

KOOLAIR

series

KLRL

Linear slot diffusers



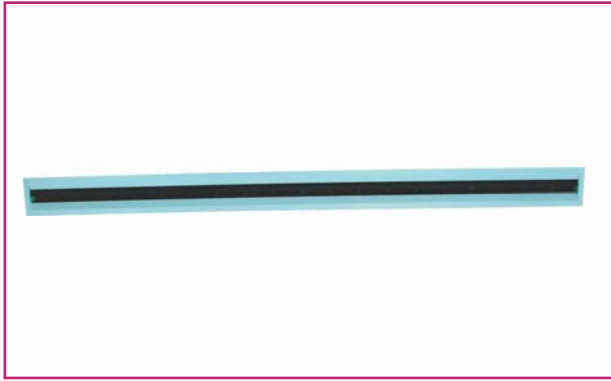
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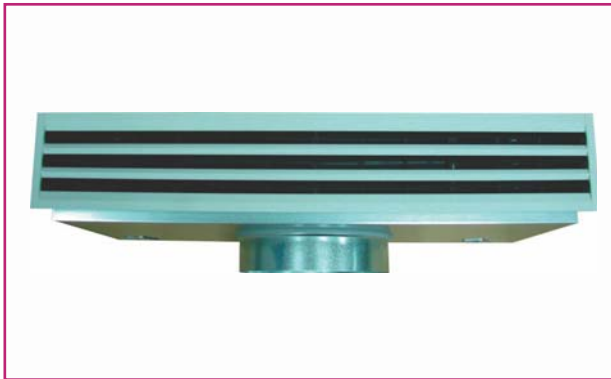
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Linear slot diffuser KLR



KLR 1 slot



KLR 3 slots



KOOLAIR R&D Laboratory test

Description

KLR linear supply diffuser for variable or constant flow rate, specially designed to maintain the ceiling effect. This diffuser made with aluminium frames has a 15-mm or 24 mm air passage, providing greater aesthetic appeal.

Finished products

Standard finished products are constructed of natural anodised aluminium or pre-painted with RAL-9010 gloss white. The directional blades constructed in plastic can be easily adjusted by rotating them to suit the specific site conditions, this allows the air to be aimed in sections of 150mm. The KLR-P version incorporates a galvanized steel supply plenum, with or without insulation, and integrated regulating damper in the spigot, accessible from the front face of the diffuser. There are two types of plenums, fixed and removable.

