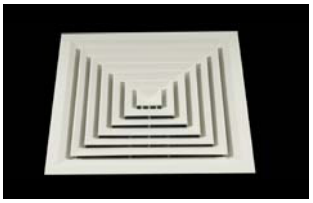


MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

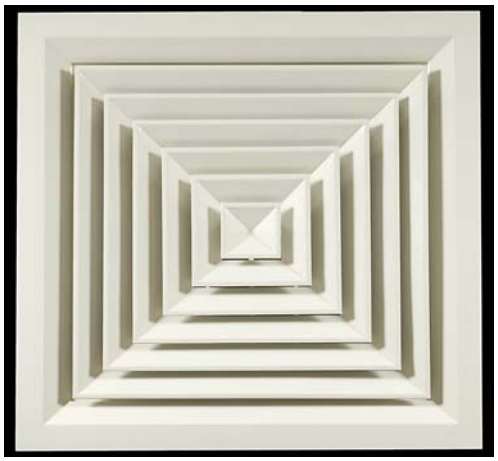
CR-KN SERIES

OVERVIEW AND TECHNICAL DATA

OVERVIEW :
The new CR-KN four way diffusers represent an ideal solution for a fast completion of plants and HVAC projects using coutersealing environments.
The units are available both in standard diffuser version or on a 595x595 panel for use on supposrting structure.
The stadard diffusers are sold with gaskets in spunge material on the reverse side for a perfect adhesion to the countersealing structure.
With respect to the high quality of the product, the automated production technique and the large and dinamic stock volumes allow for reduced almost immediact delivery times, with considerable reduced prices.

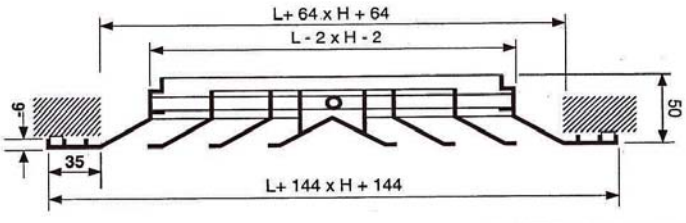
FITTING :
Either by placing the unit on the countercealing frame or by fixing to a plenum or to the flexible duct by means of screws fixed on the sides of the neck size of the diffuser. The central cones can be removed using a spring type mechanism and can be left hanging thanks to a nylon loop fixed to the external frame, ensuring an easy and simple way of installing and fixing the unit into place.

MATERIALS AND FINISHING:
The CR-KN diffusers are made in alluminium and the panels for the CR-KN4TR model are made in pressed steel. All diffusers are varnished with an epoxy finish RAL 9010. This is carried out after assembly to remove any small aetheetic irregularities in the joints and to ensure a perfect union between diffuser and panel.

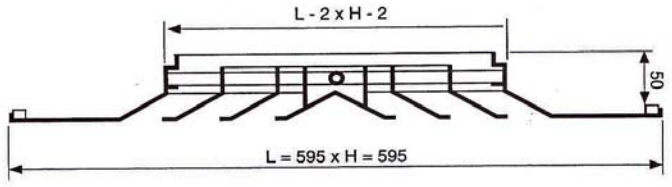


STANDARD VERSION

VERSION WITH PANEL



CR-KN4R

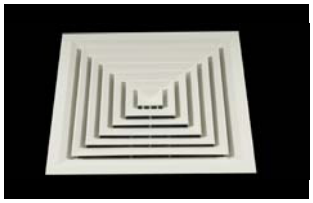


CR-KN4TR

CODES

Model	Nominal size	Version
CR-KN4R150	150x150	standard
CR-KN4R225	225x225	standard
CR-KN4R300	300x300	standard
CR-KN4R375	375x375	standard
CR-KN4R450	450x450	standard

Model	Nominal size	Version
CR-KN4TR150	150x150	panel
CR-KN4TR225	225x225	panel
CR-KN4TR300	300x300	panel
CR-KN4TR375	375x375	panel



MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

CR-KN SERIES

PERFORMANCE

PORTATA		LxH mm	150x150	225x225	300x300	375x375	450x450
		Ak m²	0,01	0,02	0,036	0,058	0,079
100	m³/h	Vk m/sec	2,8				
		T m	0,7				
		Lp dBa	17,0				
		ΔP Pa	4,6				
150	m³/h	Vk m/sec	4,2	2,1			
		T m	1,0	0,8			
		Lp dBa	26,0	14,0			
		ΔP Pa	10,0	2,6			
200	m³/h	Vk m/sec	5,6	2,8			
		T m	1,4	1,0			
		Lp dBa	31,0	20,0			
		ΔP Pa	19,0	4,6			
250	m³/h	Vk m/sec		3,5	1,9		
		T m		1,2	0,9		
		Lp dBa		25,0	15,0		
		ΔP Pa		7,2	2,2		
300	m³/h	Vk m/sec		4,2	1,3		
		T m		1,5	1,1		
		Lp dBa		29,0	19,0		
		ΔP Pa		10,0	3,2		
400	m³/h	Vk m/sec		5,6	28,0	21,0	
		T m		2,0	1,5	1,2	
		Lp dBa		34,0	25,0	18,0	
		ΔP Pa		19,0	5,7	2,4	
500	m³/h	Vk m/sec			3,9	2,5	
		T m			1,8	1,5	
		Lp dBa			29,0	22,0	
		ΔP Pa			9,0	3,7	
600	m³/h	Vk m/sec			4,6	2,9	2,1
		T m			2,3	1,8	1,8
		Lp dBa			33,0	26,0	19,0
		ΔP Pa			13,0	5,3	3,0
800	m³/h	Vk m/sec				3,9	2,8
		T m				2,4	2,4
		Lp dBa				32,0	25,0
		ΔP Pa				9,4	5,0
1000	m³/h	Vk m/sec				5,0	3,6
		T m				3,0	3,2
		Lp dBa				37,0	30,0
		ΔP Pa				15,0	7,5
1200	m³/h	Vk m/sec					4,2
		T m					3,9
		Lp dBa					34,0
		ΔP Pa					11,0
1500	m³/h	Vk m/sec					5,2
		T m					4,8
		Lp dBa					39,0
		ΔP Pa					18,0

Vk = Speed on exit

T = Throw for Vt= 0,2m/sec in isotermic conditions

Lp = Acustic pressure wth room attenuation of -8dBa

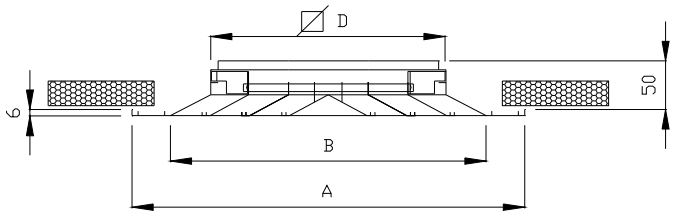
ΔP = Total pressure loss

MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

OVERVIEW AND TECHNICAL DATA

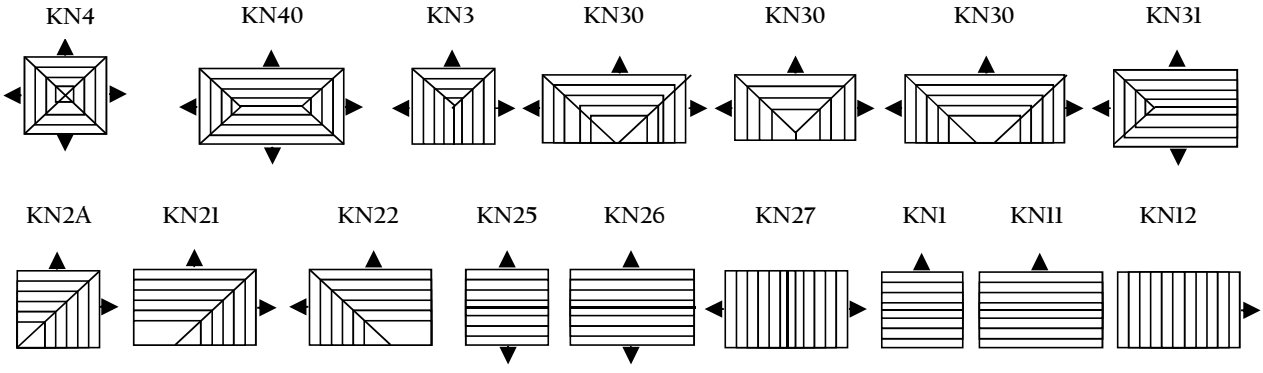
KN4
Multidirectional 4-ways-diffusers in aluminium - dimensions from mm. 150 x 150 to mm. 600 x 600.

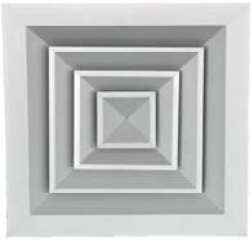


MODEL	A mm	B mm	D mm
150	294	224	148
225	369	299	223
300	444	374	298
375	519	449	373
450	594	524	448
525	669	599	523
600	744	674	598

TECHNICAL DATA :
KN series multidirectional diffusers are manufactured from extruded aluminium. They are available in square and rectangular shape and they have good inductive characteristics. This kind of terminal device unit is suggested for all applications having a high temperature difference between delivered and ambient air.
KN diffusers have a removable central body. Due to this characteristic, it is possible to install KN diffusers without any mounting frame. The air flow diffusion can be directional and asymmetric. The installation height can be from 2,5 m to 4,5 m.
KN diffusors are produced in 6 different configurations in order to satisfy any necessity. In particular, they can be 4 ways, 3 ways, 2 angle ways, 2 opposite ways, 1 way.
MOUNTING :
The diffuser is fixed by hidden screws on the lateral side of diffuser's neck.KN with dimensions 450 x 450 are perfect for application on false ceiling panel with dimensions 600x600 mm.

STANDARD FINISH :
KN series diffusers can be supplied in anodized aluminium or in aluminium painted white RAL 9010.

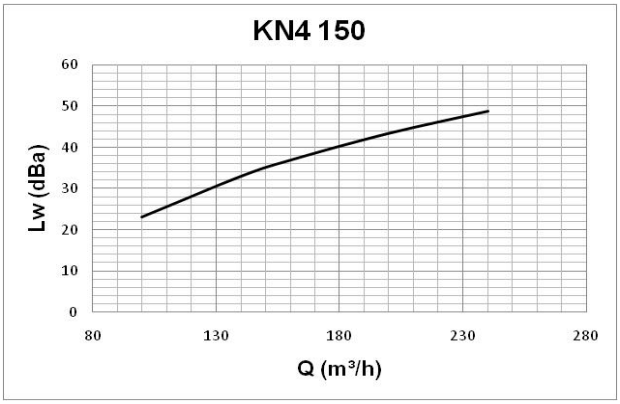


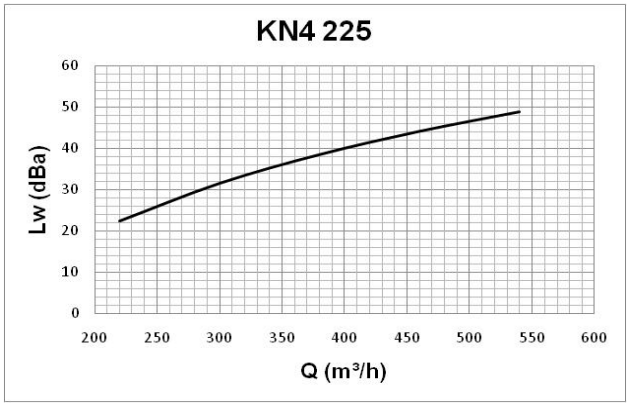


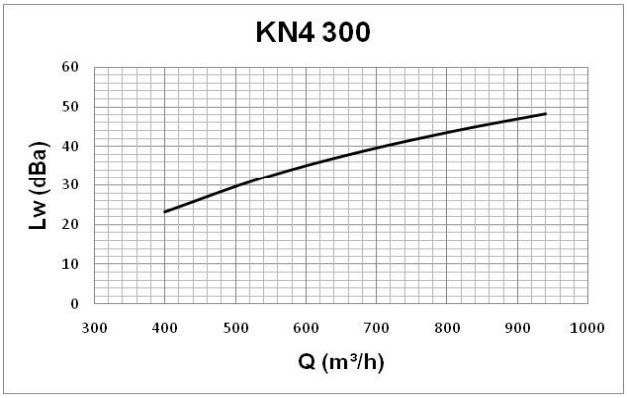
SQUARE MULTIDIRECTIONAL 4-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

