

KOOLAIR

series

LK-70

Linear slot diffusers

ISO 9001

BUREAU VERITAS
Certification

Sistema de Gestión



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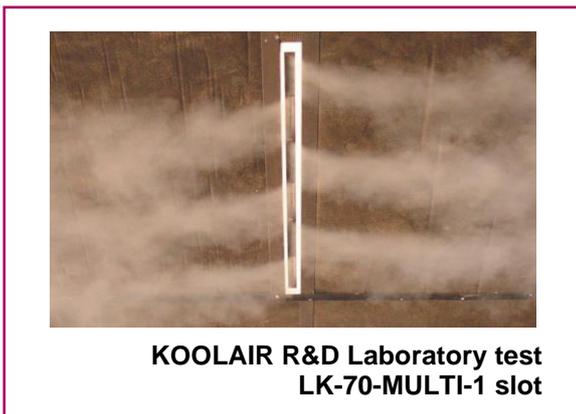
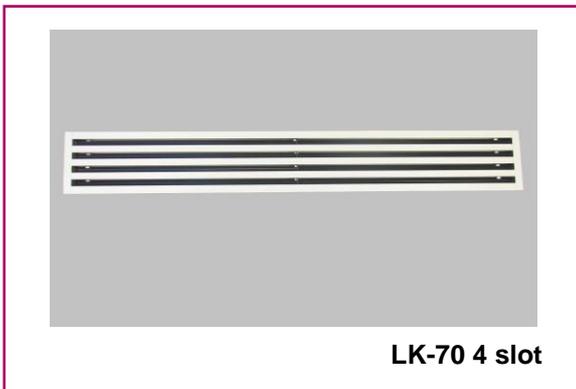
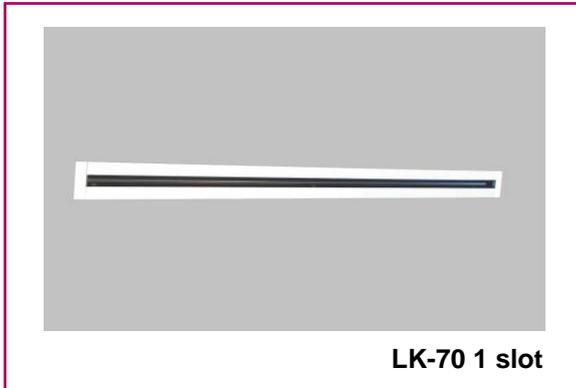
Model LK-70

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Model LK-70-C

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Linear slot diffuser LK-70



Description

LK-70 linear supply diffuser for variable or constant flow rate, specially designed to maintain the ceiling or Coanda effect, including primary air flow rates reduced to 20% of the nominal flow rate.

This diffuser made with aluminium frames has a 15-mm air passage, providing greater aesthetic appeal.

Finished products

Standard finished products are constructed of natural anodised aluminium or precoated with RAL-9010 gloss white. The directional blades can be adjusted by means of a drive wheel, which allows the air to be aimed in different directions up to 700 mm maximum and 100 mm minimum (optional model LK-70-MULTI).

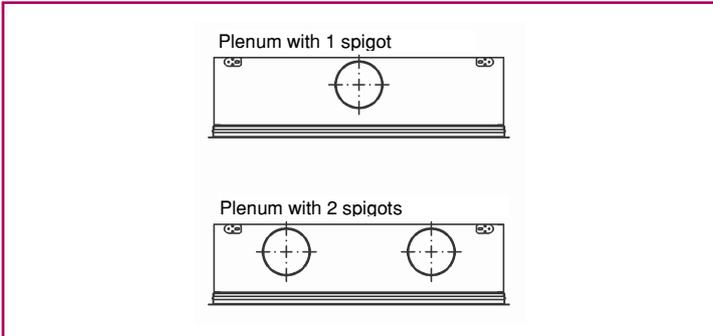
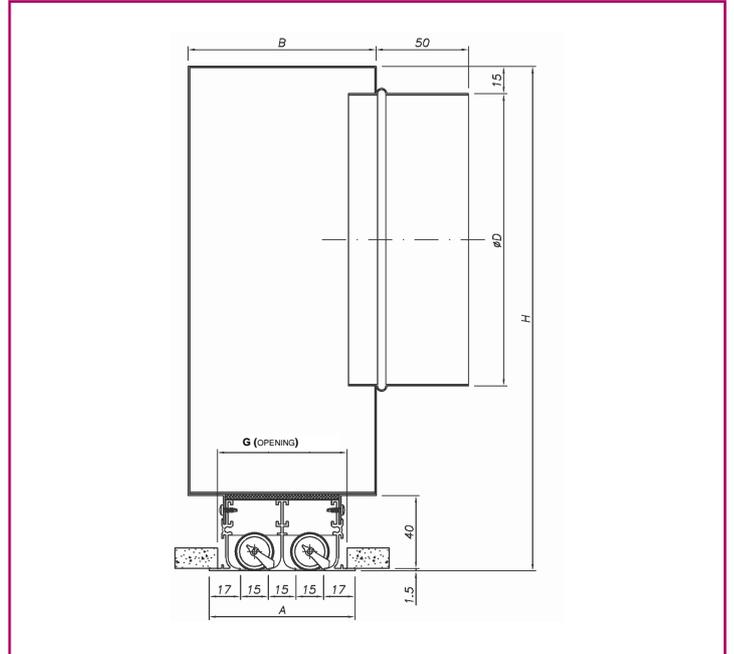
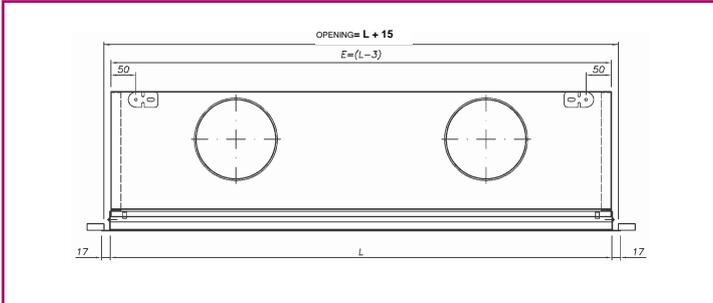
The LK-70-P version incorporates a galvanized steel supply plenum, with or without insulation, and integrated regulating damper in the spigot, accessible from the local network in standard implementation. There are two types of plenums, fixed and removable. Upon request it is possible to integrate the diffuser into panels with special dimensions to suit the installation of modular ceilings (1200x300) with RAL-coated finished products.

Uses

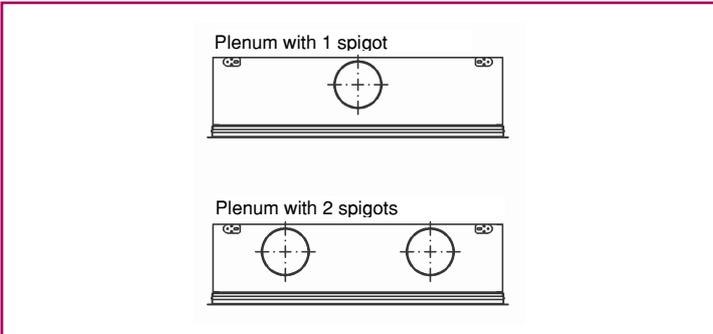
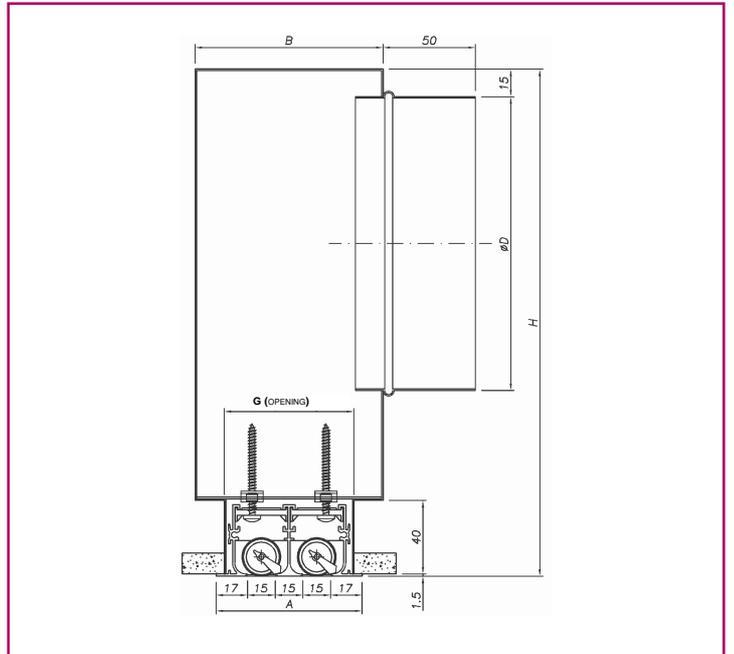
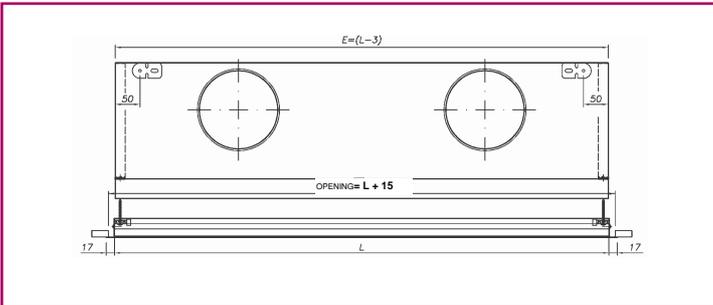
The LK-70 linear supply diffuser is intended for installation in ceilings. It is especially suited for variable flow rates, although the design also provides excellent performance with constant air flow rates. Its blades are directional, so the direction of air flow can be varied from 0 to 180°. This 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

LK-70 with FIXED plenum without damper

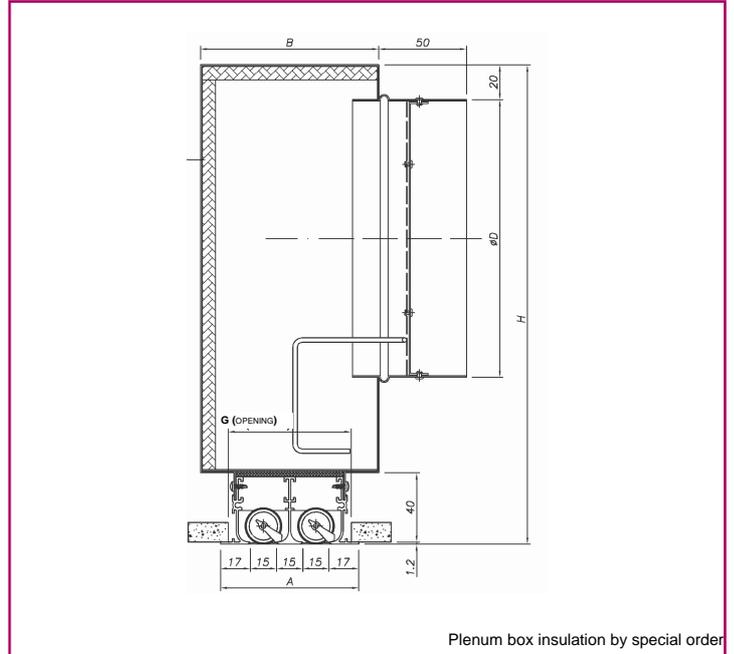
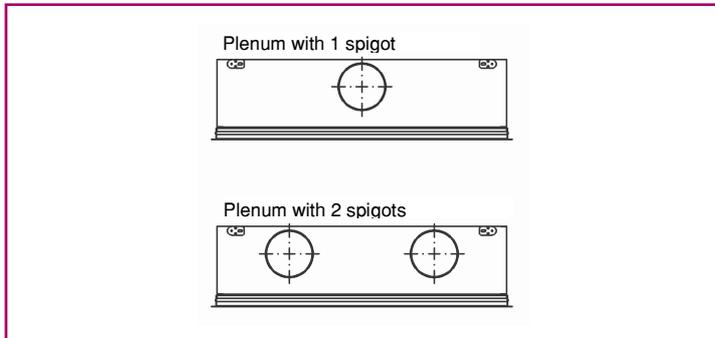
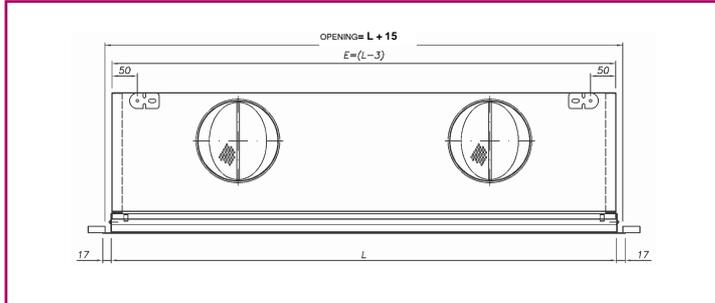


