

MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN SERIES

OVERVIEW

KN: Series of ceiling multidirectional square and rectangular diffusers.

These diffusers allow air to be released in four, three, two or one directions depending on the version with a high induction effect.

CHARACTERISTICS:

The KN series diffusers are made of aluminium, the central part is removable for easier installation by means of screws in the diffuser neck.

Standard finish anodized or painted white RAL 9010.

Different paints on request.

The KN series diffusers are normally fixed to the plenum by means of lateral screws.

The nominal size 450 corresponds to the external frame size 594x594mm which allows for easy insertion into modular ceilings.

FIELD OF USE AND REGULATION

KN diffusers are suitable for false ceiling installation in rooms with a height between 2.5 and 4,5 meters such as offices, shops, meeting rooms, corridors, surgeries and similar.

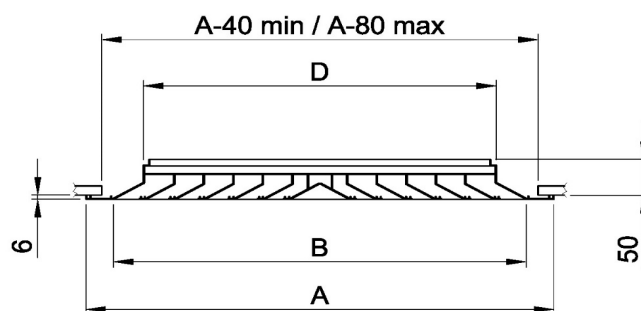
They are suitable for both supply and extract air.

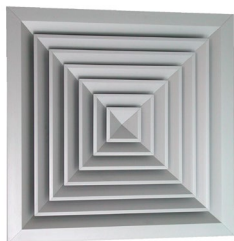
The SC series regulation damper can be installed in the diffuser neck.

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.

NOMINAL	A mm	B mm	D mm
150	294	224	148
225	369	299	223
300	444	374	298
375	519	449	373
450	594	524	448
525	669	599	523
600	744	674	598

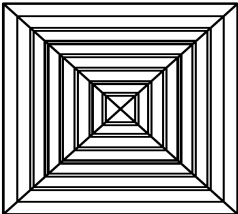


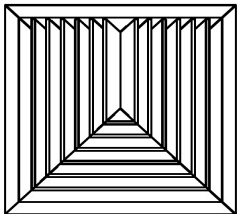


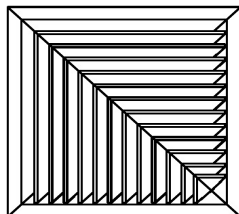
MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

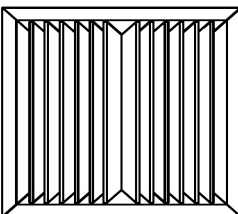
KN SERIES

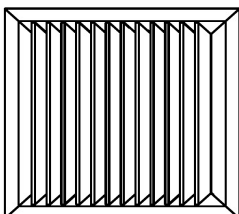
OVERVIEW

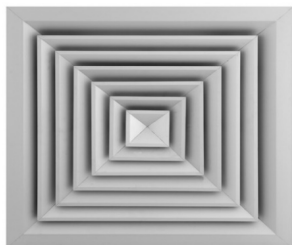
KN4 EFFECTIVE AREA	
	
MODEL	Ak m ²
KN4 150	0,0094
KN4 225	0,0212
KN4 300	0,0377
KN4 375	0,0589
KN4 450	0,0848
KN4 525	0,1154
KN4 600	0,1507

KN3 EFFECTIVE AREA	
	
MODEL	Ak m ²
KN3 150	0,0095
KN3 225	0,0202
KN3 300	0,0353
KN3 375	0,0550
KN3 450	0,0791
KN3 525	0,1078
KN3 600	0,1409

KN2A EFFECTIVE AREA	
	
MODEL	Ak m ²
KN2A 150	0,0088
KN2A 225	0,0186
KN2A 300	0,0325
KN2A 375	0,0504
KN2A 450	0,0724
KN2A 525	0,0984
KN2A 600	0,1285

KN25 EFFECTIVE AREA	
	
MODEL	Ak m ²
KN25 150	0,0083
KN25 225	0,0187
KN25 300	0,0333
KN25 375	0,0509
KN25 450	0,0738
KN25 525	0,1008
KN25 600	0,1320

KN1 EFFECTIVE AREA	
	
MODEL	Ak m ²
KN1 150	0,0083
KN1 225	0,0187
KN1 300	0,0333
KN1 375	0,0509
KN1 450	0,0738
KN1 525	0,1008
KN1 600	0,1320



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

QUICK SELECTION

KN4 SERIES

Model A _k [m ²]		Air flow rate																		
		m ³ /h	70	100	150	200	250	300	400	500	600	700	800	900	1000	1500	2000	2500	3000	4000
		l/s	(19)	(28)	(42)	(56)	(69)	(83)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(417)	(556)	(694)	(833)	(1111)
KN4 150 (0,009)	L _{WA} [dB(A)]	<20	23	35	44	50														
	V _k [m/s]	2	3	4,5	5,9	7,3														
	Δp _t [Pa]	5	10	23	42	63														
	L 0,2 [m]	1	1,9	3,4	5,3	7,3														
KN4 225 (0,021)	L _{WA} [dB(A)]			<20	20	26	31	40	47											
	V _k [m/s]			2	2,6	3,3	3,9	5,2	6,6											
	Δp _t [Pa]			5	8	12	18	32	51											
	L 0,2 [m]			1,9	3	4,2	5,6	8,8	12,5											
KN4 300 (0,038) 0	L _{WA} [dB(A)]						<20	23	30	35	39	43	47	50						
	V _k [m/s]						2,2	2,9	3,7	4,4	5,1	5,9	6,6	7,4						
	Δp _t [Pa]						6	10	16	23	31	41	52	64						
	L 0,2 [m]						3,7	5,9	8,4	11,3	14,3	17,8	21,5	25,5						
KN4 375 (0,059)	L _{WA} [dB(A)]							<20	<20	22	26	30	34	37	49					
	V _k [m/s]							1,9	2,4	2,8	3,3	3,8	4,2	4,7	7,1					
	Δp _t [Pa]							4	7	9	13	17	21	26	59					
	L 0,2 [m]							4,1	6	8,1	10,4	13	15,9	19	>30					
KN4 450 (0,085)	L _{WA} [dB(A)]									<20	<20	20	23	26	38	47				
	V _k [m/s]									2	2,3	2,6	2,9	3,3	4,9	6,6				
	Δp _t [Pa]									5	6	8	10	13	29	51				
	L 0,2 [m]									5,9	7,7	9,7	12	14,4	29,2	>30				
KN4 525 (0,115)	L _{WA} [dB(A)]											<20	<20	<20	29	38	44	49		
	V _k [m/s]											1,9	2,2	2,4	3,6	4,8	6	7,2		
	Δp _t [Pa]											4	6	7	15	27	43	61		
	L 0,2 [m]											7,1	8,8	10,8	22,8	>30	>30	>30		
KN4 600 (0,151)	L _{WA} [dB(A)]														21	30	36	42	50	
	V _k [m/s]														2,8	3,7	4,6	5,5	7,4	
	Δp _t [Pa]														9	16	25	36	64	
	L 0,2 [m]														16,8	29,8	>30	>30	>30	

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

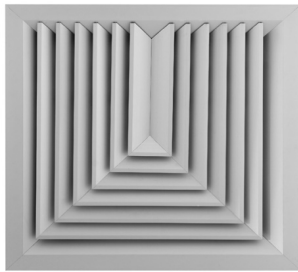
40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

QUICK SELECTION

KN3 SERIES

Model A _k [m ²]		Air flow rate																	
		m ³ /h	70	100	150	200	250	300	400	500	600	700	800	900	1000	1500	2000	2500	3000
		l/s	(19)	(28)	(42)	(56)	(69)	(83)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(417)	(556)	(694)	(833)
KN3 150 (0,01)	L _{WA} [dB(A)]	<20	23	35	43	50													
	V _k [m/s]	2	2,9	4,4	5,9	7,3													
	Δp _t [Pa]	5	10	22	39	60													
	L 0,2 [m]	1,4	2,5	4,6	7	9,6													
KN3 225 (0,02)	L _{WA} [dB(A)]			<20	21	28	33	41	48										
	V _k [m/s]			2,1	2,8	3,4	4,1	5,5	6,9										
	Δp _t [Pa]			5	9	13	19	34	54										
	L 0,2 [m]			2,6	4	5,5	7,2	11,1	15,6										
KN3 300 (0,035)	L _{WA} [dB(A)]					<20	<20	25	32	37	41	45	49						
	V _k [m/s]					2	2,4	3,1	3,9	4,7	5,5	6,3	7,1						
	Δp _t [Pa]					4	6	11	18	25	34	45	57						
	L 0,2 [m]					3,6	4,8	7,3	10,2	13,5	16,8	20,6	24,5						
KN3 375 (0,055)	L _{WA} [dB(A)]							<20	<20	24	28	32	36	39					
	V _k [m/s]							2	2,5	3	3,5	4	4,5	5,1					
	Δp _t [Pa]							5	7	10	14	19	23	29					
	L 0,2 [m]							5,2	7,2	9,5	11,9	14,5	17,3	20,3					
KN3 450 (0,079)	L _{WA} [dB(A)]									<20	<20	22	25	28	40	49			
	V _k [m/s]									2,1	2,5	2,8	3,2	3,5	5,3	7			
	Δp _t [Pa]									5	7	9	11	14	32	56			
	L 0,2 [m]									6,9	8,6	10,5	12,6	14,7	26,9	>30			
KN3 525 (0,108)	L _{WA} [dB(A)]											<20	<20	<20	31	40	46		
	V _k [m/s]											2,1	2,3	2,6	3,9	5,2	6,4		
	Δp _t [Pa]											5	6	8	17	30	47		
	L 0,2 [m]											7,5	9	10,5	19,3	29,6	>30		
KN3 600 (0,141)	L _{WA} [dB(A)]													<20	23	32	38	44	48
	V _k [m/s]													2	3	3,9	4,9	5,9	6,9
	Δp _t [Pa]													4	10	18	28	40	54
	L 0,2 [m]													7,1	13	20	27,8	>30	>30

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

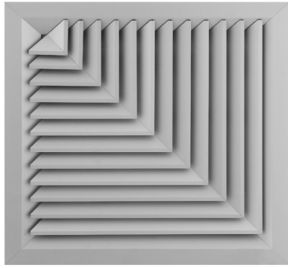
40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

QUICK SELECTION

KN2A SERIES

Model A_k [m ²]		Air flow rate																		
		m ³ /h	70	100	150	200	250	300	400	500	600	700	800	900	1000	1250	1500	2000	2500	3000
		l/s	(19)	(28)	(42)	(56)	(69)	(83)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(347)	(417)	(556)	(694)	(833)
KN2A 150 (0,009)	L_{WA} [dB(A)]	<20	25	37	46															
	V_k [m/s]	2,2	3,2	4,8	6,4															
	Δp_t [Pa]	4	9	20	36															
	$L_{0,2}$ [m]	1,2	2,6	5,5	9,5															
KN2A 225 (0,019)	L_{WA} [dB(A)]			<20	24	30	35	44	50											
	V_k [m/s]			2,3	3	3,7	4,5	6	7,5											
	Δp_t [Pa]			4	8	12	17	31	49											
	$L_{0,2}$ [m]			2,9	5	7,4	10,5	18,2	27,9											
KN2A 300 (0,033)	L_{WA} [dB(A)]					<20	<20	27	34	39	44	48								
	V_k [m/s]					2,1	2,6	3,4	4,3	5,1	6	6,8								
	Δp_t [Pa]					4	6	10	16	23	31	41								
	$L_{0,2}$ [m]					4,7	6,6	11,5	17,6	24,8	>30	>30								
KN2A 375 (0,05)	L_{WA} [dB(A)]							<20	21	27	31	35	38	42	48					
	V_k [m/s]							2,2	2,8	3,3	3,8	4,4	5	5,5	6,9					
	Δp_t [Pa]							4	7	10	13	17	22	27	42					
	$L_{0,2}$ [m]							8,1	12,4	17,5	23,2	30	>30	>30	>30					
KN2A 450 (0,072)	L_{WA} [dB(A)]								<20	<20	20	24	28	31	37	43				
	V_k [m/s]								1,9	2,3	2,7	3,1	3,5	3,8	4,8	5,8				
	Δp_t [Pa]								3	5	6	8	10	13	20	29				
	$L_{0,2}$ [m]								9,4	13,3	17,7	22,8	28,6	>30	>30	>30				
KN2A 525 (0,098)	L_{WA} [dB(A)]											<20	<20	<20	22	28	34	42	49	
	V_k [m/s]											2	2,3	2,5	2,8	3,5	4,2	5,6	7,1	
	Δp_t [Pa]											3	4	6	7	11	16	28	44	
	$L_{0,2}$ [m]											14,3	18,4	23	28,1	>30	>30	>30	>30	
KN2A 600 (0,129)	L_{WA} [dB(A)]													<20	<20	21	26	34	41	46
	V_k [m/s]													1,9	2,2	2,7	3,2	4,3	5,4	6,5
	Δp_t [Pa]													3	4	6	9	16	26	37
	$L_{0,2}$ [m]													19,4	23,7	>30	>30	>30	>30	>30

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

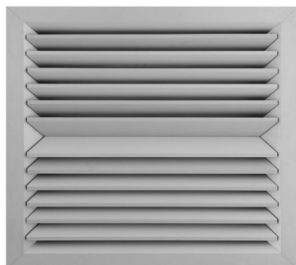
40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25 SERIES

QUICK SELECTION

Model A_k [m ²]		Air flow rate																		
		m ³ /h	70	100	150	200	250	300	400	500	600	700	800	900	1000	1500	2000	2500	3000	3500
		l/s	(19)	(28)	(42)	(56)	(69)	(83)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(417)	(556)	(694)	(833)	(972)
KN25 150 (0,008)	L_{WA} [dB(A)]	<20	27	39	47															
	V_k [m/s]	2,3	3,4	5,1	6,7															
	Δp_t [Pa]	6	13	29	51															
	$L_{0,2}$ [m]	1,8	4,4	11,1	21,3															
KN25 225 (0,019)	L_{WA} [dB(A)]			<20	24	30	35	44	50											
	V_k [m/s]			2,2	3	3,7	4,4	5,9	7,4											
	Δp_t [Pa]			6	10	15	22	39	62											
	$L_{0,2}$ [m]			2,6	4,5	6,6	9,2	15,8	23,9											
KN25 300 (0,033)	L_{WA} [dB(A)]					<20	<20	27	33	39	43	47								
	V_k [m/s]					2,1	2,5	3,3	4,2	5	5,8	6,7								
	Δp_t [Pa]					5	7	12	19	28	38	50								
	$L_{0,2}$ [m]					3,5	5	8,9	14	20,2	27,2	>30								
KN25 375 (0,051)	L_{WA} [dB(A)]							<20	21	26	31	35	38	41						
	V_k [m/s]							2,2	2,7	3,3	3,8	4,4	4,9	5,5						
	Δp_t [Pa]							5	8	12	16	21	27	33						
	$L_{0,2}$ [m]							5,6	8,5	11,9	15,6	19,9	24,7	30						
KN25 450 (0,074)	L_{WA} [dB(A)]								<20	<20	20	24	27	30	42					
	V_k [m/s]								1,9	2,3	2,6	3	3,4	3,8	5,7					
	Δp_t [Pa]								4	6	8	10	13	16	36					
	$L_{0,2}$ [m]								7,2	9,6	12	14,7	17,5	20,6	>30					
KN25 525 (0,101)	L_{WA} [dB(A)]										<20	<20	<20	21	33	42	48			
	V_k [m/s]										1,9	2,2	2,5	2,8	4,1	5,5	6,9			
	Δp_t [Pa]										4	5	7	8	19	34	53			
	$L_{0,2}$ [m]										8,1	11	14,4	18,4	>30	>30	>30			
KN25 600 (0,132)	L_{WA} [dB(A)]												<20	<20	25	34	40	45	50	
	V_k [m/s]												1,9	2,1	3,2	4,2	5,3	6,3	7,4	
	Δp_t [Pa]												4	5	11	20	31	44	60	
	$L_{0,2}$ [m]												11,1	13,6	29,7	>30	>30	>30	>30	

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

QUICK SELECTION

KN1 SERIES

Model A_k [m ²]		Air flow rate																		
		m ³ /h	70	100	150	200	250	300	400	500	600	700	800	900	1000	1250	1500	2000	2500	3000
		l/s	(19)	(28)	(42)	(56)	(69)	(83)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(347)	(417)	(556)	(694)	(833)
KN1 150 (0,008)	L_{WA} [dB(A)]	<20	27	39	47															
	V_k [m/s]	2,3	3,4	5,1	6,7															
	Δp_t [Pa]	6	12	28	49															
	$L_{0,2}$ [m]	1,8	4,4	11,1	21,3															
KN1 225 (0,019)	L_{WA} [dB(A)]			<20	24	30	35	44	50											
	V_k [m/s]			2,2	3	3,7	4,4	5,9	7,4											
	Δp_t [Pa]			5	10	15	21	38	60											
	$L_{0,2}$ [m]			2,6	4,5	6,6	9,2	15,8	23,9											
KN1 300 (0,033)	L_{WA} [dB(A)]					<20	<20	27	33	39	43	47								
	V_k [m/s]					2,1	2,5	3,3	4,2	5	5,8	6,7								
	Δp_t [Pa]					5	7	12	19	27	37	48								
	$L_{0,2}$ [m]					3,5	5	8,9	14	20,2	27,2	>30								
KN1 375 (0,051)	L_{WA} [dB(A)]							<20	21	26	31	35	38	41	48					
	V_k [m/s]							2,2	2,7	3,3	3,8	4,4	4,9	5,5	6,8					
	Δp_t [Pa]							5	8	12	16	21	26	32	50					
	$L_{0,2}$ [m]							5,6	8,5	11,9	15,6	19,9	24,7	30	>30					
KN1 450 (0,074)	L_{WA} [dB(A)]								<20	<20	20	24	27	30	37	42				
	V_k [m/s]								1,9	2,3	2,6	3	3,4	3,8	4,7	5,7				
	Δp_t [Pa]								4	6	7	10	12	15	24	35				
	$L_{0,2}$ [m]								7,2	9,6	12	14,7	17,5	20,6	28,8	>30				
KN1 525 (0,101)	L_{WA} [dB(A)]										<20	<20	<20	21	28	33	42	48		
	V_k [m/s]										1,9	2,2	2,5	2,8	3,4	4,1	5,5	6,9		
	Δp_t [Pa]										4	5	7	8	13	19	33	51		
	$L_{0,2}$ [m]										8,1	11	14,4	18,4	>30	>30	>30	>30		
KN1 600 (0,132)	L_{WA} [dB(A)]												<20	<20	20	25	34	40	45	
	V_k [m/s]												1,9	2,1	2,6	3,2	4,2	5,3	6,3	
	Δp_t [Pa]												4	5	7	11	19	30	43	
	$L_{0,2}$ [m]												11,1	13,6	20,8	29,7	>30	>30	>30	

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

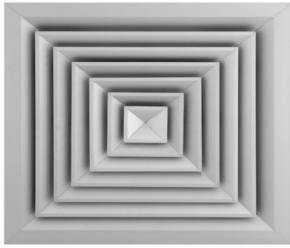
40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level

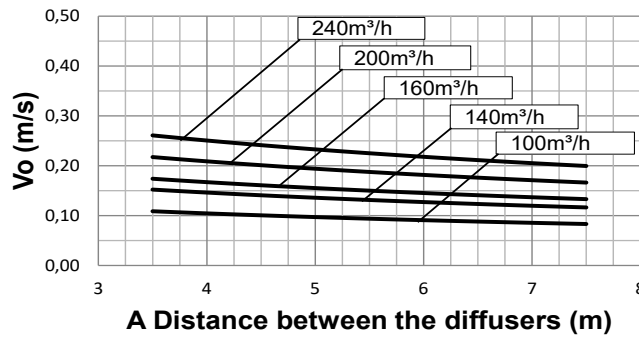


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 150

KN4
SERIES

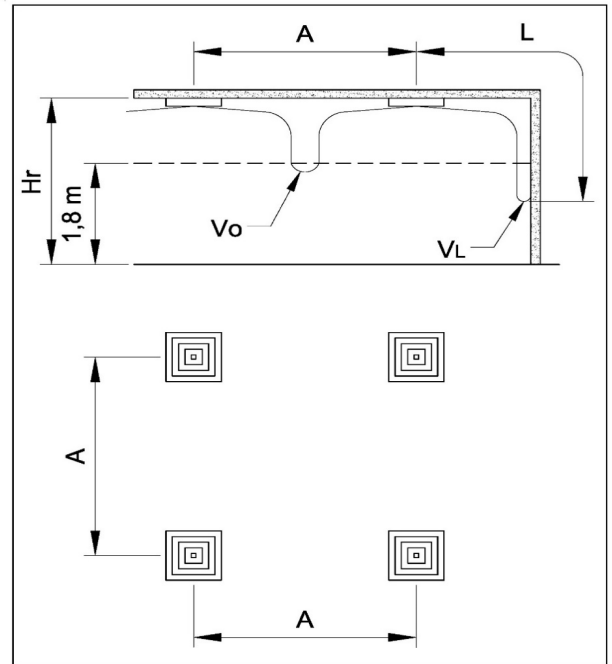
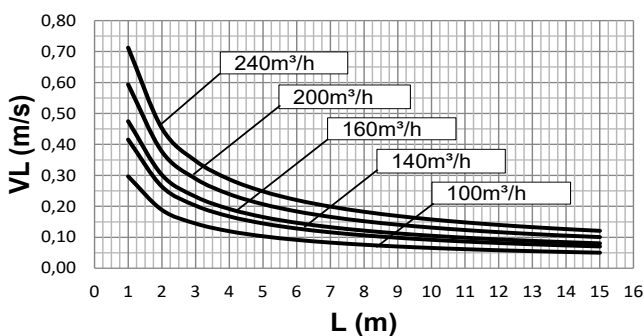
KN4 150x150 Vo for Hr=4m



**KN4 150x150 Correction factor
Kf**



KN4 150x150 Throw

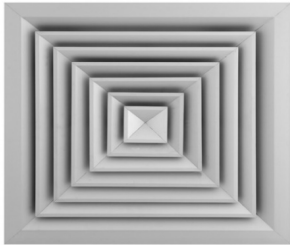


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream

For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

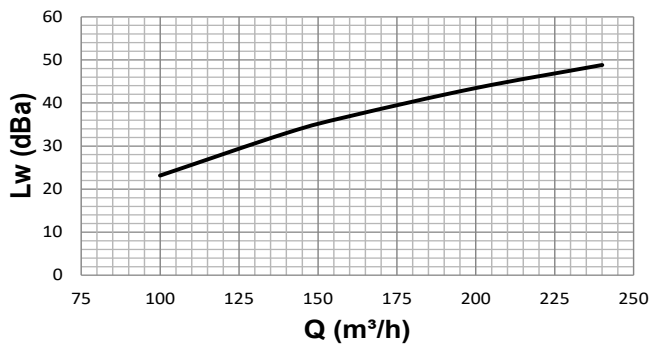


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 150

KN4
SERIES

KN4 150x150 Sound power



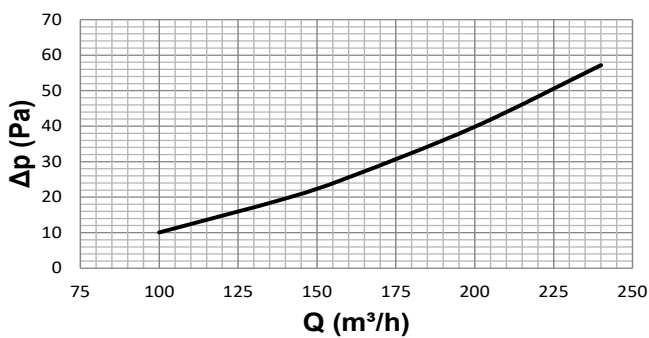
Data measured in reverberation room in accordance with international standards:

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.*

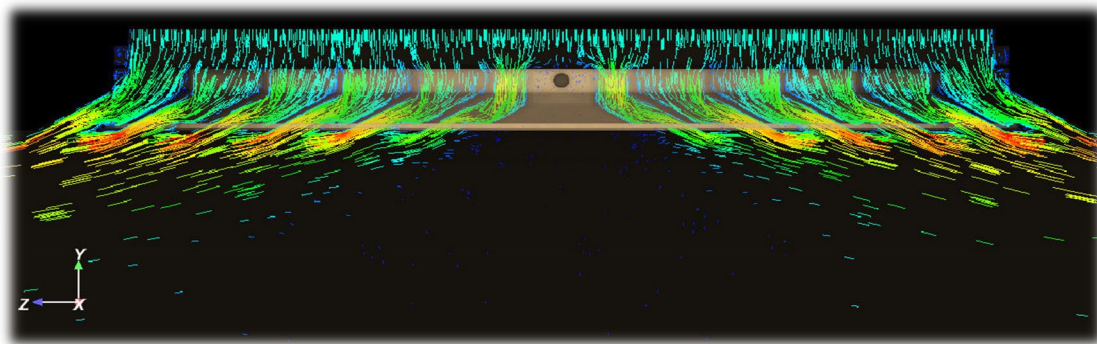
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

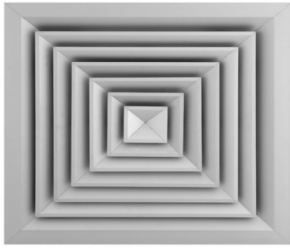
KN4 150x150 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



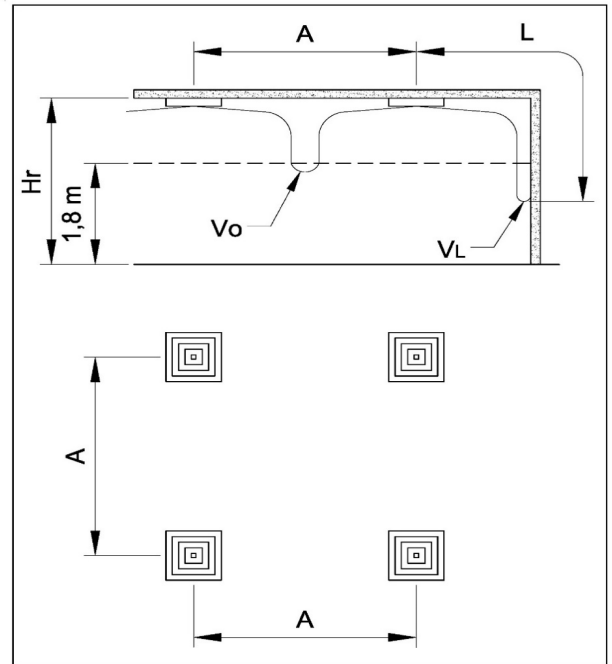
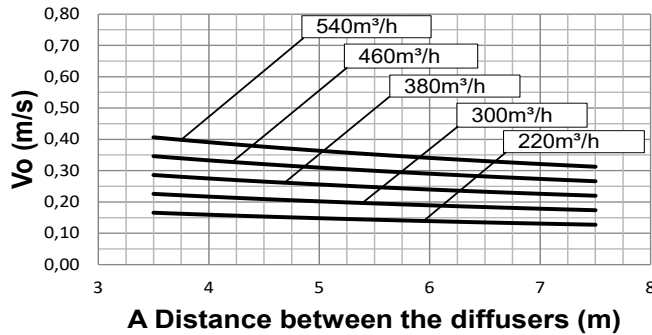


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 225

KN4
SERIES

KN4 225x225 Vo for Hr=4m



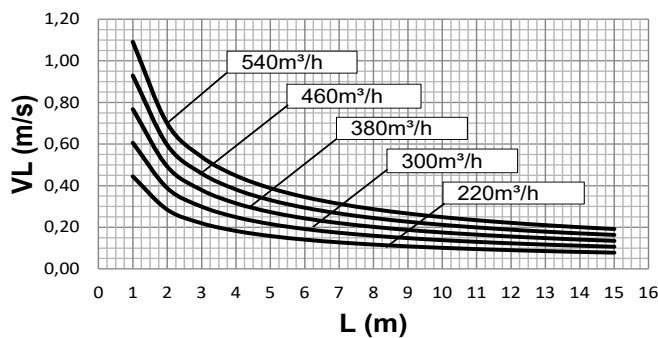
**KN4 225x225 Correction factor
Kf**



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

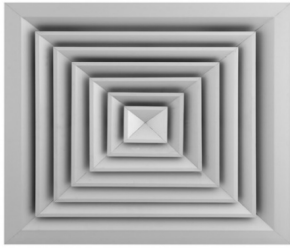
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN4 225x225 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

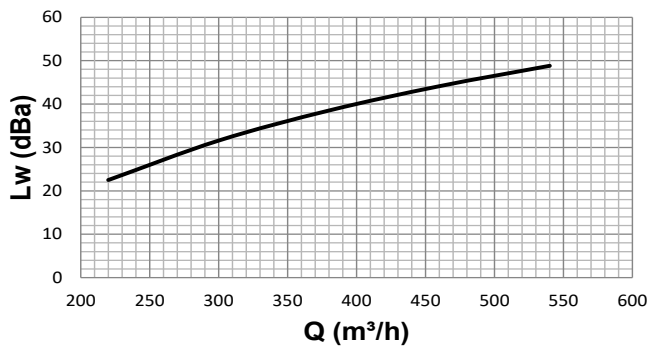


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 225

KN4
SERIES

KN4 225x225 Sound power



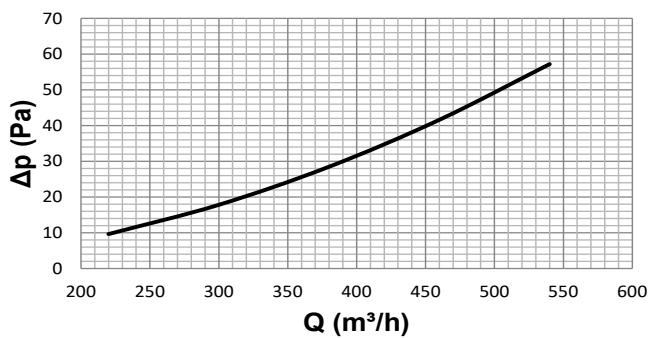
Data measured in reverberation room in accordance with international standards:

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.*

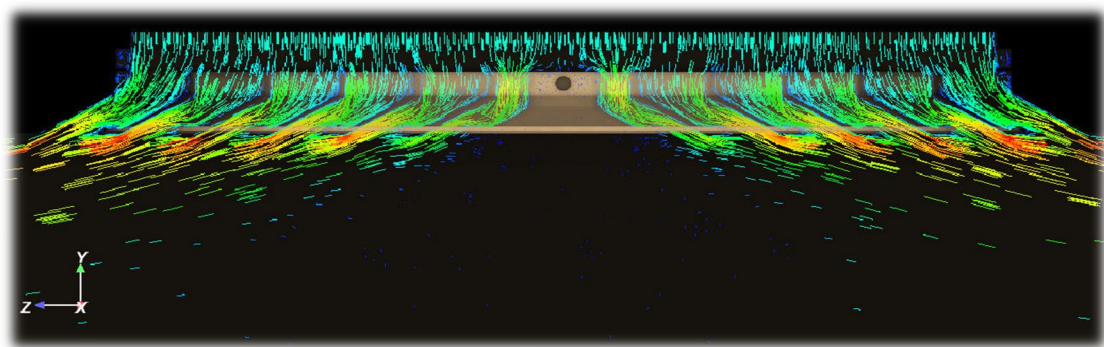
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

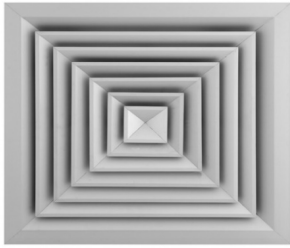
KN4 225x225 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