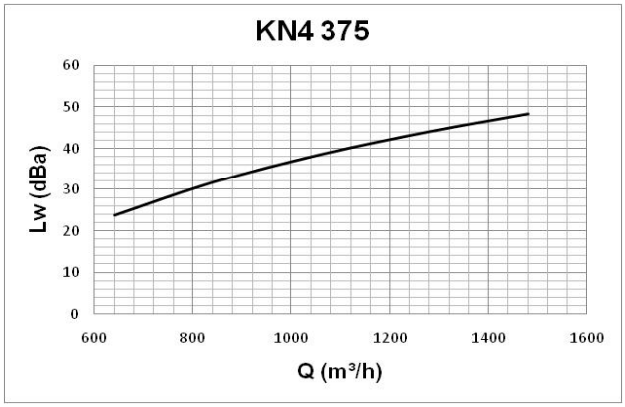
KN
SERIES

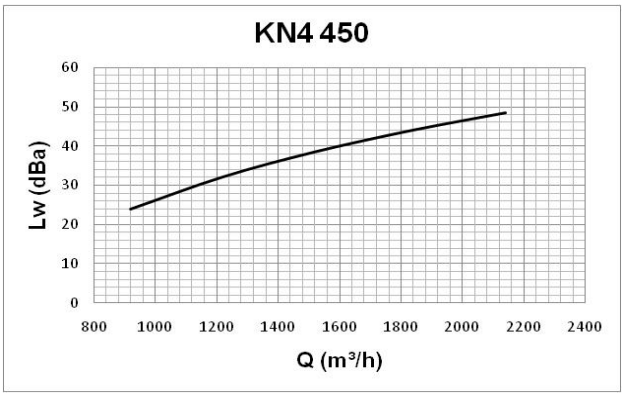
SOUND POWER

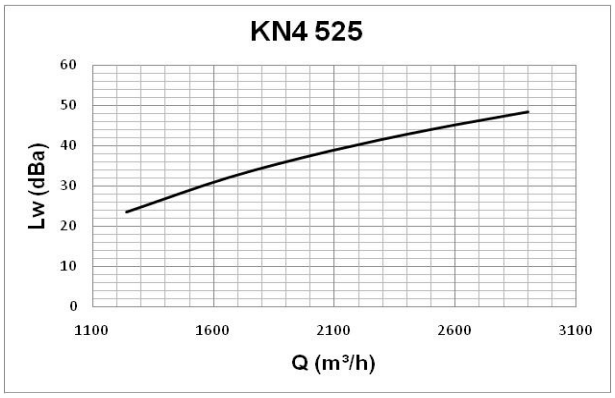


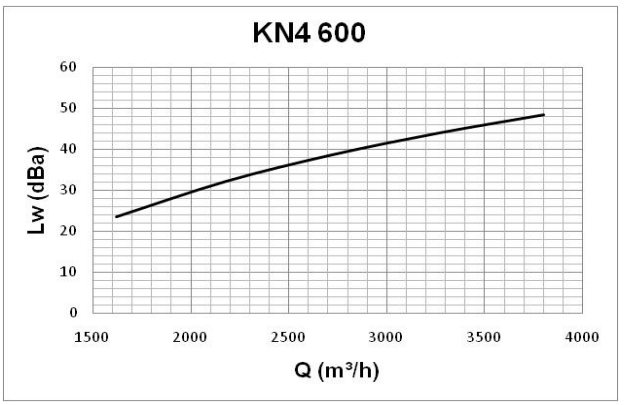










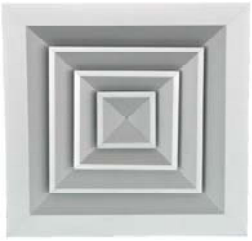


Data measured in reverberation chamber in accordance with international standards:

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.*

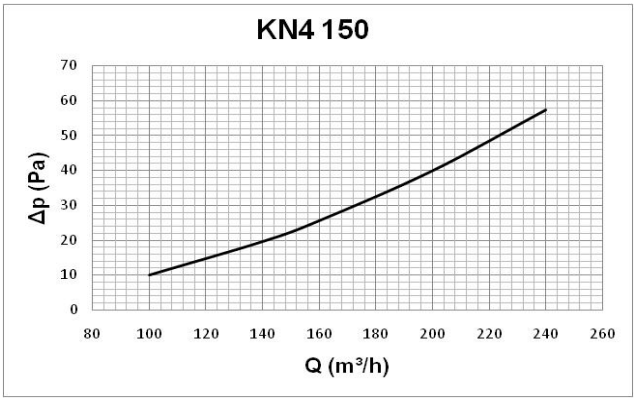
The shown data does not take into consideration the attenuation resulting from the surroundings where the diffuser is installed. Such attenuation is normally included between 6 and 10 dBa and is determined by the size of the surrounding space, its shape and the characteristics of the furniture and room fittings.

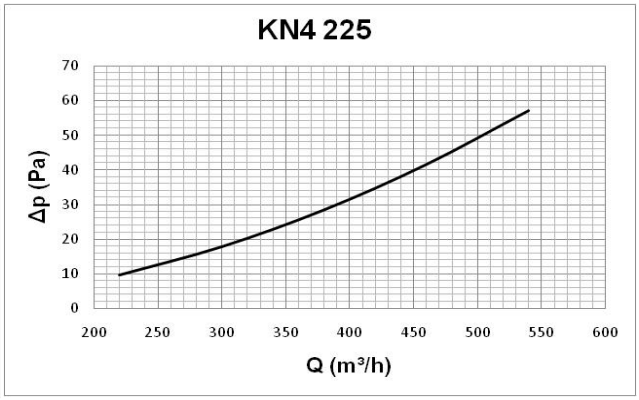


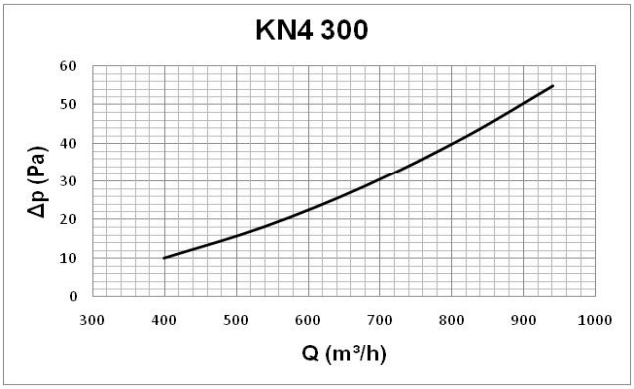
SQUARE MULTIDIRECTIONAL 4-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

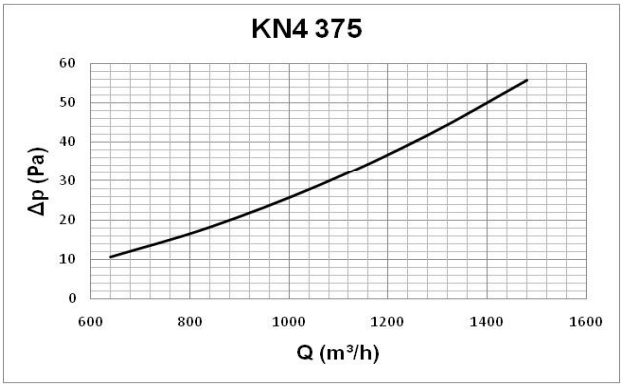
KN
SERIES

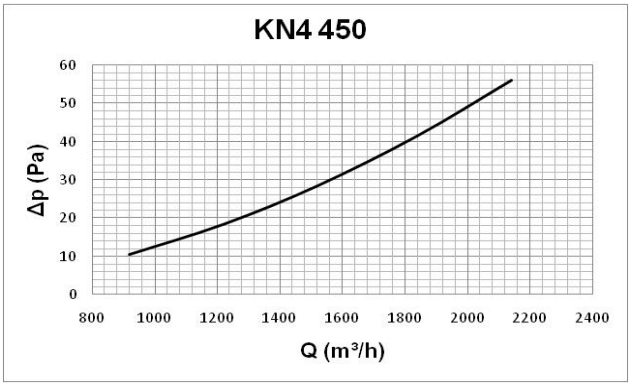
PRESSURE LOSS

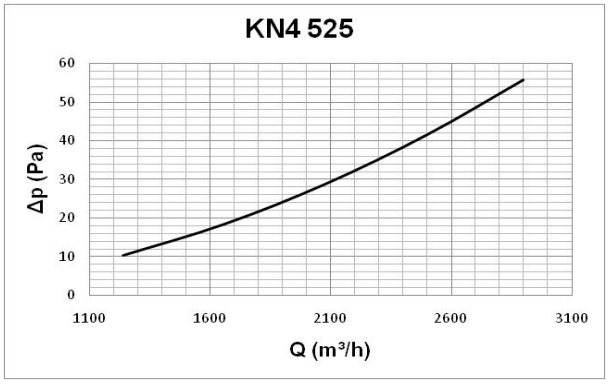


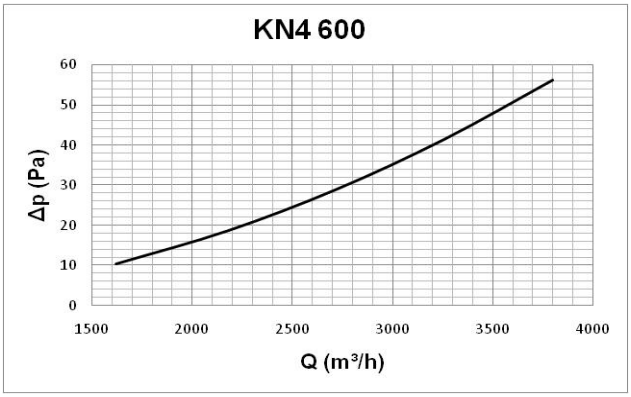












Data obtained from mathematical modelling in CFD test chamber operating in virtual agreement with the International Standard: ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

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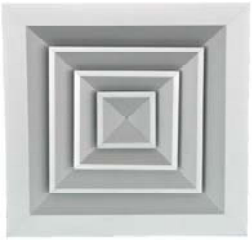
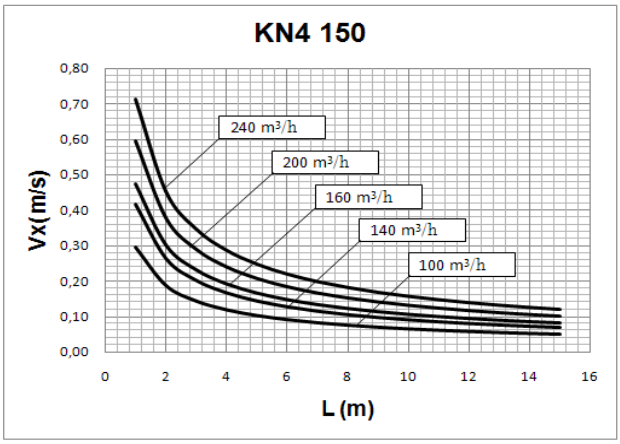
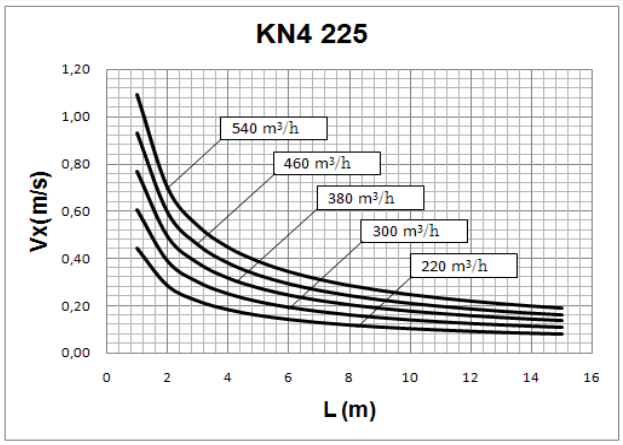


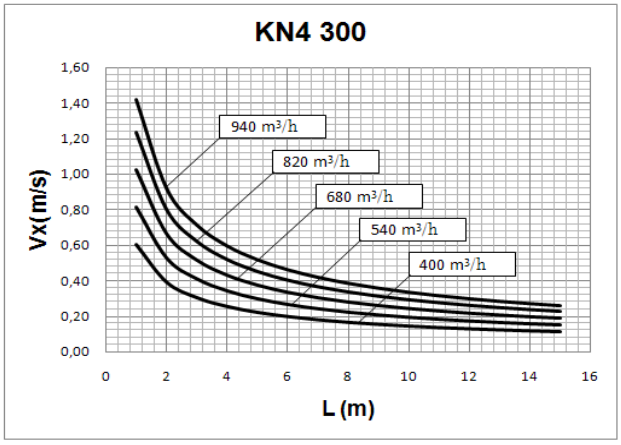
SQUARE MULTIDIRECTIONAL 4-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

