



ADJUSTABLE CONES CIRCULAR DIFFUSERS

OVERVIEW

KU5 KU6 SERIES

KU5 and KU6: Series of ceiling cone diffusers, with diameter from 100 to 630mm, composed by an external cone and by a central adjustable section with cones that may be adjusted for horizontal or vertical throw.

CHARACTERISTICS:

Depending on the version, the components can be made of aluminum, carbon steel or ABS, see the diagram on the following pages for details. Standard finish painted white RAL 9010 or RAL 9003, different paints on request.

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

A flexible duct can be attached to the diffuser neck.

FIELD OF USE AND REGULATION

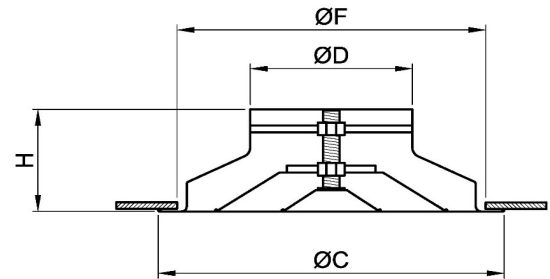
KU diffusers are suitable for false ceiling installation in rooms with a height between 2.5 and 5 meters such as offices, shops, meeting rooms, corridors, surgeries and similar.

They are suitable for both supply and extract air.

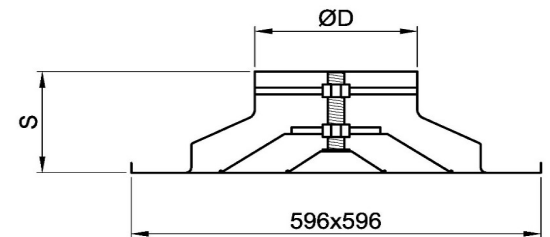
Lowering the central cones it is possible to have the air outlet along the ceiling with horizontal throw.

This regulation is indicated above all for use in cooling, but guarantees good conditions also for use in heating when there is more than one diffuser in the room.

Raising the central cones is possible to throw the air downwards. This setting is therefore suitable for use in heating only or in extraction.



Standard



with panel

nominal size mm			number of cones	D mm	C mm	H mm	S mm	F mm	P mm	Ak horizontal throw m ²	Ak vertical throw m ²
	KU5	KU6									
100	KU5	KU6	2	98	230	75	70	198	596	0,014	0,013
150	KU5	KU6	3	148	335	105	100	288	596	0,027	0,027
160	KU5 ^{1 2}	KU6 ^{2 3}	3	158	335	105	100	288	596	0,03	0,03
200	KU5 ^{1 2}	KU6 ^{2 3}	3	198	423	118	110	370	596	0,043	0,046
250	KU5 ^{1 2}	KU6 ^{2 3}	3	248	517	130	120	461	596	0,062	0,068
300	KU5	KU6	3	298	640	146	126	576	596	0,084	0,095
315	KU5 ^{1 2}	KU6 ²	3	313	640	146	126	576	596	0,091	0,104
350	KU5		3	348	730	185	--	656	--	0,108	0,126
355	KU5 ¹		3	353	730	185	--	656	--	0,111	0,129
400	KU5 ¹		4	398	776	185	--	700	--	0,135	0,161
450	KU5 ¹		4	448	825	185	--	755	--	0,164	0,199
500	KU5 ¹		4	498	917	185	--	825	--	0,195	0,241
630	KU5		5	628	1045	185	--	963	--	0,285	0,367

¹ also available with automatic regulation using thermostatic spring

² also available in fineline version

³ also available with segment damper

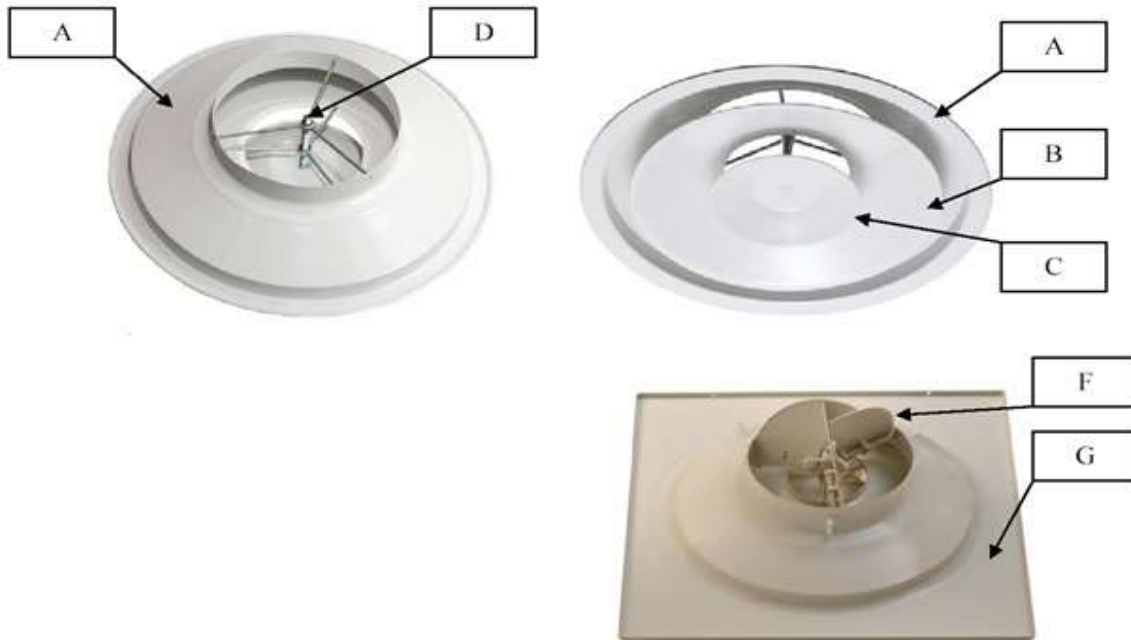


ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU5
KU6
SERIES

OVERVIEW

Model	A	B	C	D	F	G
KU5	aluminium	aluminium	steel	steel	---	steel
KU6	aluminium	aluminium	steel	ABS	ABS	steel



