

## KOO MULTI-JET NOZZLES

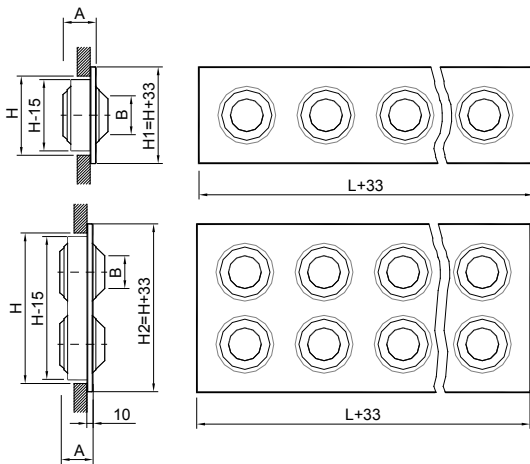
MADEL®

The **KOO** multi-jet nozzles are designed to be used, in air conditioning, ventilation and heating systems at a temperature differential up to 12°C. They can be mounted in the wall or the ceiling.

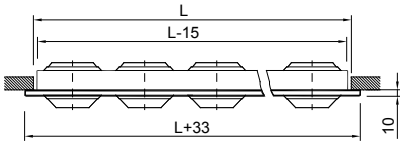
The KOO multi-jet nozzles respond to different functional and architectural requirements thanks to their manually adjustable nozzles in all directions. Depending of the size of the rectangular panel, the integrated nozzles can be from 80 or 125 mm.

Thanks to its long throw and flexibility of direction of the air pattern, KOO multi-jet nozzles are suitable for air diffusion in all kinds of different architectures. It provides a high induction air rate level, reducing stratification.

The KOO multi-jet nozzles represents a vanguard in design of air diffusers. Integrating the jet nozzles into the panel, the outcome is a smooth and homogeneous surface, reducing the visual impact within the interior architectures.



ø	LxH	B	A	H1	H2	UN.	
80	Lx100	44	35	133	-	L/H	1 line
	Lx200	44	35	-	233	4x(L/H)	2 lines
125	Lx150	61	57	183	-	L/H	1 line
	Lx300	61	57	-	333	4x(L/H)	2 lines



Lx100	nº toberas	Lx200	nº toberas	Lx150	nº toberas	Lx300	nº toberas
200x100	2	200x200	4	300x150	2	300x300	4
300x100	3	300x200	6	450x150	3	450x300	6
400x100	4	400x200	8	600x150	4	600x300	8
500x100	5	500x200	10	750x150	5	750x300	10
600x100	6	600x200	12	900x150	6	900x300	12
700x100	7	700x200	14	1050x150	7	1050x300	14
800x100	8	800x200	16	1200x150	8	1200x300	16
900x100	9	900x200	18				
1000x100	10	1000x200	20				

## CLASSIFICATION

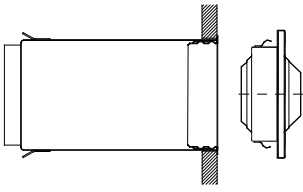
**KOO** Manually adjustable multi-jet nozzle.

## MATERIAL

Jet nozzles constructed from aluminium and the panel from galvanised steel.

The seal of rotation is made from immutable material, classified M1 and F2 as regards fire and smoke safety.

## PLRX

**ADDITIONAL ACCESSORIES**

**PLRX** Plenum box with an upper circular connection, constructed from galvanised steel.

.../L/ Lateral circular connection.

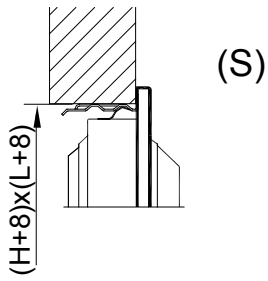
...-R Flow damper in the spigot.

