

## 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.

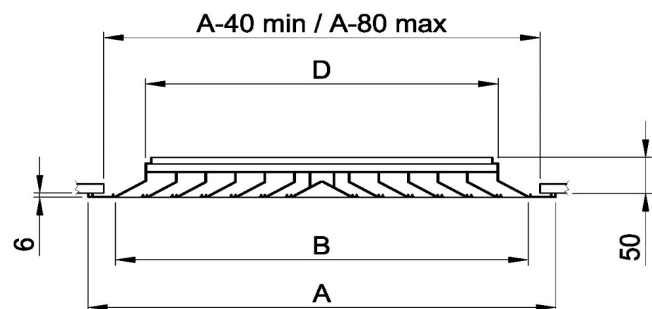
They are suitable for both supply and extract air.

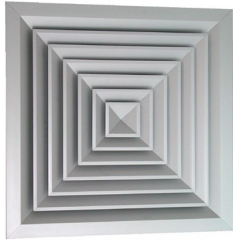
The SC series regulation damper can be installed in the diffuser neck.

#### 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

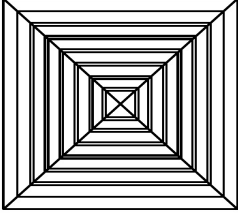


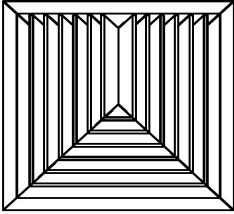


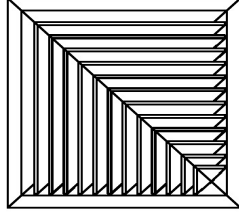
## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

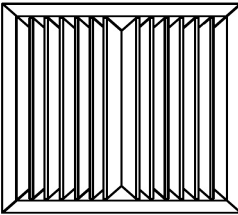
## KN SERIES

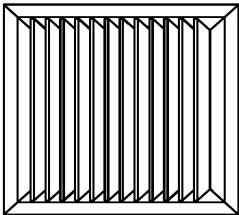
### OVERVIEW

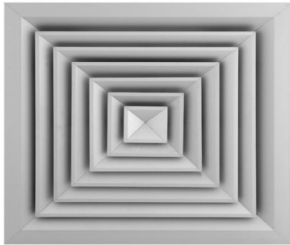
KN4 EFFECTIVE AREA	
	
MODEL	Ak m <sup>2</sup>
KN4 150	0,0094
KN4 225	0,0212
KN4 300	0,0377
KN4 375	0,0589
KN4 450	0,0848
KN4 525	0,1154
KN4 600	0,1507

KN3 EFFECTIVE AREA	
	
MODEL	Ak m <sup>2</sup>
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 <sup>2</sup>
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 <sup>2</sup>
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 <sup>2</sup>
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

# KN4 SERIES

### QUICK SELECTION

Model A <sub>k</sub> [m <sup>2</sup> ]		Air flow rate																		
		m <sup>3</sup> /h l/s	70 (19)	100 (28)	150 (42)	200 (56)	250 (69)	300 (83)	400 (111)	500 (139)	600 (167)	700 (194)	800 (222)	900 (250)	1000 (278)	1500 (417)	2000 (556)	2500 (694)	3000 (833)	4000 (1111)
KN4 150 (0,009)	L <sub>WA</sub> [dB(A)]	<20	23	35	44	50														
	V <sub>k</sub> [m/s]	2	3	4,5	5,9	7,3														
	Δp <sub>t</sub> [Pa]	5	10	23	42	63														
	L 0,2 [m]	1	1,9	3,4	5,3	7,3														
KN4 225 (0,021)	L <sub>WA</sub> [dB(A)]			<20	20	26	31	40	47											
	V <sub>k</sub> [m/s]			2	2,6	3,3	3,9	5,2	6,6											
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]						<20	23	30	35	39	43	47	50						
	V <sub>k</sub> [m/s]						2,2	2,9	3,7	4,4	5,1	5,9	6,6	7,4						
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]						<20	<20	22	26	30	34	37	49						
	V <sub>k</sub> [m/s]						1,9	2,4	2,8	3,3	3,8	4,2	4,7	7,1						
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]									<20	<20	20	23	26	38	47				
	V <sub>k</sub> [m/s]									2	2,3	2,6	2,9	3,3	4,9	6,6				
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]											<20	<20	<20	29	38	44	49		
	V <sub>k</sub> [m/s]											1,9	2,2	2,4	3,6	4,8	6	7,2		
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]														21	30	36	42	50	
	V <sub>k</sub> [m/s]														2,8	3,7	4,6	5,5	7,4	
	Δp <sub>t</sub> [Pa]														9	16	25	36	64	
	L 0,2 [m]														16,8	29,8	>30	>30	>30	

**10 ≤ L<sub>WA</sub> < 30**

**30 ≤ L<sub>WA</sub> < 40**

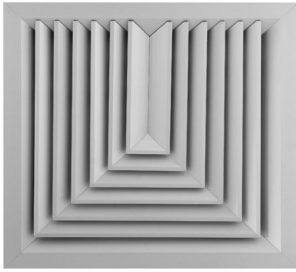
**40 ≤ L<sub>WA</sub> < 50**

**Data valid for:**

- Supply air
- Isotherm conditions
- Throw with ceiling effect

**Terminology:**

- A<sub>k</sub> = effective free area
- V<sub>k</sub> = effective face velocity
- Δp<sub>t</sub> = total pressure loss
- L<sub>WA</sub> = sound power level




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

## KN3 SERIES

### QUICK SELECTION

Model A <sub>k</sub> [m <sup>2</sup> ]		Air flow rate																		
		m <sup>3</sup> /h l/s	70 (19)	100 (28)	150 (42)	200 (56)	250 (69)	300 (83)	400 (111)	500 (139)	600 (167)	700 (194)	800 (222)	900 (250)	1000 (278)	1500 (417)	2000 (556)	2500 (694)	3000 (833)	3500 (972)
KN3 150 (0,01)	L <sub>WA</sub> [dB(A)]	<20	23	35	43	50														
	V <sub>k</sub> [m/s]	2	2,9	4,4	5,9	7,3														
	Δp <sub>t</sub> [Pa]	5	10	22	39	60														
	L 0,2 [m]	1,4	2,5	4,6	7	9,6														
KN3 225 (0,02)	L <sub>WA</sub> [dB(A)]			<20	21	28	33	41	48											
	V <sub>k</sub> [m/s]			2,1	2,8	3,4	4,1	5,5	6,9											
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]					<20	<20	25	32	37	41	45	49							
	V <sub>k</sub> [m/s]					2	2,4	3,1	3,9	4,7	5,5	6,3	7,1							
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	<20	24	28	32	36	39						
	V <sub>k</sub> [m/s]							2	2,5	3	3,5	4	4,5	5,1						
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]									<20	<20	22	25	28	40	49				
	V <sub>k</sub> [m/s]									2,1	2,5	2,8	3,2	3,5	5,3	7				
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]											<20	<20	<20	31	40	46			
	V <sub>k</sub> [m/s]											2,1	2,3	2,6	3,9	5,2	6,4			
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]													<20	23	32	38	44	48	
	V <sub>k</sub> [m/s]													2	3	3,9	4,9	5,9	6,9	
	Δp <sub>t</sub> [Pa]													4	10	18	28	40	54	
	L 0,2 [m]													7,1	13	20	27,8	>30	>30	

 10 ≤ L<sub>WA</sub> < 30

 30 ≤ L<sub>WA</sub> < 40

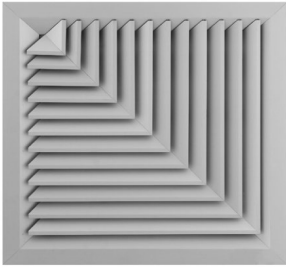
 40 ≤ L<sub>WA</sub> < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A<sub>k</sub> = effective free area
- V<sub>k</sub> = effective face velocity
- Δp<sub>t</sub> = total pressure loss
- L<sub>WA</sub> = sound power level



MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY

KN2A  
SERIES

QUICK SELECTION

Model A <sub>k</sub> [m <sup>2</sup> ]		Air flow rate																		
		m <sup>3</sup> /h l/s	70 (19)	100 (28)	150 (42)	200 (56)	250 (69)	300 (83)	400 (111)	500 (139)	600 (167)	700 (194)	800 (222)	900 (250)	1000 (278)	1250 (347)	1500 (417)	2000 (556)	2500 (694)	3000 (833)
KN2A 150 (0,009)	L <sub>WA</sub> [dB(A)]	<20	25	37	46															
	V <sub>k</sub> [m/s]	2,2	3,2	4,8	6,4															
	Δp <sub>t</sub> [Pa]	4	9	20	36															
	L 0,2 [m]	1,2	2,6	5,5	9,5															
KN2A 225 (0,019)	L <sub>WA</sub> [dB(A)]			<20	24	30	35	44	50											
	V <sub>k</sub> [m/s]			2,3	3	3,7	4,5	6	7,5											
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]					<20	<20	27	34	39	44	48								
	V <sub>k</sub> [m/s]					2,1	2,6	3,4	4,3	5,1	6	6,8								
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	21	27	31	35	38	42	48					
	V <sub>k</sub> [m/s]							2,2	2,8	3,3	3,8	4,4	5	5,5	6,9					
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	<20	20	24	28	31	37	43					
	V <sub>k</sub> [m/s]							1,9	2,3	2,7	3,1	3,5	3,8	4,8	5,8					
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]										<20	<20	<20	22	28	34	42	49		
	V <sub>k</sub> [m/s]										2	2,3	2,5	2,8	3,5	4,2	5,6	7,1		
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]												<20	<20	21	26	34	41	46	
	V <sub>k</sub> [m/s]												1,9	2,2	2,7	3,2	4,3	5,4	6,5	
	Δp <sub>t</sub> [Pa]												3	4	6	9	16	26	37	
	L 0,2 [m]												19,4	23,7	>30	>30	>30	>30	>30	

10 ≤ L<sub>wA</sub> < 30

30 ≤ L<sub>wA</sub> < 40

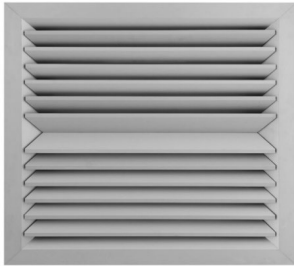
40 ≤ L<sub>wA</sub> < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A<sub>k</sub> = effective free area
- V<sub>k</sub> = effective face velocity
- Δp<sub>t</sub> = total pressure loss
- L<sub>WA</sub> = sound power level



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN25 SERIES

### QUICK SELECTION

Model A <sub>k</sub> [m <sup>2</sup> ]		Air flow rate																		
		m <sup>3</sup> /h l/s	70 (19)	100 (28)	150 (42)	200 (56)	250 (69)	300 (83)	400 (111)	500 (139)	600 (167)	700 (194)	800 (222)	900 (250)	1000 (278)	1500 (417)	2000 (556)	2500 (694)	3000 (833)	3500 (972)
KN25 150 (0,008)	L <sub>WA</sub> [dB(A)]	<20	27	39	47															
	V <sub>k</sub> [m/s]	2,3	3,4	5,1	6,7															
	Δp <sub>t</sub> [Pa]	6	13	29	51															
	L 0,2 [m]	1,8	4,4	11,1	21,3															
KN25 225 (0,019)	L <sub>WA</sub> [dB(A)]			<20	24	30	35	44	50											
	V <sub>k</sub> [m/s]			2,2	3	3,7	4,4	5,9	7,4											
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]					<20	<20	27	33	39	43	47								
	V <sub>k</sub> [m/s]					2,1	2,5	3,3	4,2	5	5,8	6,7								
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	21	26	31	35	38	41						
	V <sub>k</sub> [m/s]							2,2	2,7	3,3	3,8	4,4	4,9	5,5						
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	<20	20	24	27	30	42						
	V <sub>k</sub> [m/s]							1,9	2,3	2,6	3	3,4	3,8	5,7						
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]										<20	<20	<20	21	33	42	48			
	V <sub>k</sub> [m/s]										1,9	2,2	2,5	2,8	4,1	5,5	6,9			
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]												<20	<20	25	34	40	45	50	
	V <sub>k</sub> [m/s]												1,9	2,1	3,2	4,2	5,3	6,3	7,4	
	Δp <sub>t</sub> [Pa]												4	5	11	20	31	44	60	
	L 0,2 [m]												11,1	13,6	29,7	>30	>30	>30	>30	

**10 ≤ L<sub>WA</sub> < 30**

**30 ≤ L<sub>WA</sub> < 40**

**40 ≤ L<sub>WA</sub> < 50**

**Data valid for:**

- Supply air
- Isotherm conditions
- Throw with ceiling effect

**Terminology:**

- A<sub>k</sub> = effective free area
- V<sub>k</sub> = effective face velocity
- Δp<sub>t</sub> = total pressure loss
- L<sub>WA</sub> = sound power level



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### QUICK SELECTION

Model A <sub>k</sub> [m <sup>2</sup> ]		Air flow rate																		
		m <sup>3</sup> /h l/s	70 (19)	100 (28)	150 (42)	200 (56)	250 (69)	300 (83)	400 (111)	500 (139)	600 (167)	700 (194)	800 (222)	900 (250)	1000 (278)	1250 (347)	1500 (417)	2000 (556)	2500 (694)	3000 (833)
KN1 150 (0,008)	L <sub>WA</sub> [dB(A)]	<20	27	39	47															
	V <sub>k</sub> [m/s]	2,3	3,4	5,1	6,7															
	Δp <sub>t</sub> [Pa]	6	12	28	49															
	L 0,2 [m]	1,8	4,4	11,1	21,3															
KN1 225 (0,019)	L <sub>WA</sub> [dB(A)]			<20	24	30	35	44	50											
	V <sub>k</sub> [m/s]			2,2	3	3,7	4,4	5,9	7,4											
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]					<20	<20	27	33	39	43	47								
	V <sub>k</sub> [m/s]					2,1	2,5	3,3	4,2	5	5,8	6,7								
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	21	26	31	35	38	41	48					
	V <sub>k</sub> [m/s]							2,2	2,7	3,3	3,8	4,4	4,9	5,5	6,8					
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]							<20	<20	20	24	27	30	37	42					
	V <sub>k</sub> [m/s]							1,9	2,3	2,6	3	3,4	3,8	4,7	5,7					
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]										<20	<20	<20	21	28	33	42	48		
	V <sub>k</sub> [m/s]										1,9	2,2	2,5	2,8	3,4	4,1	5,5	6,9		
	Δp <sub>t</sub> [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 <sub>WA</sub> [dB(A)]												<20	<20	20	25	34	40	45	
	V <sub>k</sub> [m/s]												1,9	2,1	2,6	3,2	4,2	5,3	6,3	
	Δp <sub>t</sub> [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<sub>WA</sub> < 30**

**30 ≤ L<sub>WA</sub> < 40**

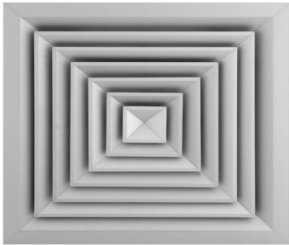
**40 ≤ L<sub>WA</sub> < 50**

**Data valid for:**

- Supply air
- Isotherm conditions
- Throw with ceiling effect

**Terminology:**

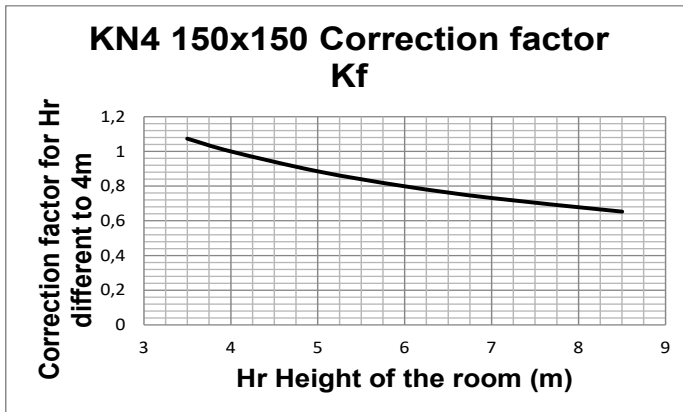
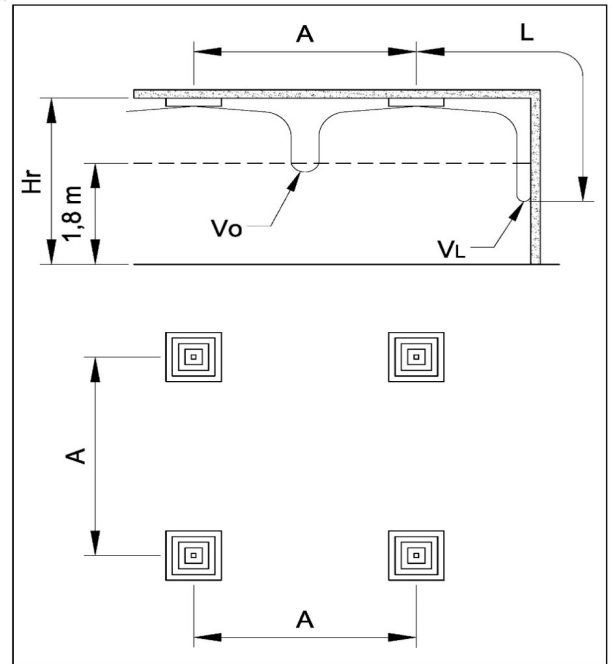
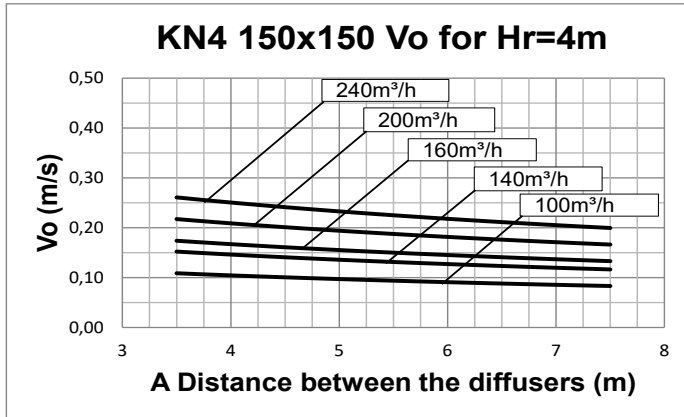
- A<sub>k</sub> = effective free area
- V<sub>k</sub> = effective face velocity
- Δp<sub>t</sub> = total pressure loss
- L<sub>WA</sub> = sound power level



**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

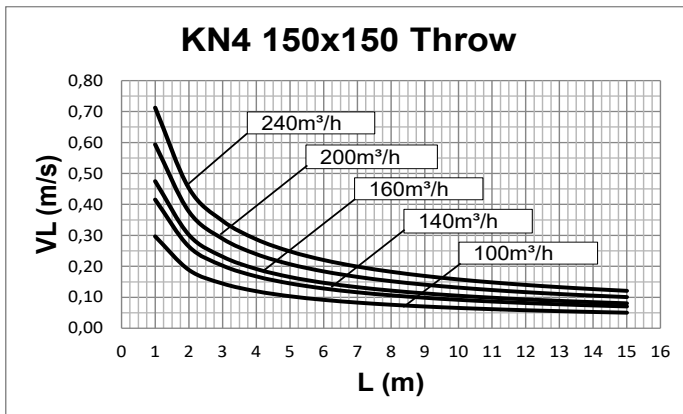
**KN4  
SERIES**

**PERFORMANCE KN4 150**



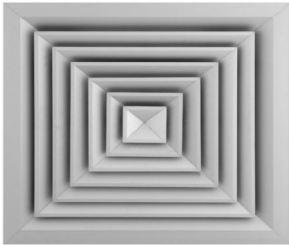
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

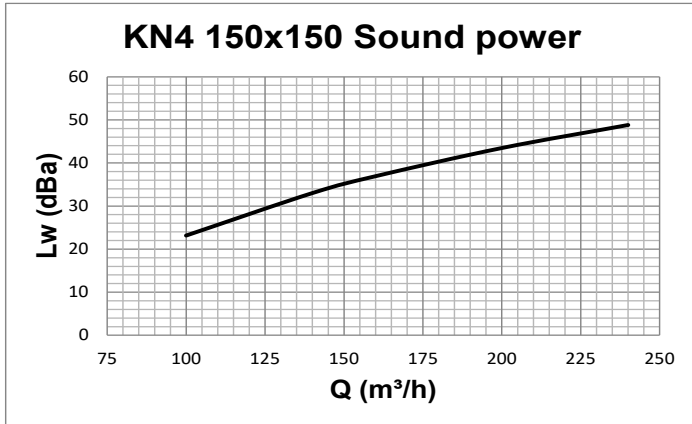




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 150

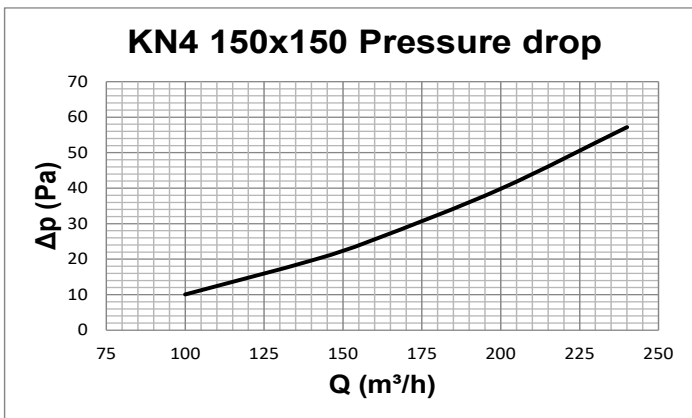


Data measured in reverberation room in accordance with international standards:

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

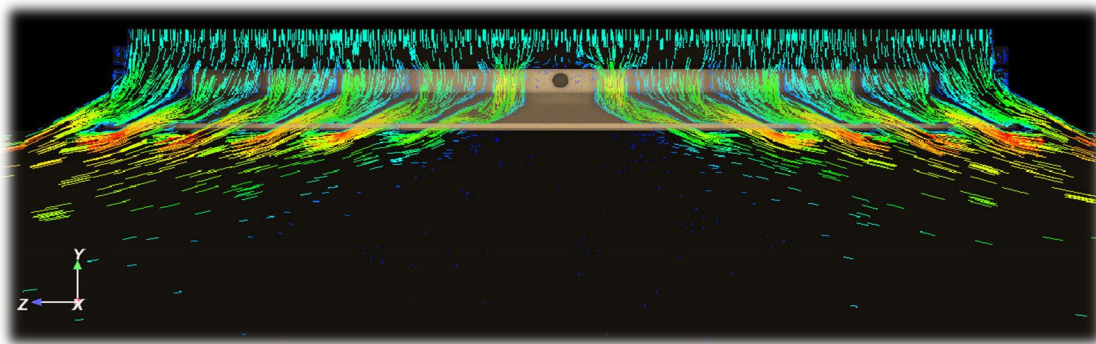
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

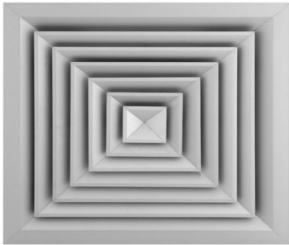
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

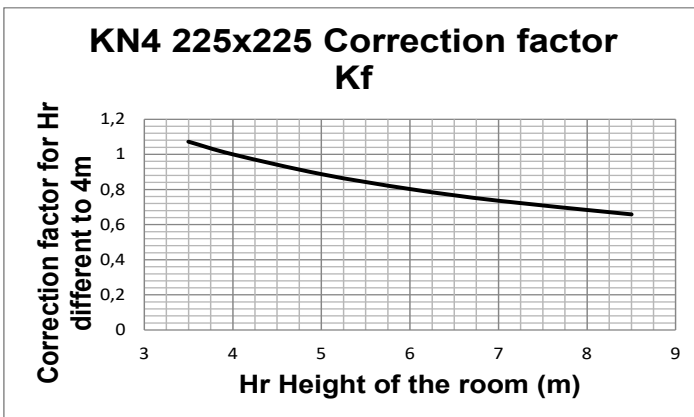
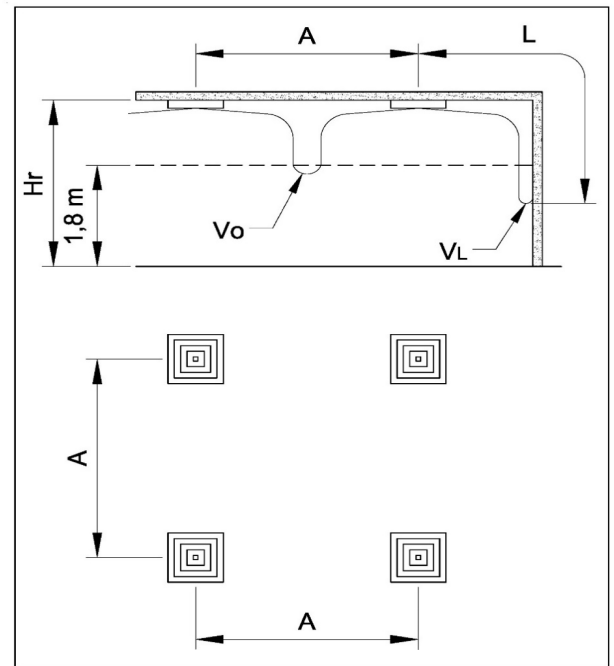
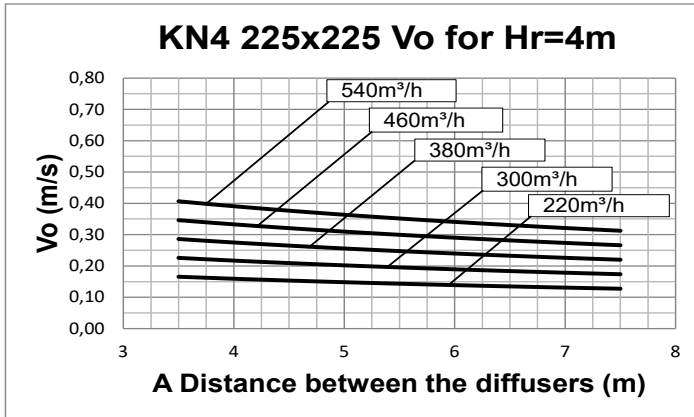




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

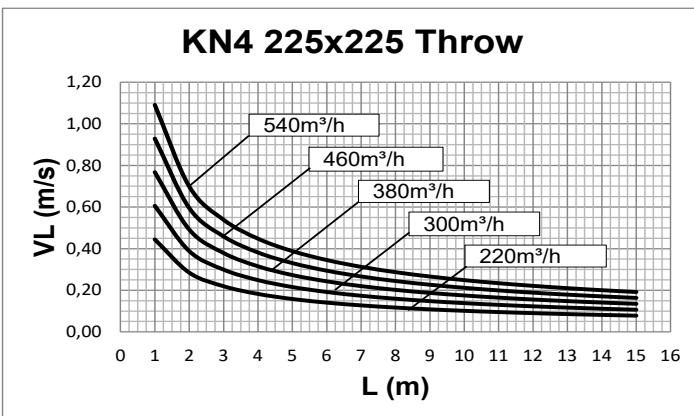
**KN4  
SERIES**

**PERFORMANCE KN4 225**

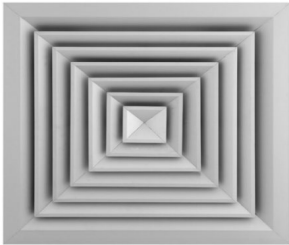


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



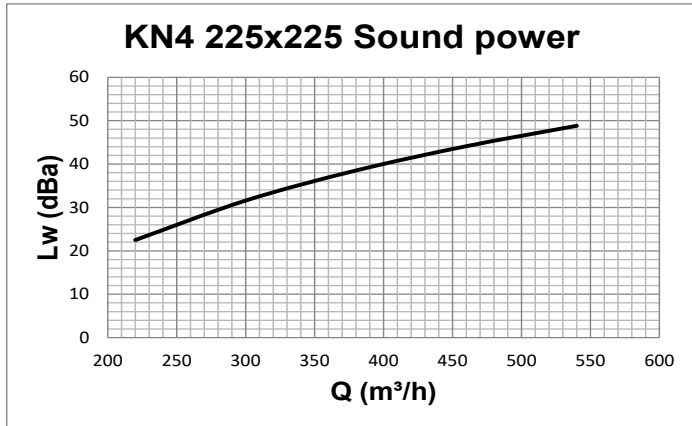
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 225

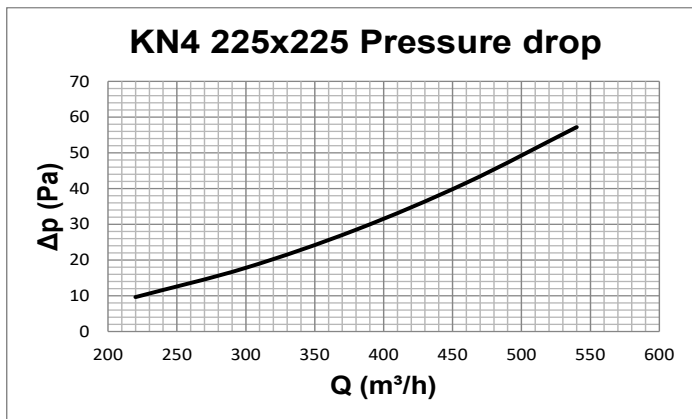


Data measured in reverberation room in accordance with international standards:

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

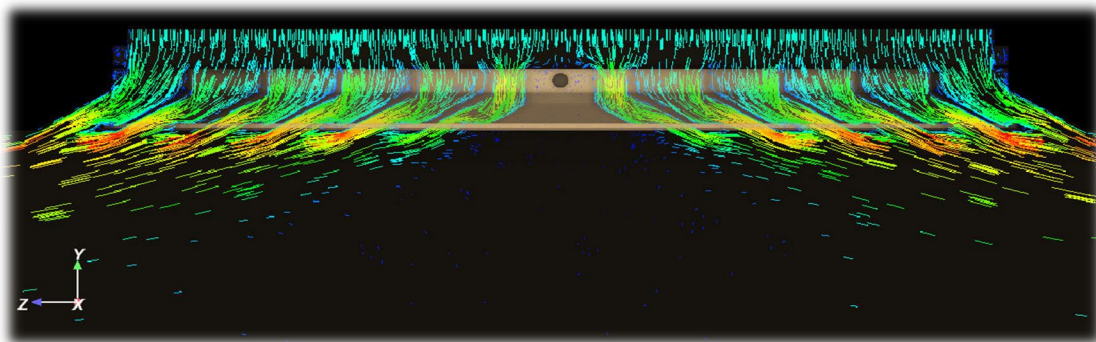
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

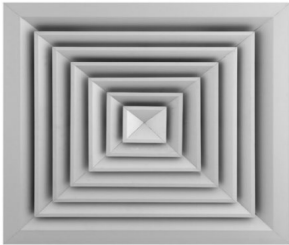
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

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

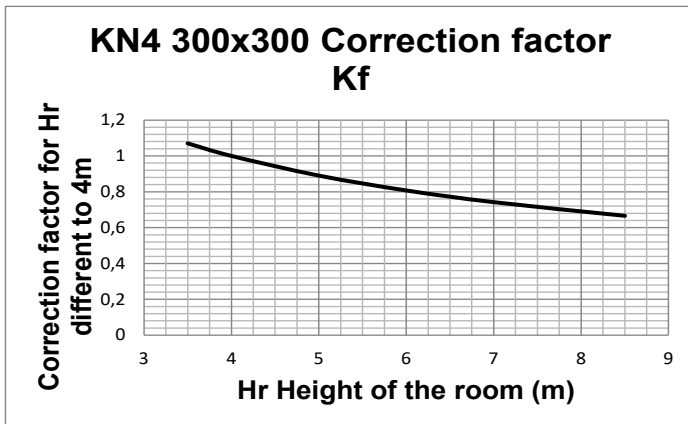
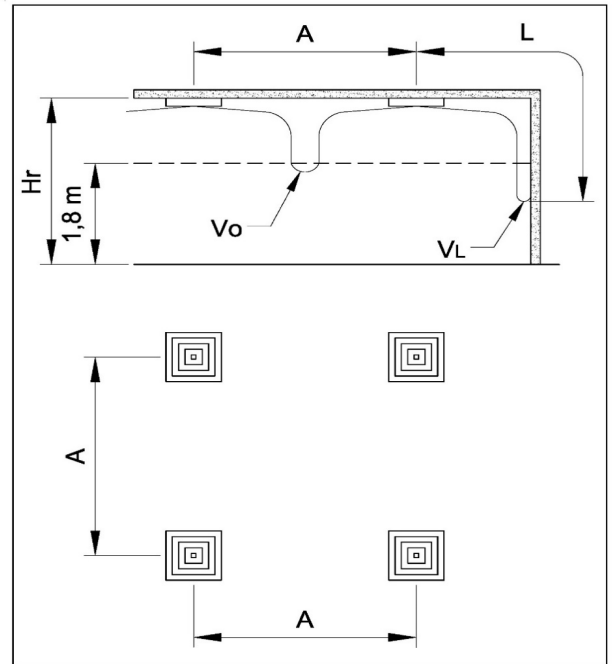
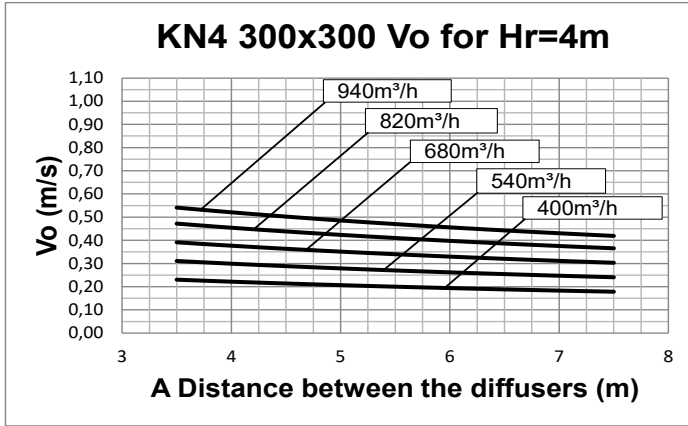




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

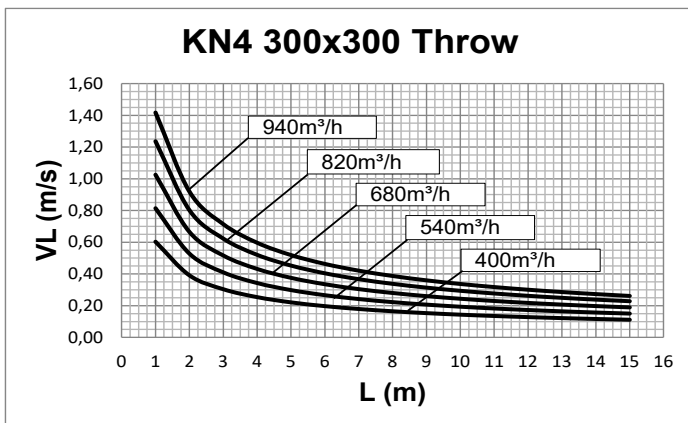
**KN4  
SERIES**

**PERFORMANCE KN4 300**

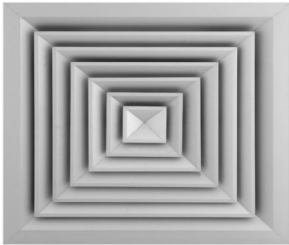


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



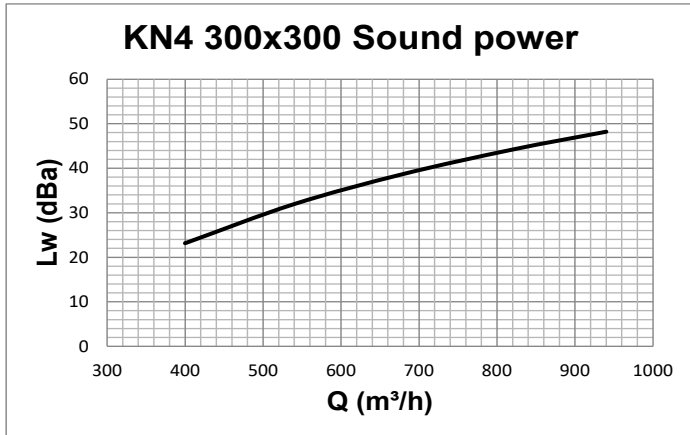
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 300

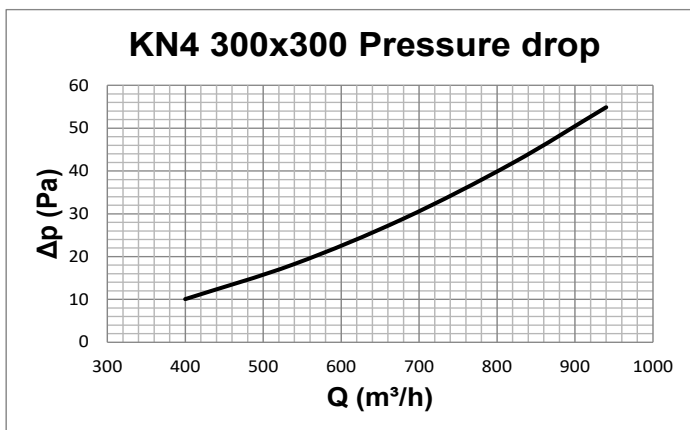


Data measured in reverberation room in accordance with international standards:

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

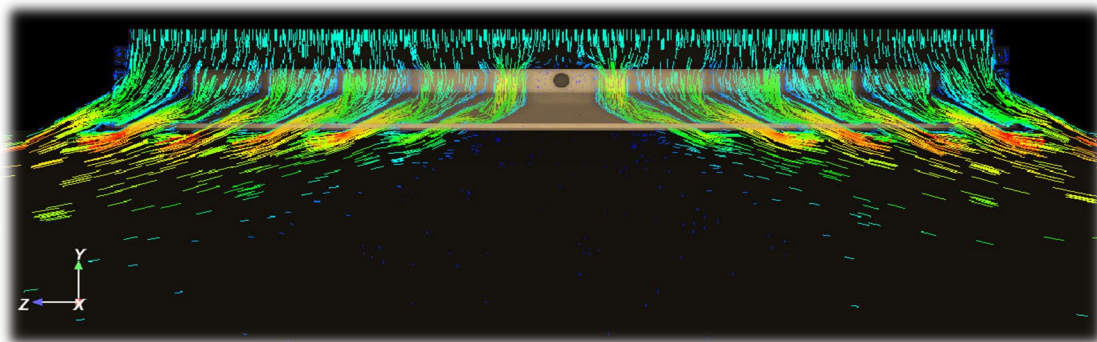
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

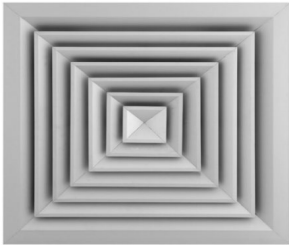
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

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

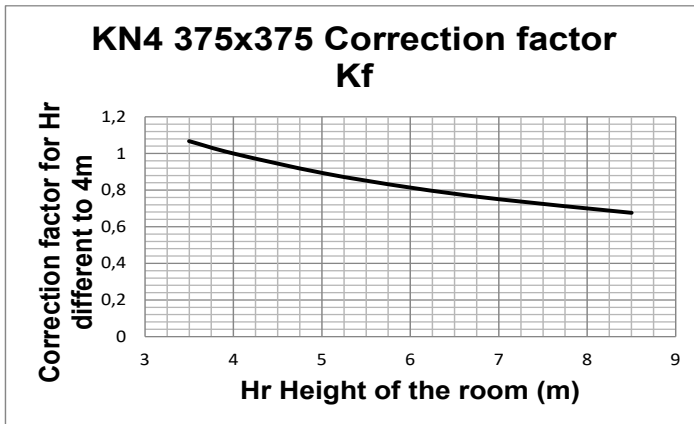
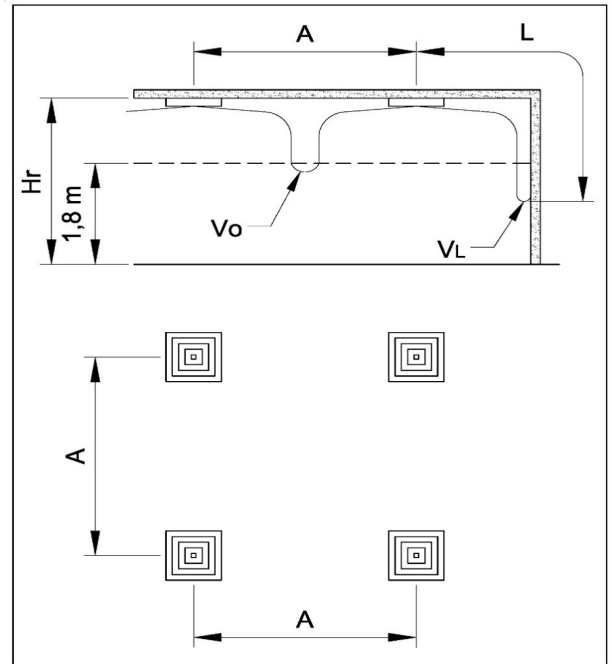
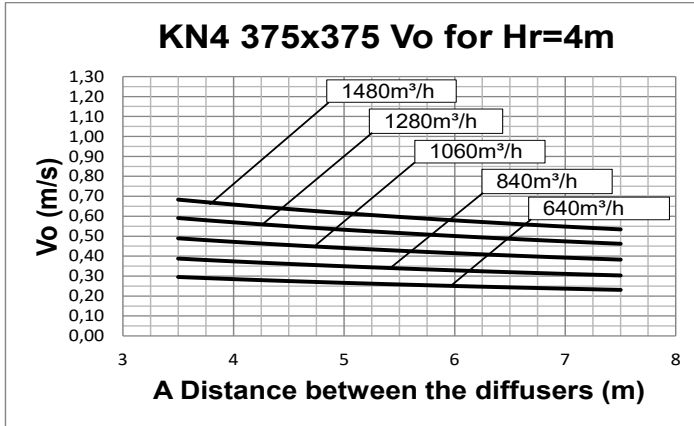




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

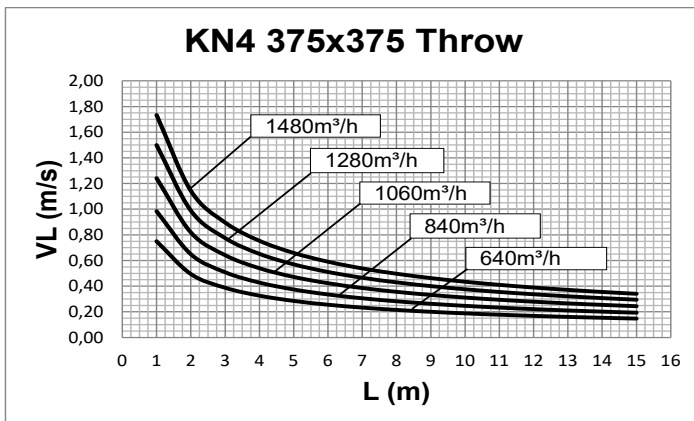
**KN4  
SERIES**

**PERFORMANCE KN4 375**

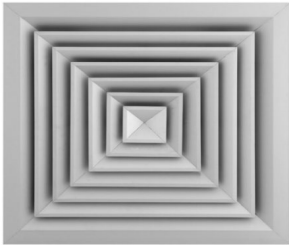


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



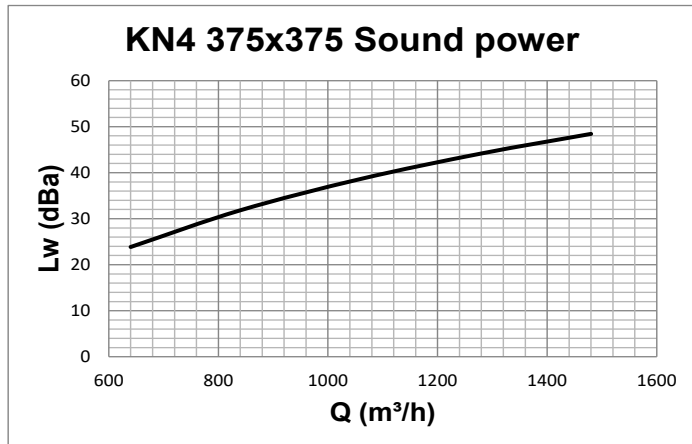
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 375

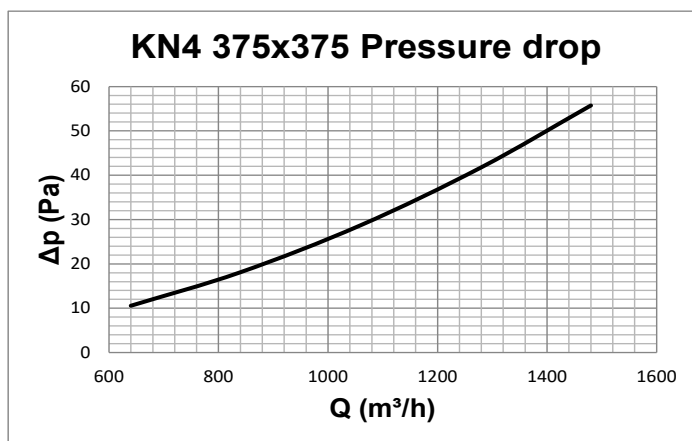


Data measured in reverberation room in accordance with international standards:

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

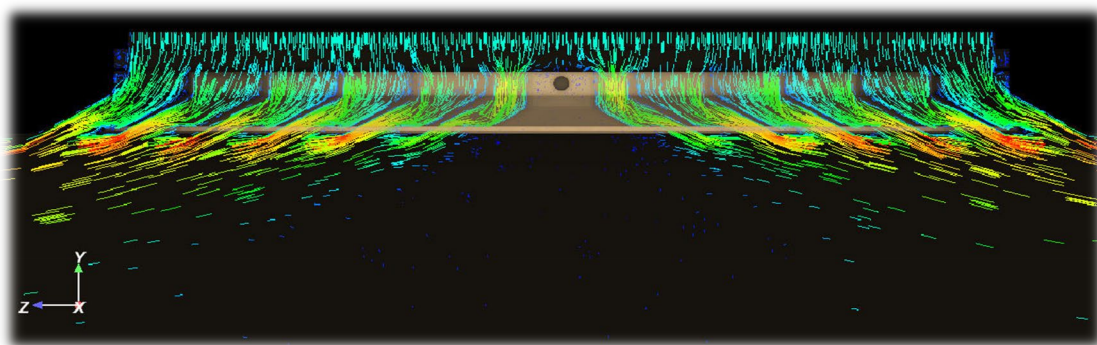
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

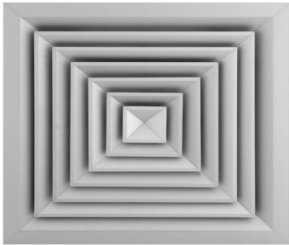
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**ISO 5219 1984:** *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

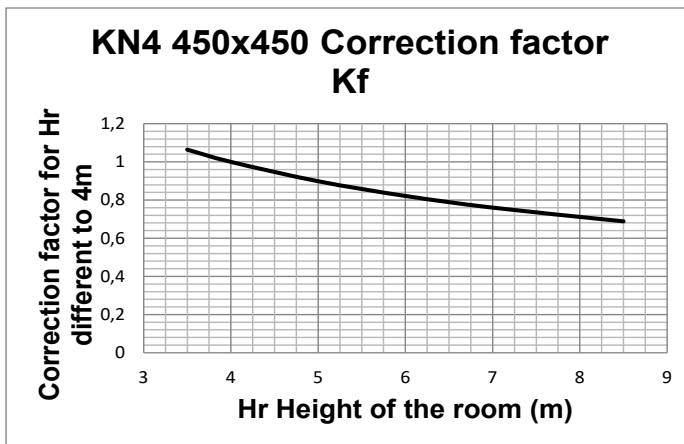
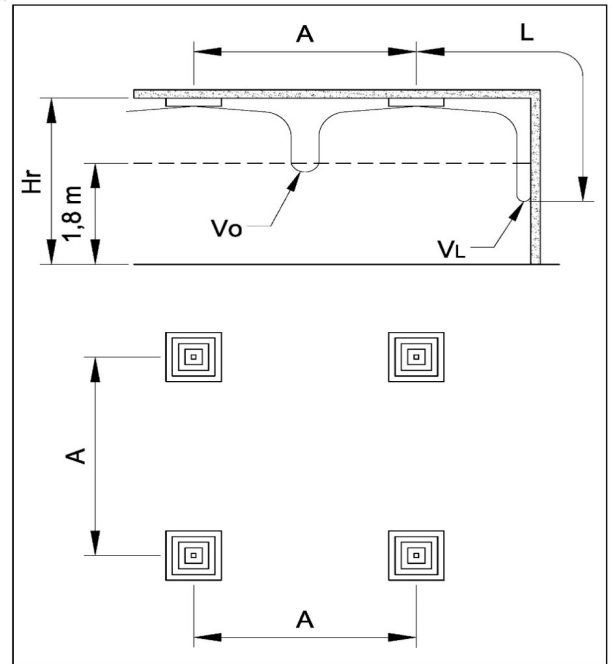
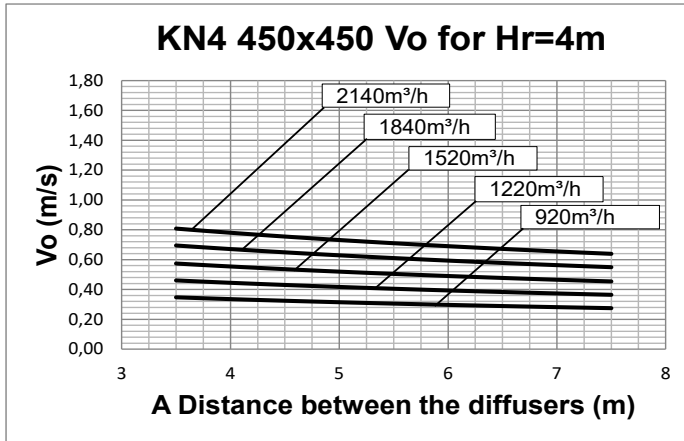




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

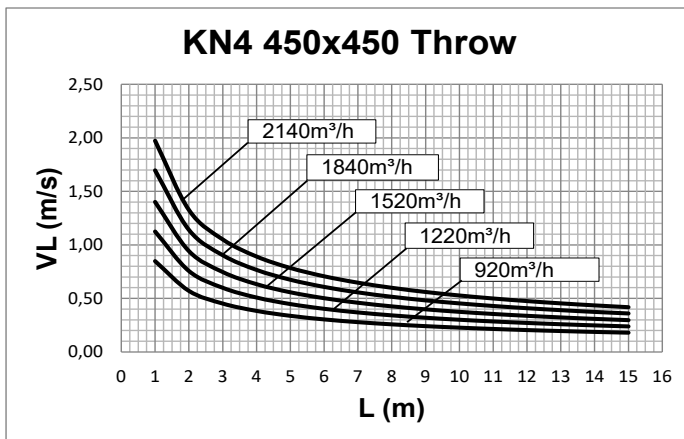
KN4  
SERIES

PERFORMANCE KN4 450  
(594x594 external frame)



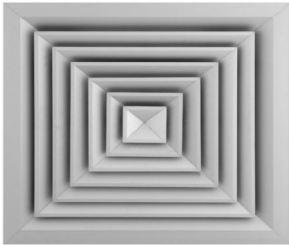
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

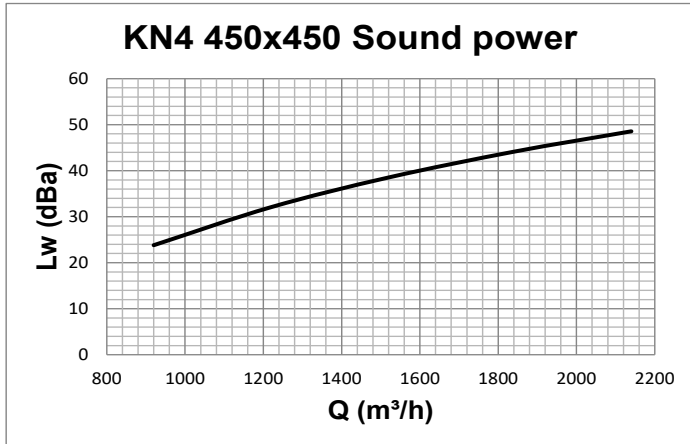




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 450  
(594x594 external frame)

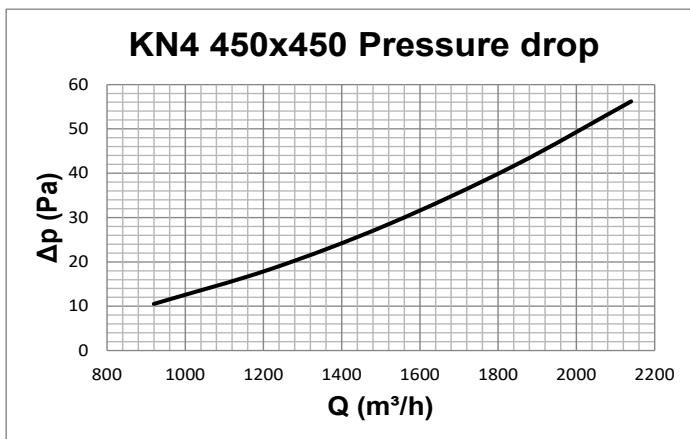


Data measured in reverberation room in accordance with international standards:

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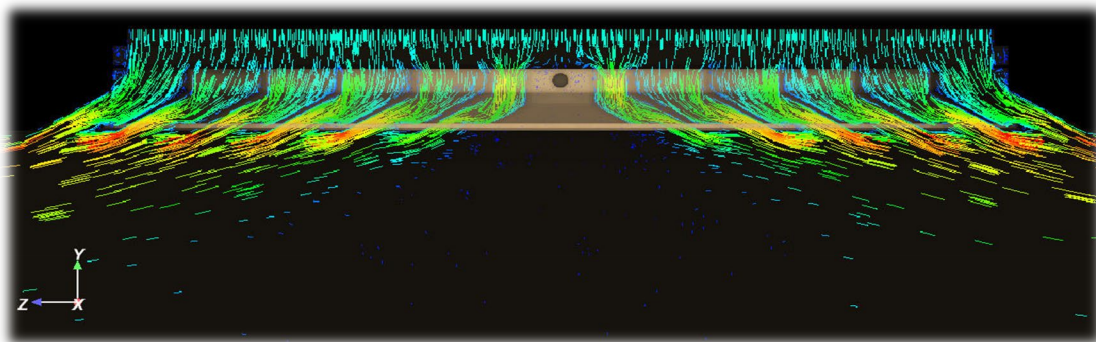
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

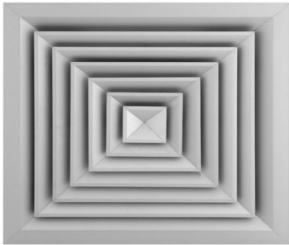
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**ISO 5219 1984:** *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

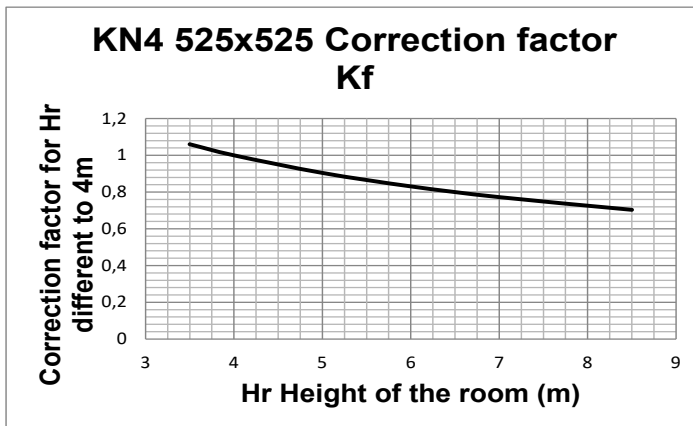
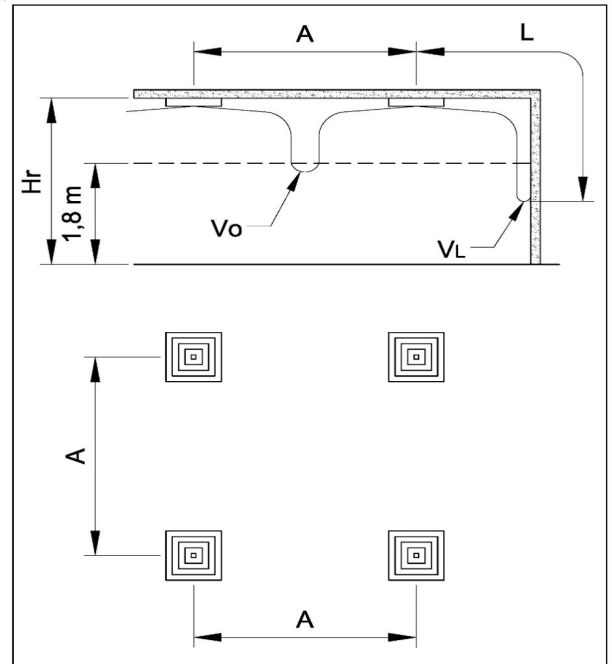
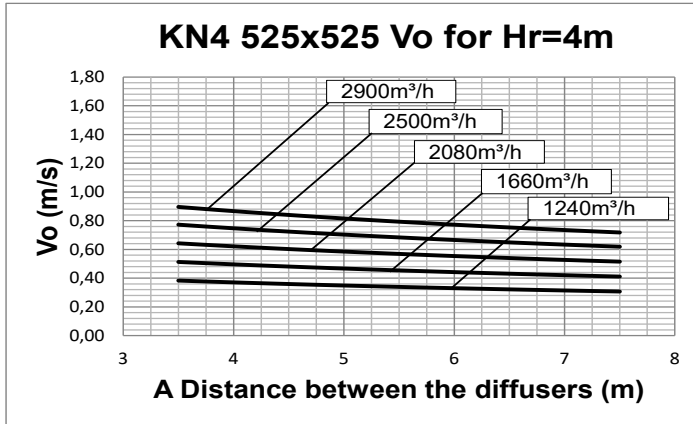




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

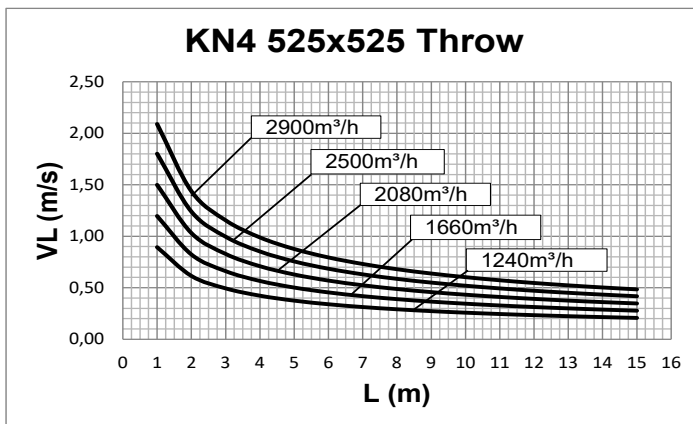
**KN4  
SERIES**

**PERFORMANCE KN4 525**

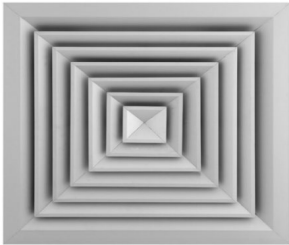


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



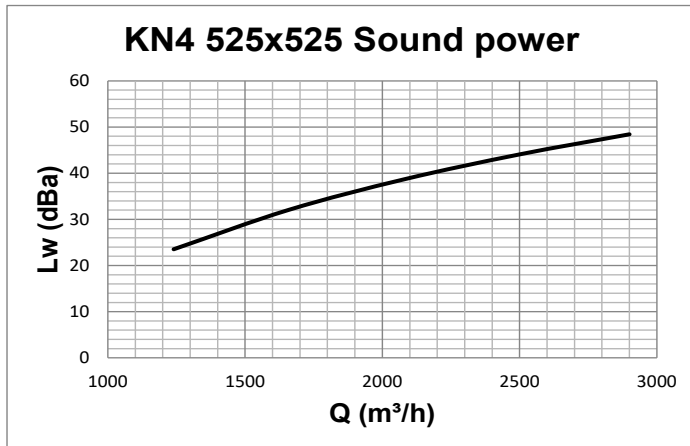
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 525

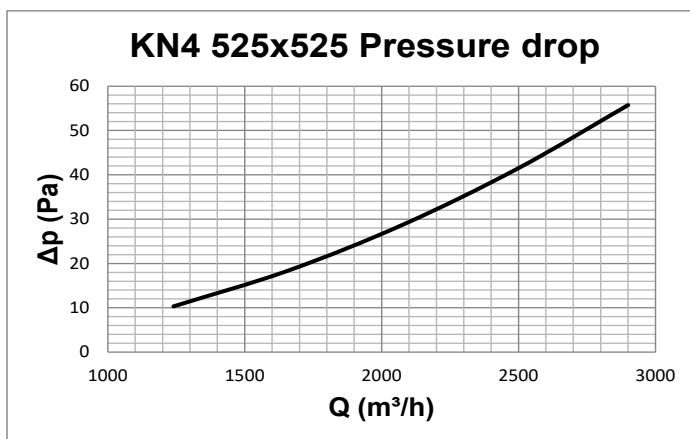


Data measured in reverberation room in accordance with international standards:

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

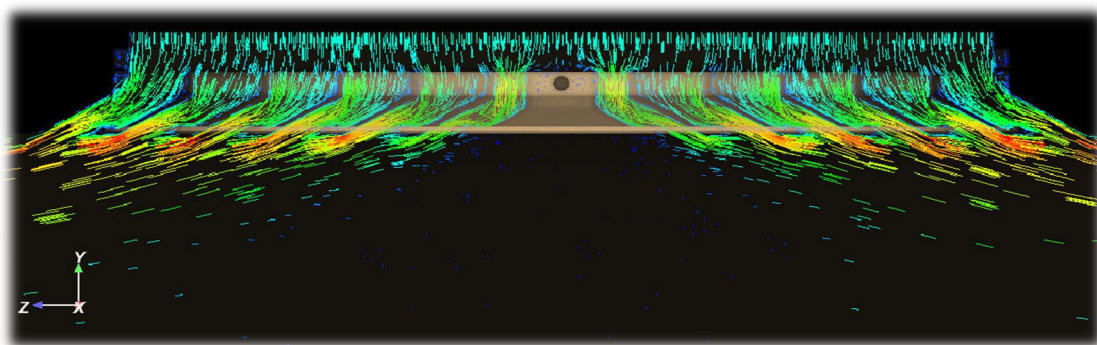
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

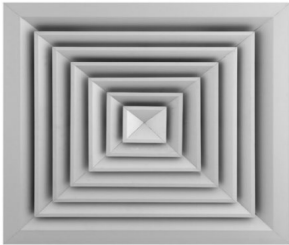
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

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

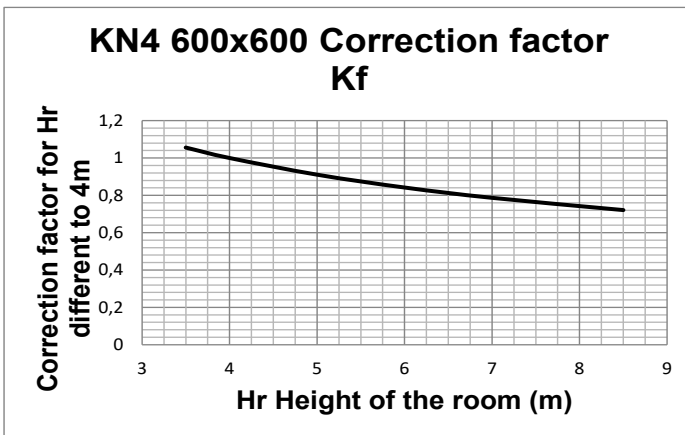
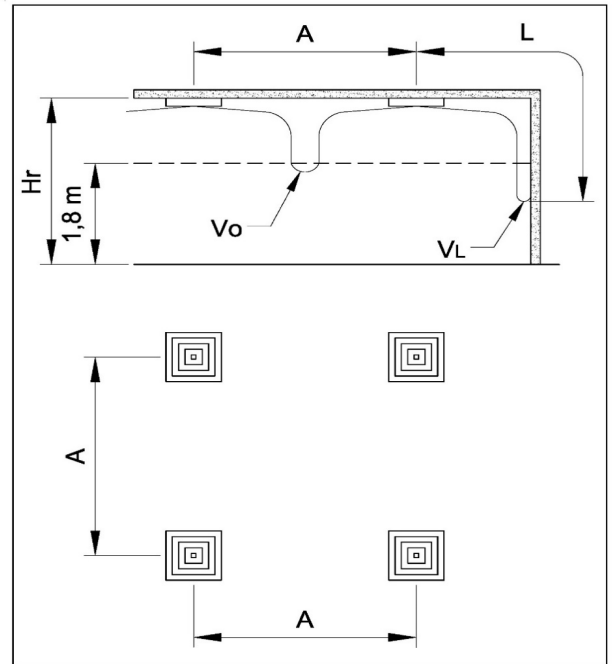
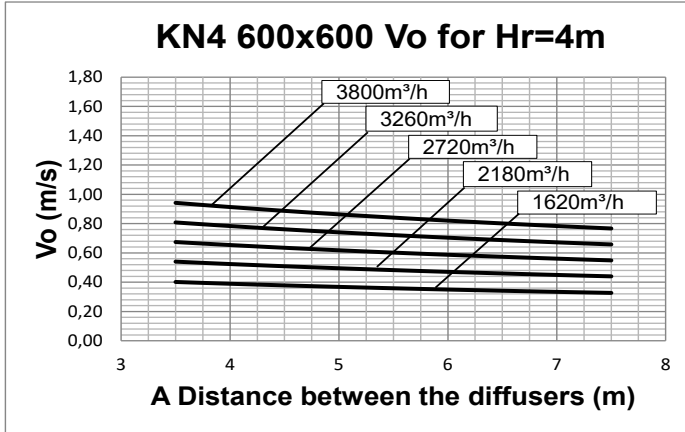




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

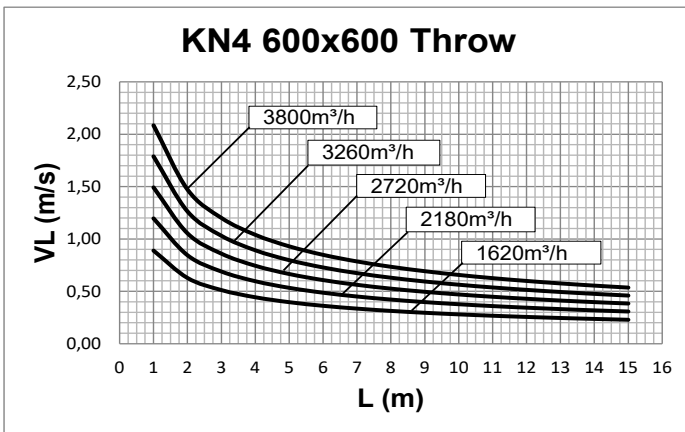
**KN4  
SERIES**

**PERFORMANCE KN4 600**

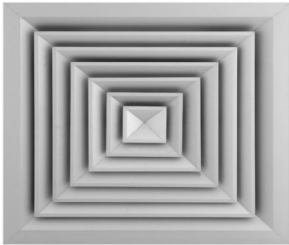


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



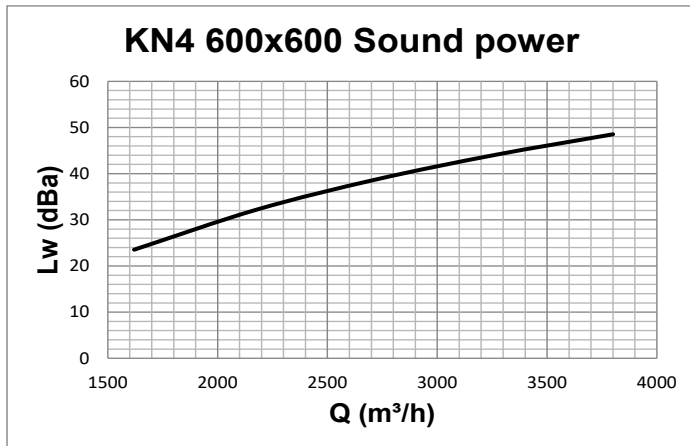
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN4  
SERIES

PERFORMANCE KN4 600

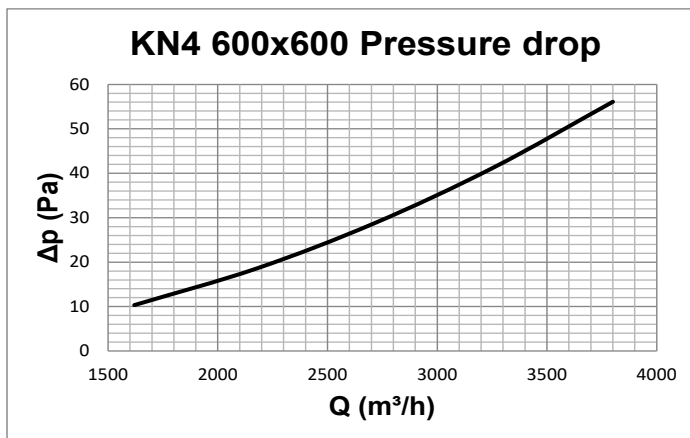


Data measured in reverberation room in accordance with international standards:

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

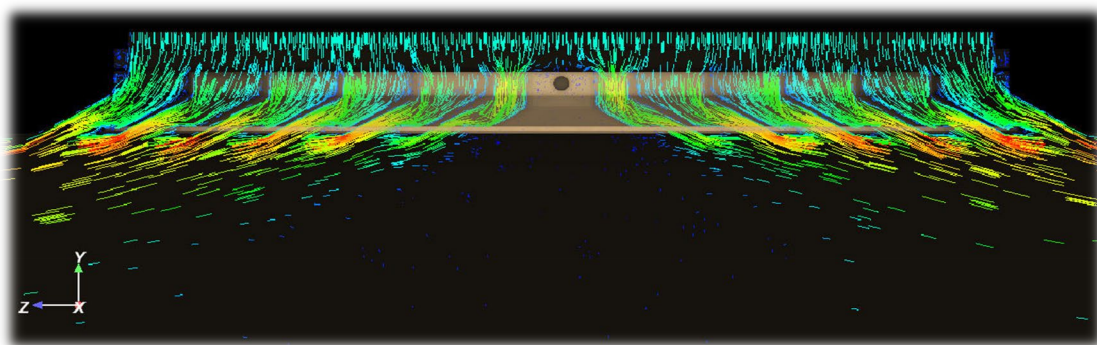
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

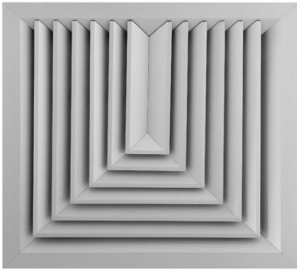
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

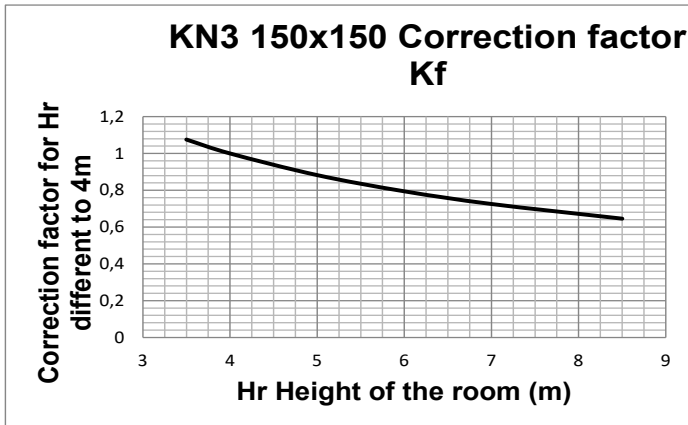
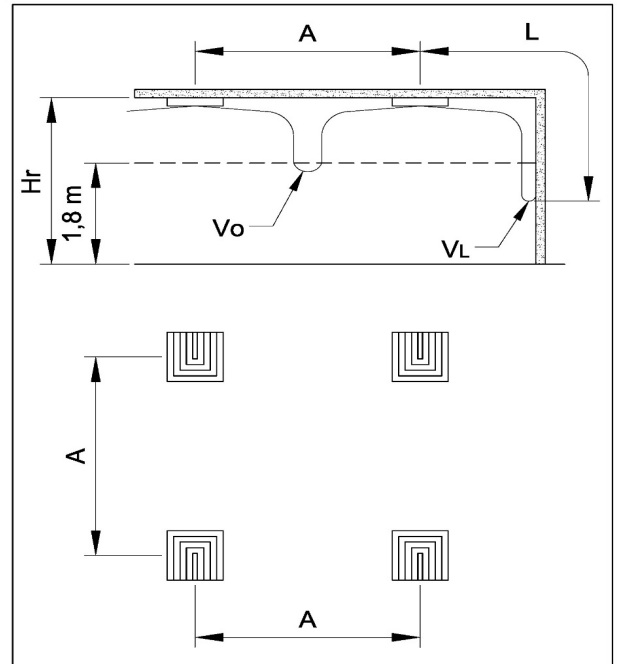
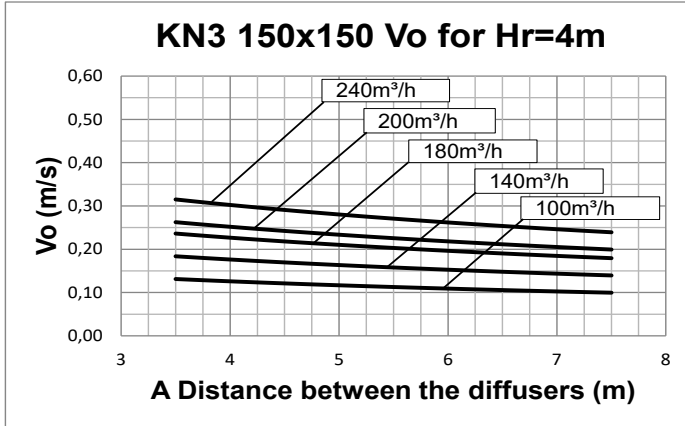




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

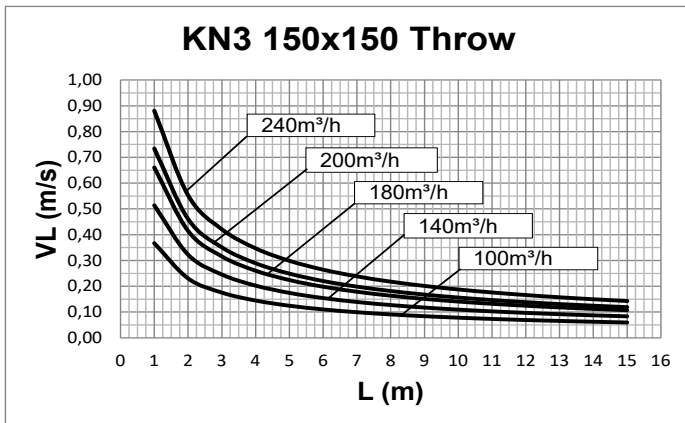
**KN3  
SERIES**

**PERFORMANCE KN3 150**

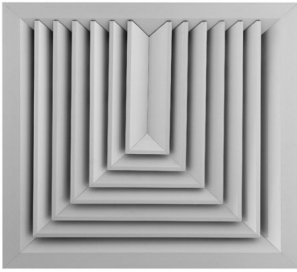


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



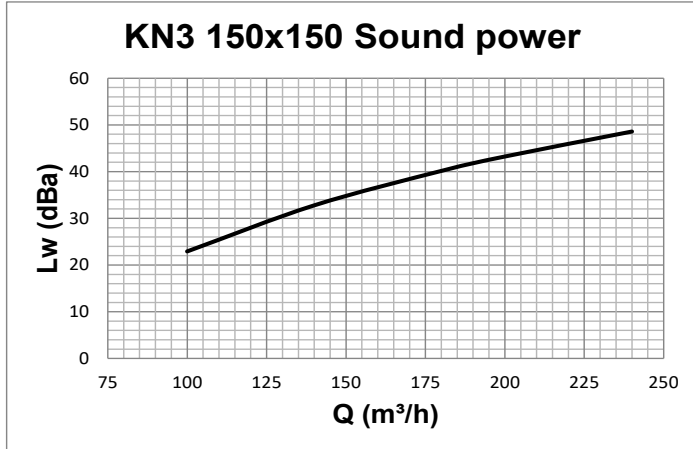
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 150