LK-70 with REMOVABLE plenum without damper

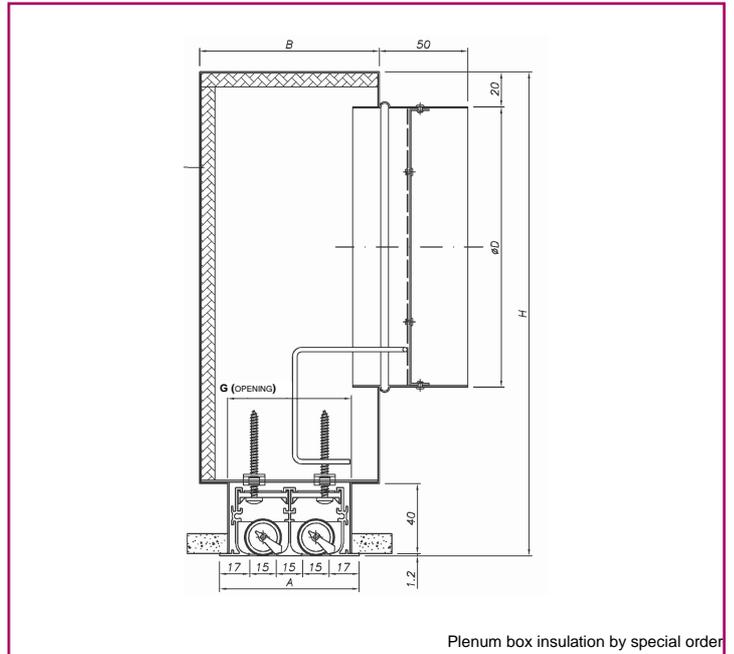
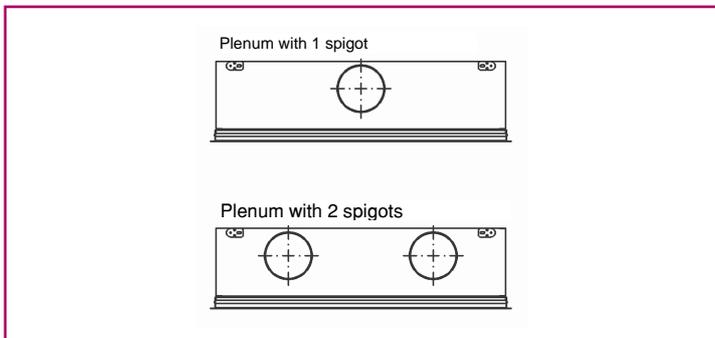
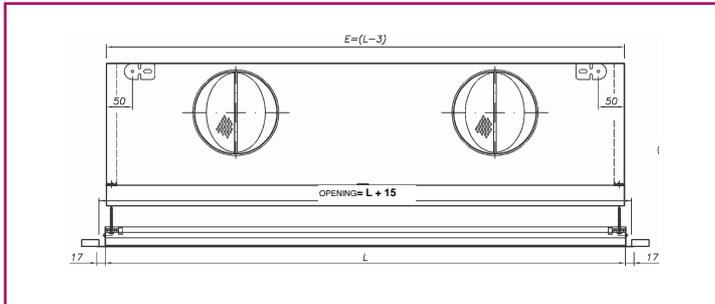


Models and dimensions

LK-70 with FIXED plenum, with adjustable damper from the room



LK-70 with REMOVABLE plenum, with adjustable damper from the room

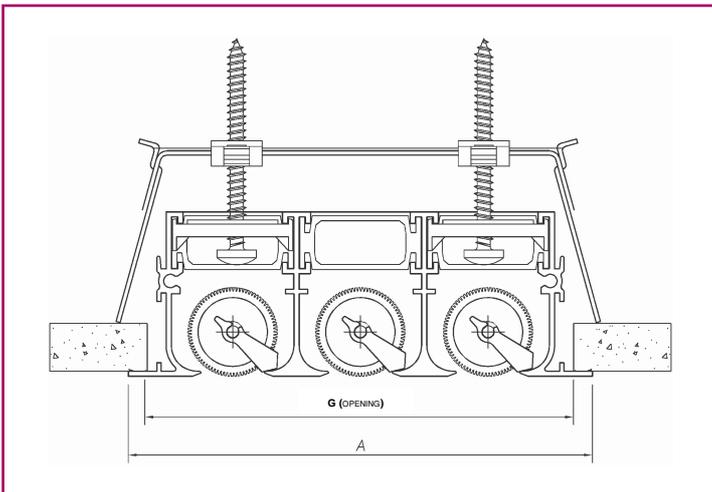


Models and dimensions

DIMENSIONS for FIXED or REMOVABLE plenum, with or without DAMPER

SLOTS	NOMINAL	L ACTIVE LENGTH	E	ØD	N° OF SPIGOTS	A	B	G (OPENING)	H	Standard no deflectors sections					
1	600	600	582	124	1	49	72	41	225	1					
	900	900	882							2	2				
	1015	1000	997								3				
	1200	1200	1182		2					2	2	275	2		
	1500	1500	1482												
	1800	1800	1782												
	2000	2000	1982												
2015	2000	1997	3												
2	600	600	582	159	1	79	102	71	275	1					
	900	900	882							2	2				
	1015	1000	997								3				
	1200	1200	1182		2					2	109	132	101	325	2
	1500	1500	1482												
	1800	1800	1782												
	2000	2000	1982												
2015	2000	1997	3												
3	600	600	582	199	1	109	132	101	325	1					
	900	900	882							2	2				
	1015	1000	997								3				
	1200	1200	1182		2					2	139	162	131	325	2
	1500	1500	1482												
	1800	1800	1782												
	2000	2000	1982												
2015	2000	1997	3												
4	600	600	582	199	1	139	162	131	325	1					
	900	900	882							2	2				
	1015	1000	997								3				
	1200	1200	1182		2					2	139	162	131	325	2
	1500	1500	1482												
	1800	1800	1782												
	2000	2000	1982												
2015	2000	1997	3												

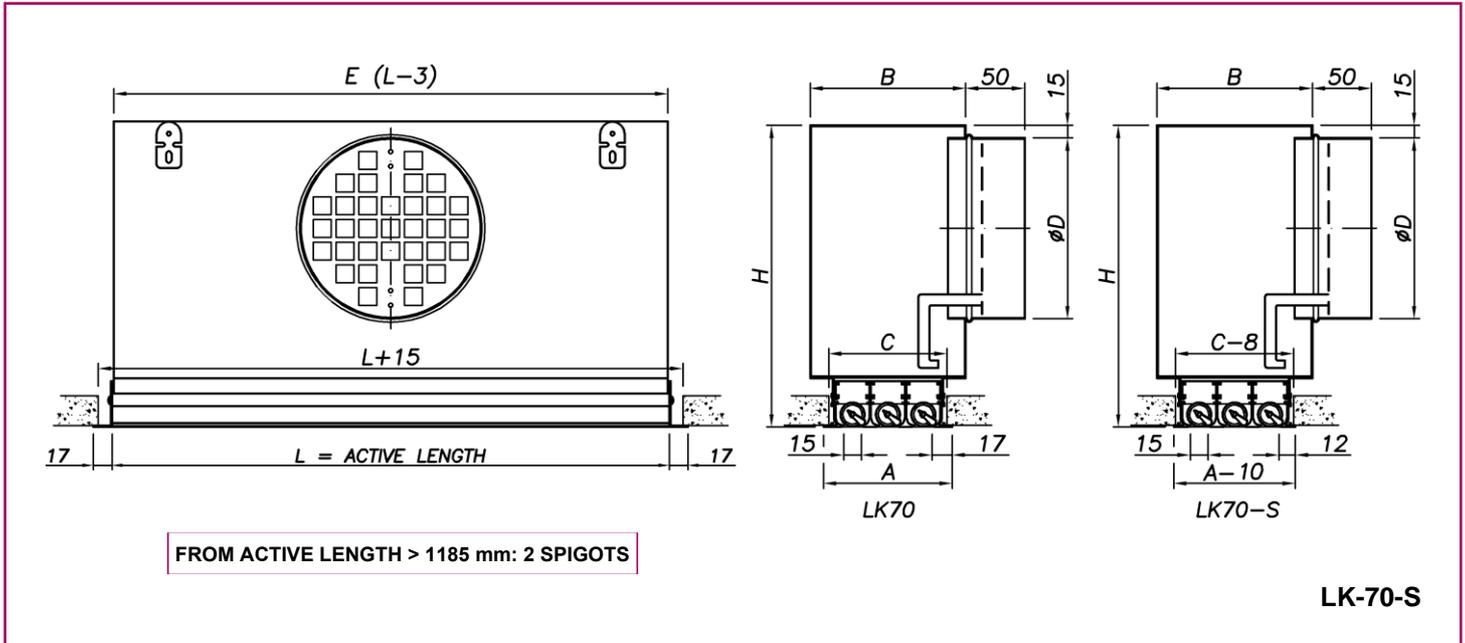
LK-70 with MOUNTING BRIDGES



SLOTS	G (OPENING)	A
1	41	49
2	71	79
3	101	109
4	131	139

Models and dimensions LK-70 / LK-70-S

LK-70-S, linear supply diffuser with narrow outer frames of 12 mm. Technical data similar to LK-70.



Nº SLOTS	L	E	Ø D	Nº SPIGOTS	A	B	C	H	
1	600	597	124	1	49	72	41	225	
	900	897	124						
	1000	997	124						
	1200	1197	124	2					
	1500	1497	124						
	1800	1797	124						
2	2000	1997	124	79	102	71	275		
	600	597	159					1	
	900	897	159						
	1000	997	159						2
	1200	1197	159						
	1500	1497	159						
3	1800	1797	159	109	132	101	325		
	2000	1997	159					1	
	600	597	199						
	900	897	199						2
	1000	997	199						
	1200	1197	199						
4	1500	1497	199	139	162	131	325		
	1800	1797	199					1	
	2000	1997	199						2
	600	597	199						
	900	897	199						
	1000	997	199						

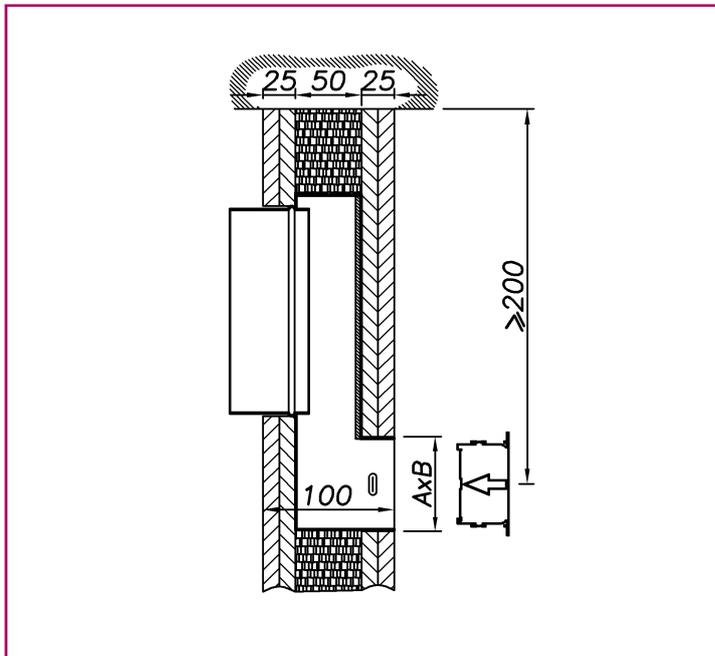
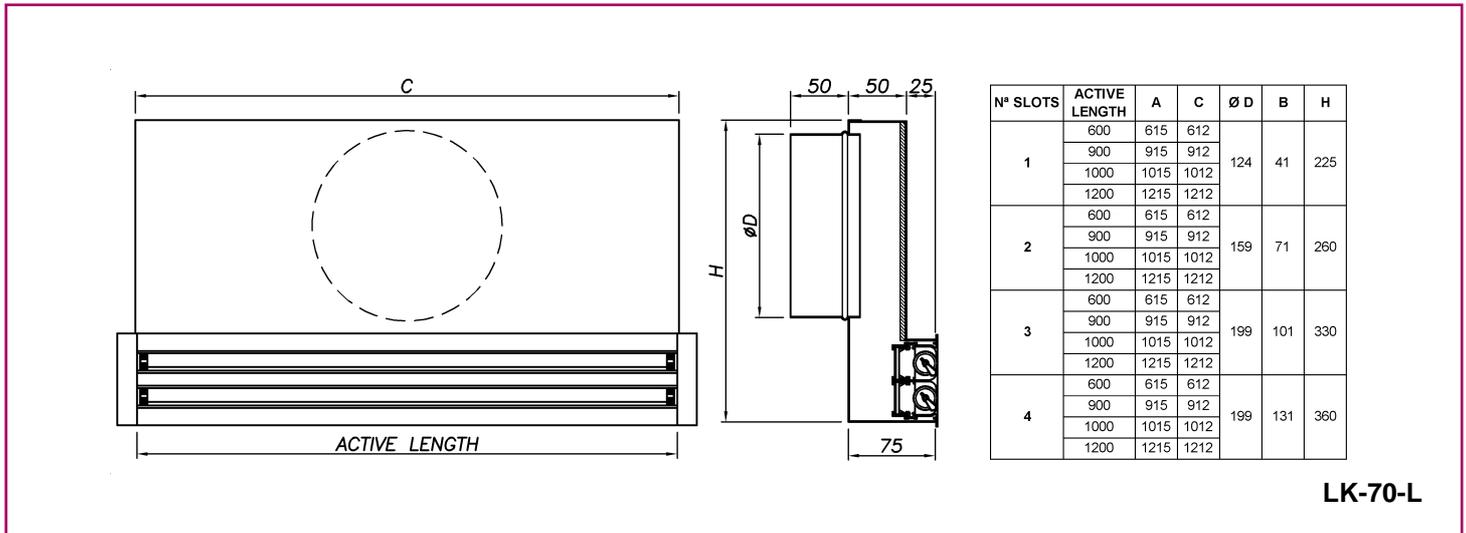
Models and dimensions LK-70-L

The linear wall diffuser model LK-70-L is specially designed for installation in continuous surface walls because it requires little space. It generates a flow of turbulent mixing air, being suitable for ranges of up to 5 m and installation heights of 2.5 to 3.5 m.

To obtain an adherent vein with cold air, it is advisable not to exceed the installation distances of the diffuser with respect to the ceiling $h < 300$ mm.

If the plenum is equipped with acoustic insulation, there is no need for a silencer to avoid crosstalk.

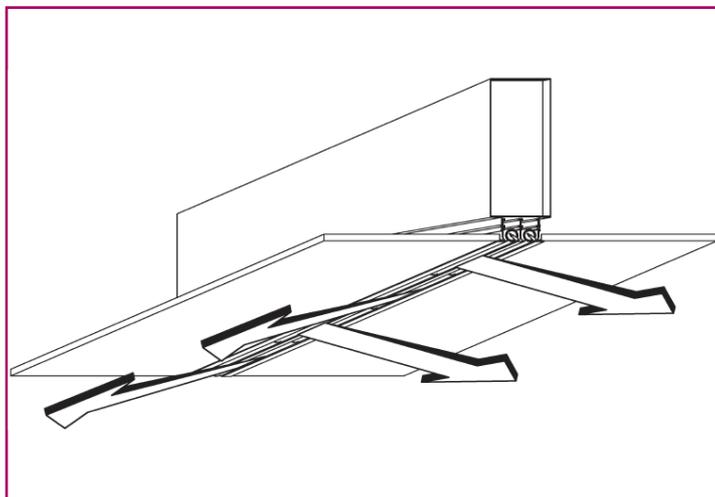
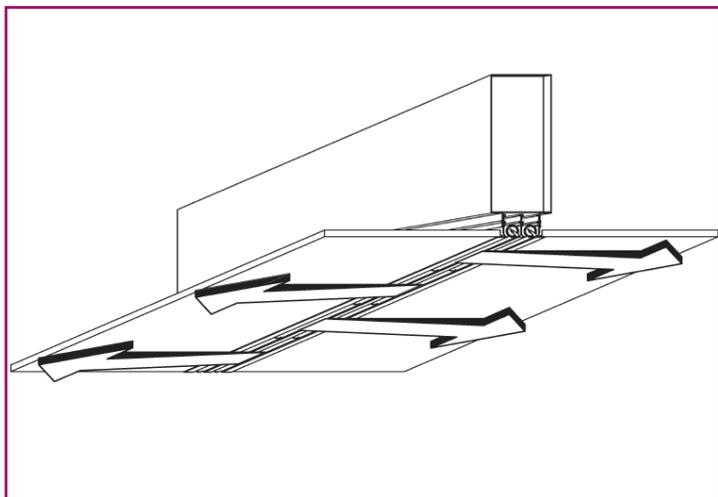
The linear wall diffuser is available for air delivery or return, or as a combined diffuser.