DESCRIPTION FOR TENDER:

KU5: aluminium circular diffuser painted RAL9010 or RAL 9003 for use in ceilings, with manually adjustable cones to optimize the direction of the air flow; milimetric regulation central screw in galvanized steel; predisposed for connection to a plenum or a flexible duct; available as standard model or complete with aluminium panel painted RAL9010 or RAL 9003 for fitting into modular ceilings; sup pliable with a galvanized steel butterfly regulation damper, adjustable through the cavity obtained in the central regulation screw.

KU5CT : aluminium circular diffuser painted RAL 9010 or RAL 9003 for ceilings with automatically adjusting cones without power supply but by using a thermostatic return spring to optimize the direction of the air flow; central guide in galvanized steel; predisposed for connecting to a plenum or a flexible duct; available as standard model and version complete with aluminium panel painted RAL 9010

KU6: circular aluminium diffuser painted RAL9010 or RAL 9003 for use in ceilings with manually adjustable cones to optimize the direction of the air flow; ABS milimetric regulation central screw; predisposed for connection to a plenum or a flexible duct; can be supplied with 3 segment regulation damper, manually adjustable without the use of tools but simply by rotating the central cone; available as standard model or complete with aluminium panel painted RAL 9010 or RAL 9003 for fitting within modular ceilings.

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.

The products in painted carbon steel are not suitable for installation in environments with high humidity and in environments with a potentially explosive atmosphere or containing powders or vapors of corrosive substances.



ADJUSTABLE CONES CIRCULAR DIFFUSERS

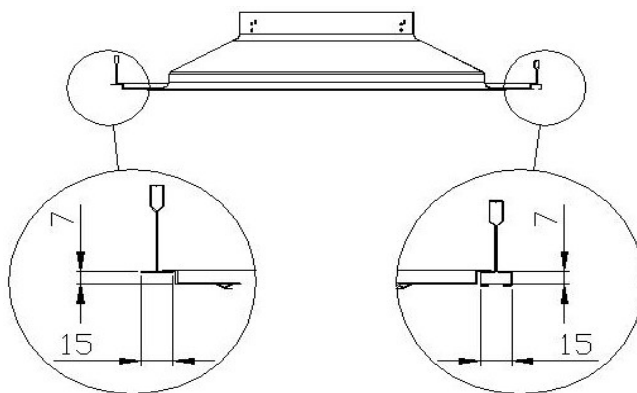
FINELINE VERSION

KUF5
KUF6
SERIES

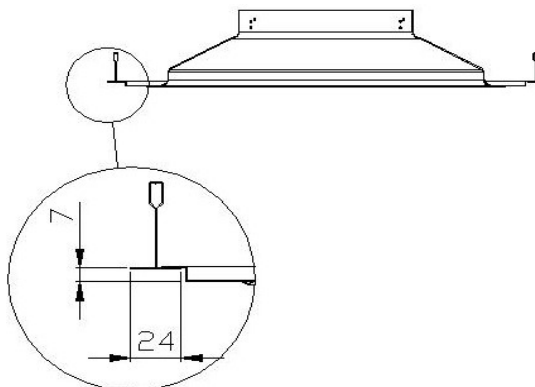
OVERVIEW

The **KUF5** and **KUF6** series diffusers are conceived for fitting within modular ceilings with a shaped panel. They are built in different versions for the various types of applications and ceiling pattern. They are composed by a adjustable cones diffusers, series KU5 and KU6 and of a carbon steel sheet pressure shaped panel.

Versions		
Neck diameter	Panel	For support of
160	595x595	15
200	595x595	15
250	595x595	15
315	595x595	15
160	595x595	24
200	595x595	24
250	595x595	24
160	670x670	24
200	670x670	24
250	670x670	24
315	670x670	24
355	670x670	24



Counter ceiling version with 15mm supports



Counter ceiling version with 24mm supports





ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU6S SERIES

VERSION WITH SEGMENT DAMPER

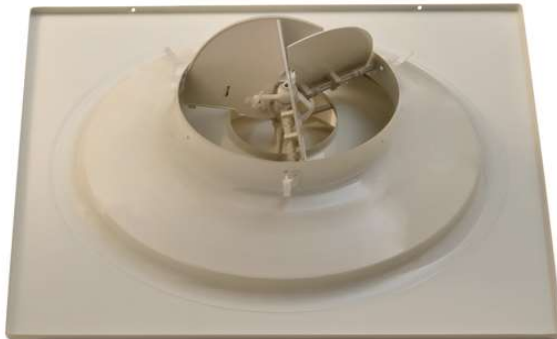
OVERVIEW

The **KU6S** series diffusers are equipped with segment regulation damper that can be adjusted for the outside acting on the central cone.

This solution presents to fundamental advantages:
- less noise generated from the damper and the air flow, more even inside the diffuser;
- regulation without the use of tools



diameter 160
diameter 200
diameter 250



**KU6S version also on 595x595 flat panel
for modular ceilings and of "fineline" panel**



ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU5
KU6
SERIES

SELECTION

SELECTION METHOD

Using the quick selection tables it is possible to make a first selection of the diffuser on the basis of the air flow. Saying so, it is advised to verify, using the diagrams of the technical data shown in the following pages, the actual compliance of the choice made with the specific use intended for the diffuser.