.../AIS/ Thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire specifications:

UNE 23-727 M2

NFP 92-501 M2

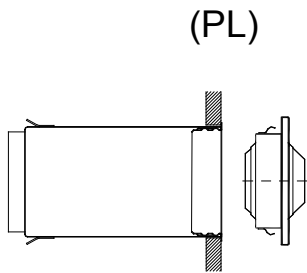
DIN 4102 M2



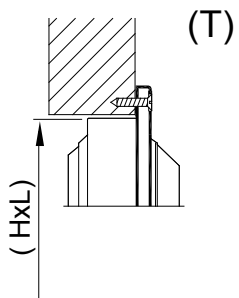
## FIXING SYSTEMS

(S) Invisible fixing by means of pressure clips. It requires **CM** mounting frame. Constructed from galvanised steel.

(S) Invisible fixing by means of pressure clips. It requires **PLRX** plenum box.



(T) Visible screws.



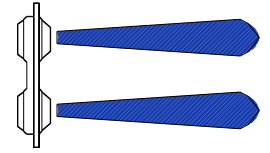
## FINISHES

**R9010** Lacquer in white colour RAL 9010.

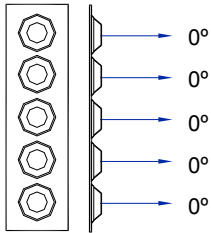
**M9016** Lacquer in white colour similar to RAL 9016.

**RAL...** Lacquer in other colours (RAL specifications).

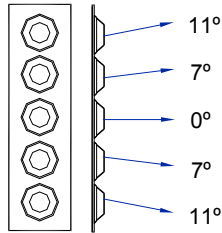
## KOO SERIES



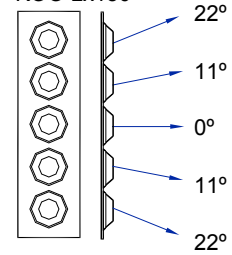
POSITION 1 (0°)  
KOO Lx100  
KOO Lx150



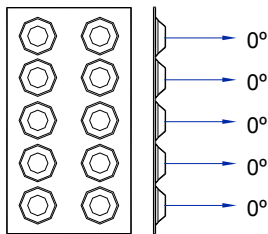
POSITION 2 (22°)  
KOO Lx100  
KOO Lx150



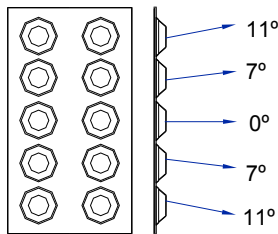
POSITION 3 (45°)  
KOO Lx100  
KOO Lx150



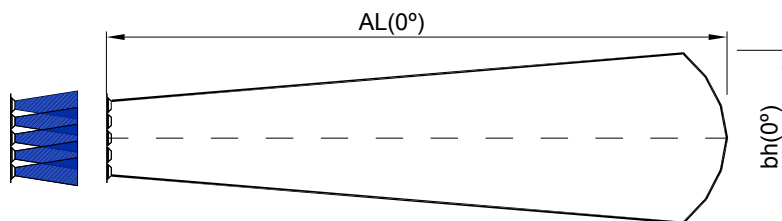
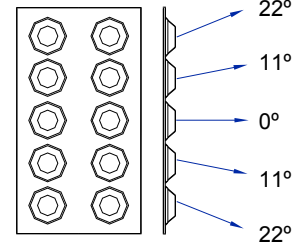
POSITION 1 (0°)  
KOO Lx200  
KOO Lx300



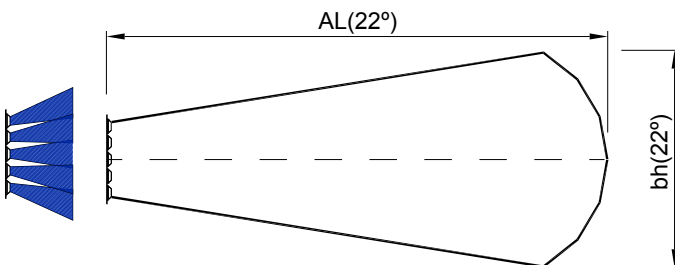
POSITION 2 (22°)  
KOO Lx200  
KOO Lx300