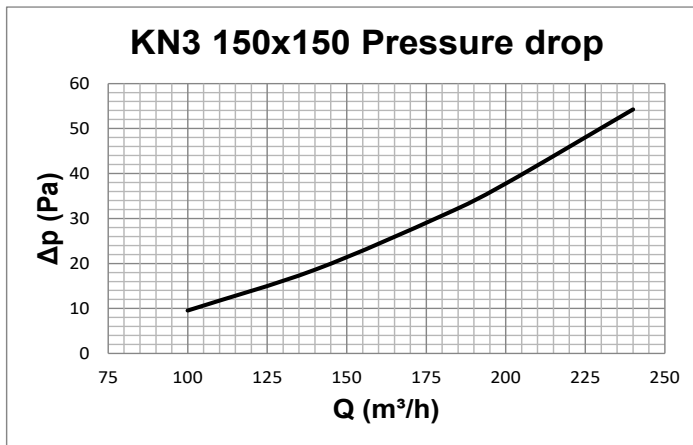


Data measured in reverberation room in accordance with international standards:

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

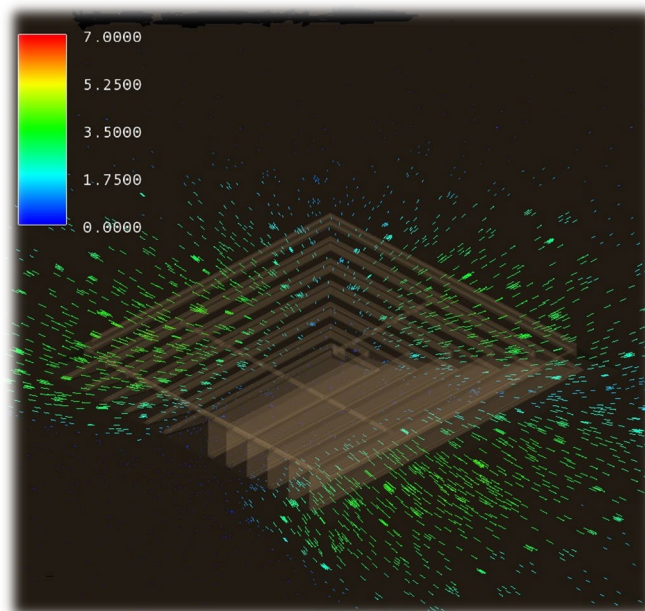
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

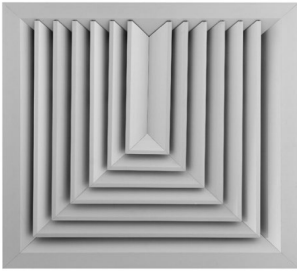
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

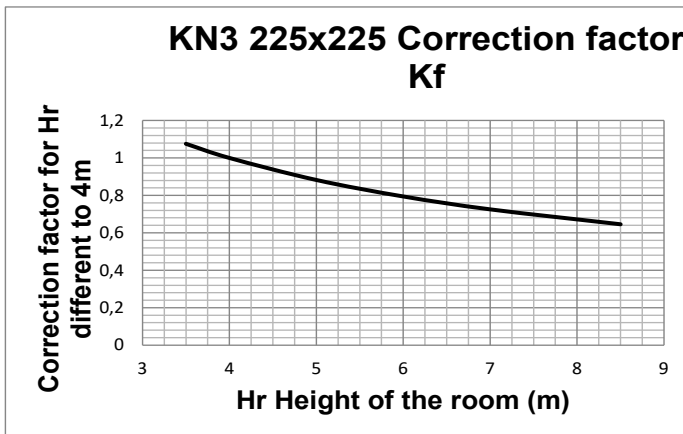
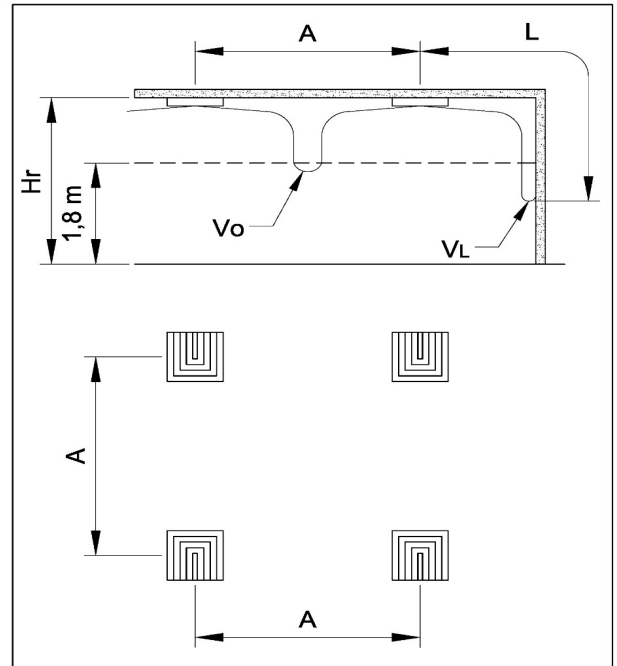
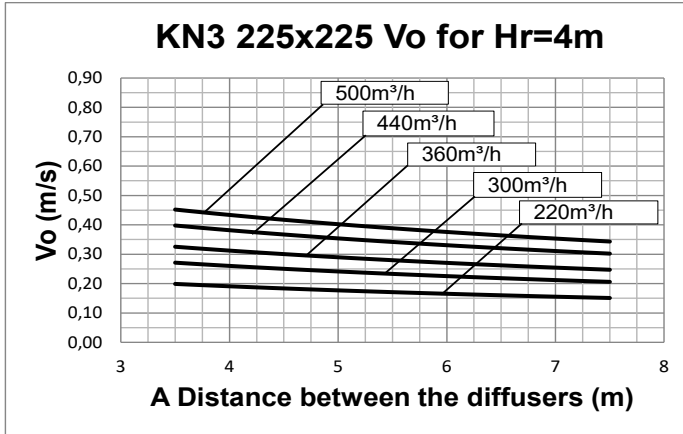




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

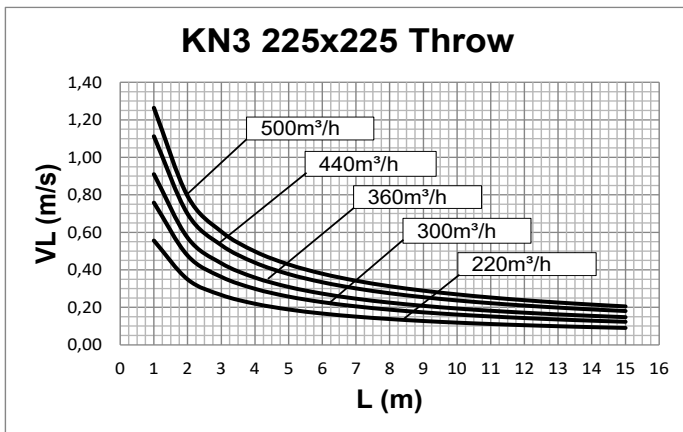
**KN3  
SERIES**

**PERFORMANCE KN3 225**



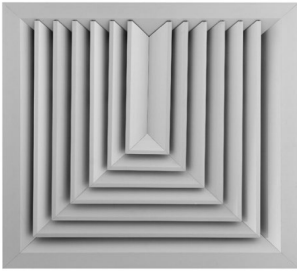
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



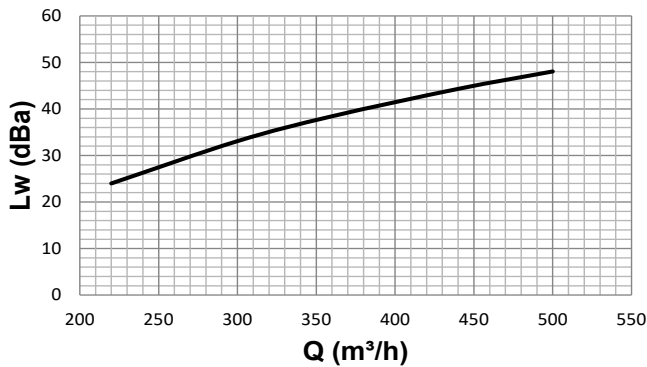


## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 225

### KN3 225x225 Sound power



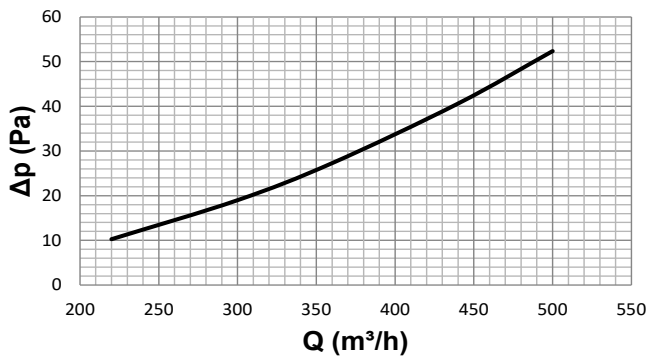
Data measured in reverberation room in accordance with international standards:

**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.*

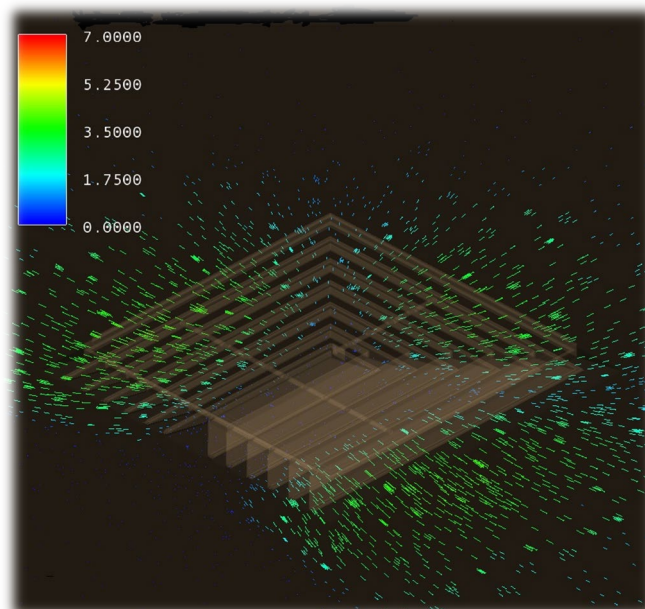
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.

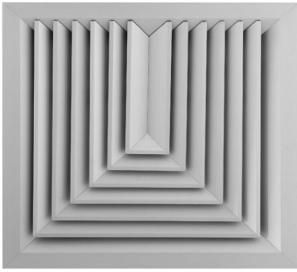
### KN3 225x225 Pressure drop



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.*

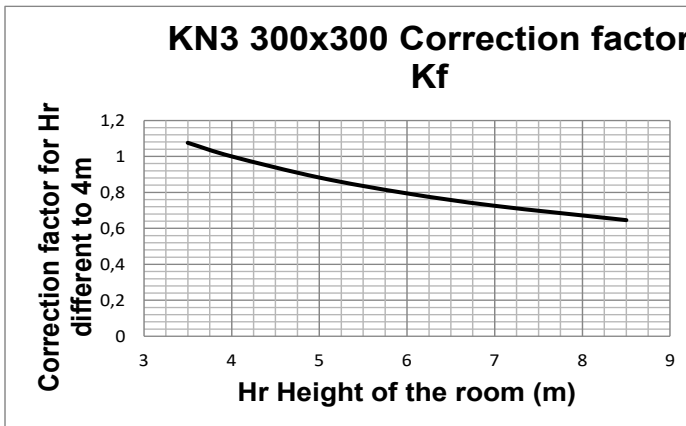
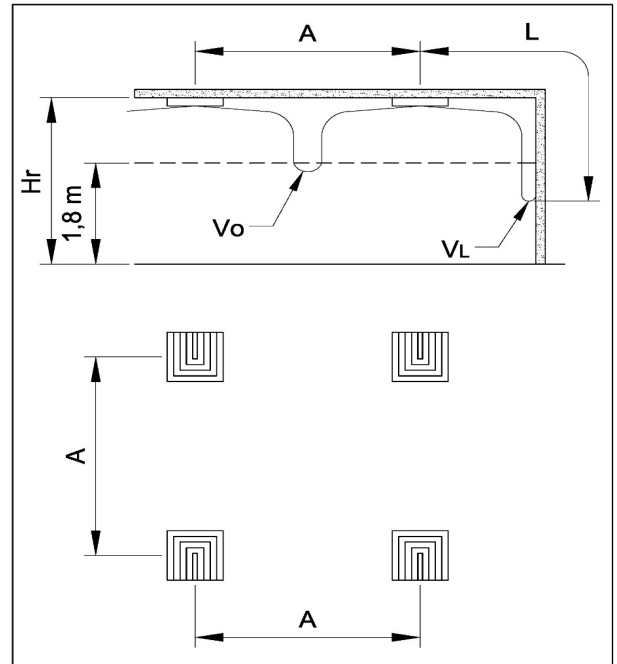
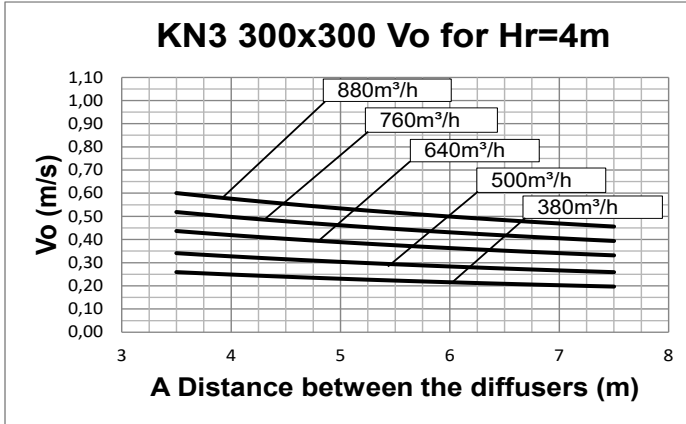




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

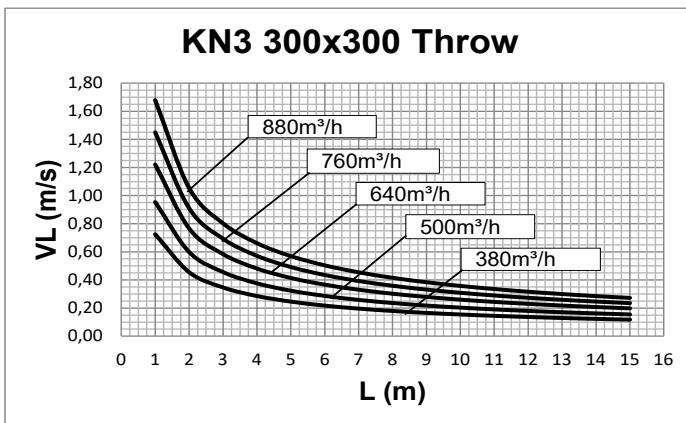
**KN3  
SERIES**

**PERFORMANCE KN3 300**

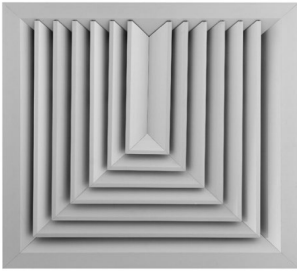


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



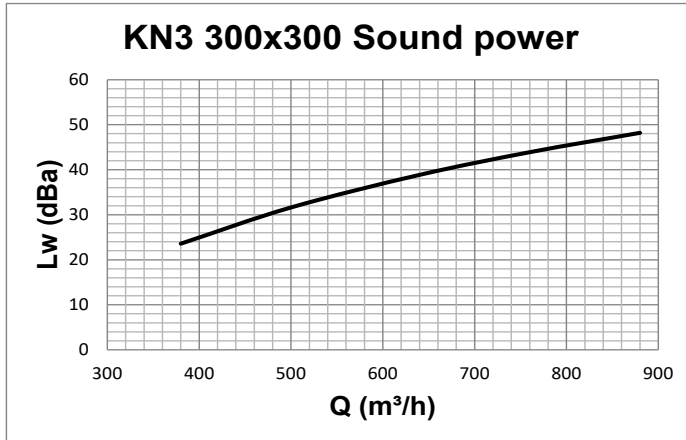
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 300

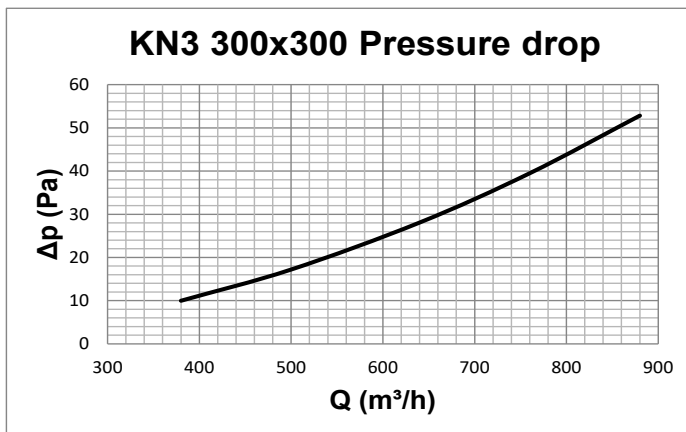


Data measured in reverberation room in accordance with international standards:

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

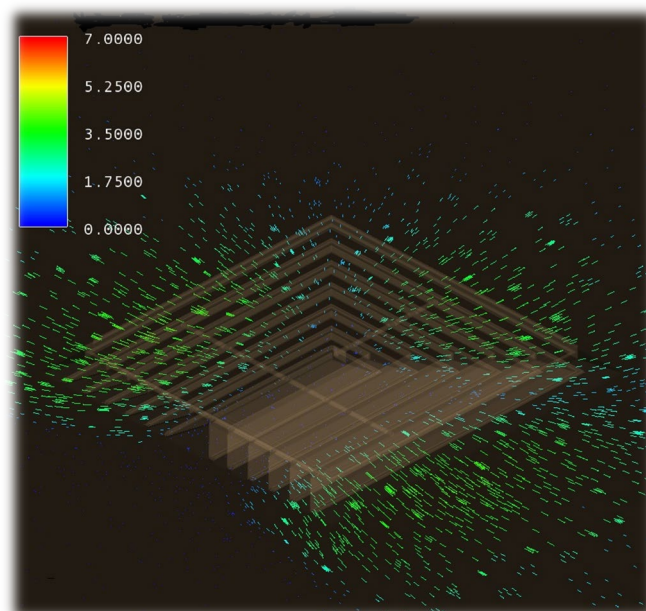
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

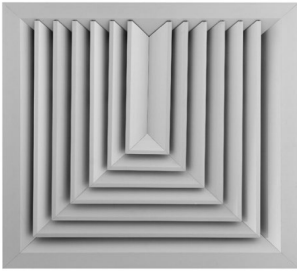
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

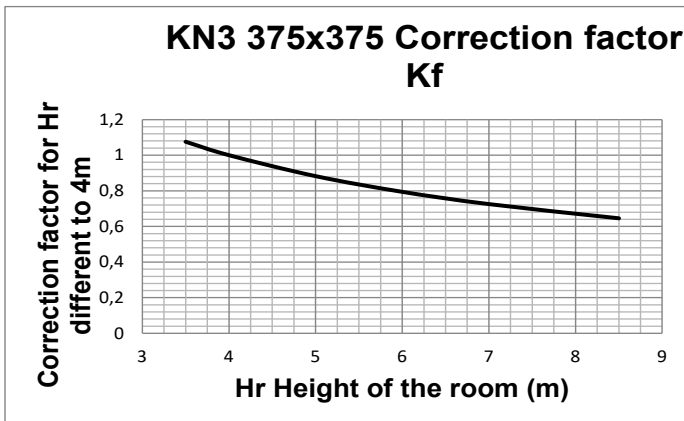
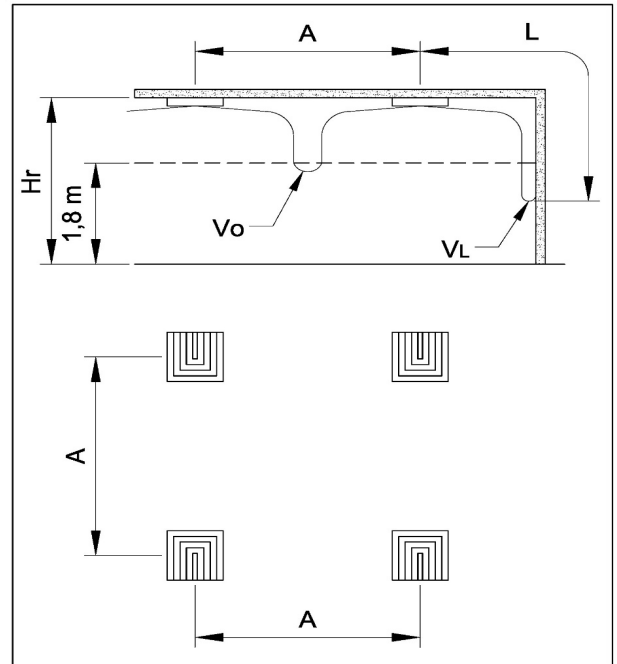
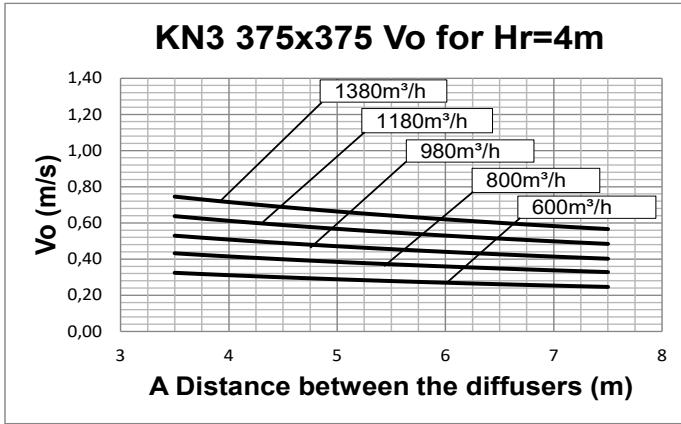




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

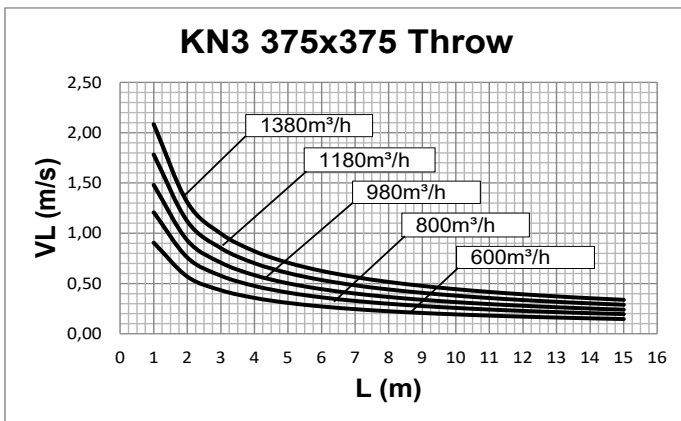
**KN3  
SERIES**

**PERFORMANCE KN3 375**

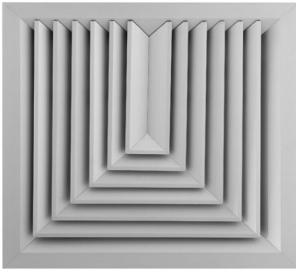


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



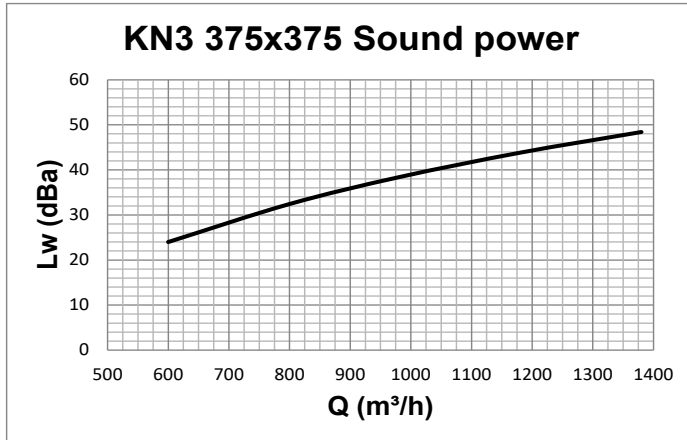
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 375

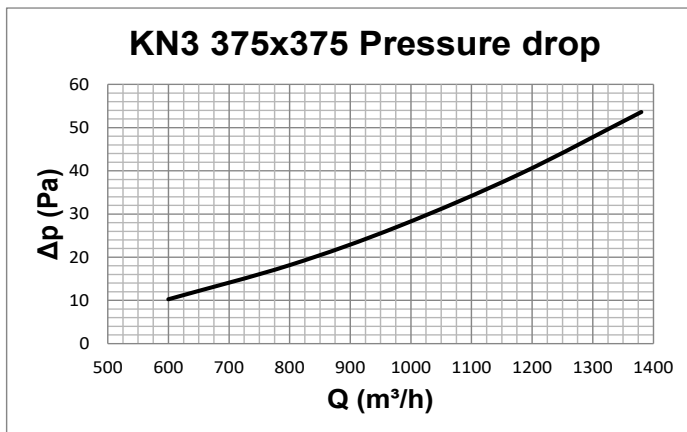


Data measured in reverberation room in accordance with international standards:

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

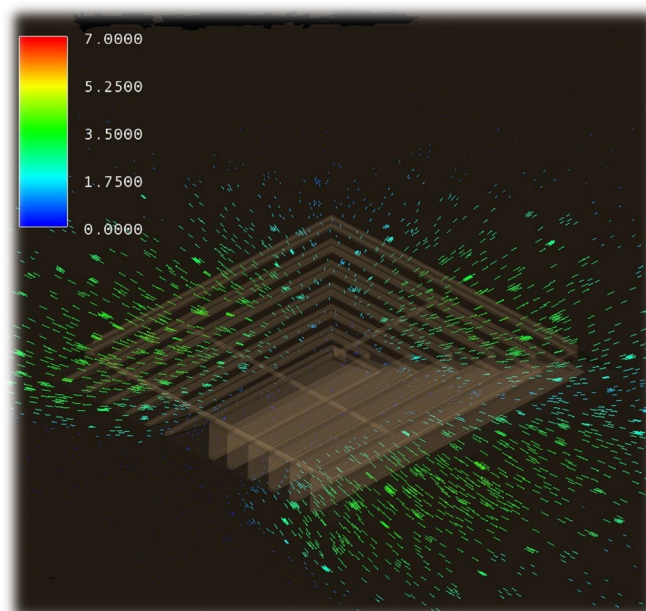
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

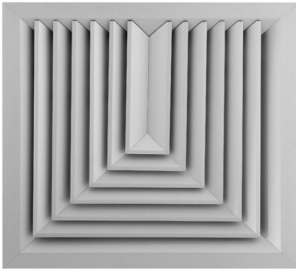
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

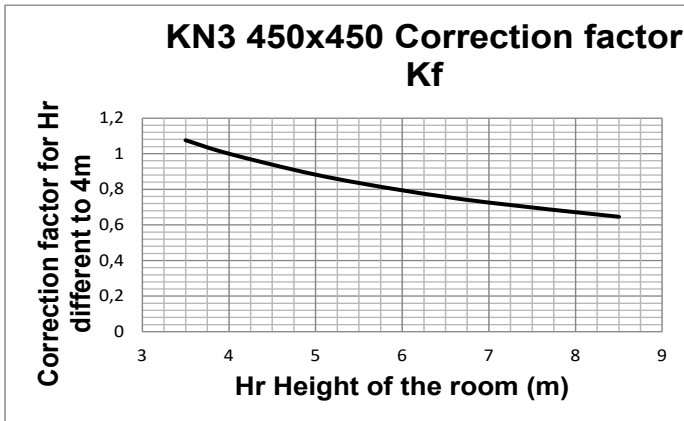
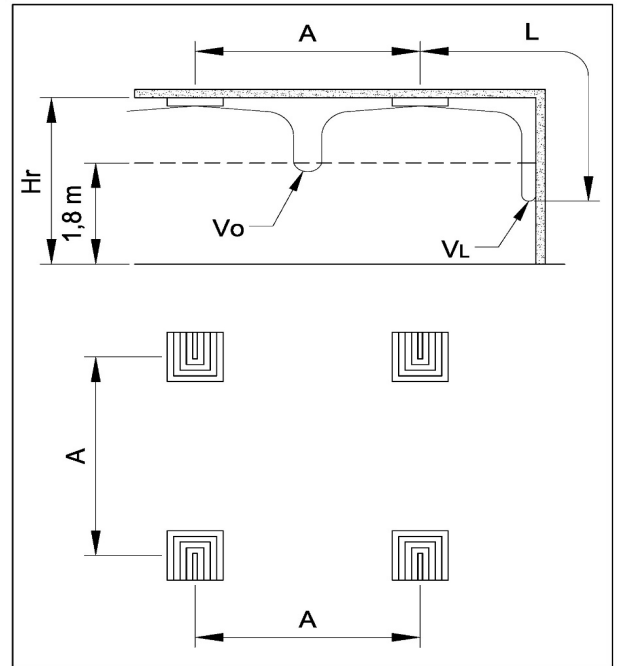
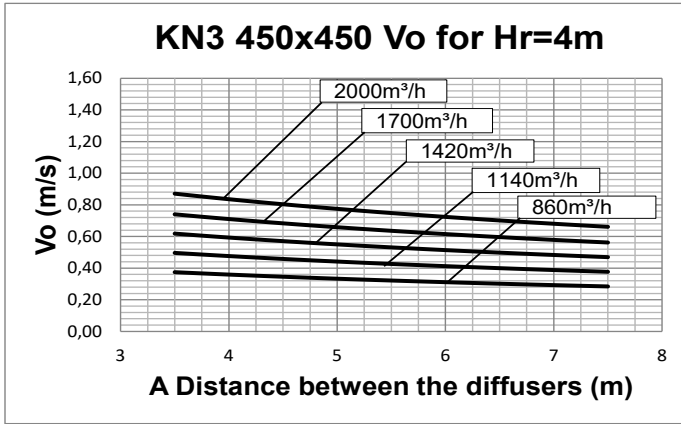




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

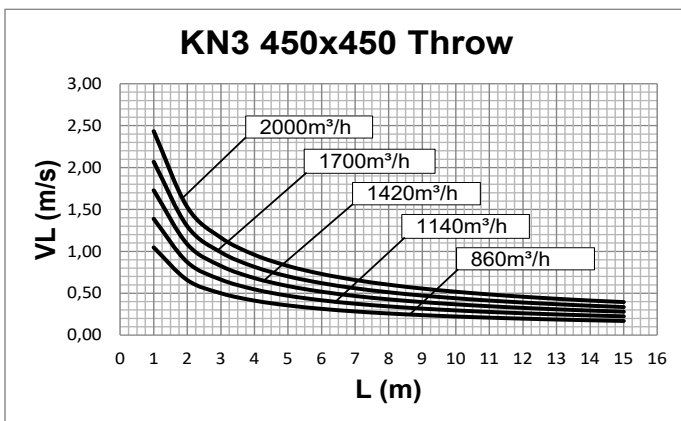
KN3  
SERIES

PERFORMANCE KN3 450  
(594x594 external frame)

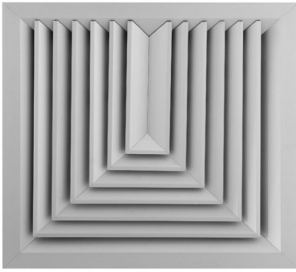


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.