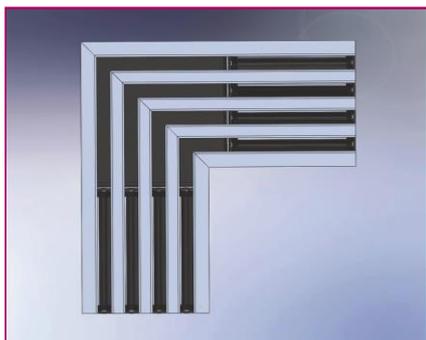
It is advisable to install the plenum from the corridor and the diffuser from inside the room only once the construction of the room has been completed; so that it is therefore protected from dirt and damage during construction.

The technical data of the LK-70-L model are comparable to those of the LK-70 model in horizontal drive.

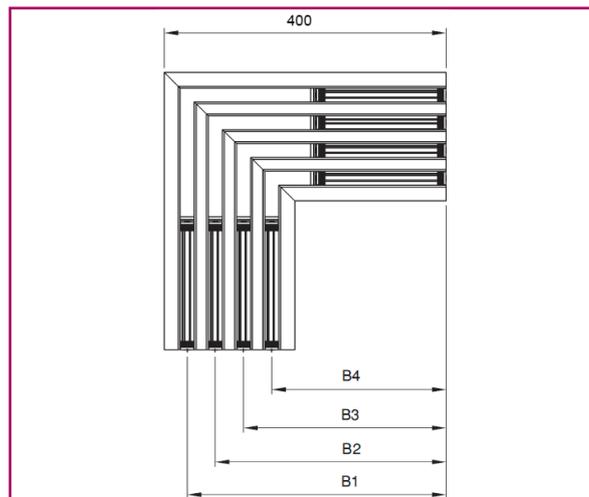
Models and dimensions



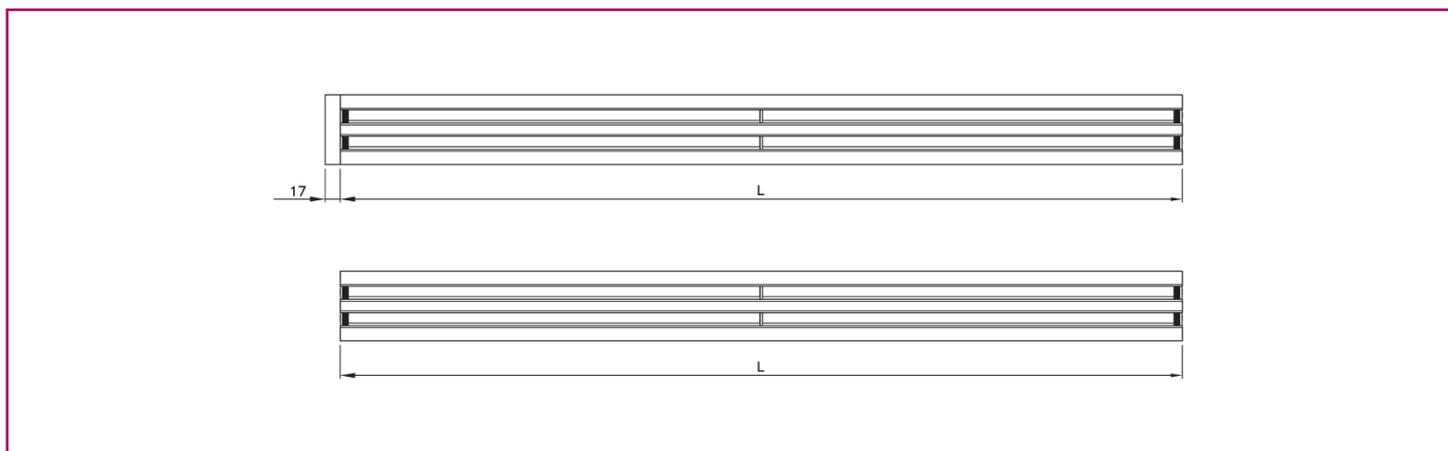
LK-70 MITRED CORNERS



SLOTS	B
1	275,5
2	245,5
3	215,5
4	185,5



LK-70 CONTINUOUS LINES



Technical data. Selection tables LK-70 / LK-70-S

LK - 70 HORIZONTAL DISCHARGE																
Q		Dim	600-1	1000-1	1200-1 600-2	1500-1	1800-1 900-2 600-3	1000-2	1200-2 600-4	1500-2 1000-3	1000-4	1500-3	1500-4	1800-4		
(m³/h)	(l/s)	A _k (m²)	0,00553	0,00922	0,01107	0,01383	0,01660	0,01844	0,02213	0,02767	0,03689	0,04150	0,05533	0,06640		
40	11,1	V _k (m/s)	2,0	1,2												
		X (m)	2,1	1,6												
		P _t (Pa)	6	2												
		L _w -dB(A)	21	<20												
60	16,7	V _k (m/s)	3,0	1,8	1,5	1,2										
		X (m)	3,1	2,4	2,2	2,0										
		P _t (Pa)	13	5	4	2										
		L _w -dB(A)	30	22	<20	<20										
80	22,2	V _k (m/s)	4,0	2,4	2,0	1,6	1,3	1,2								
		X (m)	4,2	3,2	3,0	2,6	2,4	2,3								
		P _t (Pa)	23	10	7	4	3	2								
		L _w -dB(A)	36	28	25	22	<20	<20								
120	33,3	V _k (m/s)	6,0	3,6	3,0	2,4	2,0	1,8	1,5	1,2						
		X (m)	6,3	4,9	4,4	4,0	3,6	3,4	3,1	2,8						
		P _t (Pa)	51	22	15	10	7	5	4	2						
		L _w -dB(A)	45	37	34	31	28	26	<20	<20						
160	44,4	V _k (m/s)		4,8	4,0	3,2	2,7	2,4	2,0	1,6	1,2	1,1				
		X (m)		6,5	5,9	5,3	4,8	4,6	4,2	3,7	3,2	3,1				
		P _t (Pa)		39	27	17	12	10	7	4	2	1				
		L _w -dB(A)		43	40	37	34	32	25	22	<20	<20				
200	55,6	V _k (m/s)		6,0	5,0	4,0	3,3	3,0	2,5	2,0	1,5	1,3	1,0			
		X (m)		8,1	7,4	6,6	6,0	5,7	5,2	4,7	4,0	3,8	3,3			
		P _t (Pa)		61	42	27	19	15	11	7	4	3	2			
		L _w -dB(A)		48	45	42	39	37	31	27	22	21	<20			
250	69,4	V _k (m/s)				5,0	4,2	3,8	3,1	2,5	1,9	1,7	1,3	1,0		
		X (m)				8,3	7,5	7,1	6,5	5,8	5,1	4,8	4,1	3,8		
		P _t (Pa)				42	29	24	17	11	6	5	3	2		
		L _w -dB(A)				47	44	42	36	32	28	26	21	<20		
300	83,3	V _k (m/s)					5,0	4,5	3,8	3,0	2,3	2,0	1,5	1,3		
		X (m)					9,0	8,6	7,8	7,0	6,1	5,7	5,0	4,5		
		P _t (Pa)					42	34	24	15	9	7	4	3		
		L _w -dB(A)					48	46	40	36	32	30	25	22		
350	97,2	V _k (m/s)							4,4	3,5	2,6	2,3	1,8	1,5		
		X (m)							9,1	8,2	7,1	6,7	5,8	5,3		
		P _t (Pa)							32	21	12	9	5	4		
		L _w -dB(A)							44	40	35	34	29	26		
400	111,1	V _k (m/s)							5,0	4,0	3,0	2,7	2,0	1,7		
		X (m)							10,4	9,3	8,1	7,6	6,6	6,0		
		P _t (Pa)							42	27	15	12	7	5		
		L _w -dB(A)							47	43	39	37	32	29		
500	138,9	V _k (m/s)								5,0	3,8	3,3	2,5	2,1		
		X (m)								11,7	10,1	9,5	8,3	7,5		
		P _t (Pa)								42	24	19	11	7		
		L _w -dB(A)								48	44	42	37	34		
600	166,7	V _k (m/s)									4,5	4,0	3,0	2,5		
		X (m)									12,1	11,4	9,9	9,0		
		P _t (Pa)										34	27	15	11	
		L _w -dB(A)										48	46	41	39	
700	194,4	V _k (m/s)											3,5	2,9		
		X (m)												11,6	10,6	
		P _t (Pa)													21	14
		L _w -dB(A)													45	42
800	222,2	V _k (m/s)												3,3		
		X (m)													12,1	
		P _t (Pa)														19
		L _w -dB(A)														45

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,

P_t Total pressure drop, in Pa

L_w Sound power level, in dB(A)

Technical data. Selection tables LK-70 / LK-70-S

LK - 70 VERTICAL DISCHARGE																	
Q		Dim	600-1	1000-1	1200-1 600-2	1500-1	1800-1 900-2 600-3	1000-2	1200-2 600-4	1500-2 1000-3	1000-4	1500-3	1500-4	1800-4			
(m³/h)	(l/s)	A _k (m²)	0,00581	0,00968	0,01162	0,01452	0,01742	0,01936	0,02323	0,02904	0,03872	0,04356	0,05808	0,06969			
50	13,9	V _k (m/s)	2,4														
		Y _{máx} (m)	1,2														
		P _t (Pa)	5														
		L _w -dB(A)	<20														
75	20,8	V _k (m/s)	3,6	2,2	1,8												
		Y _{máx} (m)	1,9	1,2	1,0												
		P _t (Pa)	10	5	3												
		L _w -dB(A)	27	<20	<20												
100	27,8	V _k (m/s)	4,8	2,9	2,4	1,9											
		Y _{máx} (m)	2,5	1,6	1,4	1,2											
		P _t (Pa)	19	8	6	4											
		L _w -dB(A)	33	25	22	<20											
140	38,9	V _k (m/s)	6,7	4,0	3,3	2,7	2,2	2,0	1,7								
		Y _{máx} (m)	3,5	2,2	1,9	1,6	1,4	1,3	1,2								
		P _t (Pa)	36	16	11	7	5	4	3								
		L _w -dB(A)	41	33	30	22	<20	<20	<20								
180	50,0	V _k (m/s)	8,6	5,2	4,3	3,4	2,9	2,6	2,2	1,7							
		Y _{máx} (m)	4,5	2,9	2,5	2,1	1,8	1,7	1,5	1,3							
		P _t (Pa)	60	26	18	12	8	7	5	3							
		L _w -dB(A)	47	39	36	28	25	24	21	<20							
240	66,7	V _k (m/s)		6,9	5,7	4,6	3,8	3,4	2,9	2,3	1,7	1,5					
		Y _{máx} (m)		3,8	3,3	2,8	2,4	2,3	2,0	1,7	1,3	1,2					
		P _t (Pa)		47	32	21	14	12	8	5	3	2					
		L _w -dB(A)		46	43	35	32	31	28	24	<20	<20					
300	83,3	V _k (m/s)			7,2	5,7	4,8	4,3	3,6	2,9	2,2	1,9	1,4	1,2			
		Y _{máx} (m)			4,2	3,5	3,1	2,8	2,5	2,1	1,7	1,5	1,2	1,0			
		P _t (Pa)			51	32	22	18	13	8	5	4	2	1			
		L _w -dB(A)			48	41	38	36	33	30	25	24	<20	<20			
400	111,1	V _k (m/s)				7,7	6,4	5,7	4,8	3,8	2,9	2,6	1,9	1,6			
		Y _{máx} (m)				4,7	4,1	3,8	3,3	2,8	2,2	2,1	1,5	1,3			
		P _t (Pa)				57	40	32	22	14	8	6	4	2			
		L _w -dB(A)				48	45	43	40	37	32	31	26	23			
500	138,9	V _k (m/s)						7,2	6,0	4,8	3,6	3,2	2,4	2,0			
		Y _{máx} (m)						4,7	4,2	3,5	2,8	2,6	1,9	1,7			
		P _t (Pa)						51	35	22	13	10	6	4			
		L _w -dB(A)						49	46	42	38	36	32	29			
600	166,7	V _k (m/s)								5,7	4,3	3,8	2,9	2,4			
		Y _{máx} (m)								4,2	3,4	3,1	2,3	2,0			
		P _t (Pa)									32	18	14	8	6		
		L _w -dB(A)									47	42	41	36	33		
700	194,4	V _k (m/s)									5,0	4,5	3,3	2,8			
		Y _{máx} (m)									3,9	3,6	2,7	2,3			
		P _t (Pa)										25	20	11	8		
		L _w -dB(A)										46	44	40	37		
800	222,2	V _k (m/s)										5,1	3,8	3,2			
		Y _{máx} (m)											4,1	3,1	2,7		
		P _t (Pa)												26	14	10	
		L _w -dB(A)												48	43	40	
900	250,0	V _k (m/s)												4,3	3,6		
		Y _{máx} (m)													3,5	3,0	
		P _t (Pa)														18	13
		L _w -dB(A)														46	43
1000	277,8	V _k (m/s)													4,0		
		Y _{máx} (m)														3,3	
		P _t (Pa)															16
		L _w -dB(A)															46

