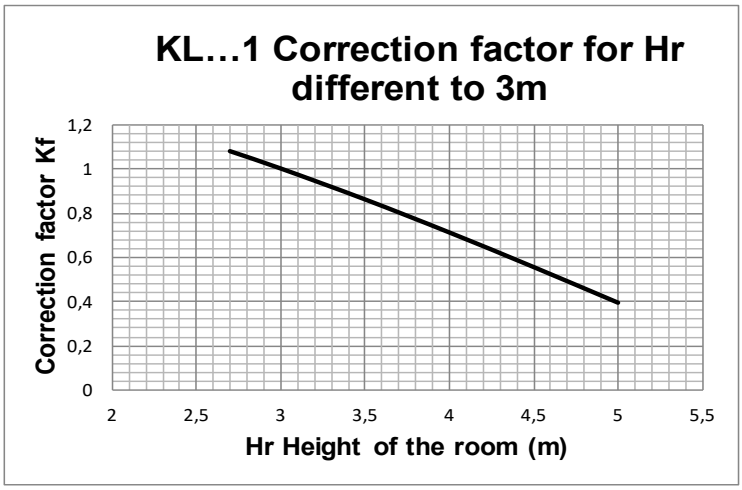
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 1 SLOT L=1000mm

KLV
KLS
SERIES



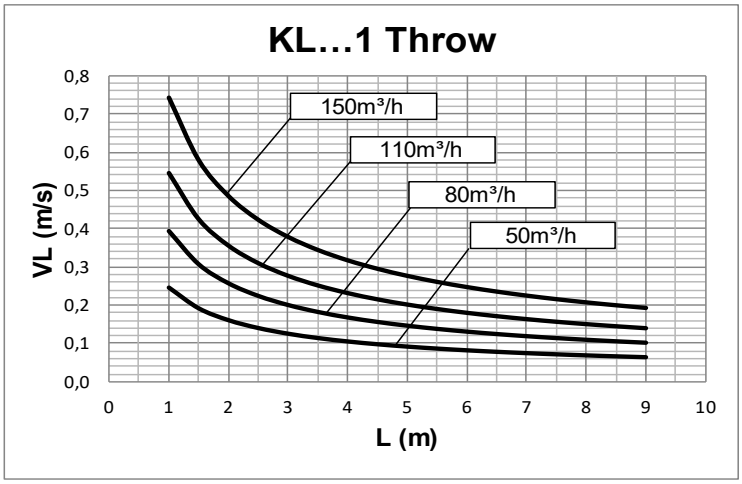


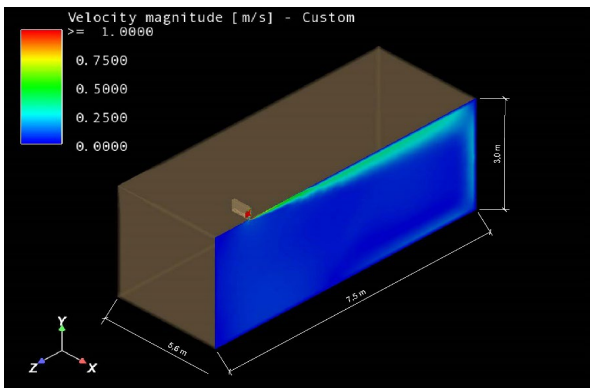


Data obtained from CFD mathematical model in a virtual test room, operating in isothermic conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area
VL (m/s) maximum air velocity in the vein at distance L

For Hr different to 3m, use the multiplier factor KF:
Vo (h) = Vo x Kf

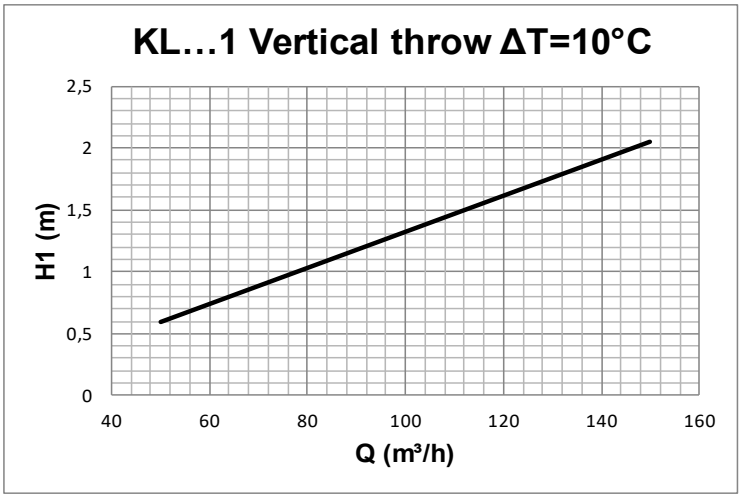




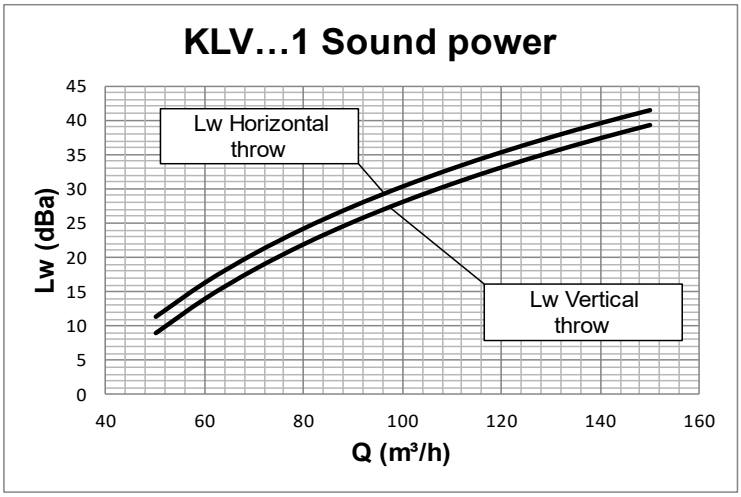
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 1 SLOT L=1000mm

KLV
KLS
SERIES



Data obtained from CFD mathematical model in a virtual test room operating in heating conditions with ΔT=10°C in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*
H1 (m) vertical distance in meters from the centre of the diffuser where the inversion of the air flow occurs.



Acoustic data measured in reverberation room in accordance with international standards:
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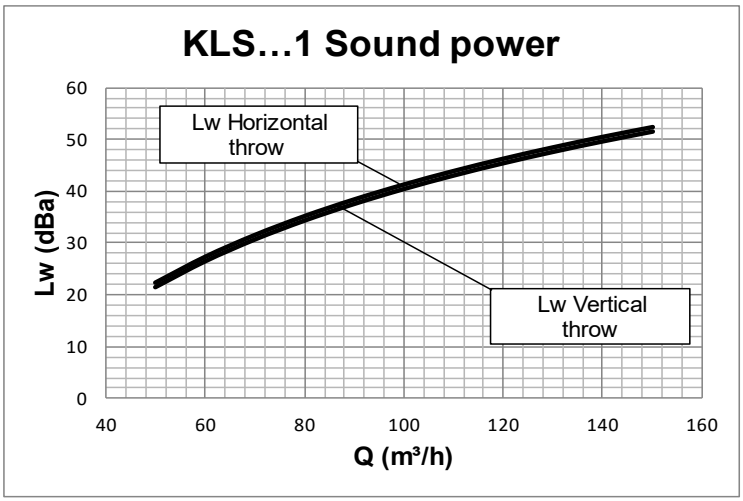
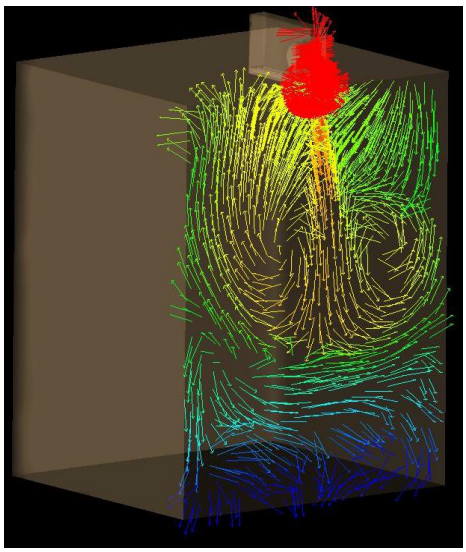
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