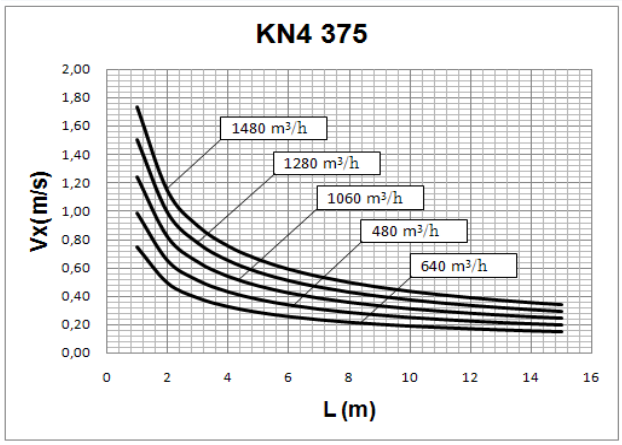
KN
SERIES

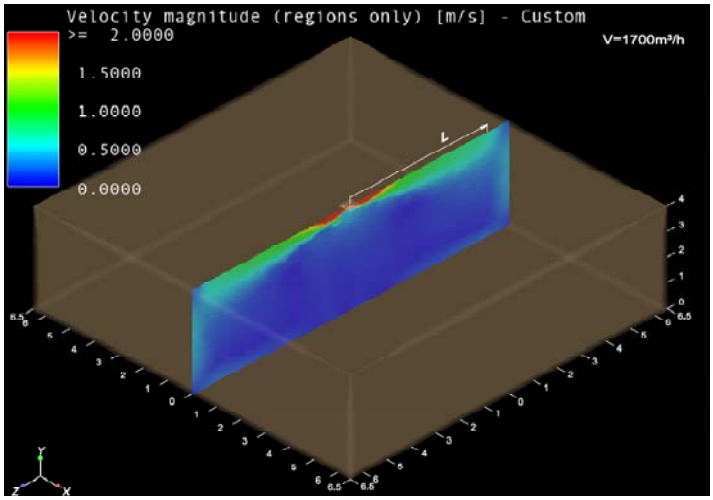
AERAULIC DATA

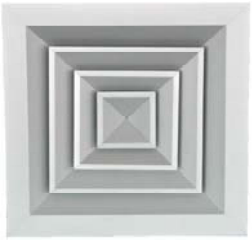








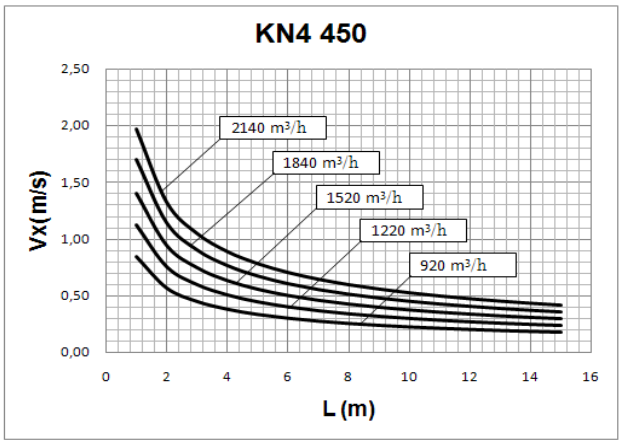


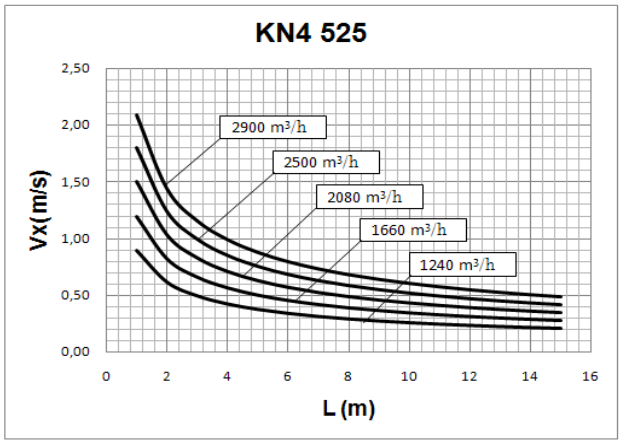


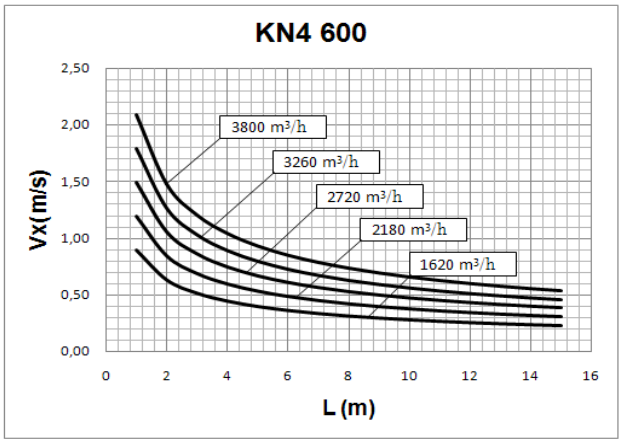
SQUARE MULTIDIRECTIONAL 4-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

AERAULIC DATA

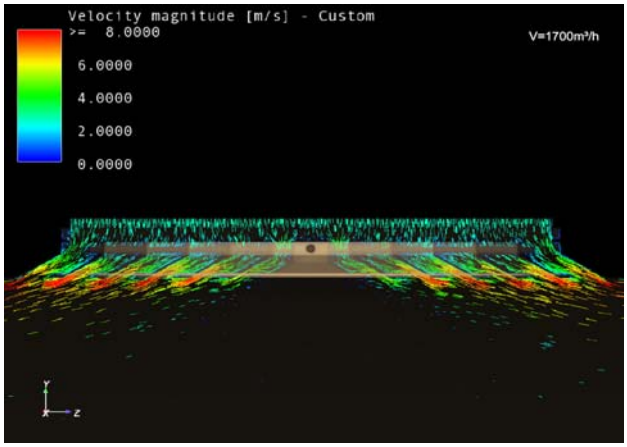






Data obtained from mathematical modelling in CFD test chamber operating in virtual isothermal conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

L (m) horizontal distance from the centre of the diffuser
Vx (m/s) maximum speed inside the air stream



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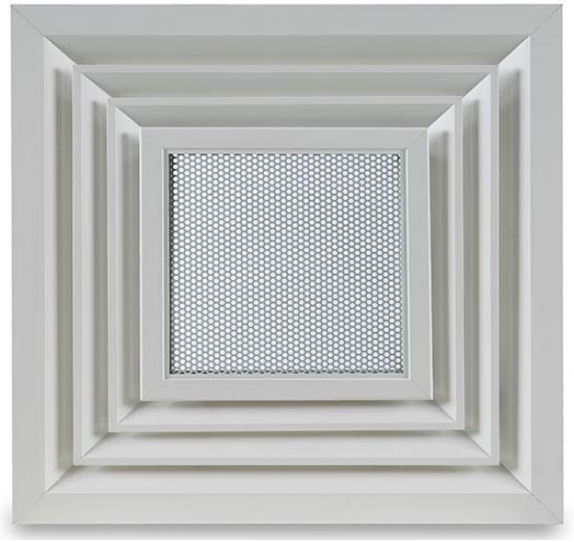
EFFECTIVE AREA	
MODEL	Ak m²
KN4 150	0,0094
KN4 225	0,0212
KN4 300	0,0377
KN4 375	0,0589
KN4 450	0,0848
KN4 525	0,1154
KN4 600	0,1507

SUPPLY AND EXTRACTION MULTIDIRECTIONAL DIFFUSER

KNF
SERIES

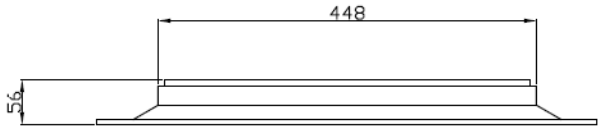
OVERVIEW
TECHNICAL CHARACTERISTICS

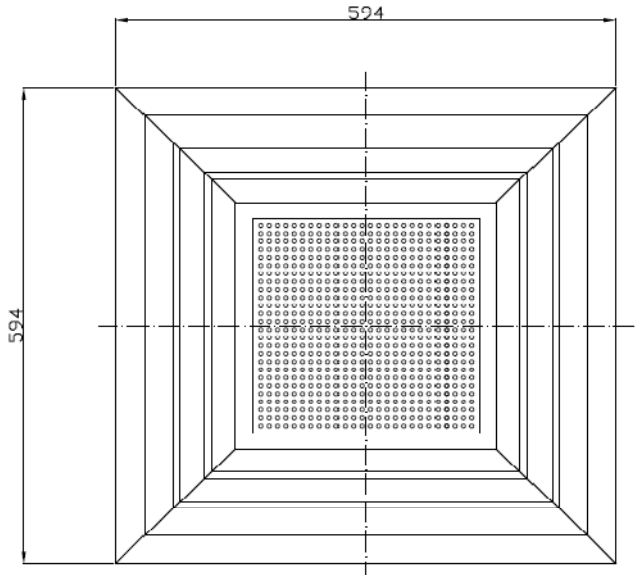
OVERVIEW :
The four-way KNF450 diffusers allow to obtain in a single diffuser both the supply of air from the side slots and the extraction of air from the central meshed panel .
The throw of the side air supply in the four directions creates an inductive effect of recall towards the centre of the diffuser of air already present in the room which is immediately captured by the extraction.



FIXING :
Fixing is made through the installation in a modular ceiling structure or through the hidden screws laterally to the neck of the diffuser. The central part of the diffuser is removable for ease of installation and connection.

MATERIALS AND FINISH:
The KNF450 diffuser series is made of carbon aluminium carbon steel painted white RAL 9010.

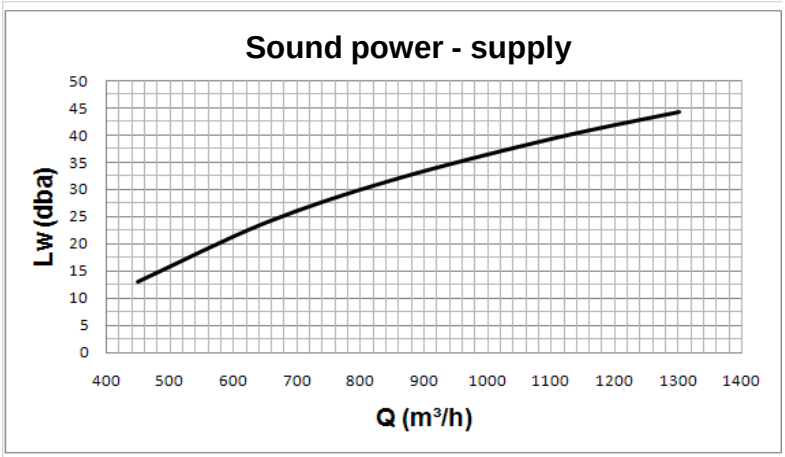


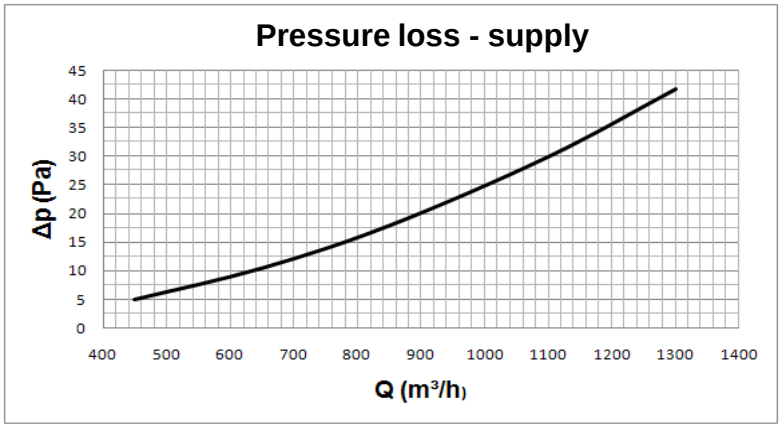


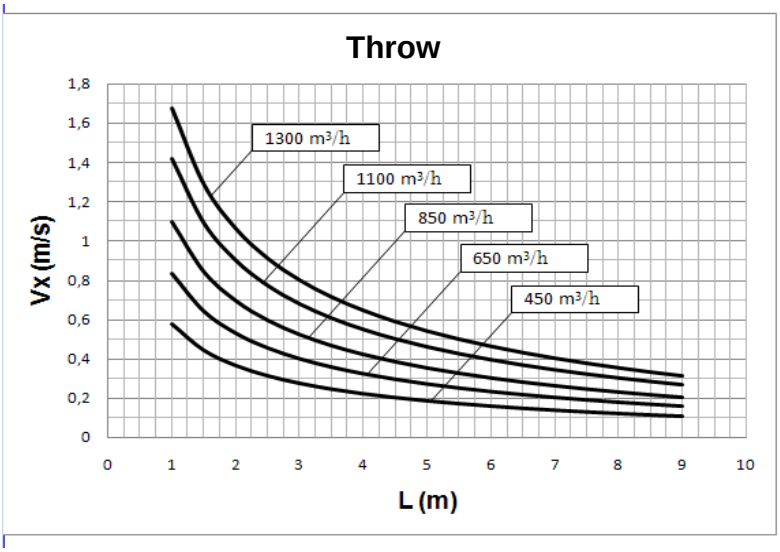
SUPPLY AND EXTRACTION MULTIDIRECTIONAL DIFFUSER

KNF
SERIES

OVERVIEW
TECHNICAL CHARACTERISTICS







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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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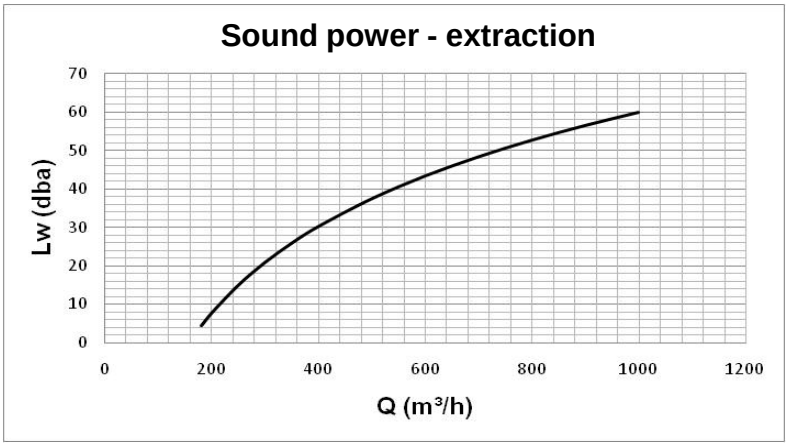
Pressure losses measured working in isothermal conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