SYMBOLS

A_k Effective area in m²

V_k Effective velocity in m/s

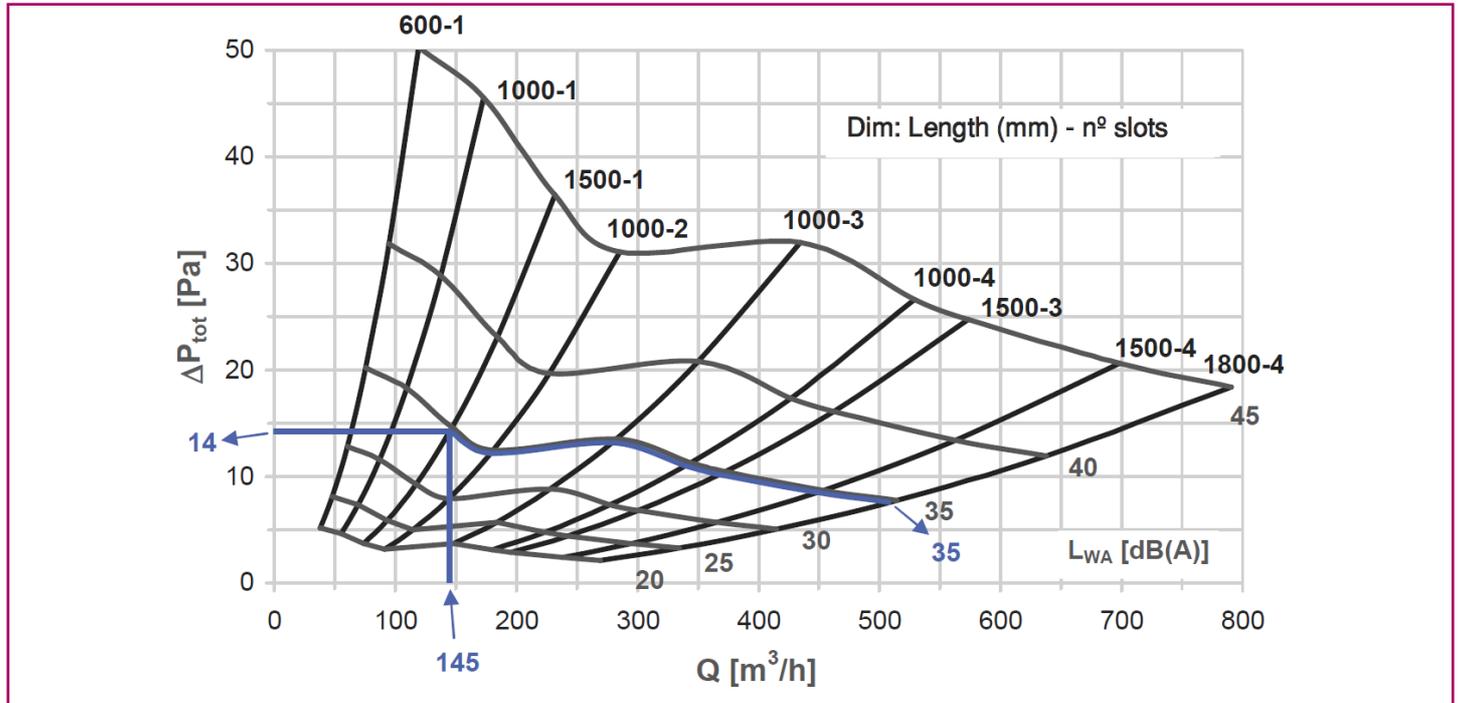
Y_{máx} Maximum vertical throw of air jet for ΔT = 10 K (in heating)

P_t Total pressure drop, in Pa

L_w Sound power level, in dB(A)

Technical data. Selection graphs LK-70 / LK-70-S

Graph 1. SOUND LEVEL, HORIZONTAL DISCHARGE

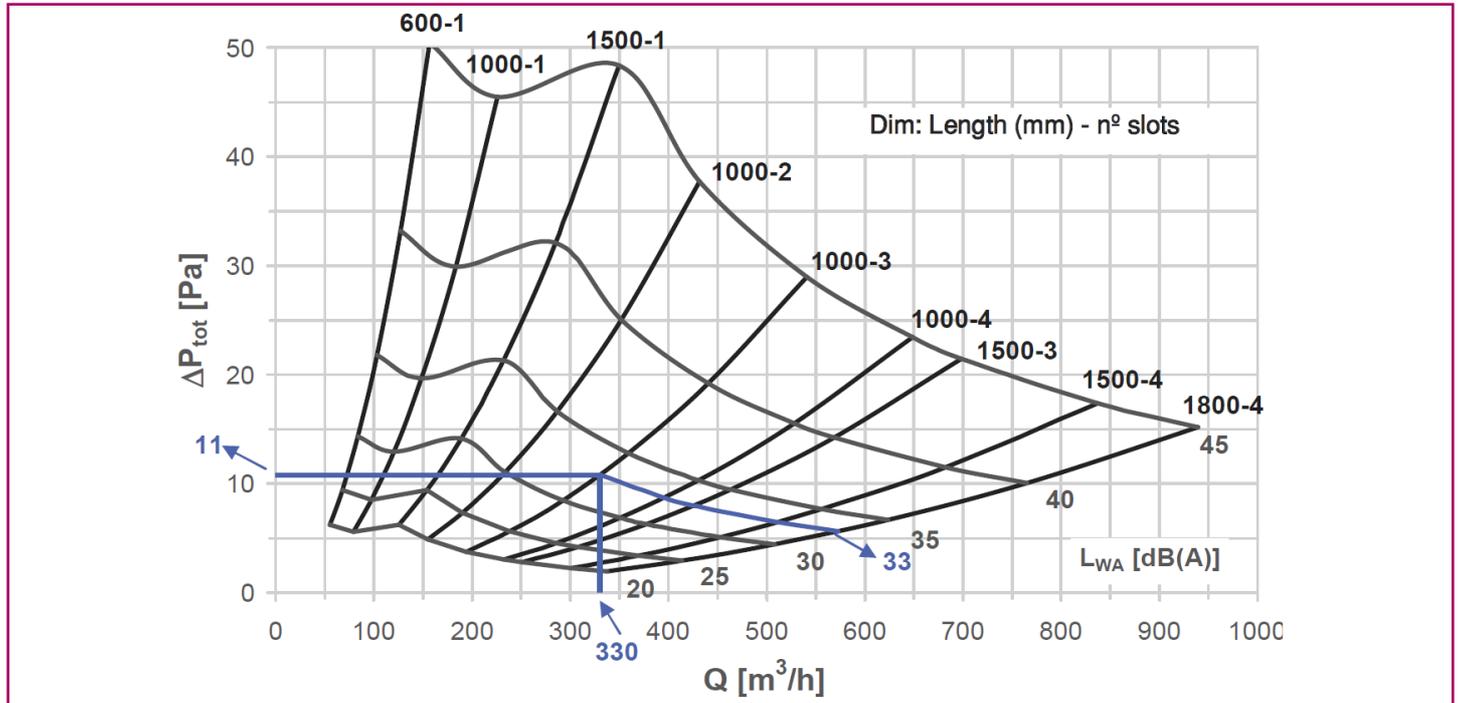


HORIZONTAL AIR SUPPLY	
Effective width of slot	$h_k = 0,009222 \text{ m}$
Effective diffuser area	$A_k \text{ (m}^2\text{)} = h_k \times L \text{ (m)} \times n^\circ \text{ slots}$

L = Nominal length of diffuser (active length)

Technical data. Selection graphs LK-70 / LK-70-S

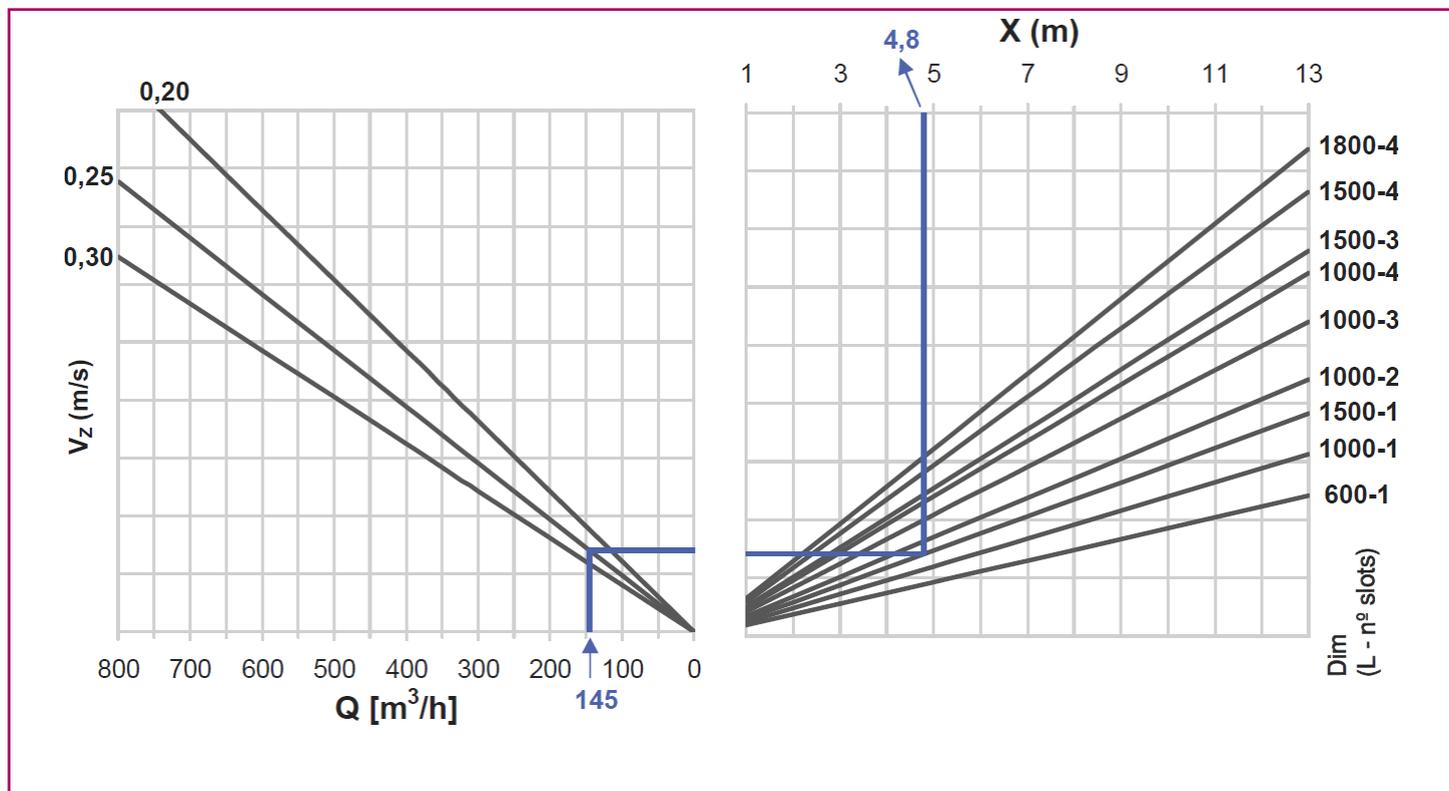
Graph 2. SOUND LEVEL, VERTICAL DISCHARGE



VERTICAL SUPPLY	
Effective width of slot	$h_k = 0,009679 \text{ m}$
Effective diffuser area	$A_k \text{ (m}^2\text{)} = h_k \times L \text{ (m)} \times \text{Schlitzzahl}$

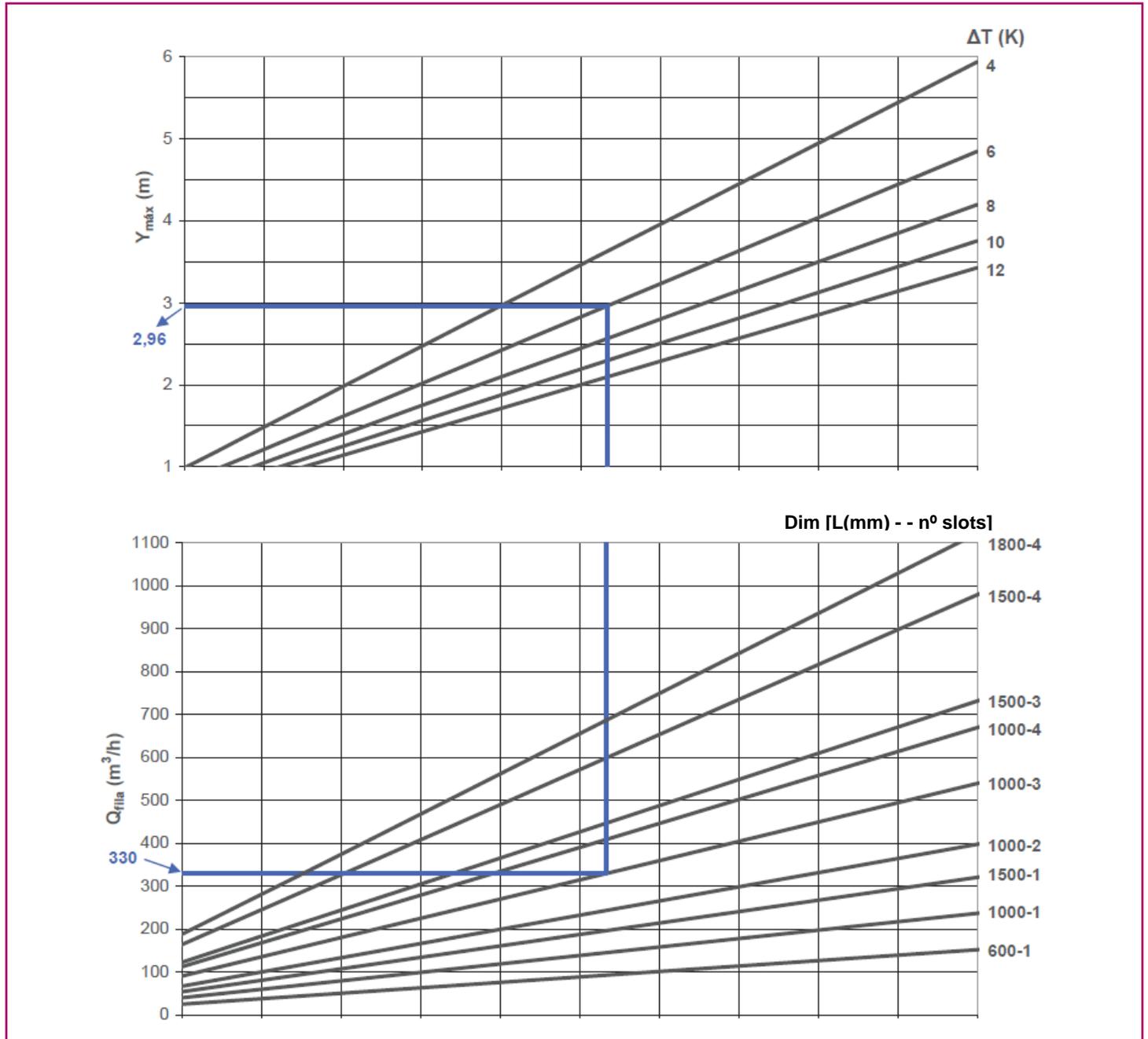
L = Nominal length of diffuser (active length)