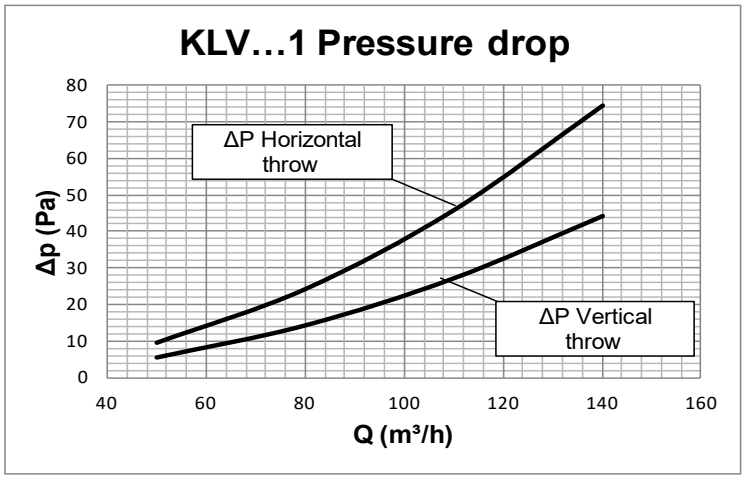




LINEAR SLOT DIFFUSERS

PERFORMANCE KL 1 SLOT L=1000mm

KLV
KLS
SERIES



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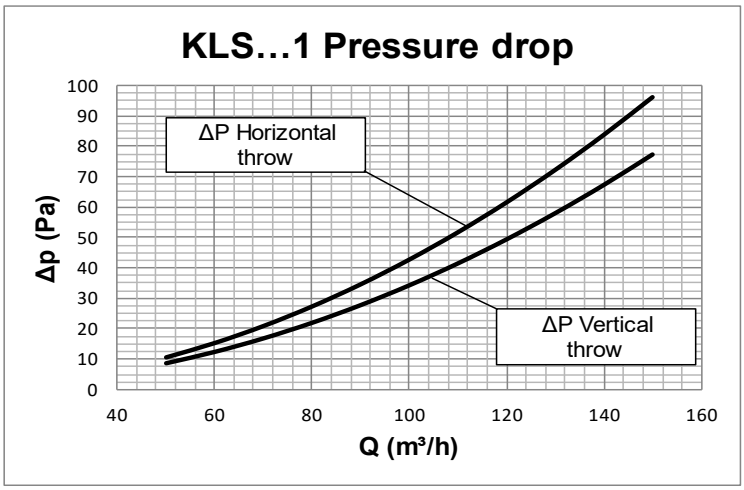
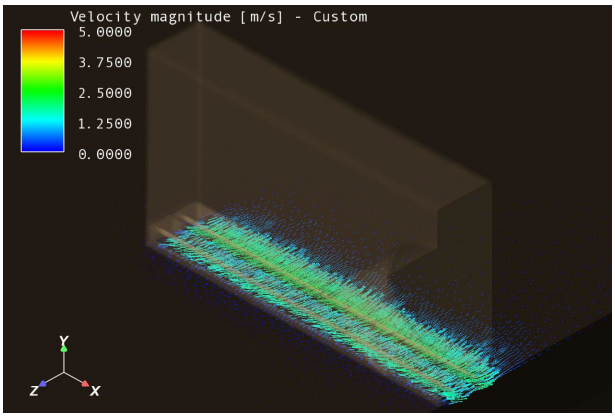
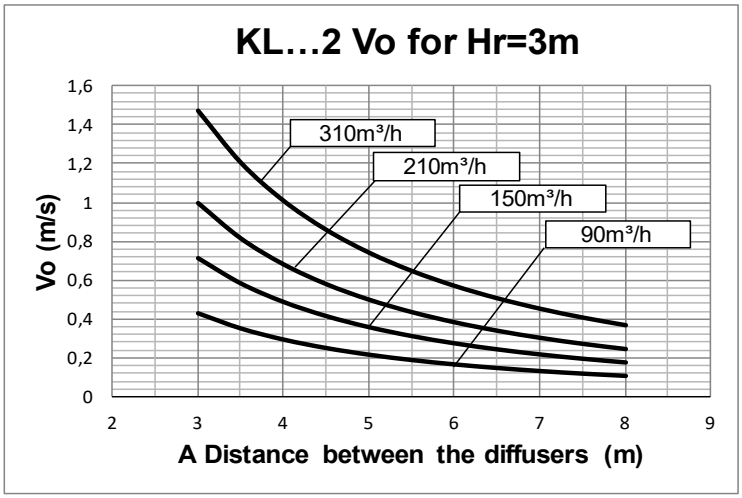