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



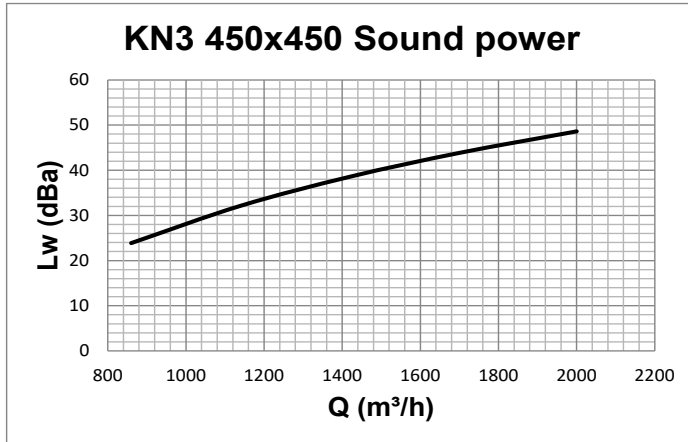
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN3  
SERIES

PERFORMANCE KN3 450  
(594x594 external frame)

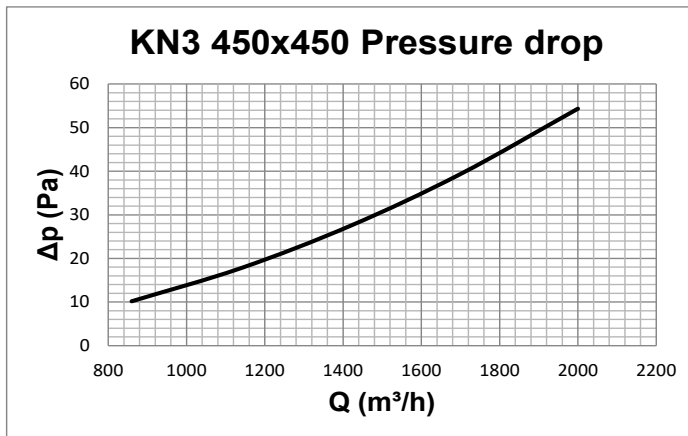


Data measured in reverberation room in accordance with international standards:

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

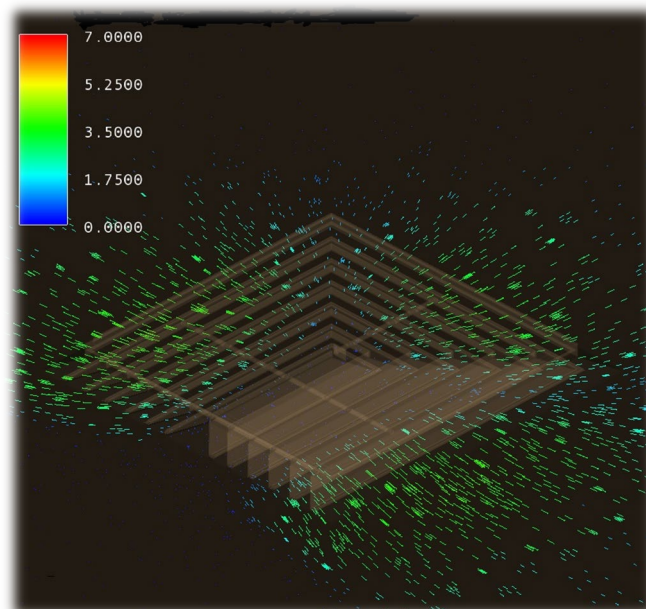
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

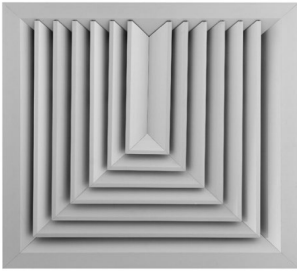
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

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

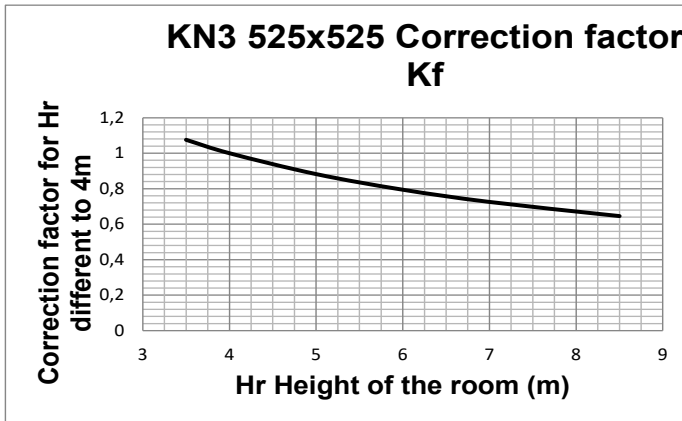
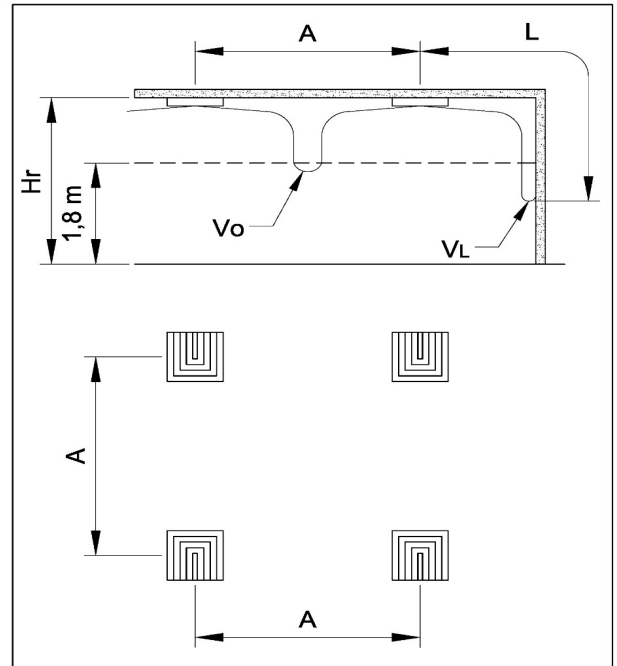
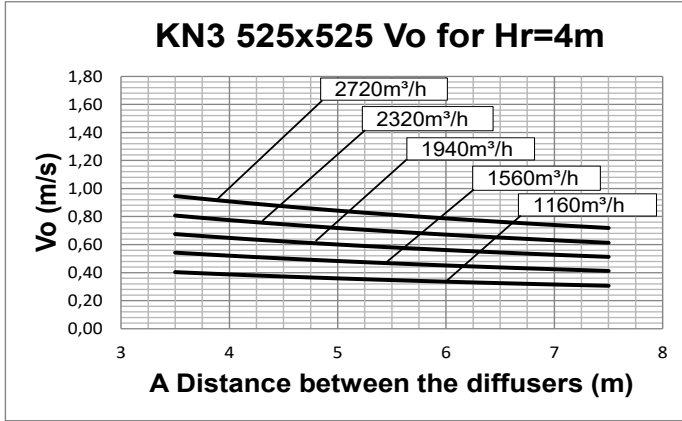




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

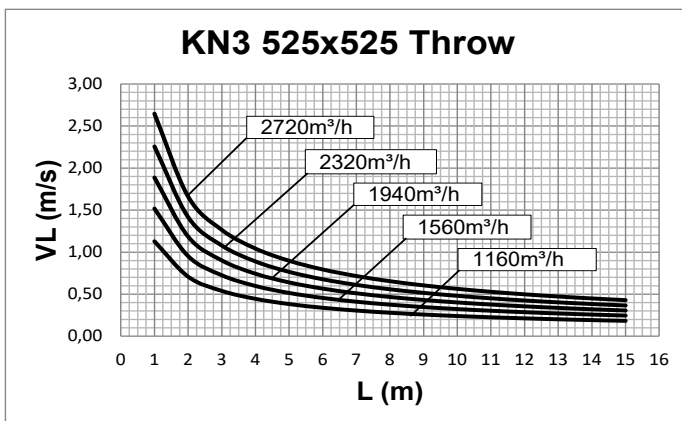
**KN3  
SERIES**

**PERFORMANCE KN3 525**



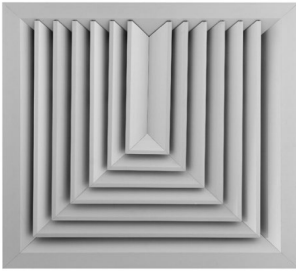
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

- 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 x Kf**

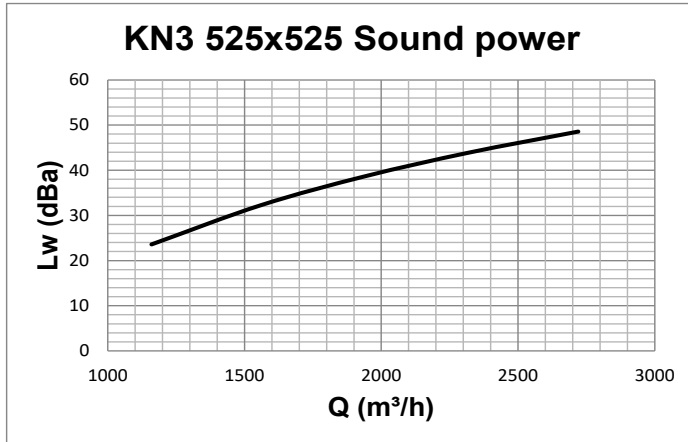




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 525

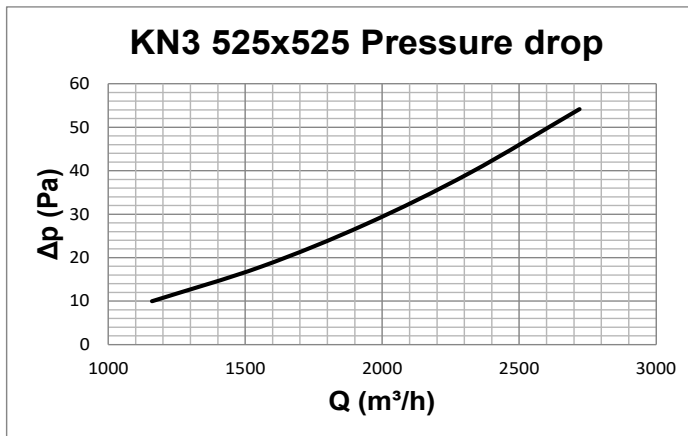


Data measured in reverberation room in accordance with international standards:

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

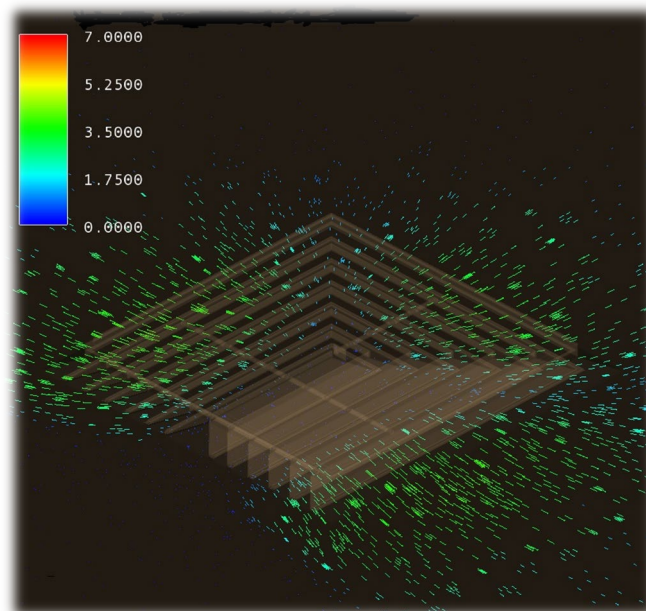
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

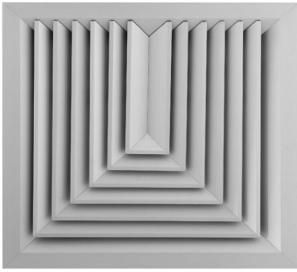
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

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

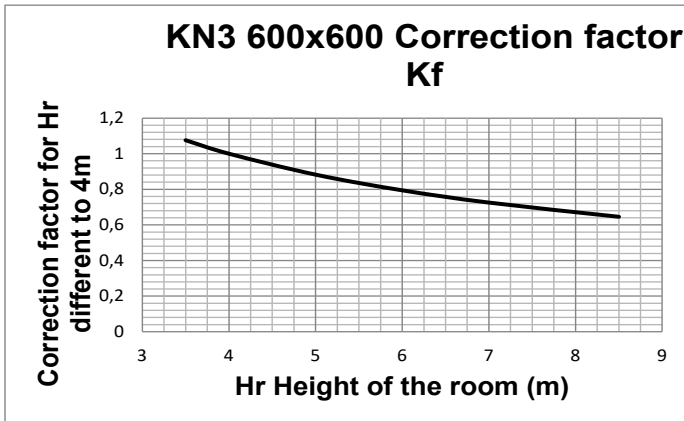
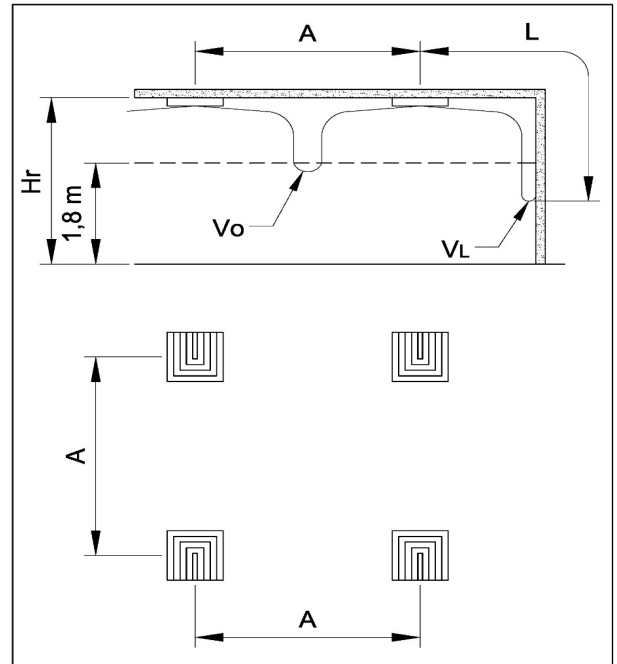
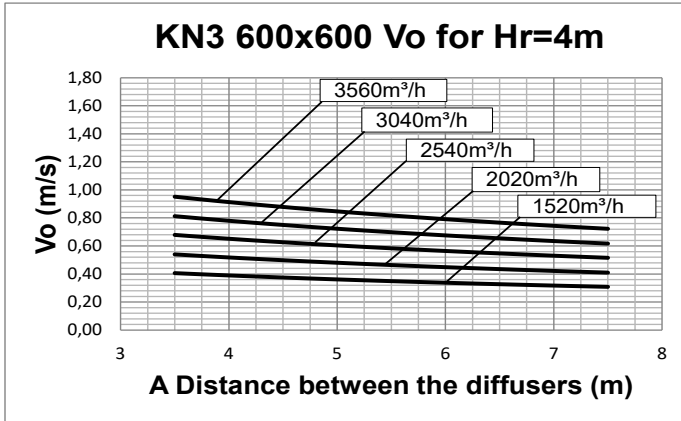




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

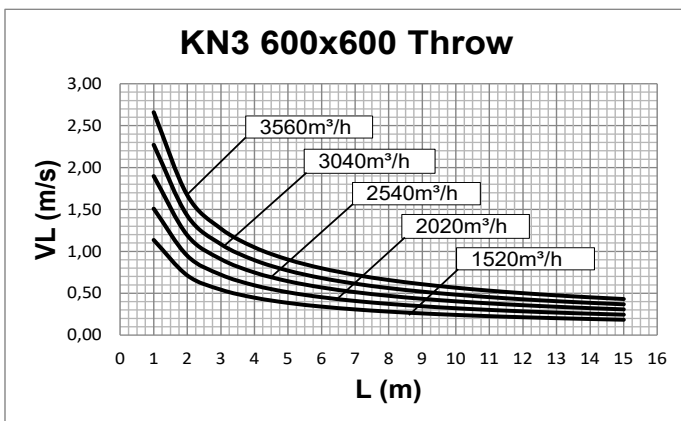
**KN3  
SERIES**

**PERFORMANCE KN3 600**

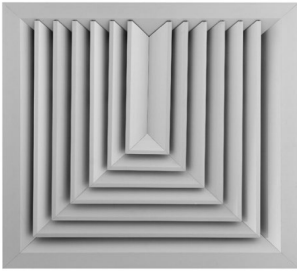


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



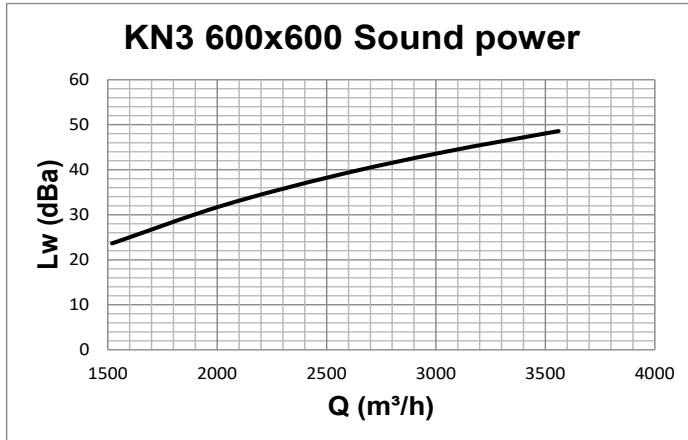
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN3 SERIES

PERFORMANCE KN3 600

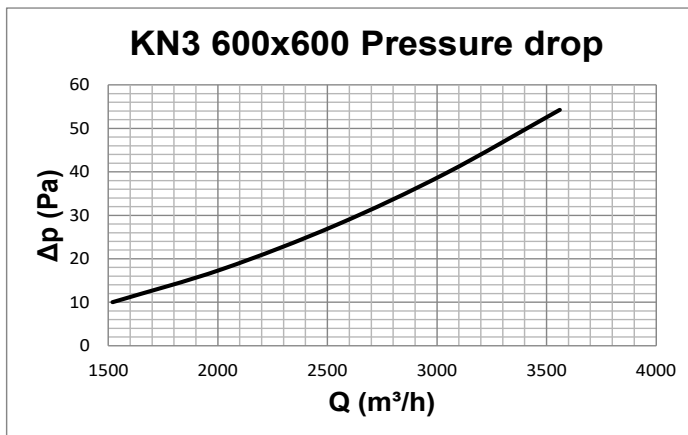


Data measured in reverberation room in accordance with international standards:

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

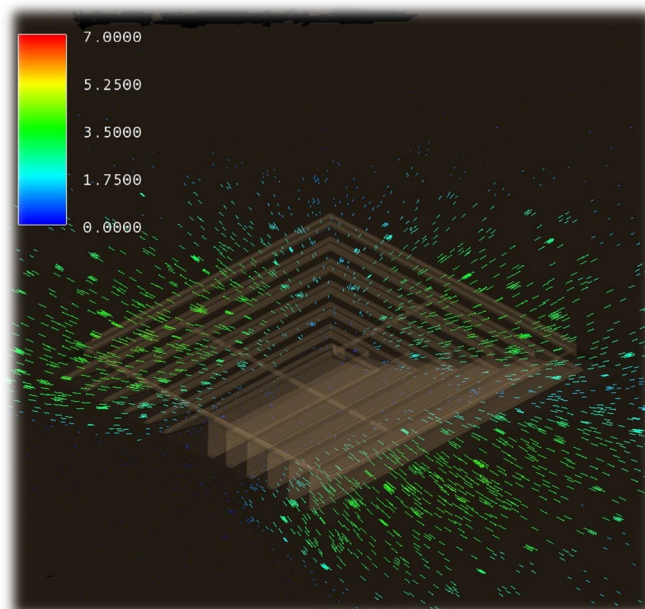
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

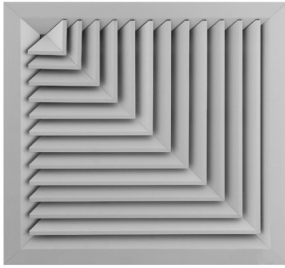
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

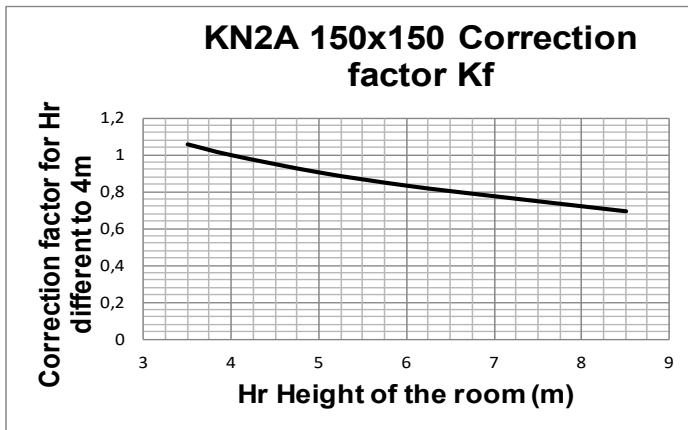
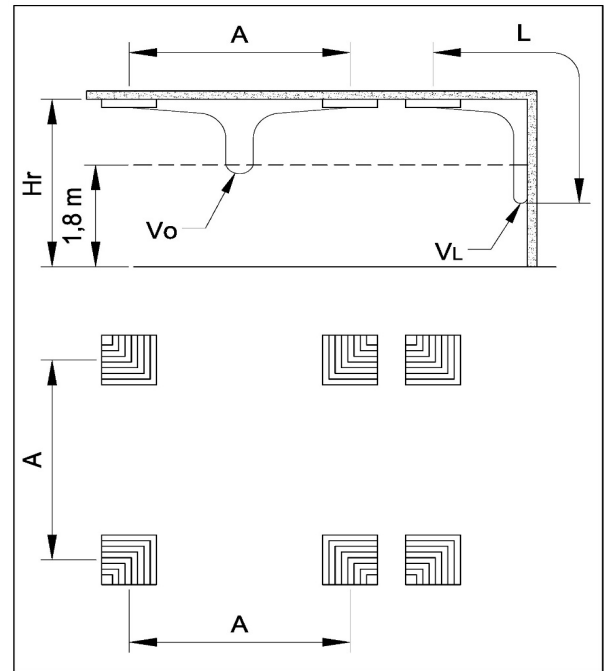
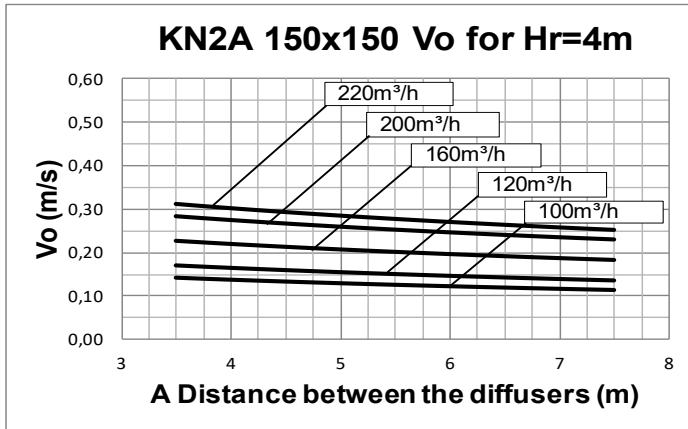




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

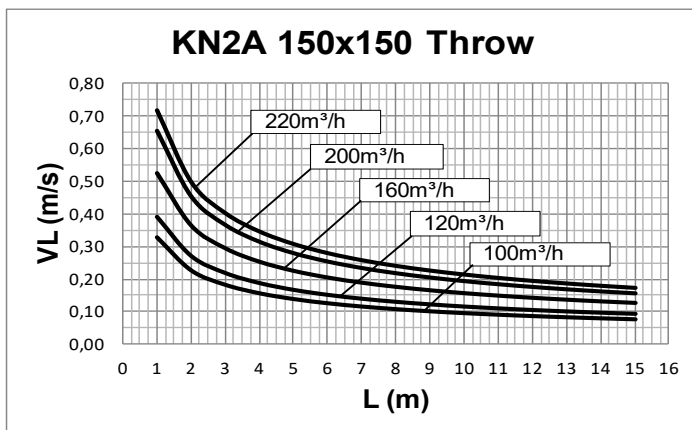
**KN2A  
SERIES**

**PERFORMANCE KN2A 150**

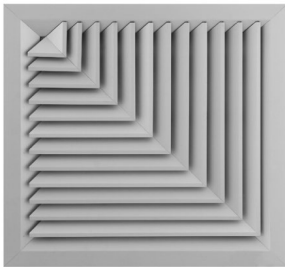


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



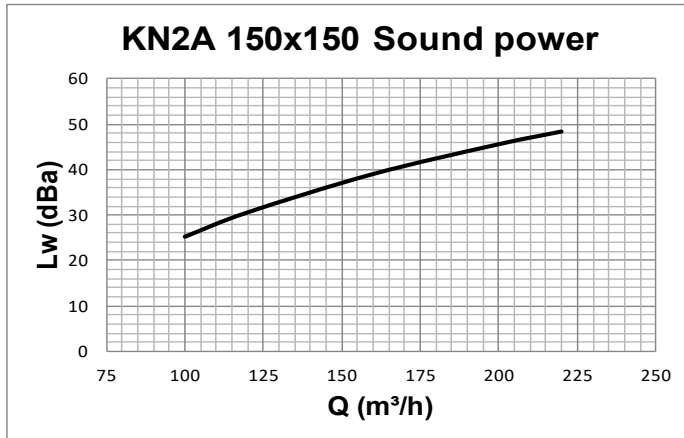
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 150

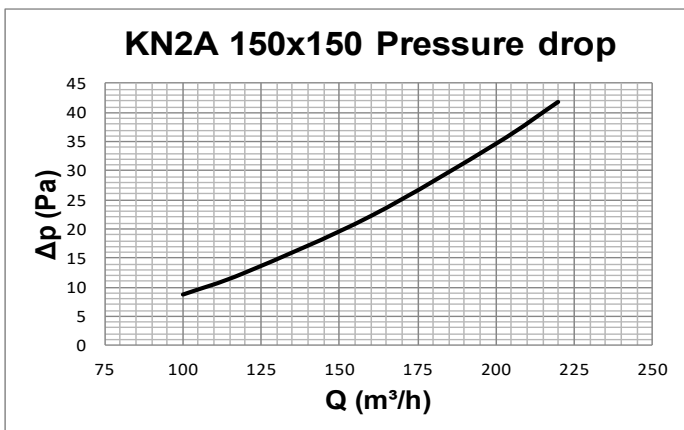


Data measured in reverberation room in accordance with international standards:

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

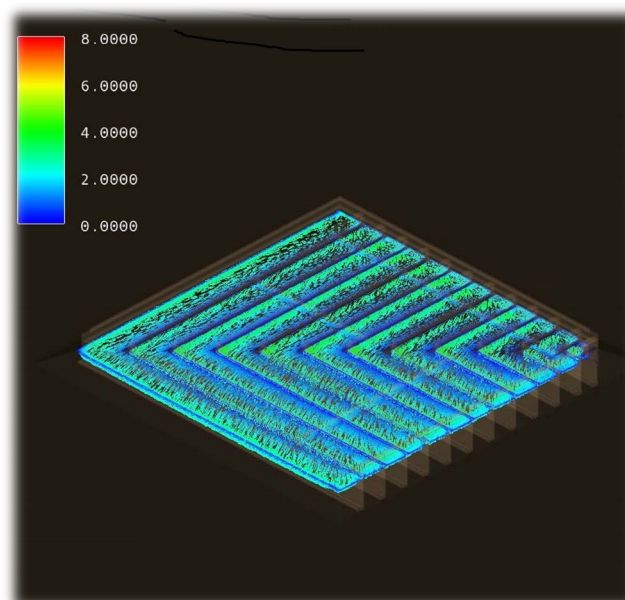
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

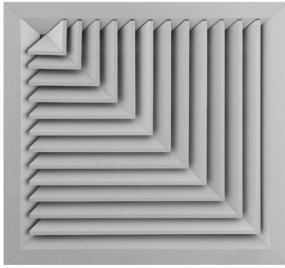
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

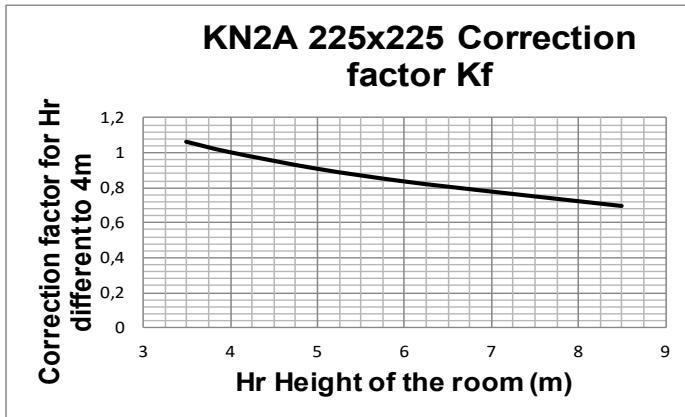
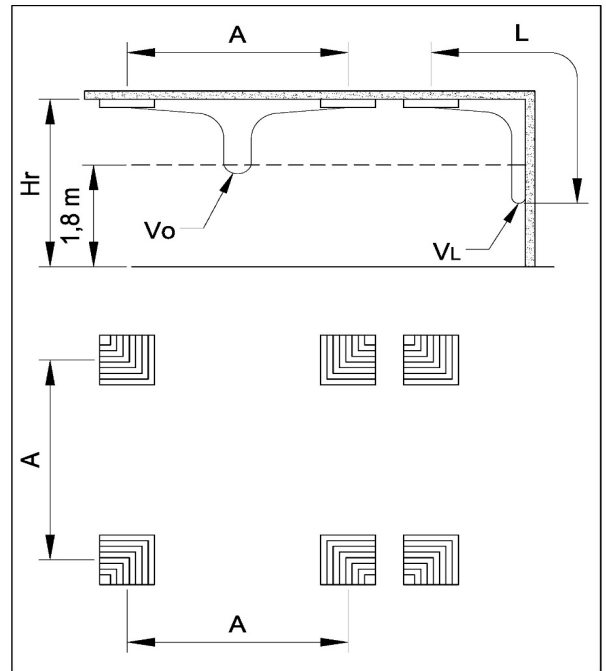
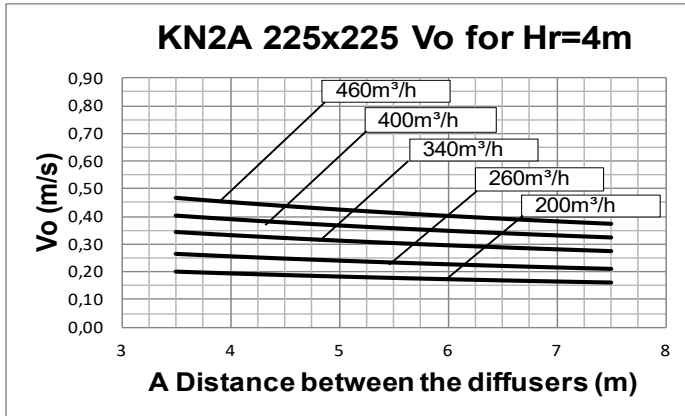




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

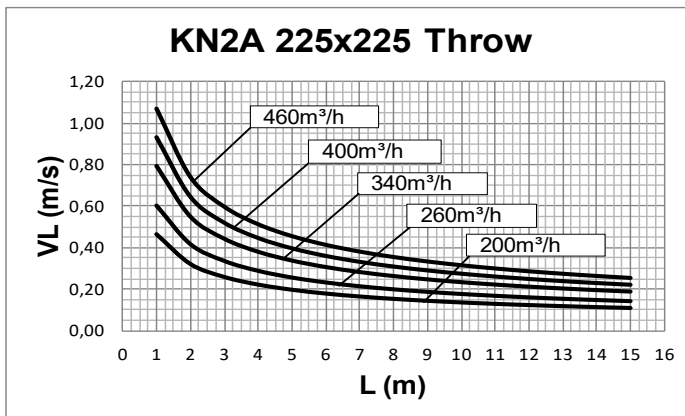
**KN2A  
SERIES**

**PERFORMANCE KN2A 225**

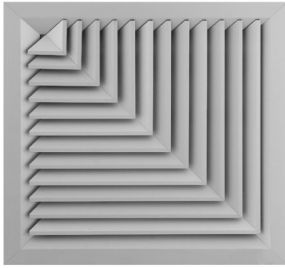


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



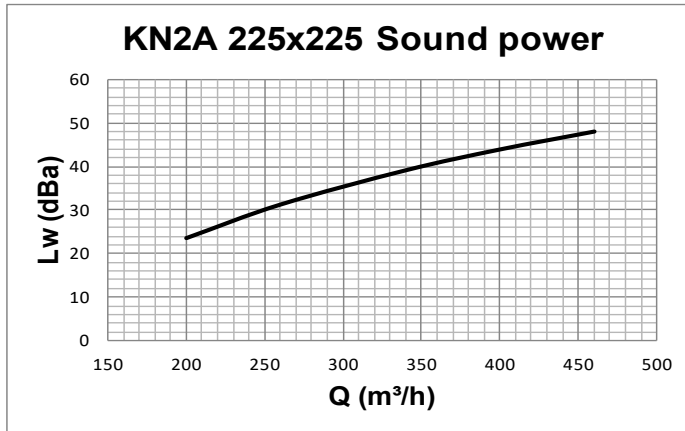
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 225

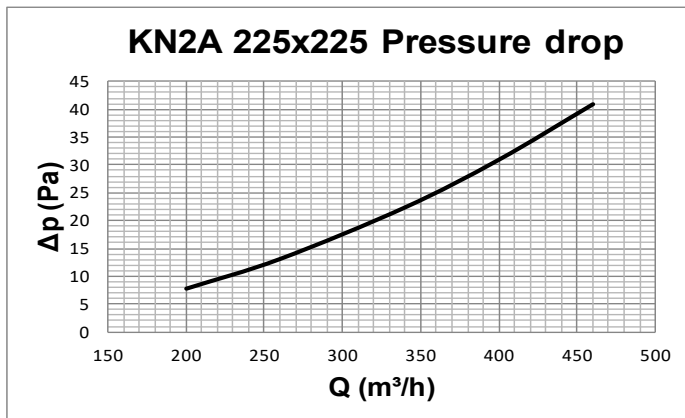


Data measured in reverberation room in accordance with international standards:

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

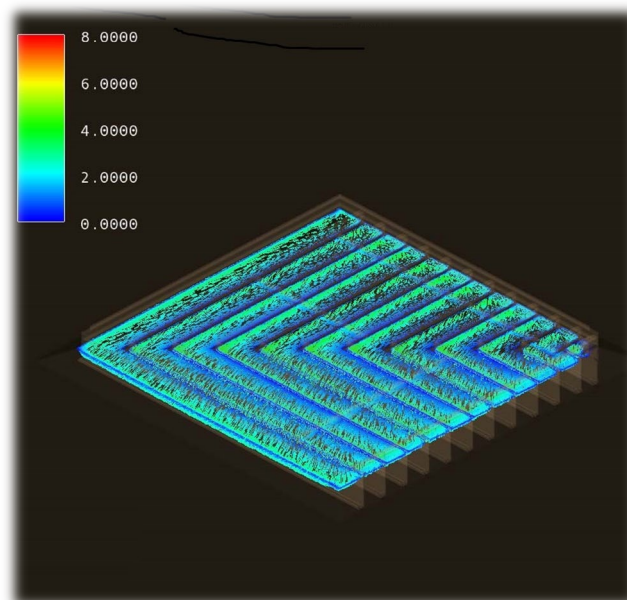
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

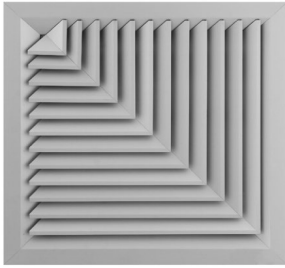
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

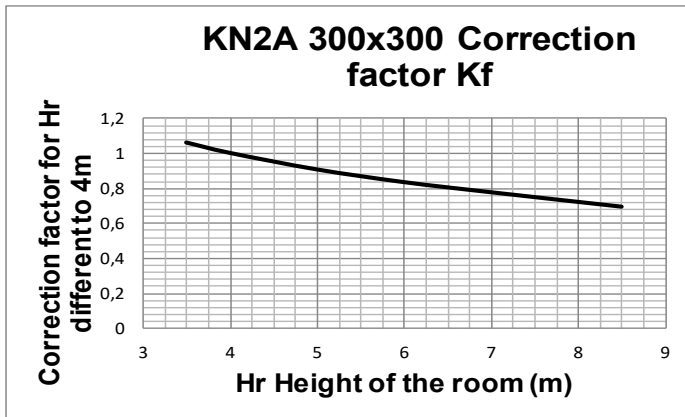
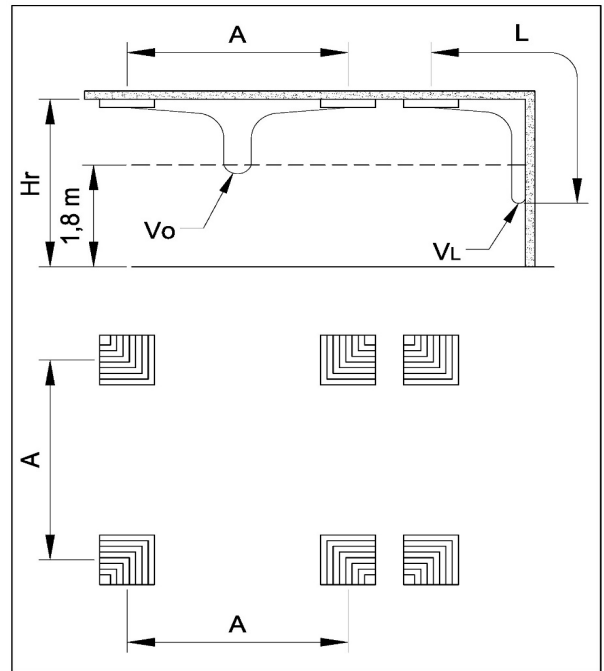
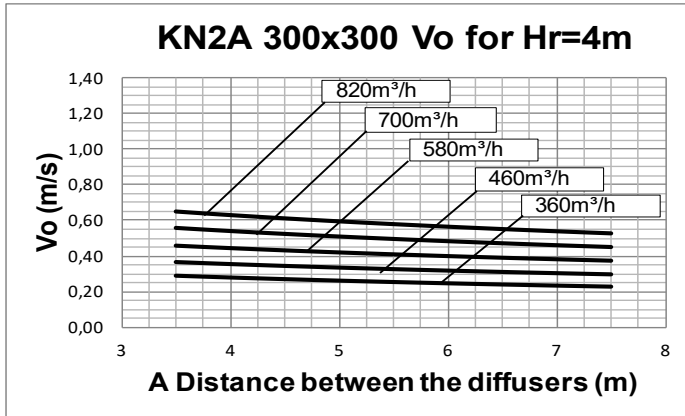




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

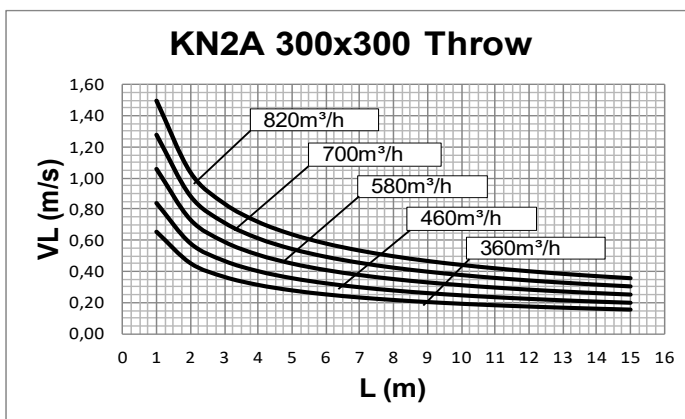
**KN2A  
SERIES**

**PERFORMANCE KN2A 300**



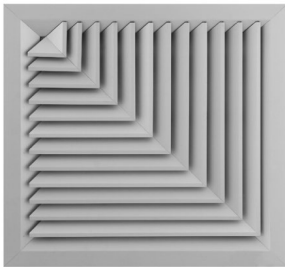
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

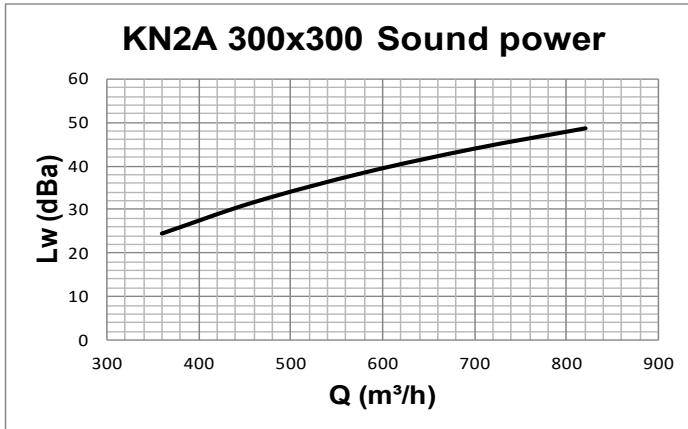




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

**KN2A  
SERIES**

**PERFORMANCE KN2A 300**

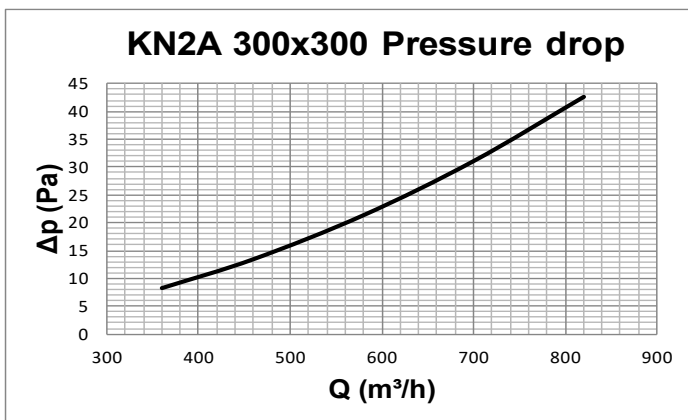


Data measured in reverberation room in accordance with international standards:

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

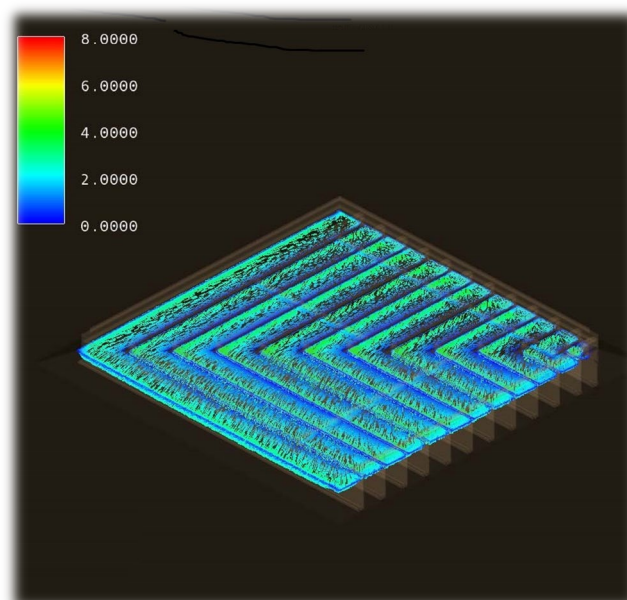
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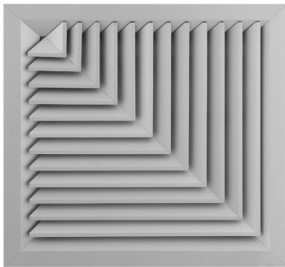
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.