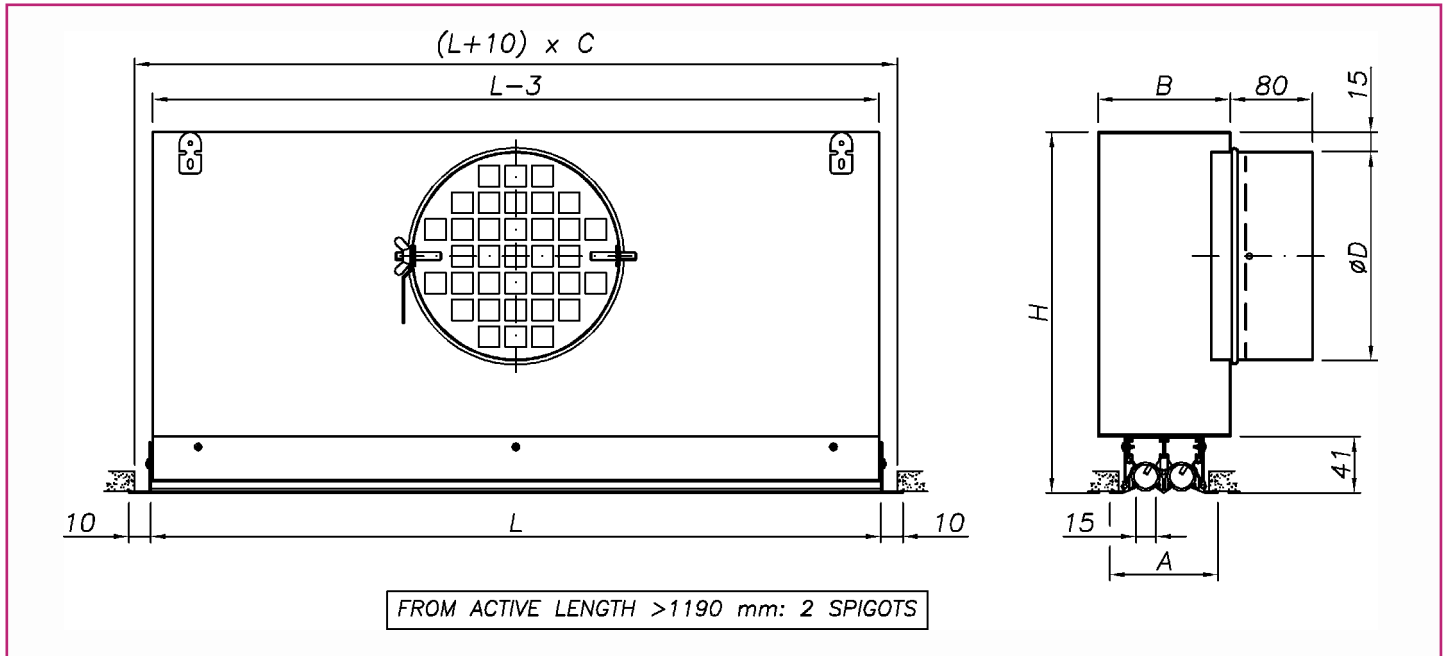
Upon request it is possible to integrate the diffuser into panels with special dimensions to suit the installation of modular ceilings (1200x300) with optional RAL paint finishes

Uses

The KLR linear supply diffuser is intended for installation in ceilings. It is especially suited for variable flow rates, although the design also provides excellent performance with constant air flow rates. Its blades are directional, so the direction of air flow can be varied from 0 to 180. This diffuser can be used for return air. The installation of return and supply diffusers on the same continuous line ensures a high level of aesthetic appeal and performance.