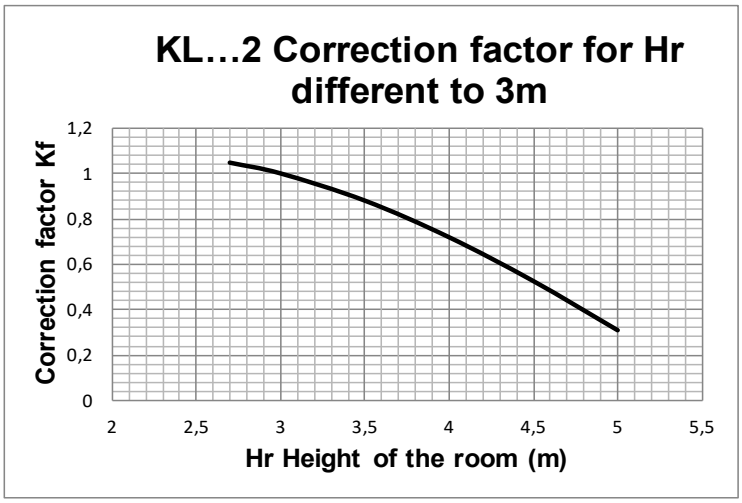


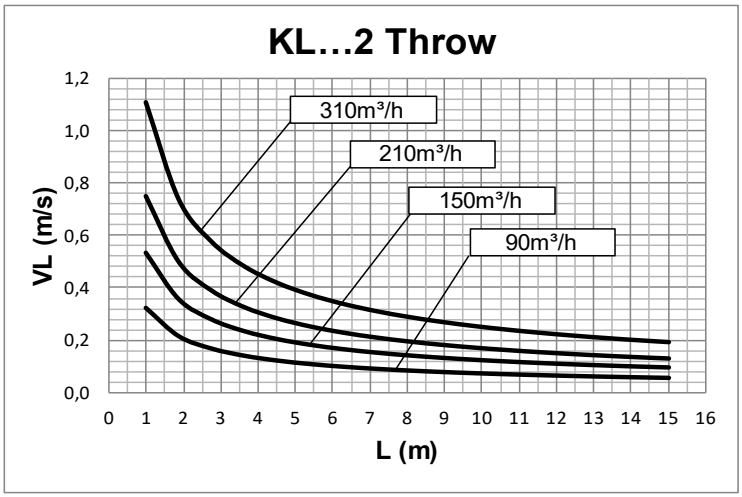
LINEAR SLOT DIFFUSERS

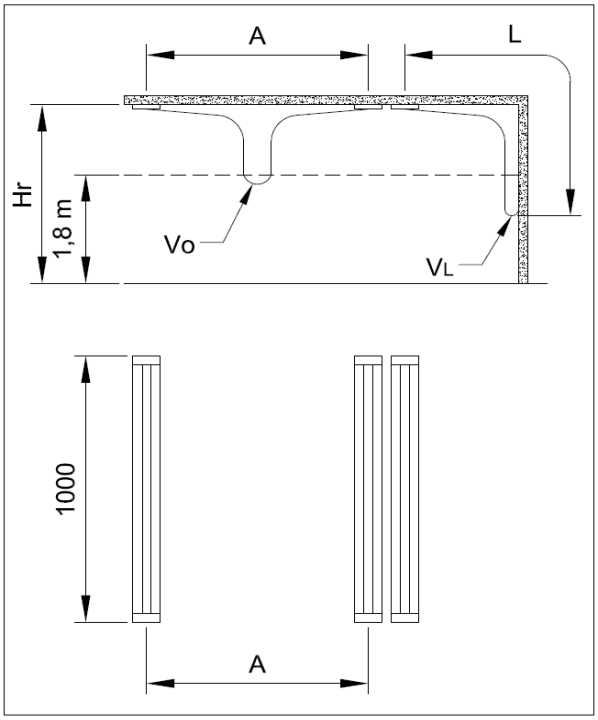
PERFORMANCE KL 2 SLOTS L=1000mm

KLV
KLS
SERIES









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For Hr different to 3m, use the multiplier factor KF:
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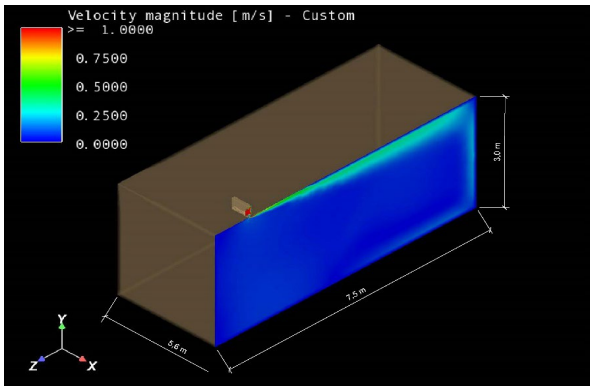
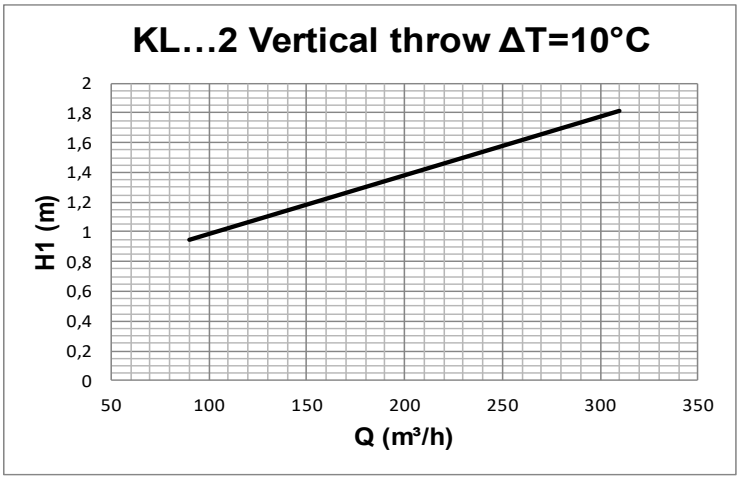


LINEAR SLOT DIFFUSERS

PERFORMANCE KL 2 SLOTS L=1000mm

KLV
KLS
SERIES



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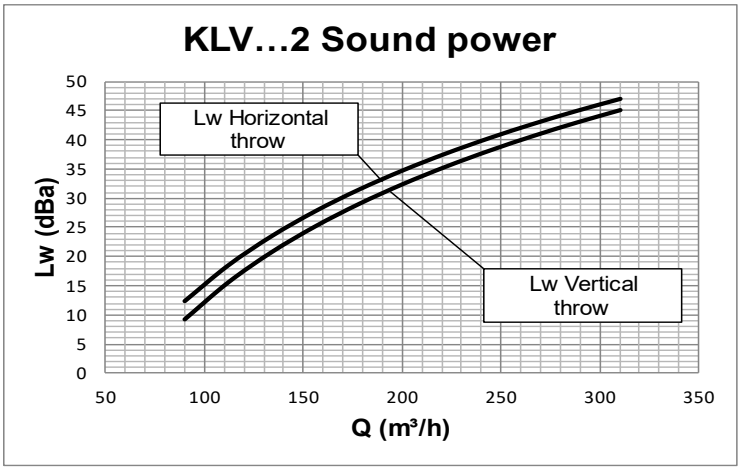

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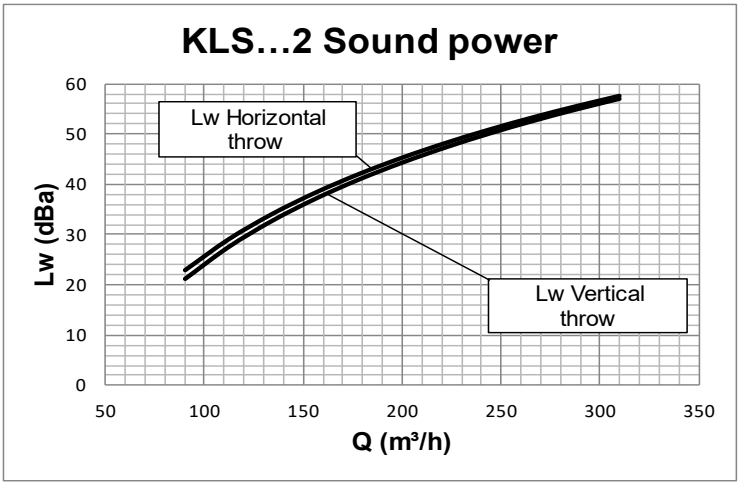
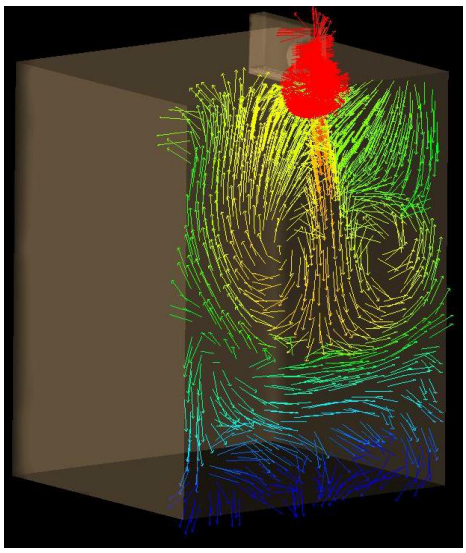
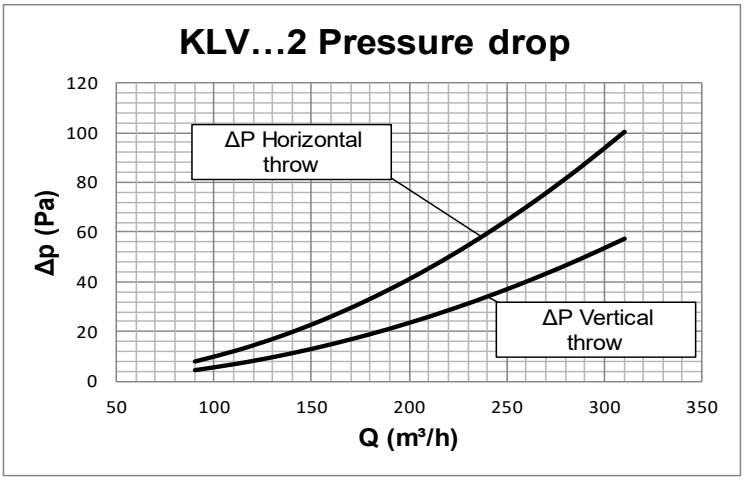