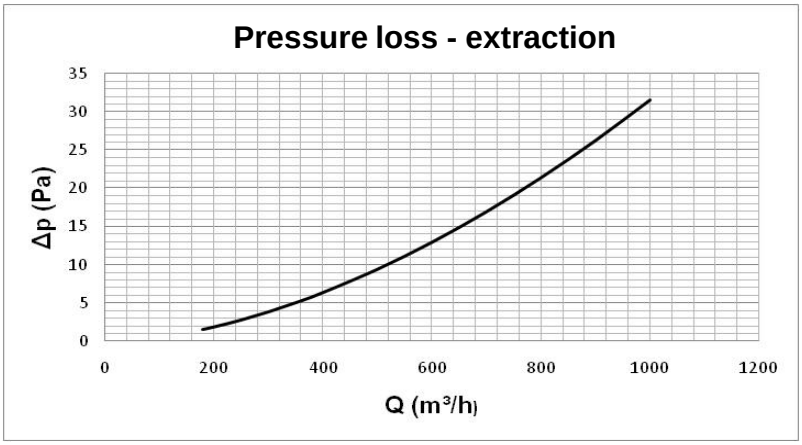
L (m) horizontal distance in metres from the centre of the diffuser
Vx (m/s) maximum speed inside the air stream

SUPPLY AND EXTRACTION MULTIDIRECTIONAL DIFFUSER

KNF
SERIES

OVERVIEW
TECHNICAL CHARACTERISTICS





Data measured in reverberation chamber 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 shown data does not take into consideration the attenuation resulting from the surroundings where the diffuser is installed. Such attenuation is normally included between 6 and 10 dBa and is determined by the size of the surrounding space, its shape and the characteristics of the furniture and room fittings.

Pressure losses measured working in isothermal conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

MULTIDIRECTIONAL DIFFUSER WITH CENTRAL PANEL

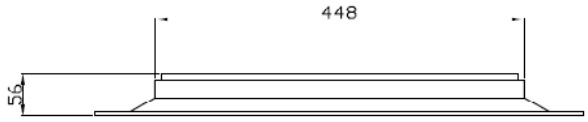
KNP
SERIES

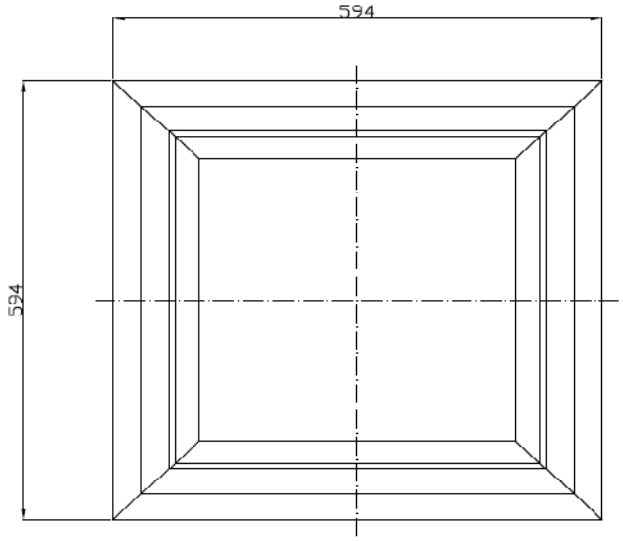
OVERVIEW
TECHNICAL CHARACTERISTICS

OVERVIEW :
The KNP450 four-way diffusers presents a solution for the contained air flows and interesting from both the fluid dynamics and in terms of its architecture.
Compared with the traditional small diffuser fitted on the panel, in fact, in the KNP450 diffuser the flow is distributed on the two outer slots creating a wider throw that favours adherence to the ceiling. The smooth central panel also copies the line of counter ceiling giving a the appearance of a very clean and tidy installation.

FIXING :
Fixed in modular ceiling or through the hidden screws laterally to the neck of the diffuser. The central part of the diffuser is removable for ease of installation and connection.

MATERIALS AND FINISHES:
The KNP450 diffuser series is made of carbon aluminium steel and painted white RAL 9010

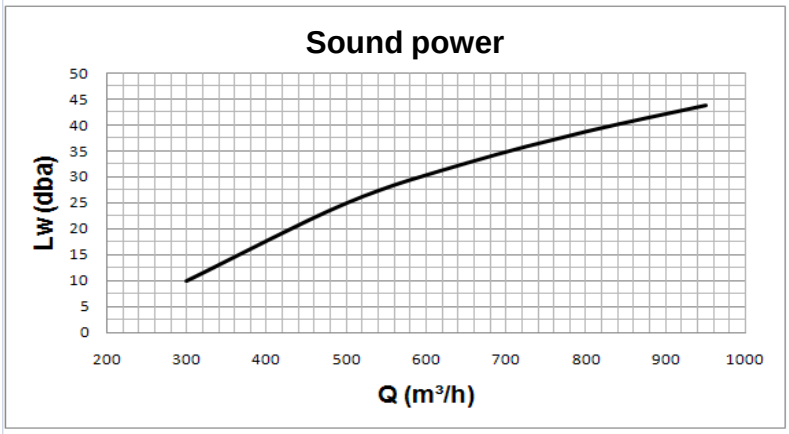




MULTIDIRECTIONAL DIFFUSER WITH CENTRAL PANEL

KNP
SERIES

OVERVIEW
TECHNICAL CHARACTERISTICS



Data measured in reverberation chamber in accordance with international standard:
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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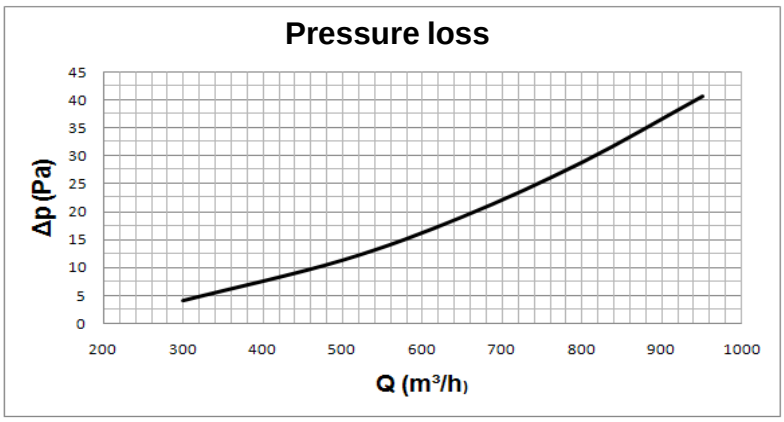
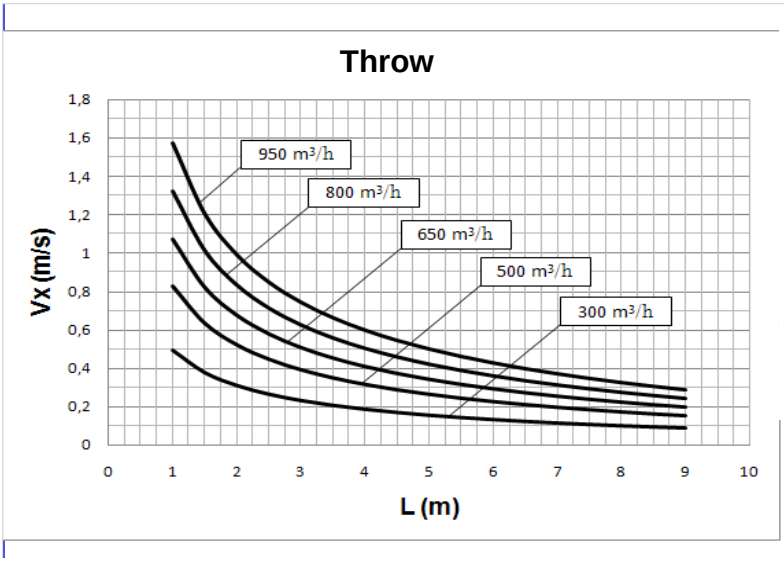


Pressure loss measured in isothermal conditions in accordance with international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



Data measured working in isothermal conditions in accordance with international standard:

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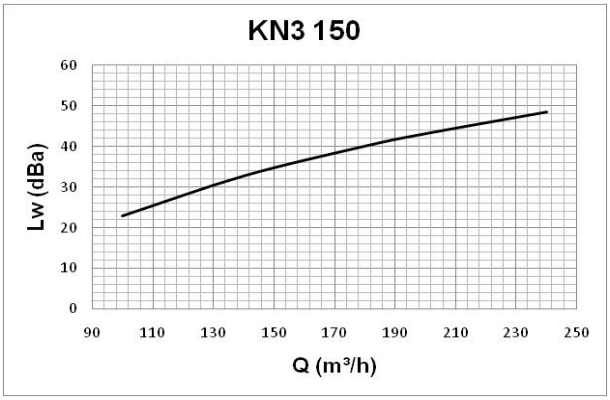
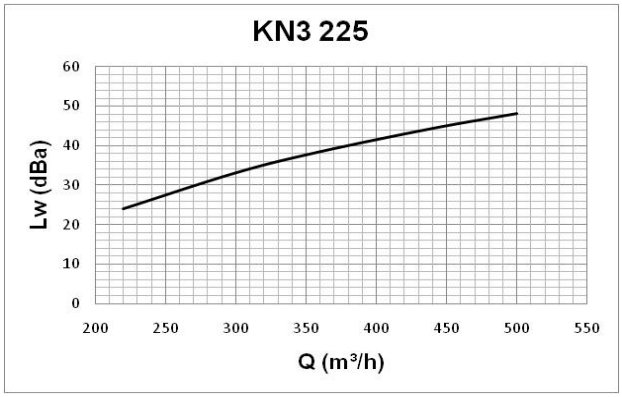
L (m) horizontal distance in metres from the centre of the diffuser
Vx (m/s) maximum speed inside the air stream

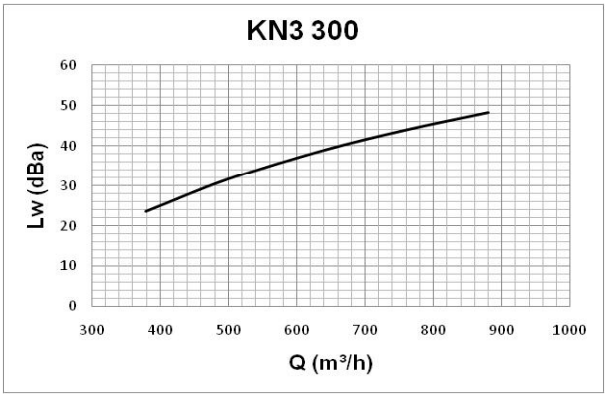
SQUARE MULTIDIRECTIONAL 3-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