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.*

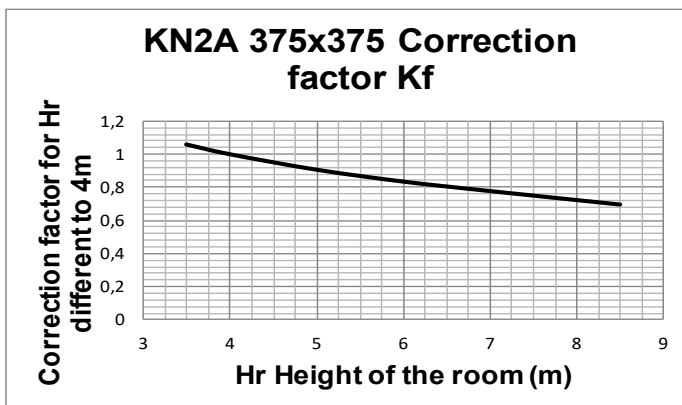
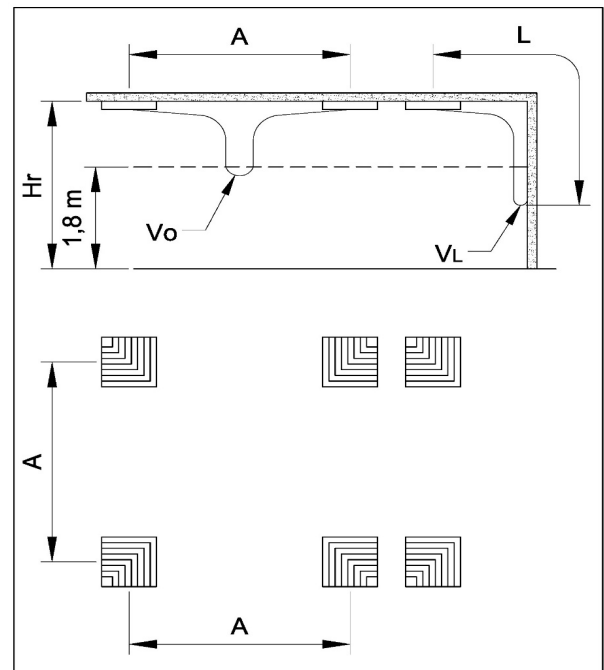
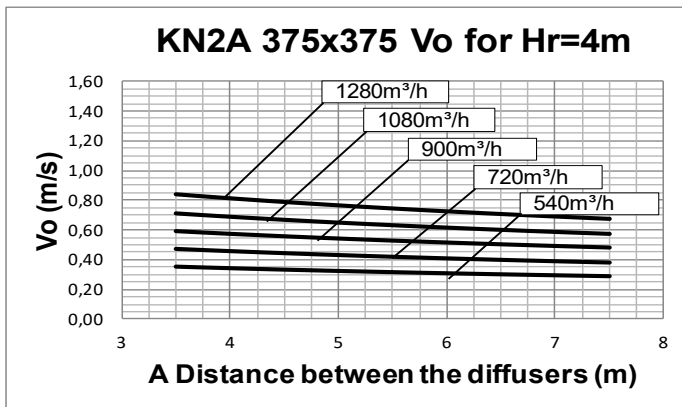




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

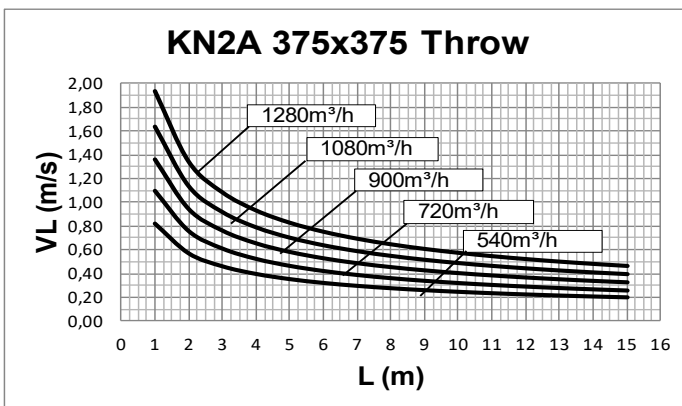
**KN2A  
SERIES**

**PERFORMANCE KN2A 375**

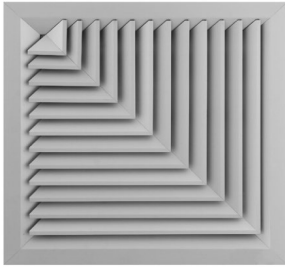


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

- 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



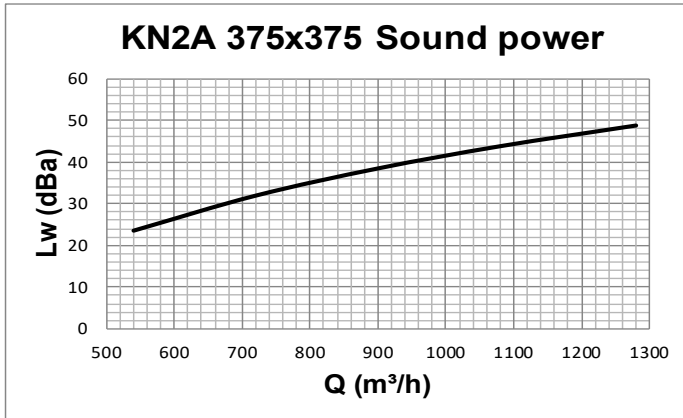
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 375

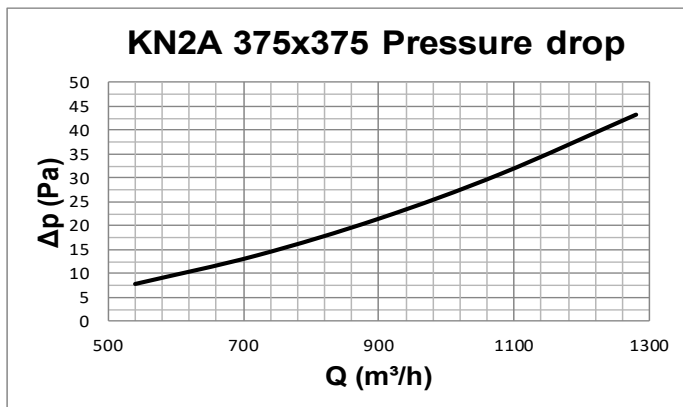


Data measured in reverberation room in accordance with international standards:

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

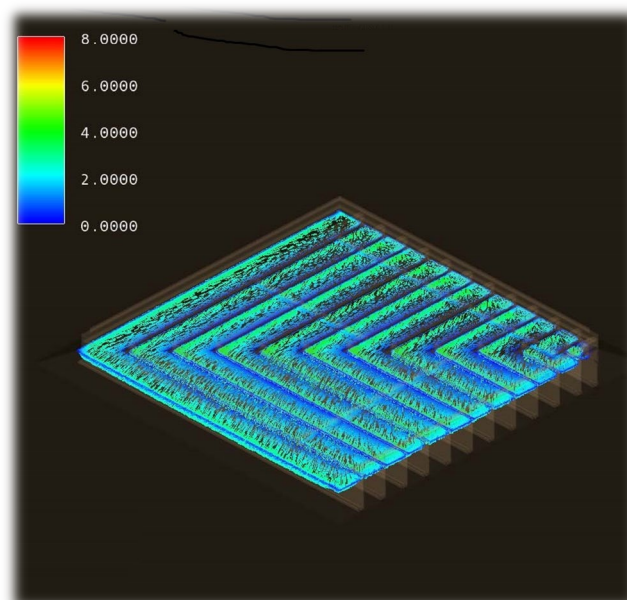
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

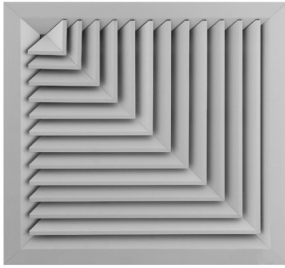
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.



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.*

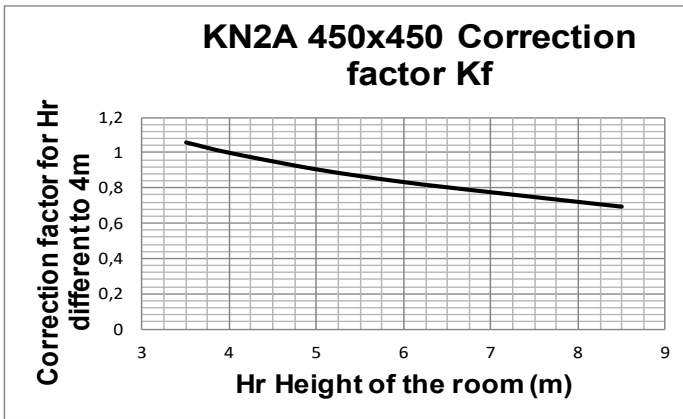
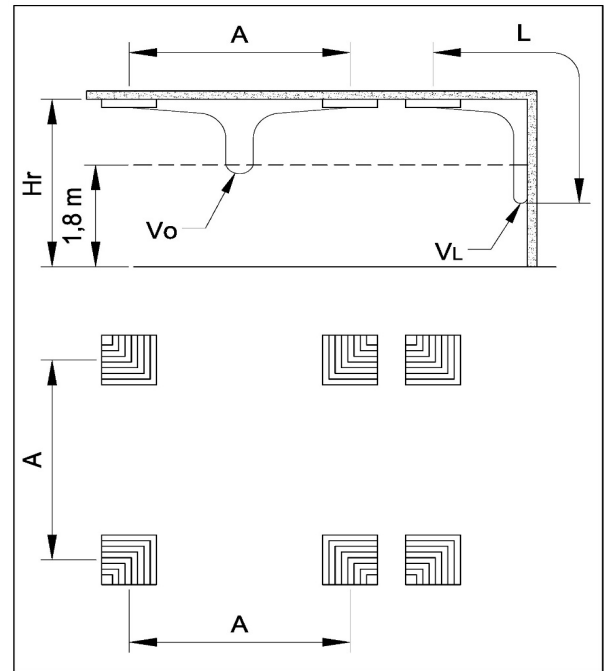
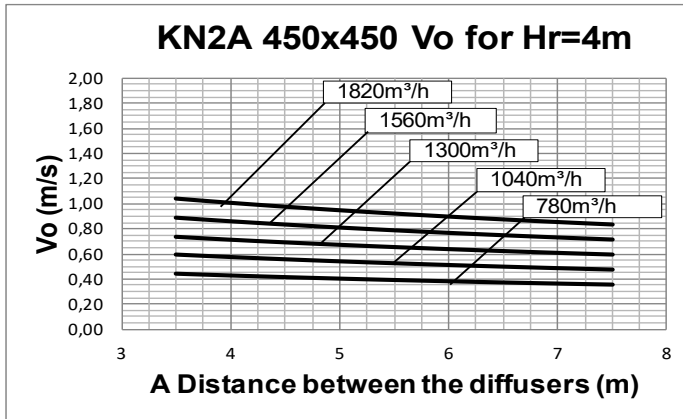




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

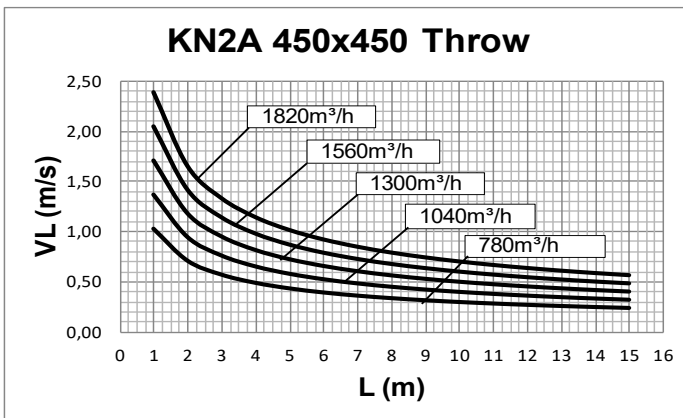
**KN2A  
SERIES**

**PERFORMANCE KN2A 450  
(594x594 external frame)**

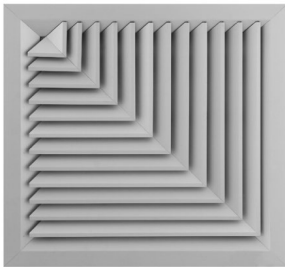


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



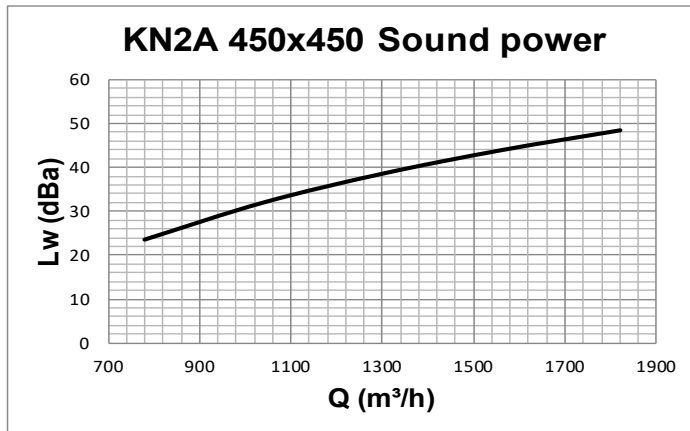
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 450  
(594x594 external frame)

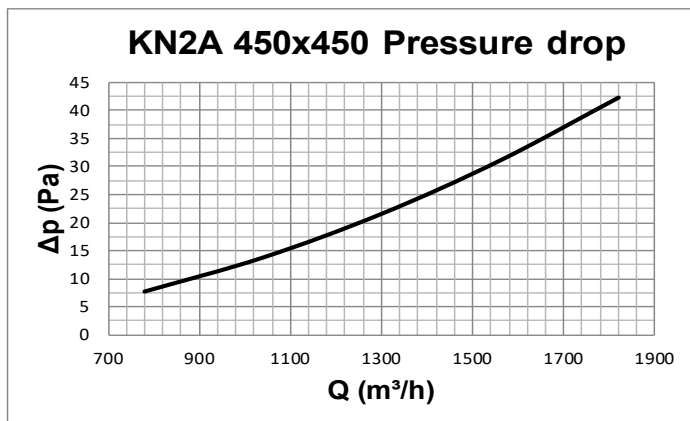


Data measured in reverberation room in accordance with international standards:

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

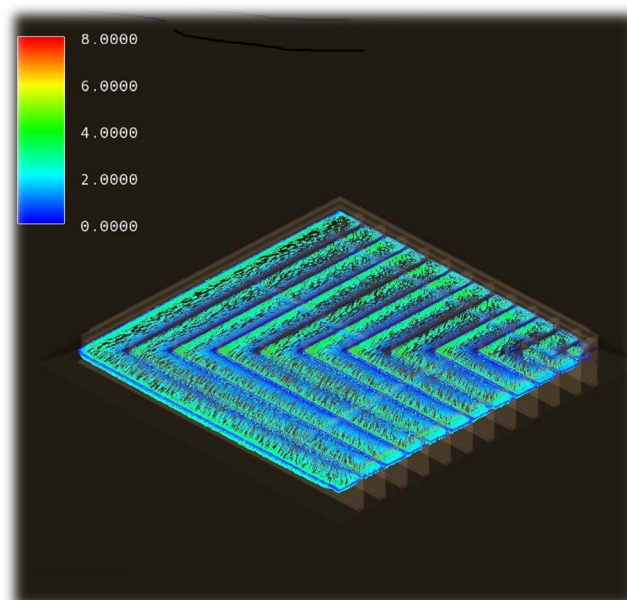
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

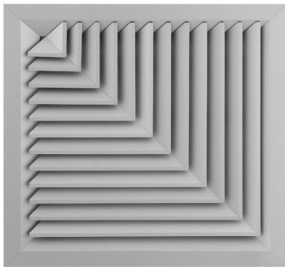
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.



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.*

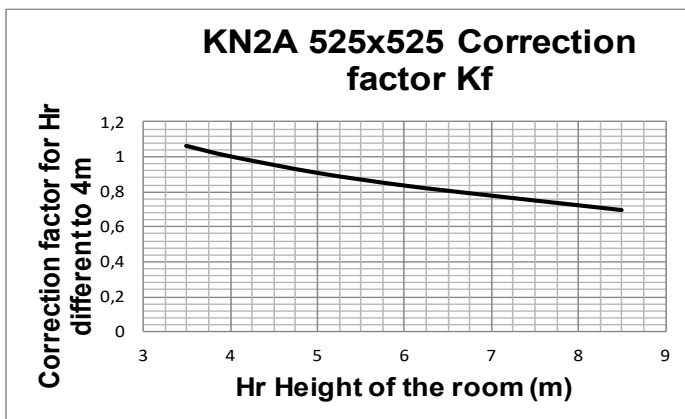
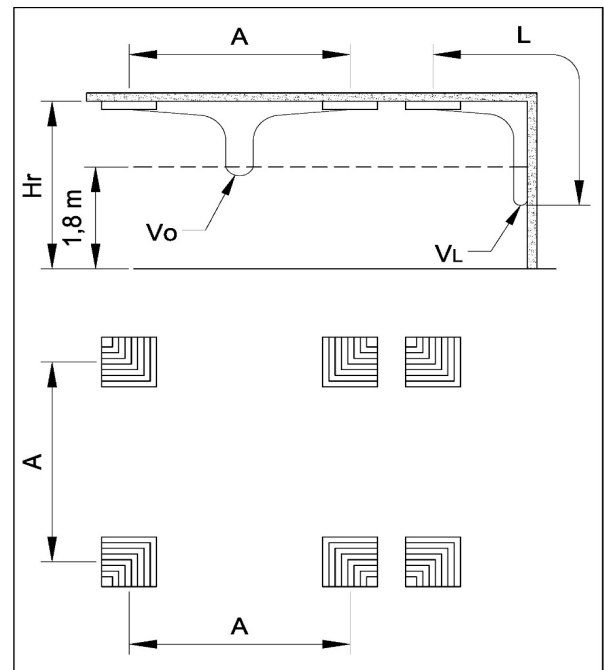
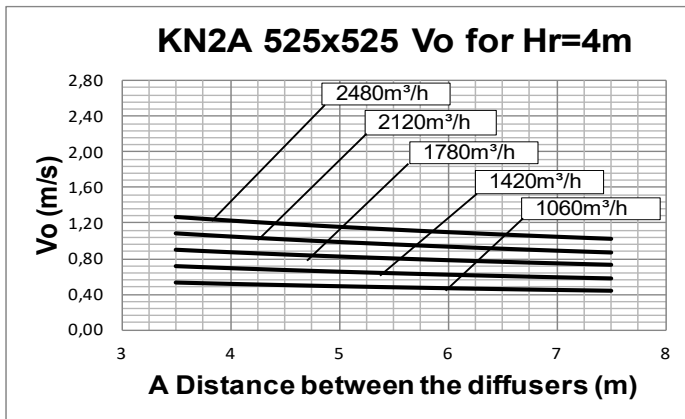




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

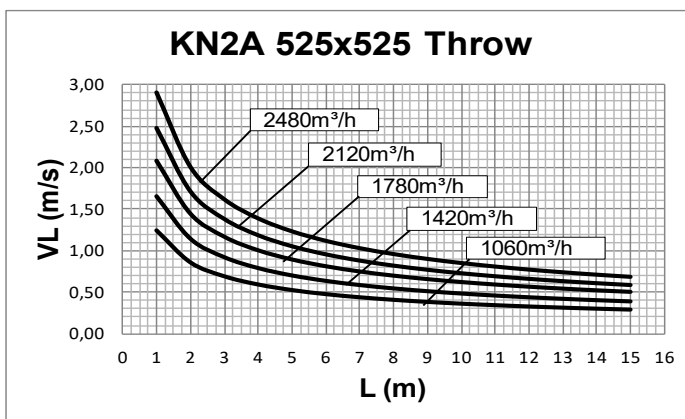
**KN2A  
SERIES**

**PERFORMANCE KN2A 525**

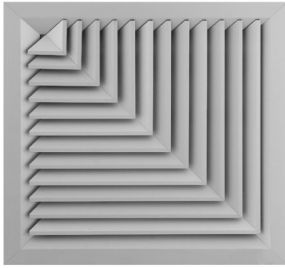


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



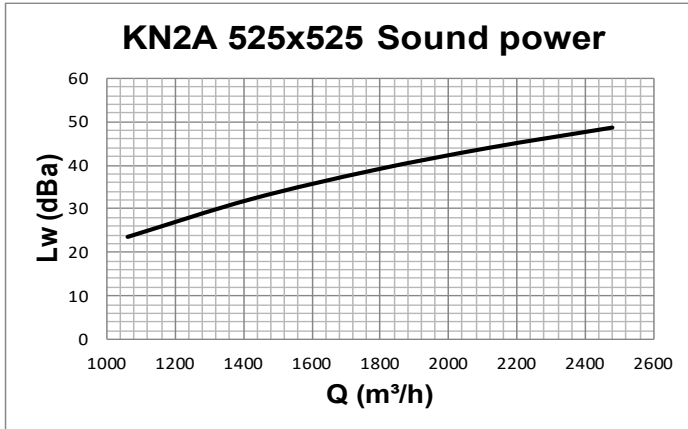
For Hr different from 4m:  
 $Vo(h) = Vo \times Kf$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 525

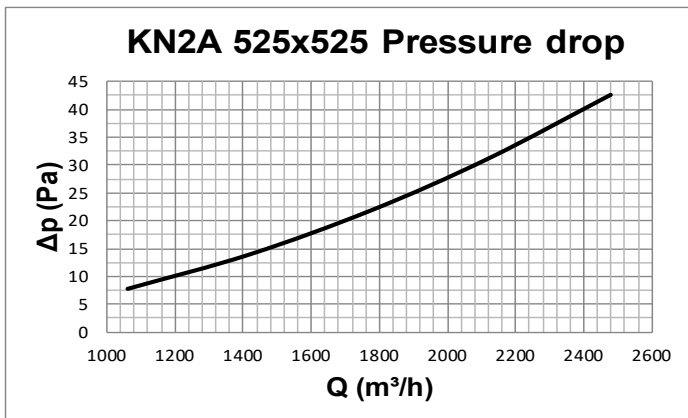


Data measured in reverberation room in accordance with international standards:

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

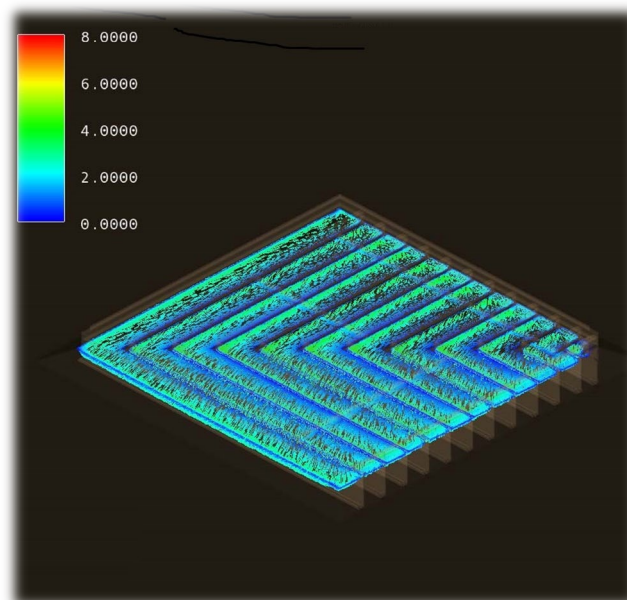
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

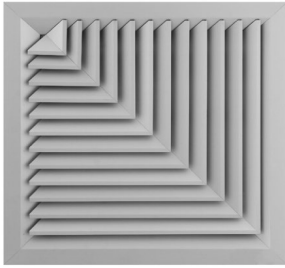
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBa and is determined by the room size, the shape of the environment and the interior features.



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.*

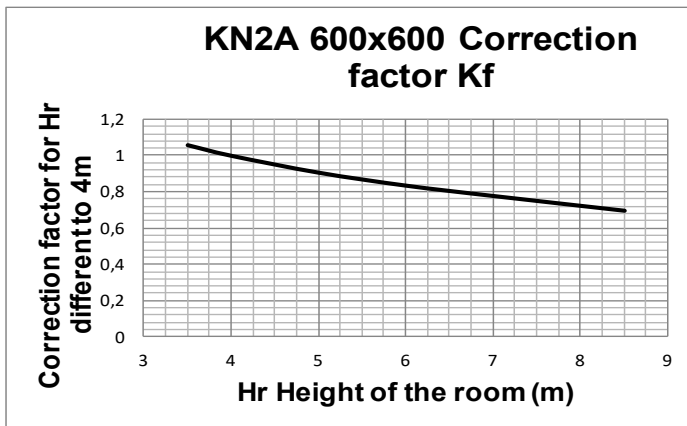
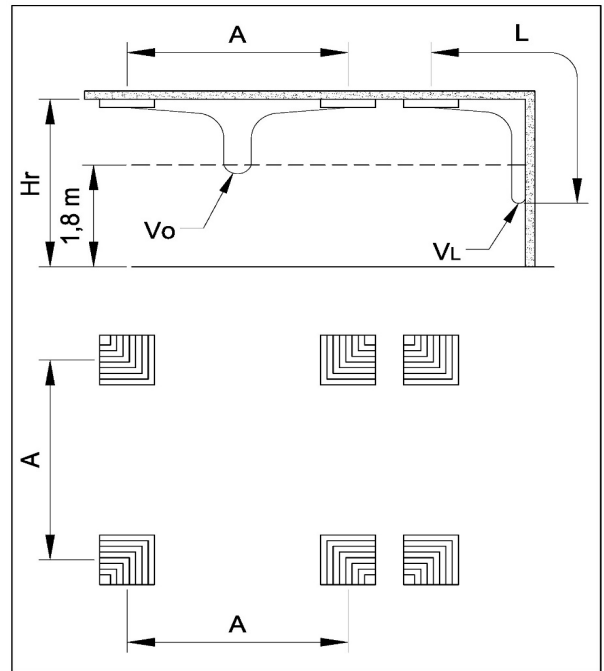
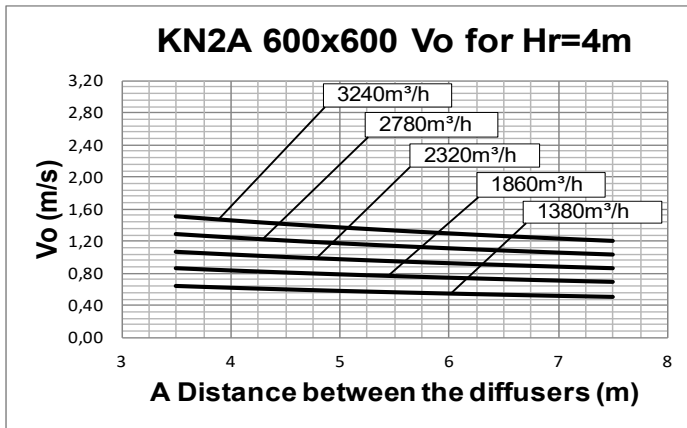




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

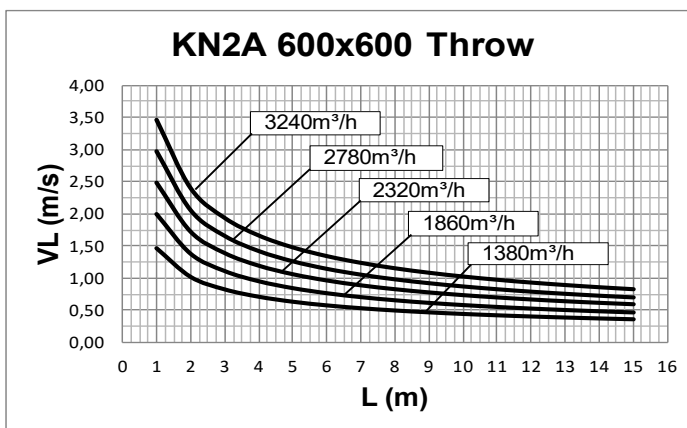
**KN2A  
SERIES**

**PERFORMANCE KN2A 600**



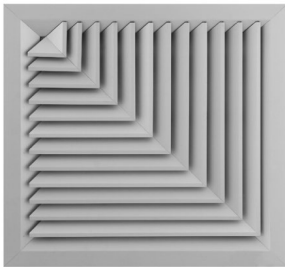
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

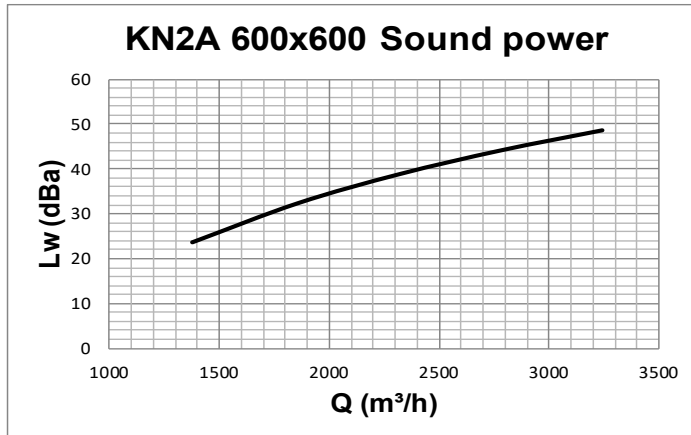




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN2A  
SERIES

PERFORMANCE KN2A 600

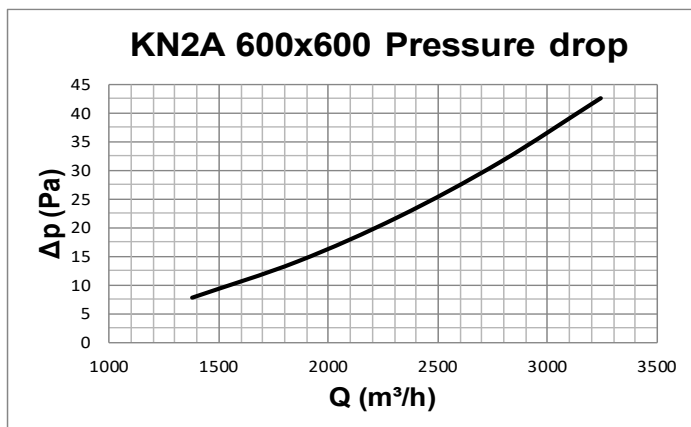


Data measured in reverberation room in accordance with international standards:

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

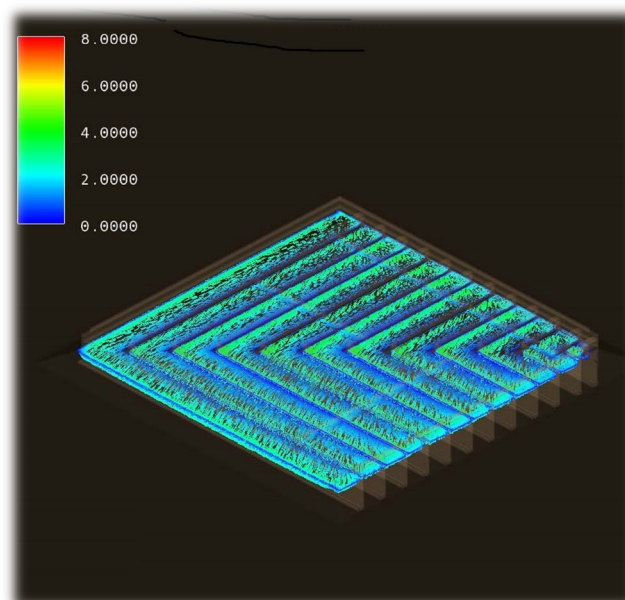
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

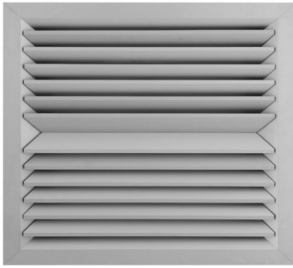
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

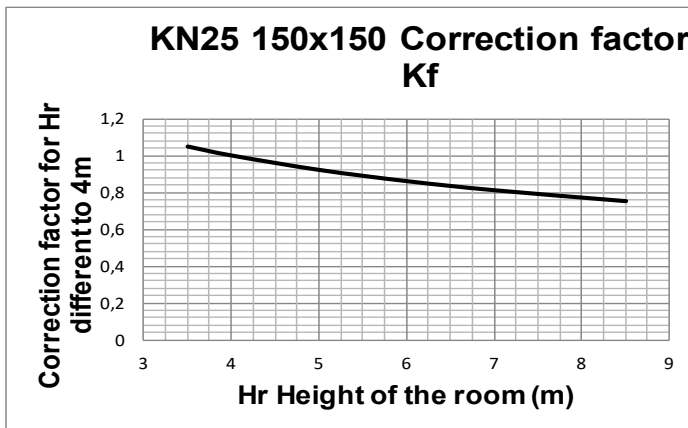
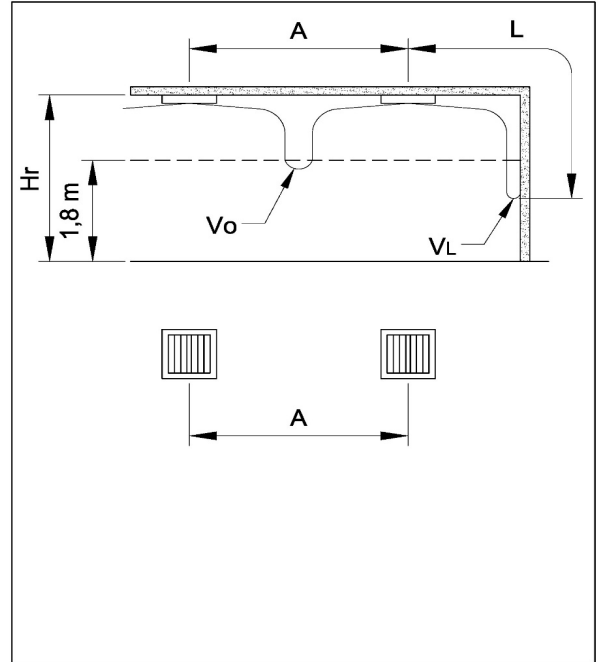
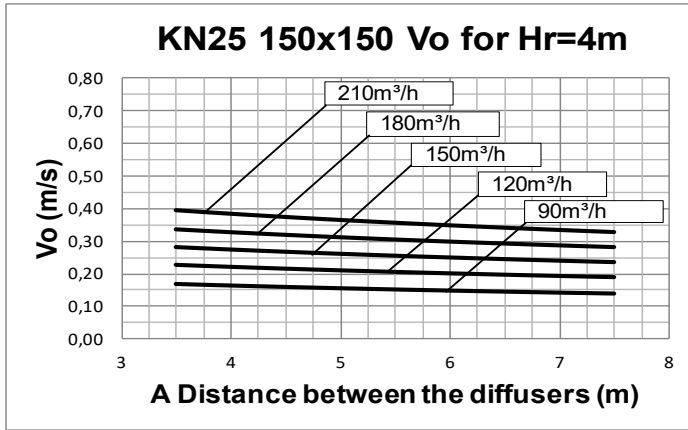




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

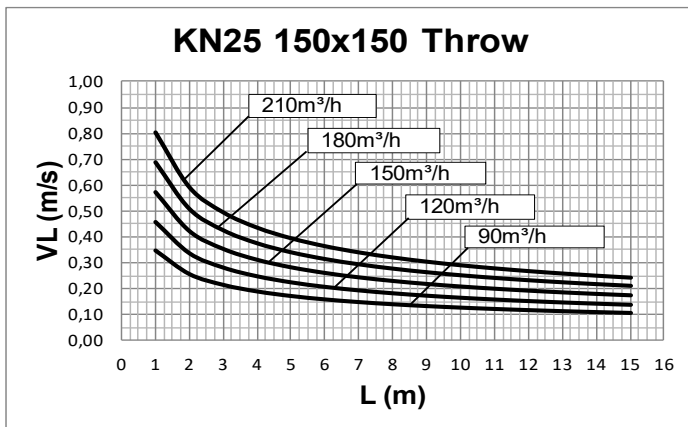
**KN25  
SERIES**

**PERFORMANCE KN25 150**

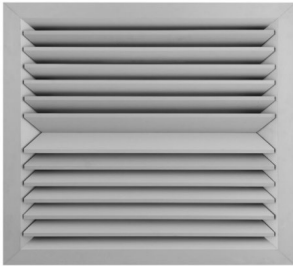


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



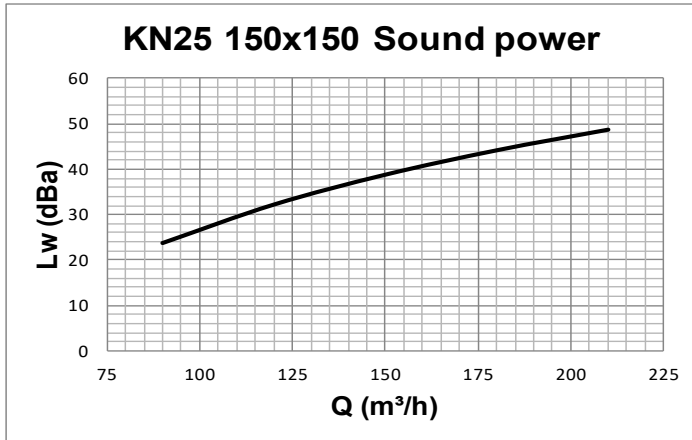
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25  
SERIES