LINEAR SLOT DIFFUSERS

PERFORMANCE KL 2 SLOTS L=1000mm

KLV
KLS
SERIES



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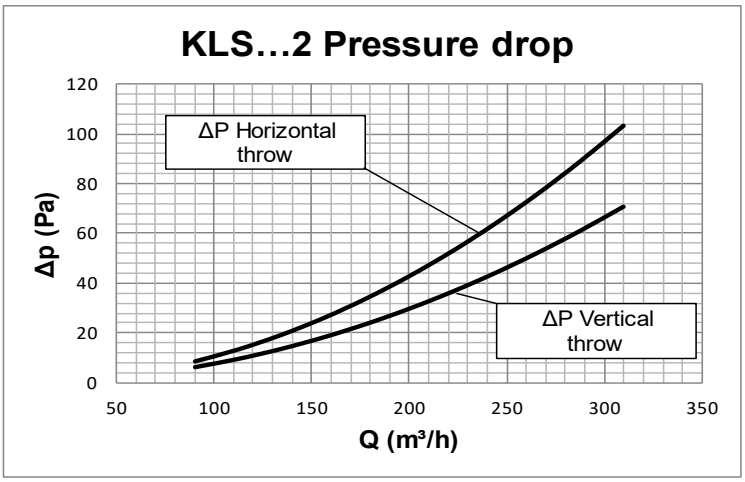
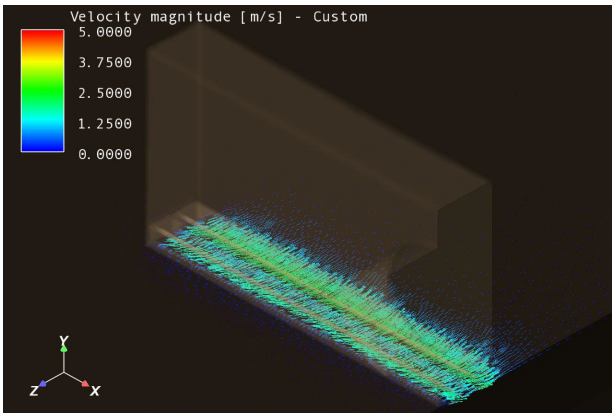
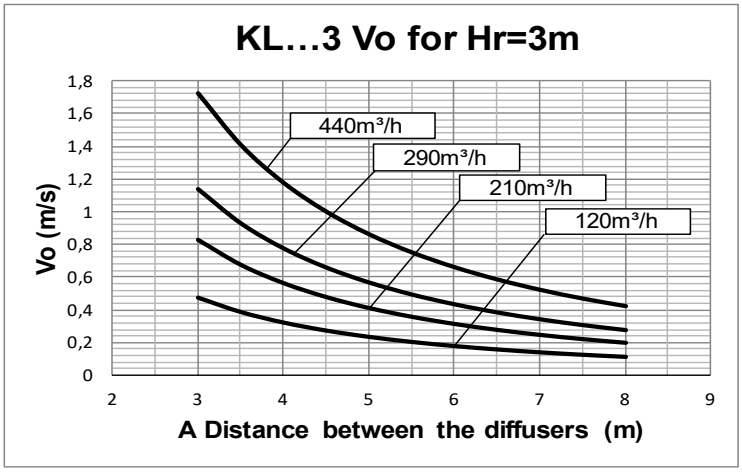


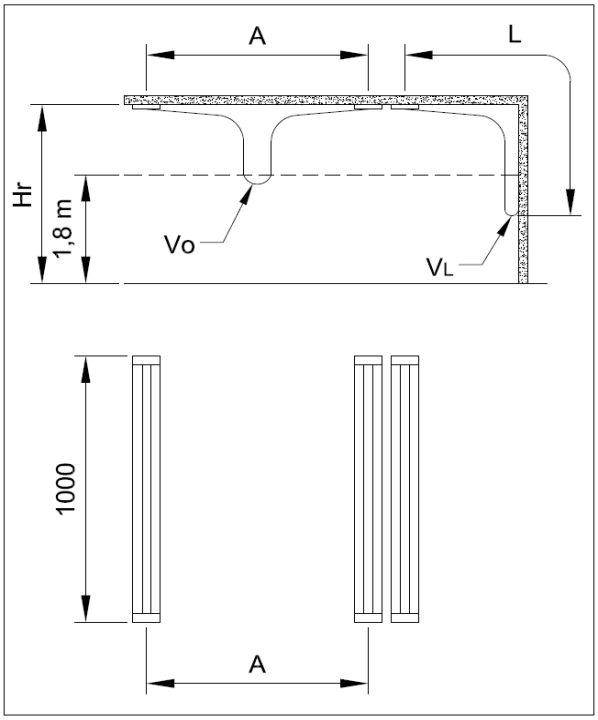


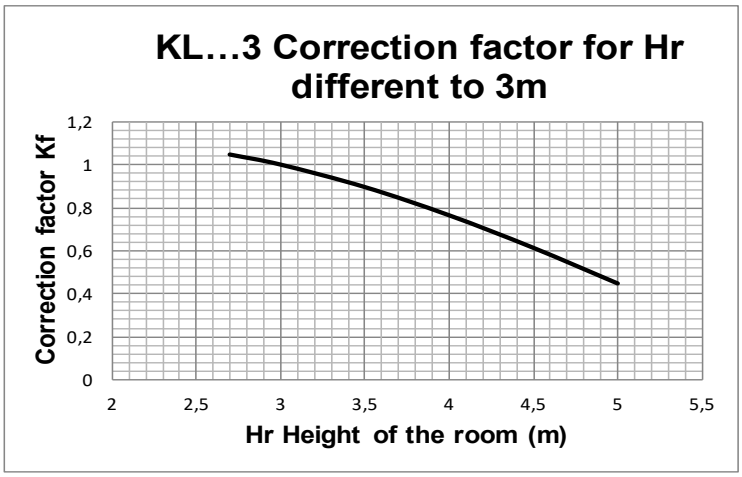
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 3 SLOTS L=1000mm

KLV
KLS
SERIES







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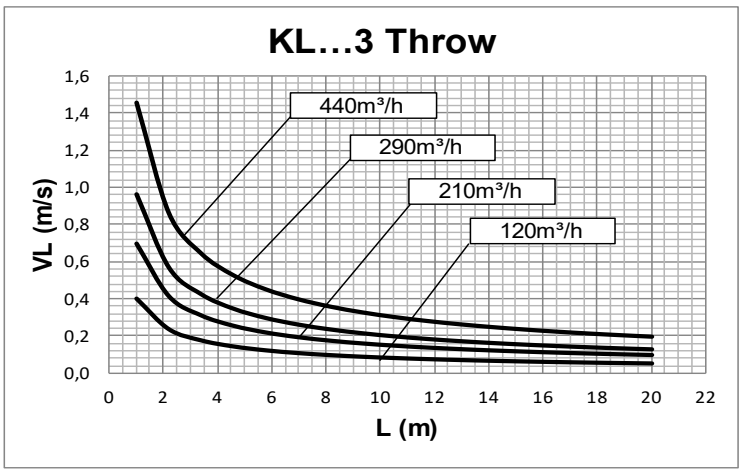
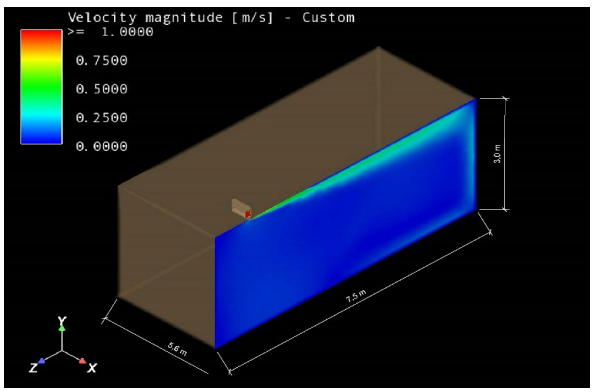
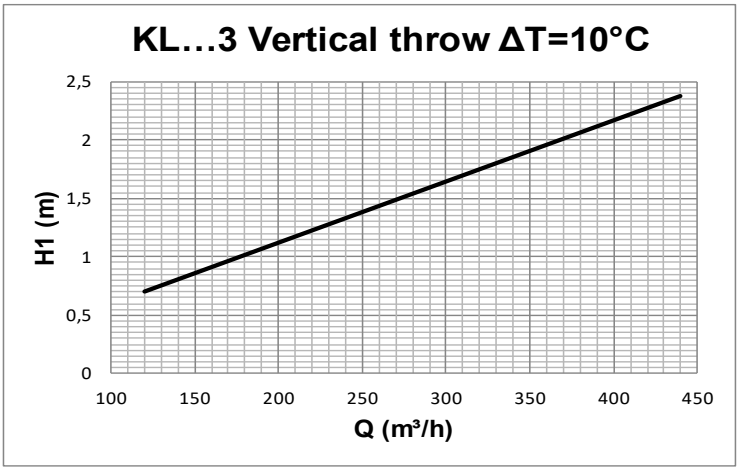