CONE REGULATION

The technical data considers two regulation positions for the diffuser cones, horizontal throw and vertical throw.

Horizontal throw

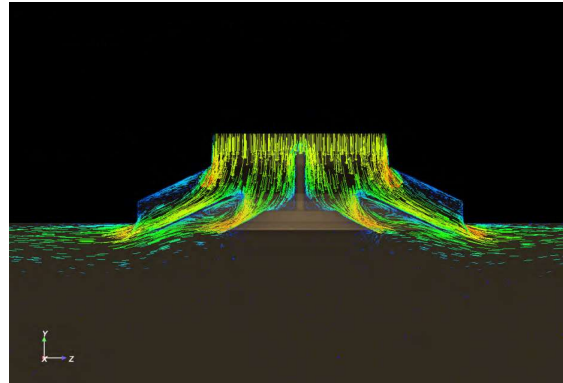
The horizontal throw regulation corresponds to the lowering of the central cones up to almost 15mm below the actual height of the ceiling.

This regulation achieves a fresh air horizontal throw which, supported by the coanda effect, flows along the ceiling, gradually mixing with the air in the room therefore avoiding air currents forming in the occupied area.

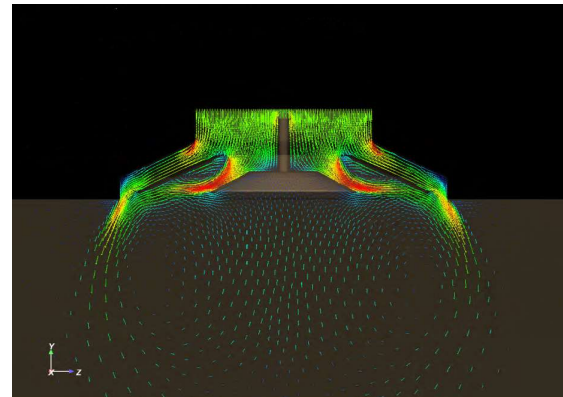
Vertical throw

The vertical throw regulation corresponds to the lifting of the central cones up to 15mm above the actual height of the ceiling.

This regulation drives the hot air directly towards the occupied area, avoiding any different air temperature layers



Horizontal throw



Vertical throw



ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU 5 CT
SERIES

VERSION WITH AUTOMATIC REGULATION
WITH THERMOSTATIC SPRING

The KU5 CT diffusers allow to automatically regulate the cones in the summer or winter position without the need of a technician. The work without any auxiliary power (e.g.. electrical power supply) and do not require any maintenance.

The movement of the intermediate cones is controlled by means of a special shape remembering spring who's cycle of use determines the position of the cones in relations to the temperature.

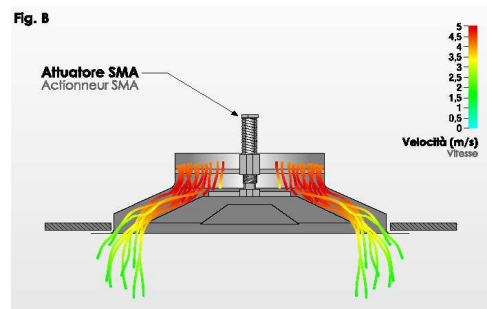
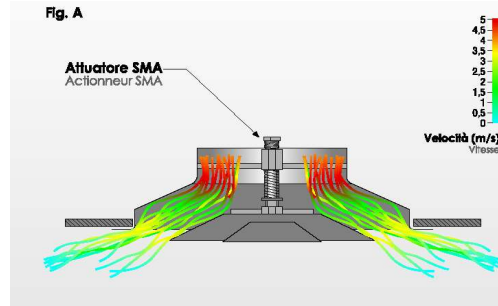
In this way the flow of air is controlled in relation to the temperature, enabling the intermediate cones to be always in the optimal position, both when in the cooling and heating faze.

The memory spring varies its extension within a temperature range of 14°C and 40°C.

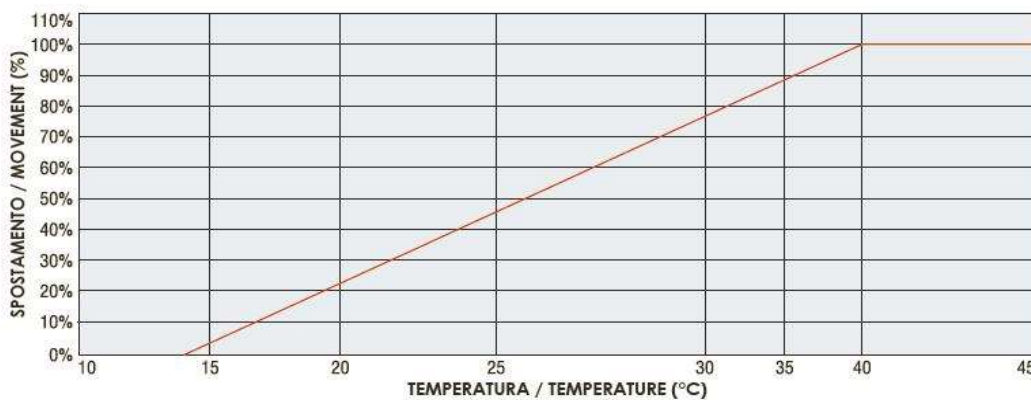
The minimum lasting time of the spring is 100,000 cycles. A cycle is given from an extension followed by a compression of the spring.

If, for example, we consider to be in the position to start the system in the morning and to turn it off in the evening, the spring will last o average about 270 years.

The drawings shows the two positions at full extension and full compression of the spring, the 0% position in cooling conditions and 100% position in heating conditions.