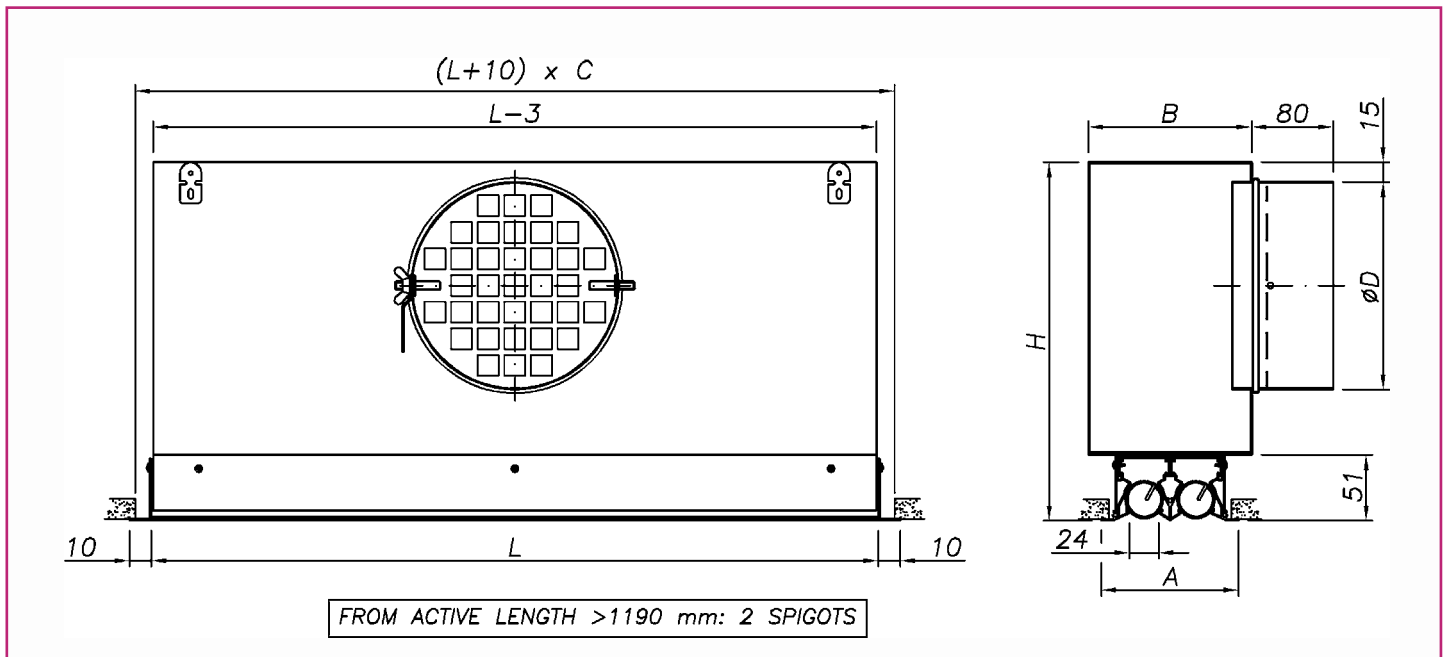
Models and dimensions

KLR-15 with FIXED plenum without damper



N° SLOTS	A	B	C	ØD	H
1	55	71	45	124	225
2	81,5	97,5	71,5	159	275
3	108	124	98	199	325
4	134,5	150,5	124,5	199	325

KLR-24 with FIXED plenum without damper



N° SLOTS	A	B	C	ØD	H
1	70	86	60	124	225
2	112,5	128,5	102,5	159	275
3	155	171	145	199	325
4	197,5	213,5	187,5	199	325

Technical data. Selection tables

KLR-15 HORIZONTAL						
Q		Dim	1000-1	1000-2	1000-3	1000-4
(m ³ /h)	(l/s)	A _k (m ²)	0,00671	0,01342	0,02014	0,02685
50	13,9	V _k (m/s)	2,1			
		X (m)	2,4			
		P _t (Pa)	4			
		L _w -dB(A)	<20			
60	16,7	V _k (m/s)	2,5	1,2		
		X (m)	2,8	2,0		
		P _t (Pa)	6	1		
		L _w -dB(A)	<20	<20		
80	22,2	V _k (m/s)	3,3	1,7	1,1	
		X (m)	3,8	2,7	2,2	
		P _t (Pa)	11	3	1	
		L _w -dB(A)	25	<20	<20	
120	33,3	V _k (m/s)	5,0	2,5	1,7	1,2
		X (m)	5,7	4,0	3,3	2,8
		P _t (Pa)	24	6	3	2
		L _w -dB(A)	36	24	<20	<20
160	44,4	V _k (m/s)	6,6	3,3	2,2	1,7
		X (m)	7,6	5,4	4,4	3,8
		P _t (Pa)	42	11	6	3
		L _w -dB(A)	44	32	27	22
200	55,6	V _k (m/s)	8,3	4,1	2,8	2,1
		X (m)	9,5	6,7	5,5	4,7
		P _t (Pa)	66	16	9	5
		L _w -dB(A)	50	38	33	28
250	69,4	V _k (m/s)		5,2	3,4	2,6
		X (m)		8,4	6,8	5,9
		P _t (Pa)		26	14	8
		L _w -dB(A)		44	39	34
300	83,3	V _k (m/s)		6,2	4,1	3,1
		X (m)		10,1	8,2	7,1
		P _t (Pa)		37	20	11
		L _w -dB(A)		49	44	38
350	97,2	V _k (m/s)			4,8	3,6
		X (m)			9,6	8,3
		P _t (Pa)			27	15
		L _w -dB(A)			48	43
400	111,1	V _k (m/s)			5,5	4,1
		X (m)			10,9	9,5
		P _t (Pa)			36	20
		L _w -dB(A)			51	46
500	138,9	V _k (m/s)				5,2
		X (m)				11,9
		P _t (Pa)				31
		L _w -dB(A)				52