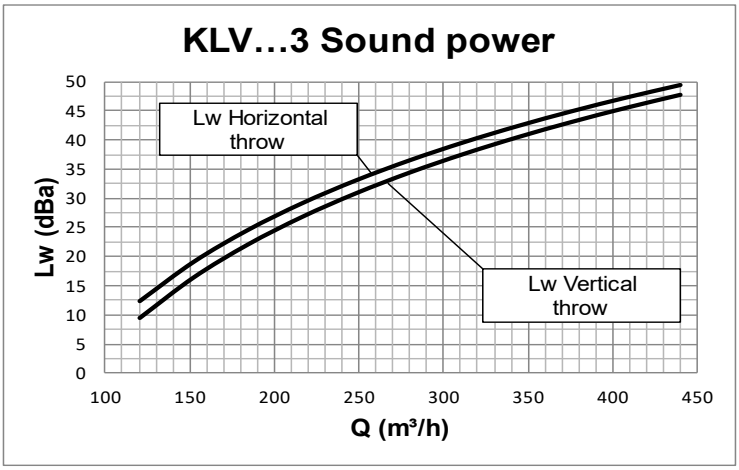
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 3 SLOTS L=1000mm

KLV
KLS
SERIES



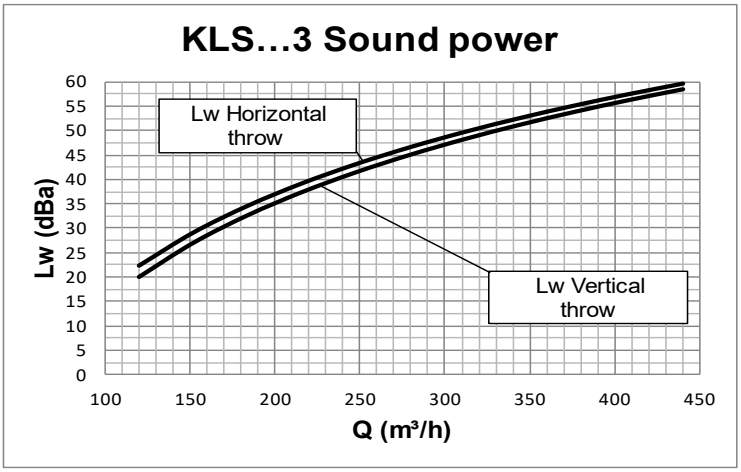
Data obtained from CFD mathematical model in a virtual test room operating in heating conditions with ΔT=10°C in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*
H1 (m) vertical distance in meters from the centre of the diffuser where the inversion of the air flow occurs.

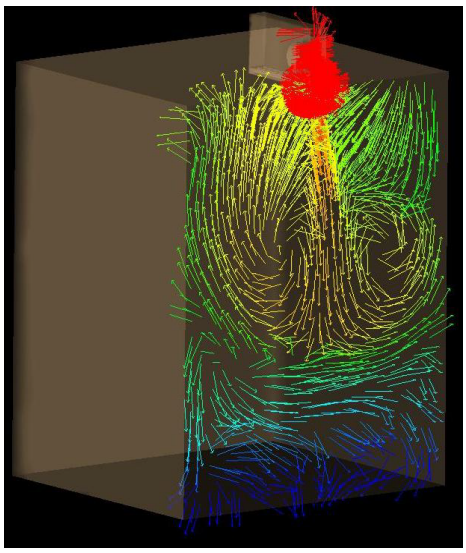


Acoustic data measured in reverberation room in accordance with international standards:
ISO 3741 1999: *Acoustic - determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms*

ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

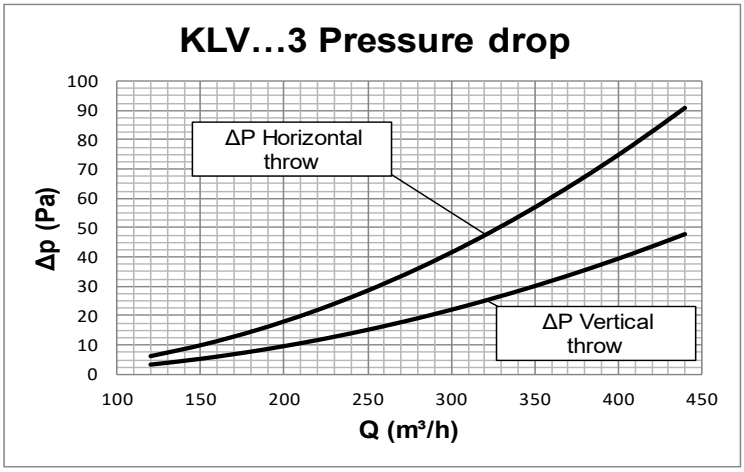




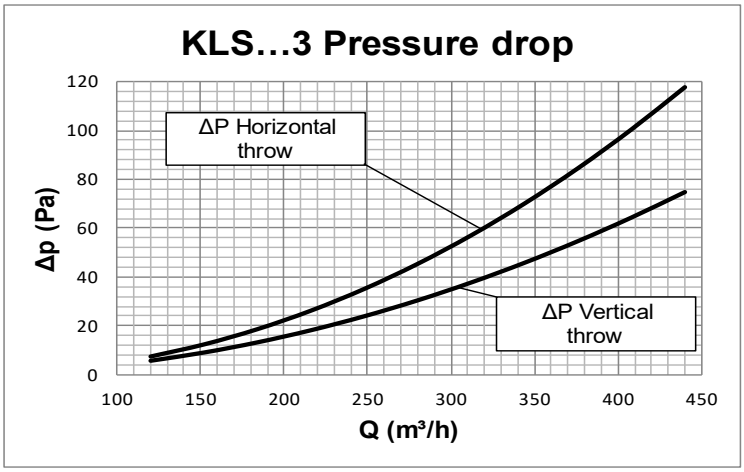
LINEAR SLOT DIFFUSERS

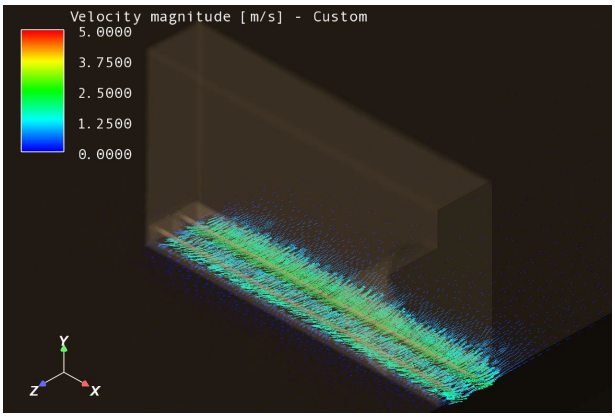
PERFORMANCE KL 3 SLOTS L=1000mm

KLV
KLS
SERIES



Data obtained from CFD mathematical model in a virtual test room operating in heating conditions with ΔT=10°C in accordance with international standard: ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