Extension of the spring in relation to the temperature
in the transition from cooling to heating





ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU 5 CT
SERIES

VERSION WITH AUTOMATIC REGULATION
WITH THERMOSTATIC SPRING



Version with single spring

diameter 160

diameter 200

diameter 250

diameter 315

Available also on flat panel for modular ceiling
or "fineline" version



Version with three springs

diameter 355

diameter 400

diameter 450

diameter 500



ADJUSTABLE CONES CIRCULAR DIFFUSERS

QUICK SELECTION

KU5
KU6
SERIES

Model A _k [m ²]		Air flow rate																		
		m ³ /h	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1300	1500
		l/s	(28)	(42)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(167)	(194)	(222)	(250)	(278)	(306)	(333)	(361)	(417)
KU5 KU6 100 (0,014)	L _{WA} [dB(A)]	<20	27	37	44															
	V _k [m/s]	2	3,1	4,1	5															
	Δp _t [Pa]	9	21	37	56															
	L _{0,2} [m]	2,6	3,9	5,2	6,4															
KU5 KU6 150 (0,027)	L _{WA} [dB(A)]			<20	25	31	37	42	46	49										
	V _k [m/s]			2,1	2,6	3,1	3,6	4,1	4,7	5,2										
	Δp _t [Pa]			8	11	17	23	30	38	46										
	L _{0,2} [m]			3,5	4,4	5,2	6,1	7	7,9	8,8										
KU5 KU6 160 (0,03)	L _{WA} [dB(A)]			<20	22	28	34	38	42	46										
	V _k [m/s]			1,9	2,3	2,8	3,3	3,7	4,2	4,7										
	Δp _t [Pa]			6	9	13	18	23	29	36										
	L _{0,2} [m]			3,3	4,1	4,9	5,7	6,6	7,4	8,2										
KU5 KU6 200 (0,043)	L _{WA} [dB(A)]				<20	<20	22	27	31	35	41	46								
	V _k [m/s]				1,6	1,9	2,3	2,6	2,9	3,2	3,9	4,5								
	Δp _t [Pa]				4	5	7	10	12	15	22	29								
	L _{0,2} [m]				3,2	3,9	4,5	5,2	5,8	6,5	7,8	9,1								
KU5 KU6 250 (0,062)	L _{WA} [dB(A)]						<20	<20	<20	23	29	35	39	43	47	50				
	V _k [m/s]						1,6	1,8	2	2,2	2,7	3,1	3,6	4	4,5	4,9				
	Δp _t [Pa]						3	4	5	6	9	12	16	20	25	31				
	L _{0,2} [m]						3,5	4	4,5	5	6	7	8	9	10	11				
KU5 KU6 300 (0,084)	L _{WA} [dB(A)]									<20	<20	24	29	33	37	40	43	46		
	V _k [m/s]									1,7	2	2,3	2,6	3	3,3	3,6	4	4,3		
	Δp _t [Pa]									3	4	6	8	10	12	15	18	21		
	L _{0,2} [m]									4	4,8	5,5	6,3	7,1	7,9	8,7	9,5	10,3		
KU5 KU6 315 (0,091)	L _{WA} [dB(A)]									<20	<20	22	26	30	34	37	40	43	48	
	V _k [m/s]									1,5	1,8	2,1	2,4	2,7	3,1	3,4	3,7	4	4,6	
	Δp _t [Pa]									3	4	5	7	8	10	12	15	17	23	
	L _{0,2} [m]									3,7	4,5	5,2	5,9	6,7	7,4	8,2	8,9	9,6	11,1	
KU5 350 (0,108)	L _{WA} [dB(A)]										<20	<20	20	24	28	31	34	37	42	
	V _k [m/s]										1,5	1,8	2,1	2,3	2,6	2,8	3,1	3,3	3,9	
	Δp _t [Pa]										2	3	4	5	7	8	10	11	15	
	L _{0,2} [m]										3,8	4,4	5,1	5,7	6,4	7	7,6	8,3	9,5	

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level
- L_{0,2} = throw to terminal velocity at 0,2 m/s



ADJUSTABLE CONES CIRCULAR DIFFUSERS

QUICK SELECTION

KU5
KU6
SERIES

Model A _k [m ²]		Air flow rate																		
		m ³ /h	700	900	1100	1300	1500	1700	1900	2100	2300	2500	2700	2900	3100	3300	3500	3700	3900	5000
		l/s	(194)	(250)	(306)	(361)	(417)	(472)	(528)	(583)	(639)	(694)	(750)	(806)	(861)	(917)	(972)	(1028)	(1083)	(1389)
KU5 355 (0,111)	L _{WA} [dB(A)]	<20	23	30	36	41	45	49												
	V _k [m/s]	1,8	2,3	2,8	3,3	3,8	4,3	4,8												
	Δp _t [Pa]	3	5	8	11	14	19	23												
	L _{0,2} [m]	4,3	5,6	6,9	8,1	9,3	10,6	11,8												
KU5 400 (0,135)	L _{WA} [dB(A)]		<20	23	28	34	38	42	45	48										
	V _k [m/s]		1,9	2,3	2,7	3,1	3,5	3,9	4,3	4,7										
	Δp _t [Pa]		3	5	7	9	12	15	18	21										
	L _{0,2} [m]		4,6	5,7	6,7	7,7	8,7	9,8	10,8	11,8										
KU5 450 (0,164)	L _{WA} [dB(A)]			<20	21	26	30	34	37	41	44	46	49							
	V _k [m/s]			1,9	2,2	2,5	2,9	3,2	3,6	3,9	4,2	4,6	4,9							
	Δp _t [Pa]			3	4	6	7	9	11	13	16	19	21							
	L _{0,2} [m]			4,6	5,4	6,3	7,1	7,9	8,7	9,6	10,4	11,3	12,1							
KU5 500 (0,195)	L _{WA} [dB(A)]				<20	<20	23	27	30	33	36	39	42	44	46	48	50			
	V _k [m/s]				1,9	2,1	2,4	2,7	3	3,3	3,6	3,9	4,1	4,4	4,7	5	5,3			
	Δp _t [Pa]				3	4	5	6	7	9	11	12	14	16	18	21	23			
	L _{0,2} [m]				4,4	5,1	5,8	6,4	7,1	7,8	8,5	9,2	9,8	10,5	11,2	11,9	12,5			
KU5 630 (0,285)	L _{WA} [dB(A)]							<20	<20	<20	<20	22	25	27	29	31	33	35	43	
	V _k [m/s]							1,9	2	2,2	2,4	2,6	2,8	3	3,2	3,4	3,6	3,8	4,9	
	Δp _t [Pa]							2	3	4	4	5	6	7	7	8	9	10	17	
	L _{0,2} [m]							3,8	4,2	4,5	4,9	5,3	5,7	6,1	6,5	6,9	7,3	7,7	9,9	