Technical data. Selection graphs LK-70 / LK-70-S



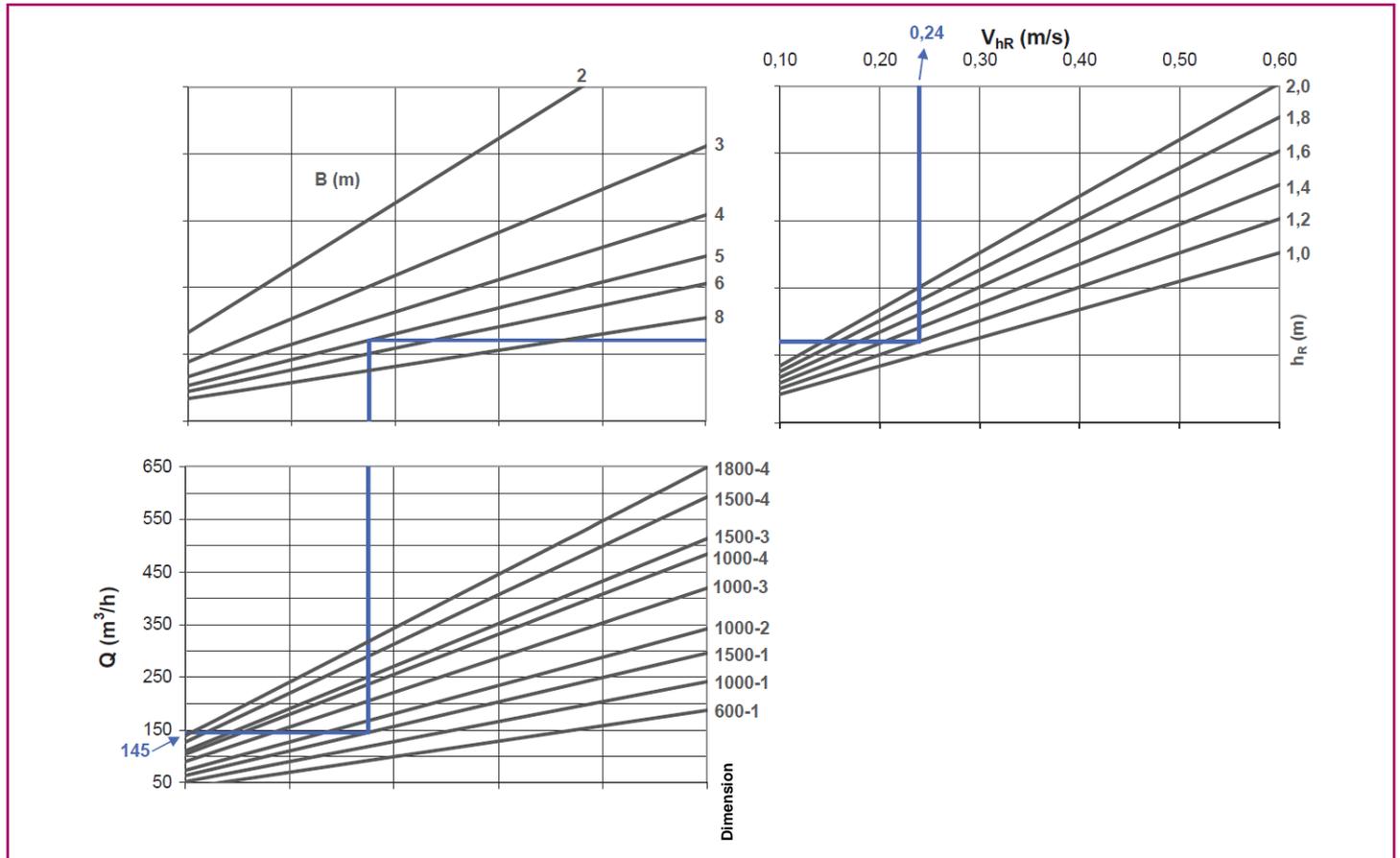
Technical data. Selection graphs LK-70 / LK-70-S

Graph 4. VERTICAL DISCHARGE



Technical data. Selection graphs LK-70 / LK-70-S

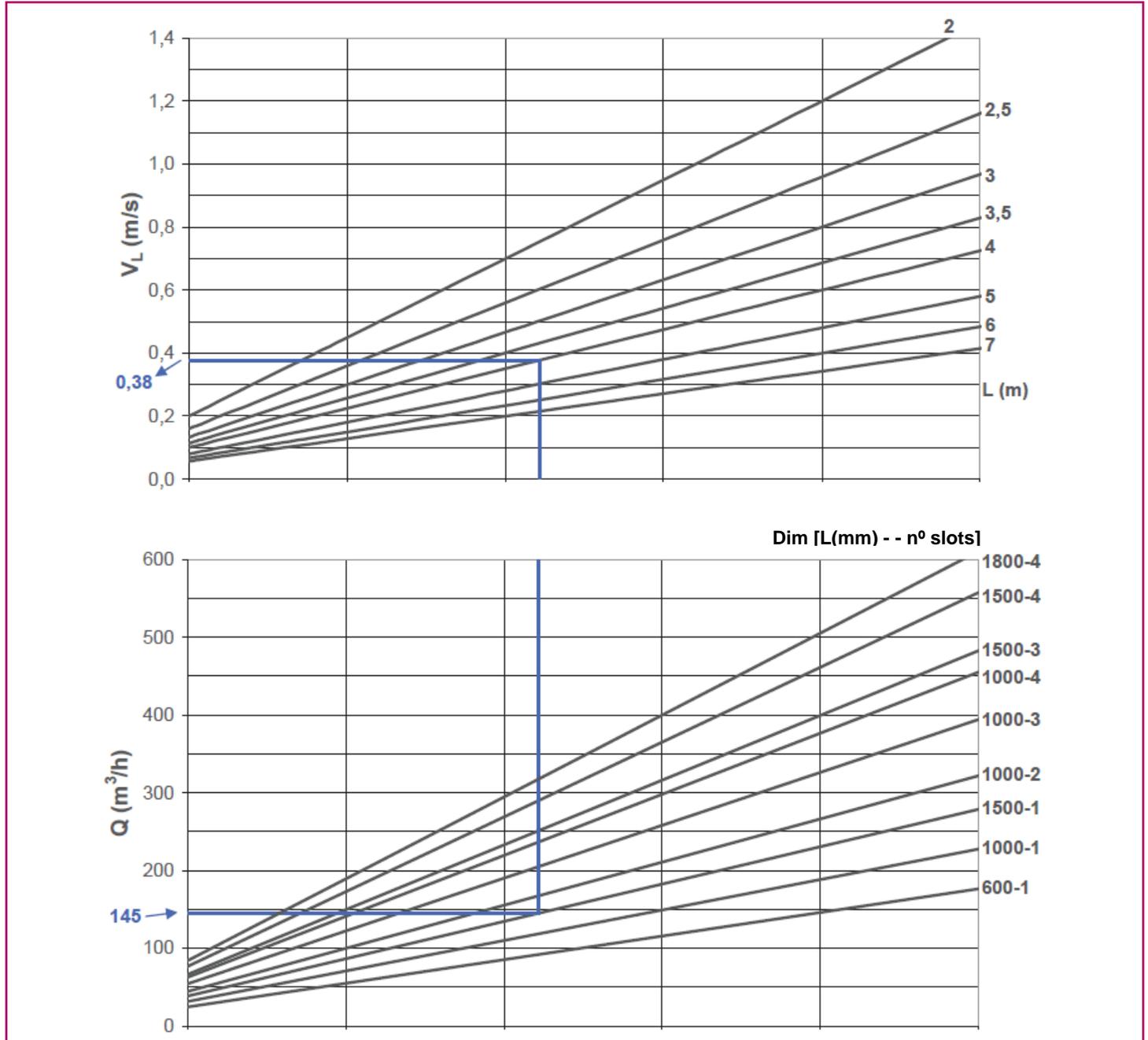
Graph 5. AIR STREAM BETWEEN DIFFUSERS



- B Distance between diffuser axes (m)
- h_R Height from ceiling to occupied area (m)
- V_{hR} Velocity at a distance h_R from the ceiling below the point where air jets meet (m/s)