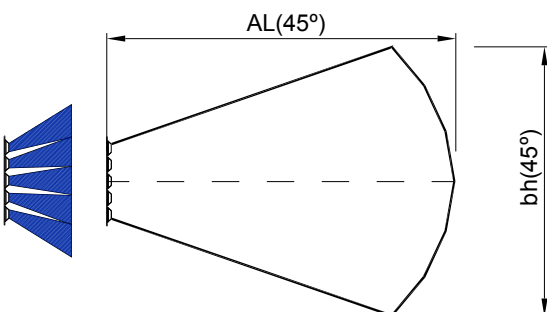
POSITION 3 (45°)  
KOO Lx200  
KOO Lx300



POSITION 1 (0°)  
 $AL(0^\circ) = AL$   
 $bh(0^\circ) = 0,28 \times AL$

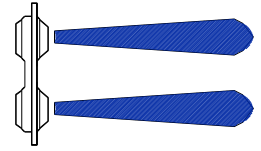


POSITION 2 (22°)  
 $AL(22^\circ) = 0,7 \times AL$   
 $bh(22^\circ) = 0,68 \times AL$



POSITION 3 (45°)  
 $AL(45^\circ) = 0,5 \times AL$   
 $bh(45^\circ) = 1,15 \times AL$

## KOO SERIES



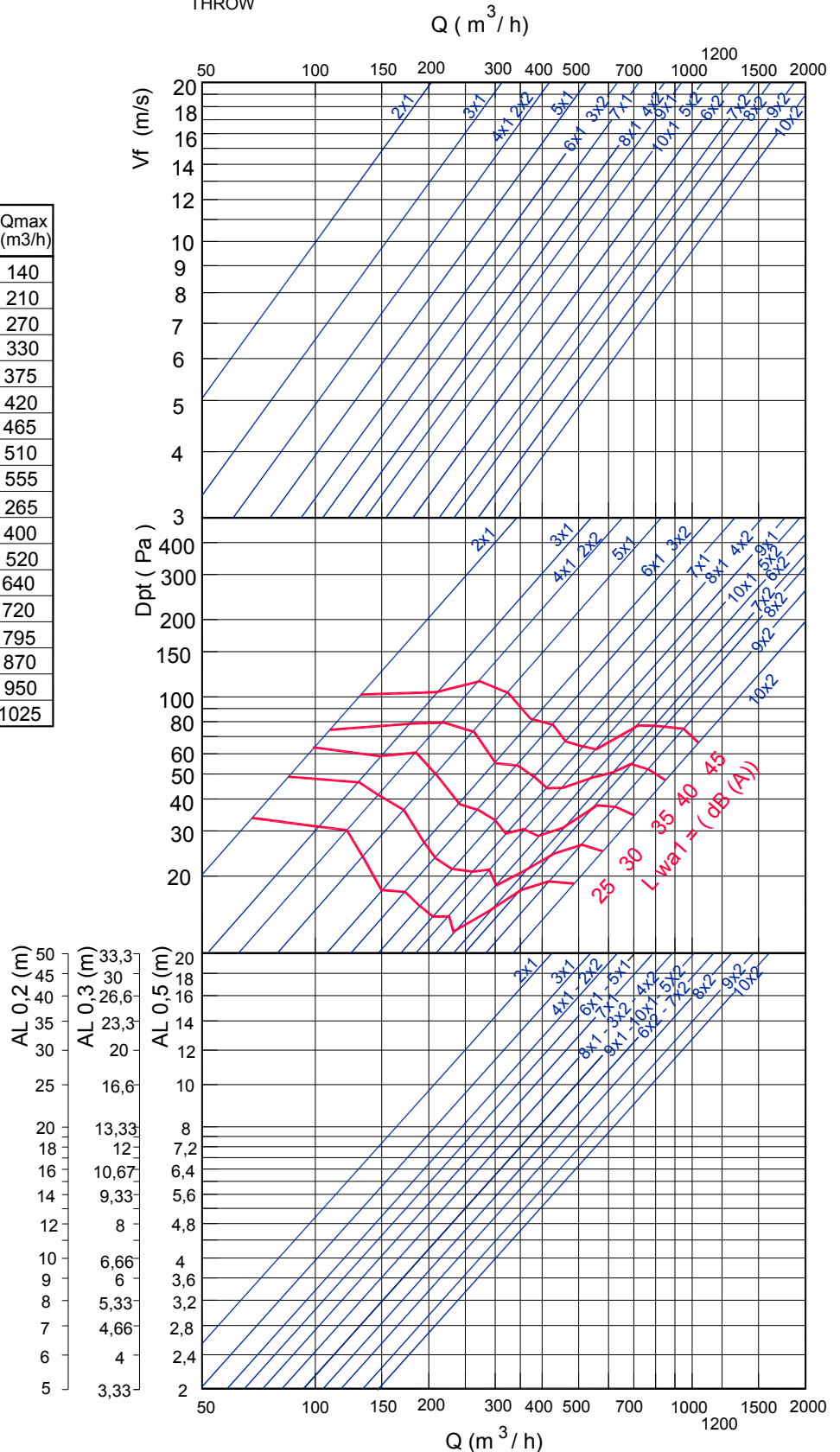
RECOMMENDED VELOCITY.