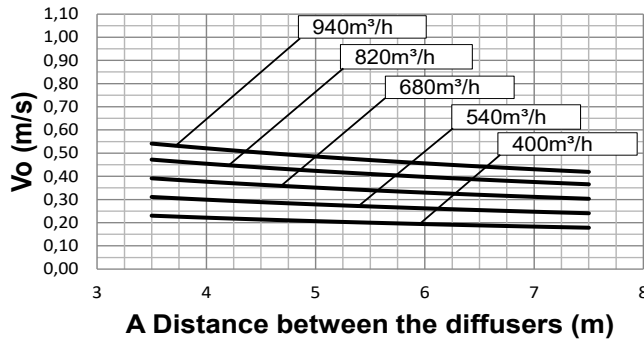


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 300

KN4
SERIES

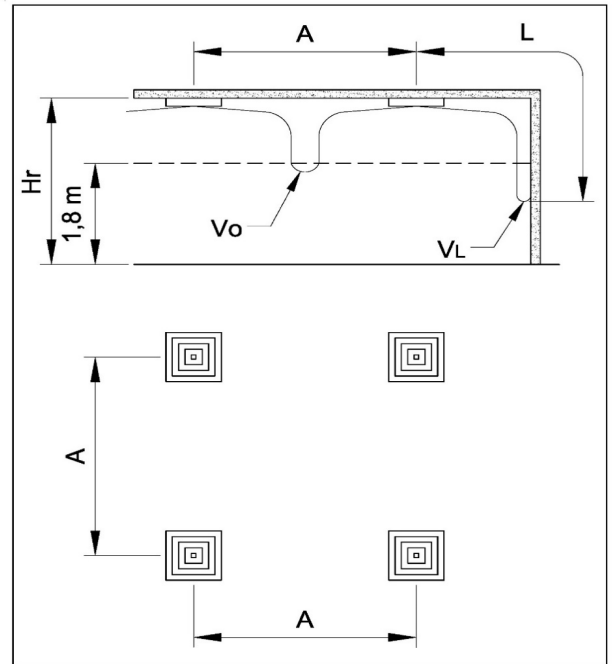
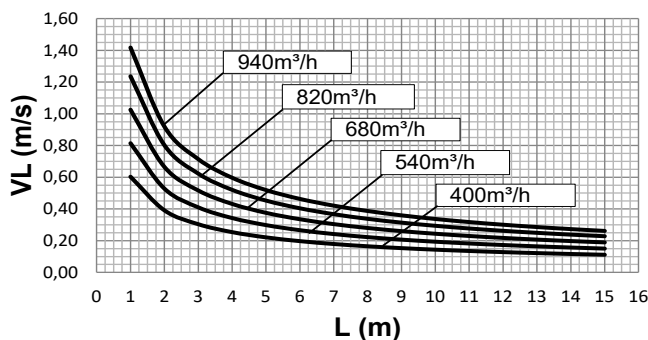
KN4 300x300 Vo for Hr=4m



**KN4 300x300 Correction factor
Kf**



KN4 300x300 Throw



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

A (m) distance between the diffusers

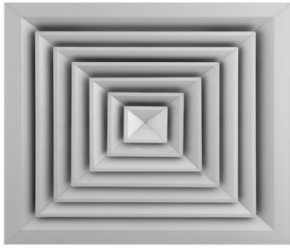
V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

V_L (m/s) maximum speed in the air stream

For Hr different from 4m:

$V_o(h) = V_o \times K_f$

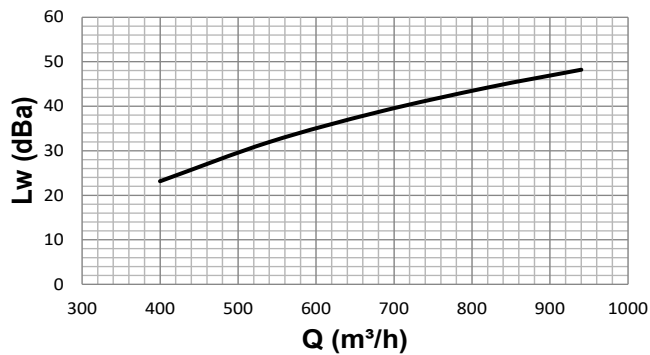


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 300

KN4
SERIES

KN4 300x300 Sound power



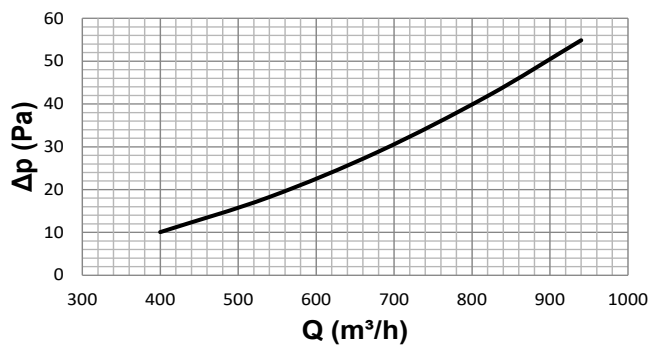
Data measured in reverberation room in accordance with international standards:

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.*

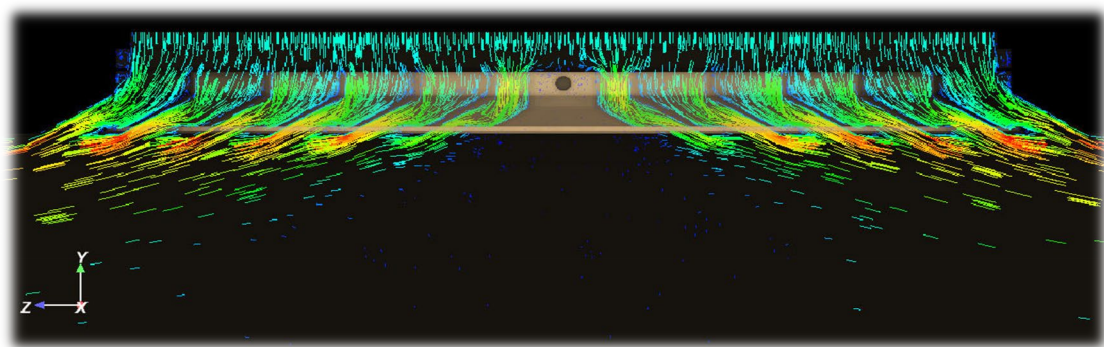
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

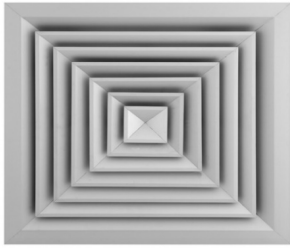
KN4 300x300 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



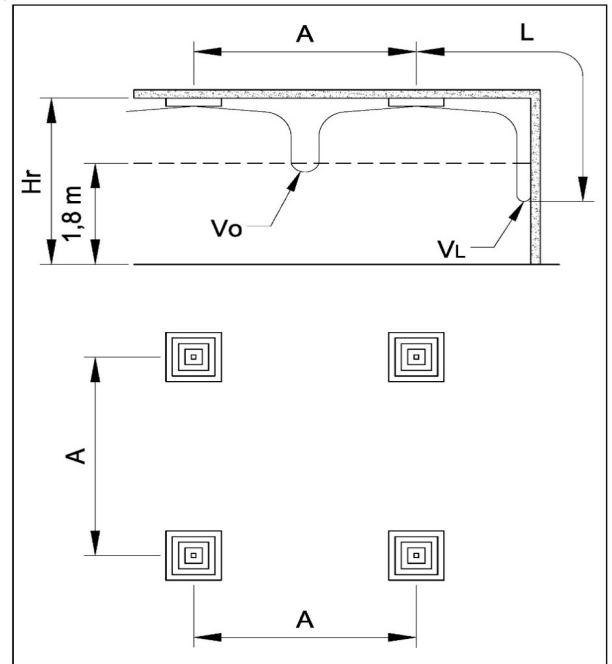
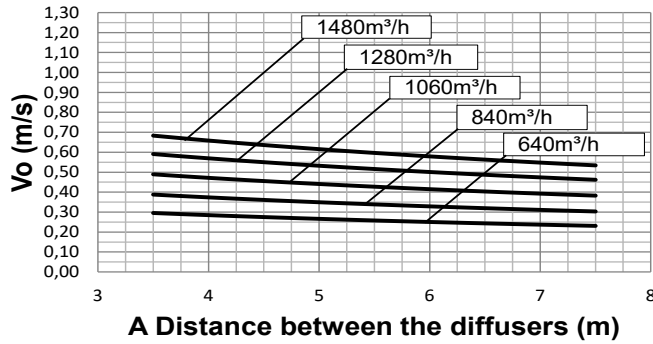


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 375

KN4
SERIES

KN4 375x375 Vo for Hr=4m



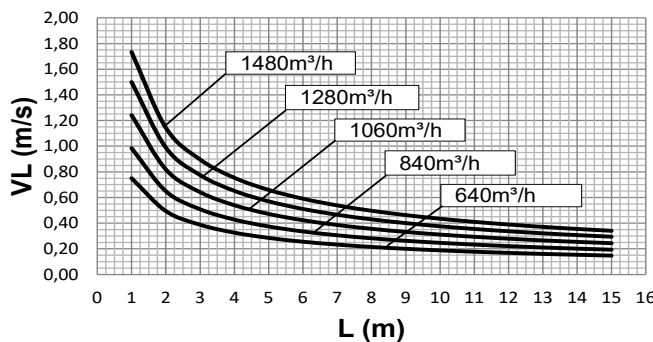
**KN4 375x375 Correction factor
Kf**



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

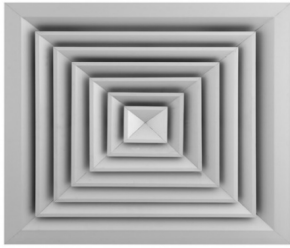
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN4 375x375 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

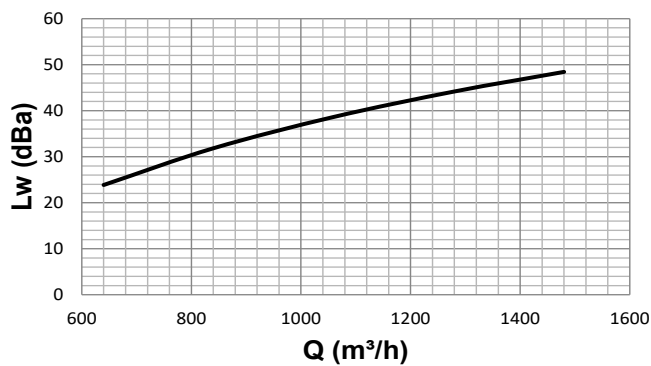


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 375

KN4
SERIES

KN4 375x375 Sound power



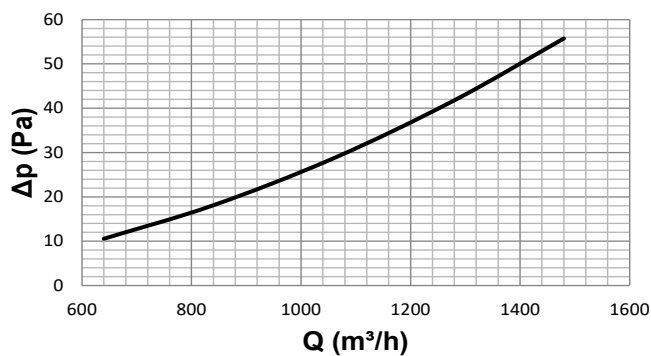
Data measured in reverberation room in accordance with international standards:

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.*

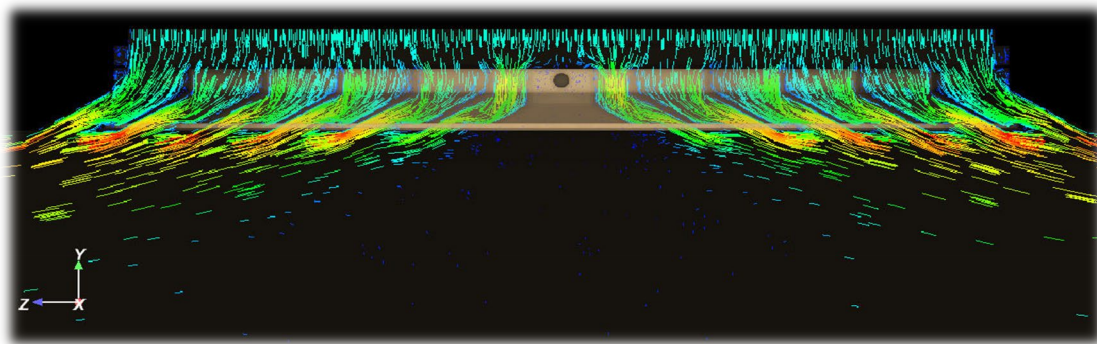
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.

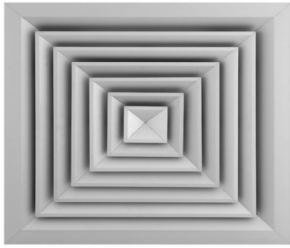
KN4 375x375 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



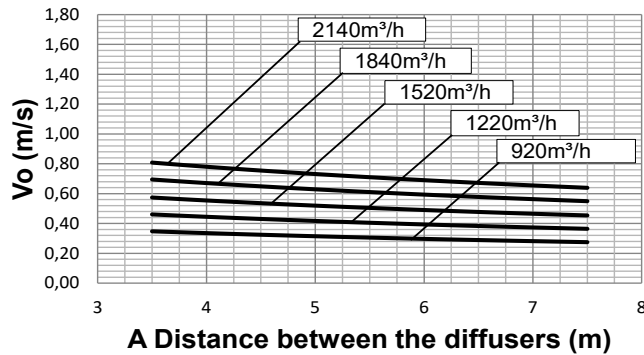


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4
SERIES

PERFORMANCE KN4 450
(594x594 external frame)

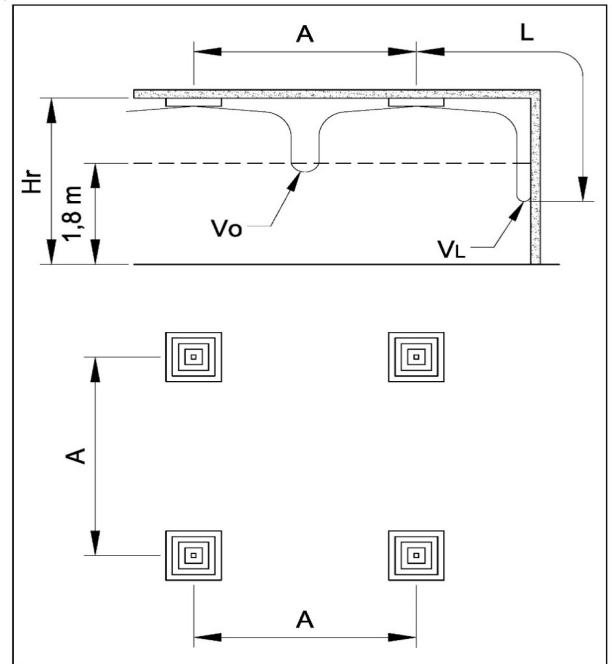
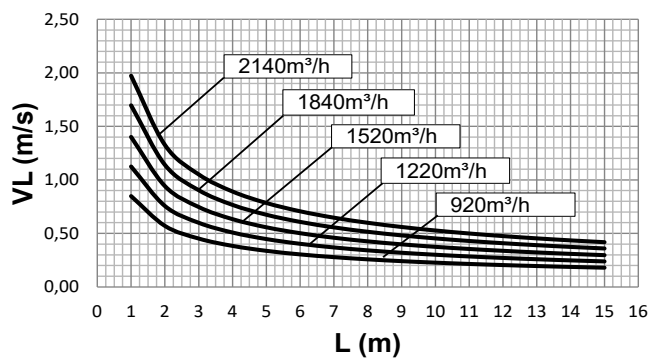
KN4 450x450 Vo for Hr=4m



**KN4 450x450 Correction factor
Kf**



KN4 450x450 Throw

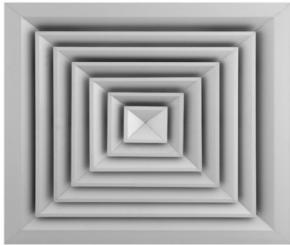


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream

For Hr different from 4m:

$$V_o(h) = V_o \times K_f$$

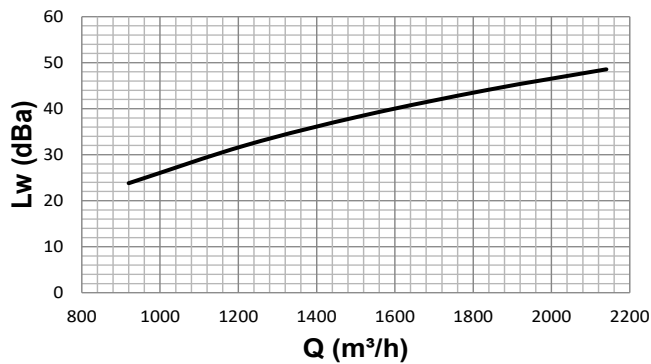


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4
SERIES

PERFORMANCE KN4 450
(594x594 external frame)

KN4 450x450 Sound power



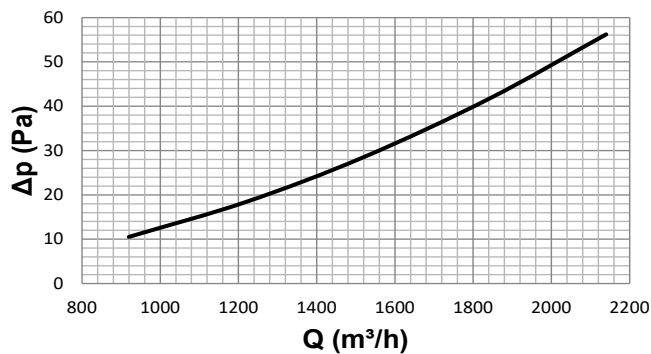
Data measured in reverberation room in accordance with international standards:

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.*

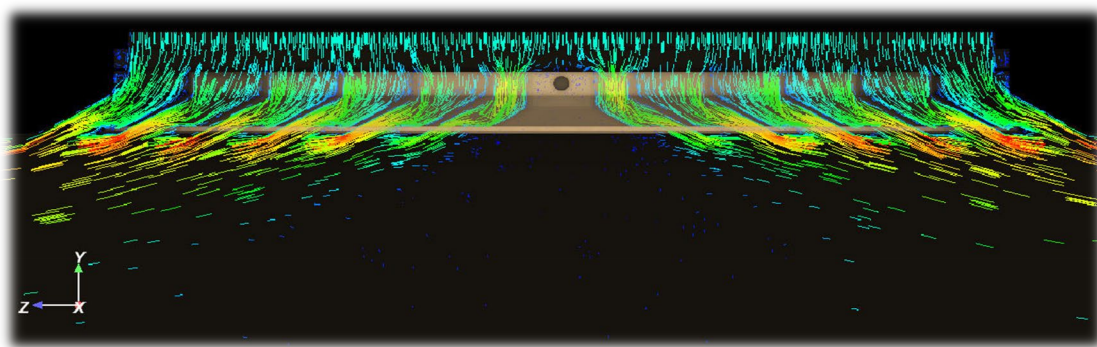
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

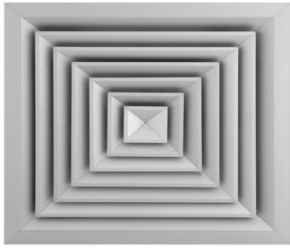
KN4 450x450 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



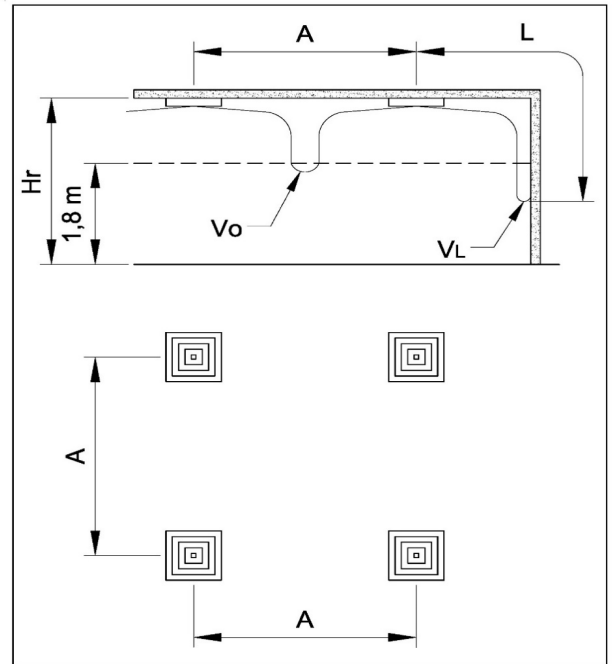
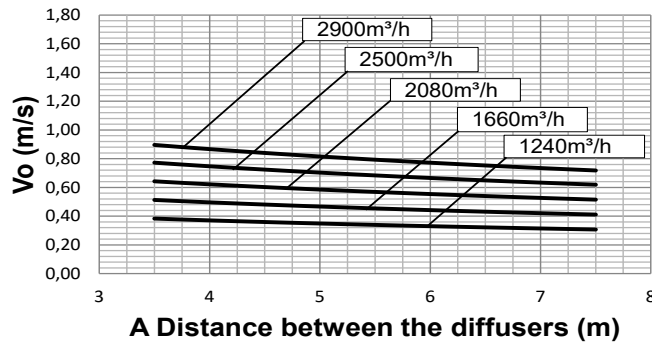


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 525

KN4
SERIES

KN4 525x525 Vo for Hr=4m



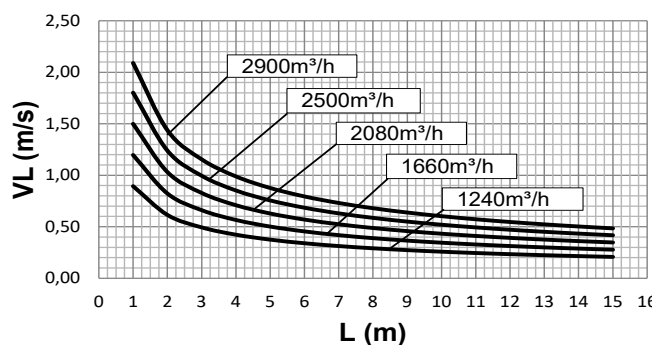
**KN4 525x525 Correction factor
Kf**



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

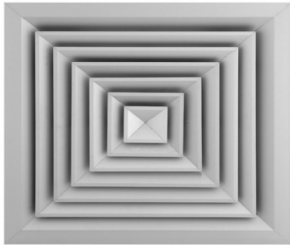
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN4 525x525 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

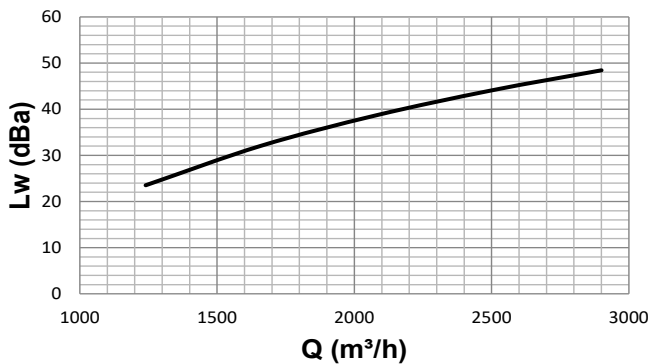


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 525

KN4
SERIES

KN4 525x525 Sound power



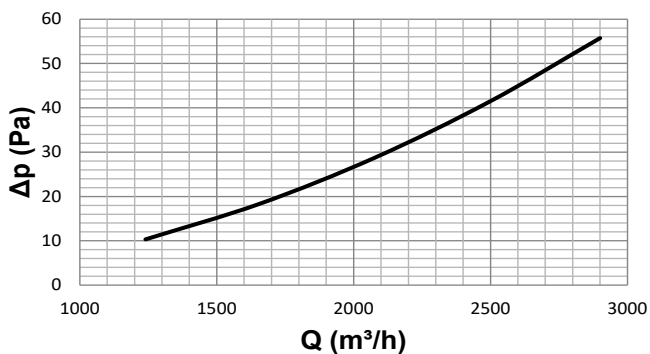
Data measured in reverberation room in accordance with international standards:

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.*

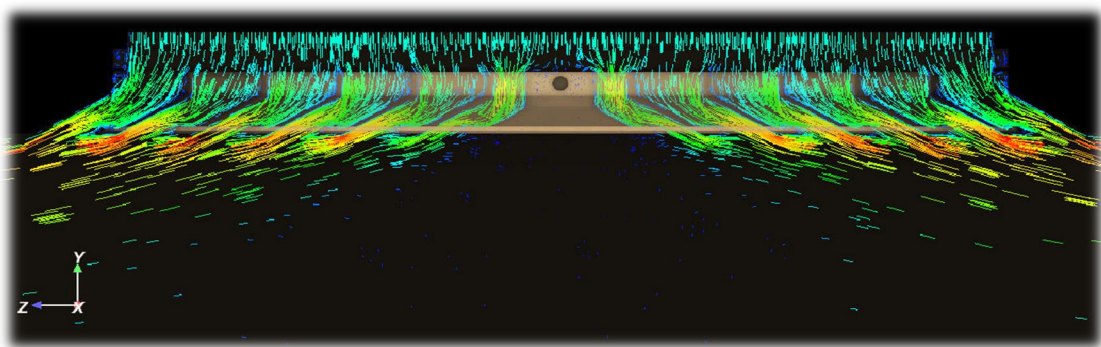
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

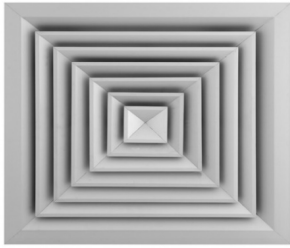
KN4 525x525 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



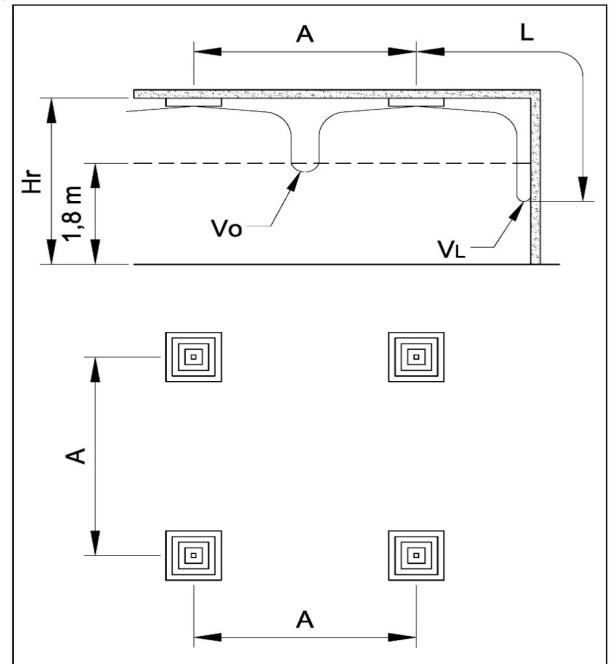
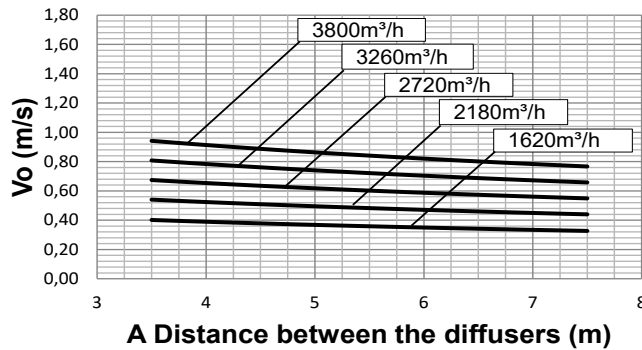


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 600

KN4
SERIES

KN4 600x600 Vo for Hr=4m



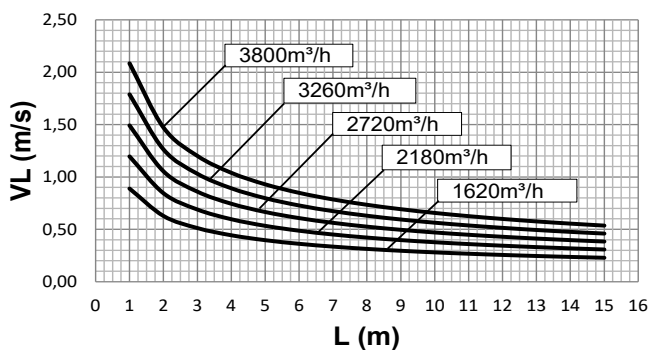
**KN4 600x600 Correction factor
Kf**



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

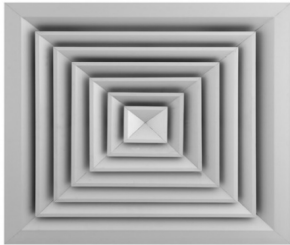
A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream

KN4 600x600 Throw



For Hr different from 4m:

$$V_o(h) = V_o \times K_f$$

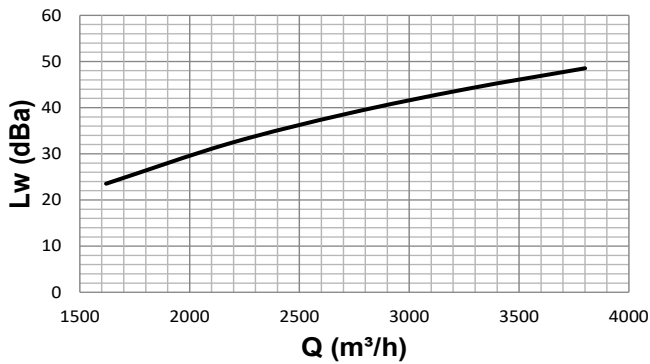


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN4 600

KN4
SERIES

KN4 600x600 Sound power



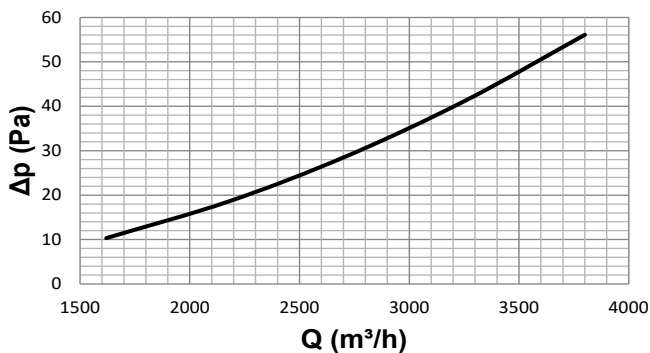
Data measured in reverberation room in accordance with international standards:

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.*

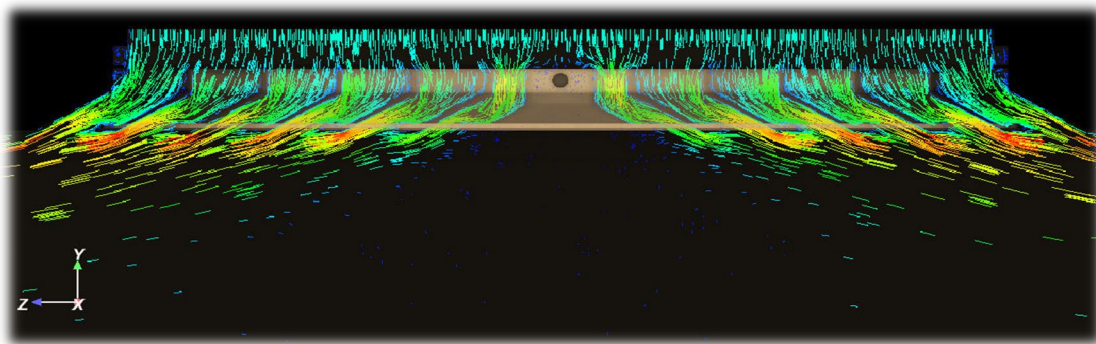
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

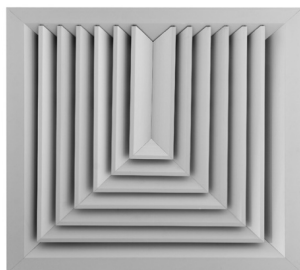
KN4 600x600 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