Technical data. Selection graphs LK-70 / LK-70-S

Graph 6. AIR STREAM TOWARD THE WALL

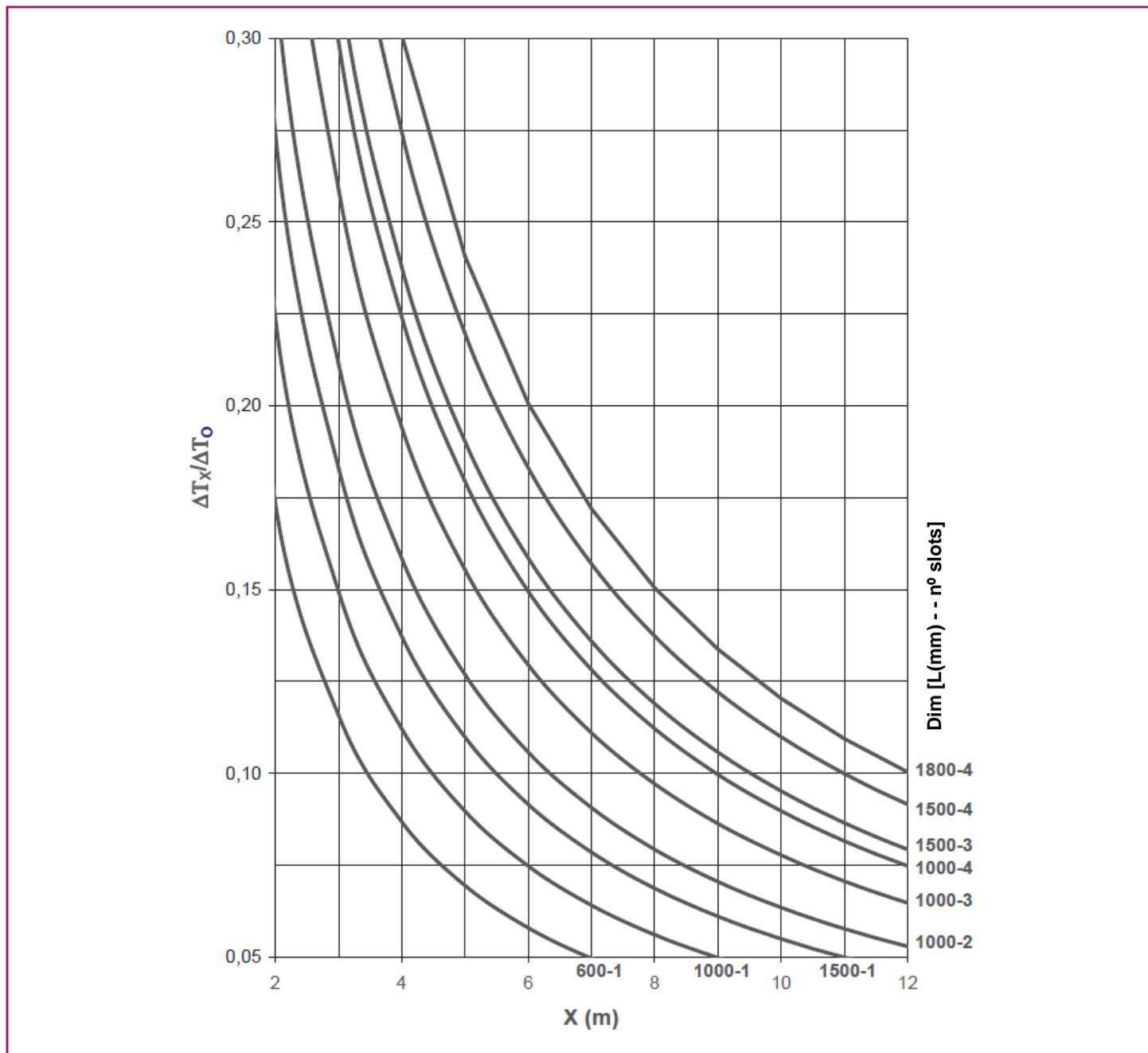


L Horizontal distance from diffuser to wall + hR

V_L Velocity at the wall, at a distance hR from the ceiling

Technical data. Selection graphs LK-70 / LK-70-S

Graph 7. TEMPERATURE, HORIZONTAL DISCHARGE

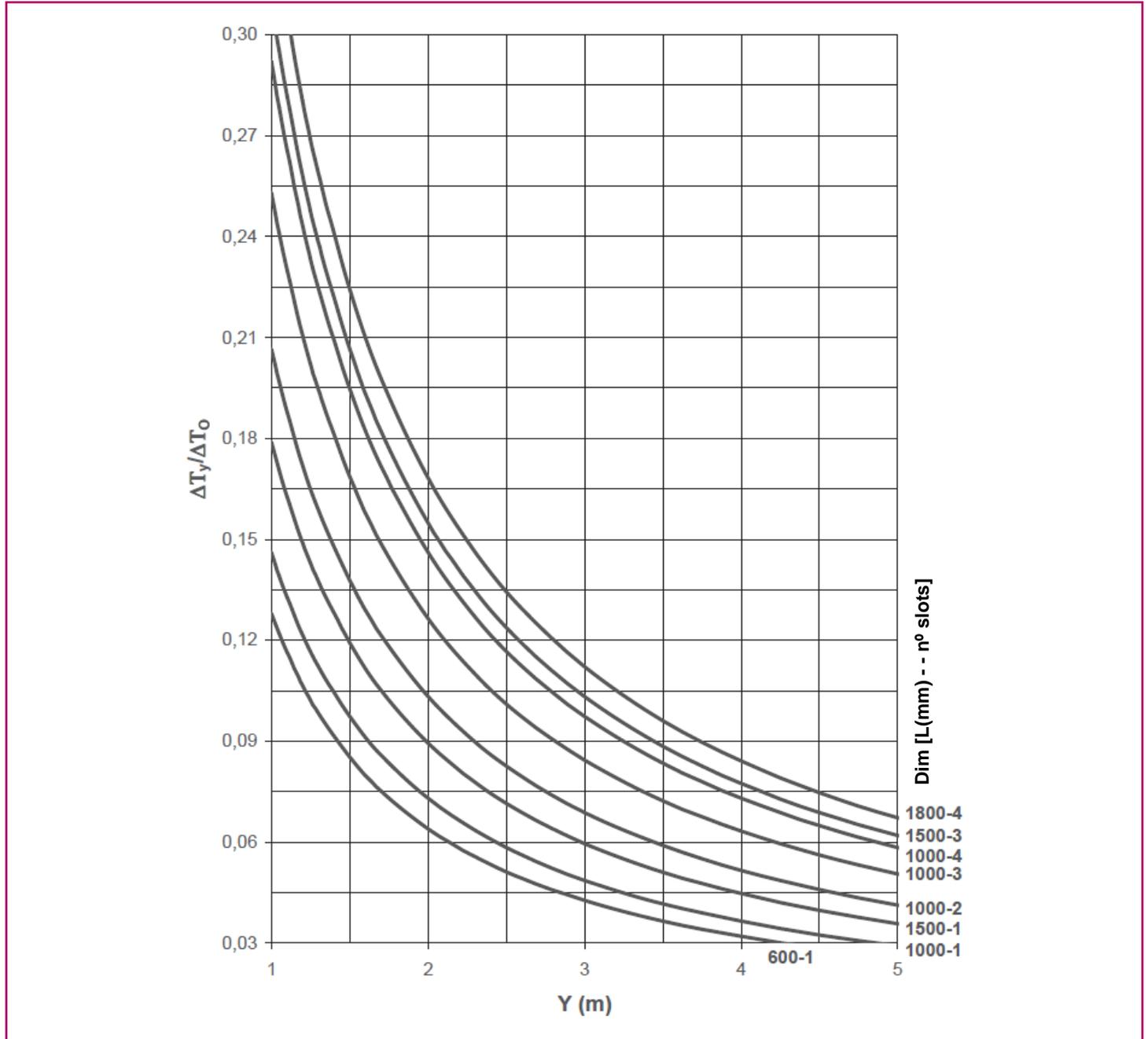


ΔT_0 Temperature difference between supply and ambient air.

ΔT_x Temperature difference between air jet (for throw X) and ambient air.

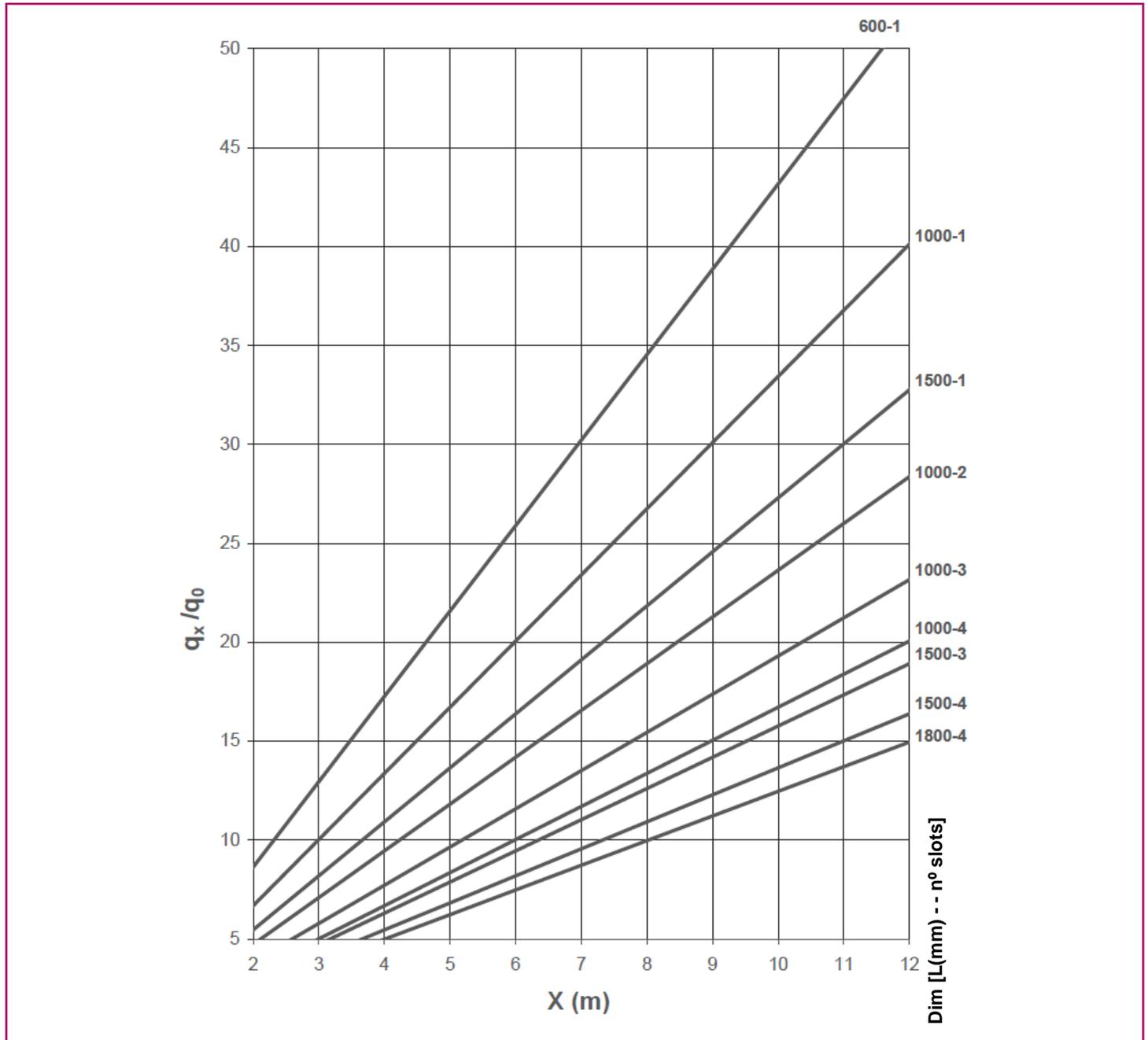
Technical data. Selection graphs LK-70 / LK-70-S

Graph 8. TEMPERATURE, VERTICAL DISCHARGE



Technical data. Selection graphs LK-70 / LK-70-S

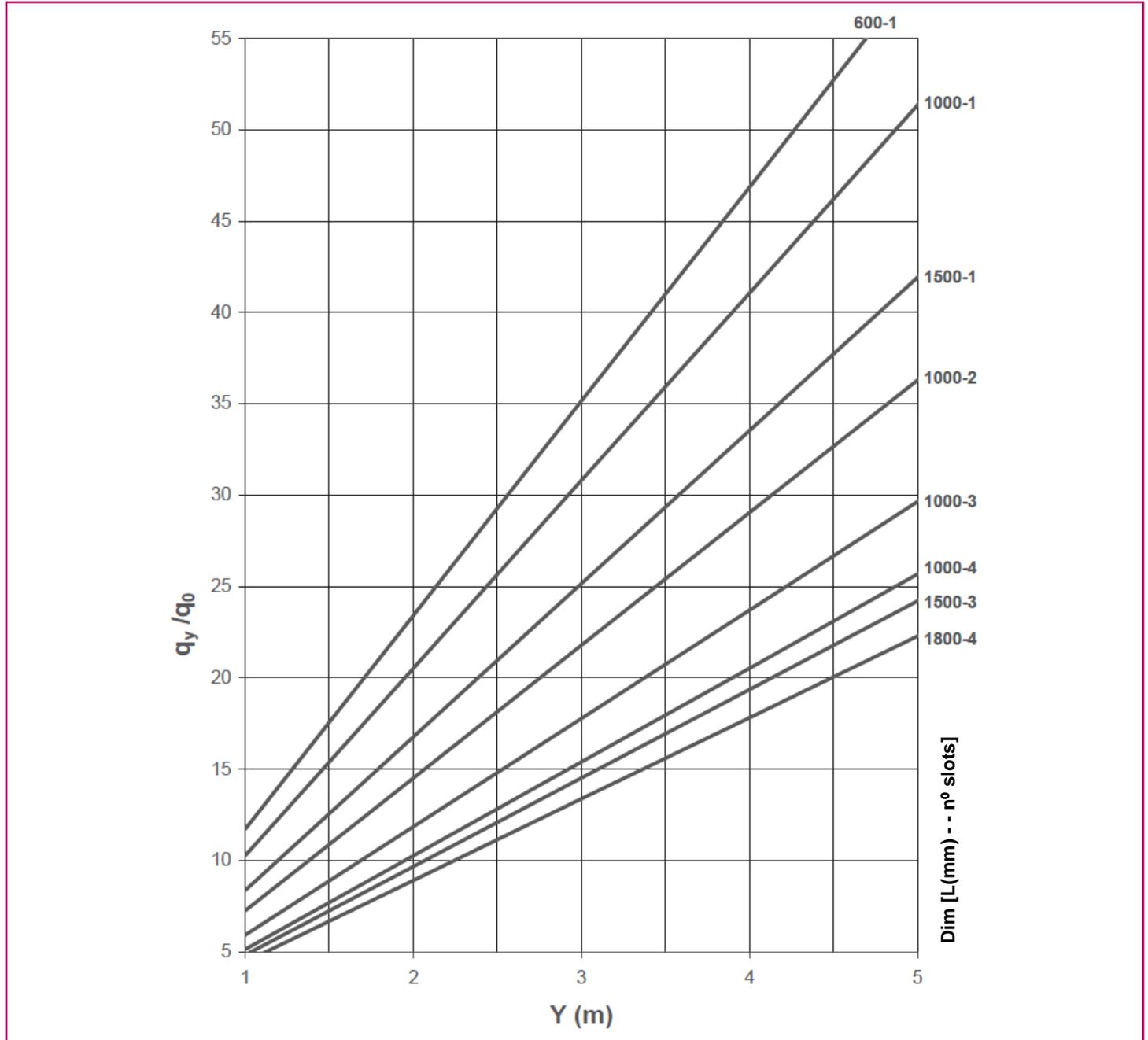
Graph 9. INDUCTION RATE, HORIZONTAL DISCHARGE



q_x/q_0 Induction rate. Quotient between the air volume moved by the air jet for a throw X and the supply air volume.

Technical data. Selection graphs LK-70 / LK-70-S

Graph 10. INDUCTION RATE, VERTICAL DISCHARGE



Selection examples

Example 1. Horizontal Air Supply

The selection of an LK-70 linear diffuser is planned with the following design input:

- Flow rate: 145 m³/h
- Sound power < 35 dB(A)
- Ceiling height: 3 m
- Distance from the diffuser to the wall is 2.8 m
- Distance between the diffusers (in the direction of the air supply): 5 m

Starting with Graph 1 with a flow rate of 145 m³/h, we see that the sound power is 35 dB(A) for an LK 70 1500 – 1-slot linear diffuser, with a drop in pressure of 14 Pa.

In order to obtain the effective velocity (V_k), we must first know the effective area of the diffuser (A_k). In this case, it appears in the table for selecting the horizontal air supply, but it can also be calculated by applying the formula shown in the table on page 9, as follows:

$$A_k = 0,009222 \text{ m} \times 1,5 \text{ m} \times 1 = 0.01383 \text{ m}^2$$

Thus, the effective output velocity (V_k) for the diffuser will be equal to:

$$V_k = \frac{145 \text{ m}^3/\text{h} / (3600 \text{ s/h})}{0,01383 \text{ m}^2} = 2,9 \text{ m/s}$$

In order to obtain the required throw of an LK 70 1500 1-slot diffuser with an air flow rate of 145 m³/h, we need to look at Graph 3; for a maximum velocity of 0.25 m/s in an occupied area, we arrive at a throw of 4.8 m under isothermal conditions.

The maximum velocity in an occupied area generated by the air collision between diffusers can be obtained in Graph 5. Starting with an air flow rate of 145 m³/h, the distance between the axles 8 m = 1.2 m) we arrive at a velocity of $V_{hR} = 0.24 \text{ m/s}$.

In order to determine the velocity in the wall area, with the diffuser installed in the wall at a height of 2.8 m, we need to look at Graph 6 with an air flow rate of 145 m³/h. The length L to be considered for calculating the velocity at a height from the floor of 1.8 m will be:

$$L = 2,8 + (3 - 1,8) = 4 \text{ m}$$

Using these data, we obtain a velocity at this point of $V_L = 0,38 \text{ m/s}$.

Selection examples

Example 2. Vertical Air Supply

An LK-70 linear diffuser is selected based on the following design input data:

- Flow rate: 330 m³/h
- Sound power < 35 dB(A)
- Maximum vertical penetration: 3 m
- ΔT = +6 K

Starting with Graph 4 with a flow rate of 330 m³/h we observe that, for a size 1000 three-slots LK-70 diffuser and a ΔT = +6 K, we obtain a maximum penetration of Y_{max} = 3 m.

In order to obtain the sound output level and the drop in pressure for the selected diffuser, we need to look at Graph 2 with an air flow rate of 330 m³/h. We obtain a sound power level of 33 dB(A) and a pressure drop of 11 Pa.