	Vfmin m/s	Vfmax m/s
Lx100	2,5	10,7
Lx200	2,5	9,8

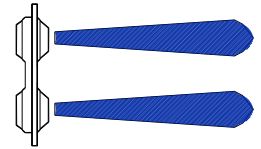
FREE FACE AREA (m<sup>2</sup>).

LxH		Afree (m <sup>2</sup> )	Qmin (m <sup>3</sup> /h)	Qmax (m <sup>3</sup> /h)
200x100	2x1	0,0028	25	140
300x100	3x1	0,0043	39	210
400x100	4x1	0,0057	51	270
500x100	5x1	0,0072	65	330
600x100	6x1	0,0086	77	375
700x100	7x1	0,01	90	420
800x100	8x1	0,0114	103	465
900x100	9x1	0,0129	116	510
1000x100	10x1	0,0144	130	555
200x200	2x2	0,0057	51	265
300x200	3x2	0,0086	77	400
400x200	4x2	0,0114	103	520
500x200	5x2	0,0144	130	640
600x200	6x2	0,0172	155	720
700x200	7x2	0,02	180	795
800x200	8x2	0,022	198	870
900x200	9x2	0,0258	232	950
1000x200	10x2	0,0288	259	1025

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW



## KOO SERIES



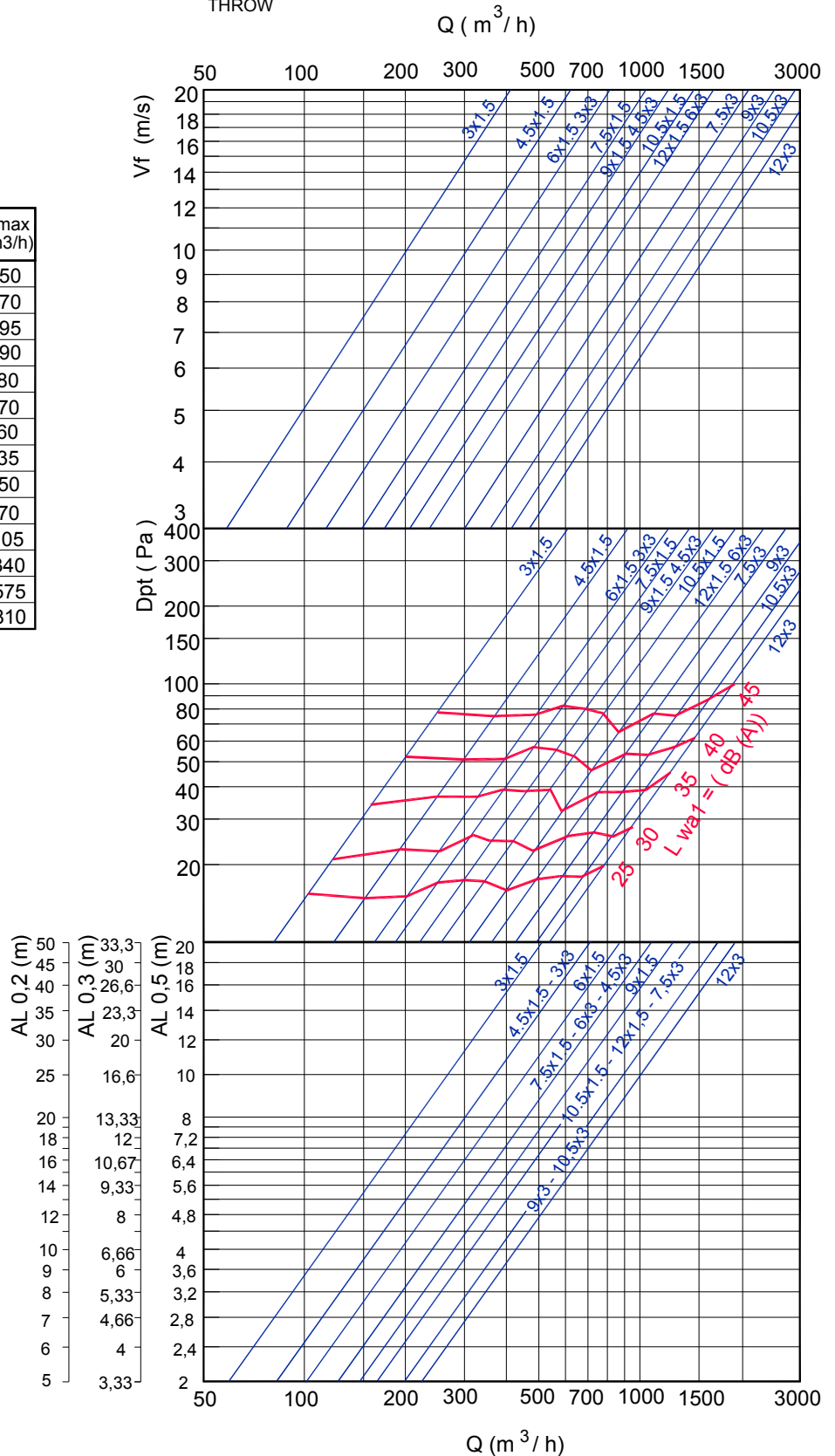
### RECOMMENDED VELOCITY.

	Vfmin m/s	Vfmax m/s
Lx150	2,5	10,6
Lx300	2,5	11

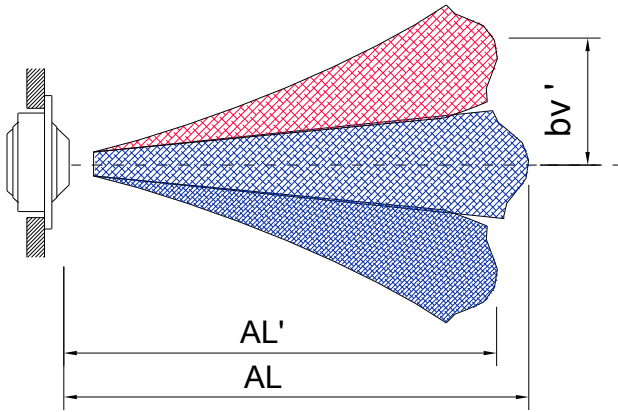
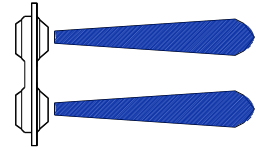
### FREE FACE AREA (m2).