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw with ceiling effect

Terminology:

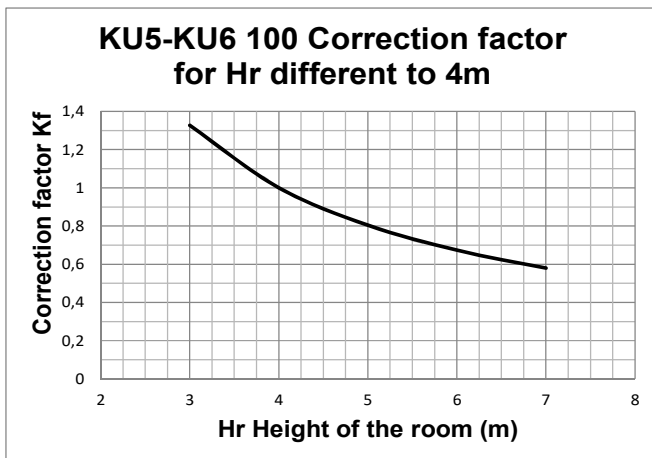
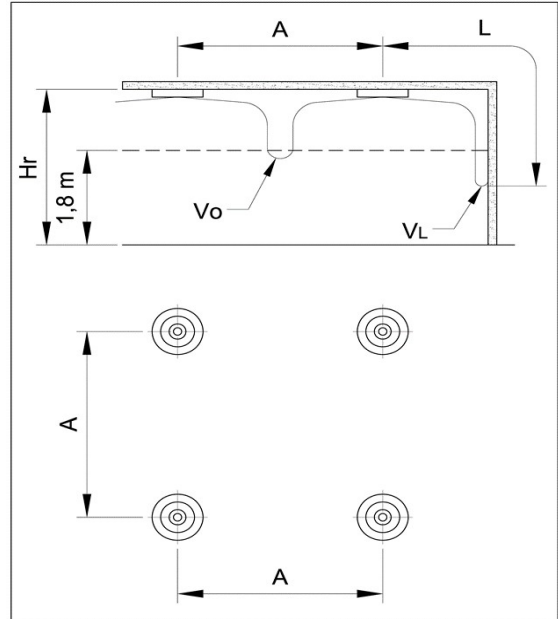
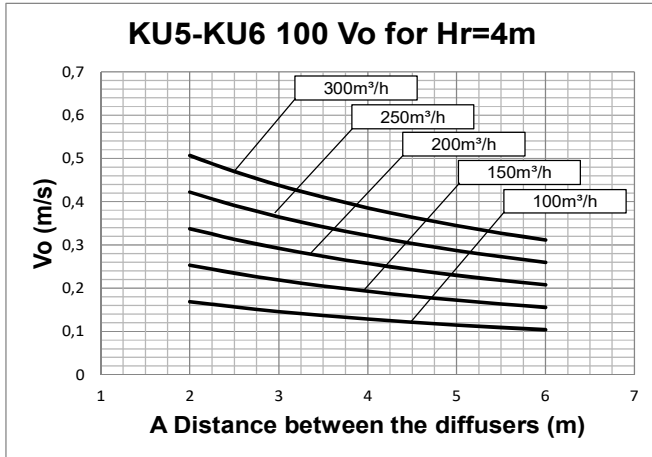
- A_k = effective free area
- V_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level
- L_{0,2} = throw to terminal velocity at 0,2 m/s