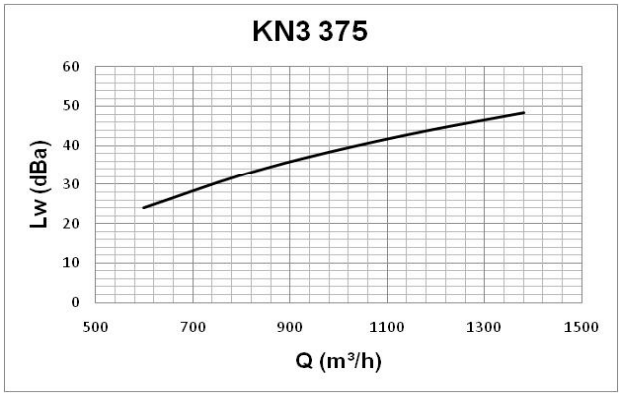
KN
SERIES

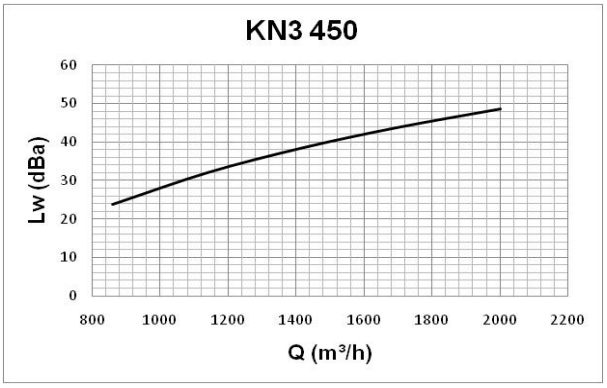
SOUND POWER

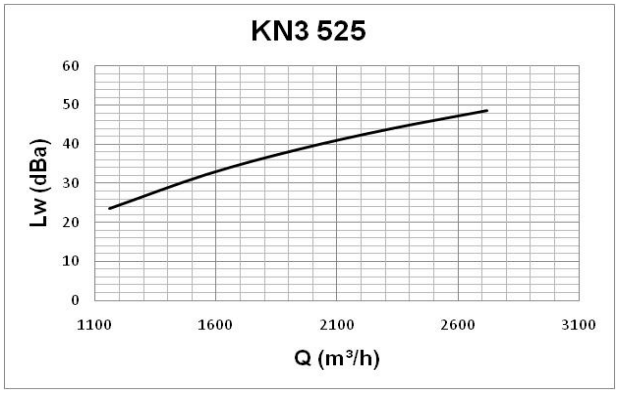


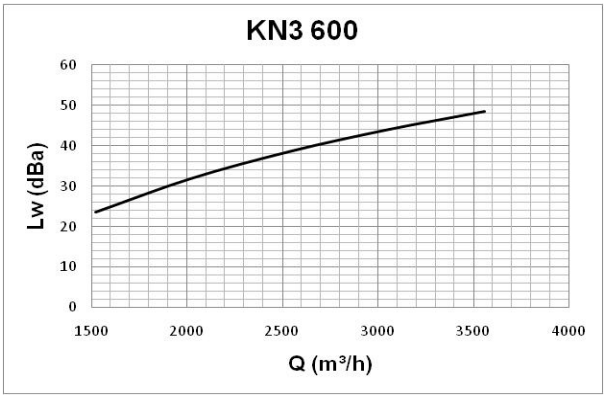












Data measured in reverberation chamber in accordance with international standards:
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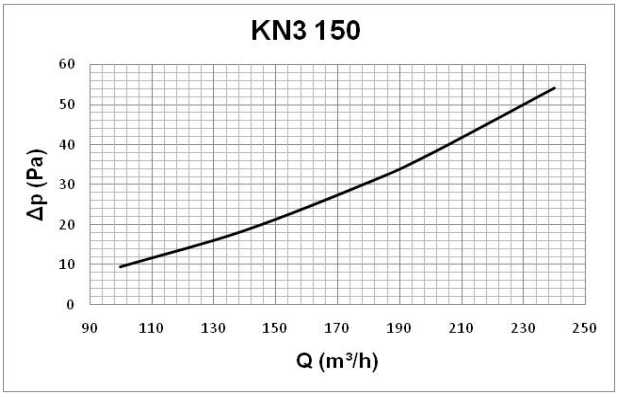
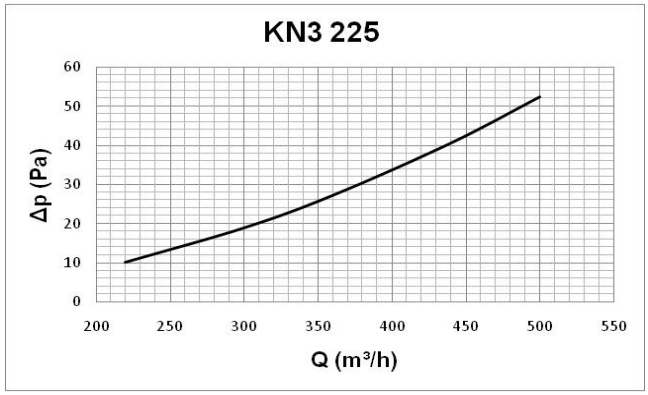
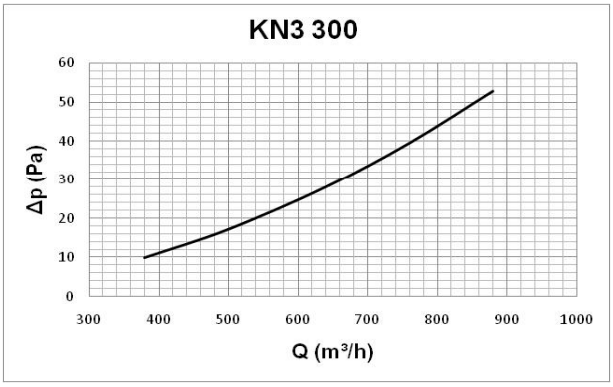
SQUARE MULTIDIRECTIONAL 3-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

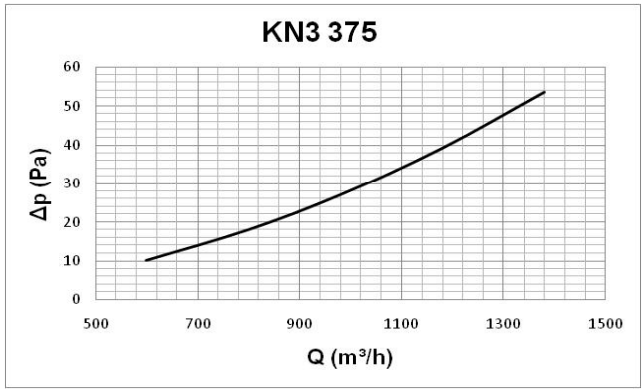
KN
SERIES

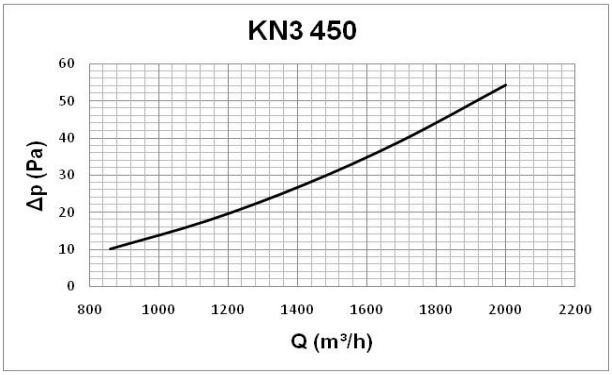
PRESSURE LOSS

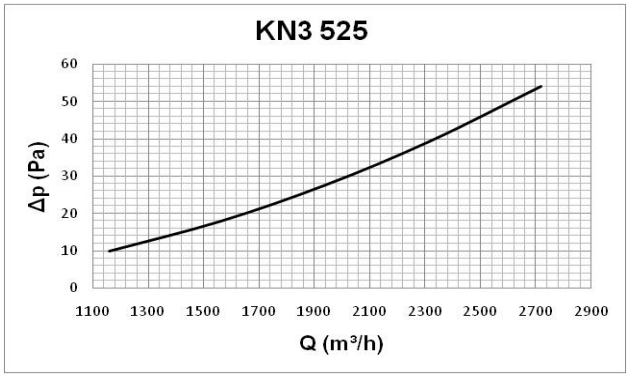


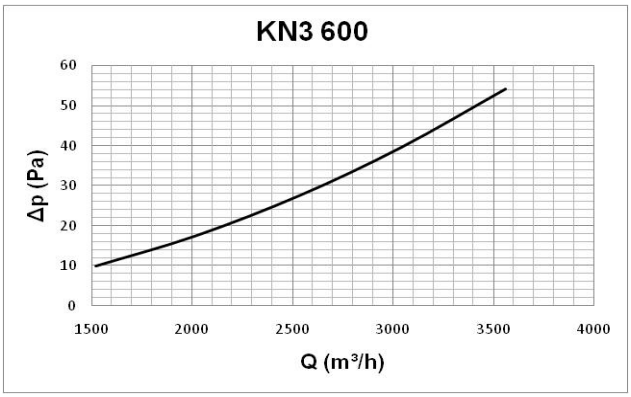












Data obtained from mathematical modelling in CFD virtual test chamber operating in accordance with the International Standard: ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

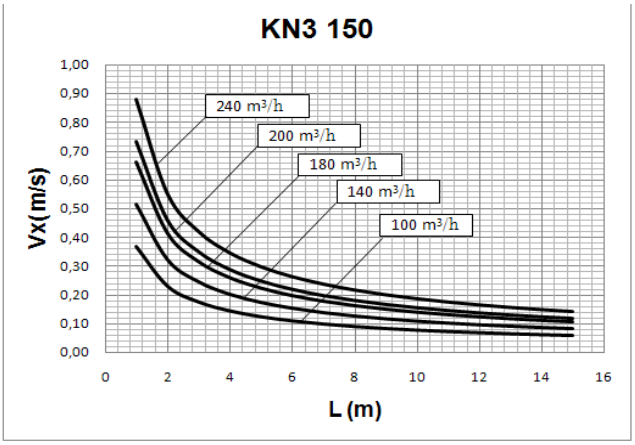
fluid dynamic tests carried out at

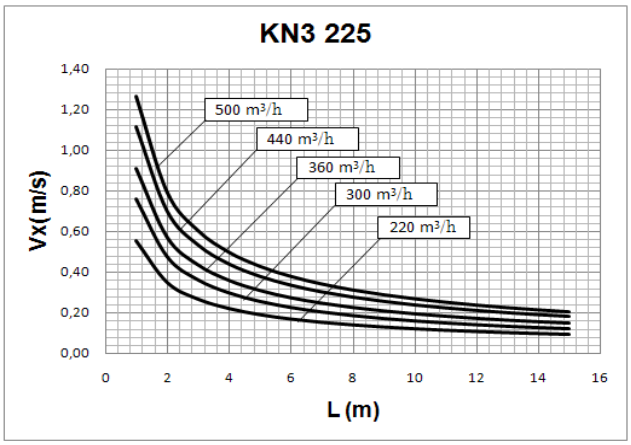
ENERGO
ENERGY EFFICIENCY ENGINEERING
www.energogroup.com

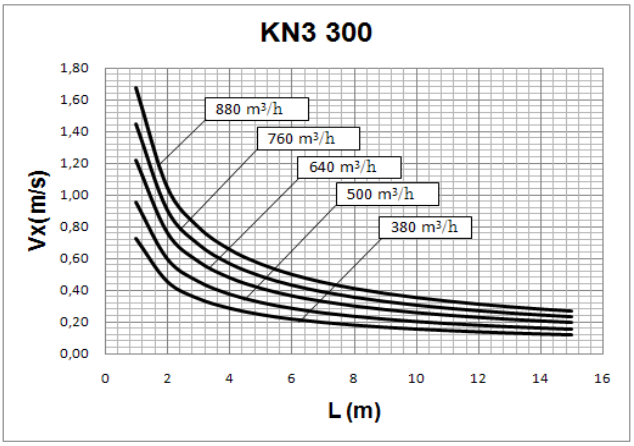
SQUARE MULTIDIRECTIONAL 3-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

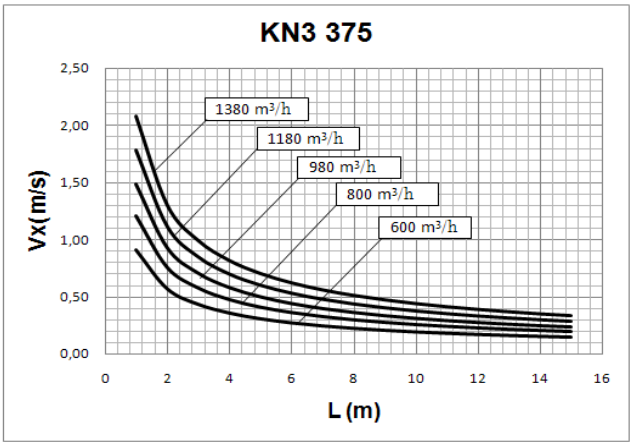
KN
SERIES

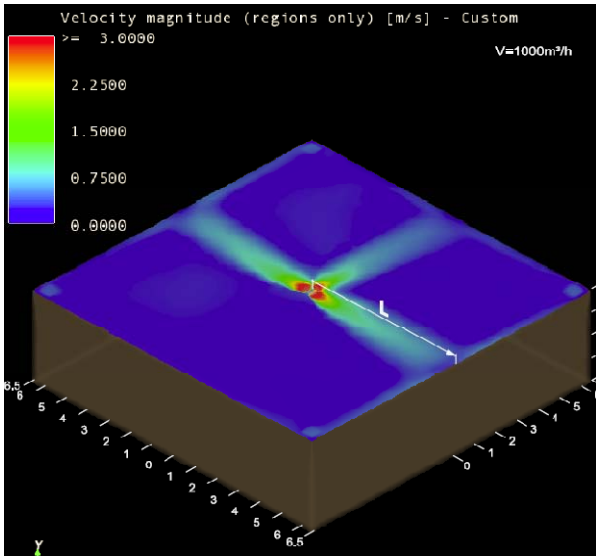
AERAULIC DATA







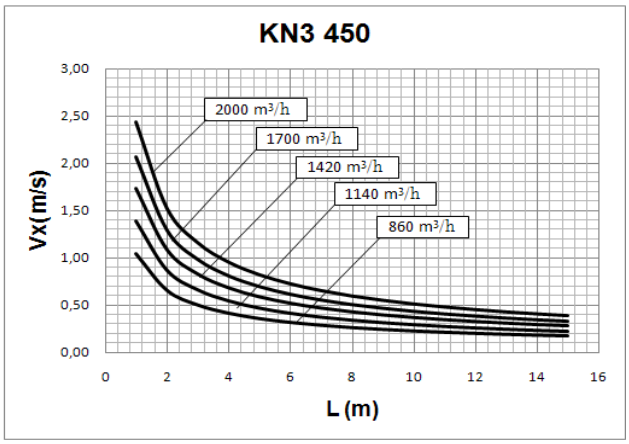


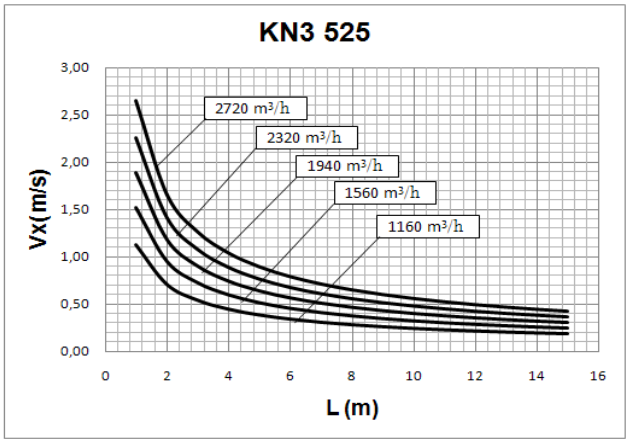


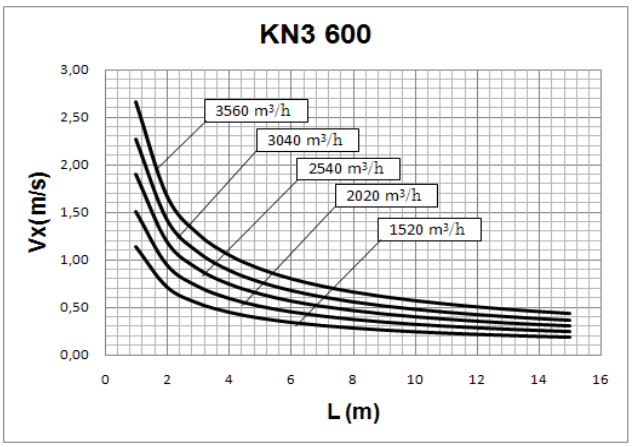
SQUARE MULTIDIRECTIONAL 3-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