PERFORMANCE KN25 150

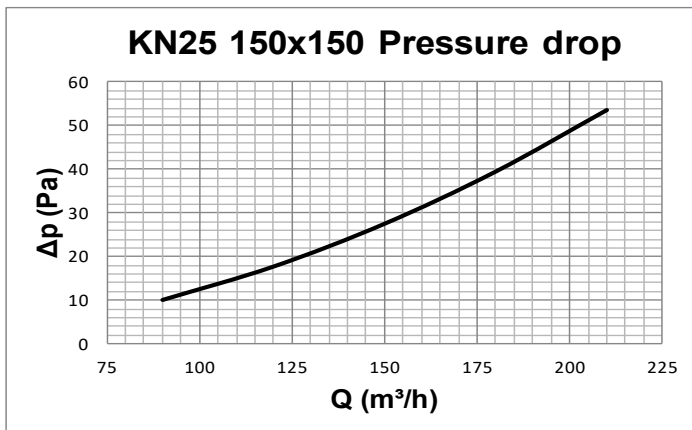


Data measured in reverberation room in accordance with international standards:

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

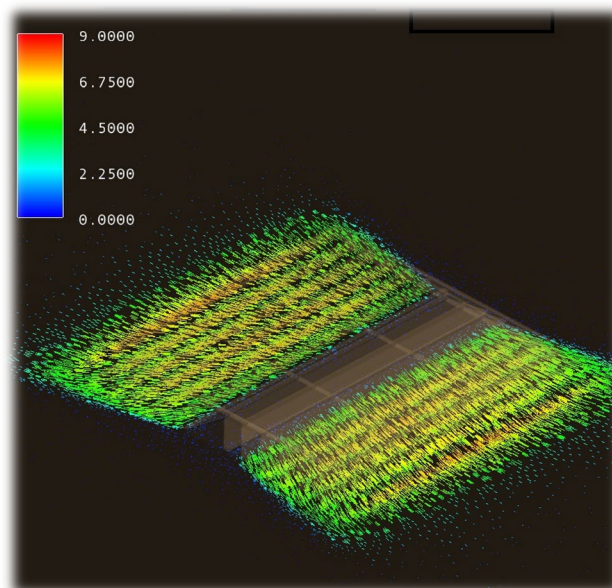
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

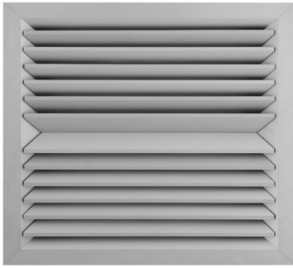
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

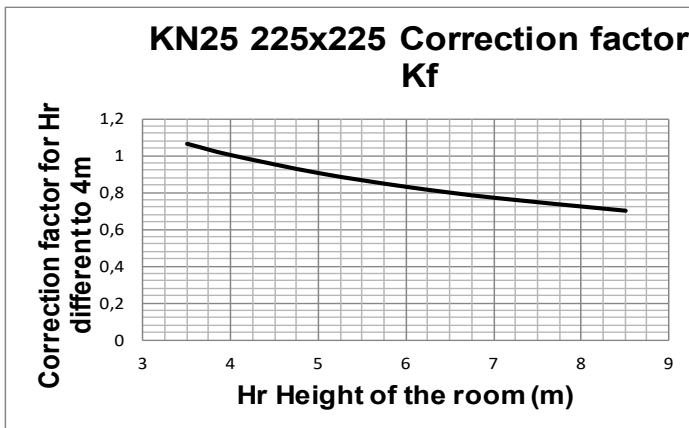
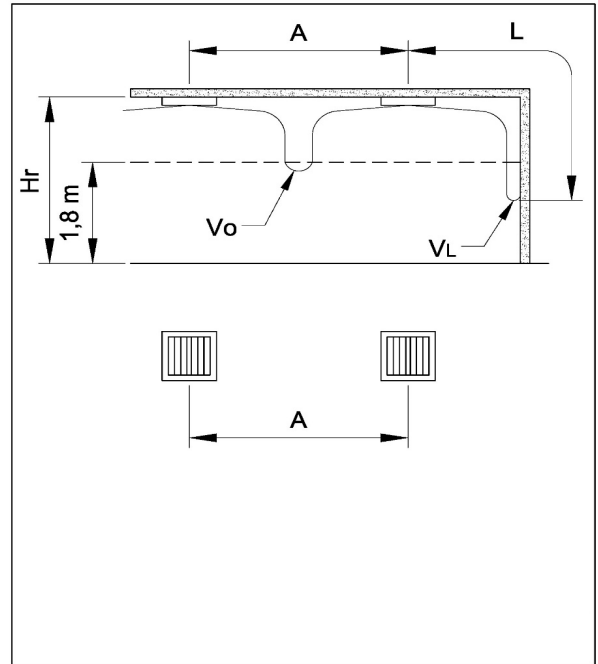
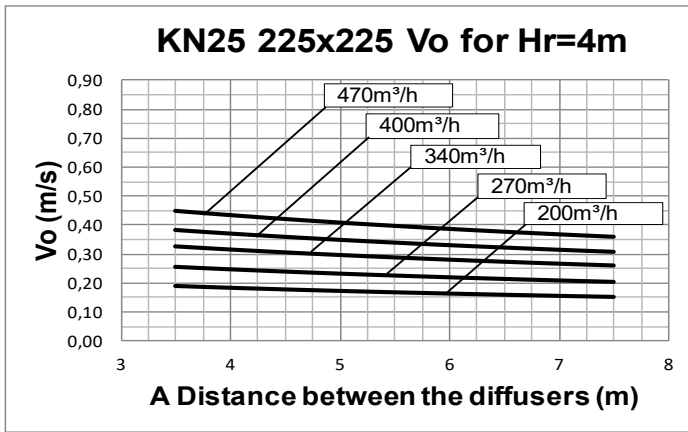




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

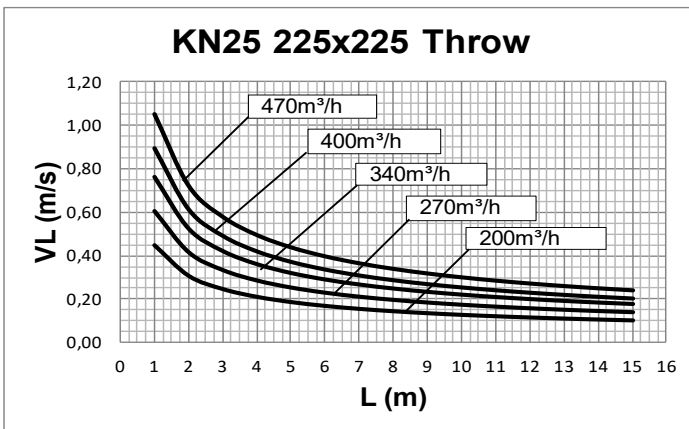
**KN25  
SERIES**

**PERFORMANCE KN25 225**

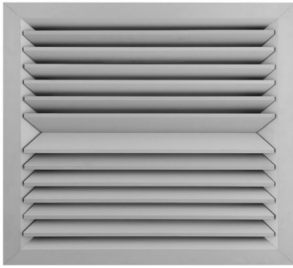


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

$A$  (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



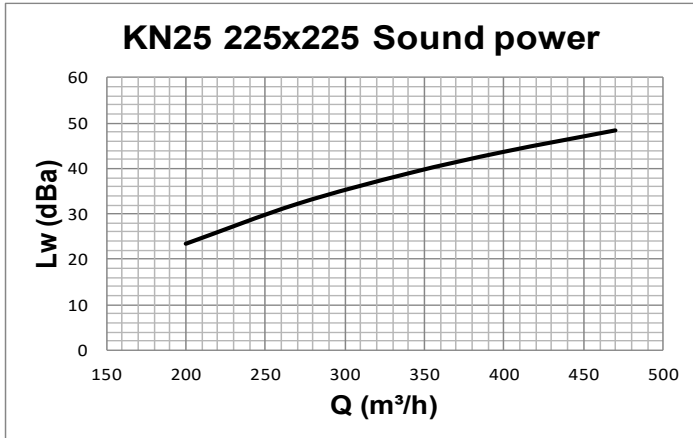
For  $H_r$  different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25  
SERIES

PERFORMANCE KN25 150

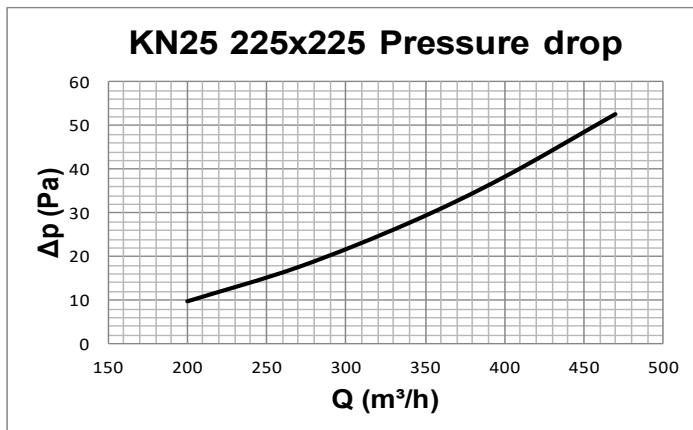


Data measured in reverberation room in accordance with international standards:

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

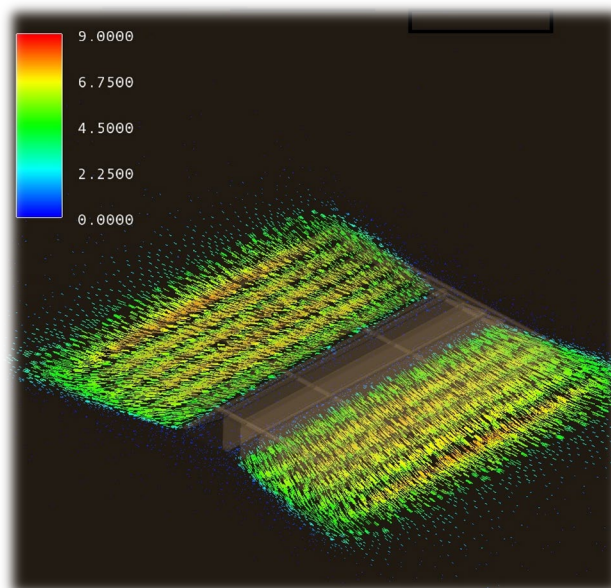
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

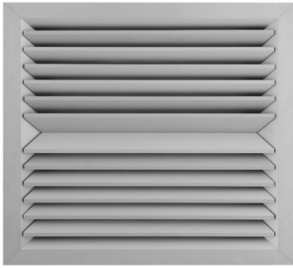
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

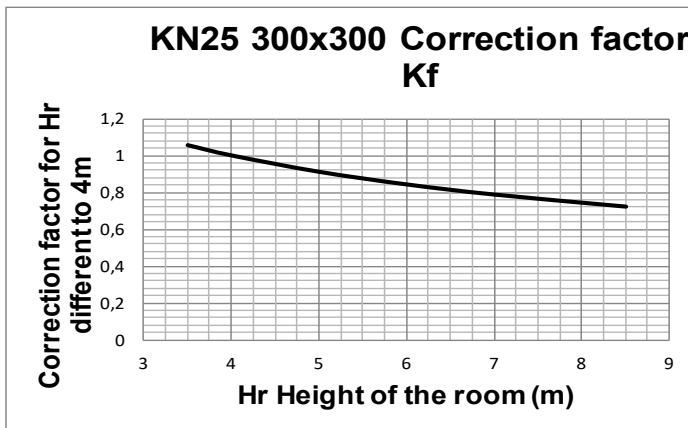
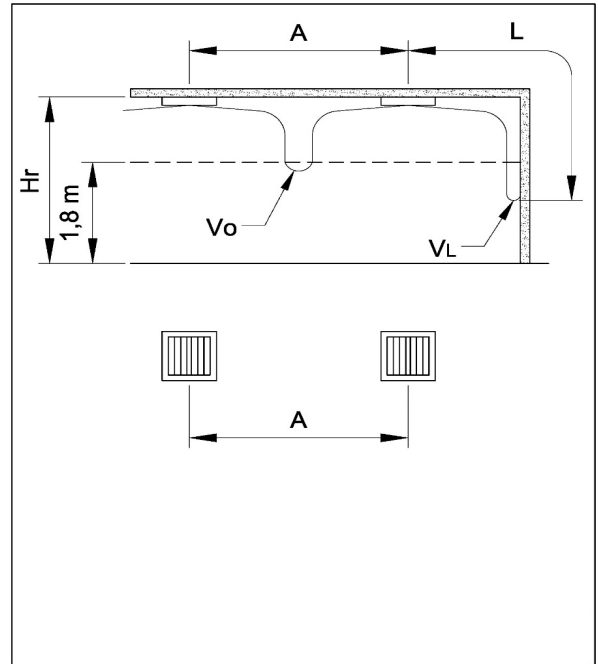
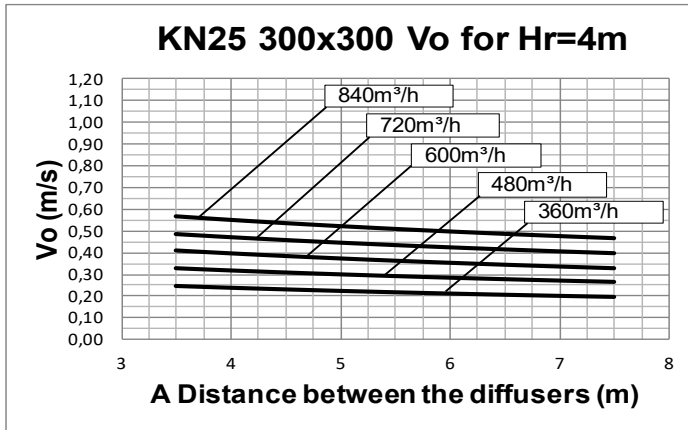




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

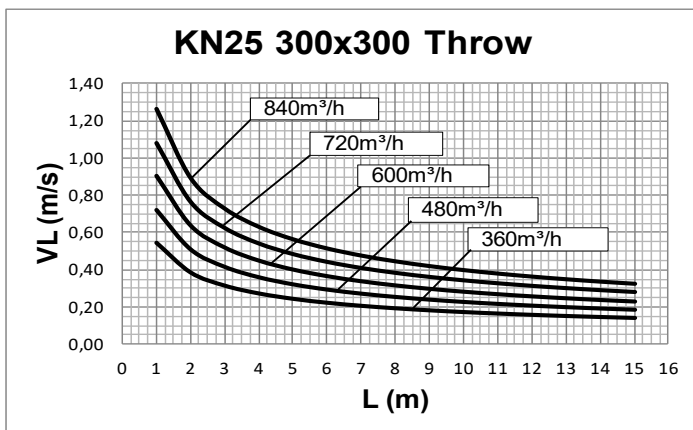
**KN25  
SERIES**

**PERFORMANCE KN25 300**

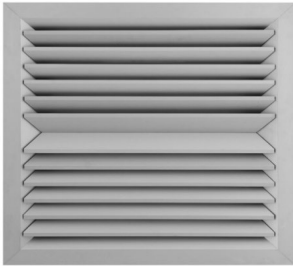


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

- 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



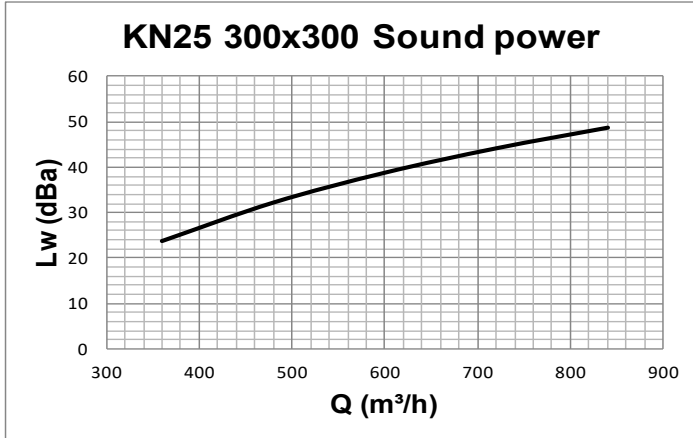
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

**KN25  
SERIES**

**PERFORMANCE KN25 300**

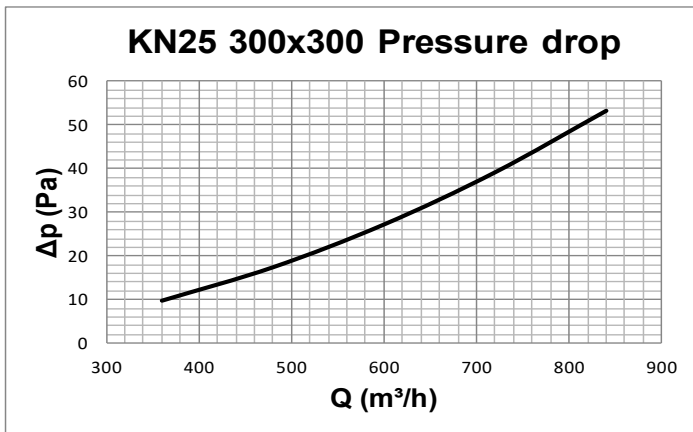


**Data measured in reverberation room in accordance with international standards:**

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

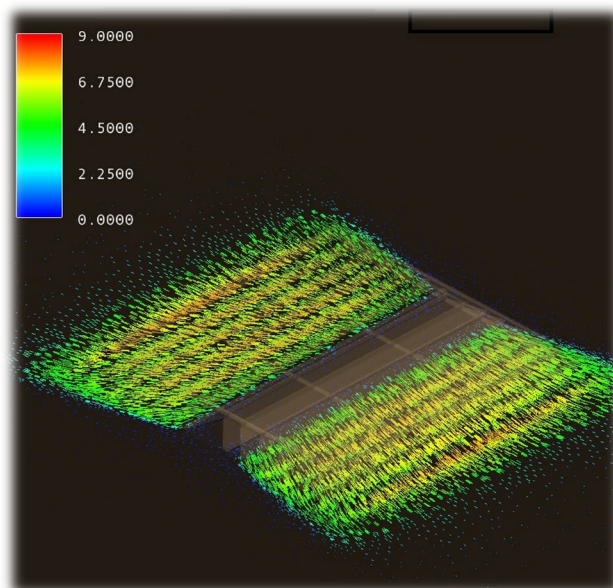
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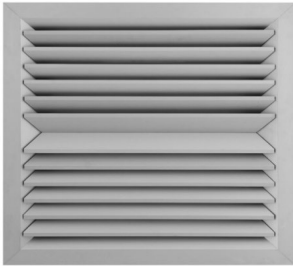
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



**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.*

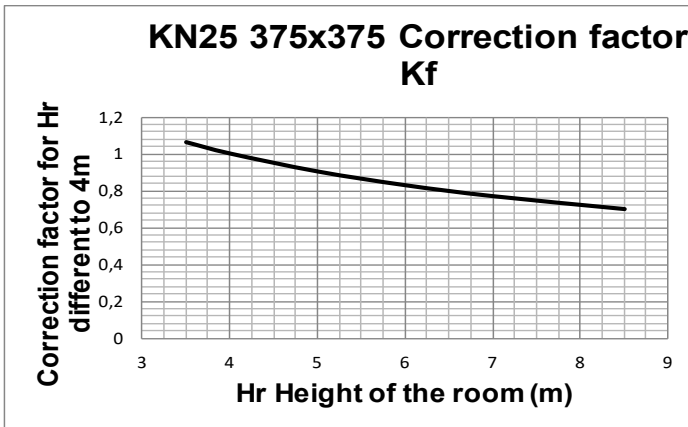
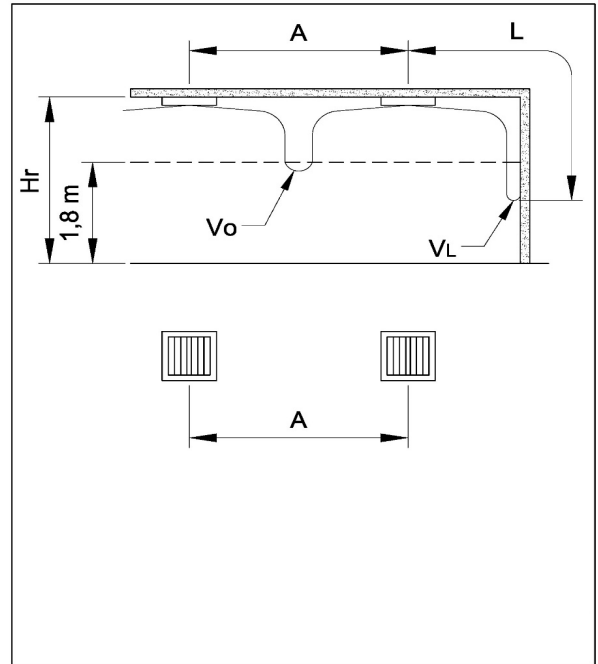
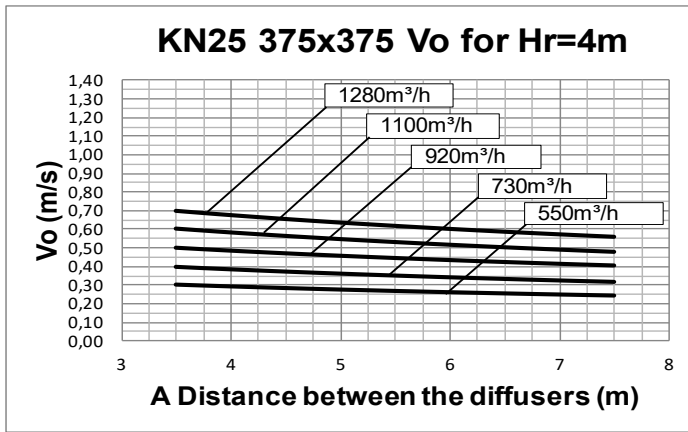




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

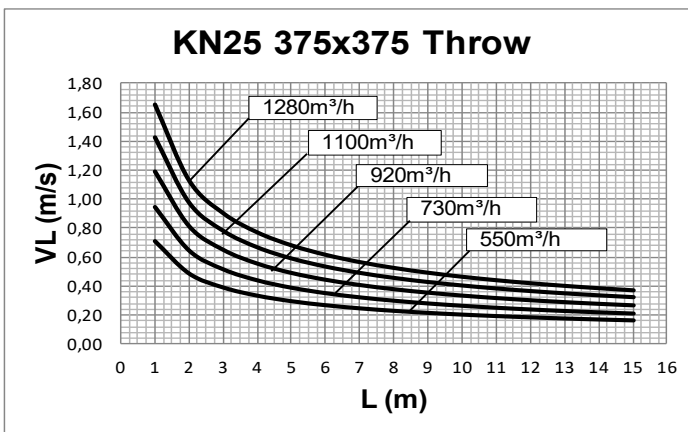
**KN25  
SERIES**

**PERFORMANCE KN25 375**



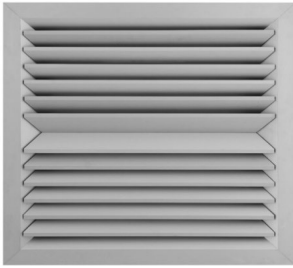
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

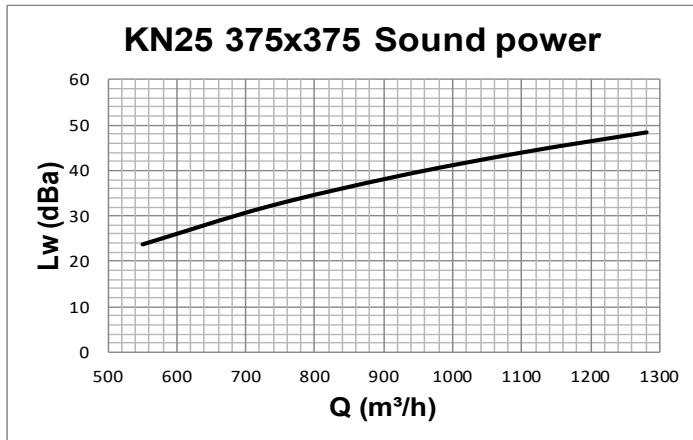




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25  
SERIES

PERFORMANCE KN25 375

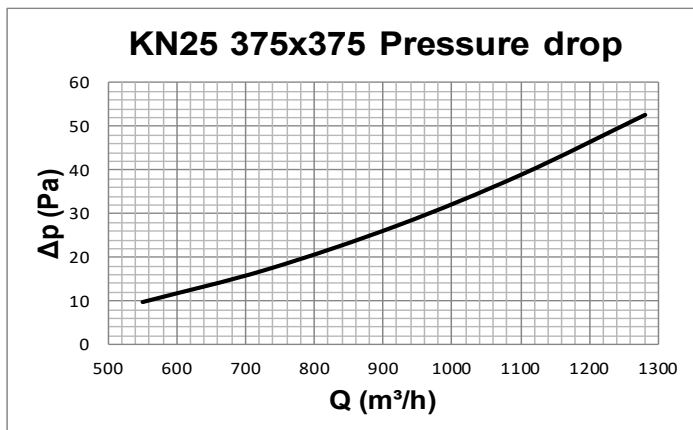


Data measured in reverberation room in accordance with international standards:

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

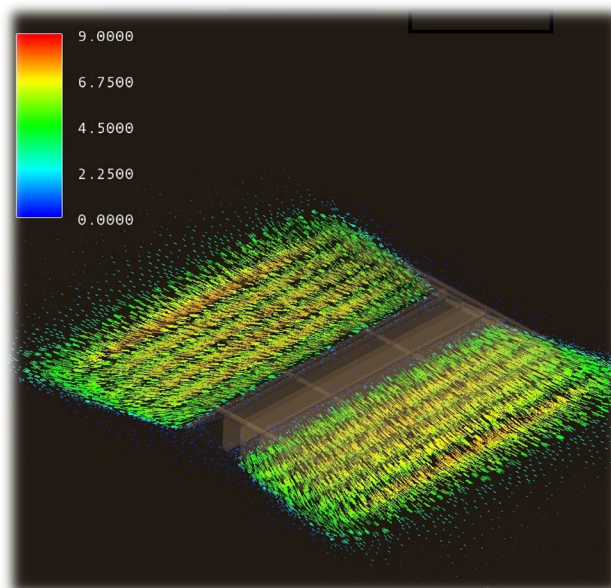
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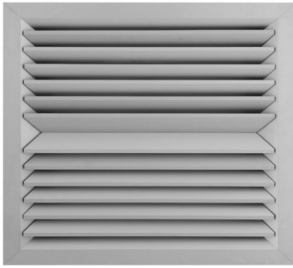
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

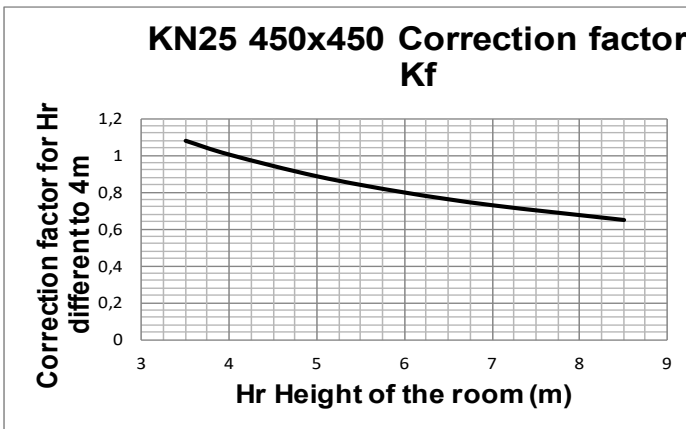
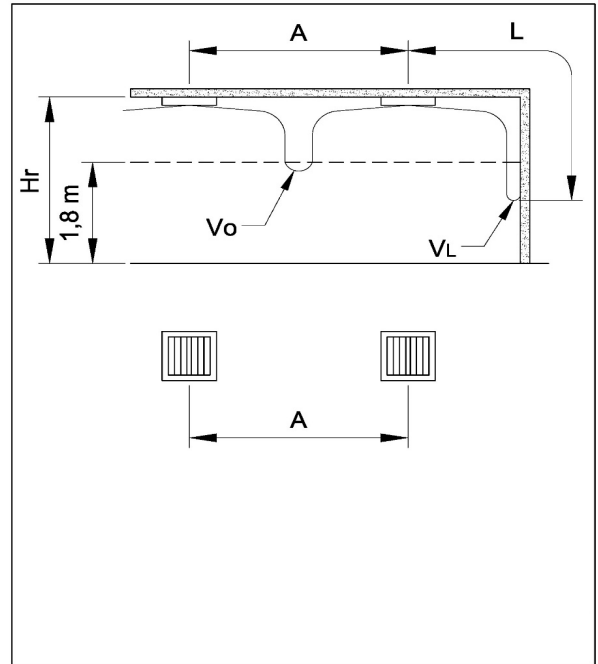
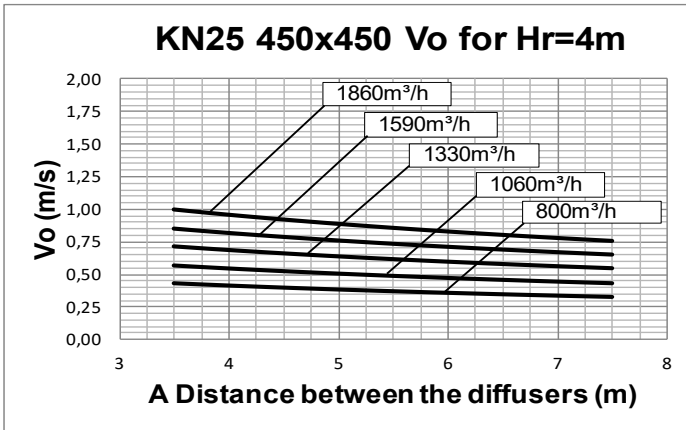




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

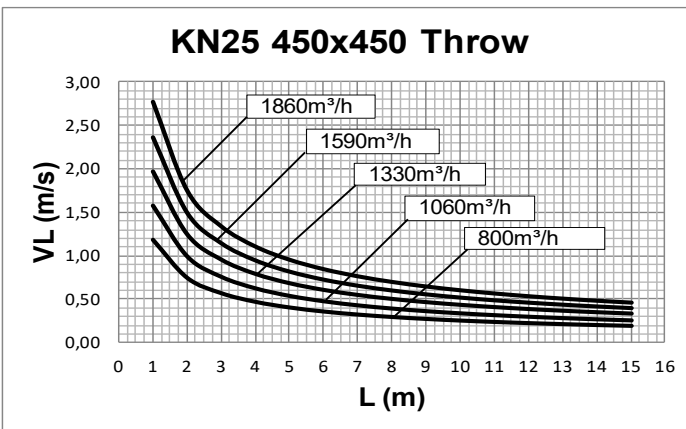
**KN25  
SERIES**

**PERFORMANCE KN25 450  
(594x594 external frame)**

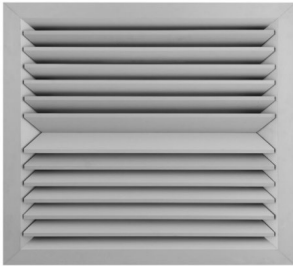


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



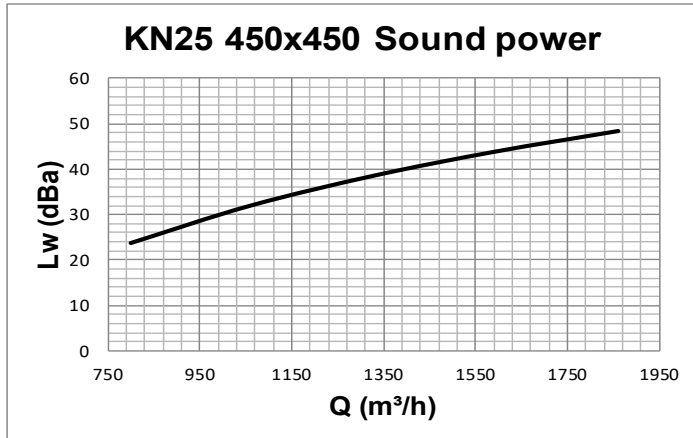
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN25 SERIES

PERFORMANCE KN25 450  
(594x594 external frame)

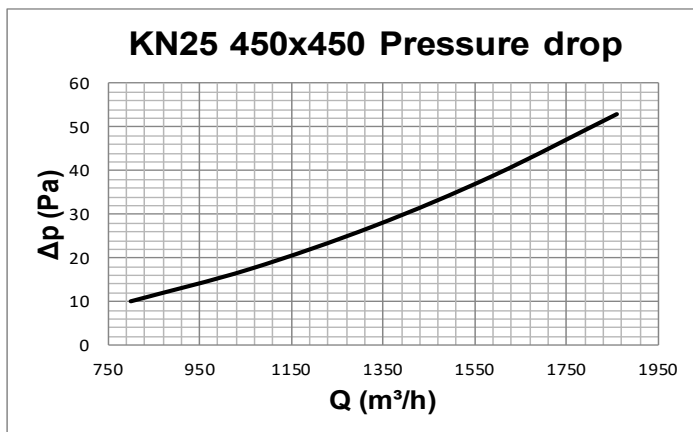


Data measured in reverberation room in accordance with international standards:

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

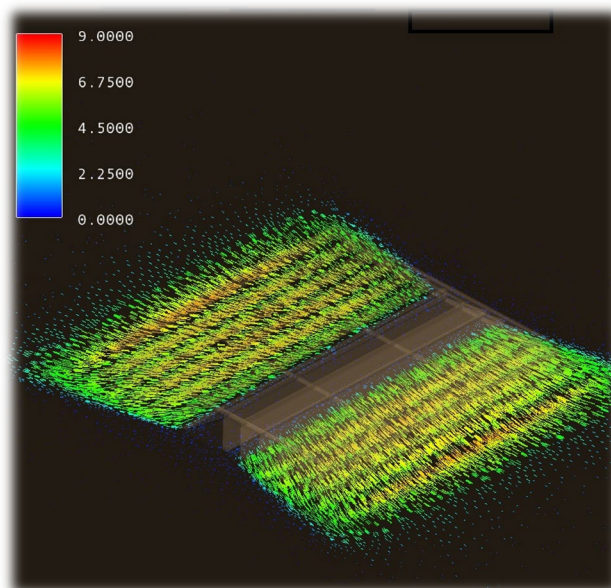
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

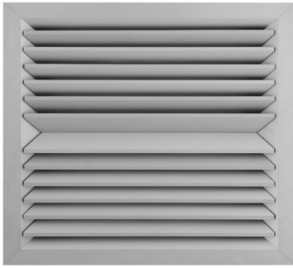
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

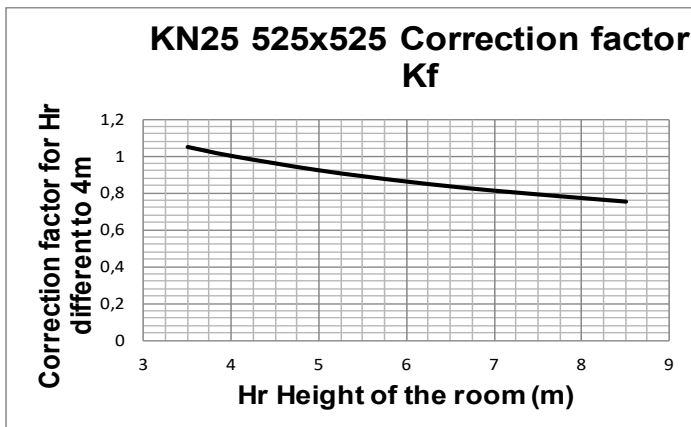
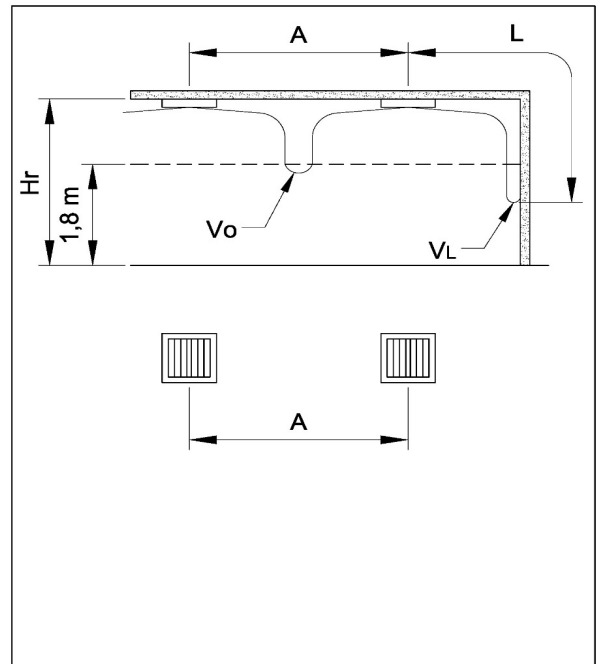
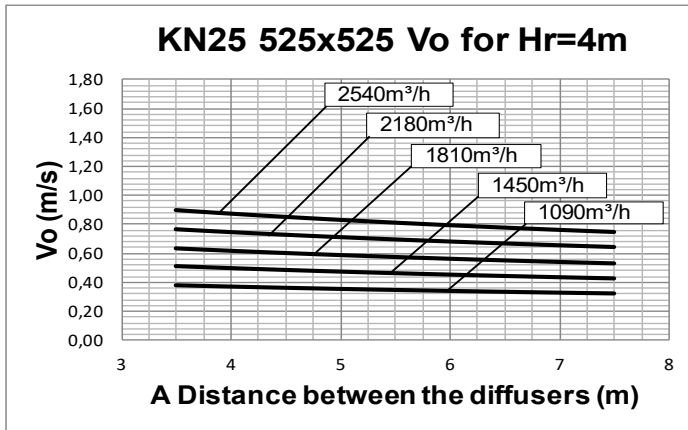