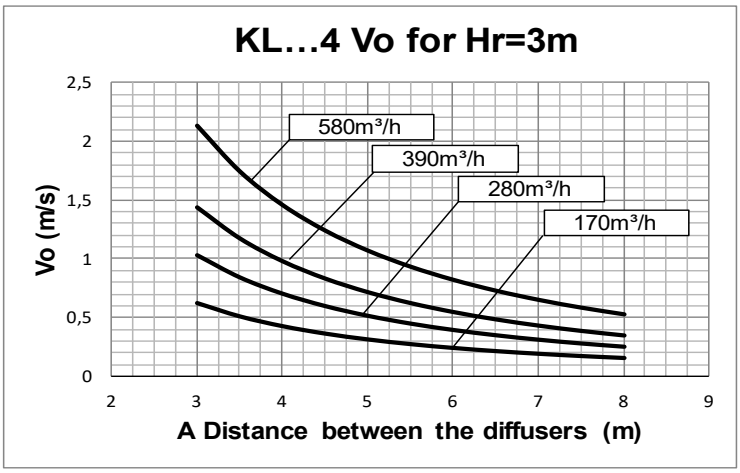


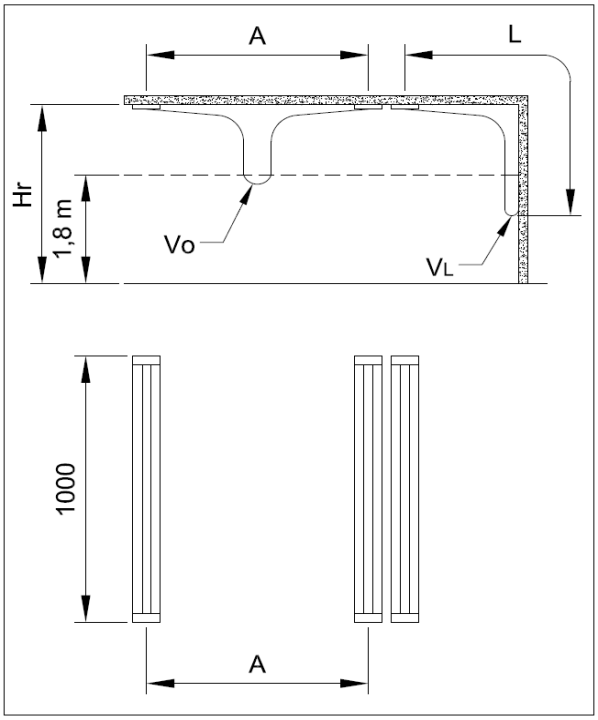


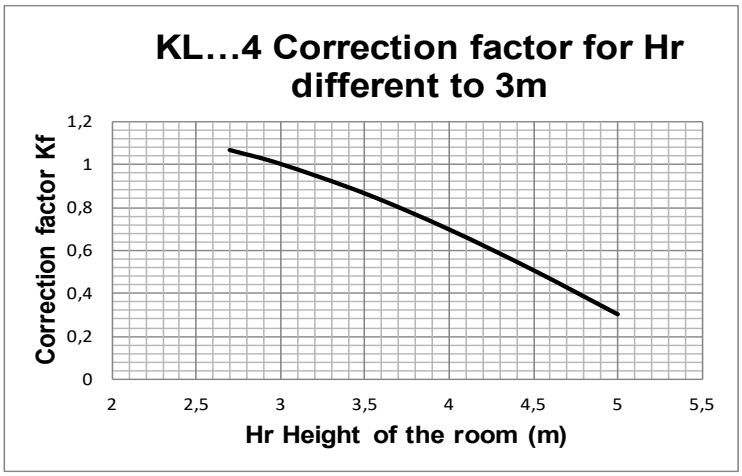
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 4 SLOTS L=1000mm

KLV
KLS
SERIES



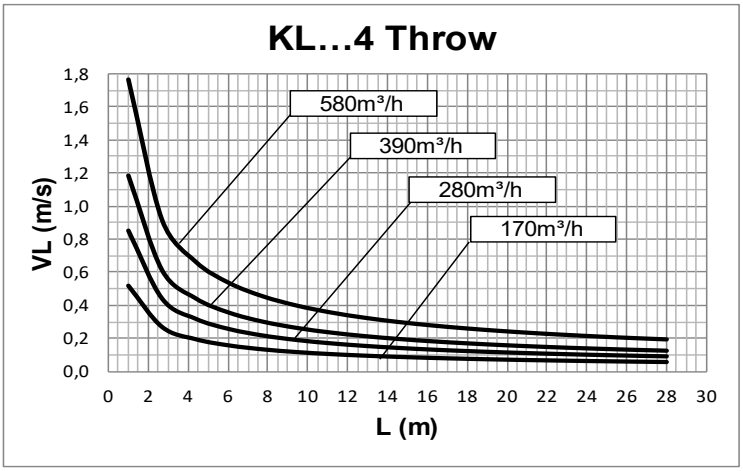


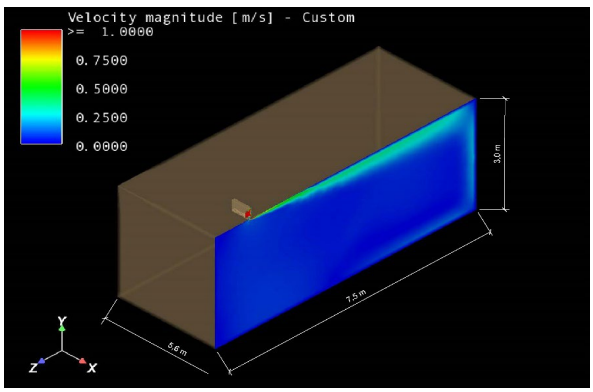


Data obtained from CFD mathematical model in a virtual test room, operating in isothermic conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area
VL (m/s) maximum air velocity in the vein at distance L

For Hr different to 3m, use the multiplier factor KF:
Vo (h) = Vo x Kf

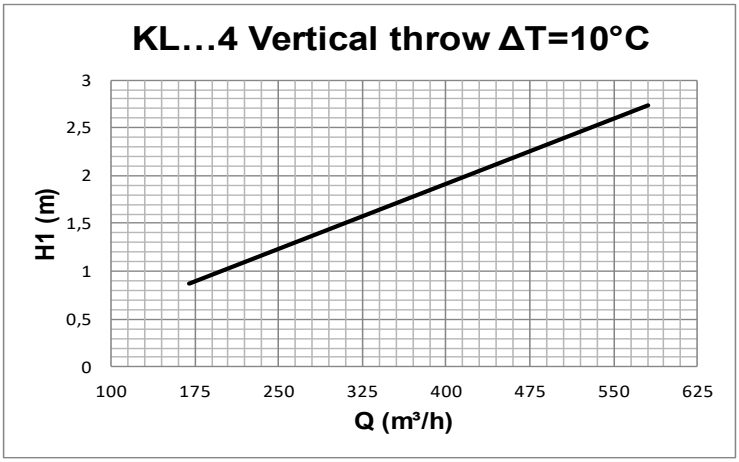




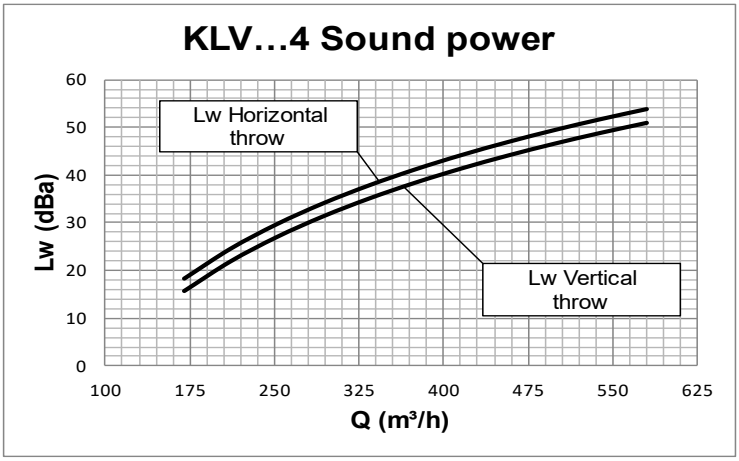
LINEAR SLOT DIFFUSERS

PERFORMANCE KL 4 SLOTS L=1000mm

KLV
KLS
SERIES



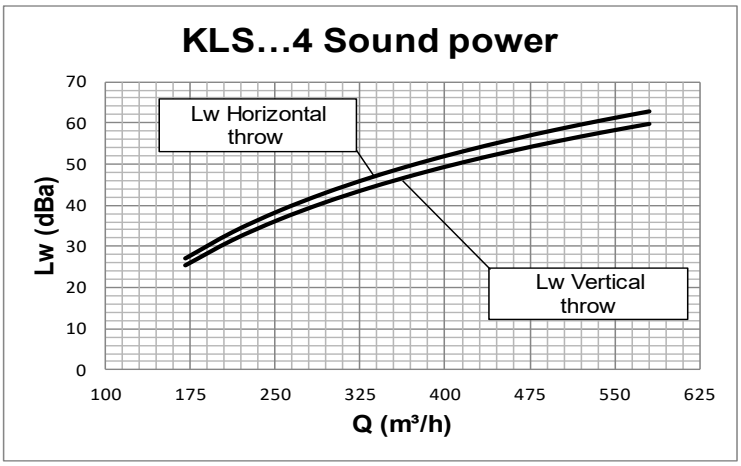
Data obtained from CFD mathematical model in a virtual test room operating in heating conditions with ΔT=10°C in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*
H1 (m) vertical distance in meters from the centre of the diffuser where the inversion of the air flow occurs.