In order to obtain the effective velocity (V_k), we must first know the effective area of the diffuser (A_k). In this case, it appears in the vertical air supply selection table, but it can also be calculated by applying the formula shown in the table on page 9, as follows:

$$A_k = 0,009679 \text{ m} \times 1 \text{ m} \times 3 = 0,029037 \text{ m}^2$$

Thus, the effective output velocity (V_k) for the diffuser will be equal to::

$$V_k = \frac{330 \text{ m}^3/\text{h} / (3600 \text{ s/h})}{0,029037 \text{ m}^2} = 3,2 \text{ m/s}$$

Product code

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

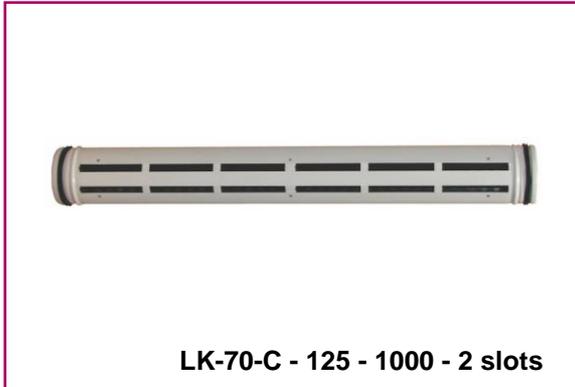
LK-70	Linear diffuser
LK-70-S	Linear diffuser of narrow outer frame
LK-70-MULTI	Linear diffuser with slats of minimum length 100 mm
LK-70-L	Linear wall diffuser
1-2-3-4	Number of slots
---	length of the diffuser (nominal, opening in mm)
---	no. of STANDARD lengths of deflector blades
A	no. of spans to define: (type LK-70-MULTI) (minimum 100 mm maximum 700 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:

LK-70-1-1200-PFA-C RAL 9010

LK-70 linear diffuser, one-slot, and nominal width 1200 mm, 2 lengths of blades (standard), with insulated fixed plenum and integrated regulating damper in the spigot, coated in RAL-9010 white.

Linear slot diffuser integrated into a circular duct LK-70-C



Description

Supply linear slot diffuser, model LK-70-C, suitable for variable and constant volume. Integrated into a circular duct this diffuser frames has a 17-mm air passage, providing greater aesthetic appeal. The diffuser is suitable for large airflows at low velocities into the occupied zone. Recommended installation height between 2.5 and 4m.

Finished products

Standard finished products are made in galvanised sheet steel or painted in RAL-9010 gloss white equipped with adjustable blades manufactured in aluminium extrusion. The directional blades can be adjusted by means of a drive wheel, which allows the air to be aimed in different directions. To ensure the correct balance of the installation the diffuser incorporates a sliding damper, which also equalizes the air stream. It is possible to install a certain number of diffuser sections to form continuous lines of a certain length, using connecting flanges. It can provide blind and duct sections "T" or "L" to 90°. Upon request it is possible to supply other accessories.

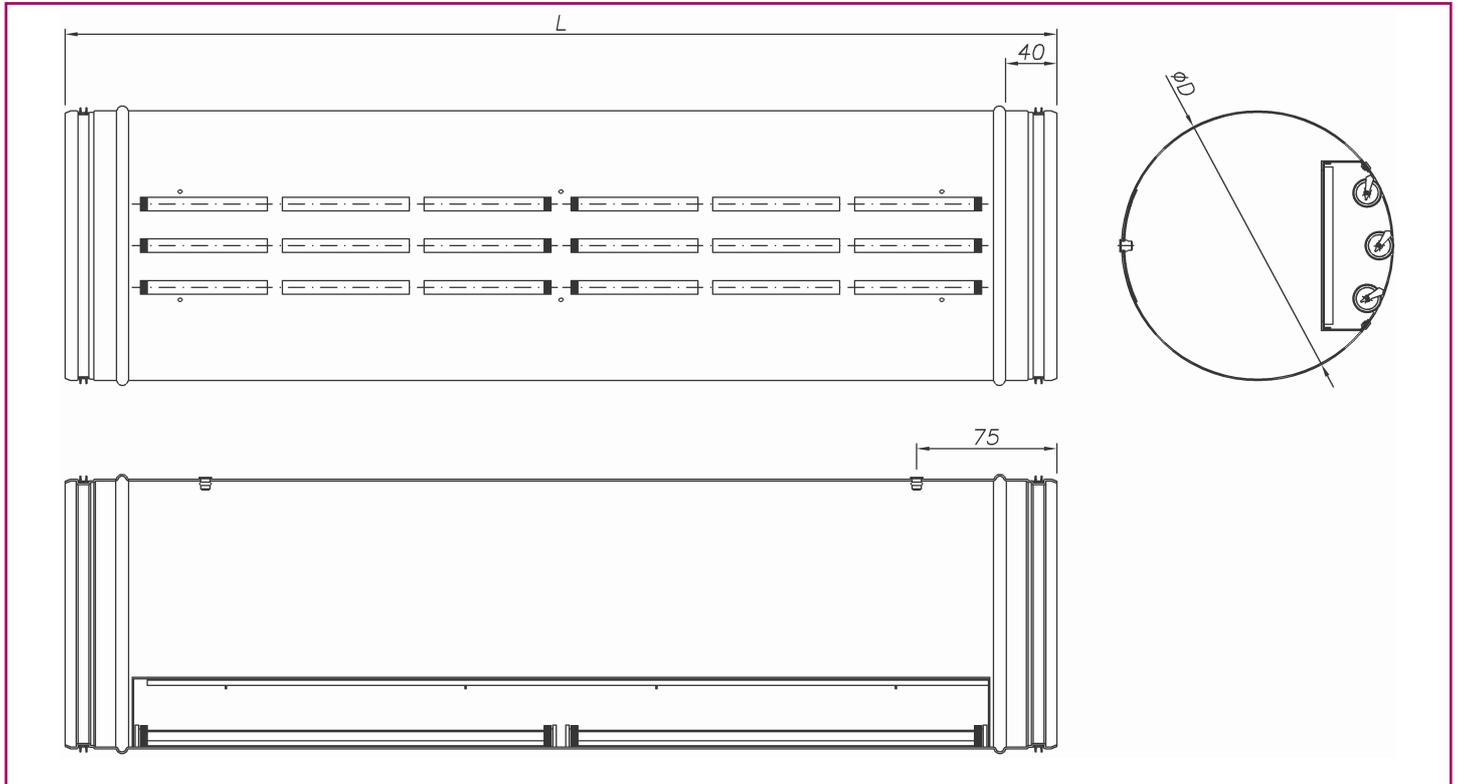


Uses

The LK-70-C linear supply diffuser is intended for installation in circular duct. 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. For supply the diffuser are supplied without blades



Models and dimensions

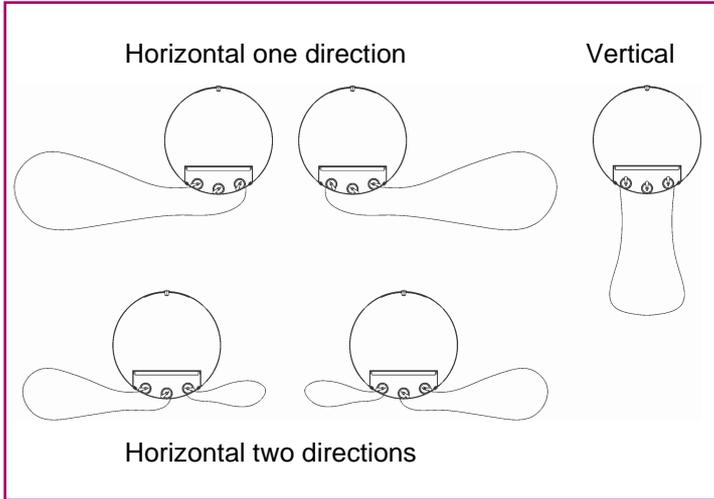


NOMINAL	No. OF SLOTS														D
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
125	1	2	-	-	-	-	-	-	-	-	-	-	-	-	123
160	1	2	3	4	-	-	-	-	-	-	-	-	-	-	158
200	1	2	3	4	-	-	-	-	-	-	-	-	-	-	198
225	1	2	3	4	-	-	-	-	-	-	-	-	-	-	223
250	1	2	3	4	-	-	-	-	-	-	-	-	-	-	248
300	1	2	3	4	5	6	-	-	-	-	-	-	-	-	298
315	1	2	3	4	5	6	-	-	-	-	-	-	-	-	313
355	1	2	3	4	5	6	7	8	-	-	-	-	-	-	353
400	1	2	3	4	5	6	7	8	-	-	-	-	-	-	398
450	1	2	3	4	5	6	7	8	-	-	-	-	-	-	448
500	1	2	3	4	5	6	7	8	9	10	11	12	13	14	498
630	1	2	3	4	5	6	7	8	9	10	11	12	13	14	628
710	1	2	3	4	5	6	7	8	9	10	11	12	13	14	708
800	1	2	3	4	5	6	7	8	9	10	11	12	13	14	798
900	1	2	3	4	5	6	7	8	9	10	11	12	13	14	898

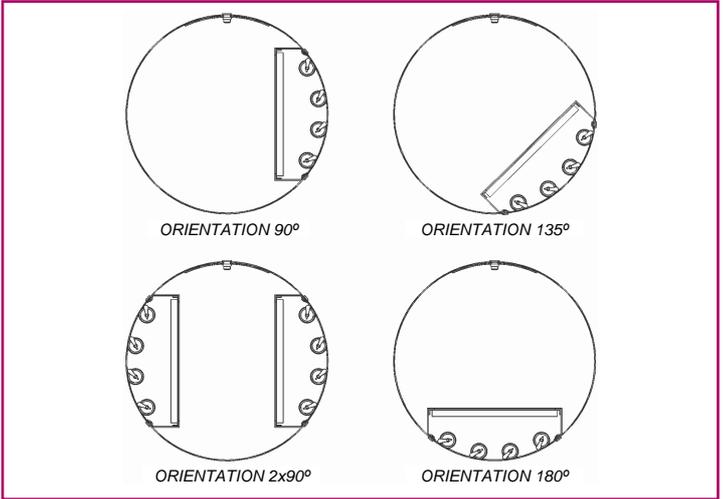
L	500	750	1000	1250	1500	1750	2000
No. OF SLOTS	3	4	6	7	8	10	12
No. OF SECTIONS	1			2			