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

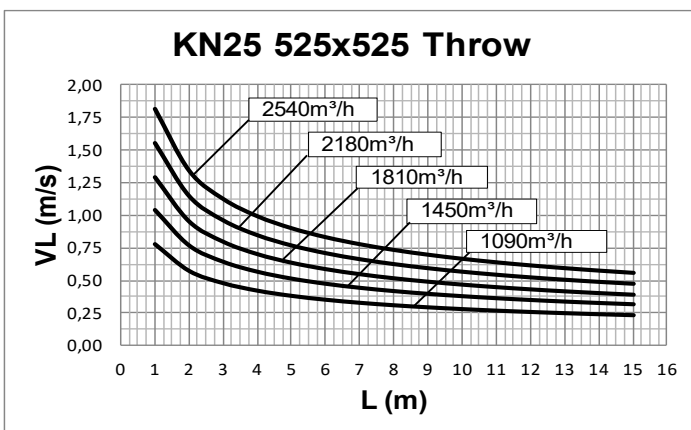
**KN25  
SERIES**

**PERFORMANCE KN25 525**

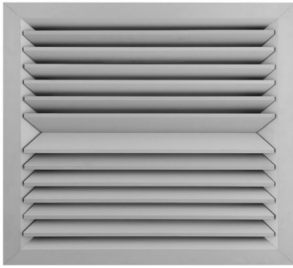


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



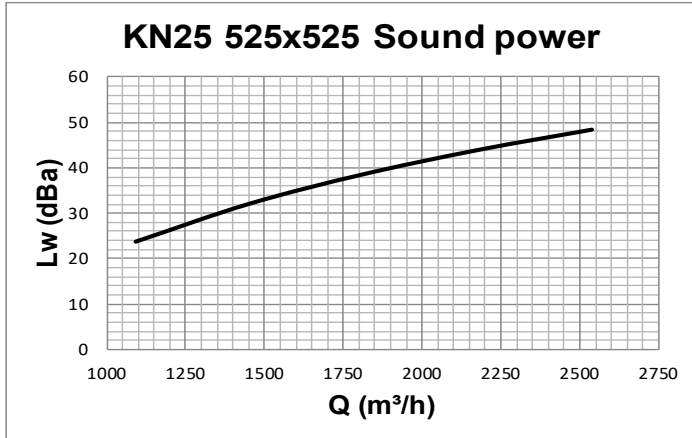
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25  
SERIES

PERFORMANCE KN25 525

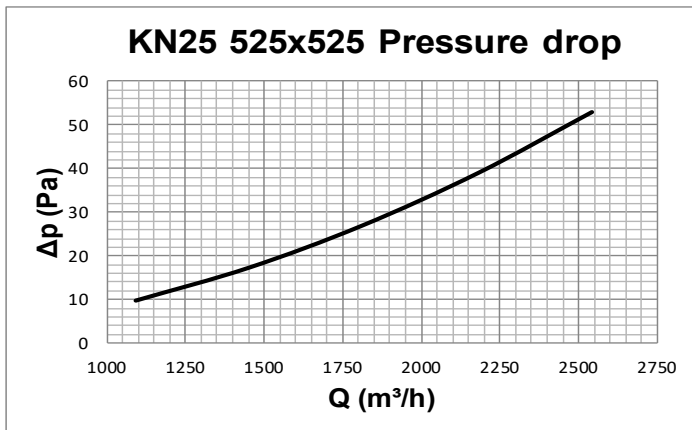


Data measured in reverberation room in accordance with international standards:

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

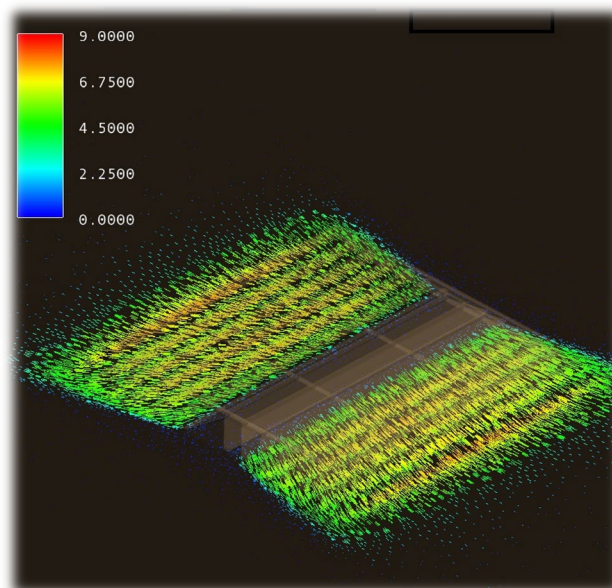
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

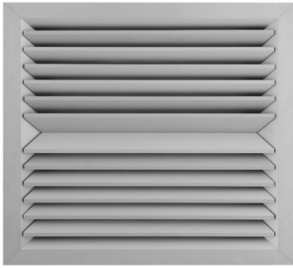
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

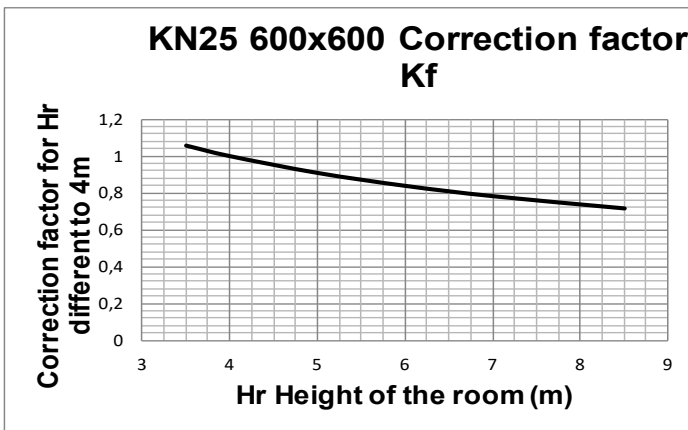
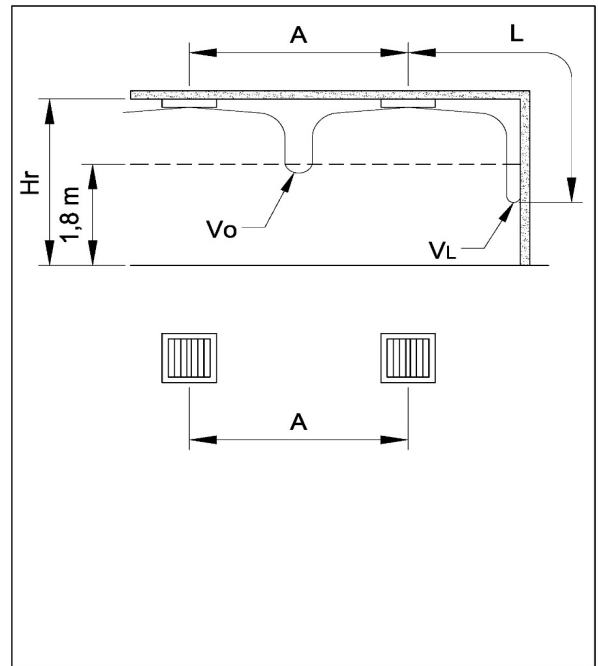
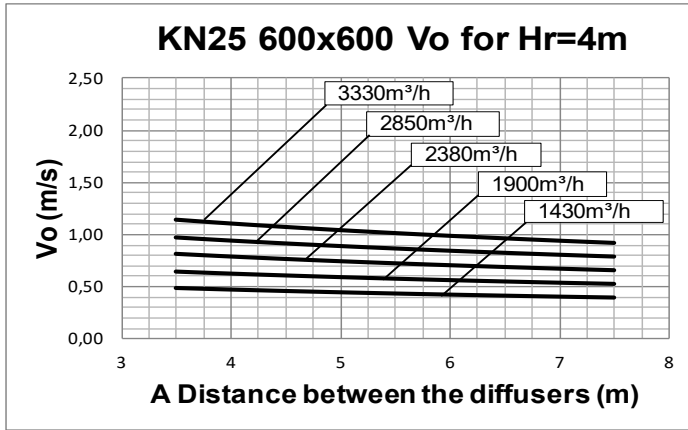




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

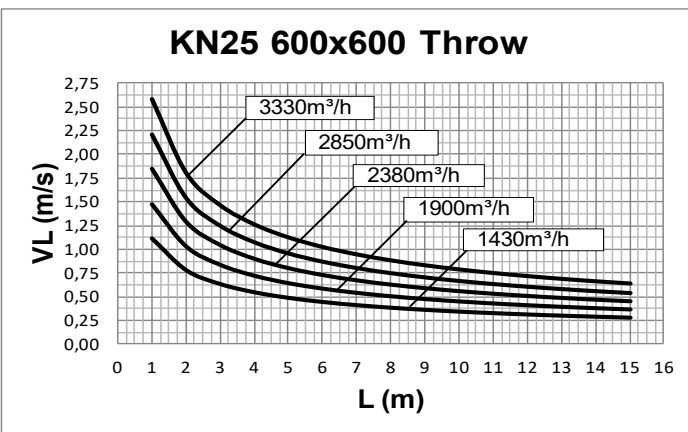
**KN25  
SERIES**

**PERFORMANCE KN25 600**

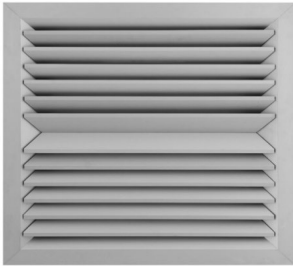


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



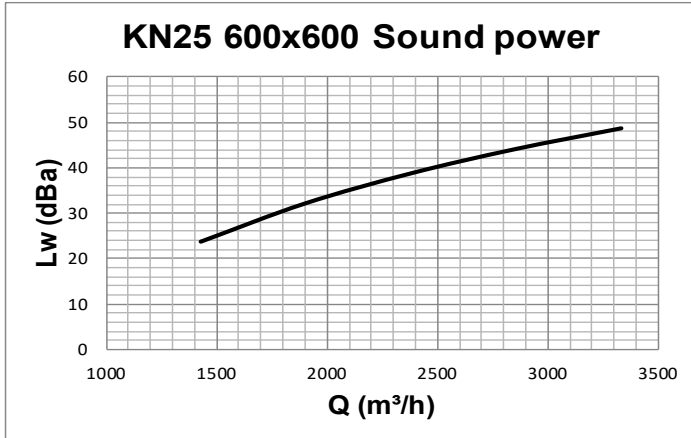
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

KN25  
SERIES

PERFORMANCE KN25 525

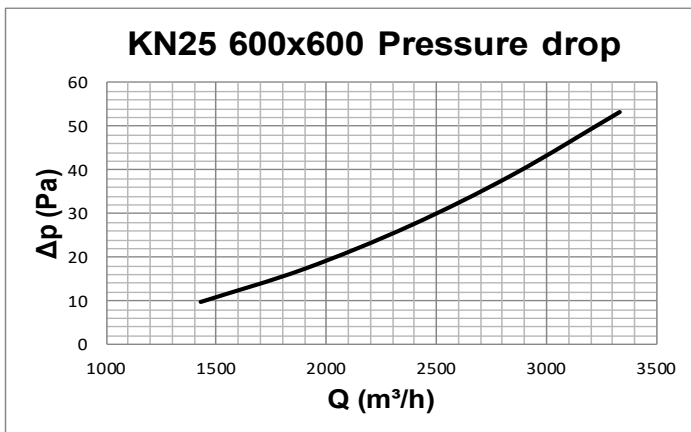


Data measured in reverberation room in accordance with international standards:

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

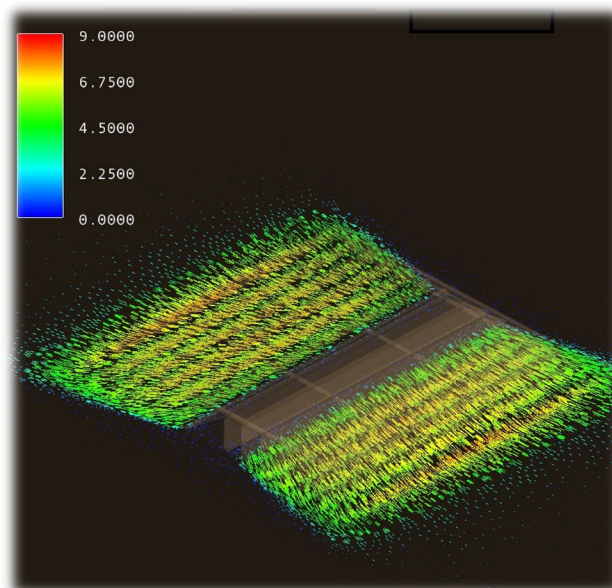
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

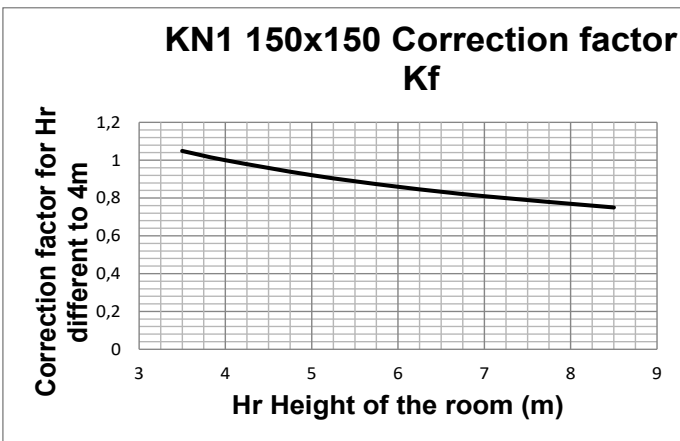
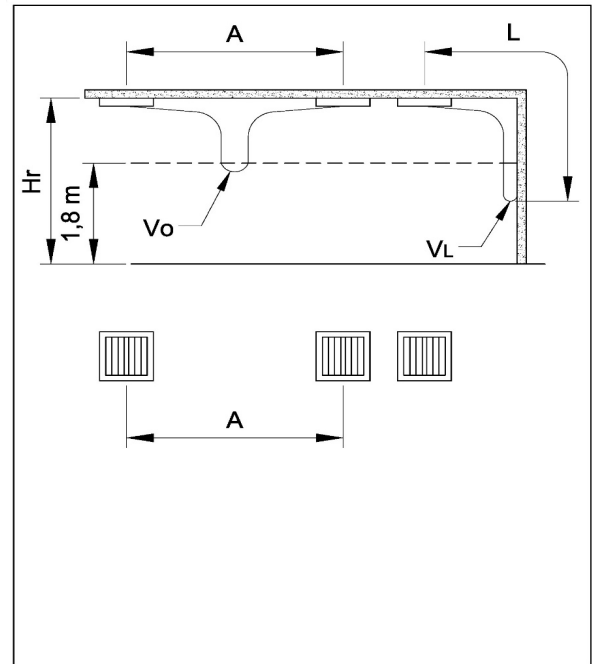
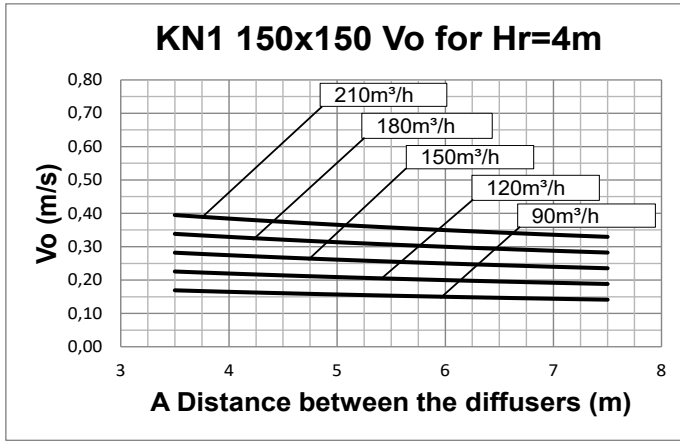




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

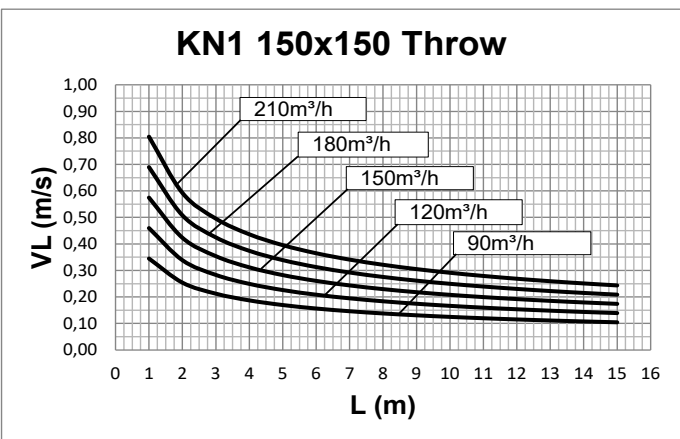
**KN1  
SERIES**

**PERFORMANCE KN1 150**



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

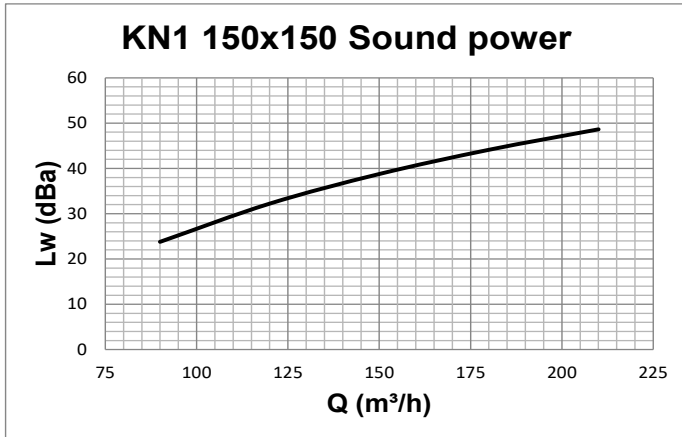




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 150

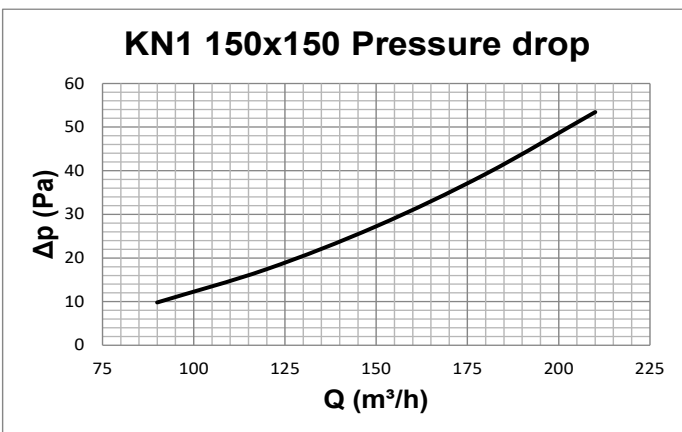


Data measured in reverberation room in accordance with international standards:

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

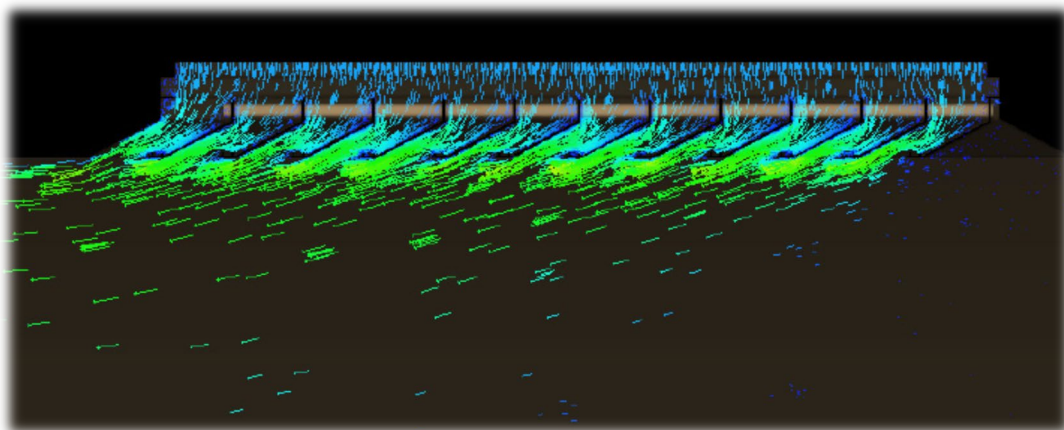
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

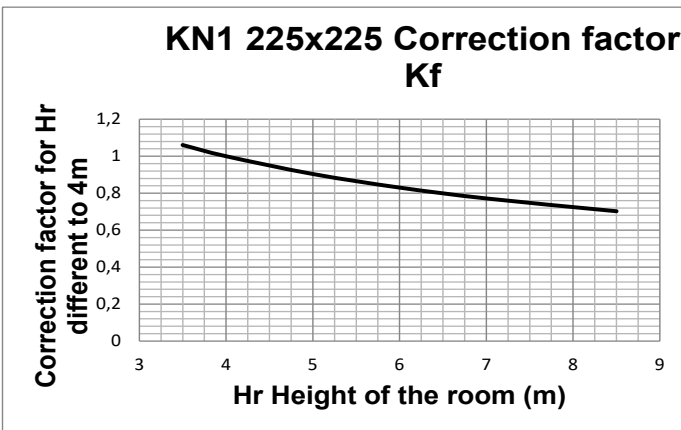
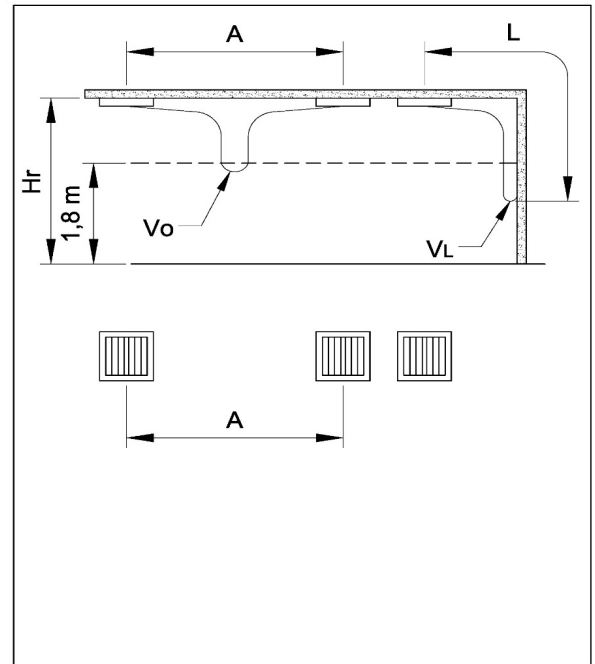
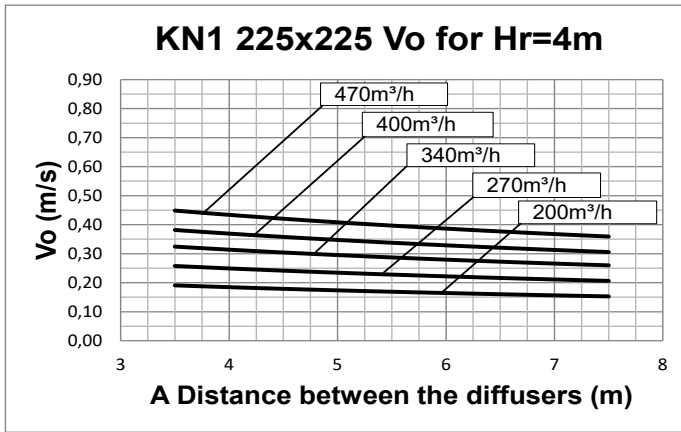




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

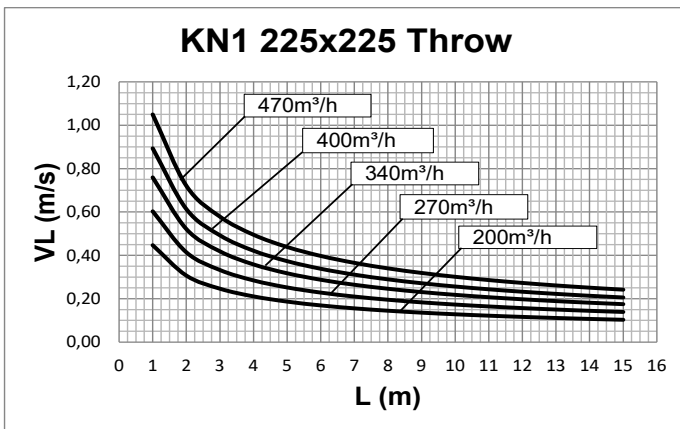
**KN1  
SERIES**

PERFORMANCE KN1 225



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



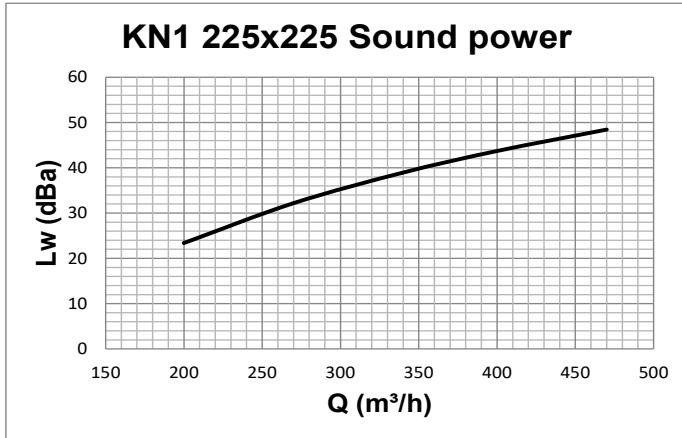
For Hr different from 4m:  
**Vo (h) = Vo x Kf**



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 225

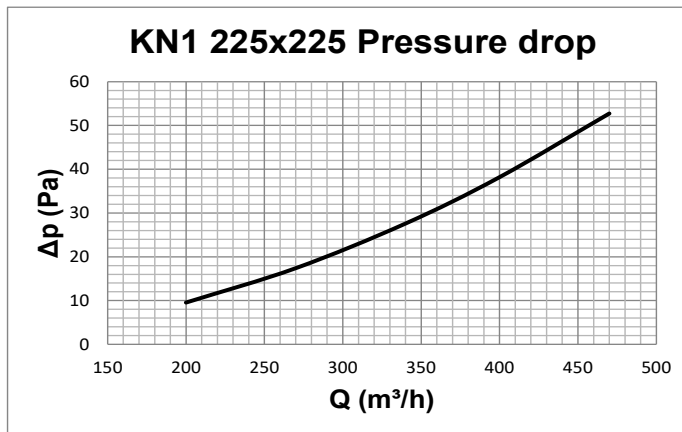


Data measured in reverberation room in accordance with international standards:

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

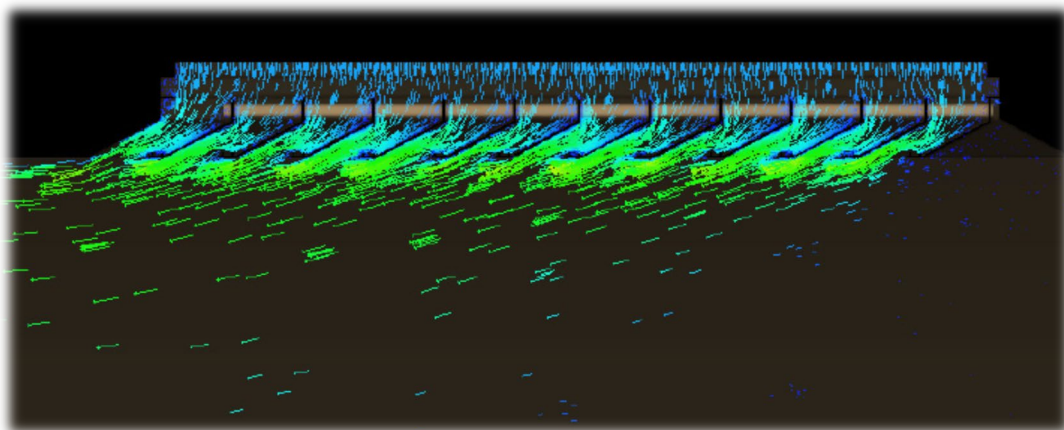
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

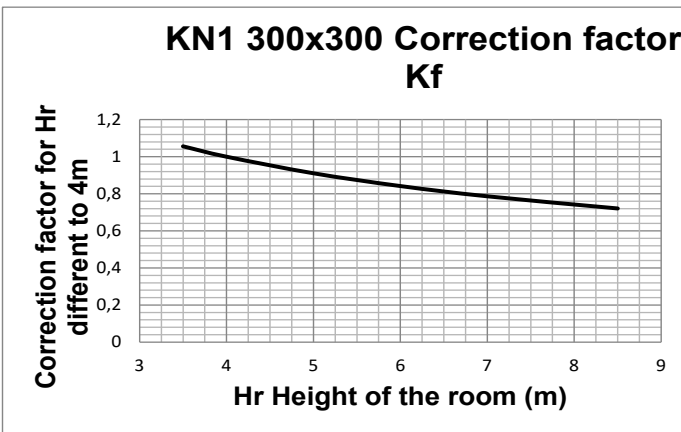
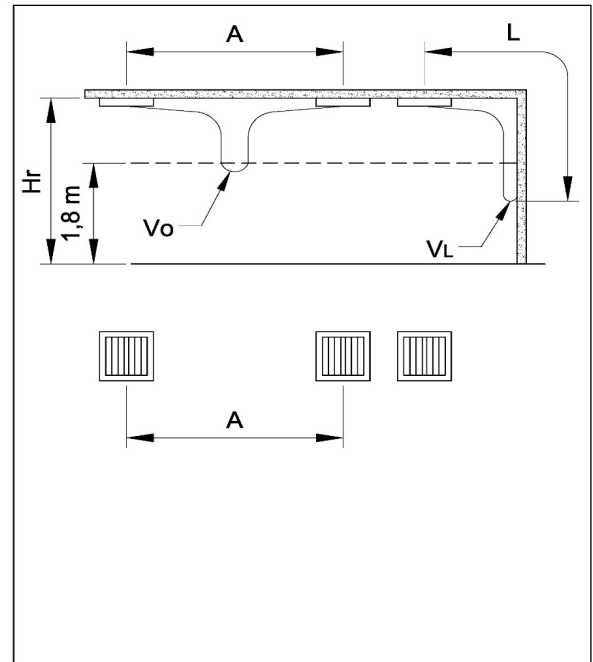
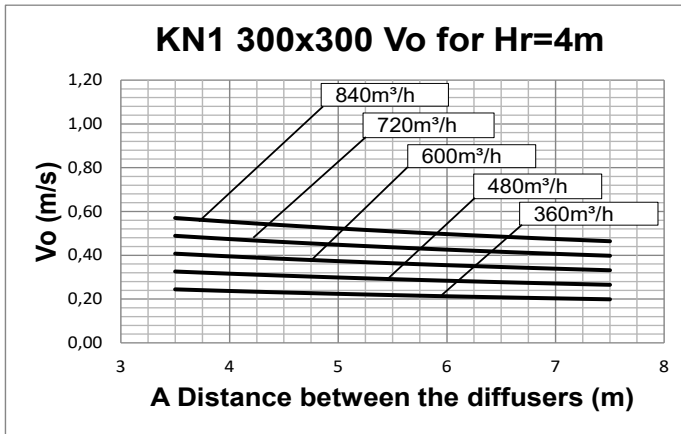




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

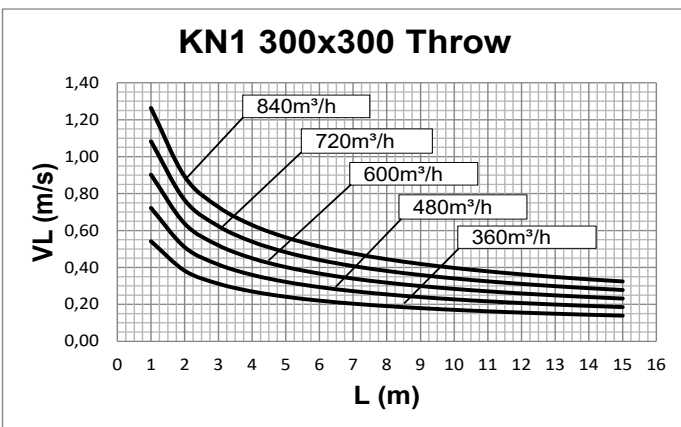
**KN1  
SERIES**

**PERFORMANCE KN1 300**



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



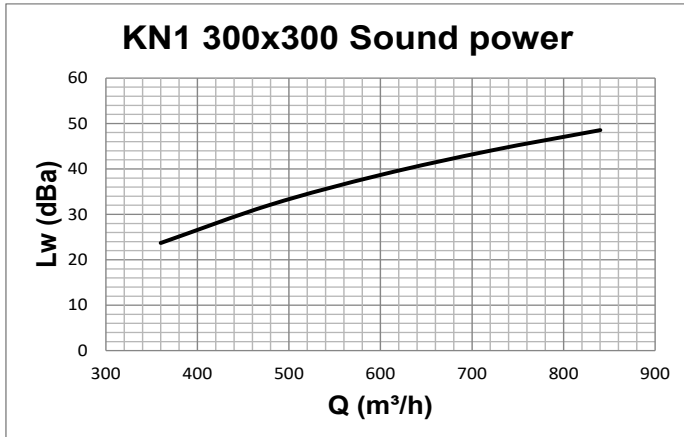
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 300

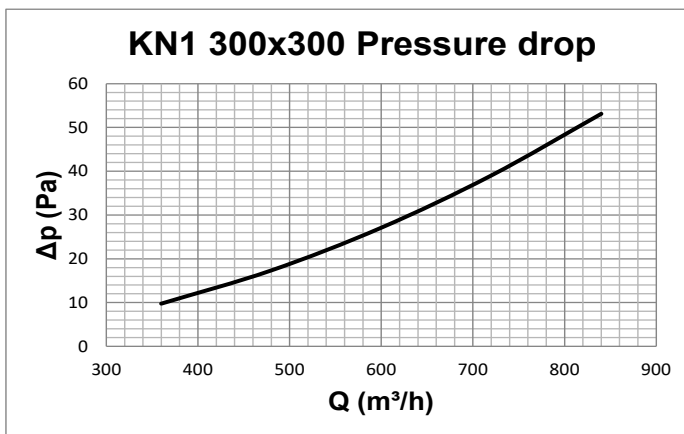


Data measured in reverberation room in accordance with international standards:

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

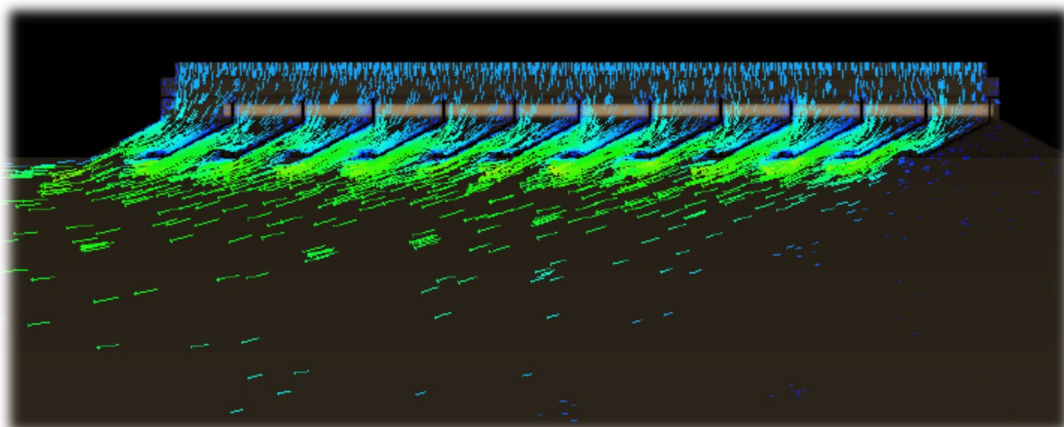
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

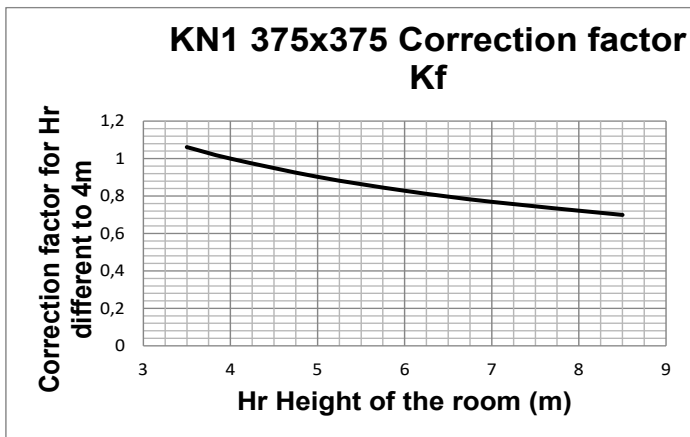
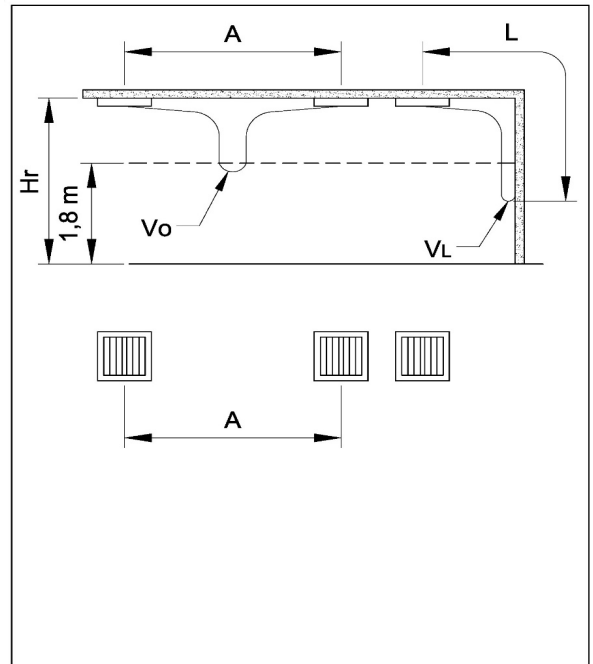
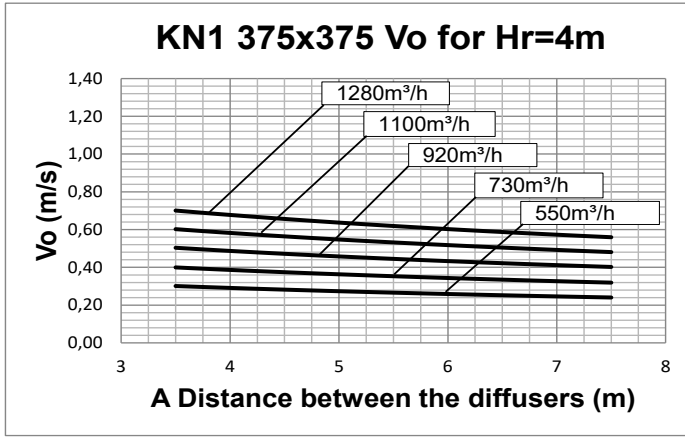