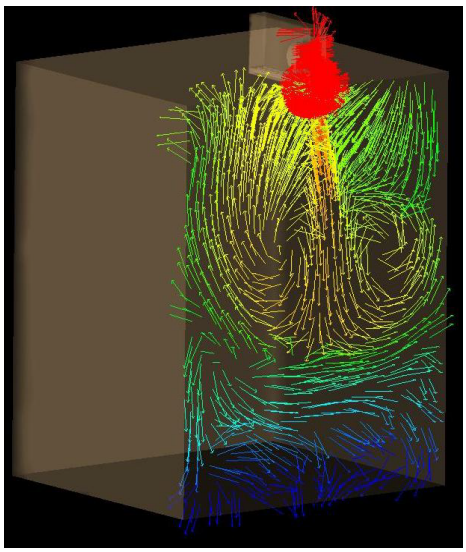


Acoustic data measured in reverberation room in accordance with international standards:
ISO 3741 1999: *Acoustic - determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms*

ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

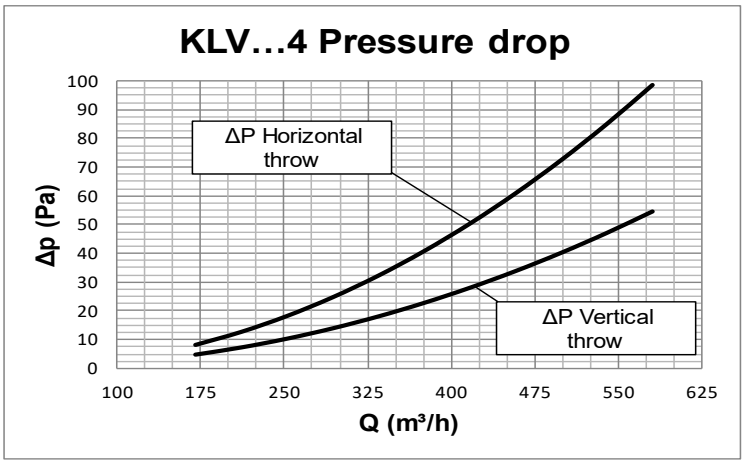




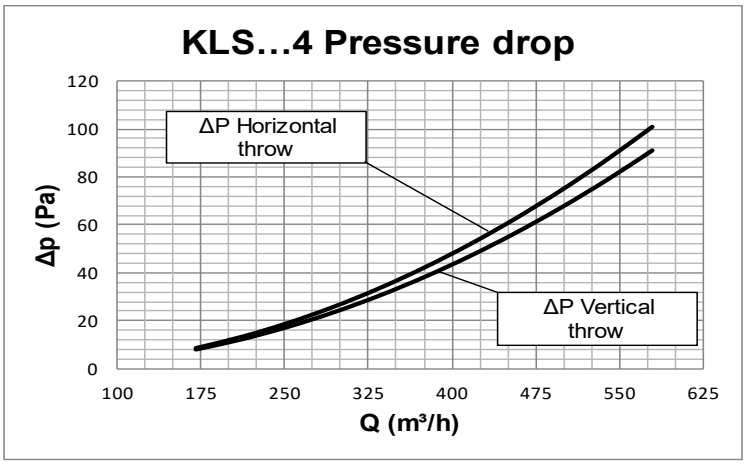
LINEAR SLOT DIFFUSERS

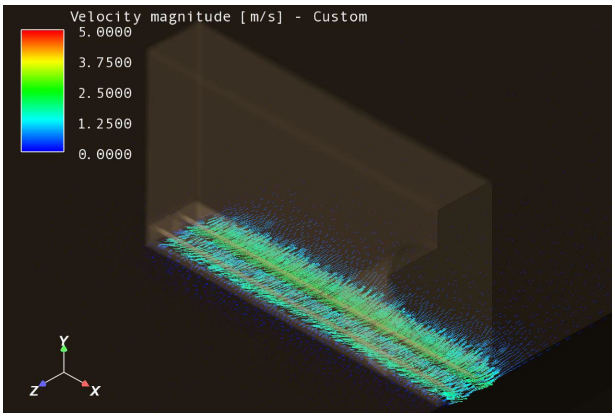
PERFORMANCE KL 4 SLOTS L=1000mm

KLV
KLS
SERIES



Data obtained from CFD mathematical model in a virtual test room operating in heating conditions with ΔT=10°C in accordance with international standard: ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

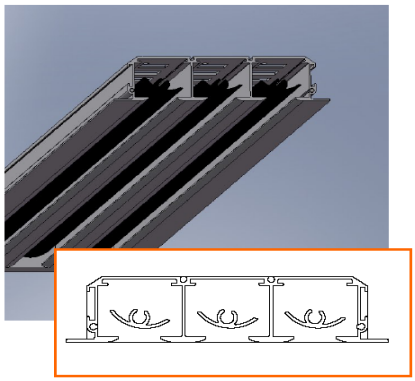


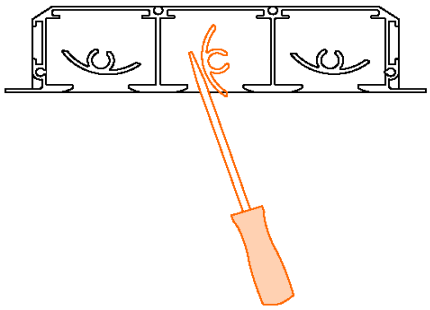


LINEAR SLOT DIFFUSERS

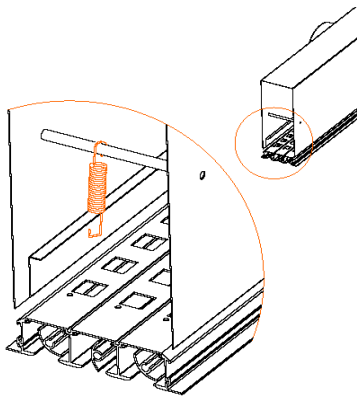
INSTALLATION
VERSION WITH FIXING SPRING

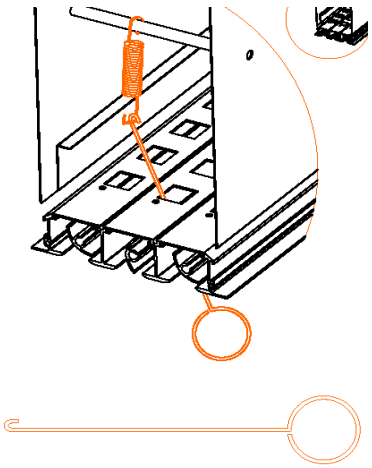
KLV
KLS
SERIES





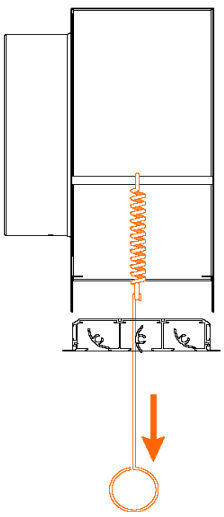
Rotate the deflector of the central slot (or the slot closest to the centre if they are even) to a verical position using a screwdriver and acting near the ends of the deflector

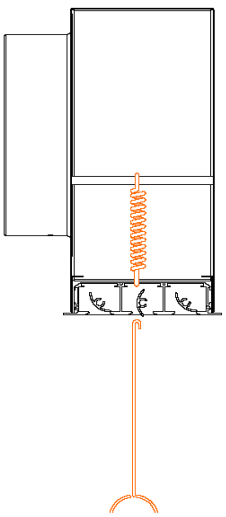




Locate the spring attached inside the plenum (shown above in section).