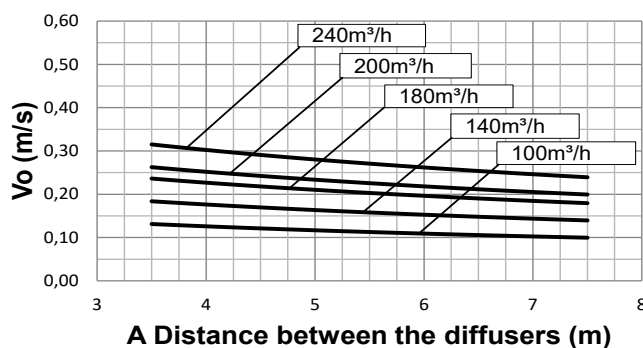


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 150

KN3
SERIES

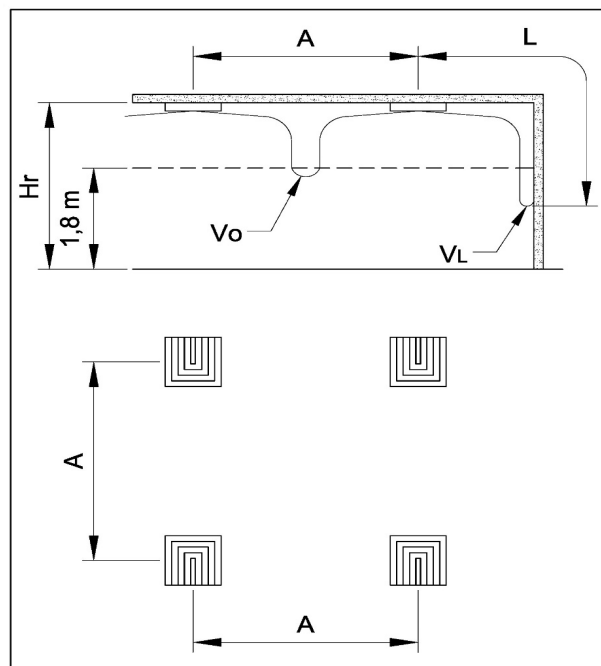
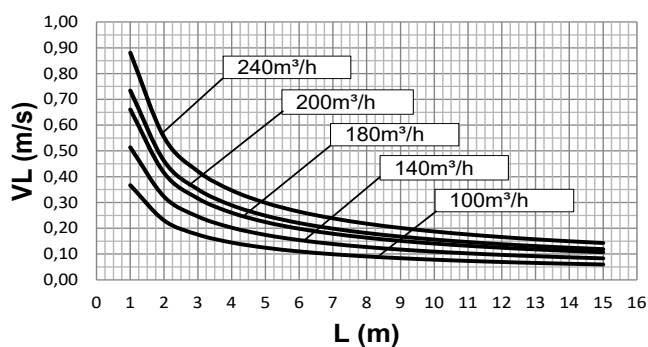
KN3 150x150 Vo for Hr=4m



**KN3 150x150 Correction factor
Kf**



KN3 150x150 Throw

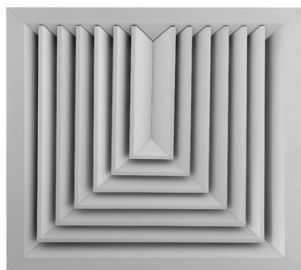


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

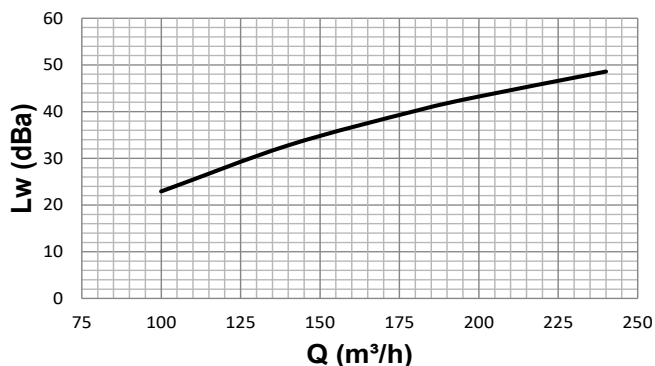


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 150

KN3
SERIES

KN3 150x150 Sound power



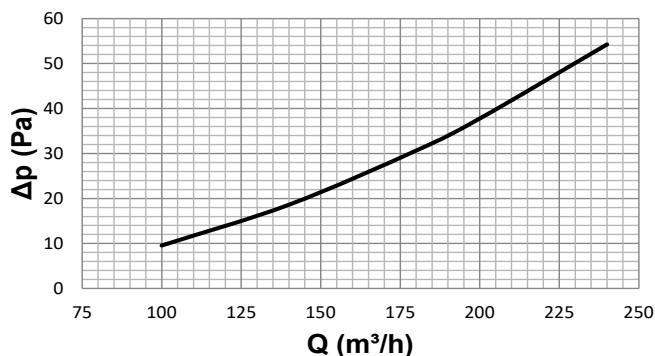
Data measured in reverberation room in accordance with international standards:

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.*

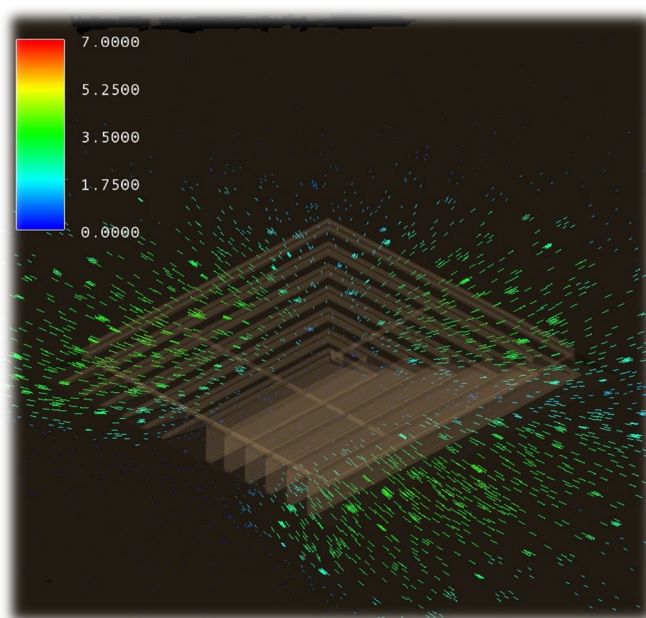
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

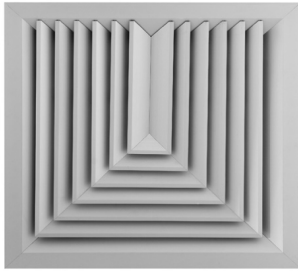
KN3 150x150 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



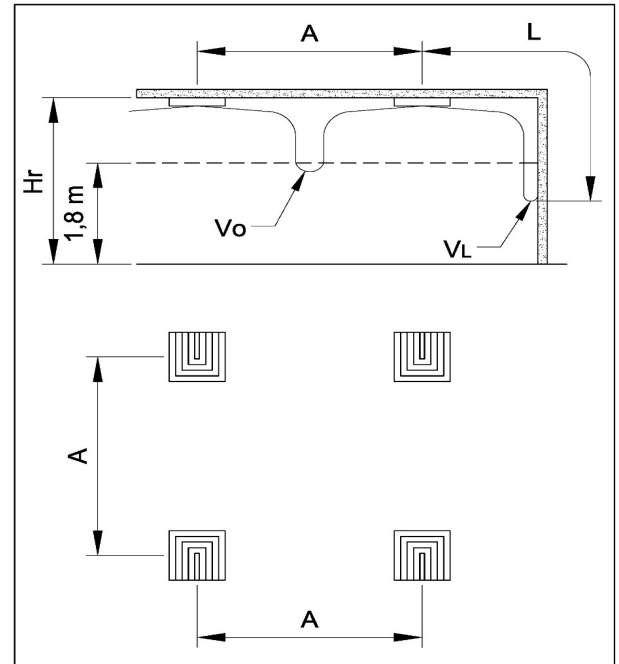
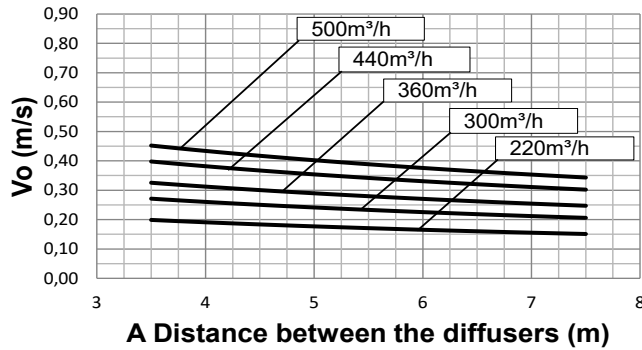


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 225

KN3
SERIES

KN3 225x225 Vo for Hr=4m



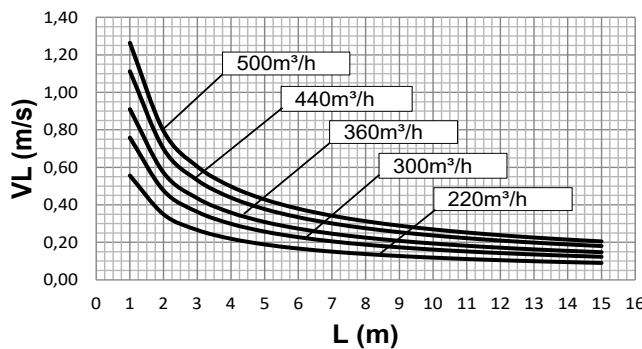
**KN3 225x225 Correction factor
Kf**



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

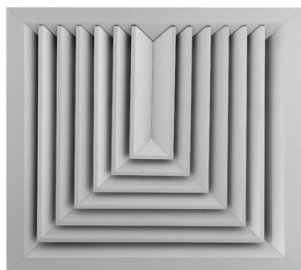
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN3 225x225 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

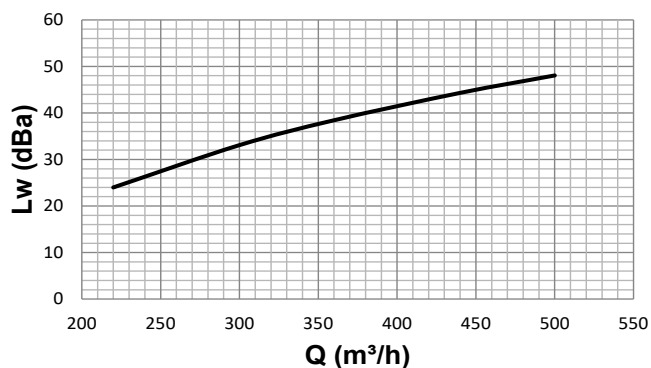


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 225

KN3
SERIES

KN3 225x225 Sound power



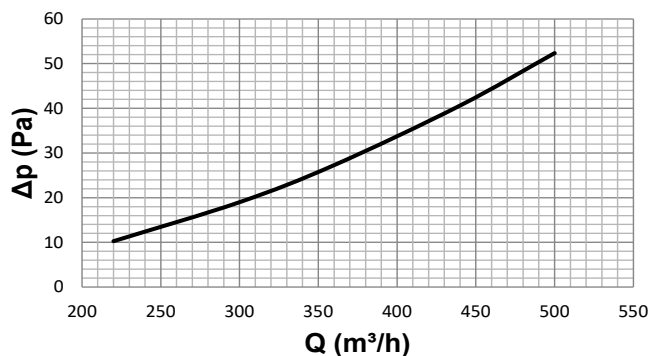
Data measured in reverberation room in accordance with international standards:

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.*

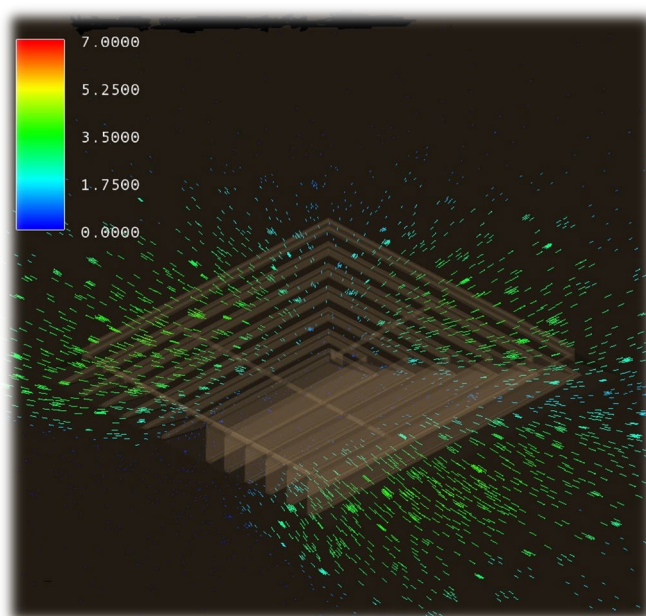
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

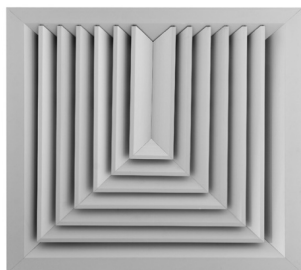
KN3 225x225 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



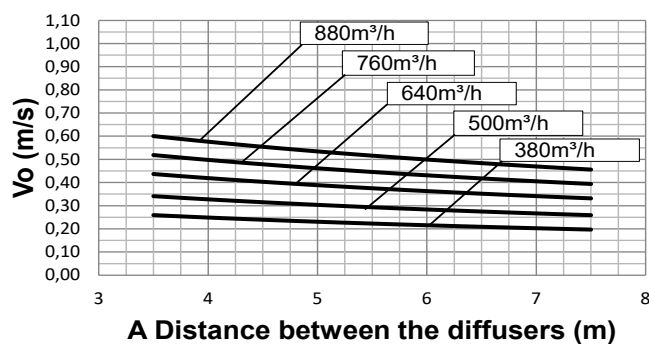


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

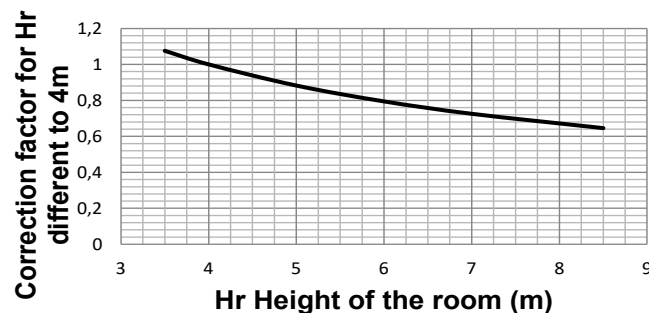
PERFORMANCE KN3 300

KN3
SERIES

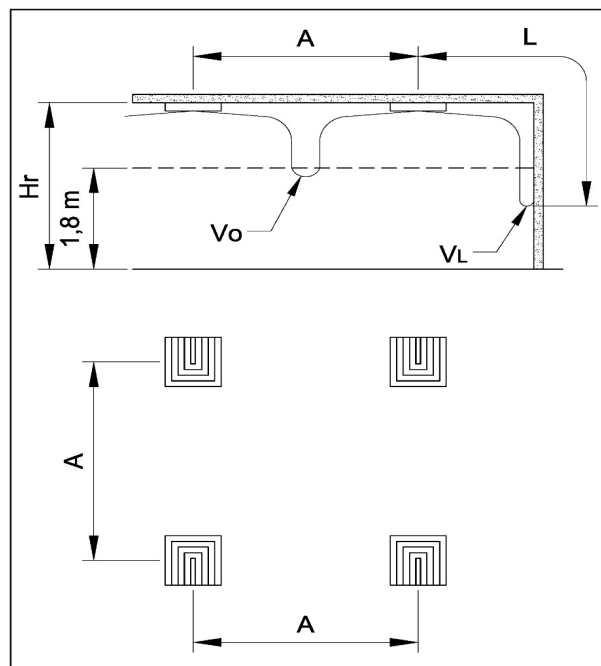
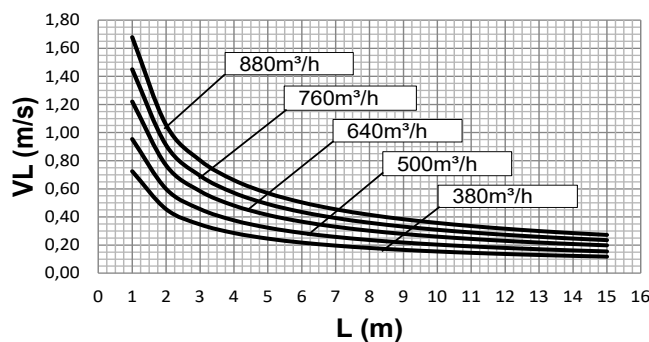
KN3 300x300 Vo for Hr=4m



**KN3 300x300 Correction factor
Kf**



KN3 300x300 Throw

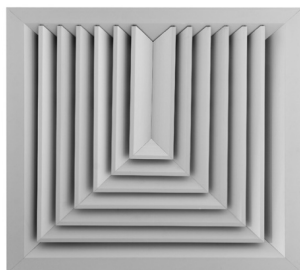


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

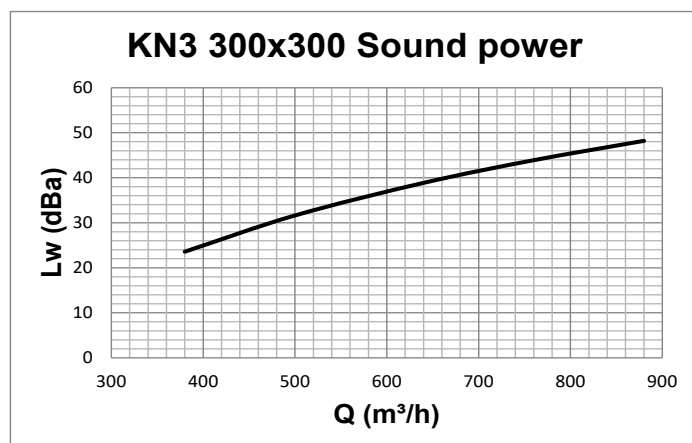
$$Vo(h) = Vo \times Kf$$



MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 300

KN3
SERIES

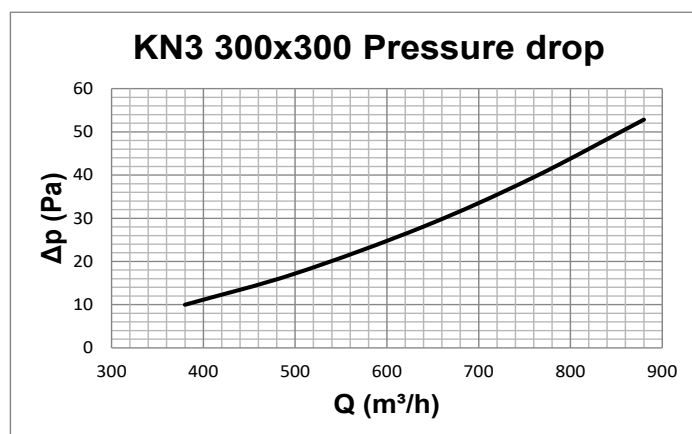


Data measured in reverberation room in accordance with international standards:

ISO 3741 1999: *Acoustic - determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms*

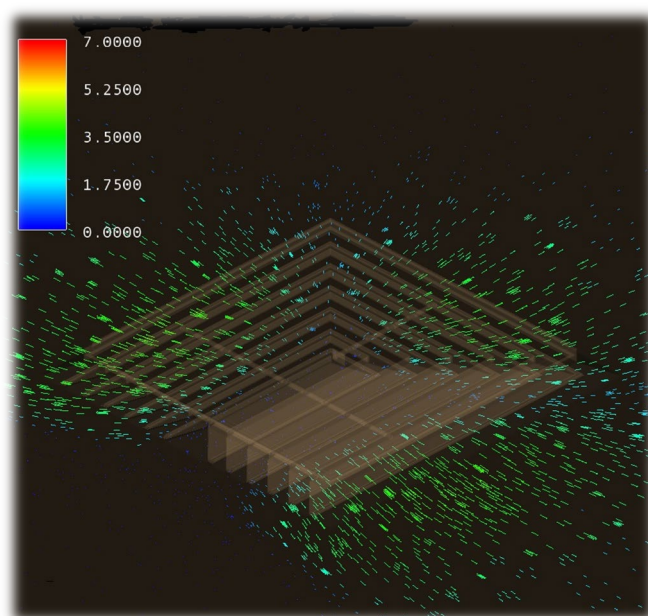
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

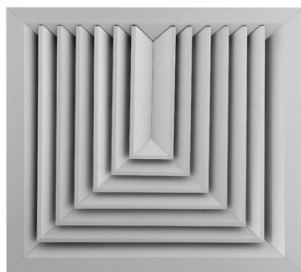
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



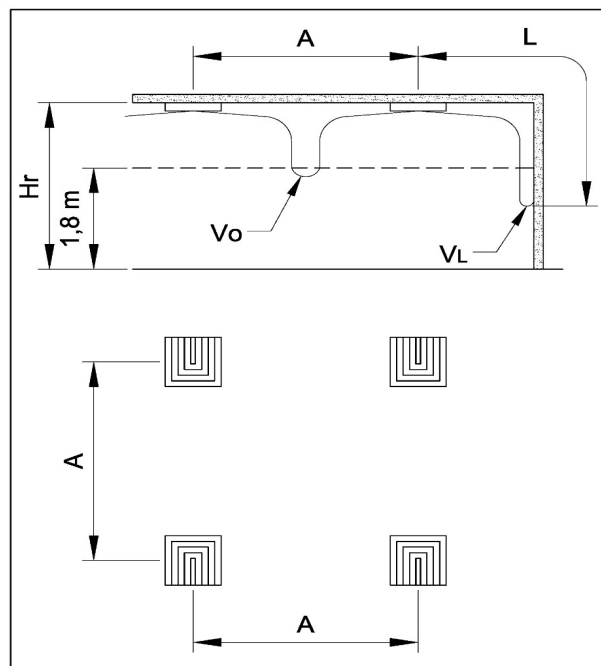
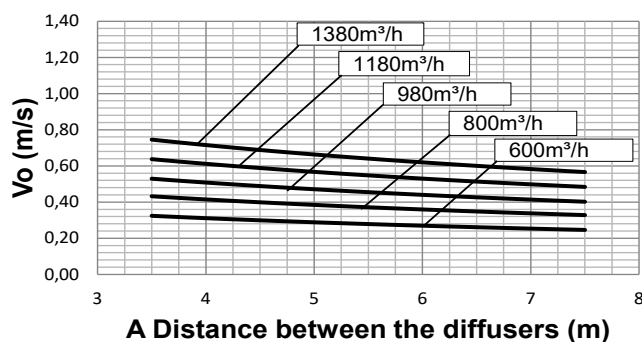


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 375

KN3
SERIES

KN3 375x375 Vo for Hr=4m



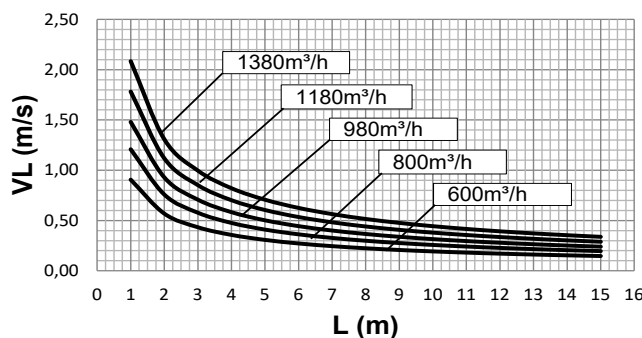
**KN3 375x375 Correction factor
Kf**



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

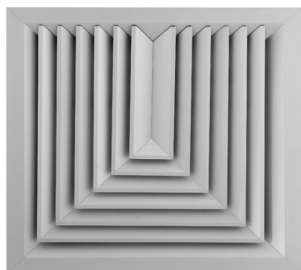
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN3 375x375 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

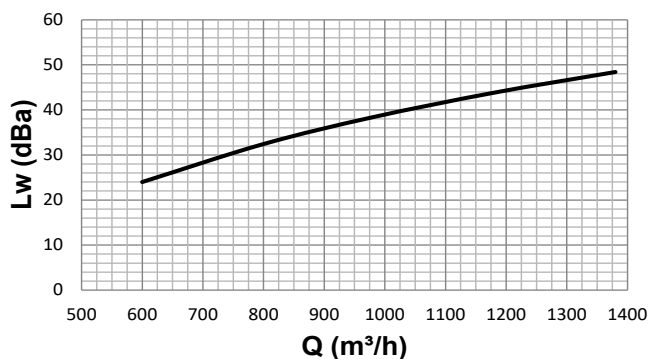


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 375

KN3
SERIES

KN3 375x375 Sound power



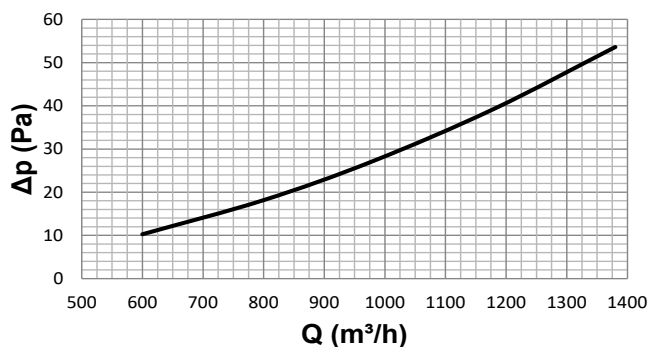
Data measured in reverberation room in accordance with international standards:

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.*

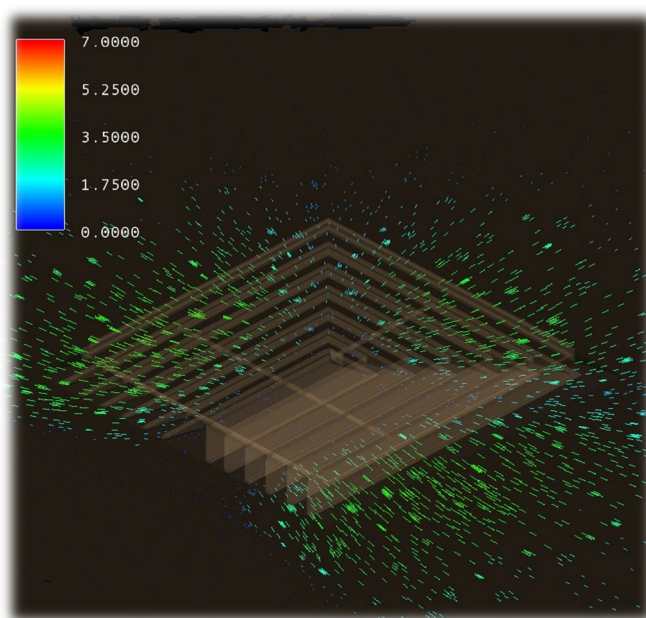
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

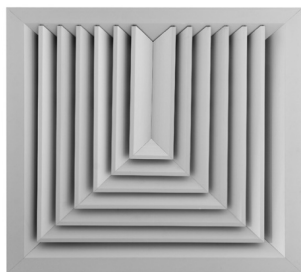
KN3 375x375 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



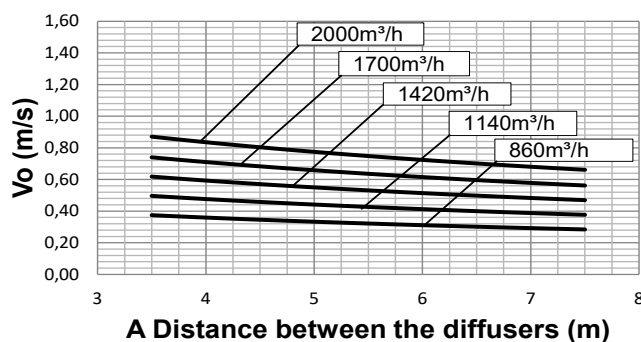


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN3
SERIES

PERFORMANCE KN3 450
(594x594 external frame)

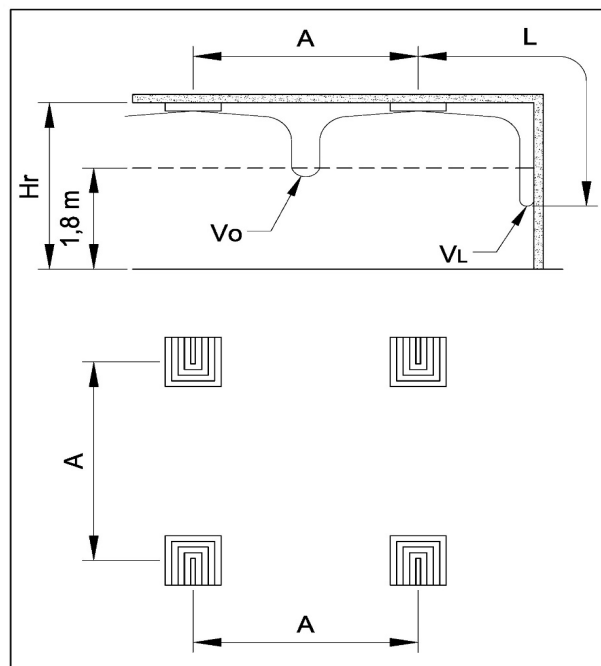
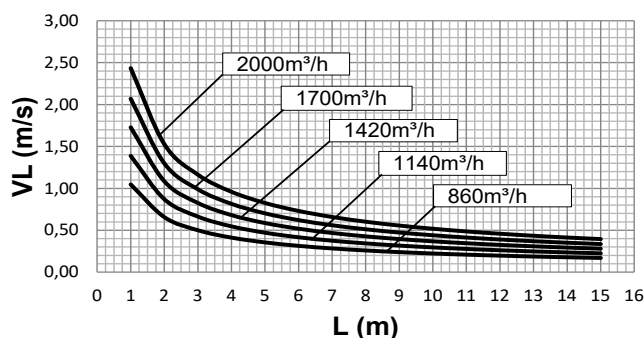
KN3 450x450 Vo for Hr=4m



**KN3 450x450 Correction factor
Kf**



KN3 450x450 Throw

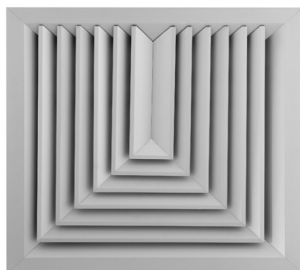


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

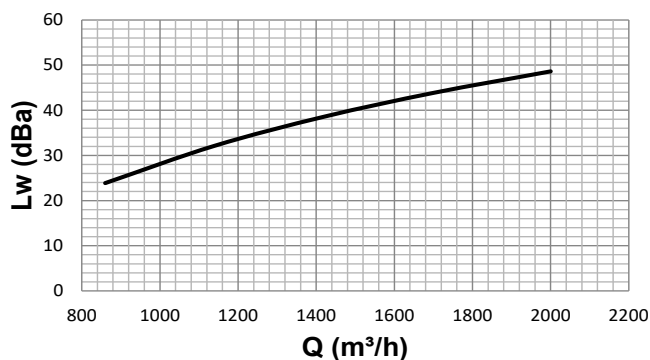


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN3
SERIES

PERFORMANCE KN3 450
(594x594 external frame)

KN3 450x450 Sound power



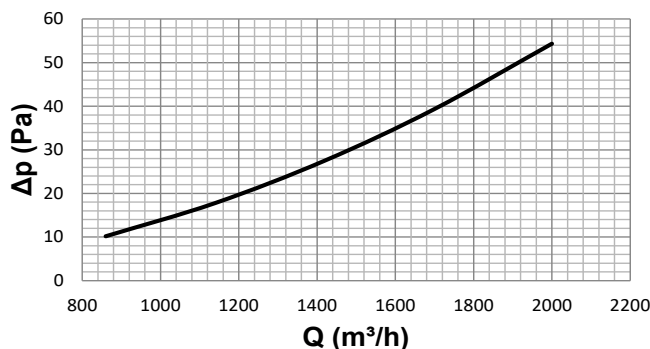
Data measured in reverberation room in accordance with international standards:

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.*

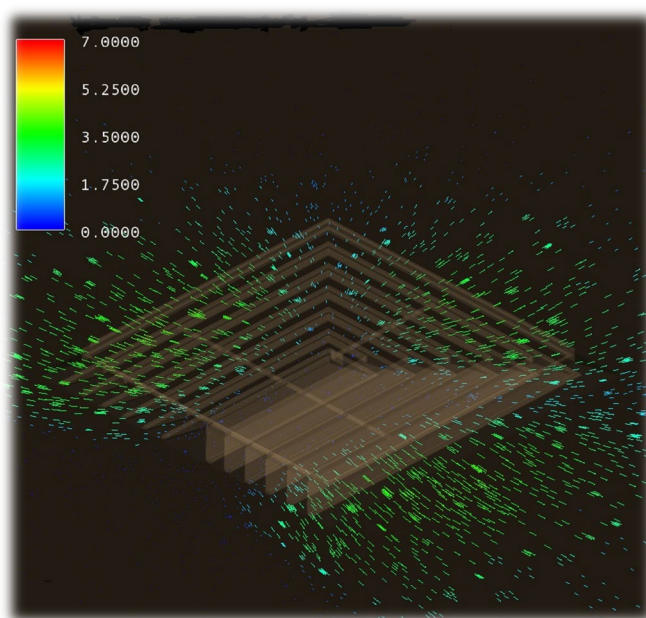
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