LxH		Afree (m2)	Qmin (m3/h)	Qmax (m3/h)
300x150	3x1,5	0,0056	50	250
450x150	4,5x1,5	0,0084	76	370
600x150	6x1,5	0,0112	101	495
750x150	7,5x1,5	0,014	126	590
900x150	9x1,5	0,0168	151	680
1050x150	10,5x1,5	0,0196	176	770
1200x150	12x1,5	0,0224	202	860
300x300	3x3	0,0112	101	435
450x300	4,5x3	0,0168	151	650
600x300	6x3	0,0224	202	870
750x300	7,5x3	0,028	252	1105
900x300	9x3	0,0336	302	1340
1050x300	10,5x3	0,0392	353	1575
1200x300	12x3	0,0448	403	1810

### FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW



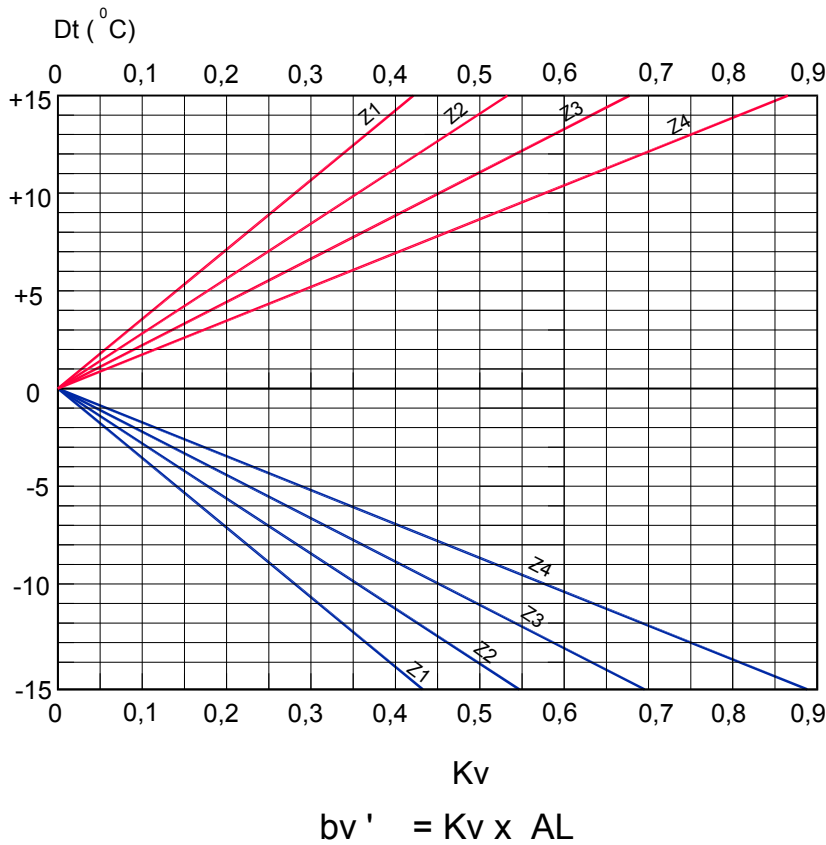
## KOO SERIES



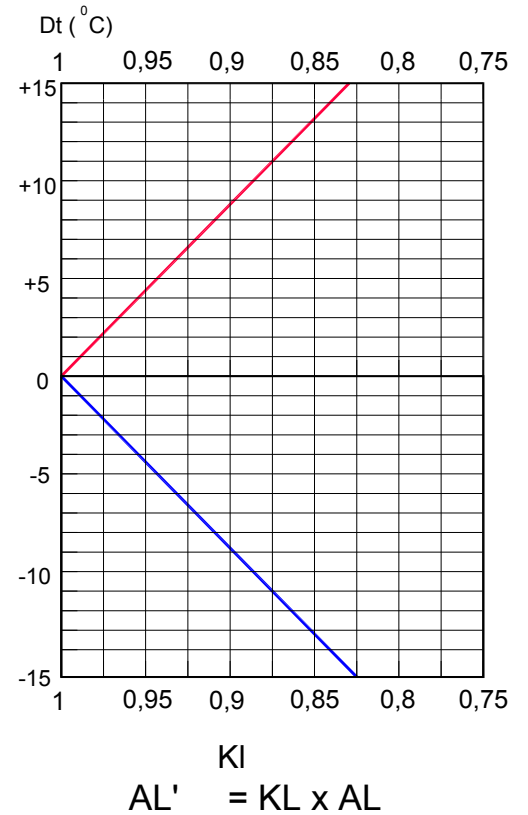
Z1	Z2	Z3	Z4
200x100	500x100	800x100	700x200
300x100	600x100	900x100	800x200
400x100	700x100	1000x100	900x200
200x200	300x200	400x200	1000x200
300x150	450x150	500x200	1050x150
	600x150	600x200	1200x150
	300x300	750x150	600x300
		900x150	750x300
		450x300	900x300
			1050x300
			1200x300

CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

CORRECTION FACTOR FOR THROW (L0.2) DT (-).

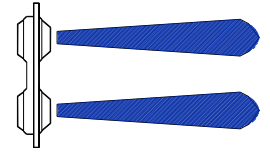


Kv = Correction factor for the vertical diffusion.

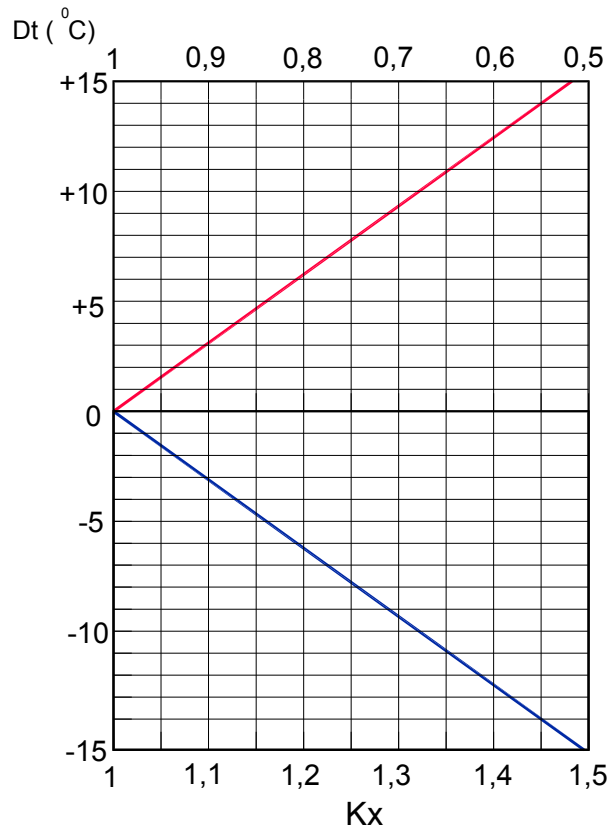
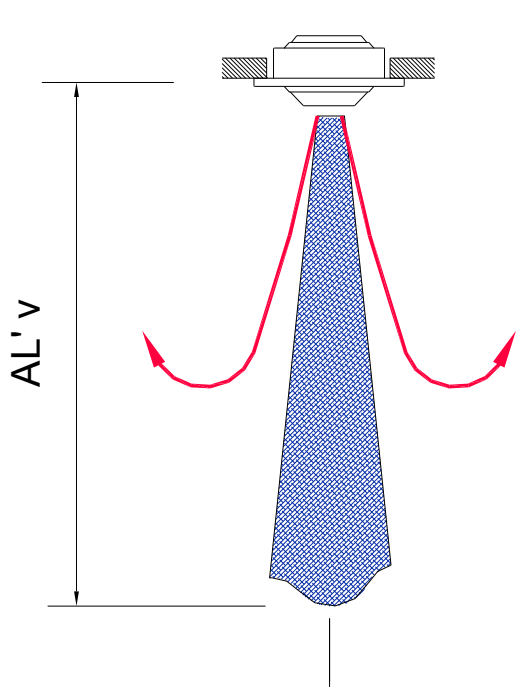


KI = Correction factor for the throw.

KOO SERIES



CORRECTION FACTOR FOR VERTICAL THROW (Alv) DT



$$AL'v = Kx \times AL$$