Thread the hook shown in the picture through the slot with the deflector previously positioned vertically taking care to insert it on the side of the fixing hole shown.
Number of springs:
- 2 springs for diffuser, regardless of length





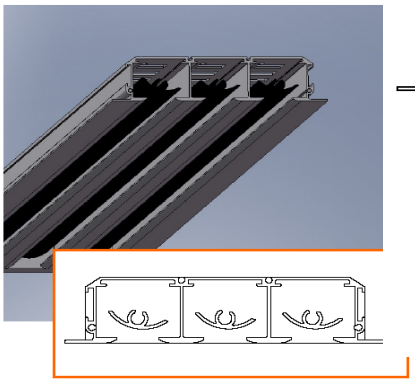
Using the hook stretch the spring and hook it to the fixing hole.
Repeat on the other side.
Release the diffuser that as a result of the tension in the springs will stay aligned with the plenum.

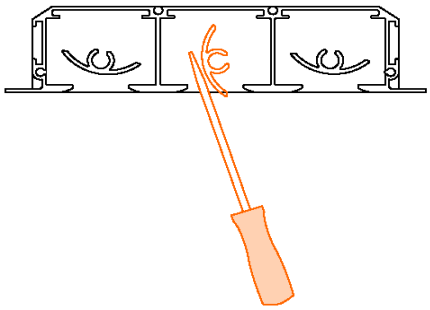
NOTE
For lengths up to 2000mm there are two springs already included in the product code of the diffuser.
For lengths over 2000mm composed of several diffusers, two mounting springs for each unit should be foreseen.

LINEAR SLOT DIFFUSERS

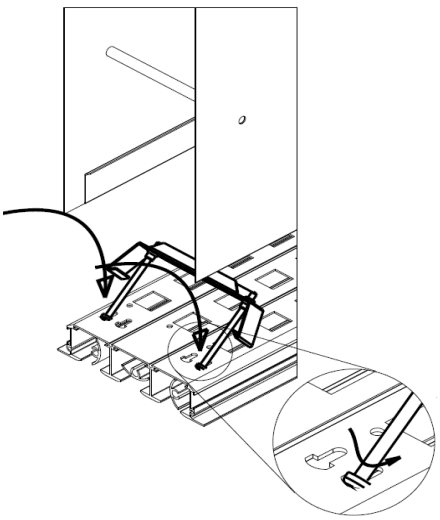
INSTALLATION
VERSION WITH MOUNTING BRIDGES

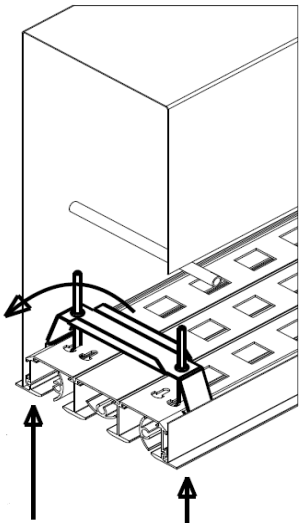
KLV
KLS
SERIES





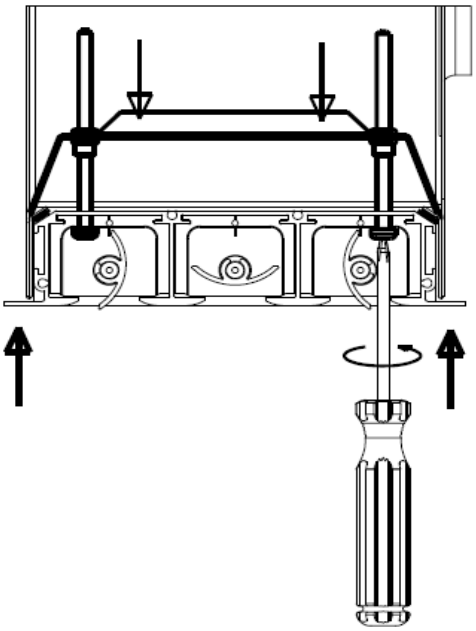
Rotate the deflectors to a verical position using a screwdriver and acting near the ends of the deflector





Attach the mounting bridges to the diffuser by inserting the screw heads in its slots. Insert the diffuser into the plenum and, turning the screws, place the bridge on the folds of sheet metal cut into the sides of the plenum.

Number of bridges:
- Up to 1500mm length; 2 bridges
- 1500mm length over: 3 bridges.



turn the screws until the diffuser completely touches the ceiling.

NOTE
For lengths up to 1500mm two bridges are already included in the code of the diffuser.
For lengths over 1500mm up to 2000mm three bridges are already included in the code of the speaker.
For lengths over 2000mm composed by various elements, it is necessary to foresee:
2 fixing bridges for each element of length up to 1500mm;
3 fixing bridges for each element of lengths greater than 1500mm.

LINEAR SLOT DIFFUSERS

HOW TO ORDER

KLV
KLS
SERIES

KLV Linear diffuser

- A anodized diffuser profile
- R RAL 9010 diffuser profile
- 0 spring fixing
- P fixing with bridges
- number of slots (from 1 up to 4)
- A anodized deflector
- B black deflector
- R RAL 9010 deflector
- Z without deflector(*)
- length

KLV A 0 2 B 1000

(*) the version without deflectors is best used for the return of air.

KLS Linear diffuser

- A anodized diffuser profile
- R RAL 9010 diffuser profile
- 0 spring fixing
- P fixing with bridges
- number of slots (from 1 up to 4)
- D with sliding damper
- N without sliding damper
- A anodized deflector
- B black deflector
- R RAL 9010 deflector
- Z without deflector(*)
- length

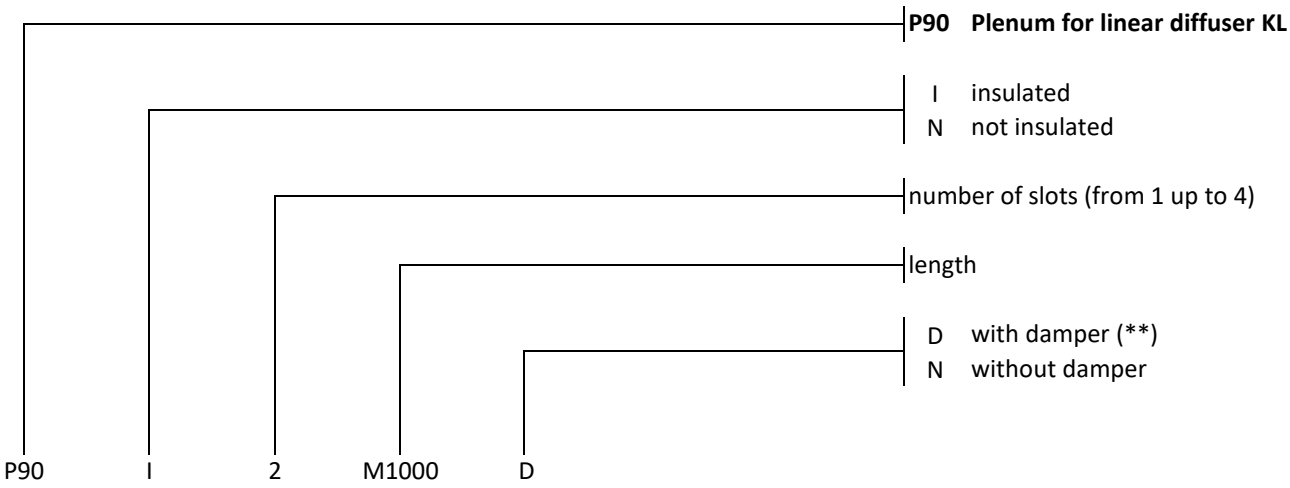
KLS A 0 2 D B 1000

(*) the version without deflectors is best used for the return of air.

LINEAR SLOT DIFFUSERS

HOW TO ORDER

KLV
KLS
SERIES



(**) for the KLS series it is not recommended to use the damper in the plenum connector

Standard lengths:
800 mm
1000 mm
1500 mm
2000 mm

All intermediate sizes are available on request
Plenums longer or equal to 1500mm are supplied with two connections