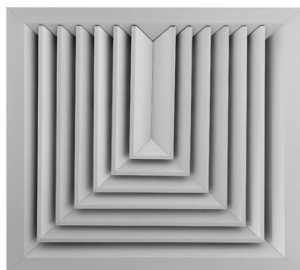
KN3 450x450 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



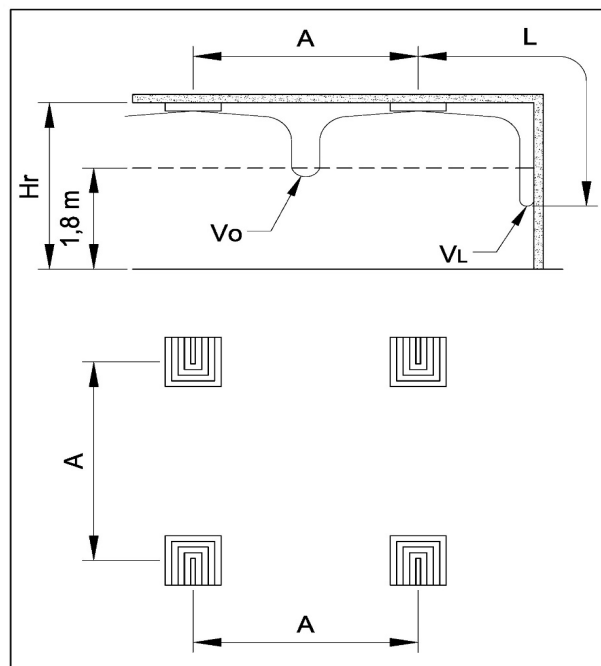
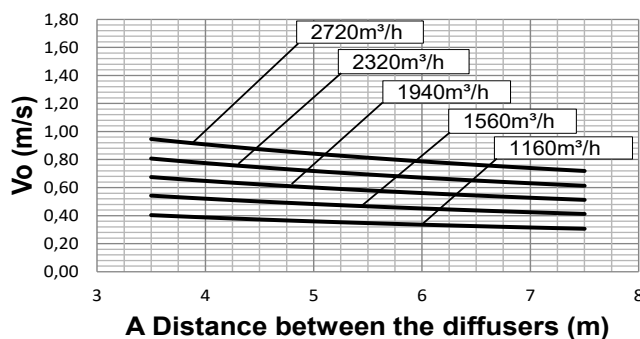


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 525

KN3
SERIES

KN3 525x525 Vo for Hr=4m



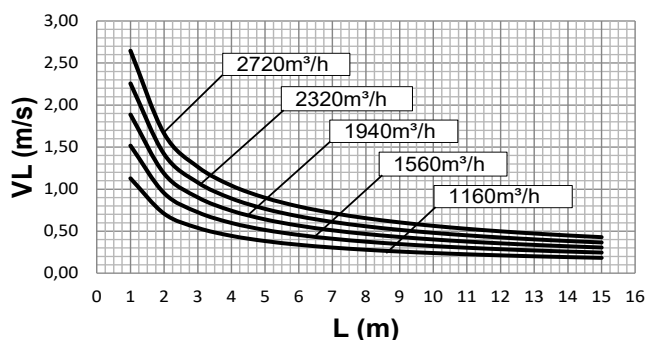
**KN3 525x525 Correction factor
Kf**



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

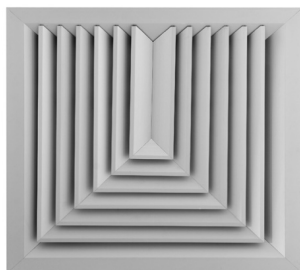
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN3 525x525 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

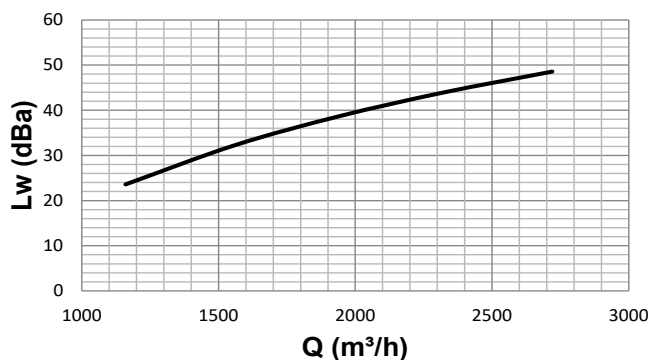


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 525

KN3
SERIES

KN3 525x525 Sound power



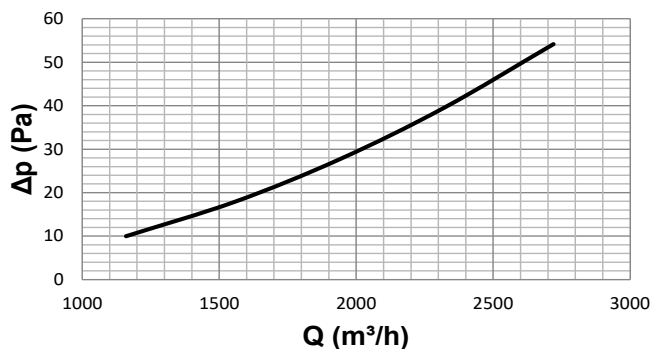
Data measured in reverberation room in accordance with international standards:

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.*

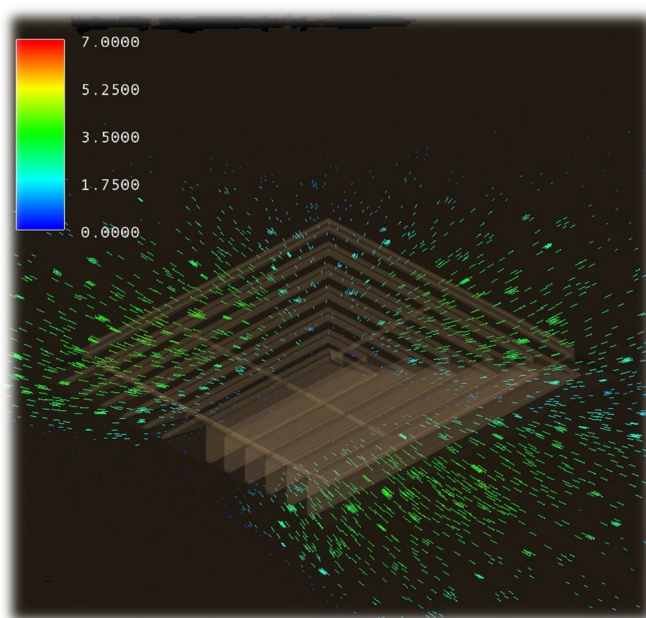
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

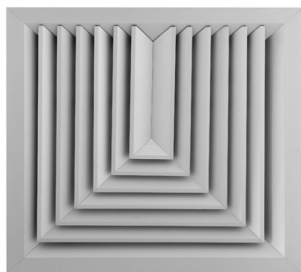
KN3 525x525 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



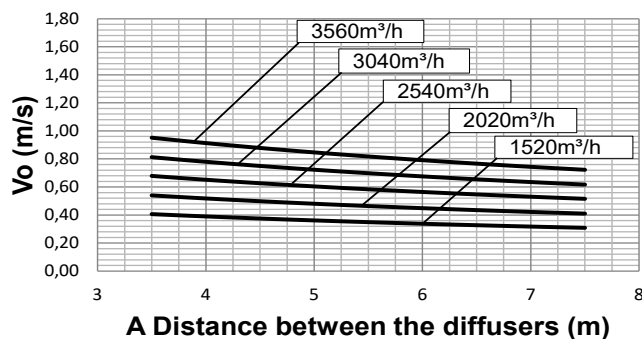


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 600

KN3
SERIES

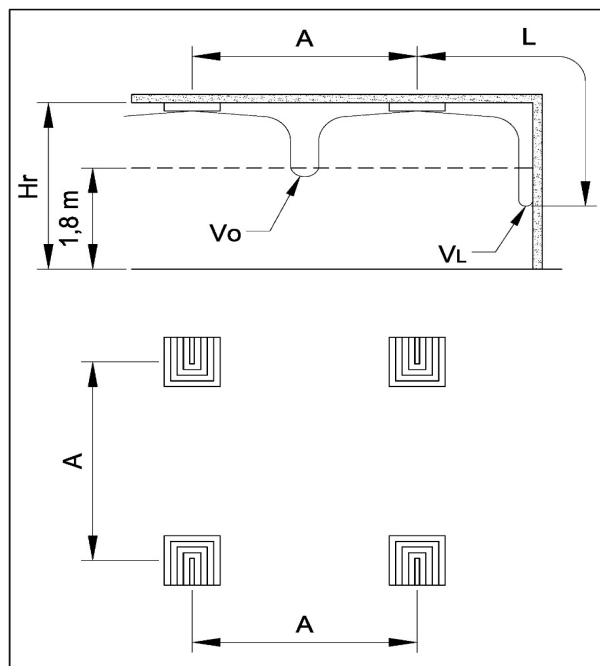
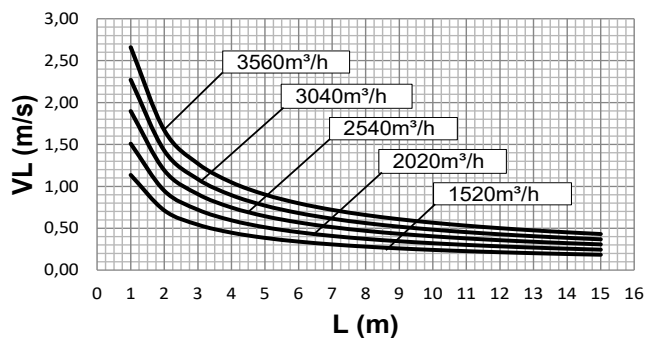
KN3 600x600 Vo for Hr=4m



**KN3 600x600 Correction factor
Kf**



KN3 600x600 Throw

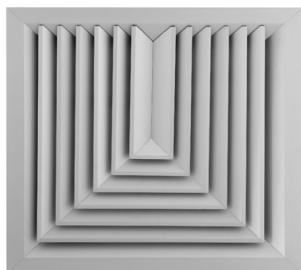


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

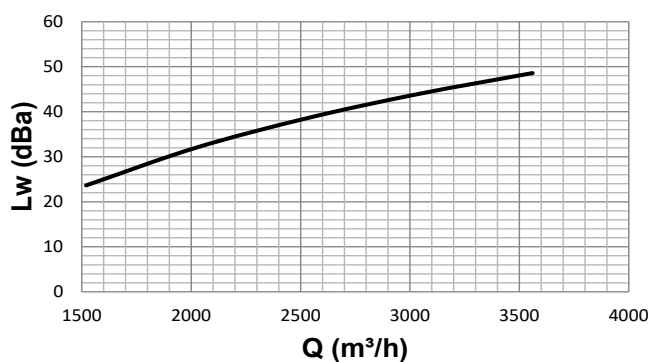


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN3 600

KN3
SERIES

KN3 600x600 Sound power



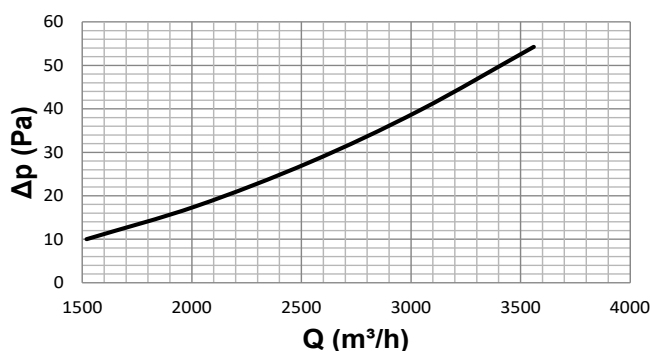
Data measured in reverberation room in accordance with international standards:

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.*

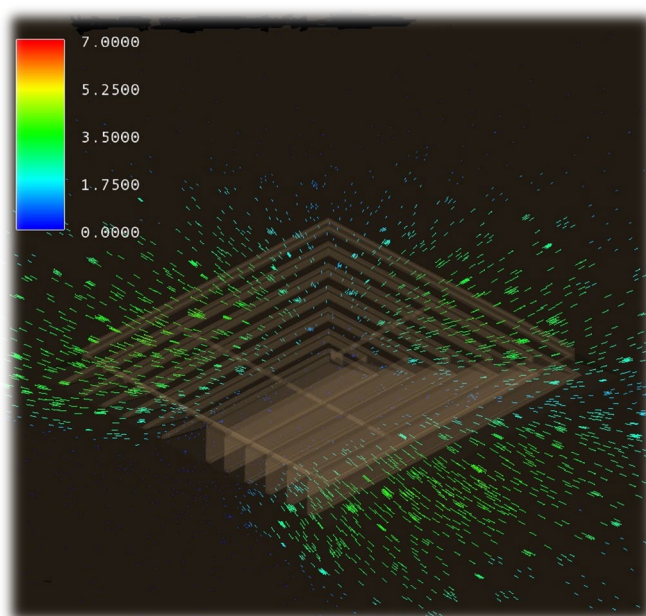
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

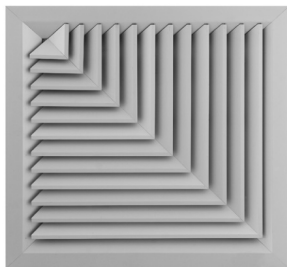
KN3 600x600 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



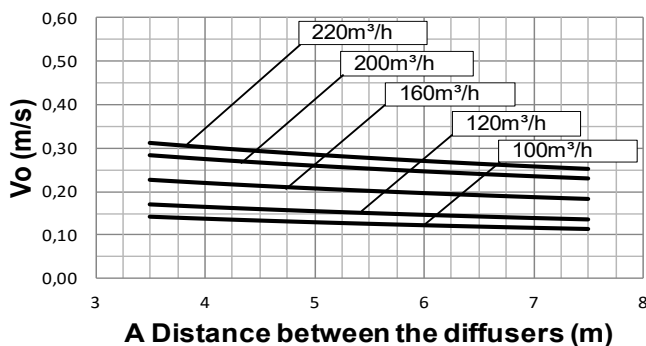


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 150

KN2A
SERIES

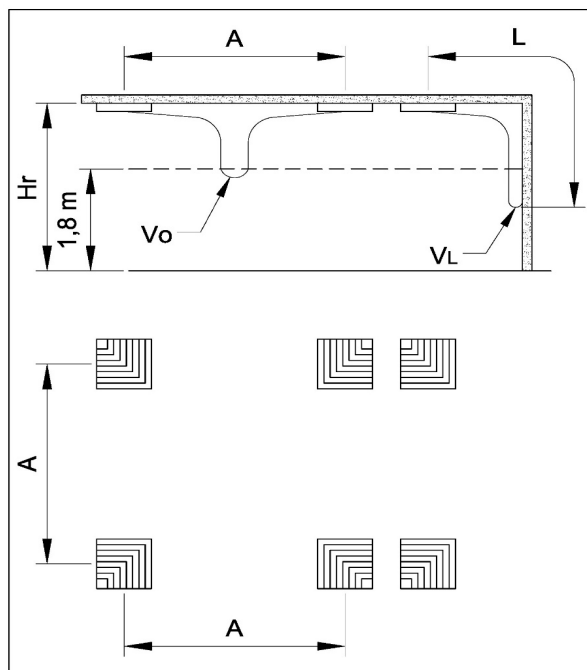
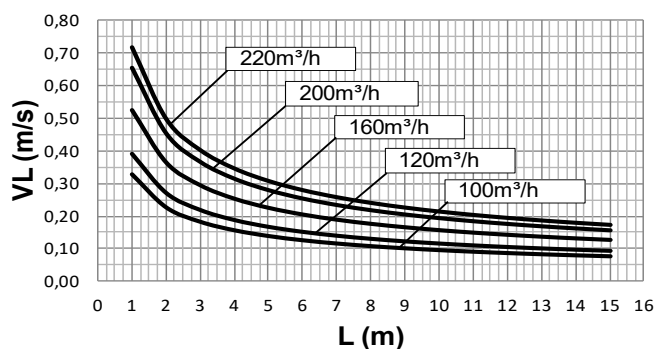
KN2A 150x150 Vo for Hr=4m



KN2A 150x150 Correction factor Kf



KN2A 150x150 Throw

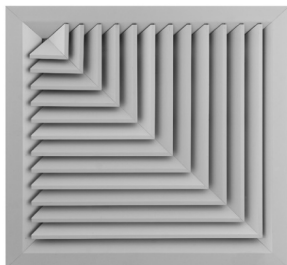


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream

For Hr different from 4m:

$$V_o(h) = V_o \times K_f$$

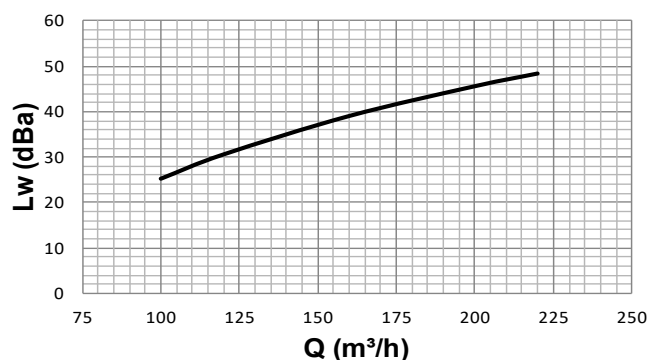


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 150

KN2A SERIES

KN2A 150x150 Sound power



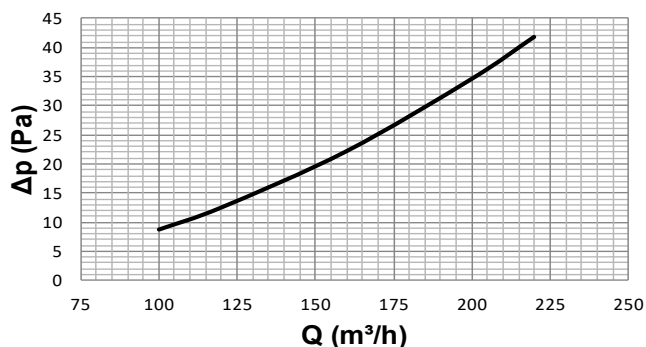
Data measured in reverberation room in accordance with international standards:

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.*

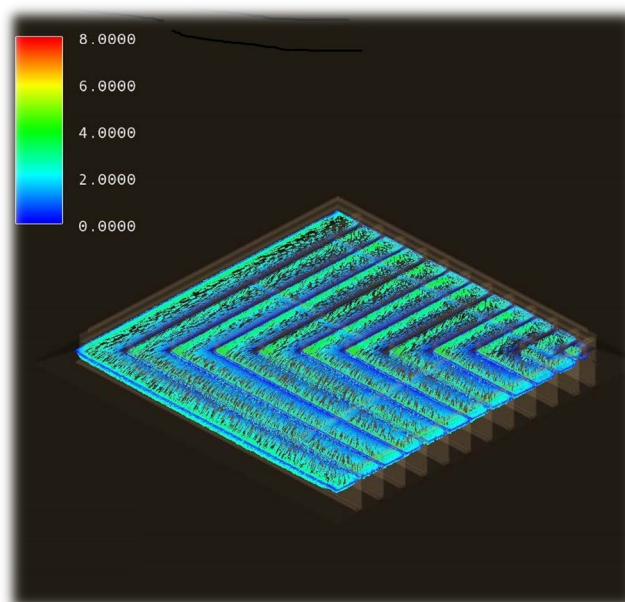
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

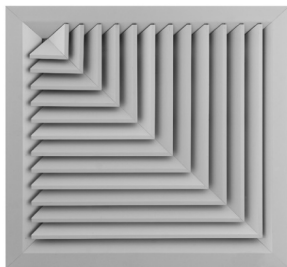
KN2A 150x150 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



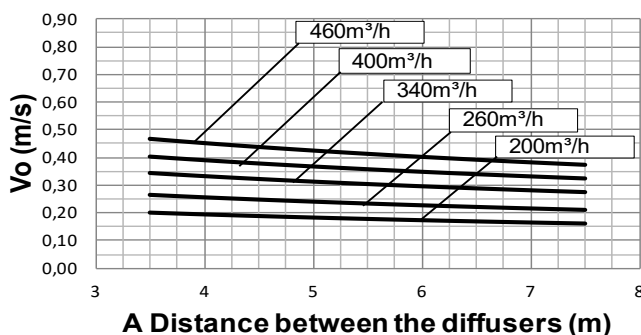


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 225

KN2A
SERIES

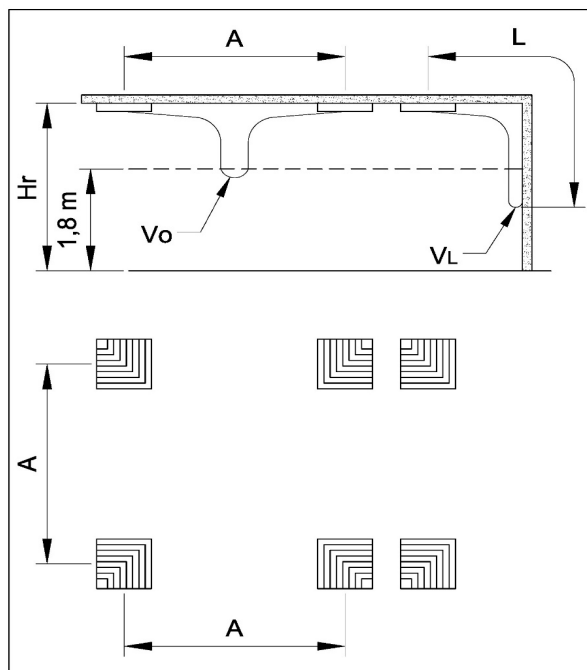
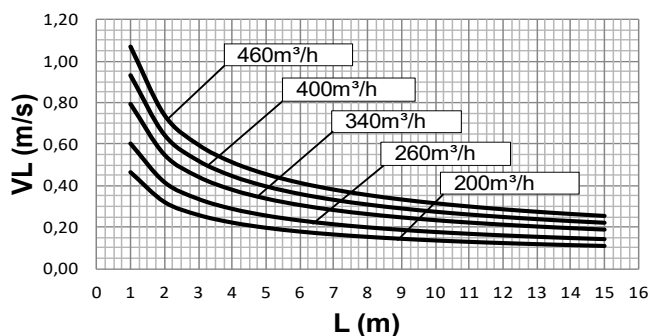
KN2A 225x225 Vo for Hr=4m



KN2A 225x225 Correction factor Kf



KN2A 225x225 Throw

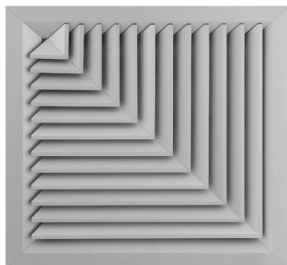


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

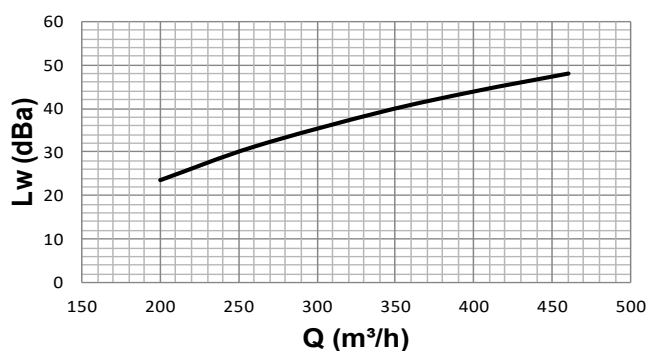


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 225

KN2A
SERIES

KN2A 225x225 Sound power



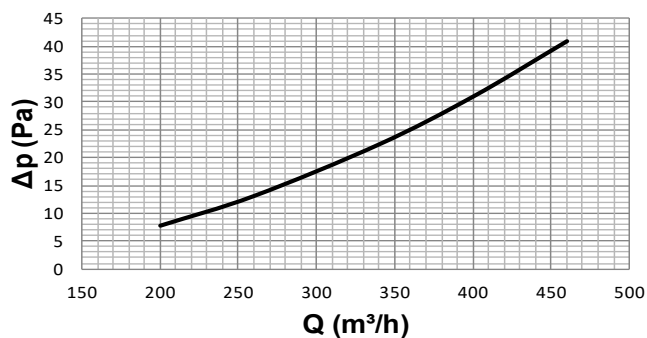
Data measured in reverberation room in accordance with international standards:

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.*

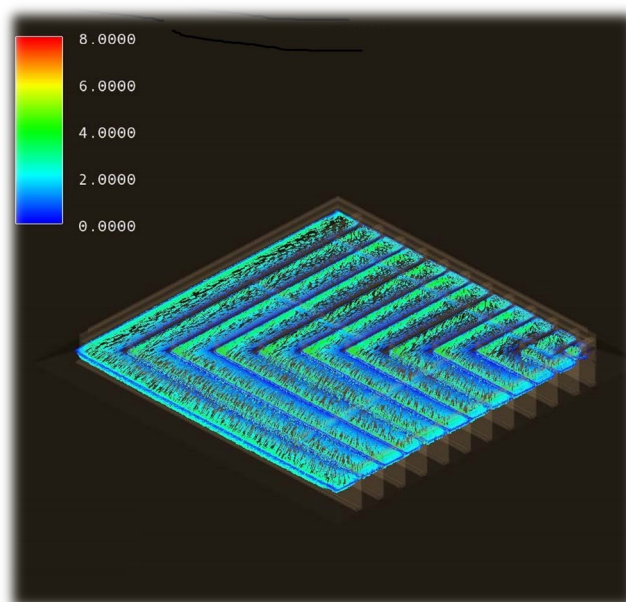
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

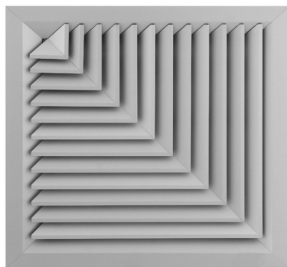
KN2A 225x225 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



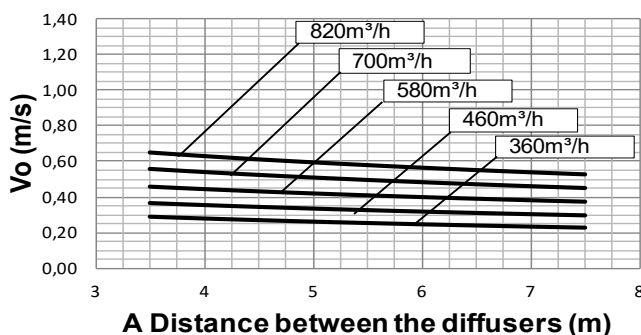


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 300

KN2A
SERIES

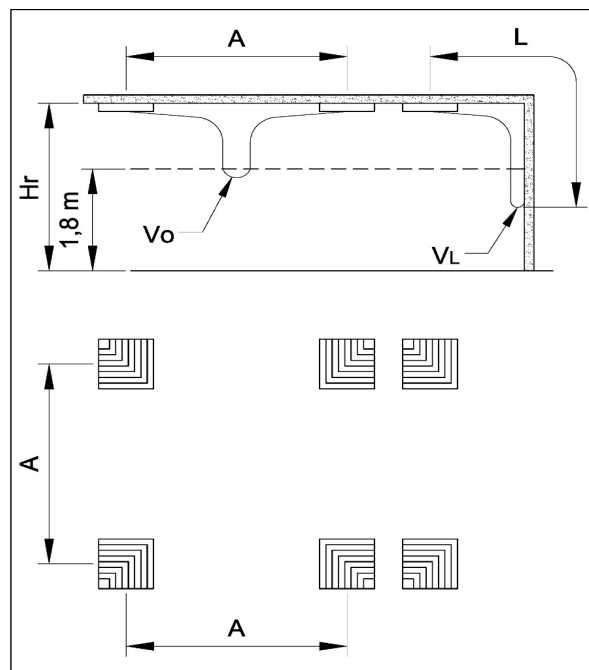
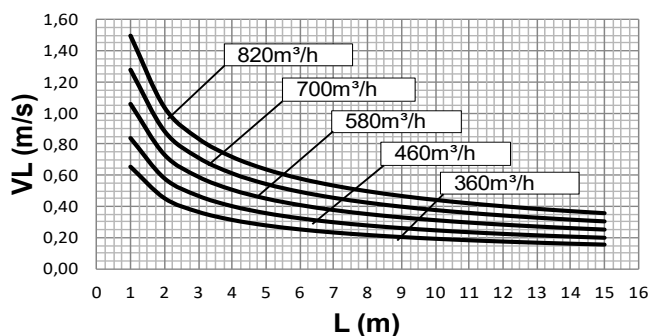
KN2A 300x300 Vo for Hr=4m



KN2A 300x300 Correction factor Kf



KN2A 300x300 Throw

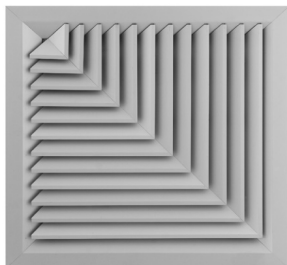


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

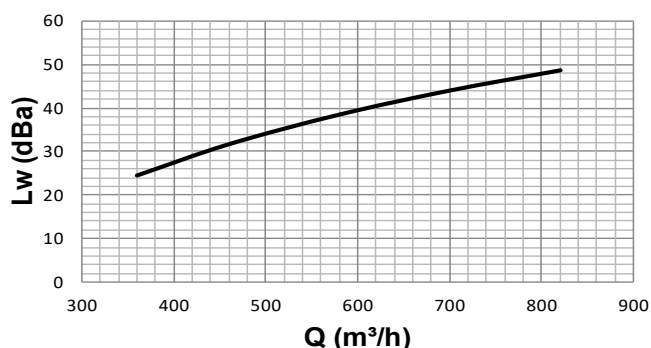


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 300

KN2A
SERIES

KN2A 300x300 Sound power



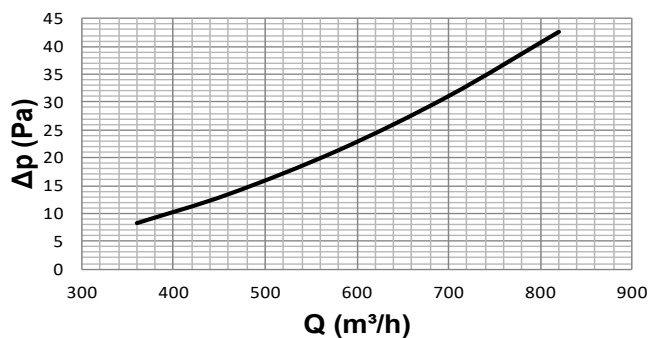
Data measured in reverberation room in accordance with international standards:

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.*

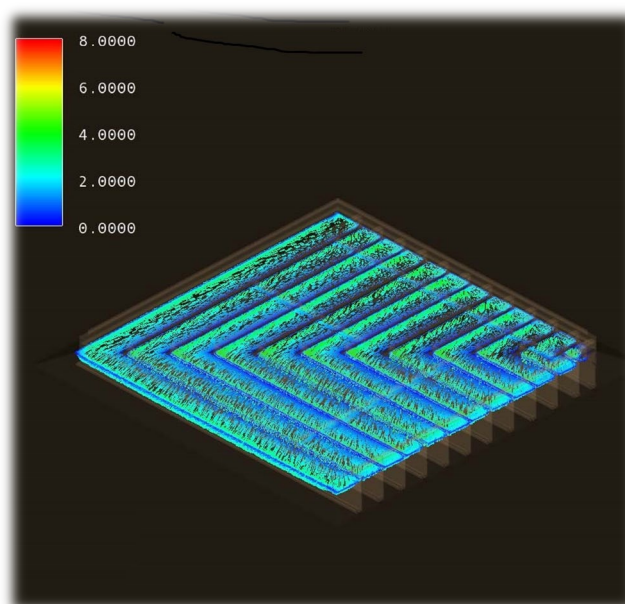
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

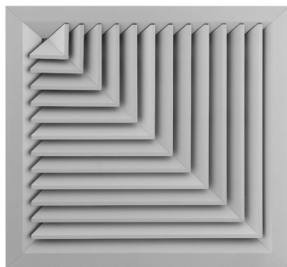
KN2A 300x300 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