ADJUSTABLE CONES CIRCULAR DIFFUSERS

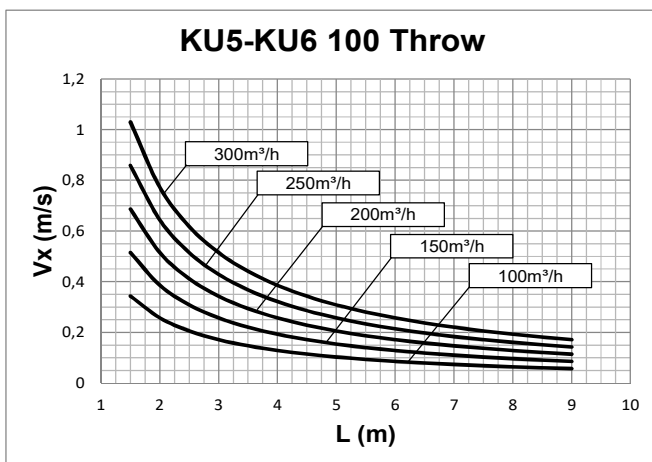
PERFORMANCE KU5 KU6 100

KU5
KU6
SERIES

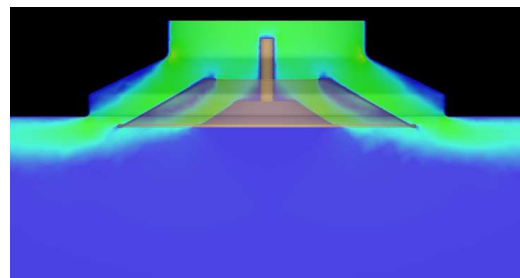


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



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

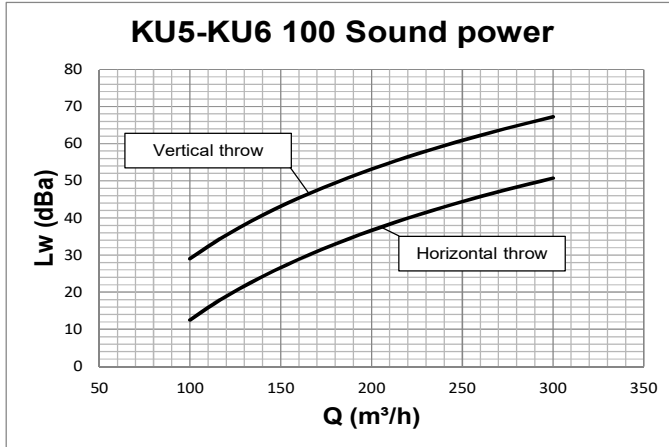




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 100

KU5
KU6
SERIES

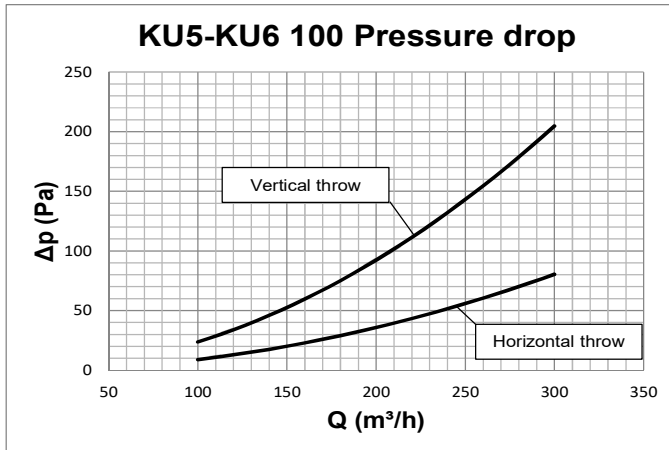


Data measured in reverberation room in accordance with international standards:

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

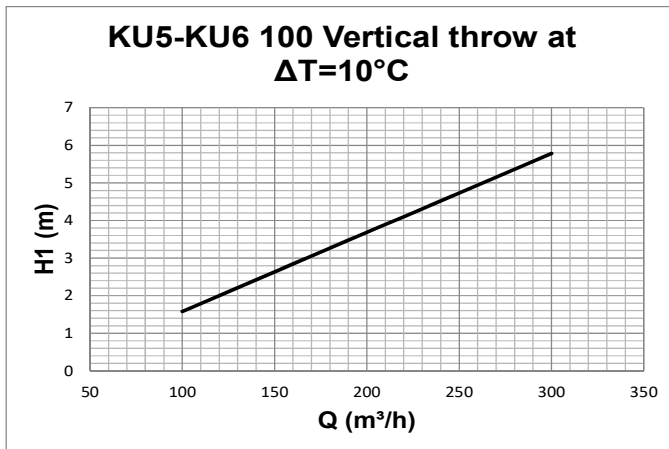
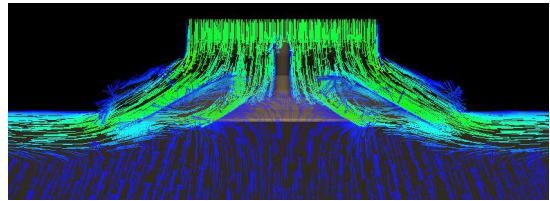
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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



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

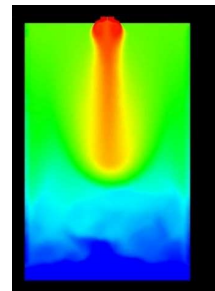
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