Models and dimensions

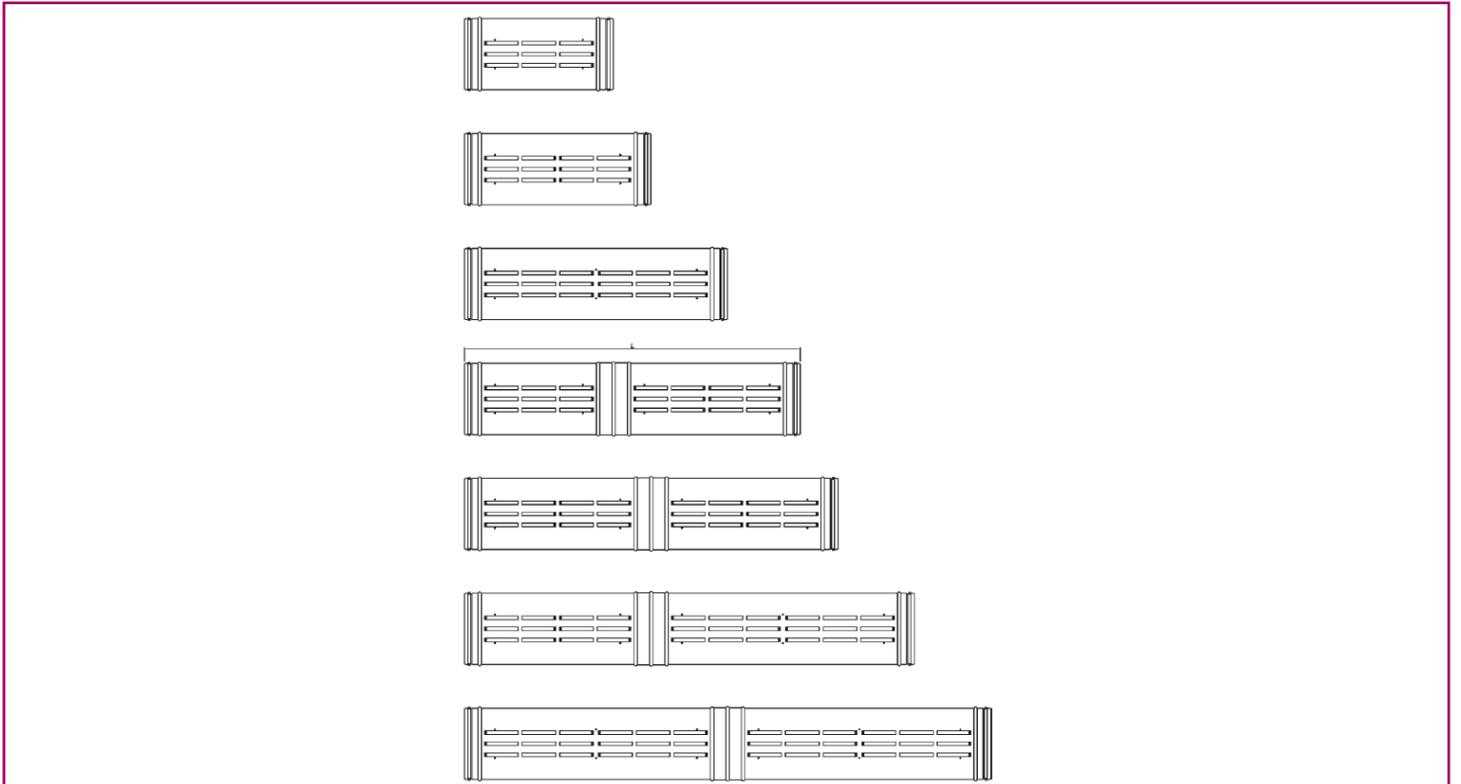
Air direction options



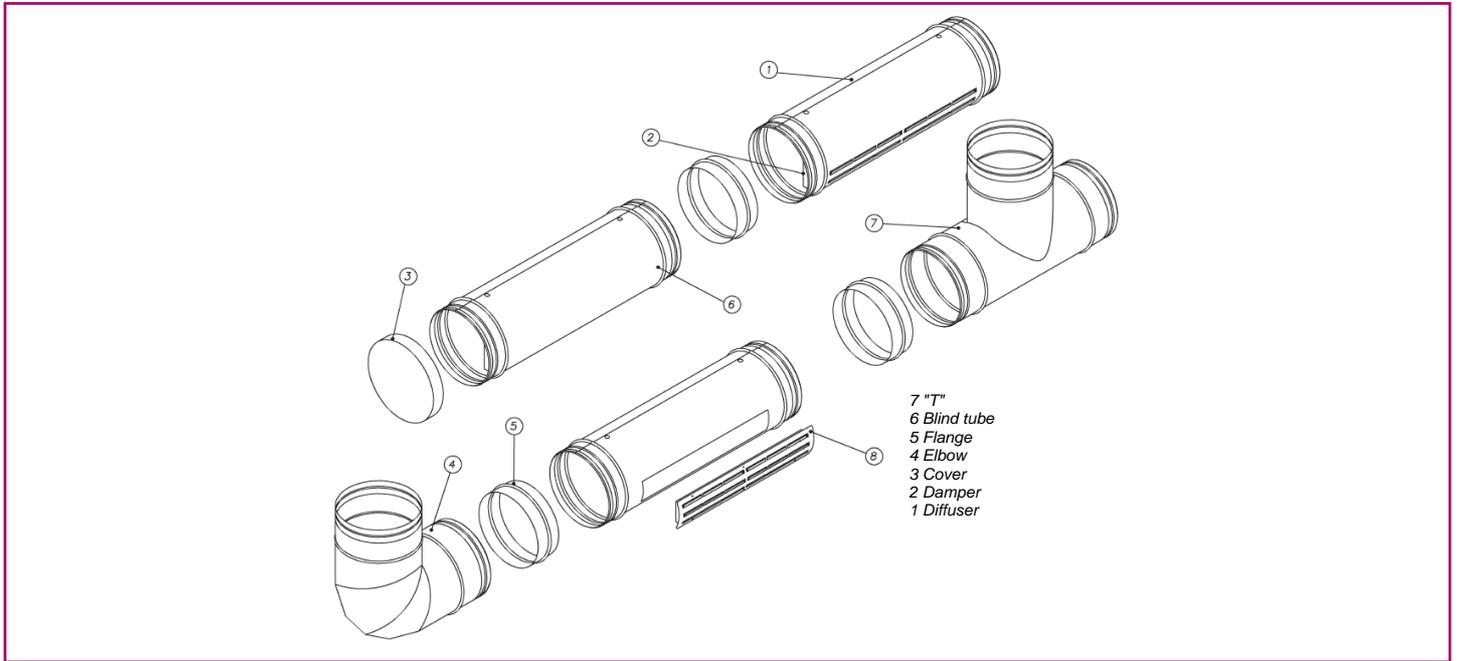
Blades position



Number of segments per length



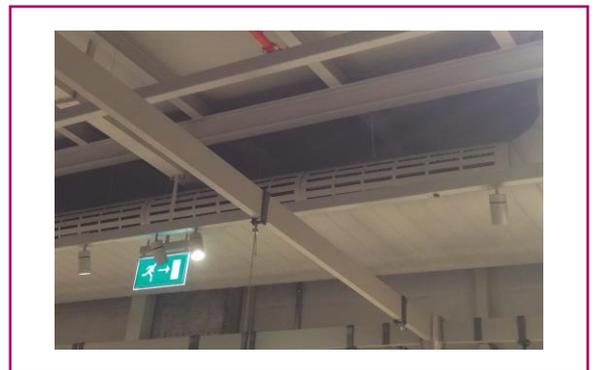
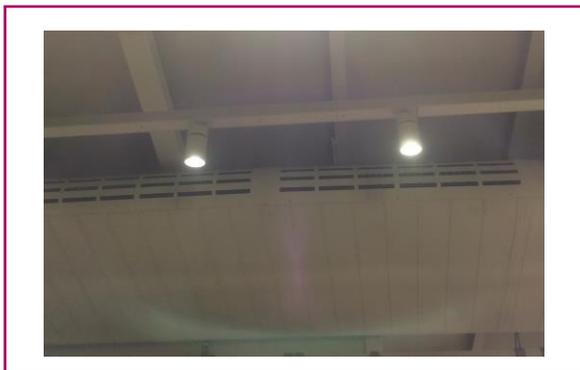
Installation



LK-70-AC

NOMINAL	N° OF ROWS								D
125	1	2	-	-	-	-	-	-	123
150	1	2	3	-	-	-	-	-	148
160	1	2	3	-	-	-	-	-	158
180	1	2	3	-	-	-	-	-	178
200	1	2	3	4	-	-	-	-	198
250	1	2	3	4	5	-	-	-	248
315	1	2	3	4	5	6	-	-	313
355	1	2	3	4	5	6	8	-	353
400	1	2	3	4	5	6	8	-	398
450	1	2	3	4	5	6	8	-	448
500	1	2	3	4	5	6	8	-	498
560	1	2	3	4	5	6	8	-	558
630	1	2	3	4	5	6	8	-	628
710	1	2	3	4	5	6	8	-	708
800	1	2	3	4	5	6	8	-	798
900	1	2	3	4	5	6	8	-	898

L	500	750	1000
A	500	750	1000
N° OF SLOTS	3	4	6



Technical data. Selection tables

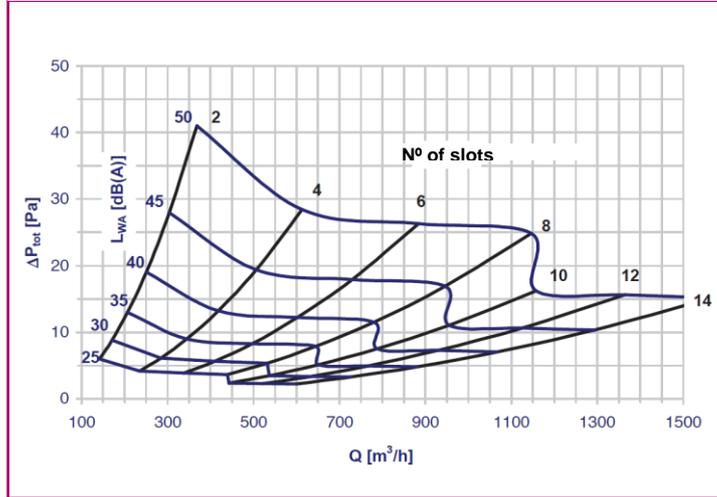
LK - 70 - C - 1000 HORIZONTAL									
Q (m ³ /h) (l/s)		No. of slots	2	4	6	8	10	12	14
100	27.8	V _k (m/s)	1.7	0.8					
		X (m)	1.9	1.3					
		P _t (Pa)	3	1					
		L _w -dB(A)	<20	<20					
200	55.6	V _k (m/s)	3.4	1.7					
		X (m)	3.8	2.7					
		P _t (Pa)	12	3					
		L _w -dB(A)	34	21					
300	83.3	V _k (m/s)	5.1	2.5	1.7	1.3			
		X (m)	5.6	4.0	3.2	2.8			
		P _t (Pa)	27	7	3	2			
		L _w -dB(A)	45	31	22	<20			
400	111.1	V _k (m/s)		3.4	2.3	1.7	1.4		
		X (m)		5.3	4.3	3.8	3.4		
		P _t (Pa)		12	5	3	2		
		L _w -dB(A)		39	29	23	22		
500	138.9	V _k (m/s)		4.2	2.8	2.1	1.7	1.4	1.2
		X (m)		6.6	5.4	4.7	4.2	3.8	3.5
		P _t (Pa)		19	8	5	3	2	2
		L _w -dB(A)		45	35	28	28	24	20
750	208.3	V _k (m/s)			4.2	3.2	2.5	2.1	1.8
		X (m)			8.1	7.0	6.3	5.7	5.3
		P _t (Pa)			19	11	7	5	3
		L _w -dB(A)			46	39	39	34	31
1000	277.8	V _k (m/s)				4.2	3.4	2.8	2.4
		X (m)				9.4	8.4	7.7	7.1
		P _t (Pa)				19	12	8	6
		L _w -dB(A)				46	46	42	38
1250	347.2	V _k (m/s)					4.2	3.5	3.0
		X (m)					10.5	9.6	8.9
		P _t (Pa)					19	13	10
		L _w -dB(A)					52	48	44
1500	416.7	V _k (m/s)						4.2	3.6
		X (m)						11.5	10.6
		P _t (Pa)						19	14
		L _w -dB(A)						52	49

SIMBOLS

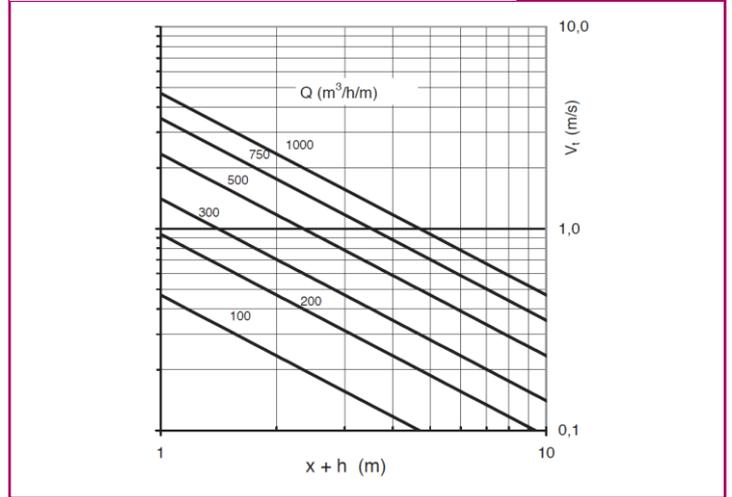
- V_k Effective velocity in m/s
- X Throw for a terminal velocity of 0,3 m/s, ΔT= 0 K installed at 3 m of height
- P_t Total pressure drop in Pa
- L_w Sound power level in dB(A)

Technical data. Selection graphs

PRESSURE DROP AND SOUND LEVEL



HORIZONTAL THROW



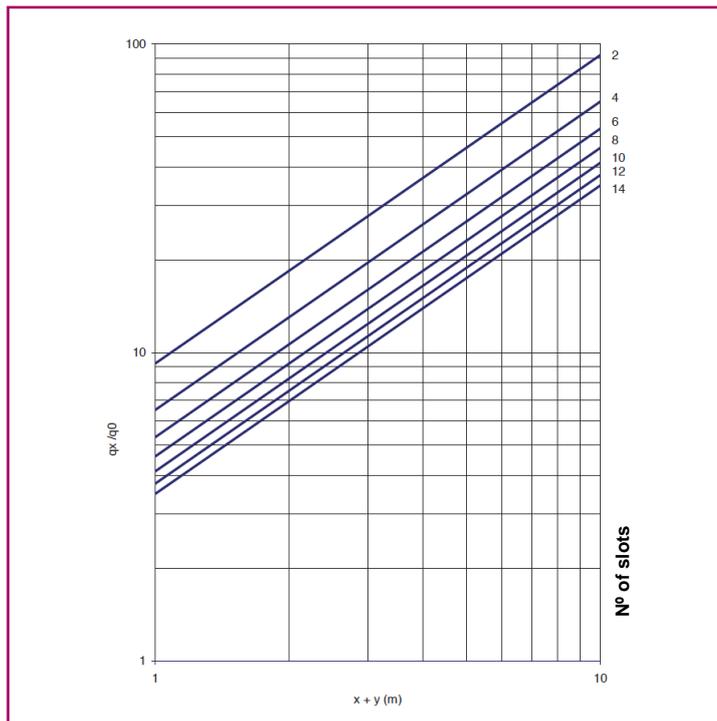
Correction for Airflow duct length						
Length (mm)	500	750	1000	1250	1500	1750
K_Q	0,88	0,93	1	1,01	1,1	1,14

$$Q \text{ (m}^3\text{/h)} = k_Q \times Q_{\text{graph}}$$

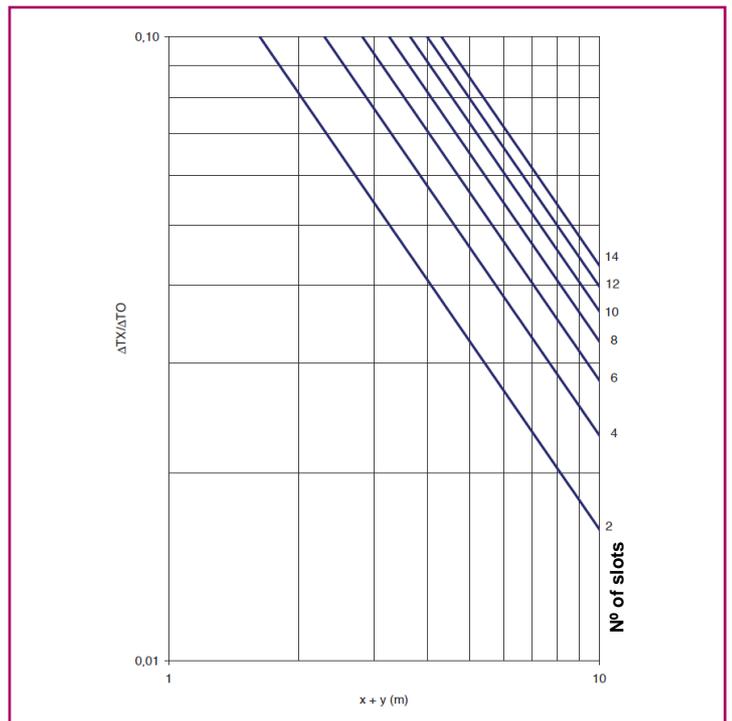
Terminal velocity correction for number of slots							
n	2	4	6	8	10	12	14
K_{Vt}	1	1.2	1.4	1.8	2	2.4	2.6

$$V_t \text{ (m/s)} = k_{Vt} \times V_{t\text{graph}}$$

INDUCTION RATE, HORIZONTAL DISCHARGE



TEMPERATURE, HORIZONTAL DISCHARGE



Product code

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

LK-70-C	Linear slot diffuser integrated into a circular duct
LK-70-AC	Linear slot diffuser integrated in a circular adaptation
Ø	125 to 900 mm
500 .. xx	Length
1 .. xx	No. of slots

Example:

LK-70-C-125-1000-2-H-T-RAL 9010

V	Blades at vertical discharge position
H	Blades at horizontal discharge position
H2	Blades at double horizontal discharge position
D	Blades at diagonal discharge position

Linear slot diffuser integrated into a circular duct, Ø125 mm and 1000 mm length, blades at horizontal discharge position and cover without fixing, painted in white RAL 9010 gloss.

---	No cover
T	Cover without fixing
TF	Cover fixing with bracket
B	Flange
C	Blind tube without fixing
CF90	Blind tube with integrated fixing at 90°
CF180	Blind tube with integrated fixing at 180°
T90	"T" at 90°
L90	"L" at 90°

RAL 9010	Standard finished product in white
RAL...	Finished product in another RAL coating



Technical Specification

Linear slot diffuser integrated into a circular duct, model LK-70-C, suitable for variable and constant volume with adjustable blades adjusted by means of a drive wheel.

Standard finished products are made in galvanised sheet steel or painted in RAL-9010 gloss white. Blades manufactured in aluminium extrusion, standard finished in black. The diffuser incorporates a sliding damper accesible from room.



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