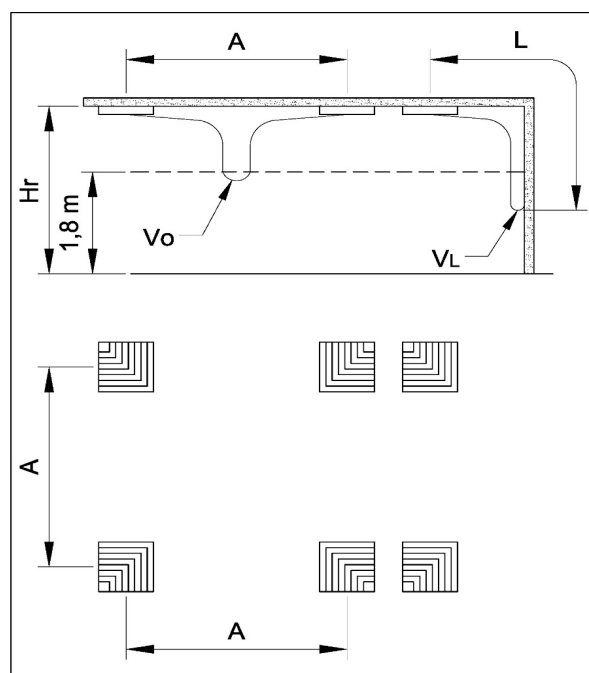
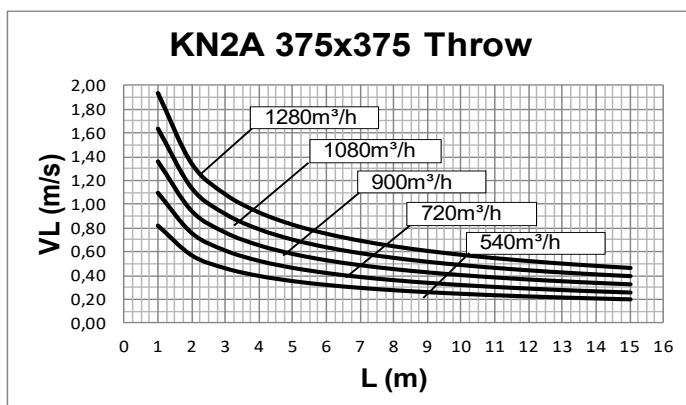
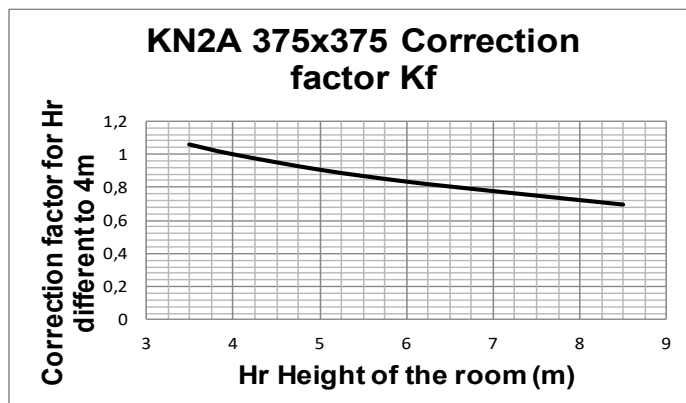
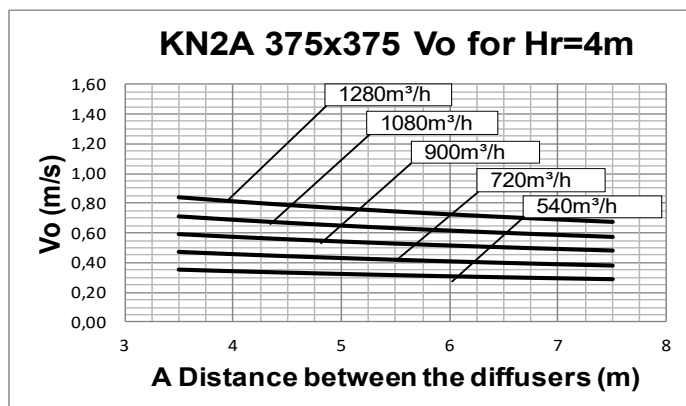




MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 375

KN2A
SERIES

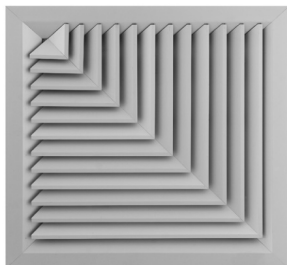


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

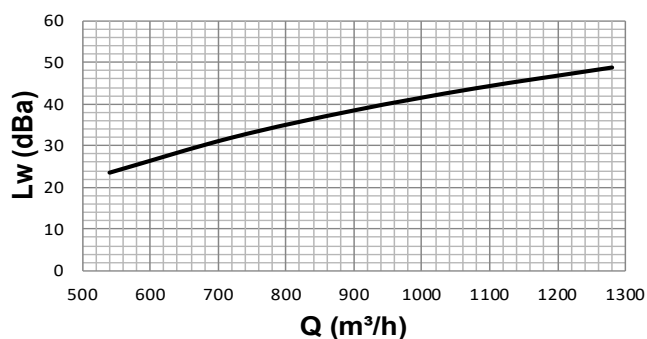


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 375

KN2A
SERIES

KN2A 375x375 Sound power



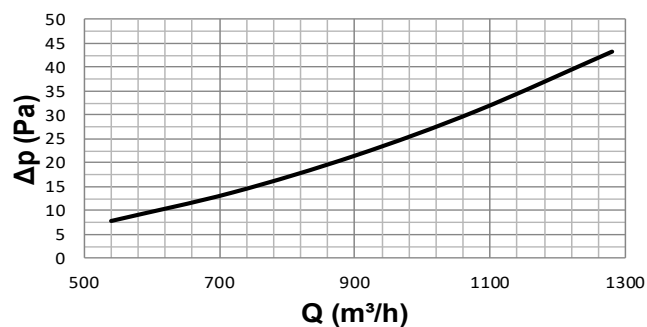
Data measured in reverberation room in accordance with international standards:

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.*

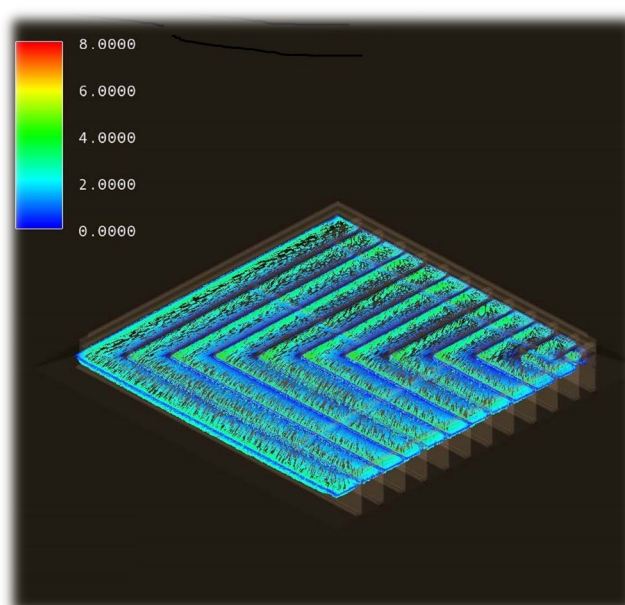
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

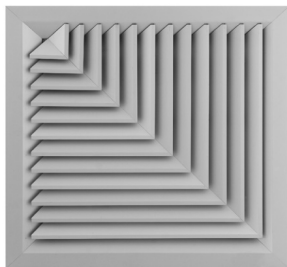
KN2A 375x375 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



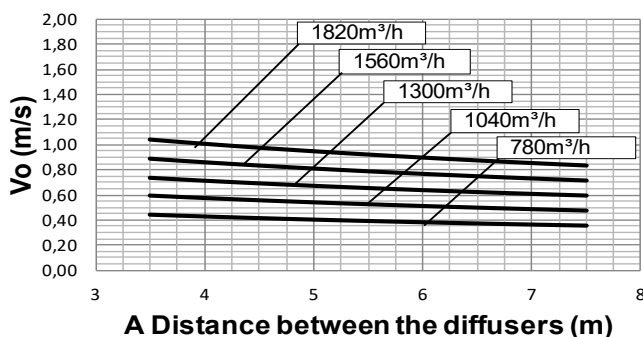


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A
SERIES

PERFORMANCE KN2A 450
(594x594 external frame)

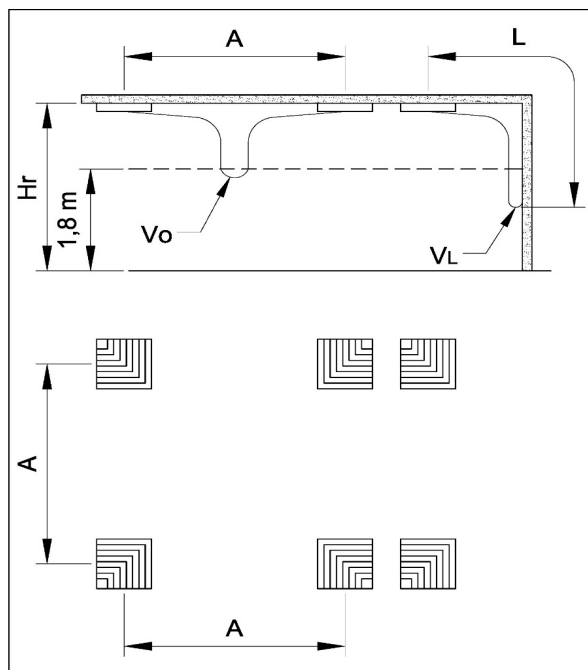
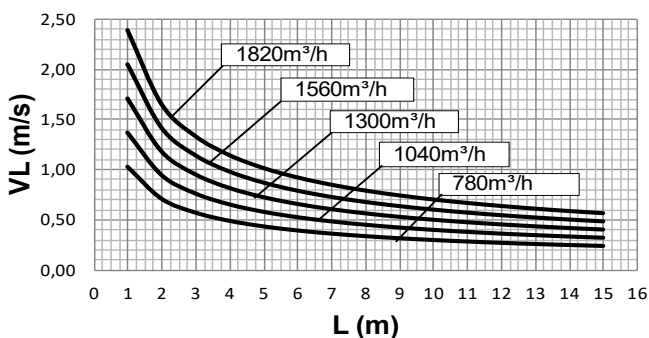
KN2A 450x450 Vo for Hr=4m



**KN2A 450x450 Correction
factor Kf**



KN2A 450x450 Throw

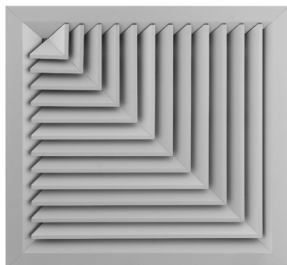


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

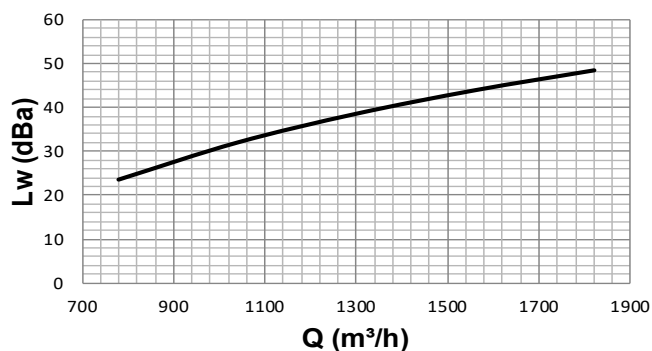


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A
SERIES

PERFORMANCE KN2A 450
(594x594 external frame)

KN2A 450x450 Sound power



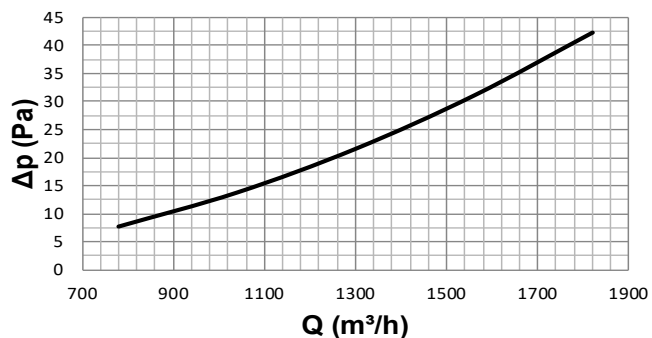
Data measured in reverberation room in accordance with international standards:

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.*

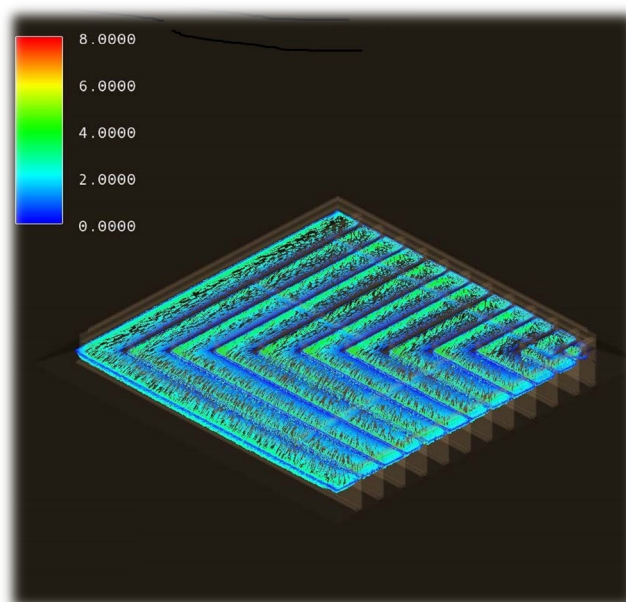
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

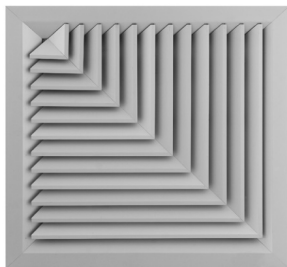
KN2A 450x450 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



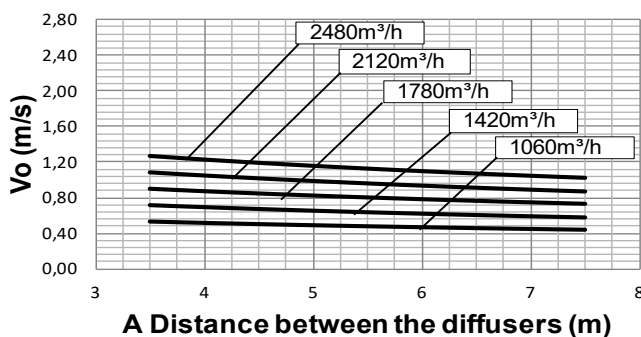


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 525

KN2A
SERIES

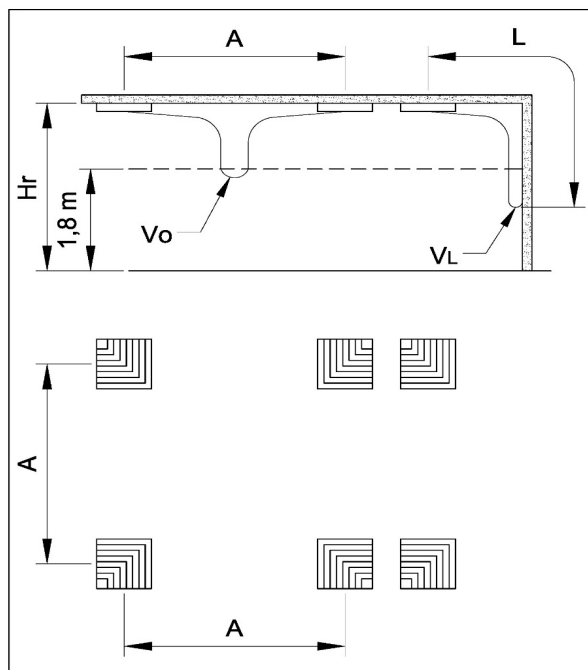
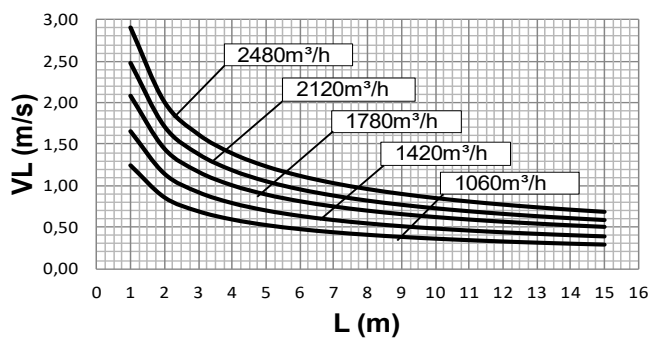
KN2A 525x525 Vo for Hr=4m



KN2A 525x525 Correction factor Kf



KN2A 525x525 Throw

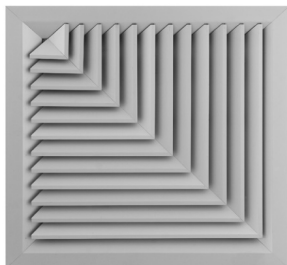


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

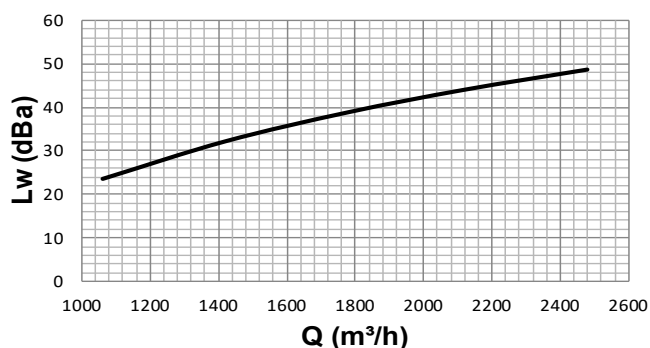


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 525

KN2A
SERIES

KN2A 525x525 Sound power



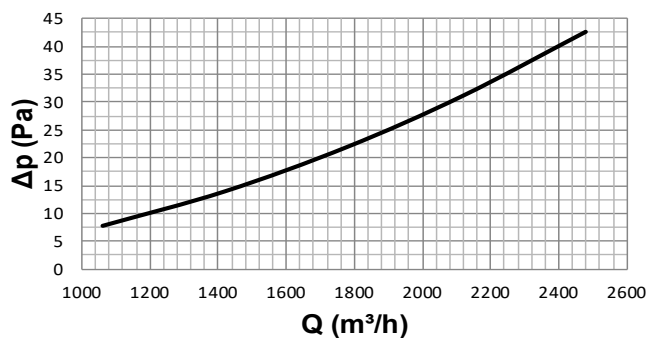
Data measured in reverberation room in accordance with international standards:

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.*

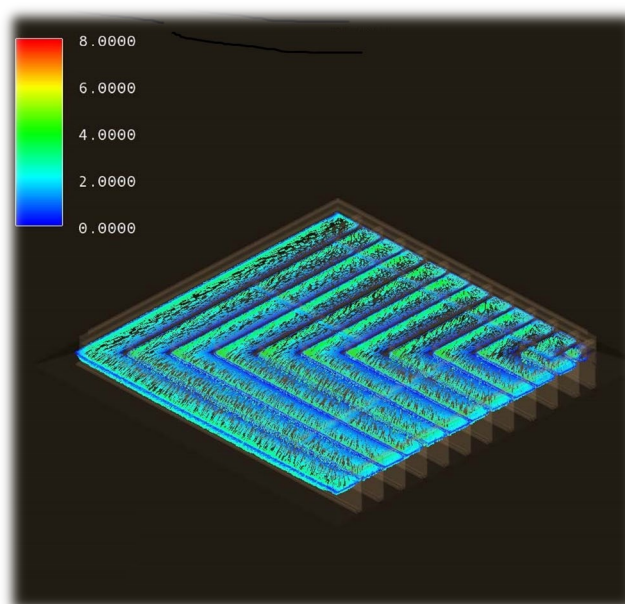
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

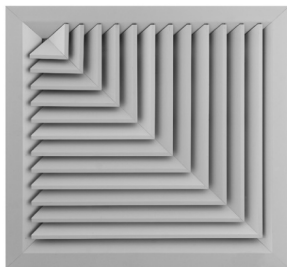
KN2A 525x525 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

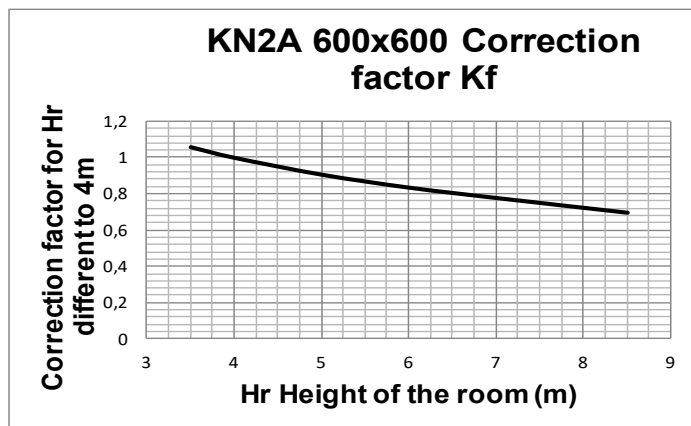
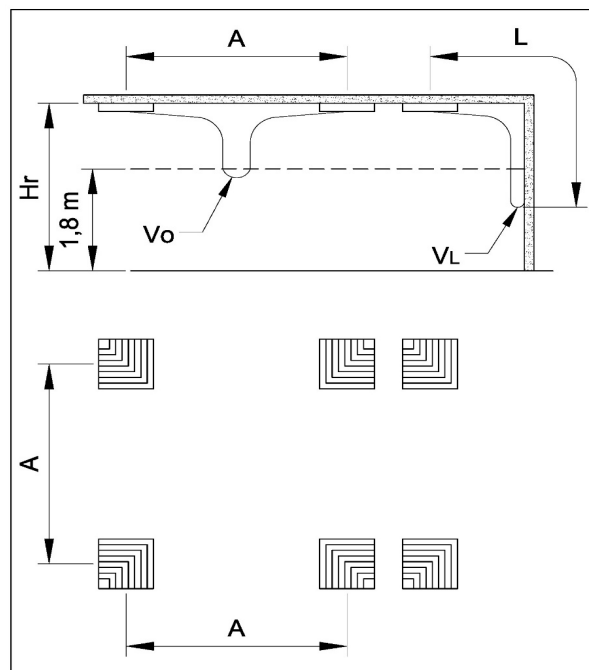
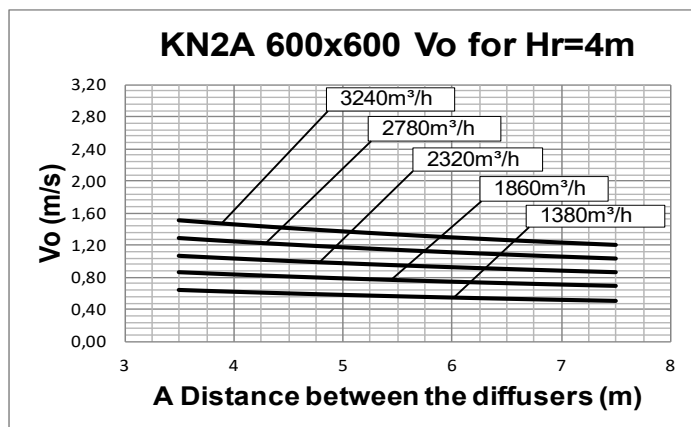




MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

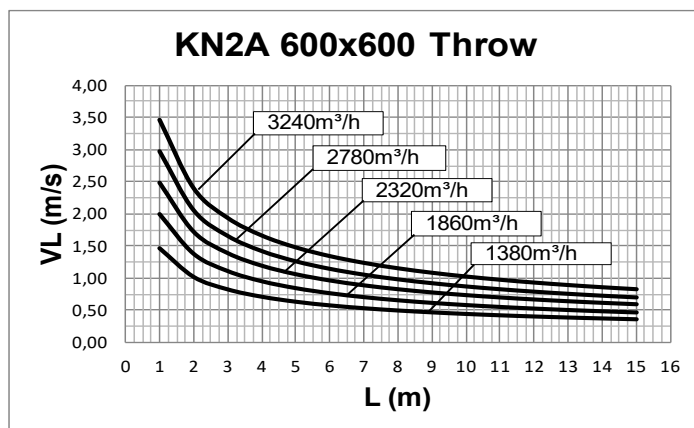
PERFORMANCE KN2A 600

KN2A
SERIES

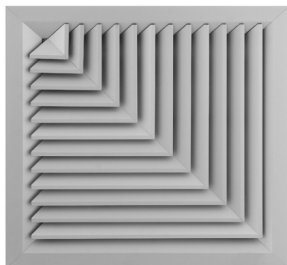


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream



For H_r different from 4m:
 $V_o(h) = V_o \times K_f$

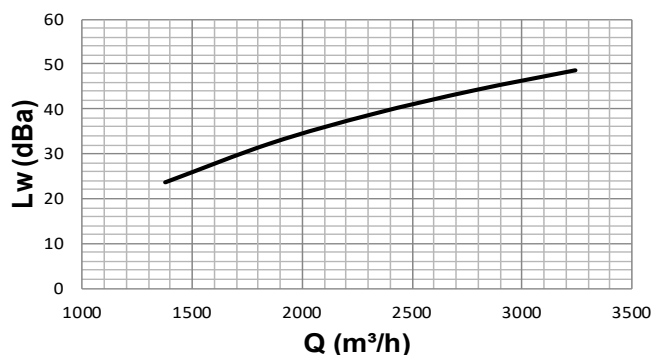


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN2A 600

KN2A
SERIES

KN2A 600x600 Sound power



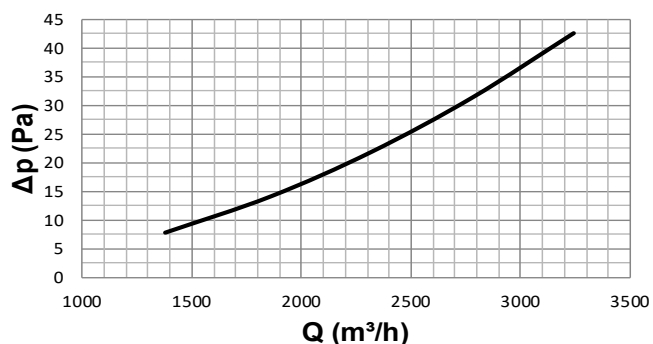
Data measured in reverberation room in accordance with international standards:

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.*

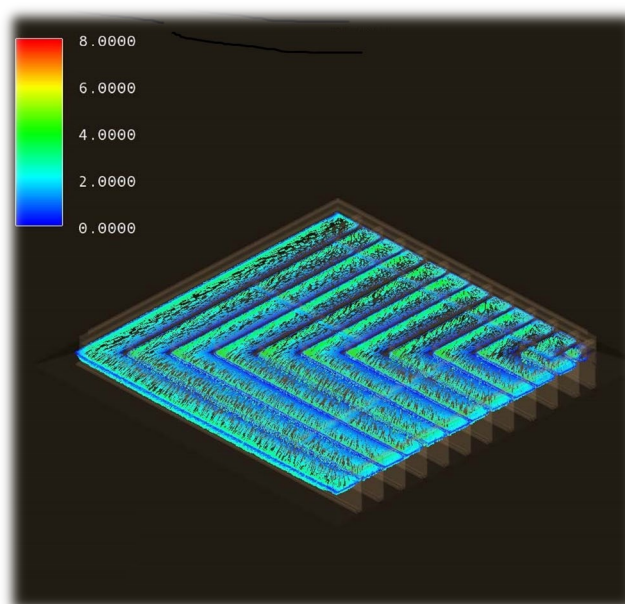
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

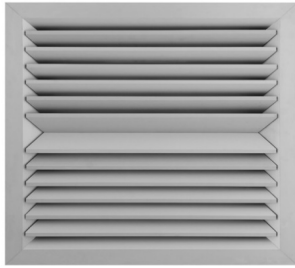
KN2A 600x600 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

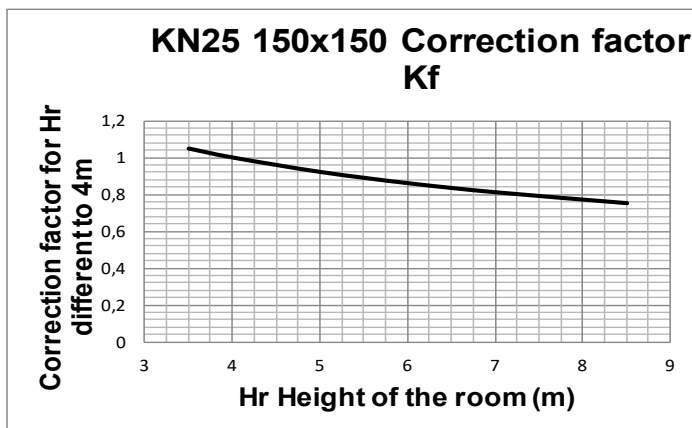
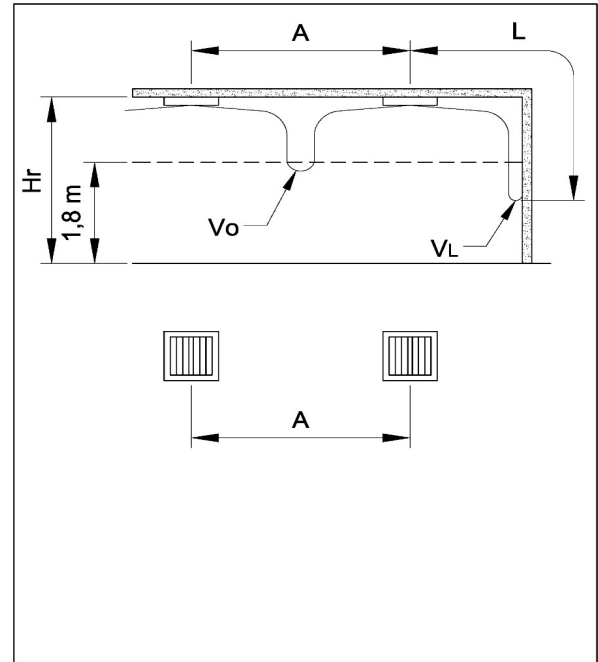
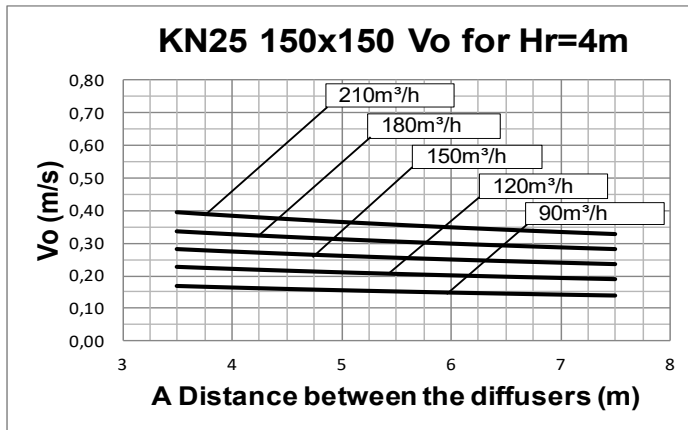




MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

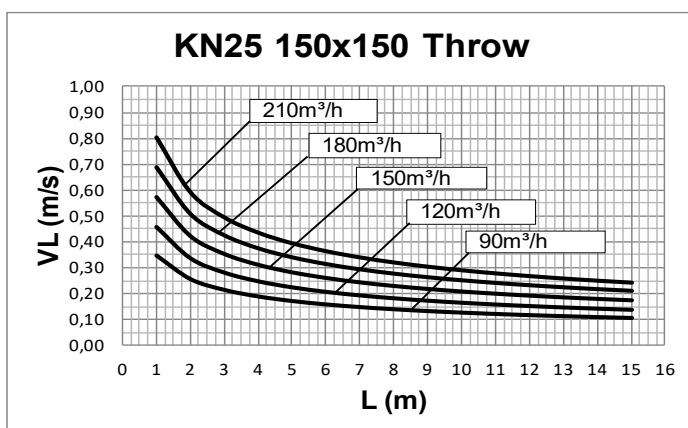
PERFORMANCE KN25 150

KN25
SERIES

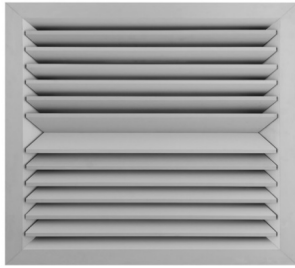


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream



For H_r different from 4m:
 $V_o(h) = V_o \times K_f$

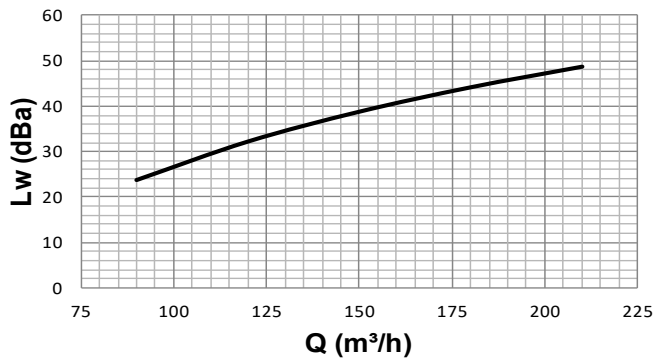


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 150

KN25
SERIES

KN25 150x150 Sound power



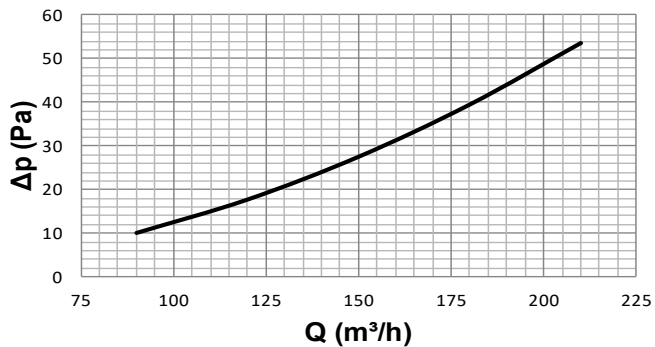
Data measured in reverberation room in accordance with international standards:

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.*

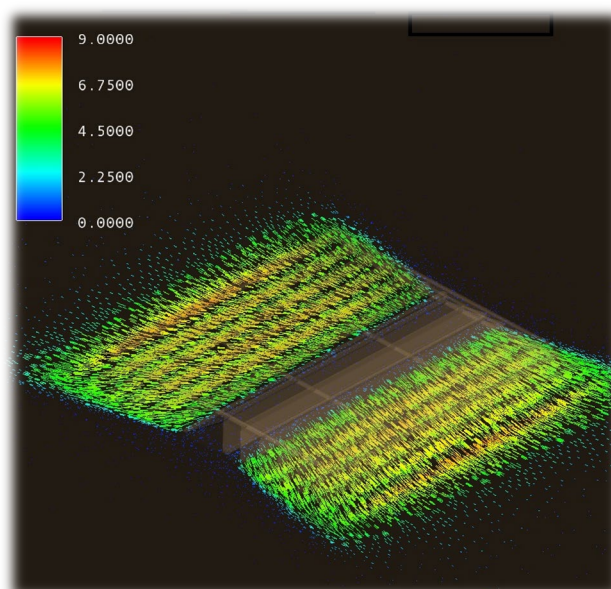
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

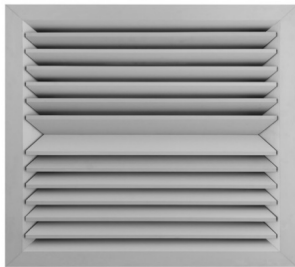
KN25 150x150 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



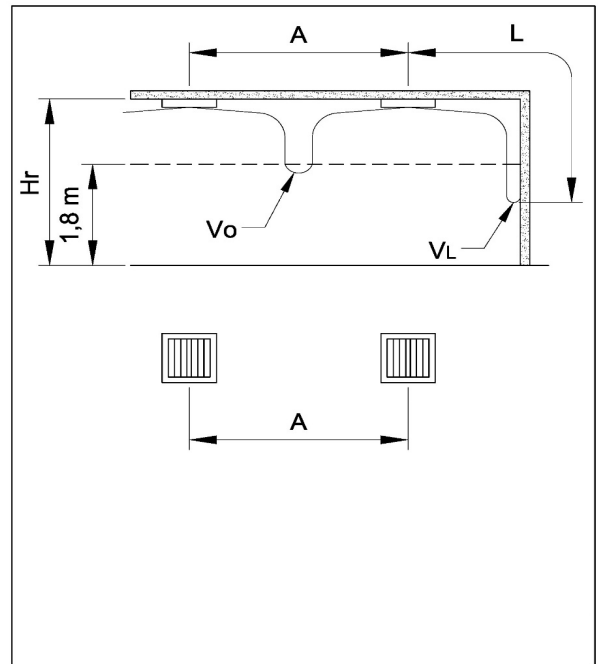
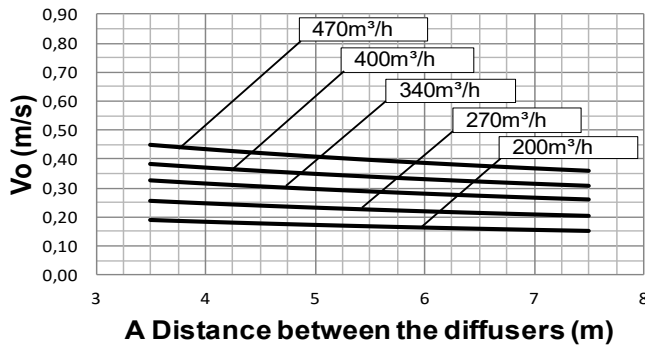


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 225

KN25
SERIES

KN25 225x225 V_o for $H_r=4m$



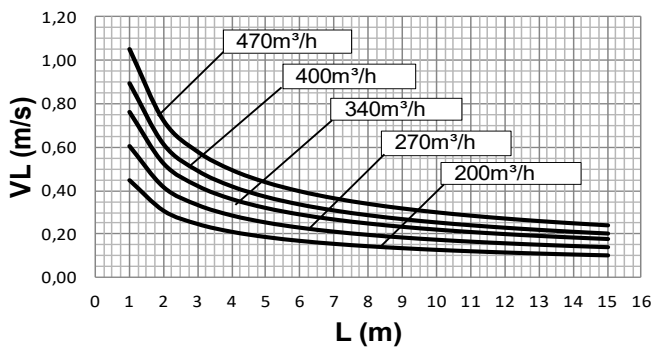
**KN25 225x225 Correction factor
 K_f**



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

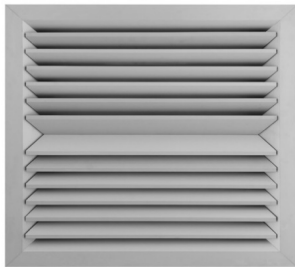
A (m) distance between the diffusers
 V_o (m/s) speed at the limit of the occupied zone
 L (m) horizontal distance in metres from the centre of the diffuser
 V_L (m/s) maximum speed in the air stream

KN25 225x225 Throw



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

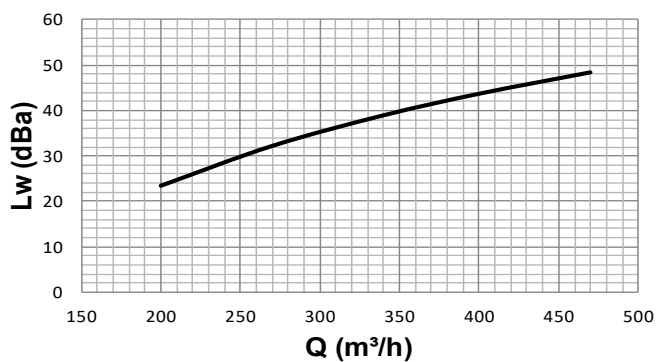


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 150

KN25
SERIES

KN25 225x225 Sound power



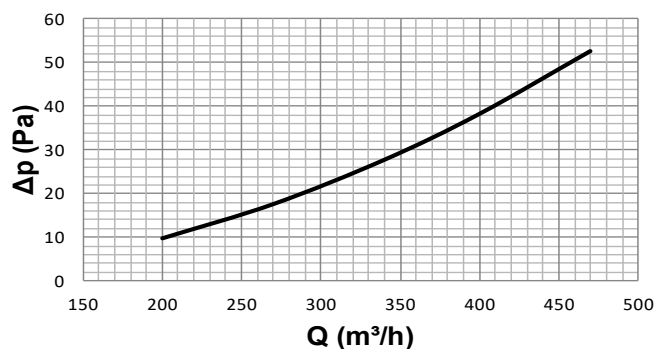
Data measured in reverberation room in accordance with international standards:

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.*

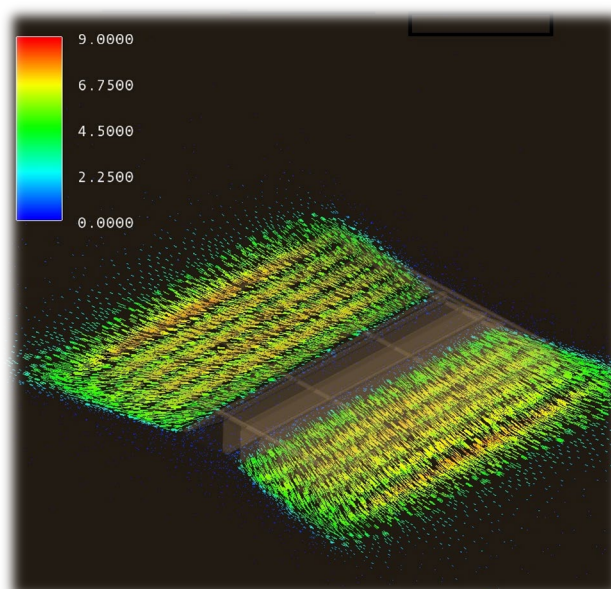
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

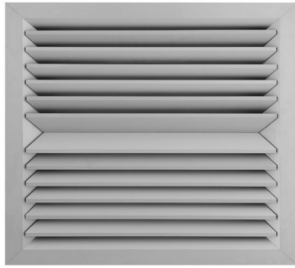
KN25 225x225 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

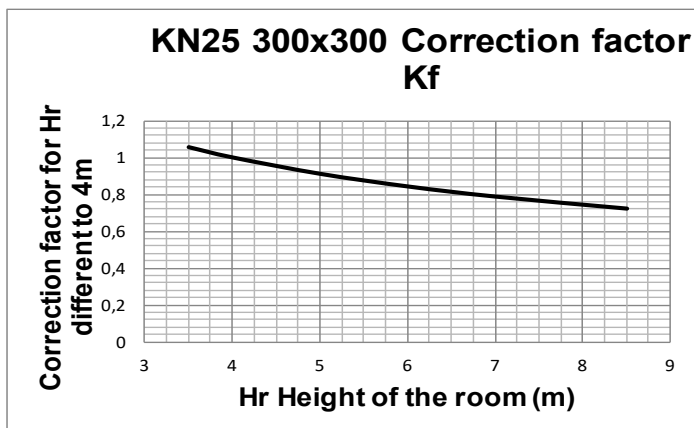
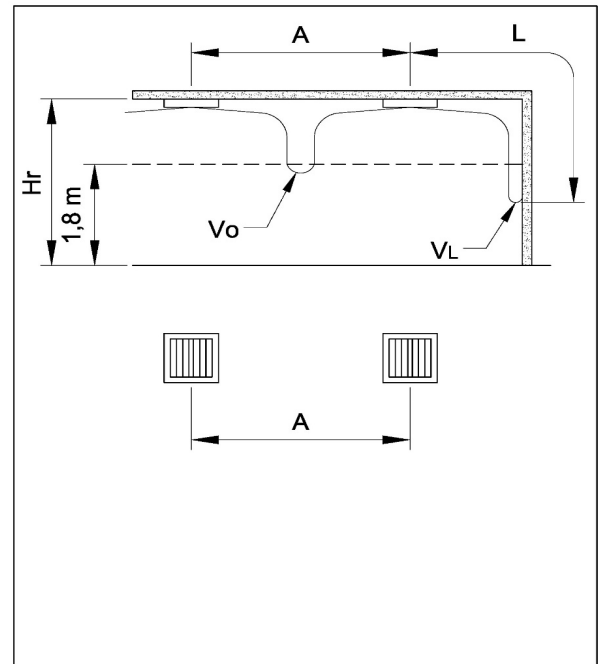
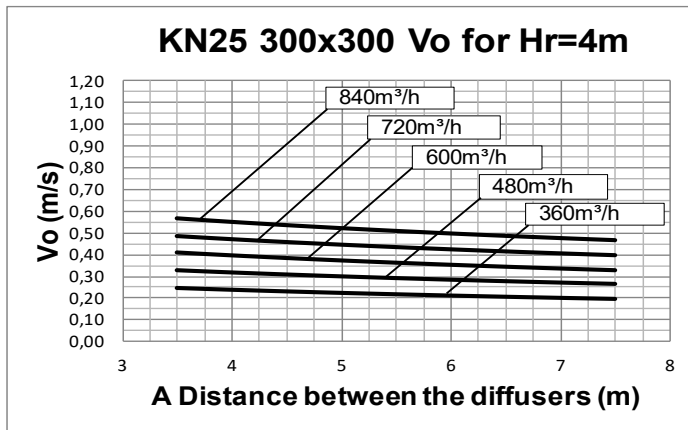




MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 300

KN25
SERIES



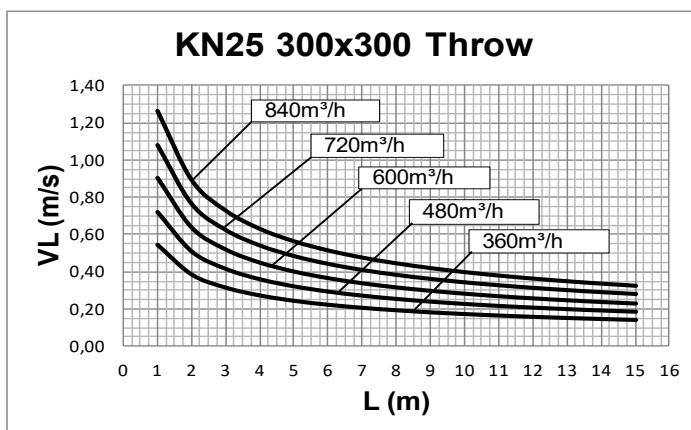
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

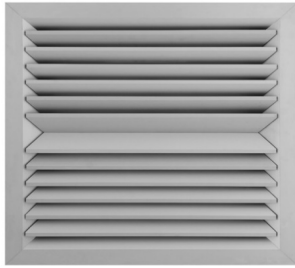
L (m) horizontal distance in metres from the centre of the diffuser

V_L (m/s) maximum speed in the air stream



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

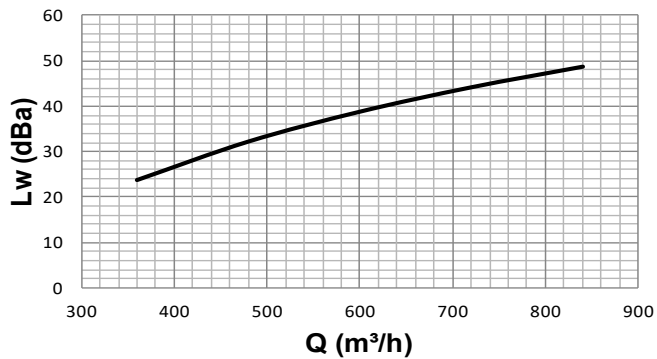


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 300

KN25
SERIES

KN25 300x300 Sound power



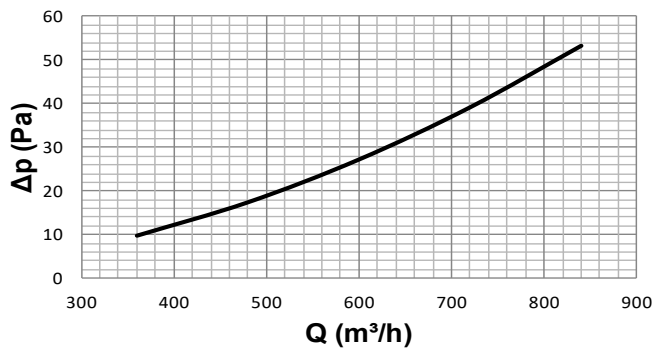
Data measured in reverberation room in accordance with international standards:

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.*

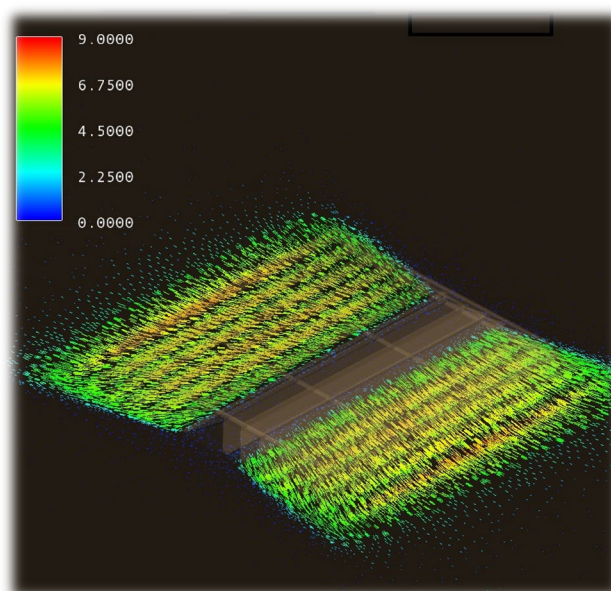
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

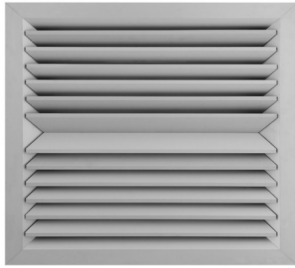
KN25 300x300 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



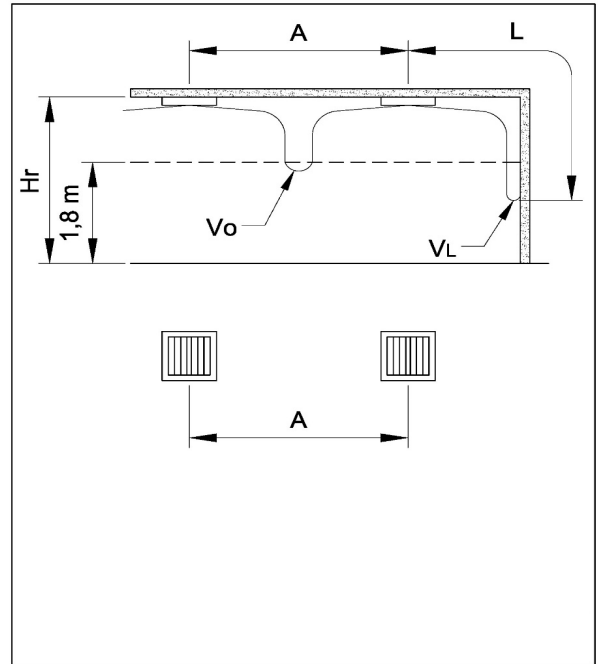
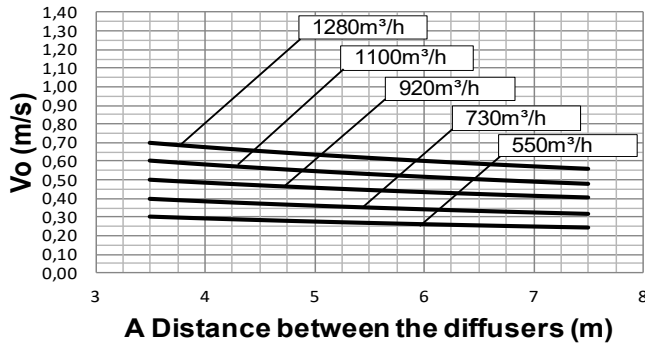


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 375

KN25
SERIES

KN25 375x375 Vo for Hr=4m



**KN25 375x375 Correction factor
Kf**



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

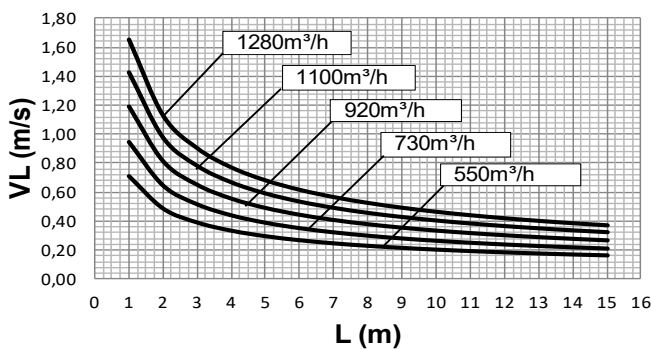
A (m) distance between the diffusers

Vo (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

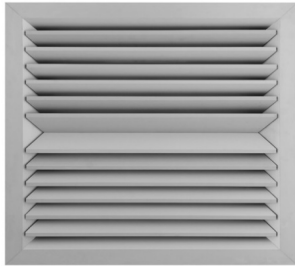
VL (m/s) maximum speed in the air stream

KN25 375x375 Throw



For Hr different from 4m:

Vo (h) = Vo x Kf

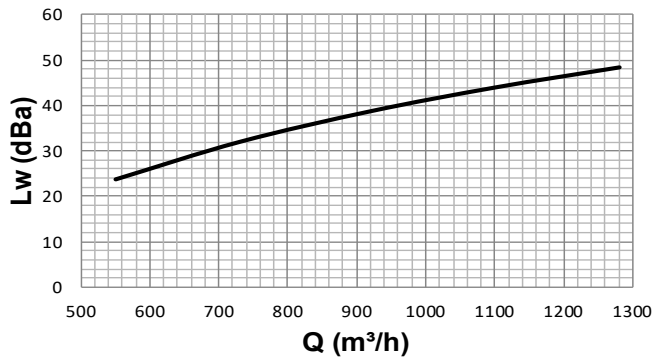


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 375

KN25
SERIES

KN25 375x375 Sound power



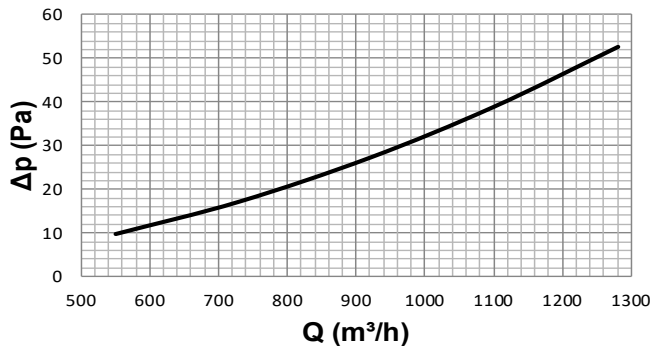
Data measured in reverberation room in accordance with international standards:

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.*

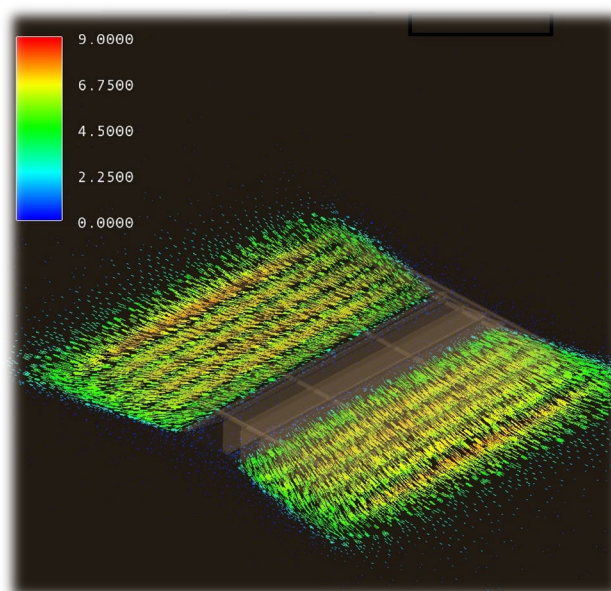
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

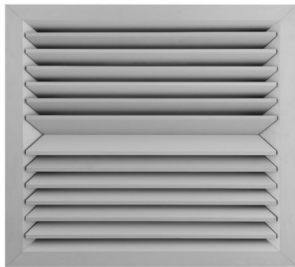
KN25 375x375 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



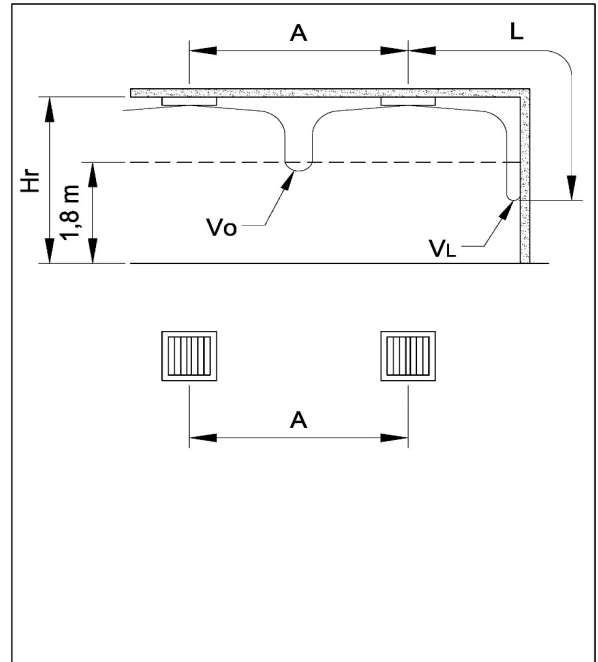
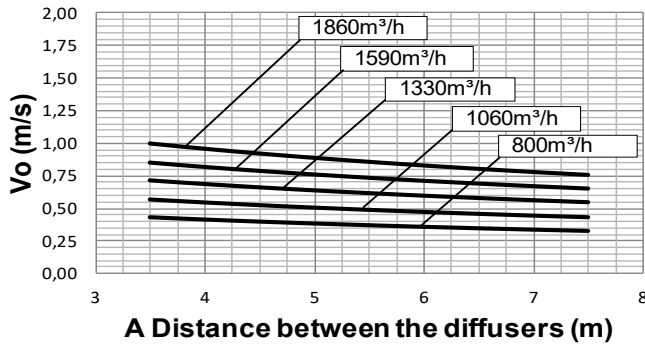


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 450
(594x594 external frame)

KN25
SERIES

KN25 450x450 V_o for $H_r=4m$



KN25 450x450 Correction factor K_f



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

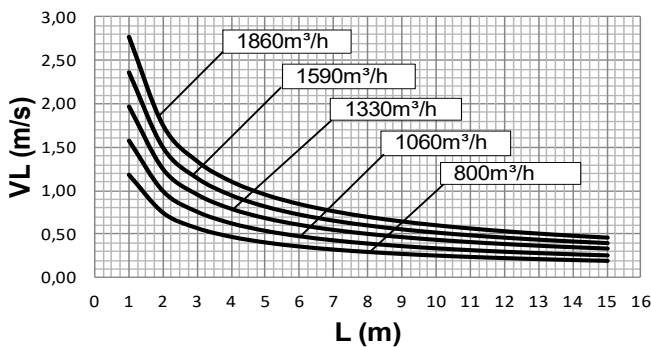
A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

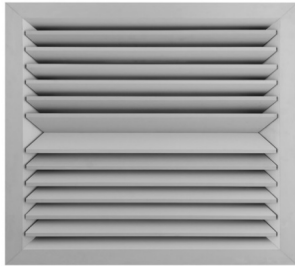
V_L (m/s) maximum speed in the air stream

KN25 450x450 Throw



For Hr different from 4m:

$$V_o(h) = V_o \times K_f$$

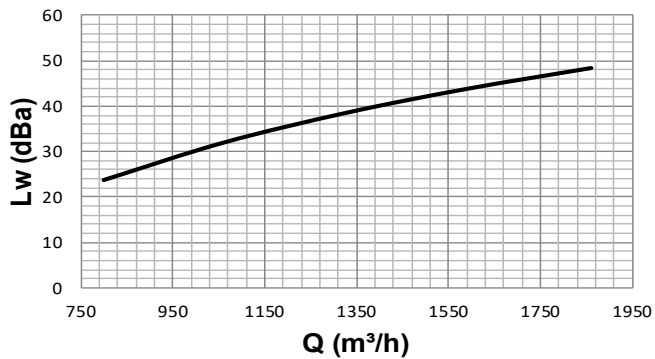


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25
SERIES

PERFORMANCE KN25 450
(594x594 external frame)

KN25 450x450 Sound power



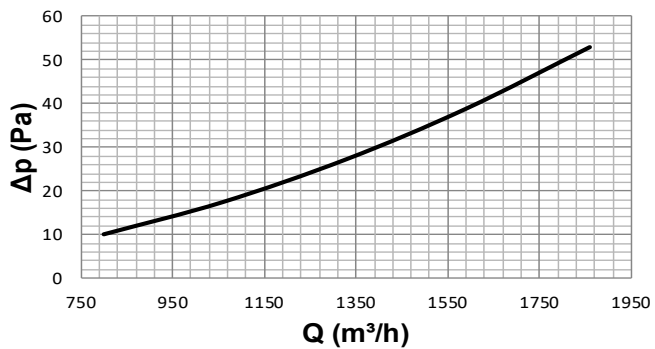
Data measured in reverberation room in accordance with international standards:

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.*

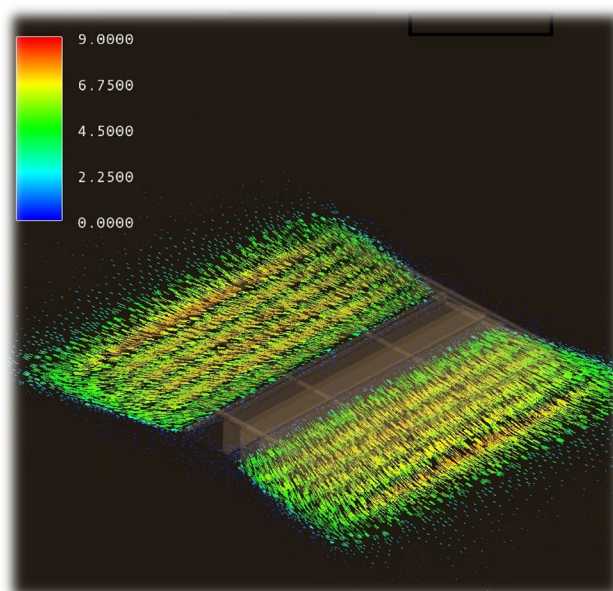
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

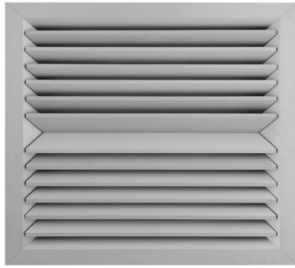
KN25 450x450 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



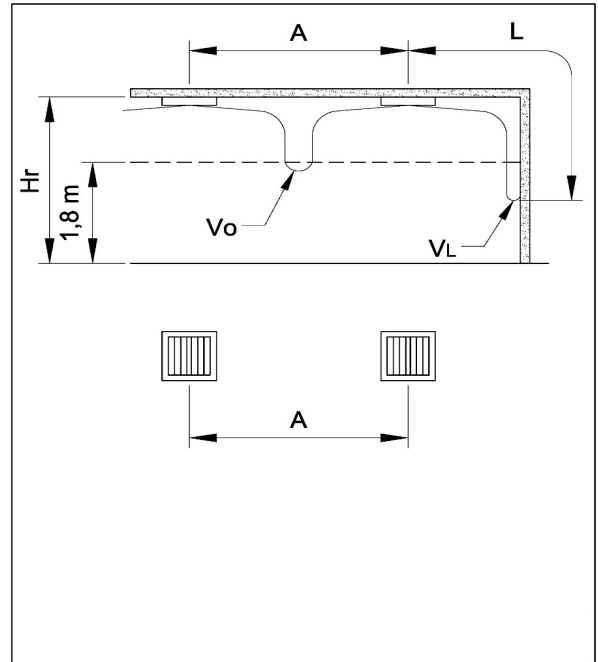
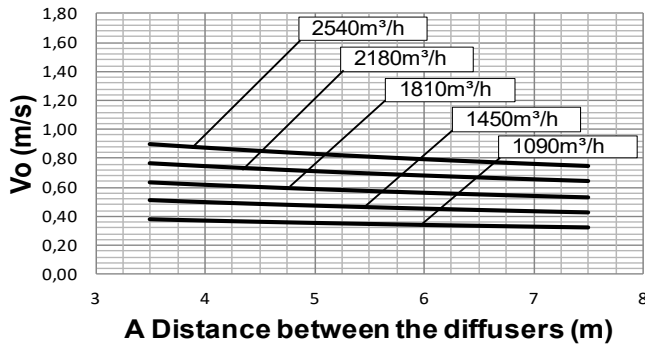


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 525

KN25
SERIES

KN25 525x525 V_o for $H_r=4m$



**KN25 525x525 Correction factor
 K_f**



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

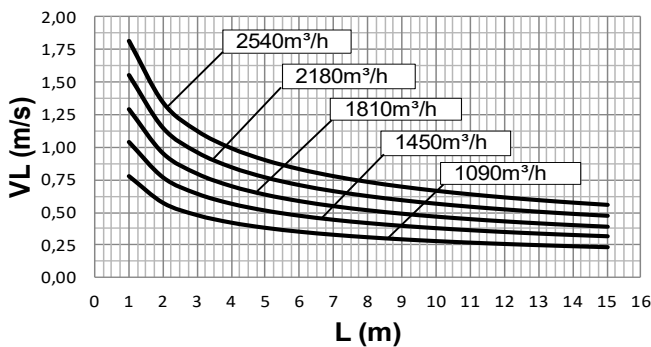
A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

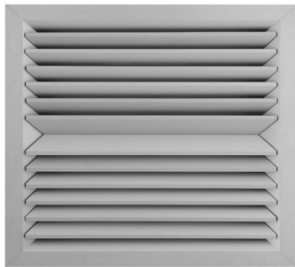
V_L (m/s) maximum speed in the air stream

KN25 525x525 Throw



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

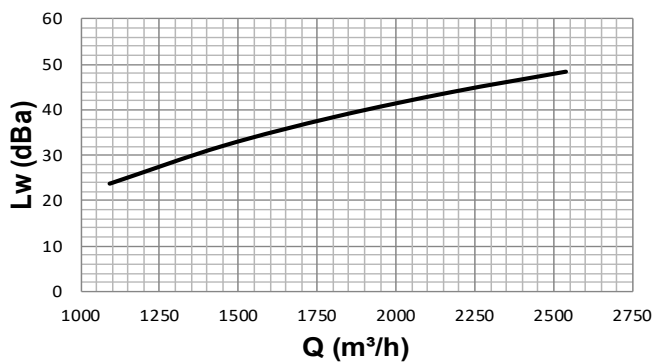


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 525

KN25
SERIES

KN25 525x525 Sound power



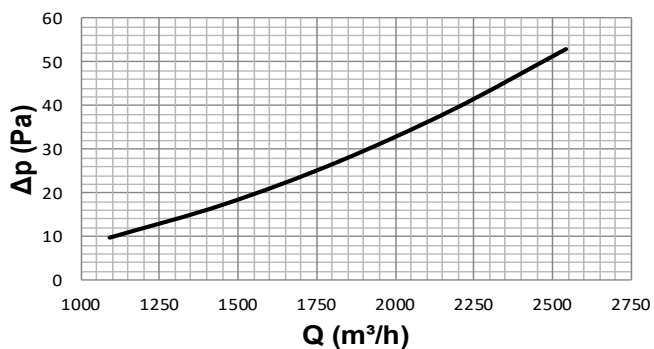
Data measured in reverberation room in accordance with international standards:

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.*

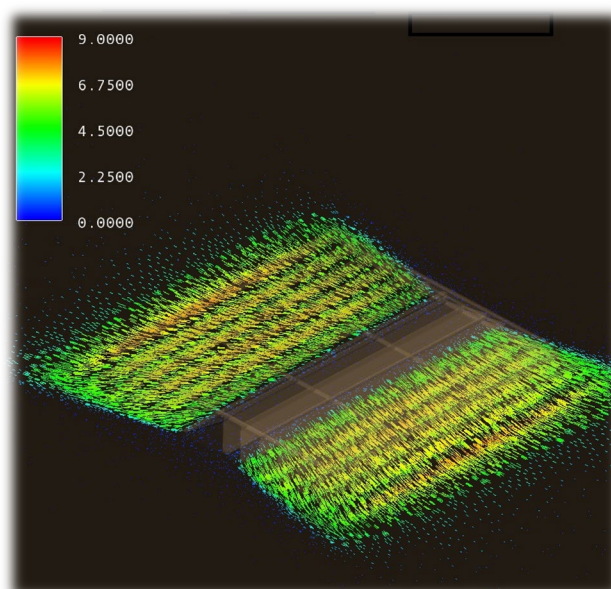
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.