KLR-24 HORIZONTAL						
Q		Dim	1000-1	1000-2	1000-3	1000-4
(m ³ /h)	(l/s)	A _k (m ²)	0,00829	0,01659	0,02488	0,03317
85	23,6	V _k (m/s)	2,8			
		X (m)	3,6			
		P _t (Pa)	11			
		L _w -dB(A)	25			
110	30,6	V _k (m/s)	3,7			
		X (m)	4,7			
		P _t (Pa)	15			
		L _w -dB(A)	31			
125	34,7	V _k (m/s)	4,2			
		X (m)	5,3			
		P _t (Pa)	19			
		L _w -dB(A)	34			
180	50,0	V _k (m/s)	6,0	3,0		
		X (m)	7,7	5,4		
		P _t (Pa)	39	10		
		L _w -dB(A)	43	29		
200	55,6	V _k (m/s)	6,7	3,3		
		X (m)	8,5	6,0		
		P _t (Pa)	49	12		
		L _w -dB(A)	45	31		
250	69,4	V _k (m/s)	8,4	4,2	2,8	
		X (m)	10,6	7,5	6,1	
		P _t (Pa)	76	19	8	
		L _w -dB(A)	51	37	24	
300	83,3	V _k (m/s)		5,0	3,3	2,5
		X (m)		9,0	7,4	6,4
		P _t (Pa)		27	12	7
		L _w -dB(A)		41	29	25
350	97,2	V _k (m/s)		5,9	3,9	2,9
		X (m)		10,5	8,6	7,4
		P _t (Pa)		37	17	9
		L _w -dB(A)		45	32	29
435	120,8	V _k (m/s)		7,3	4,9	3,6
		X (m)		13,1	10,7	9,3
		P _t (Pa)		58	26	14
		L _w -dB(A)		50	38	34
500	138,9	V _k (m/s)			5,6	4,2
		X (m)			12,3	10,6
		P _t (Pa)			34	19
		L _w -dB(A)			41	37
600	166,7	V _k (m/s)			6,7	5,0
		X (m)			14,7	12,8
		P _t (Pa)			49	27
		L _w -dB(A)			45	42
750	208,3	V _k (m/s)			8,4	6,3
		X (m)			18,4	16,0
		P _t (Pa)			76	43
		L _w -dB(A)			51	47
830	230,6	V _k (m/s)				7,0
		X (m)				17,7
		P _t (Pa)				52
		L _w -dB(A)				49

SYMBOLS

- A_k Effective area in m²
- V_k Effective velocity in m/s
- X Throw for maximum velocity in occupied area of 0.25 m/s, ΔT= 0 K and an installation height of 3 m, considering Coanda effect, in m, one direction
- P_t Total pressure drop, in Pa
- L_w Sound power level, in dB(A)

Product code

The product code shown below is used to define both the diffuser as well as the plenum:

KLR-15	Linear diffuser 15 mm air passage
KLR-24	Linear diffuser 24 mm air passage
1-2-3-4	Number of slots
---	length of the diffuser (nominal, opening in mm)
PM	Mounting bridge
PF	Fixed plenum without damper
PD	Removable plenum without damper
PF-C	Fixed plenum with damper
PD-C	Removable plenum with damper
PFA	Insulated fixed plenum without damper
PDA	Insulated removable plenum without damper
PFA-C	Insulated fixed plenum with damper
PDA-C	Insulated removable plenum with damper
RAL 9010	Standard finished product in white
RAL...	Finished product in another RAL coating

Example:

KLR-15-1-1200-PFA-C RAL 9010

KLR-15 linear diffuser, one-slot, and nominal width 1200 mm, with insulated fixed plenum and integrated regulating damper in the spigot, painted RAL-9010 white.

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