AERAULIC DATA







Data obtained from CFD mathematical modelling in virtual test chamber operating in isothermal conditions in accordance with international standard:
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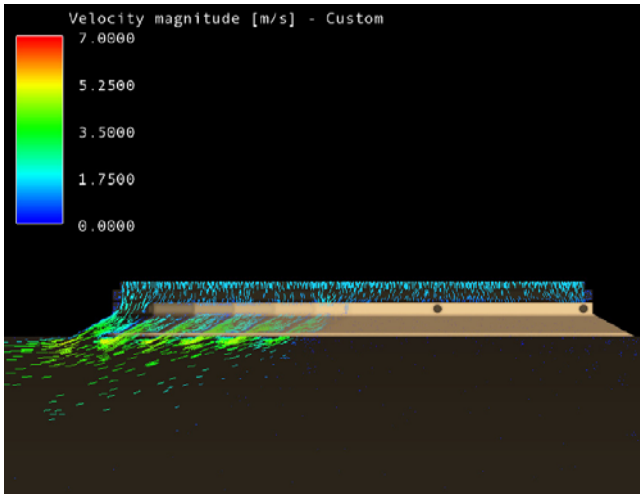
L (m) horizontal distance in metres from the centre of the diffuser
Vx (m/s) maximum speed inside the air stream



fluid dynamic analysis performed at

ENERGO
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EFFECTIVE AREA	
MODEL	Ak m²
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

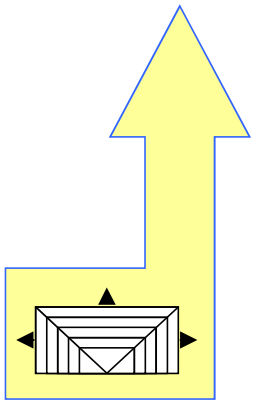
MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

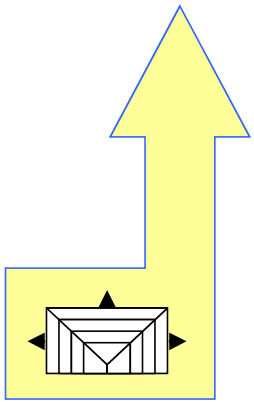
OVERVIEW AND TECHNICAL DATA

TECHNICAL SPECIFICATIONS FOR DIFFUSER MODEL KN30 (3 WAYS)

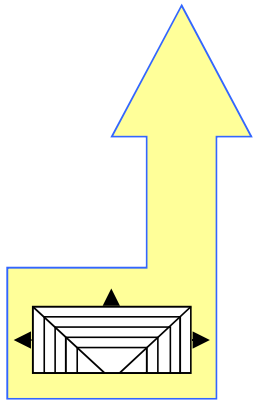
L	H	KN30
300	150	
450	225	
600	300	



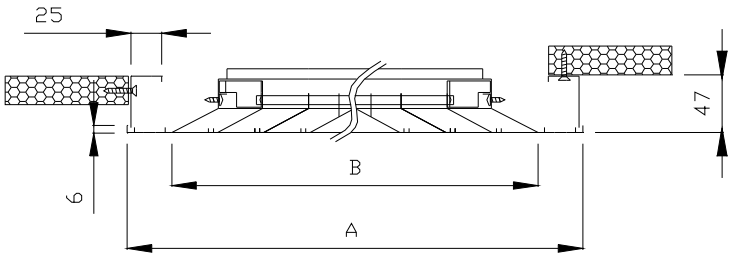
L	H	KN30
375	150	
450	150	
525	150	
600	150	
525	225	
600	225	



L	H	KN30
225	150	
300	225	
375	225	
375	300	
450	300	
525	300	
450	375	
525	375	
600	375	
525	450	
600	450	



TC4KN
Mounting frame as aluminium box for multidirectional diffusers.



TECHNICAL DATA :
Square and rectangular multidirectional diffusers Series **KN** can be supplied with a special mounting frame made of aluminium with part number **TC4KN**. This particular mounting frame is manufactured with the same sizes as the air terminal devices. It is suggested for all applications which require to space the diffuser from the false ceiling.

MOUNTING FRAME INSTALLATION :
Installation is carried out by self-threading screws fixed on false ceiling.

DIFFUSER MOUNTING :
The diffuser is fixed by hidden screws on lateral side between the duct and diffuser neck.

STANDARD FINISH:
The mounting frame TC4KN can be supplied in anodized aluminium or in aluminium painted with colour white RAL 9010

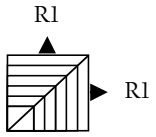
SQUARE MULTIDIRECTIONAL 2-WAYS-DIFFUSERS WITH EXTRACTABLE CONES AND ANGLE

KN
SERIES

PERFORMANCE

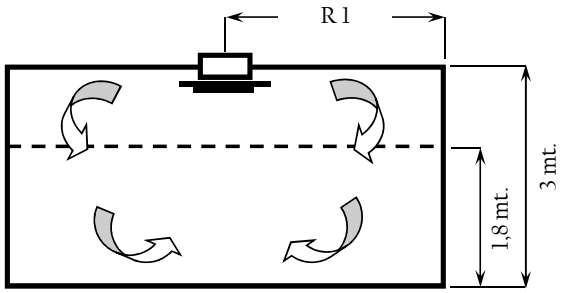
SELECTION CHART KN2A

A_k	Area factor (m/s)
D_n	Nominal dimension.
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.



MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn		V_k	3	3,5	4	4,5	5	6	7	8	9
		P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
		NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	35 - 40	35 - 40	40 - 45	45 - 50
150 150		Q	90	100	120	135	150	180	200	230	260
		R1	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,6 -5,2	3 - 6	3,5 - 7
		A_k					0,009				
225 225		Q	200	230	250	290	330	390	450	500	600
		R1	1,8 - 3,6	2 - 4	2,3 - 4,6	2,5 - 5	2,8 - 5,6	3,4 - 6,8	4 - 8	4,5 - 9	5 - 10
		A_k					0,018				
300 300		Q	350	400	450	500	600	700	800	900	1000
		R1	2,3 - 4,6	2,6 - 5,2	3 - 6	3,5 - 7	3,8 - 7,6	4,5 - 9	5,2 - 10,4	6 - 12	6,8 - 13,6
		A_k					0,032				
375 375		Q	550	650	700	800	900	1100	1200	1450	1600
		R1	2,8 - 5,6	3,4 - 6,8	3,8 - 7,6	4,1 - 8,2	4,7 - 9,4	5,5 - 11	6,4 - 12,8	7,3 - 14,6	8,2 - 16,4
		A_k					0,05				
450 450		Q	780	900	1000	1150	1300	1550	1800	2000	2200
		R1	3,5 - 7	4 - 8	4,5 - 9	5 - 10	5,5 - 11	6,8 - 13,6	7,5 - 15	8,6 - 17,2	9,5 - 19
		A_k					0,071				
525 525		Q	1100	1200	1400	1600	1800	2100	2300	2600	2800
		R1	4 - 8	4,5 - 9	5,2 - 10,4	6 - 12	6,8 - 13,6	8 - 16	8,6 - 17,2	10 - 20	11 - 24
		A_k					0,097				
600 600		Q	1380	1600	1850	2050	2300	2750	3200	3650	4100
		R1	4,9 - 9,8	5,2 - 10,4	5,8 - 11,6	6,5 - 13	7,3 - 14,6	8,7 - 17,4	10,2 - 20,4	11 - 21,5	14 - 28
		A_k					0,127				



SQUARE MULTIDIRECTIONAL 2-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

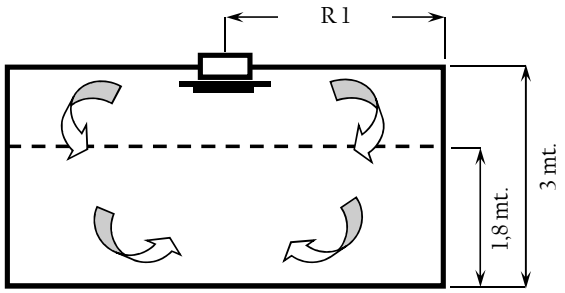
PERFORMANCE

SELECTION CHART KN25

A_k	Area factor (m/s)
D_n	Nominal dimension.
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.

MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn										
	V_k	3	3,5	4	4,5	5	6	7	8	9
	P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
	NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	30 - 35	35 - 40	40 - 45	40 - 45
150 150	Q	90	100	115	130	145	170	200	230	260
	R1	1,5 - 3	1,8 - 3,6	2 - 4	2,3 - 4,6	2,5 - 5	3 - 6	3,6 - 7,2	4 - 6	4,7 - 9,4
	A_k					0,008				
225 225	Q	180	230	250	280	300	380	420	500	550
	R1	1,7 - 3,4	1,9 - 3,8	2,2 - 4,4	2,5 - 5	2,7 - 5,4	3,2 - 6,4	3,8 - 7,6	4,4 - 8,8	4,9 - 9,8
	A_k					0,018				
300 300	Q	340	390	440	500	550	650	750	900	1000
	R1	2,2 - 4,4	2,5 - 5	2,9 - 5,8	3,2 - 6,4	3,6 - 7,2	4,4 - 8,8	5 - 10	5,7 - 11,4	6,5 - 13
	A_k					0,032				
375 375	Q	540	600	700	800	900	1050	1200	1400	1600
	R1	2,8 - 5,6	3,1 - 6,2	3,6 - 7,2	4 - 8	4,6 - 9,2	5,5 - 11	6 - 12	7,2 - 14,4	8 - 16
	A_k					0,049				
450 450	Q	700	900	1050	1200	1300	1600	1800	2100	2400
	R1	3,6 - 7,2	3,9 - 7,2	4,4 - 8,8	5 - 10	5,5 - 11	6,5 - 13	7,5 - 15	8,6 - 17,2	10 - 20
	A_k					0,071				
525 525	Q	1100	1200	1400	1600	1750	2000	2500	2800	3000
	R1	4 - 8	4,4 - 8,8	5 - 10	5,7 - 11,4	6,5 - 13	7,5 - 15	9 - 18	10 - 20	12 - 24
	A_k					0,097				
600 600	Q	1370	1600	1850	2050	2300	2750	3200	3650	4100
	R1	4,8 - 9,6	5,1 - 10,2	5,7 - 11,4	6,4 - 12,8	7,2 - 14,4	8,6 - 17,2	10 - 20	10,6 - 21,3	13,8 - 27,6
	A_k					0,127				



SQUARE MULTIDIRECTIONAL 1-WAY-DIFFUSERS WITH EXTRACTABLE CONES

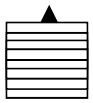
KN
SERIES

PERFORMANCE

SELECTION CHART KN40

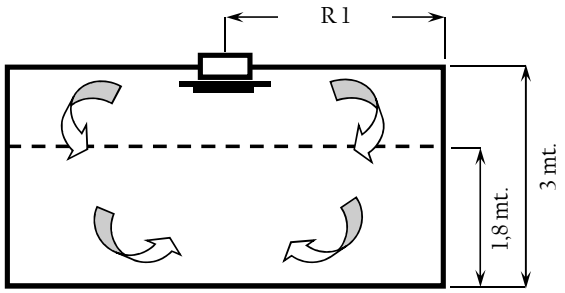
A_k	Area factor (m/s)
D_n	Nominal dimension.
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.