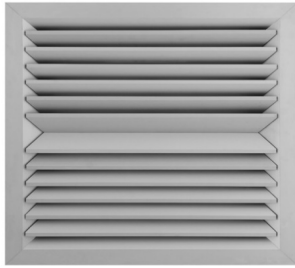
KN25 525x525 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



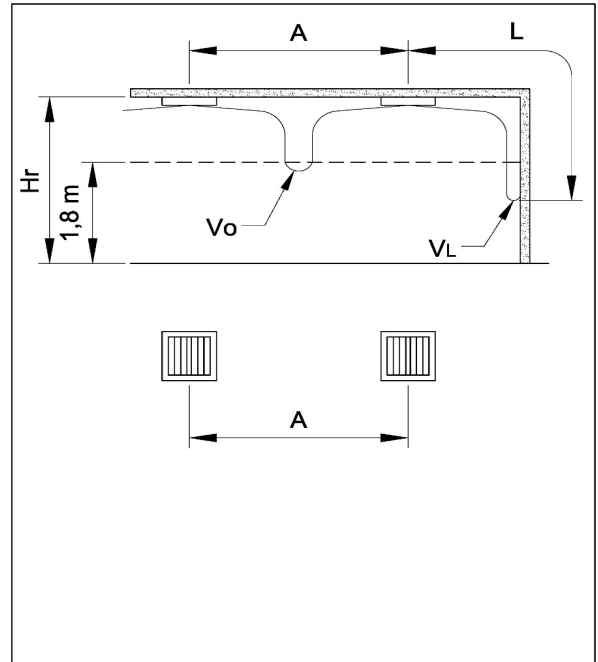
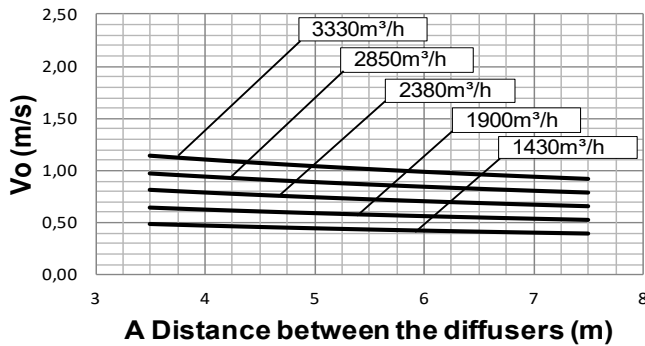


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 600

KN25
SERIES

KN25 600x600 V_o for $H_r=4m$



**KN25 600x600 Correction factor
 K_f**



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

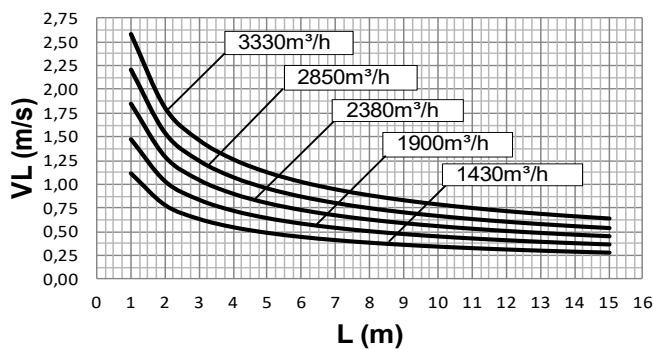
A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

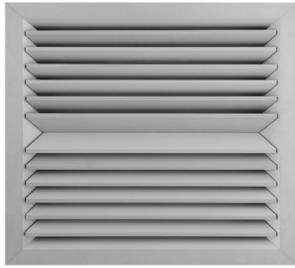
V_L (m/s) maximum speed in the air stream

KN25 600x600 Throw



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

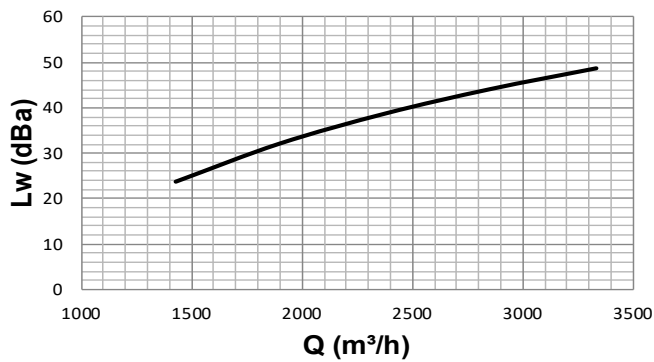


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN25 525

KN25
SERIES

KN25 600x600 Sound power



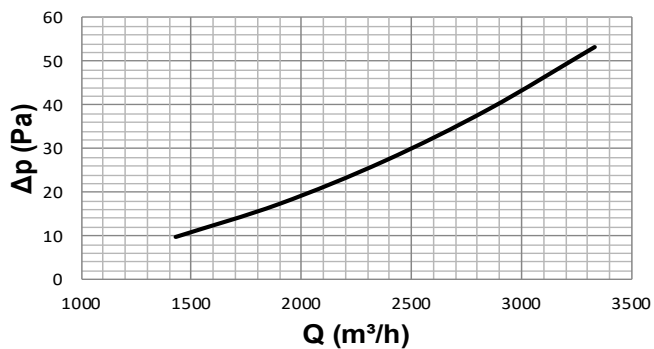
Data measured in reverberation room in accordance with international standards:

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.*

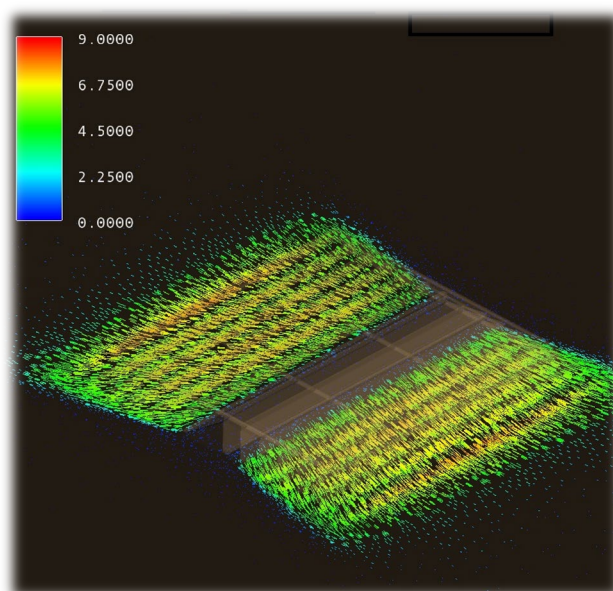
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

KN25 600x600 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



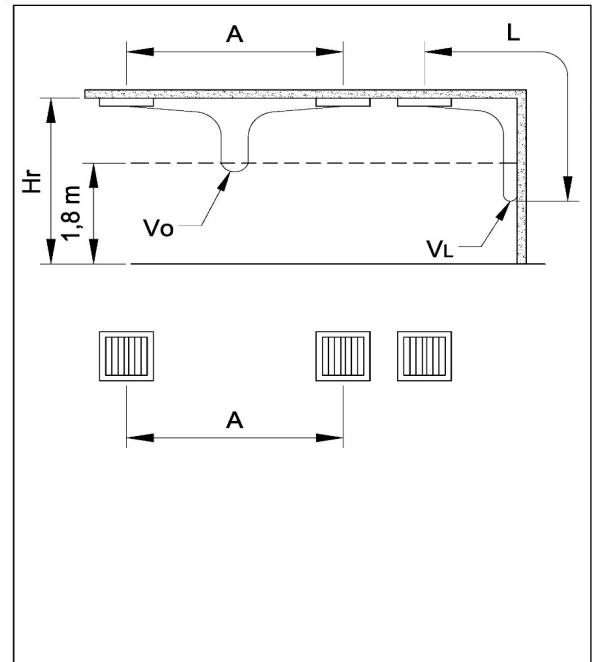
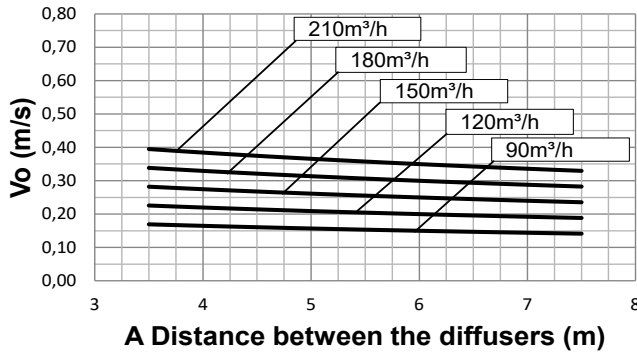


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 150

KN1
SERIES

KN1 150x150 Vo for Hr=4m



**KN1 150x150 Correction factor
Kf**



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

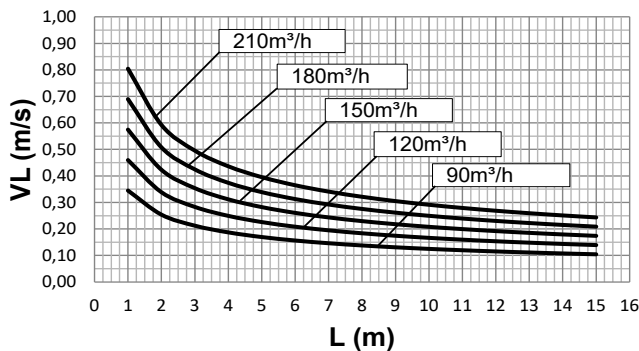
A (m) distance between the diffusers

Vo (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

VL (m/s) maximum speed in the air stream

KN1 150x150 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

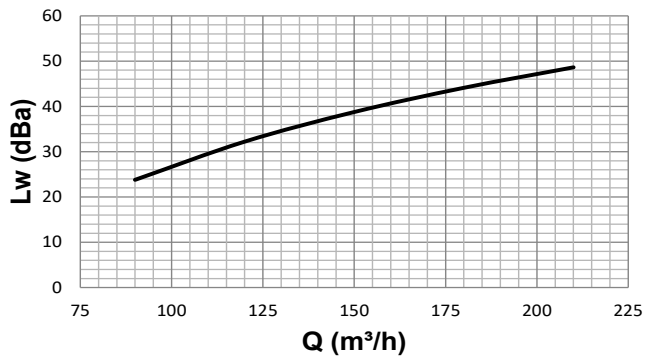


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 150

KN1
SERIES

KN1 150x150 Sound power



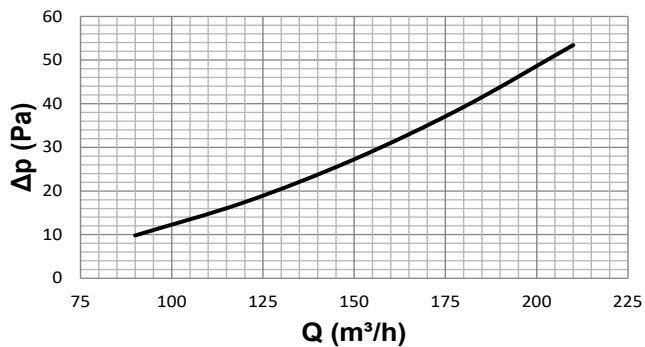
Data measured in reverberation room in accordance with international standards:

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.*

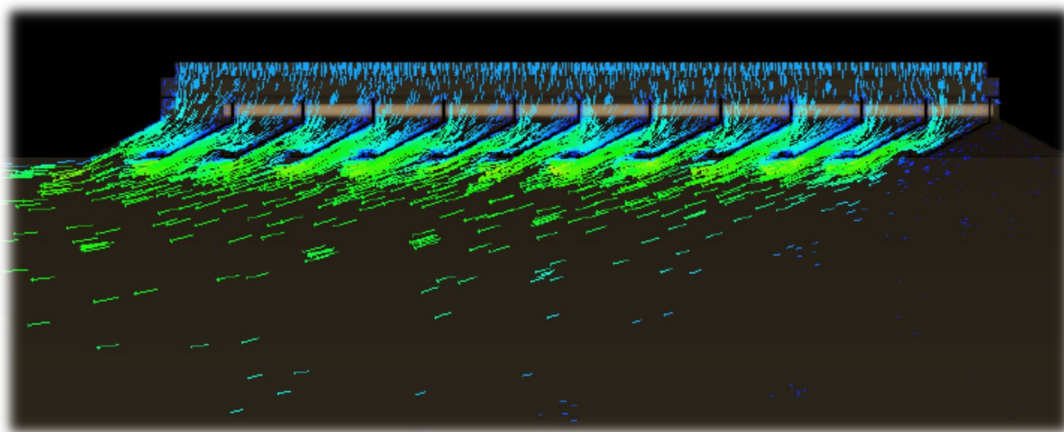
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

KN1 150x150 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



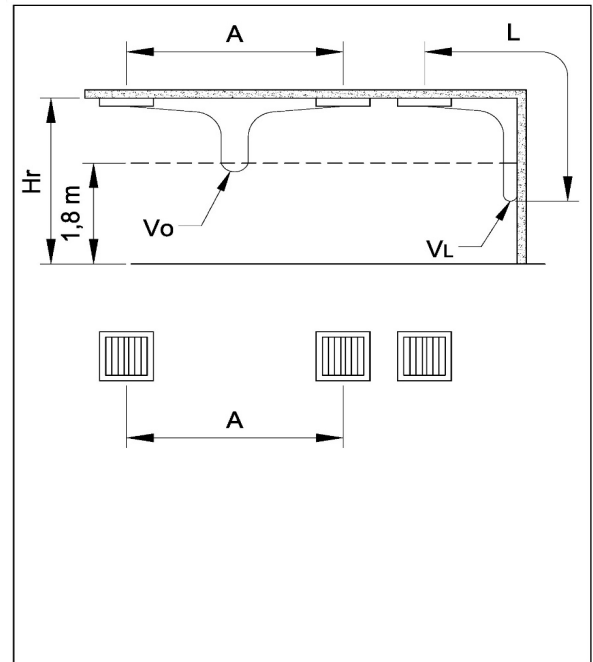
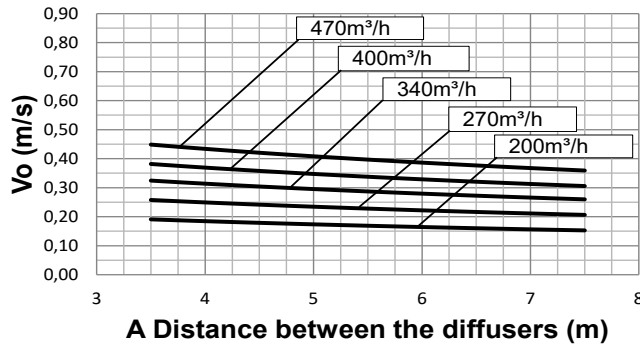


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 225

KN1
SERIES

KN1 225x225 V_o for $H_r=4m$



**KN1 225x225 Correction factor
 K_f**



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

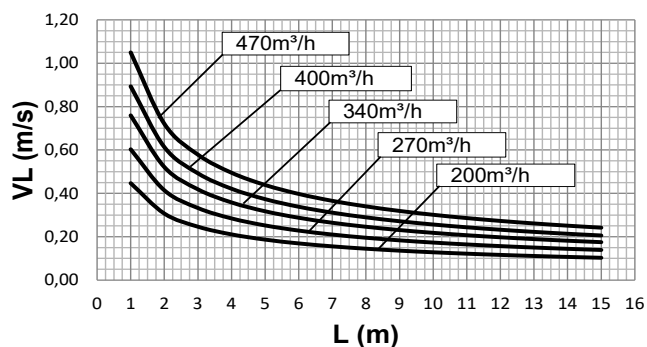
A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

V_L (m/s) maximum speed in the air stream

KN1 225x225 Throw



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

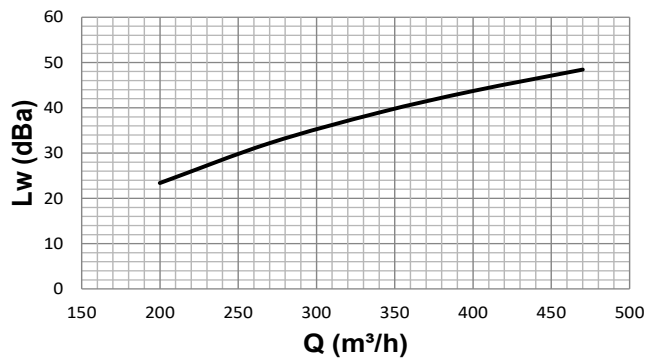


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 225

KN1
SERIES

KN1 225x225 Sound power



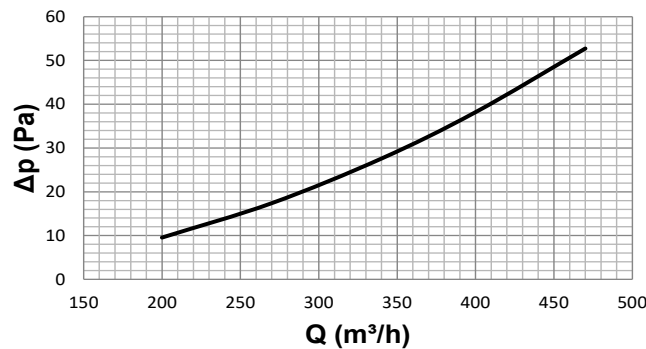
Data measured in reverberation room in accordance with international standards:

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.*

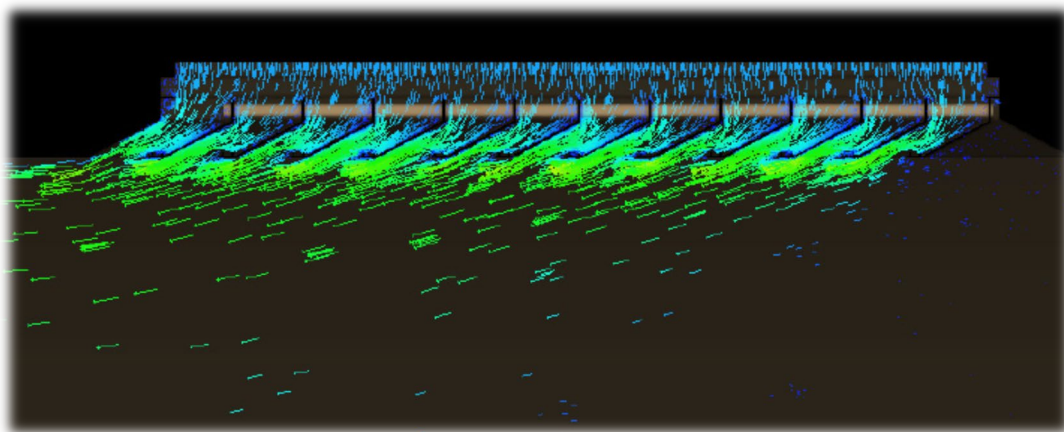
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

KN1 225x225 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

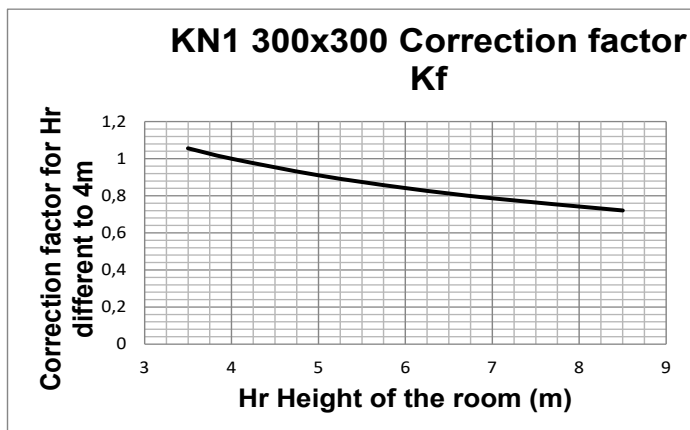
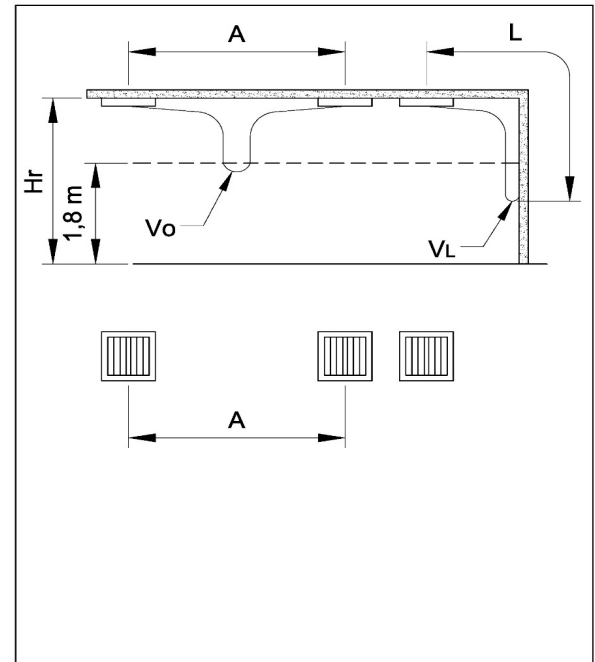
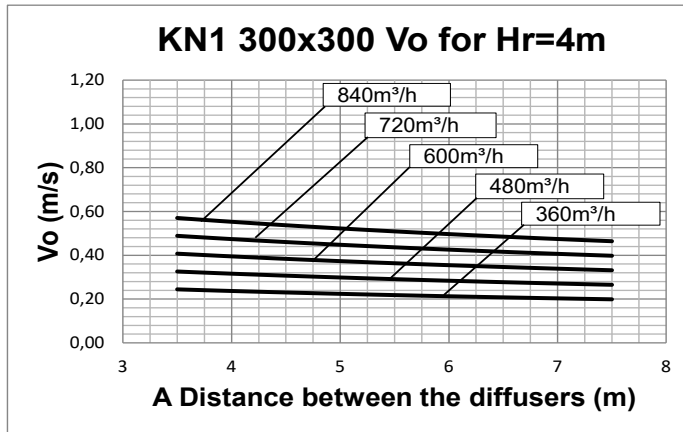




MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 300

KN1
SERIES



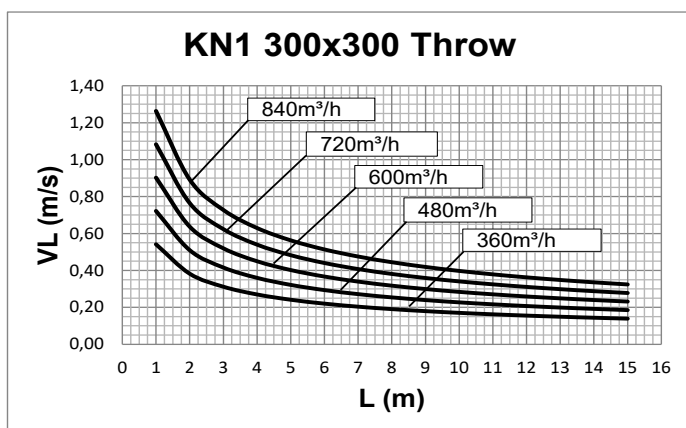
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers

V_o (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

V_L (m/s) maximum speed in the air stream



For H_r different from 4m:

$$V_o(h) = V_o \times K_f$$

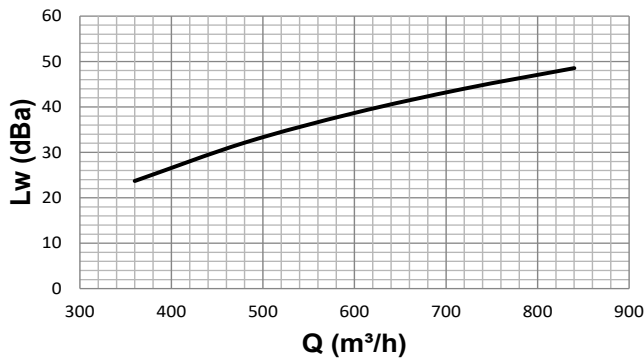


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 300

KN1
SERIES

KN1 300x300 Sound power



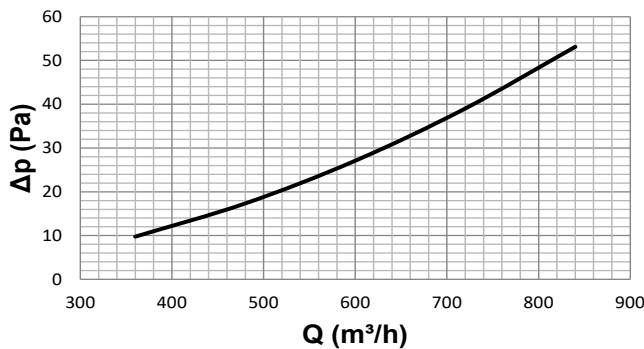
Data measured in reverberation room in accordance with international standards:

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.*

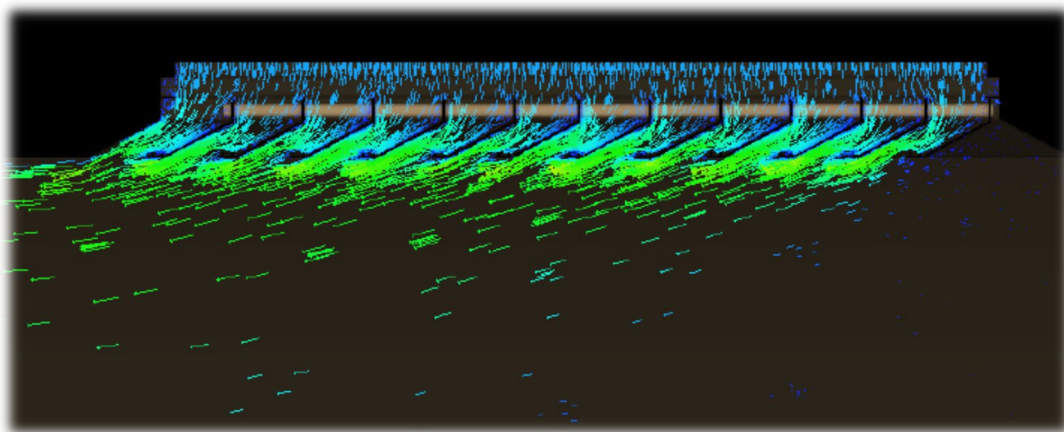
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

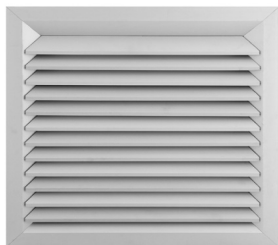
KN1 300x300 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



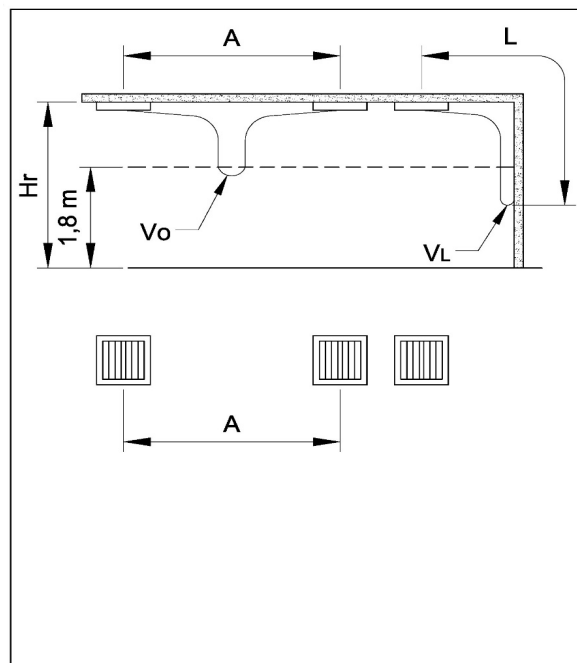
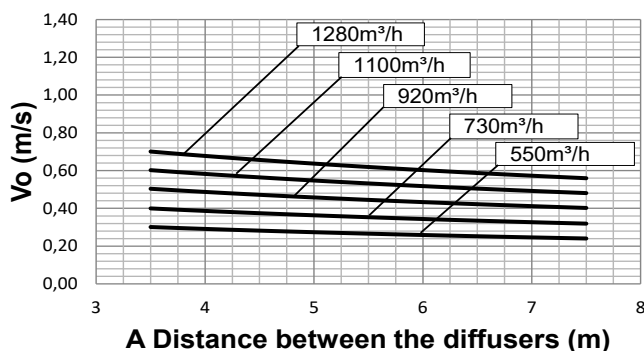


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 375

KN1
SERIES

KN1 375x375 Vo for Hr=4m



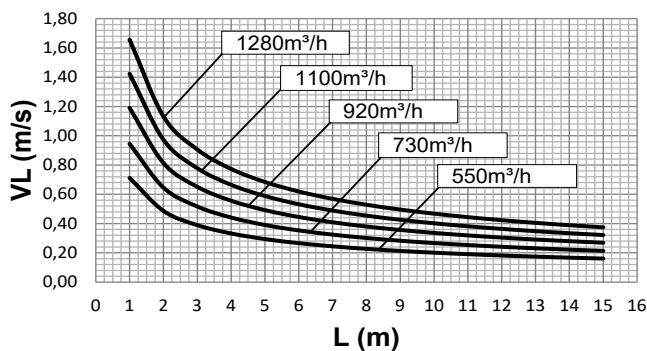
**KN1 375x375 Correction factor
Kf**



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

A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

KN1 375x375 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

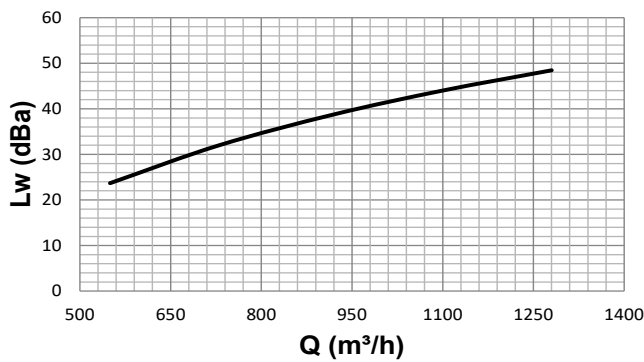


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 375

KN1
SERIES

KN1 375x375 Sound power



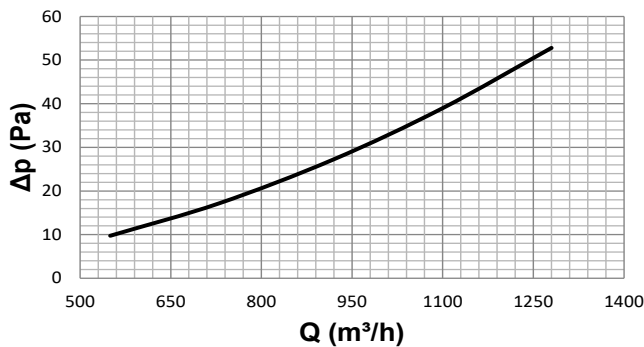
Data measured in reverberation room in accordance with international standards:

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.*

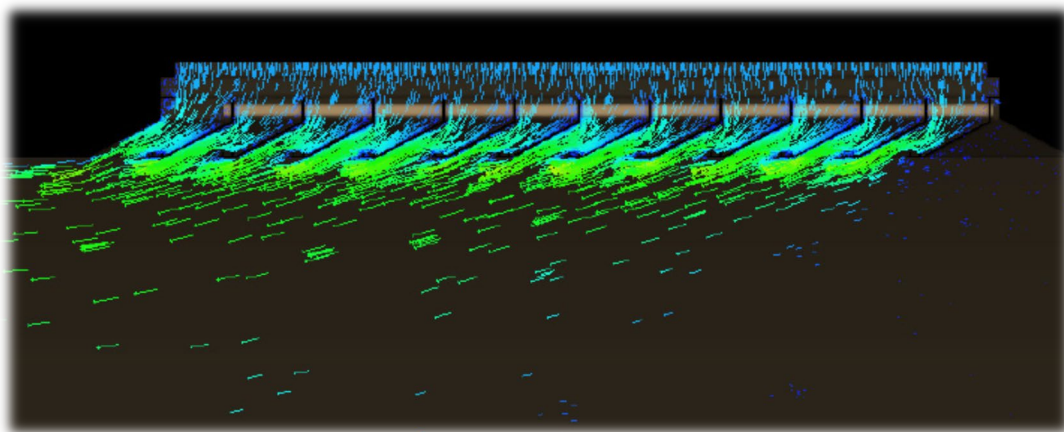
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.