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

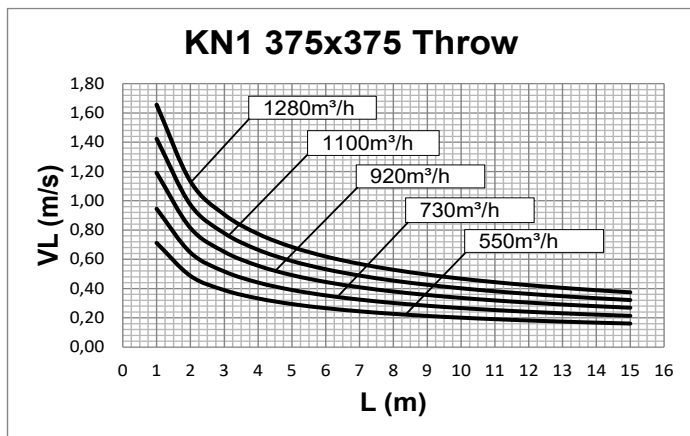
**KN1  
SERIES**

PERFORMANCE KN1 375



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



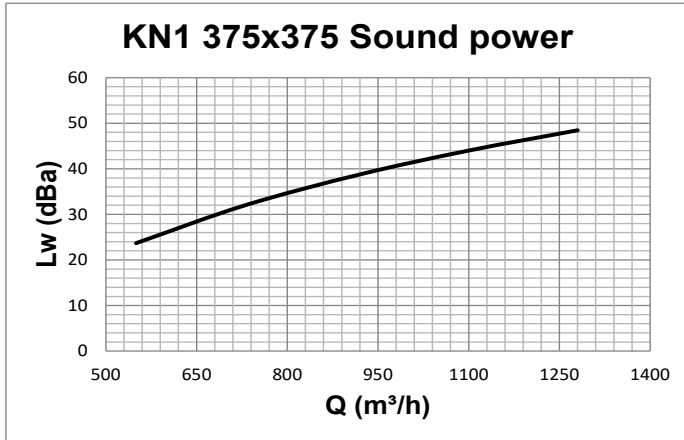
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 375

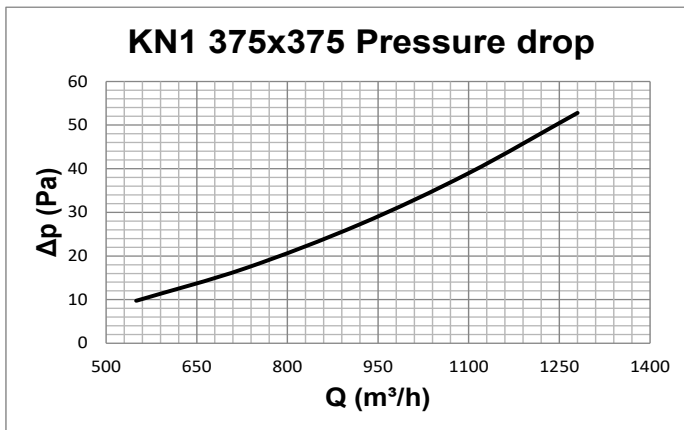


Data measured in reverberation room in accordance with international standards:

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

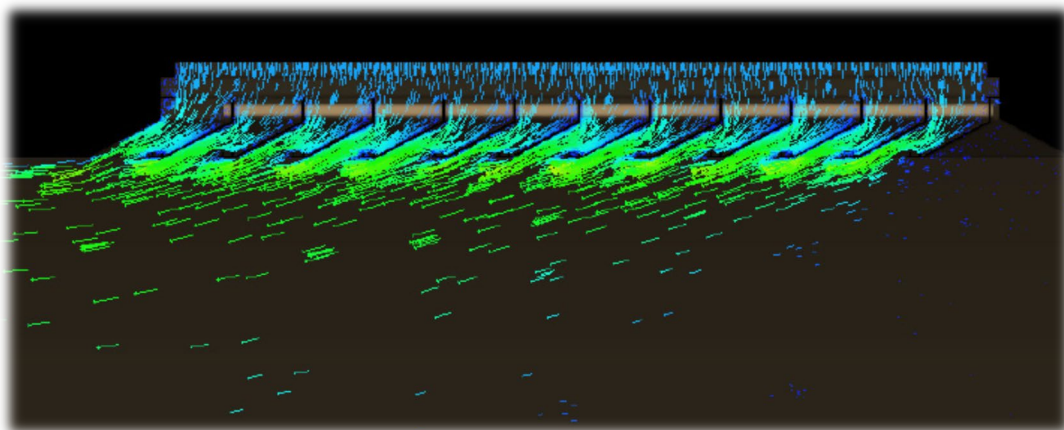
**ISO 5135 1997:** Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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.

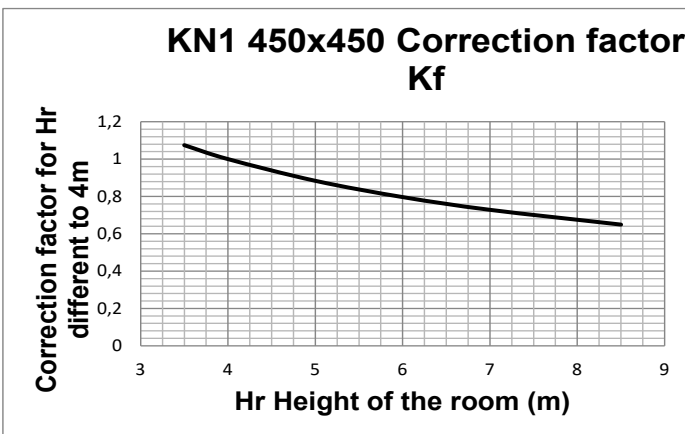
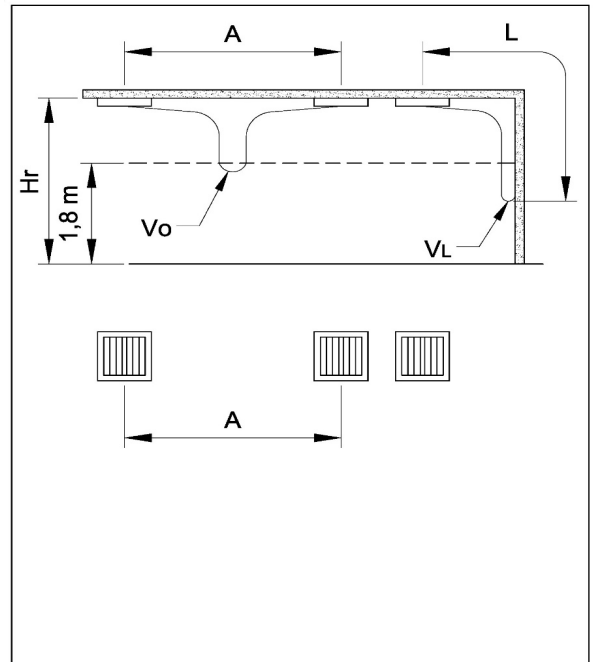
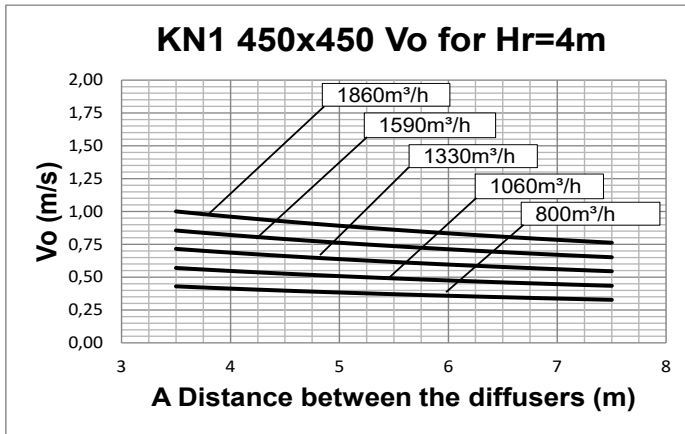




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

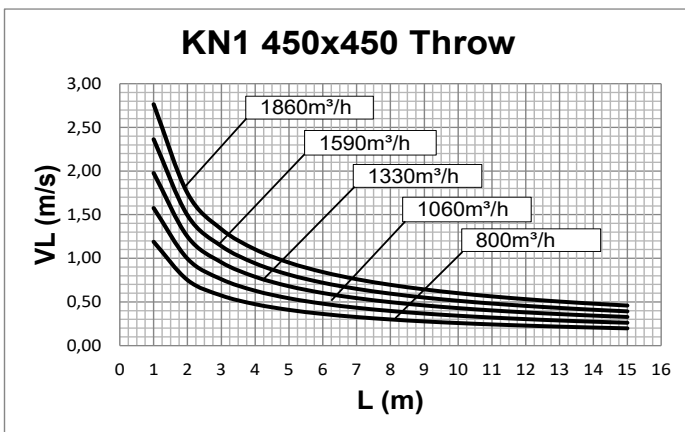
**KN1  
SERIES**

**PERFORMANCE KN1 450  
(594x594 external frame)**



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

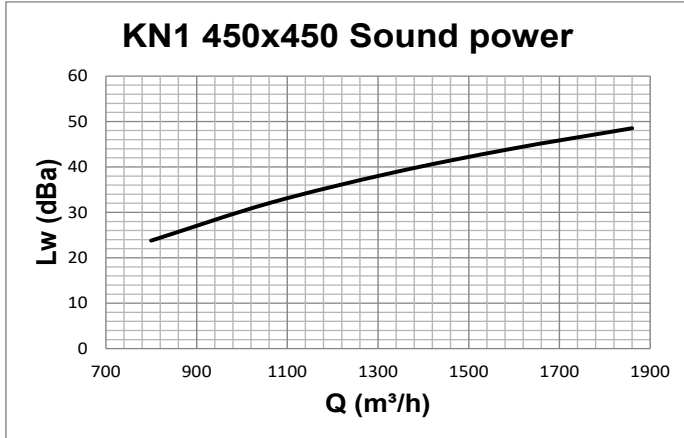




## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

PERFORMANCE KN1 450  
(594x594 external frame)

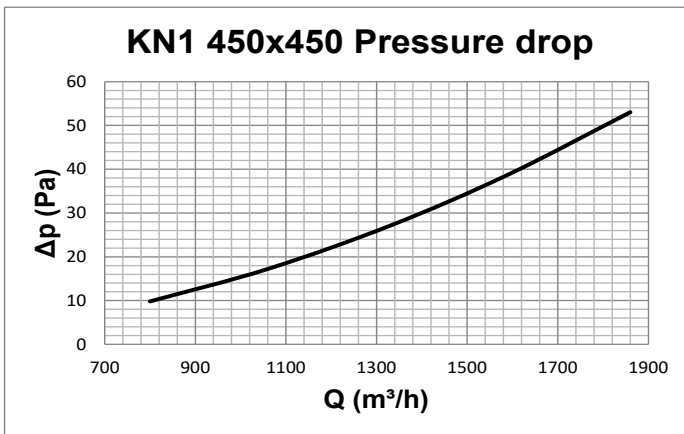


Data measured in reverberation room in accordance with international standards:

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

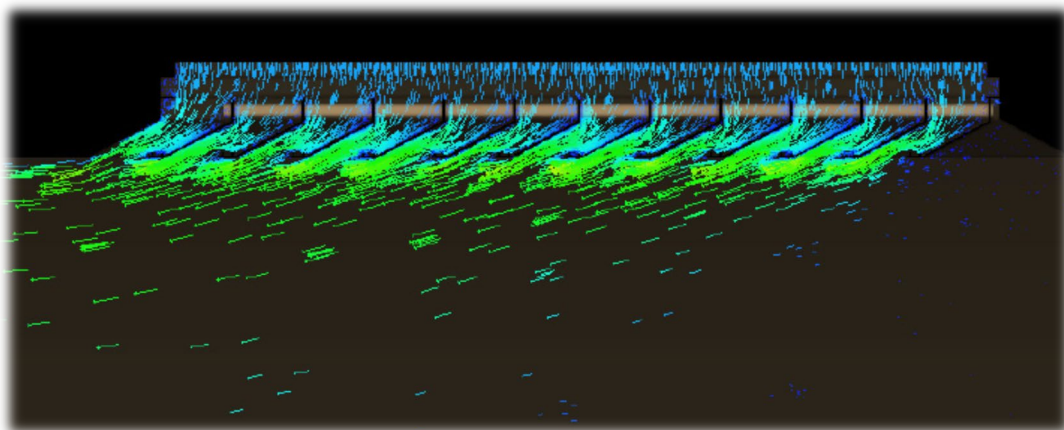
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

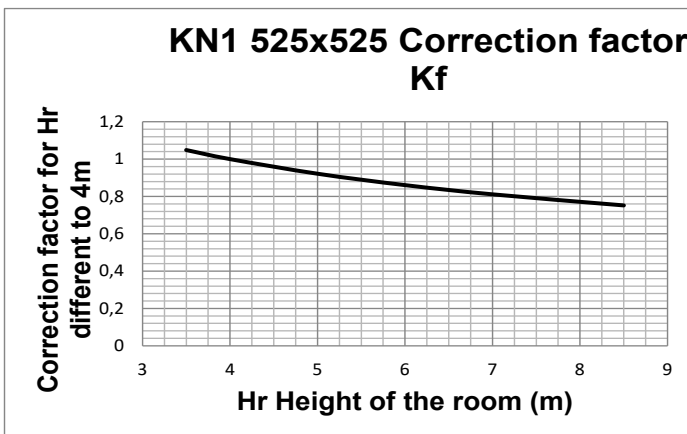
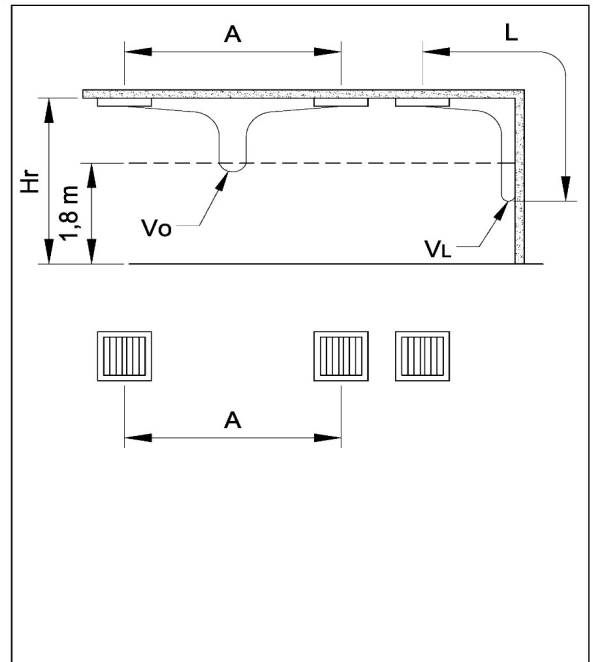
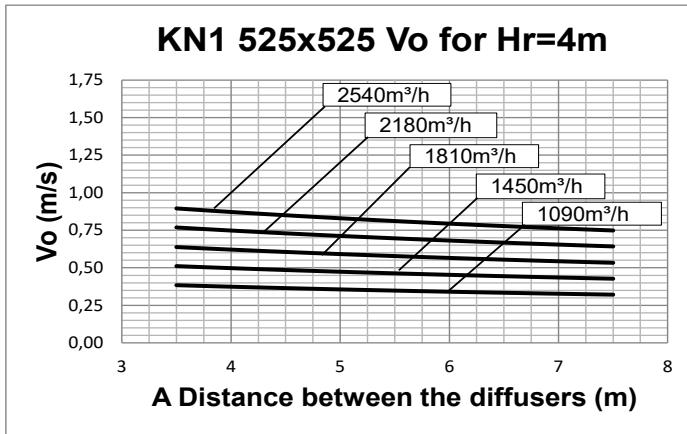




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

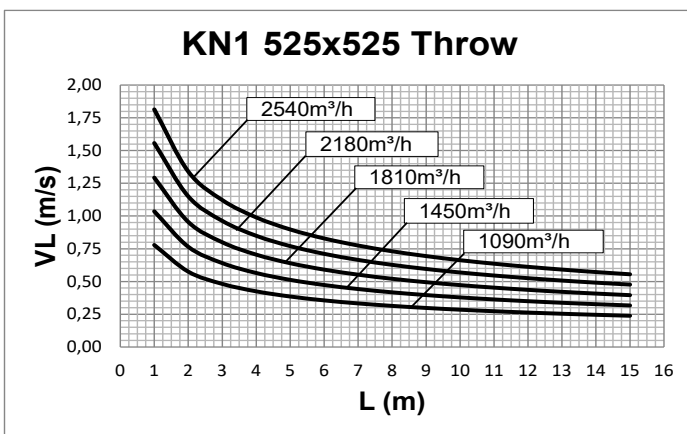
**KN1  
SERIES**

PERFORMANCE KN1 525



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



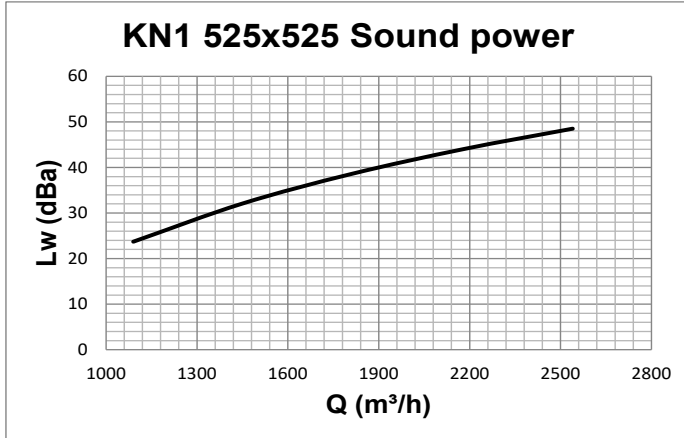
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 525

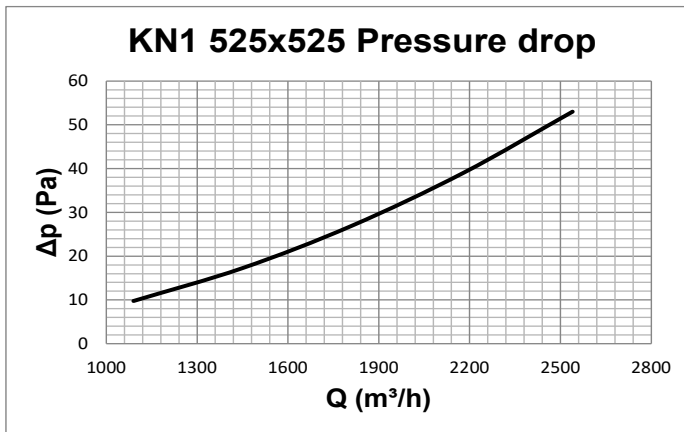


Data measured in reverberation room in accordance with international standards:

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

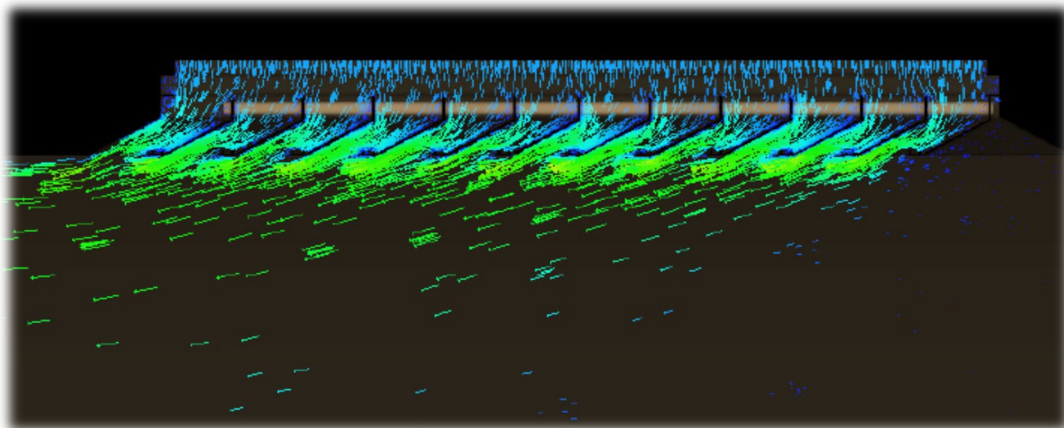
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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.*

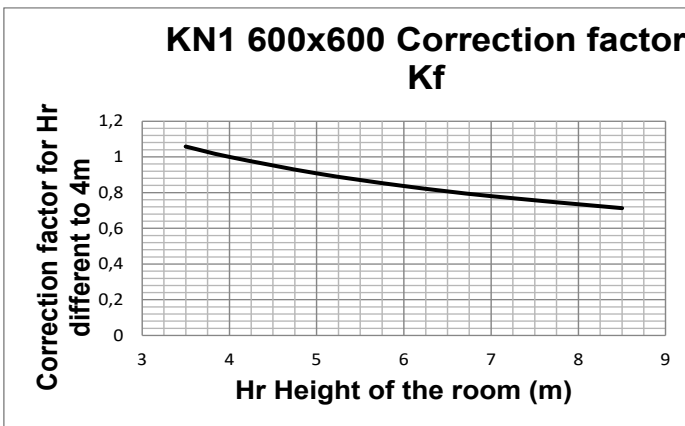
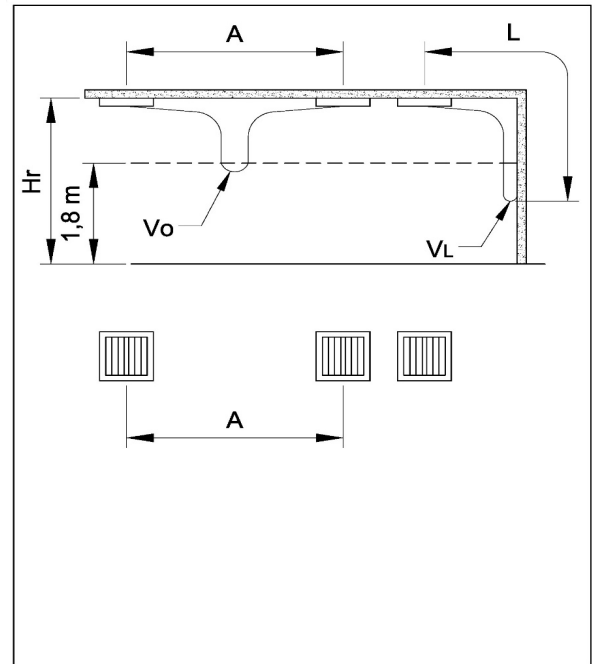
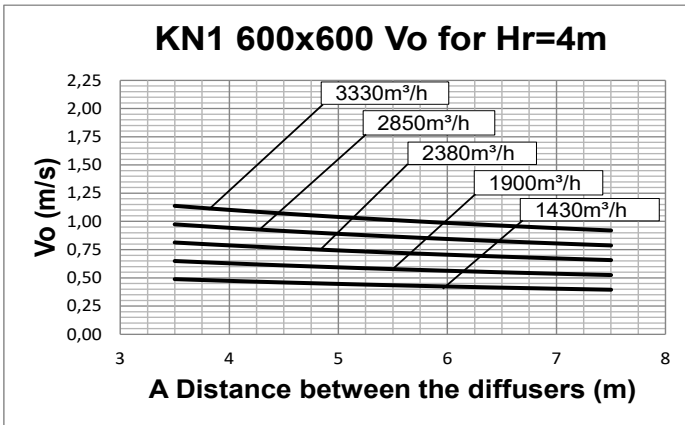




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

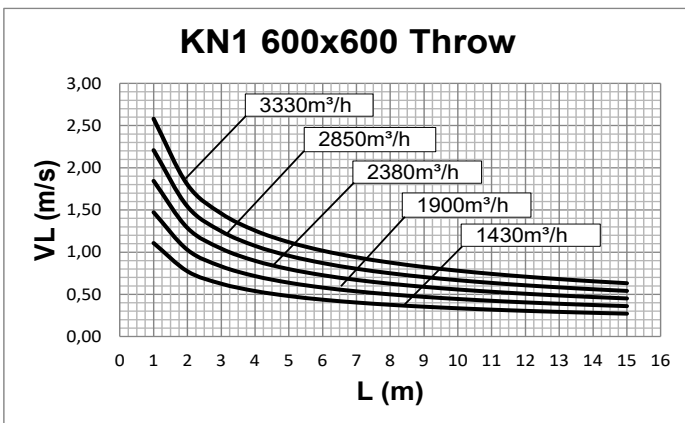
**KN1  
SERIES**

**PERFORMANCE KN1 600**



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



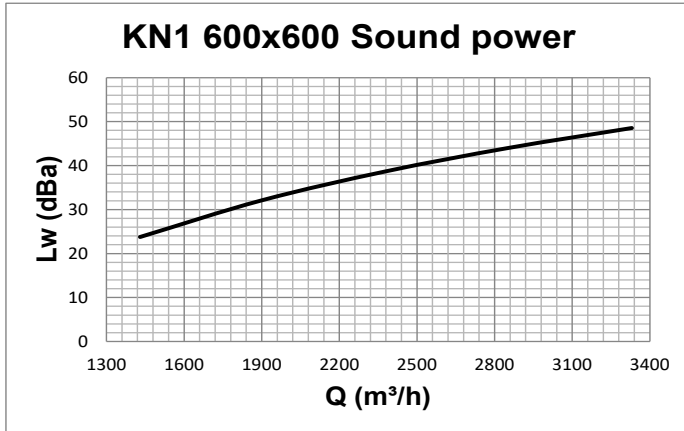
For Hr different from 4m:  
 $V_o(h) = V_o \times K_f$



## MULTIDIRECTIONAL DIFFUSERS FIXED SQUARE GEOMETRY

# KN1 SERIES

### PERFORMANCE KN1 600

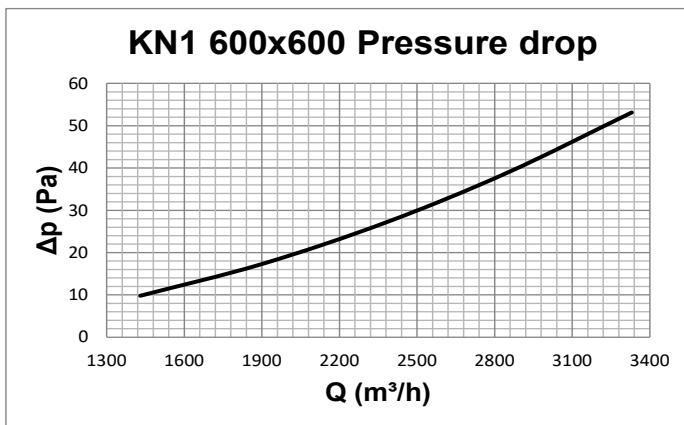


Data measured in reverberation room in accordance with international standards:

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

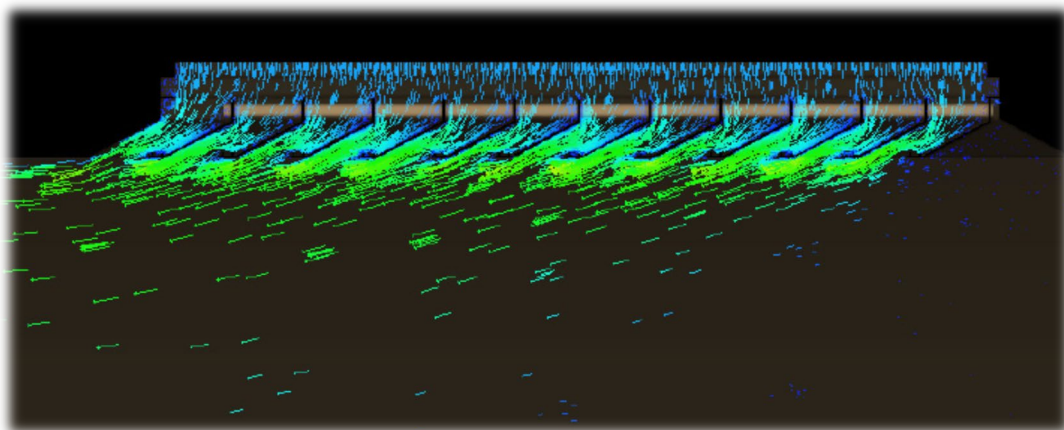
**ISO 5135 1997:** *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

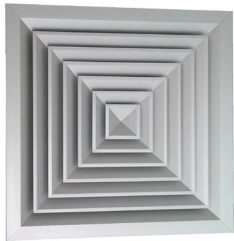
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the interior features.



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.*

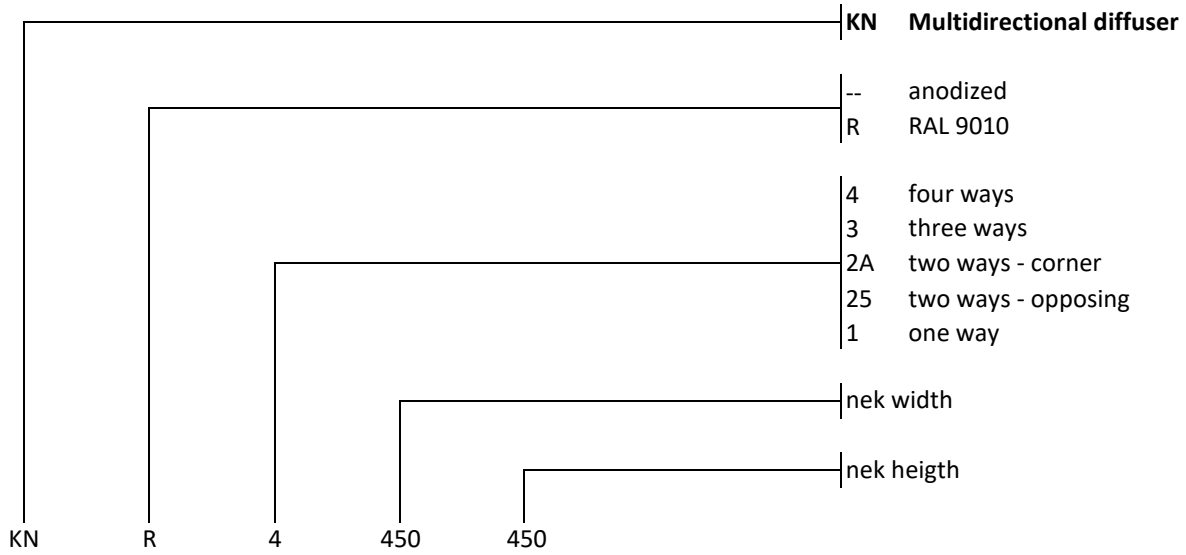




**MULTIDIRECTIONAL DIFFUSERS  
FIXED SQUARE GEOMETRY**

**KN  
SERIES**

**HOW TO ORDER**



KN4	KN3	KN2A	KN25	KN1



## CONTROL DAMPERS

## SC SERIES

### OVERVIEW TECHNICAL CHARACTERISTICS

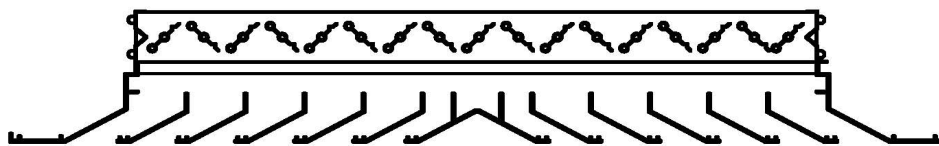
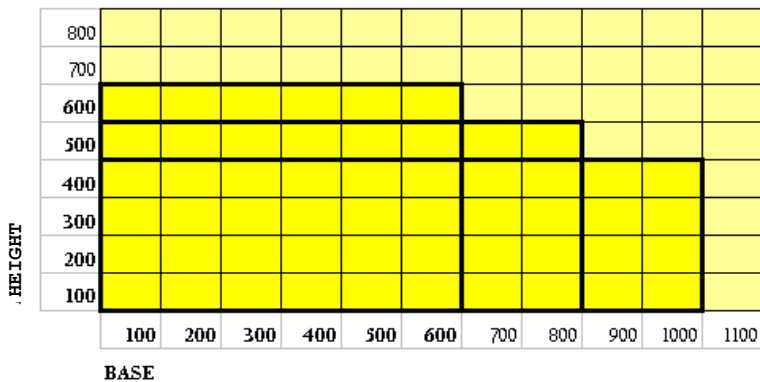
#### OVERVIEW AND CHARACTERISTICS :

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.

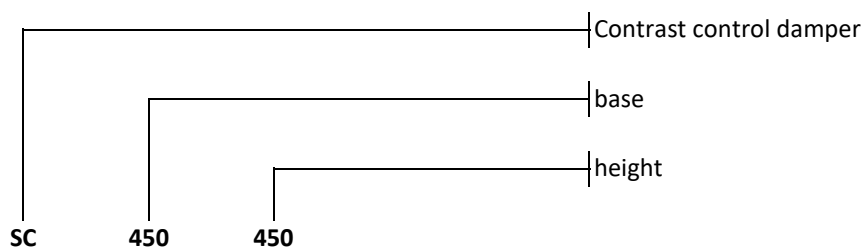
The SC series dampers are made entirely of galvanised steel and have a mechanism for moving and closing all the blades simultaneously.

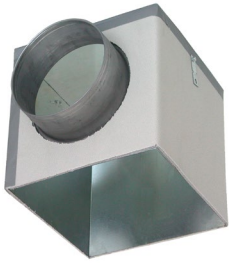
This mechanism is a simple longitudinal plate that links all the blades, and can be removed by unscrewing a nut using a screwdriver. The careful design, precise assembly, and the quality of the materials used, make this an economical, practical, and efficient component.

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



application on KN



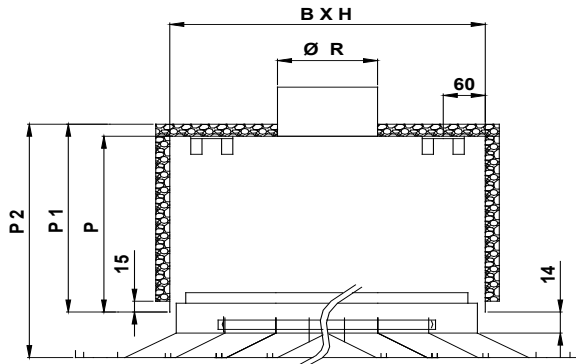


# PLENUM FOR SQUARED DIFFUSERS

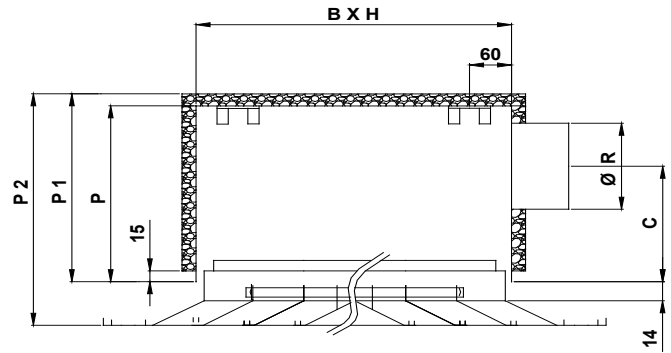
PP 90 91  
SERIES

## OVERVIEW

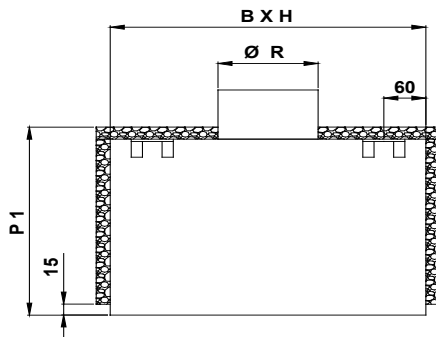
PP91 I + KN



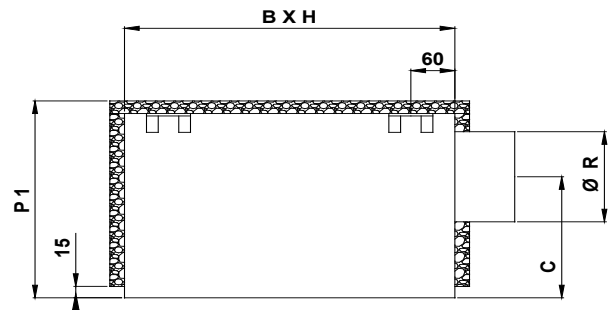
PP90 I + KN



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.

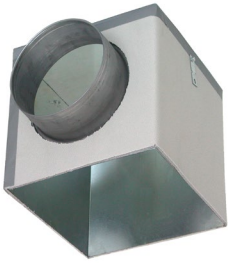
#### MOUNTING OF PLENUM:

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**

**PP 90 91  
SERIES**

**HOW TO ORDER**