R1



MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn										
	V_k	3	3,5	4	4,5	5	6	7	8	9
	P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
	NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	30 - 35	35 - 40	40 - 45	40 - 45
150 150	Q	90	100	115	130	145	170	200	230	260
	R1	1,5 - 3	1,8 - 3,6	2 - 4	2,3 - 4,6	2,5 - 5	3 - 6	3,6 - 7,2	4 - 6	4,7 - 9,4
	A_k					0,008				
225 225	Q	170	200	240	290	300	350	430	480	550
	R1	2,3 - 4,6	2,5 - 5	3 - 6	3,2 - 6,4	3,8 - 7,6	4,4 - 8,8	5,2 - 10,4	5,9 - 11,8	6,7 - 13,4
	A_k					0,017				
300 300	Q	330	380	440	480	550	650	760	870	1000
	R1	3 - 6	3,5 - 7	4 - 8	4,5 - 9	5 - 10	5,8 - 11,6	7 - 14	8 - 16	8,8 - 18
	A_k					0,031				
375 375	Q	520	600	700	800	880	1050	1200	1400	1550
	R1	3,8 - 7,6	4,2 - 8,4	5 - 10	5,6 - 11,2	6,5 - 13	7,5 - 15	9 - 18	10 - 20	11 - 22
	A_k					0,048				
450 450	Q	750	880	1000	1150	1250	1500	1800	2000	2300
	R1	4,5 - 9	5 - 10	6 - 12	7 - 14	7,5 - 15	9,2 - 18,4	10,5 - 21	12 - 24	13,5 - 27
	A_k					0,071				
525 525	Q	1000	1200	1400	1550	1750	2000	2400	2800	3000
	R1	5 - 10	6 - 12	7 - 14	8 - 16	9 - 18	10 - 20	12 - 24	14 - 28	15 - 30
	A_k					0,097				
600 600	Q	1370	1600	1850	2050	2300	2750	3200	3650	4100
	R1	6 - 12	7 - 14	8 - 16	9 - 18	10 - 20	11,5 - 23	13,5 - 27	15 - 30	17,2 - 34,4
	A_k					0,127				

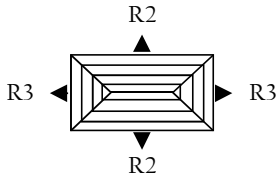


RECTANGULAR MULTIDIRECTIONAL 4-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

PERFORMANCE

SELECTION CHART KN40



Dn	V_k	3	3,5	4	4,5	5	6	7	8	9
	P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
	NR	20	20 - 25	25 - 30	30 - 35	30 - 35	35 - 40	40 - 45	40 - 45	45 - 50
225 150 A_k 0,014	Q	150	180	200	230	250	300	350	400	450
	R2	0,8 - 1,6	0,9 - 1,8	1,1 - 2,2	1,2 - 2,4	1,4 - 2,8	1,7 - 3,4	2 - 4	2,3 - 4,6	2,5 - 5
	R3	0,6 - 1,2	0,7 - 1,4	0,8 - 1,6	0,9 - 1,8	1 - 2	1,2 - 2,4	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6
300 150 A_k 0,018	Q	200	240	270	300	350	400	500	550	600
	R2	1 - 2	1,2 - 2,4	1,4 - 2,8	1,5 - 3	1,7 - 3,4	2 - 4	2,4 - 4,8	2,7 - 5,4	3 - 6
	R3	0,6 - 1,2	0,7 - 1,2	0,8 - 1,6	0,9 - 1,8	1 - 2	1,2 - 2,4	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6
300 225 A_k 0,027	Q	300	350	400	450	500	600	700	800	900
	R2	1,2 - 2,4	1,3 - 3,6	1,5 - 3	1,7 - 3,4	1,8 - 3,6	2,2 - 4,4	2,5 - 5	2,9 - 5,8	3,3 - 6,6
	R3	0,9 - 1,8	1 - 2	1,2 - 2,4	1,3 - 2,6	1,4 - 2,8	1,7 - 3,4	2 - 4	2,4 - 4,8	2,5 - 5
375 225 A_k 0,034	Q	400	450	500	600	650	800	900	1000	1150
	R2	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,2 - 4,4	2,6 - 5,2	3 - 6	3,5 - 7	3,9 - 7,8
	R3	0,9 - 1,8	1 - 2	1,2 - 2,4	1,3 - 2,6	1,4 - 2,8	1,7 - 3,4	2 - 4	2,4 - 4,8	2,5 - 5
450 225 A_k 0,041	Q	500	550	600	700	800	900	1100	1200	1400
	R2	1,5 - 3	1,7 - 3,4	2 - 4	2,2 - 4,4	2,5 - 5	3 - 6	3,4 - 6,8	3,9 - 7,8	4,3 - 8,6
	R3	0,9 - 1,8	1 - 2	1,2 - 2,4	1,3 - 2,6	1,4 - 2,8	1,7 - 3,4	2 - 4	2,4 - 4,8	2,5 - 5
525 225 A_k 0,047	Q	550	600	750	800	900	1100	1300	1450	1600
	R2	1,6 - 3,2	1,8 - 3,6	2,1 - 4,2	2,4 - 4,8	2,7 - 5,4	3,1 - 6,2	3,7 - 7,4	4,1 - 8,2	4,8 - 9,6
	R3	0,9 - 1,8	1 - 2	1,2 - 2,4	1,3 - 2,6	1,4 - 2,8	1,7 - 3,4	2 - 4	2,4 - 4,8	2,5 - 5
375 300 A_k 0,045	Q	500	600	700	800	900	1000	1200	1400	1550
	R2	1,4 - 2,8	1,6 - 3,2	1,9 - 3,8	2,1 - 4,2	2,4 - 4,8	2,8 - 5,6	3,2 - 6,4	3,8 - 7,6	4,2 - 8,4
	R3	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,3 - 6,6
450 300 A_k 0,054	Q	600	700	800	900	1000	1200	1400	1600	1800
	R2	1,6 - 3,2	1,8 - 3,6	2,1 - 4,2	2,4 - 4,8	2,7 - 5,4	3,1 - 6,2	3,7 - 7,4	4,1 - 8,2	4,8 - 9,6
	R3	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,3 - 6,6
525 300 A_k 0,063	Q	700	850	950	1000	1200	1400	1650	1900	2100
	R2	1,9 - 3,8	2,1 - 4,2	2,4 - 4,2	2,7 - 5,4	3,1 - 6	3,6 - 7,2	4,1 - 8,2	4,7 - 9,4	5,2 - 10,4
	R3	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,3 - 6,6
600 300 A_k 0,073	Q	800	950	1100	1200	1350	1650	1950	2200	2450
	R2	2,1 - 4,2	2,4 - 4,8	2,7 - 5,4	3 - 6	3,5 - 7	4,1 - 8,2	4,8 - 9,6	5,4 - 10,8	6,2 - 12,4
	R3	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,3 - 6,6
450 375 A_k 0,068	Q	800	900	1000	1150	1300	1550	1800	2000	2300
	R2	1,7 - 3,4	2 - 4	2,3 - 4,6	2,5 - 5	2,9 - 5,8	3,5 - 7	4 - 8	4,5 - 9	5 - 10
	R3	1,4 - 2,8	1,7 - 3,4	1,9 - 3,8	2,1 - 4,2	2,4 - 4,8	2,9 - 5,8	3,3 - 6,6	3,8 - 7,6	4,2 - 8,4
600 375 A_k 0,091	Q	1000	1200	1350	1550	1700	2050	2400	2700	3050
	R2	2 - 4	2,3 - 4,6	2,6 - 5,2	3 - 6	3,4 - 6,8	4 - 8	4,5 - 9	5,2 - 10,4	6 - 12
	R3	1,4 - 2,8	1,7 - 3,4	1,9 - 3,8	2,1 - 4,2	2,4 - 4,8	2,9 - 5,8	3,3 - 6,6	3,8 - 7,6	4,2 - 8,4
600 450 A_k 0,110	Q	1200	1450	1650	1850	2050	2450	2850	3300	3700
	R2	2,3 - 4,6	2,5 - 5	2,9 - 5,8	3,2 - 6,4	3,7 - 7,4	4,2 - 8,4	5 - 10	5,7 - 11,4	6,5 - 13
	R3	1,7 - 3,4	2,1 - 4,2	2,4 - 4,8	2,6 - 5,2	2,9 - 5,8	3,5 - 7	4 - 8	4,5 - 9	5 - 10

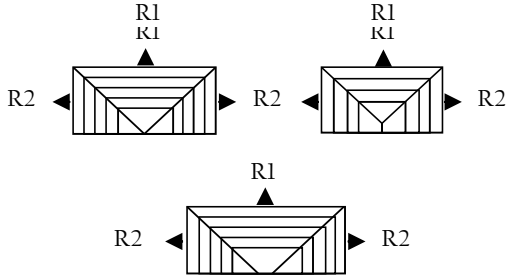
RECTANGULAR MULTIDIRECTIONAL 3-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

PERFORMANCE

SELECTION CHART KN30

A_k	Area factor
D_n	Noise Rate
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1 R2	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.



MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn		V_k	3	3,5	4	4,5	5	6	7	8	9
		P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
		NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	35 - 40	40 - 45	40 - 45	45 - 50
		Q	150	170	200	230	250	300	350	400	450
225	150	R1	0,7 - 1,4	0,8 - 1,6	0,9 - 1,8	1,1 - 2,2	1,2 - 2,4	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6	2 - 4
		R2	0,9 - 1,8	1,1 - 2,2	1,2 - 2,4	1,4 - 2,8	1,5 - 3	1,8 - 3,6	2,1 - 4,2	2,4 - 4,8	2,7 - 5,4
		A_k					0,014				
		Q	200	230	250	300	330	380	450	500	590
300	150	R1	0,7 - 1,4	0,8 - 1,6	0,9 - 1,8	1,1 - 2,2	1,2 - 2,4	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6	2 - 4
		R2	1 - 2	1,2 - 2,4	1,3 - 2,6	1,4 - 2,8	1,7 - 3,4	1,9 - 3,8	2,2 - 4,4	2,5 - 5	2,9 - 5,8
		A_k					0,018				
		Q	300	350	400	450	500	600	700	800	900
300	225	R1	1 - 2	1,2 - 2,4	1,4 - 2,6	1,5 - 3	1,7 - 3,4	2 - 4	2,4 - 4,8	2,7 - 5,4	3 - 6
		R2	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6	2 - 4	2,3 - 4,6	2,7 - 5,4	3,1 - 6,2	3,5 - 7	4 - 8
		A_k					0,027				
		Q	380	440	500	560	620	750	900	1000	1100
375	225	R1	1 - 2	1,2 - 2,4	1,4 - 2,6	1,5 - 3	1,7 - 3,4	2 - 4	2,4 - 4,8	2,7 - 5,4	3 - 6
		R2	1,45 - 2,9	1,7 - 3,4	1,9 - 3,8	2,2 - 4,4	2,4 - 4,8	2,8 - 5,6	3,2 - 6,4	3,7 - 7,4	4,2 - 8,4
		A_k					0,034				
		Q	500	570	650	720	800	950	1150	1300	1450
375	300	R1	1,3 - 2,6	1,6 - 3,2	1,8 - 3,6	2 - 4	2,3 - 4,6	2,7 - 5,4	3,2 - 6,4	3,6 - 7,2	4 - 8
		R2	1,8 - 3,6	2 - 4	2,4 - 4,8	2,7 - 5,4	3 - 6	3,5 - 7	4 - 8	4,8 - 9,6	5,2 - 10,4
		A_k					0,047				
		Q	600	700	800	900	1000	1200	1400	1600	1750
450	300	R1	1,3 - 2,6	1,6 - 3,2	1,8 - 3,6	2 - 4	2,3 - 4,6	2,7 - 5,4	3,2 - 6,4	3,6 - 7,2	4 - 8
		R2	1,8 - 3,6	2,2 - 4,4	2,5 - 5	2,8 - 5,6	3,1 - 6,2	3,8 - 7,6	4,4 - 8,8	4,9 - 9,8	5,5 - 11
		A_k					0,055				
		Q	700	850	950	1100	1200	1450	1700	1900	2150
450	375	R1	1,7 - 3,4	1,9 - 3,8	2,2 - 4,4	2,5 - 5	2,8 - 5,6	3,3 - 6,6	3,8 - 7,6	4,4 - 8,8	4,9 - 9,8
		R2	2,2 - 4,4	2,5 - 5	3 - 6	3,3 - 6,6	3,8 - 7,6	4,4 - 8,8	5 - 10	5,9 - 11,8	6,5 - 13
		A_k					0,065				

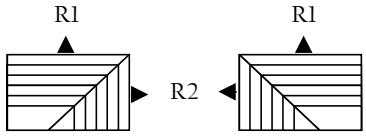
RECTANGULAR MULTIDIRECTIONAL 2-WAYS-DIFFUSERS WITH EXTRACTABLE CONES AND ANGLE

KN
SERIES

PERFORMANCE

SELECTION CHART KN21 KN22

A_k	Area factor
D_n	Nominal dimension.
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1 R2	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.



MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn		V_k	3	3,5	4	4,5	5	6	7	8	9
		P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
		NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	35 - 40	40 - 45	40 - 45	45 - 50
		Q	130	150	170	190	210	250	300	350	390
225	150	R1	1,6 - 3,2	1,9 - 3,8	2,2 - 4,4	2,4 - 4,8	2,7 - 5,4	3,2 - 6,4	3,9 - 7,8	4,4 - 8,8	4,9 - 9,8
		R2	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,5 - 7
		A_k					0,012				
		Q	170	200	230	250	280	340	400	450	500
300	150	R1	2 - 4	2,3 - 4,6	2,7 - 5,4	3 - 6	3,3 - 6,6	4 - 8	4,6 - 9,2	5,2 - 10,4	6 - 12
		R2	1,2 - 2,4	1,3 - 2,6	1,5 - 3	1,7 - 3,4	1,9 - 3,8	2,3 - 4,6	2,7 - 5,4	3 - 6	3,5 - 7
		A_k					0,016				
		Q	250	300	350	380	410	500	600	700	800
300	225	R1	2,2 - 4,4	2,5 - 5	3 - 6	3,4 - 6,8	3,8 - 7,6	4,5 - 9	5 - 10	6 - 12	6,8 - 13,6
		R2	1,7 - 3,4	2 - 4	2,3 - 4,6	2,5 - 5	2,8 - 5,6	3,5 - 7	4 - 8	4,5 - 9	5 - 10
		A_k					0,025				
		Q	310	370	420	480	530	620	750	850	950
375	225	R1	2,5 - 5	3 - 6	3,5 - 7	3,8 - 7,6	4,2 - 8,4	5 - 10	6 - 12	6,8 - 13,6	7,5 - 15
		R2	1,7 - 3,4	2 - 4	2,3 - 4,6	2,5 - 5	2,8 - 5,6	3,5 - 7	4 - 8	4,5 - 9	5 - 10
		A_k					0,031				
		Q	380	440	500	560	640	750	900	1000	1150
450	225	R1	3 - 6	3,4 - 6,8	4 - 8	4,4 - 8,8	4,9 - 9,8	5,9 - 11,8	7 - 14	7,5 - 15	8,6 - 17
		R2	1,7 - 3,4	2 - 4	2,3 - 4,6	2,5 - 5	2,8 - 5,6	3,5 - 7	4 - 8	4,5 - 9	5 - 10
		A_k					0,036				
		Q	420	500	560	640	700	850	1000	1100	1300
375	300	R1	2,7 - 5,4	3,2 - 6,4	3,8 - 7,6	4 - 8	4,6 - 9,2	5,5 - 11	6,5 - 13	7,4 - 14,8	8 - 16
		R2	2,2 - 4,4	2,5 - 5	3 - 6	3,4 - 6,8	3,8 - 7,6	4,5 - 9	5 - 10	6 - 12	6,8 - 13,6
		A_k					0,039				
		Q	500	580	670	750	850	1000	1200	1350	1500
450	300	R1	3,2 - 6,4	3,6 - 7,2	4,3 - 8,6	4,7 - 9,4	5,2 - 10,4	6,2 - 12,4	7,3 - 14,6	8,3 - 16,6	9,5 - 19
		R2	2,2 - 4,4	2,5 - 5	3 - 6	3,4 - 6,8	3,8 - 7,6	4,5 - 9	5 - 10	6 - 12	6,8 - 13,6
		A_k					0,047				

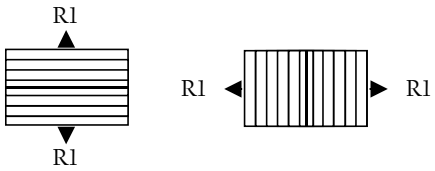
RECTANGULAR MULTIDIRECTIONAL 2-OPPOSITE-WAYS-DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

PERFORMANCE

SELECTION CHART KN26 KN27

A_k	Area factor (m/s)
D_n	Nominal dimension.
NR	Noise Rate
P_t	Total pressure (mm c.a.).
Q	Flow rate for each ATD (m^3/h). $Q = V_k \times A_k \times 3600$
R1	Minimum and maximum diffusion radius (m).
UTM	Air Terminal Device.
V_k	Effective velocity from ATD (m/s)
V_r	Average residual velocity in occupied zone.
V_t	Terminal velocity in the stream at distance X.



MINIMUM RADIUS
V_t = 0.75 m/s V_r = 0.25 m/s
MAXIMUM RADIUS
V_t = 0.37 m/s V_r = 0.12 m/s

Dn										
	V_k	3	3,5	4	4,5	5	6	7	8	9
	P_t	0,5	0,7	0,9	1,2	1,5	2,2	3,0	4,0	5,0
	NR	20 - 25	20 - 25	25 - 30	25 - 30	30 - 35	35 - 40	35 - 40	40 - 45	45 - 50
225 150	Q	130	150	180	200	220	260	300	350	400
	R1	1,4 - 2,8	1,6 - 3,2	1,8 - 3,6	2,1 - 4,2	2,3 - 4,6	2,8 - 5,6	3,2 - 6,4	3,7 - 7,4	4 - 8
	A_k					0,012				
300 150	Q	180	230	250	280	300	380	420	500	550
	R1	1,7 - 3-4	1,9 - 3,8	2,2 - 4,4	2,5 - 5	2,7 - 5,4	3,2 - 6,4	3,8 - 7,6	4,4 - 8,8	4,9 - 9,8
	A_k					0,016				
375 150	Q	220	250	290	330	370	440	500	560	650
	R1	1,8 - 3,6	2 - 4	2,4 - 4,8	2,7 - 5,4	3 - 6	3,5 - 7	4 - 8	4,6 - 7,2	5,2 - 10,4
	A_k					0,02				
300 225	Q	270	300	350	400	440	530	600	700	800
	R1	2 - 4	2,3 - 4,6	2,5 - 5	2,9 - 5,8	3,1 - 6,2	3,9 - 7,8	4,5 - 9	5 - 10	5,7 - 11,4
	A_k					0,024				
375 225	Q	340	390	440	500	550	650	750	900	1000
	R1	2,2 - 4,4	2,5 - 5	2,9 - 5,8	3,2 - 6,4	3,6 - 7,2	4,4 - 8,8	5 - 10	5,7 - 11,4	6,5 - 13
	A_k					0,03				
450 225	Q	400	450	500	590	650	780	900	1000	1150
	R1	2,4 - 4,8	2,7 - 5,4	3 - 6	3,5 - 7	4 - 8	4,8 - 9,6	5,4 - 10,8	6 - 12	7 - 14
	A_k					0,036				
525 225	Q	450	500	590	650	740	900	1050	1150	1300
	R1	2,5 - 5	2,9 - 5,8	3,4 - 6,8	3,7 - 7,4	4,1 - 8,2	5 - 10	5,9 - 11,8	6,6 - 13,2	7,5 - 15
	A_k					0,041				
375 300	Q	450	500	590	650	740	900	1050	1150	1300
	R1	25 - 5	2, 9 -5,8	3,4 - 6,8	3,7 - 7,4	4,1 - 8,2	5 - 10	5,9 - 11,8	6,6 - 13,2	7,5 - 15
	A_k					0,039				
450 300	Q	540	600	700	800	900	1050	1200	1400	1600
	R1	2,8 - 5,6	3,1 - 6,2	3,6 - 7,2	4 - 8	4,6 - 9,2	5,5 - 11	6 - 12	7,2 - 14,4	8 - 16
	A_k					0,047				

MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

KN
SERIES

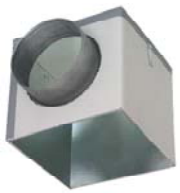
CODES

Nominal Sizes	KN4	KN3	KN2A	KN25	KN1	TC4KN	SC
150 x 150	X	X	X	X	X	X	X
225 x 225	X	X	X	X	X	X	X
300 x 300	X	X	X	X	X	X	X
375 x 375	X	X	X	X	X	X	X
450 x 450	X	X	X	X	X	X	X
525 x 525	X	X	X	X	X	X	X
600 x 600	X	X	X	X	X	X	X

Nominal Sizes	KN40	KN30 KN31	KN21 KN22	KN26 KN27	KN11 KN12	TC4KN	SC
225 x 150	X	X	X	X	X	X	X
300 x 150	X	X	X	X	X	X	X
375 x 150	X	X	X	X	X	X	X
300 x 225	X	X	X	X	X	X	X
375 x 225	X	X	X	X	X	X	X
450 x 225	X	X	X	X	X	X	X
525 x 225	X	X	X	X	X	X	X
375 x 300	X	X	X	X	X	X	X
450 x 300	X	X	X	X	X	X	X
525 x 300	X	X	X	X	X	X	X
600 x 300	X	X	X	X	X	X	X
450 x 375	X	X	X	X	X	X	X
600 x 375	X	X	X	X	X	X	X
600 x 450	X	X	X	X	X	X	X

KN Square or rectangular diffuser
4 Number of throws
450x450 Nominal dimension
TC4KN Box frame
SC Contrast damper

Example: KN 4 450 450
Square diffuser with 4 throw, sizes 450x450.

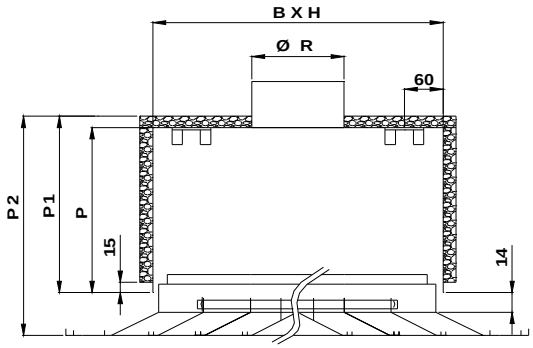


PLENUM FOR MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

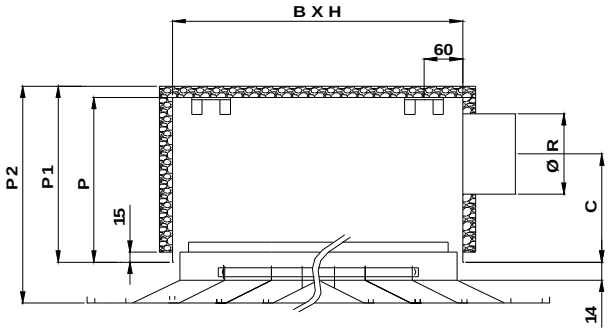
OVERVIEW AND TECHNICAL CHARACTERISTICS

PP 90
PP 91
SERIES

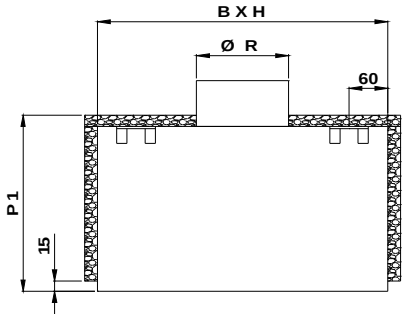
PP91 I + KN



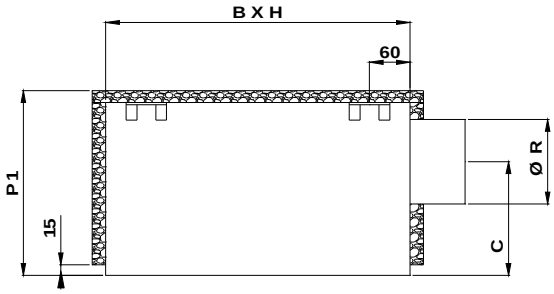
PP90 I + KN



PP91 I



PP90 I



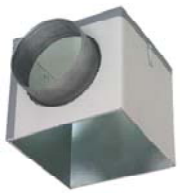
B	x	H	P2	Pl	P	Ø R	C	N° Couplings
150	x	150	254	216	210	124	115	2
225	x	225	274	236	230	143	125	2
300	x	300	334	296	290	198	155	2
375	x	375	334	296	290	198	155	2
450	x	450	394	356	350	253	185	4
525	x	525	444	406	400	298	210	4
600	x	600	444	406	400	298	210	4

CONSTRUCTION CHARACTERISTICS:

MATERIALS : The plenum is manufactured from galvanized sheet steel, external insulation has fire reaction class 1.

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

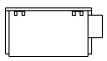
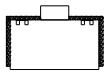
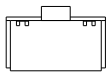
MOUNTING OF DIFFUSER: The diffusers have to be fixed on the plenum by screws directly on the plenum's assembly bar.

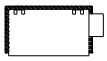
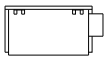
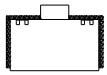
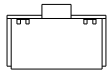


PLENUM FOR MULTIDIRECTIONAL DIFFUSERS WITH EXTRACTABLE CONES

PP 90
PP 91
SERIES

CODES

Nominal sizes					
B x H		PP 90 I	PP 90	PP 91 I	PP 91
150	150	X	X	X	X
225	225	X	X	X	X
300	300	X	X	X	X
375	375	X	X	X	X
450	450	X	X	X	X
525	525	X	X	X	X
600	600	X	X	X	X

Nominal sizes					
B x H		PP 90 I	PP 90	PP 91 I	PP 91
225	150	X	X	X	X
300	150	X	X	X	X
375	150	X	X	X	X
300	225	X	X	X	X
375	225	X	X	X	X
450	225	X	X	X	X
525	225	X	X	X	X
375	300	X	X	X	X
450	300	X	X	X	X
525	300	X	X	X	X
600	300	X	X	X	X
450	375	X	X	X	X
600	375	X	X	X	X
600	450	X	X	X	X

PP	Plenum
90	Side coupling
91	Upper coupling
I	Insulation

Example : PP 90 I 375X375 - Plenum with side coupling, with insulation, dimensions 375x375