KN1 375x375 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



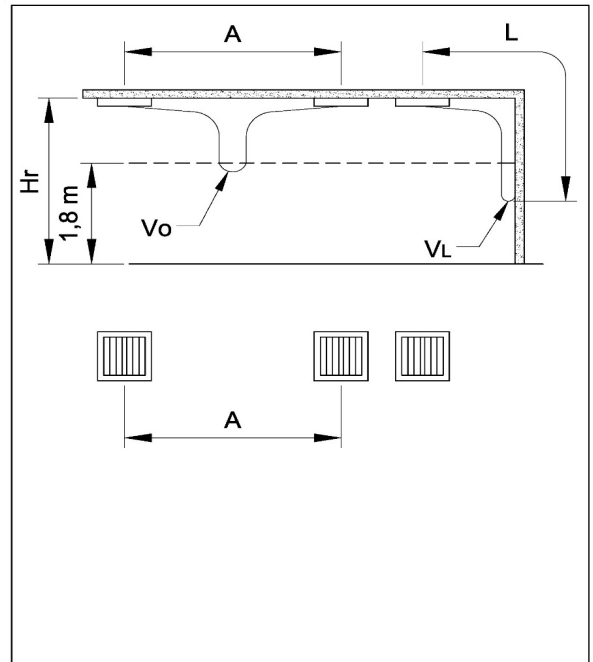
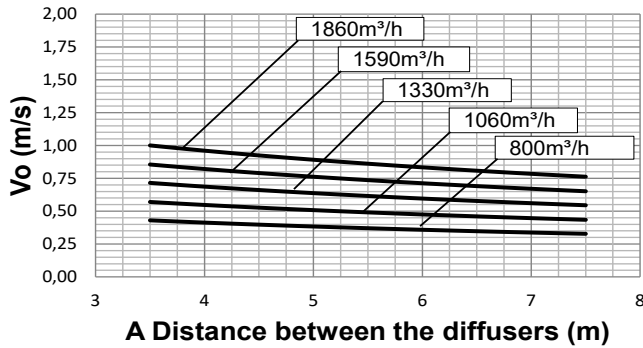


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN1
SERIES

PERFORMANCE KN1 450
(594x594 external frame)

KN1 450x450 Vo for Hr=4m



**KN1 450x450 Correction factor
Kf**



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

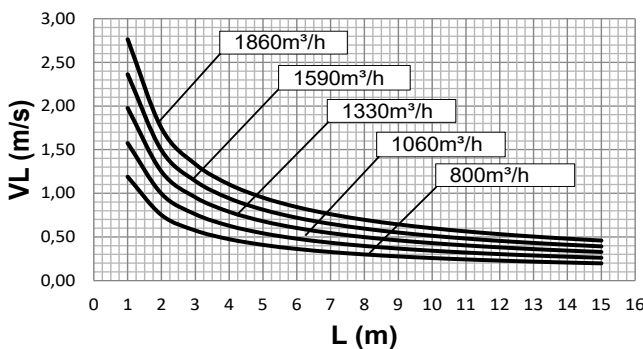
A (m) distance between the diffusers

Vo (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

VL (m/s) maximum speed in the air stream

KN1 450x450 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

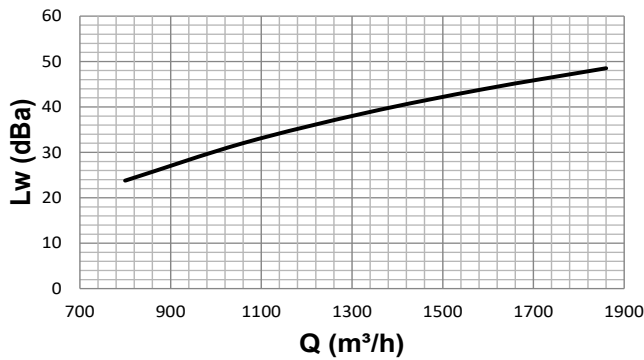


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN1 SERIES

PERFORMANCE KN1 450
(594x594 external frame)

KN1 450x450 Sound power



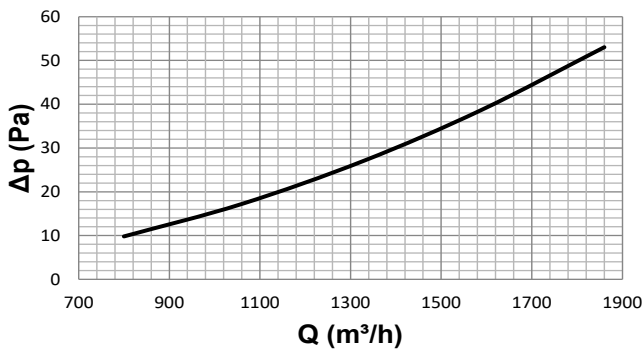
Data measured in reverberation room in accordance with international standards:

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.*

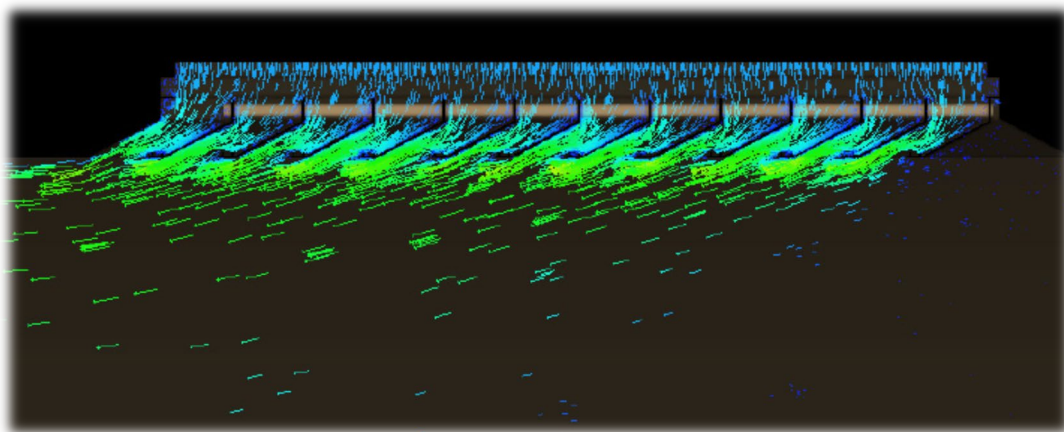
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

KN1 450x450 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



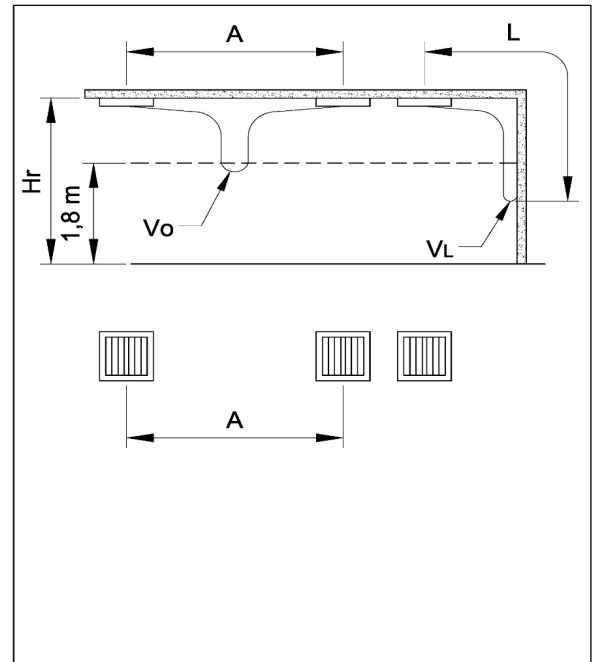
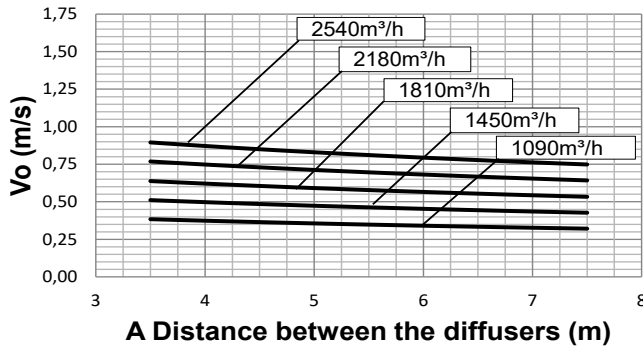


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 525

KN1
SERIES

KN1 525x525 Vo for Hr=4m



**KN1 525x525 Correction factor
Kf**



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

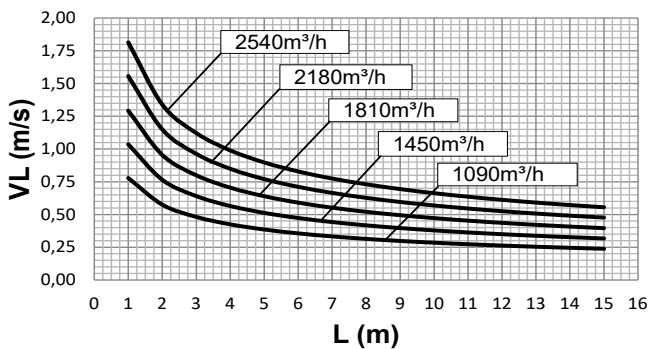
A (m) distance between the diffusers

Vo (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

VL (m/s) maximum speed in the air stream

KN1 525x525 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

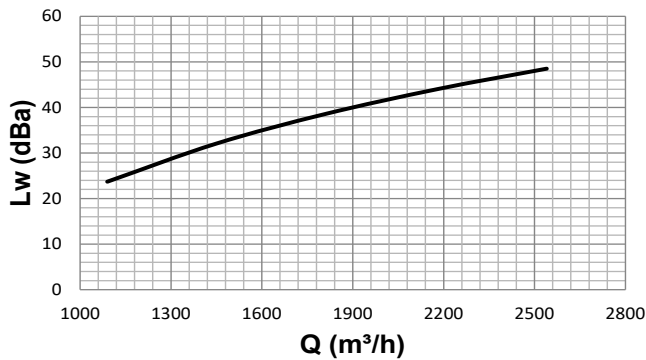


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 525

KN1
SERIES

KN1 525x525 Sound power



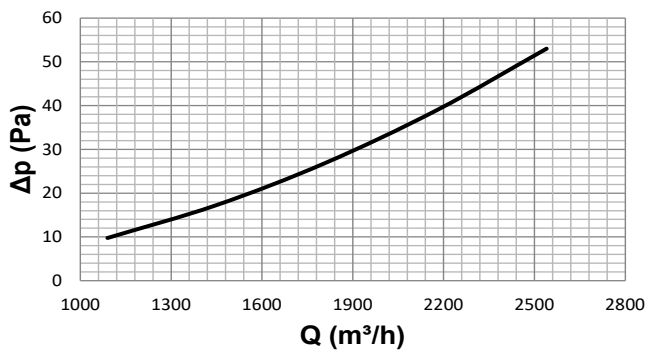
Data measured in reverberation room in accordance with international standards:

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.*

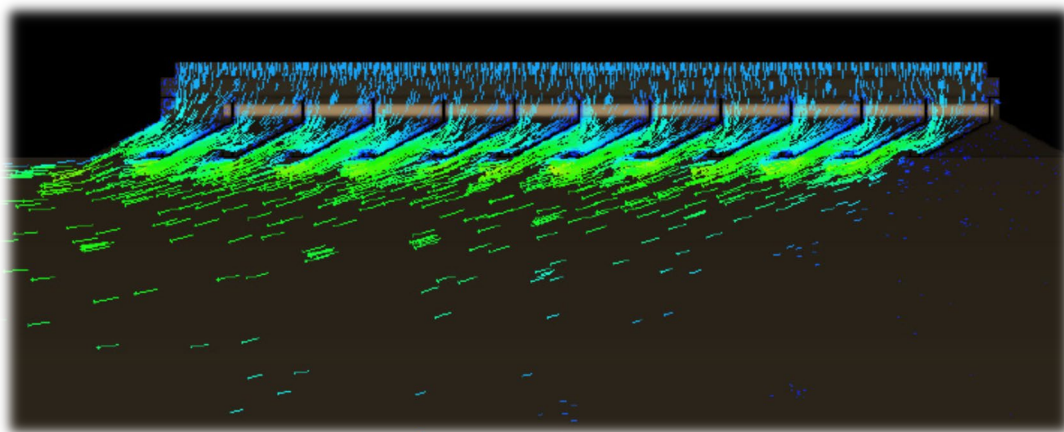
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

KN1 525x525 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



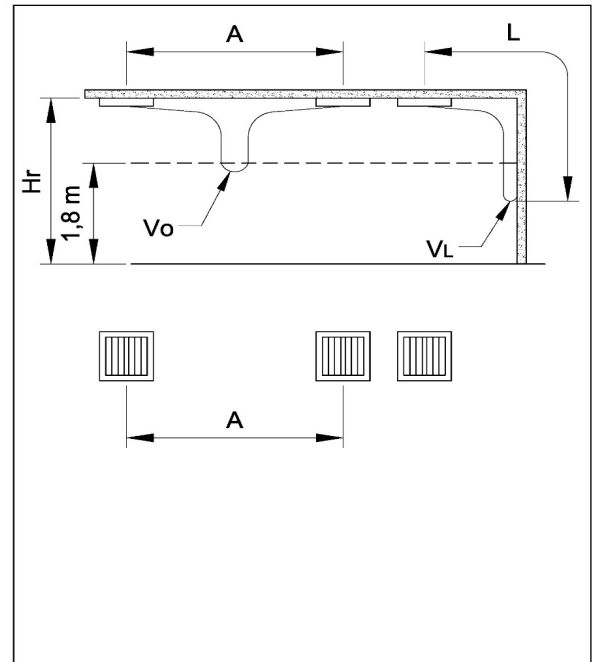
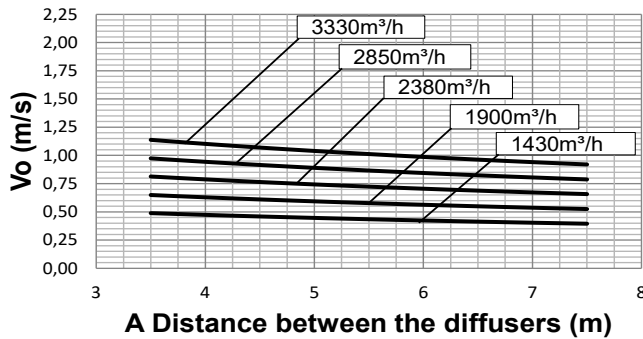


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 600

KN1
SERIES

KN1 600x600 Vo for Hr=4m



**KN1 600x600 Correction factor
Kf**



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

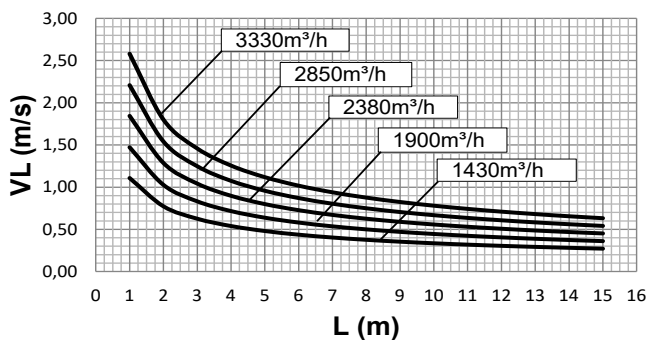
A (m) distance between the diffusers

Vo (m/s) speed at the limit of the occupied zone

L (m) horizontal distance in metres from the centre of the diffuser

VL (m/s) maximum speed in the air stream

KN1 600x600 Throw



For Hr different from 4m:

$$Vo(h) = Vo \times Kf$$

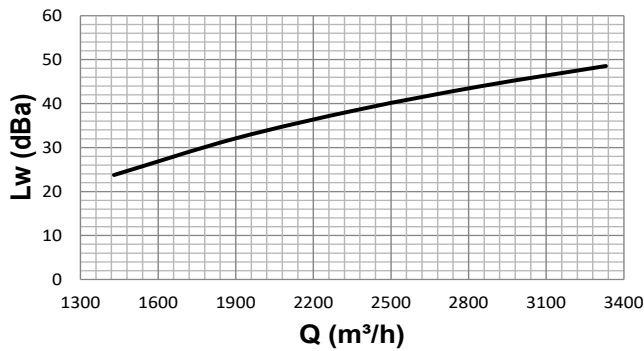


MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

PERFORMANCE KN1 600

KN1
SERIES

KN1 600x600 Sound power



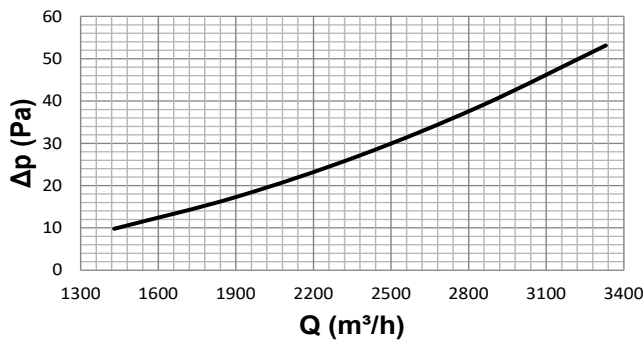
Data measured in reverberation room in accordance with international standards:

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.*

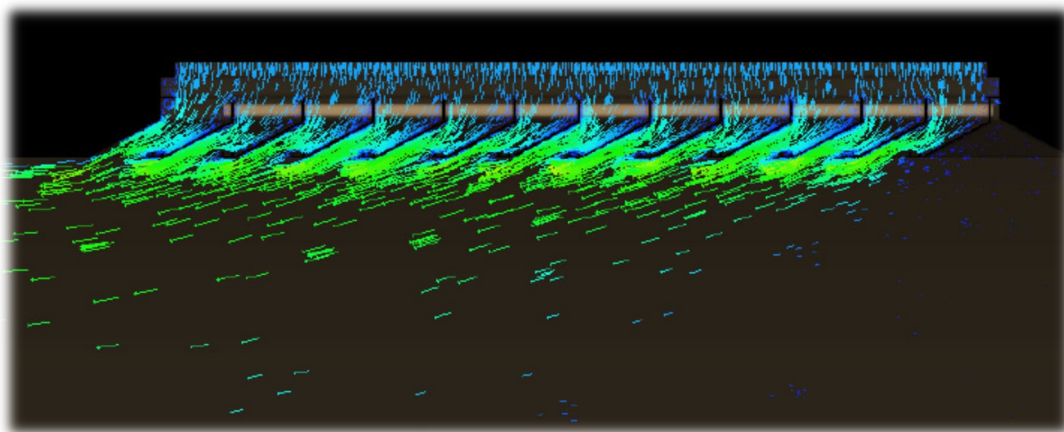
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.

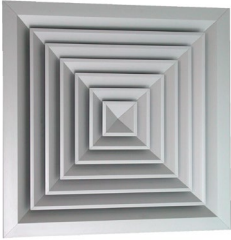
KN1 600x600 Pressure drop



Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

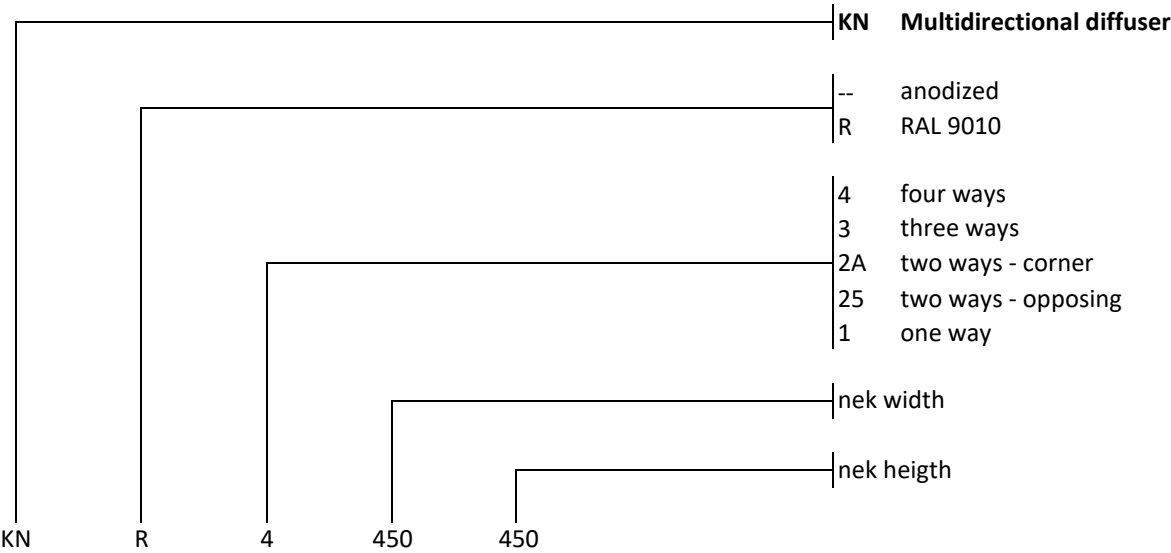




MULTIDIRECTIONAL DIFFUSERS
FIXED SQUARE GEOMETRY

KN
SERIES

HOW TO ORDER



KN4	KN3	KN2A	KN25	KN1



CONTROL DAMPERS

SC SERIES

OVERVIEW TECHNICAL CHARACTERISTICS

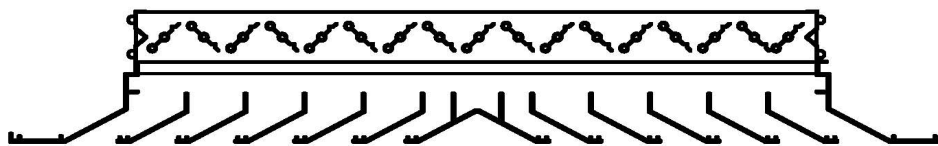
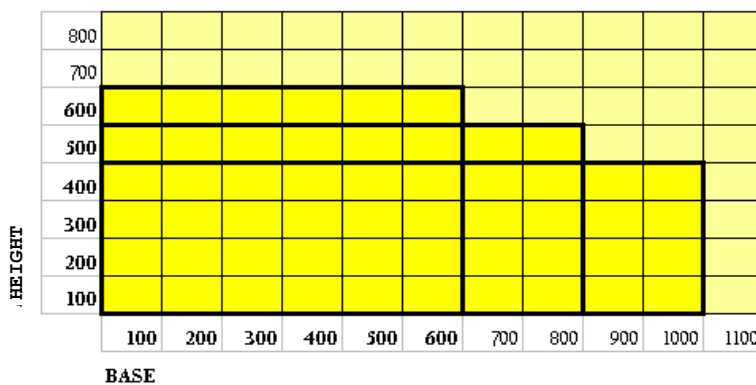
OVERVIEW AND CHARACTERISTICS :

The contrast control dampers of SC series can be fitted to UF KG UM UR GI KN series . They are held in place by special patented clips, designed both for fitting the damper to the grill and for fitting it on a false frame.

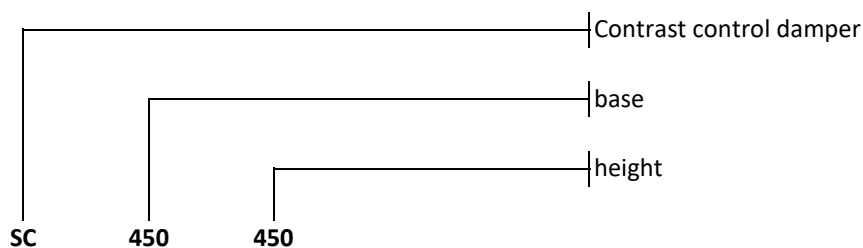
The SC series dampers are made entirely of galvanised steel and have a mechanism for moving and closing all the blades simultaneously.

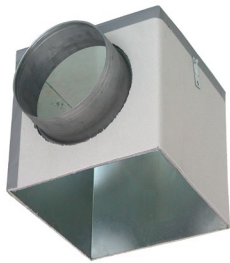
This mechanism is a simple longitudinal plate that links all the blades, and can be removed by unscrewing a nut using a screwdriver. The careful design, precise assembly, and the quality of the materials used, make this an economical, practical, and efficient component.

Contrast control damper- dimensions that can be created in a single solution



application on KN



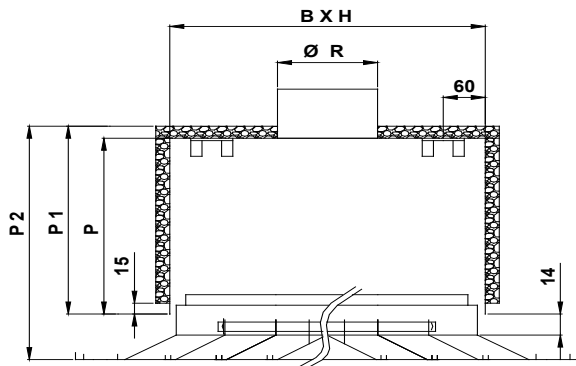


PLENUM FOR SQUARED DIFFUSERS

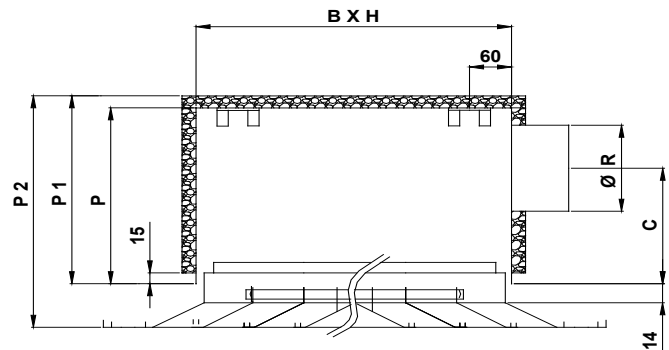
OVERVIEW

PP 90 91 SERIES

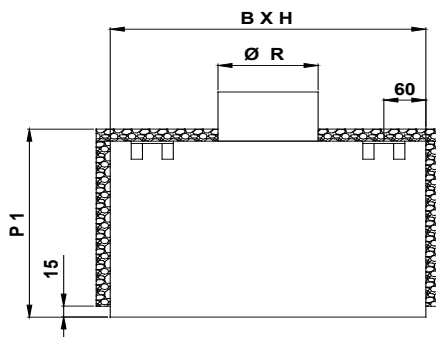
PP91 I + KN



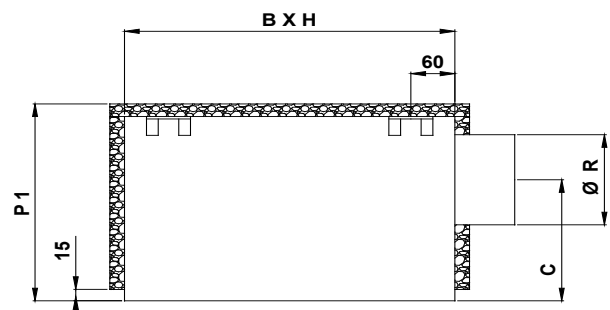
PP90 I + KN



PP91 I



PP90 I



B	x	H	P2	P1	P	Ø R	Connection	C
150	x	150	254	216	210	123	ABS (*)	112
225	x	225	274	236	230	143	Steel	120
300	x	300	334	296	290	195	ABS (*)	155
375	x	375	334	296	290	195	ABS (*)	155
450	x	450	394	356	350	253	ABS (*)	185
525	x	525	444	406	400	296	Steel	215
600	x	600	444	406	400	296	Steel	215

(*) Steel on request

CONSTRUCTION CHARACTERISTICS:

MATERIALS:

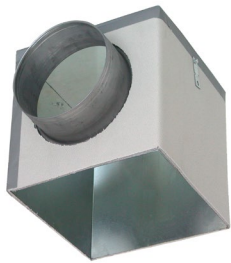
The plenum is manufactured from galvanized sheet steel, external insulation has fire reaction class B s2 d0.

MOUNTING OF PLENUM:

The plenums are fixed and adjusted to the ceiling by threaded bars, putted into suitable supports.

MOUNTING OF DIFFUSER:

The diffusers have to be fixed on the plenum by screws directly on the neck of the diffuser



PLENUM FOR SQUARED DIFFUSERS

HOW TO ORDER

PP 90 91
SERIES