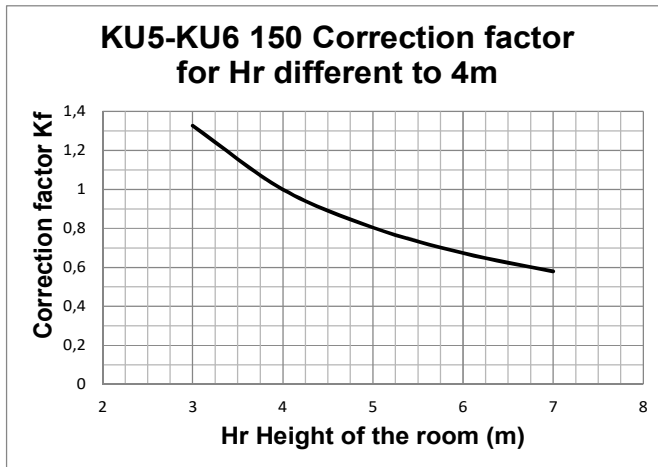
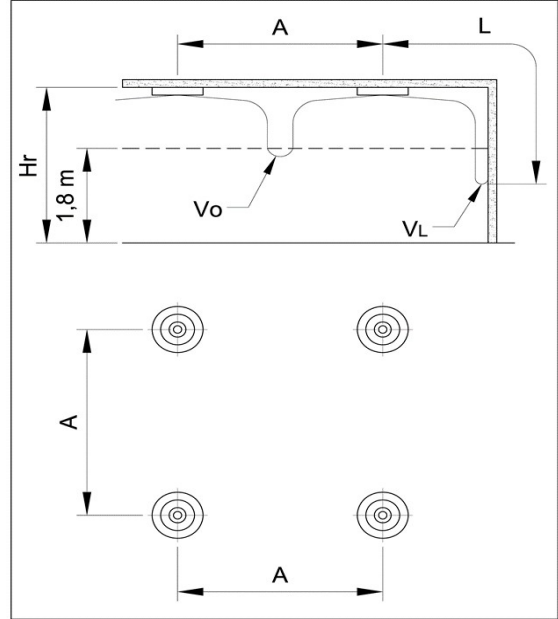
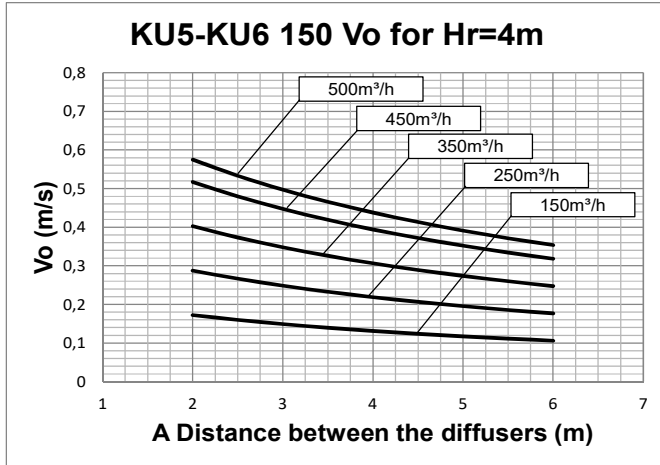




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

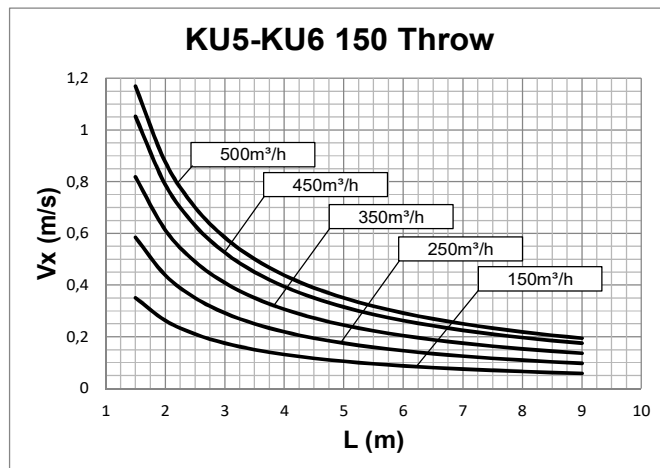
PERFORMANCE KU5 KU6 150

**KU5
KU6
SERIES**



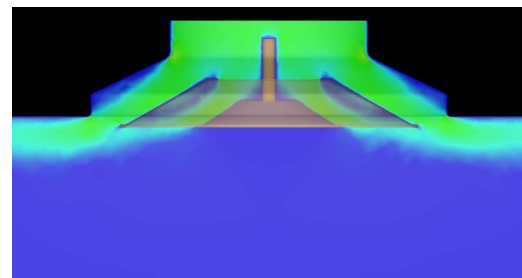
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



For Hr different from 4m:

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

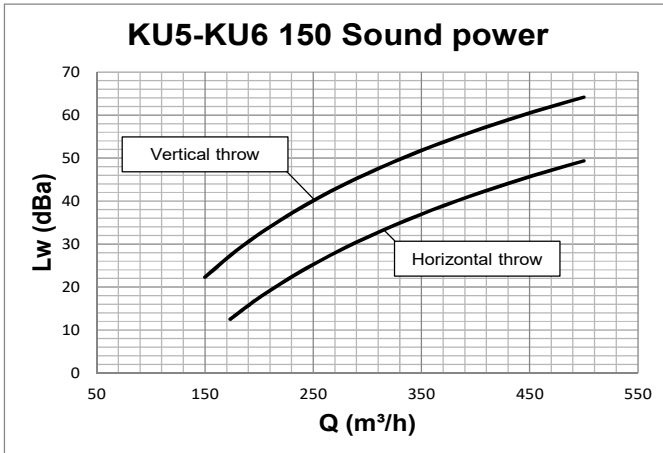




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 150

KU5
KU6
SERIES

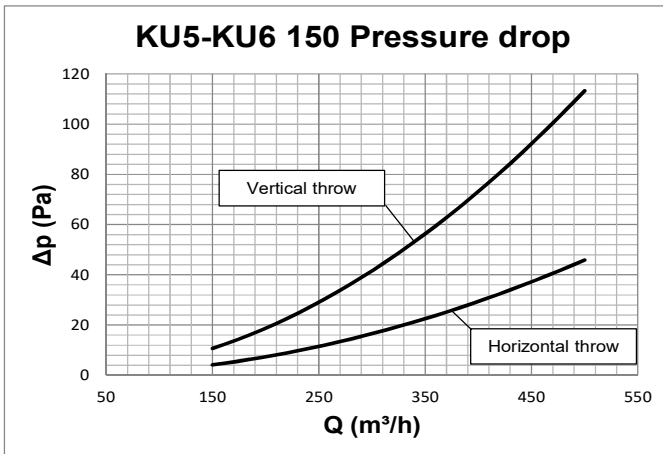


Data measured in reverberation room in accordance with international standards:

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

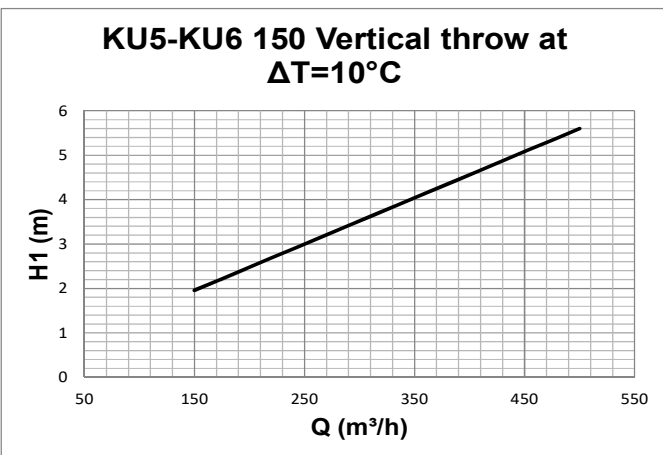
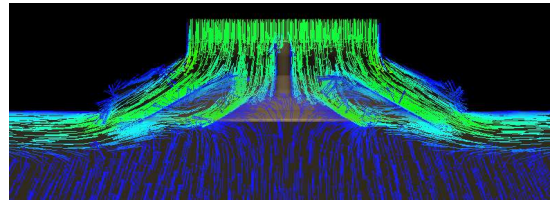
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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



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

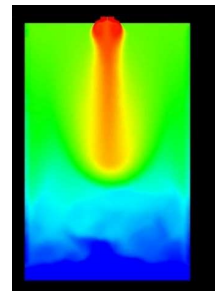
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

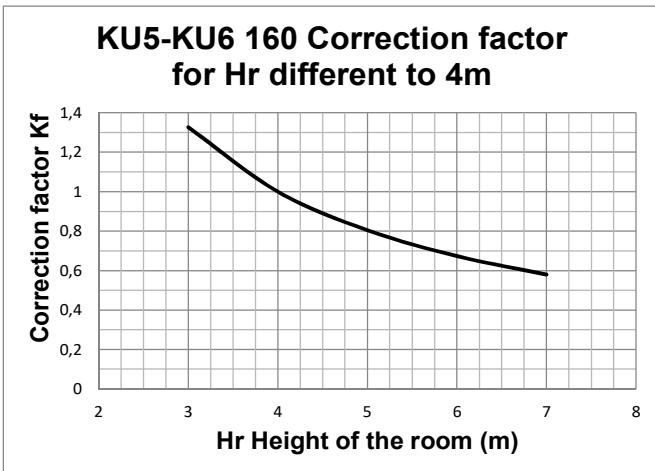
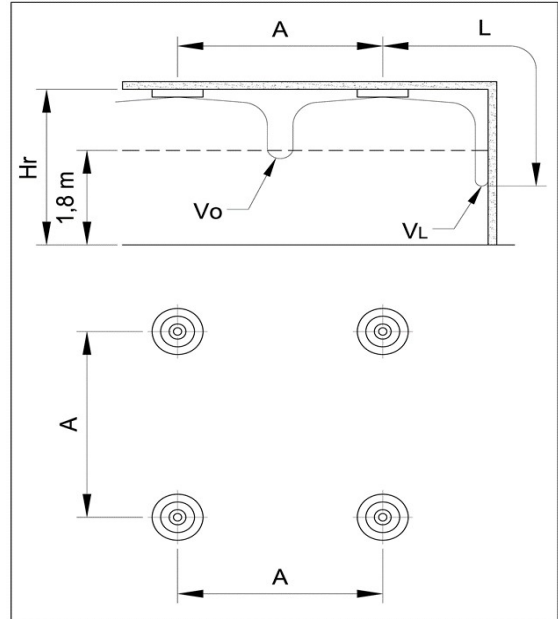
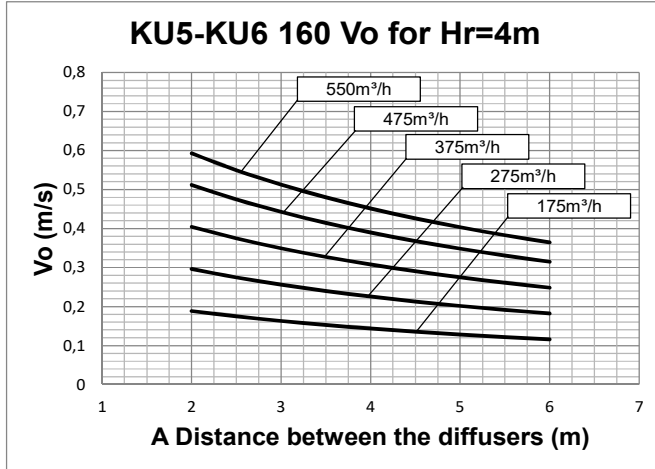




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

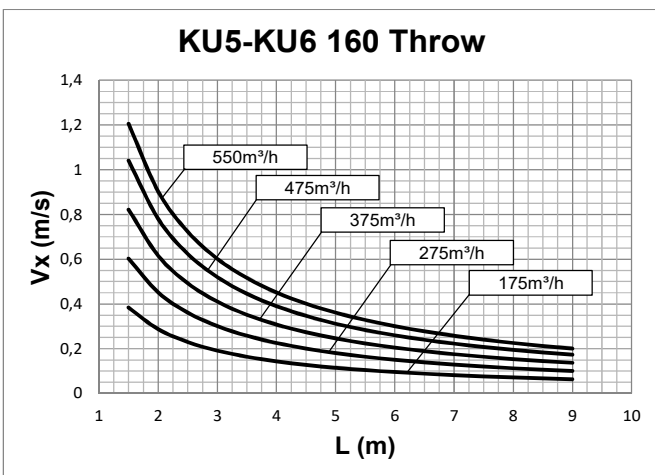
PERFORMANCE KU5 KU6 160

**KU5
KU6
SERIES**

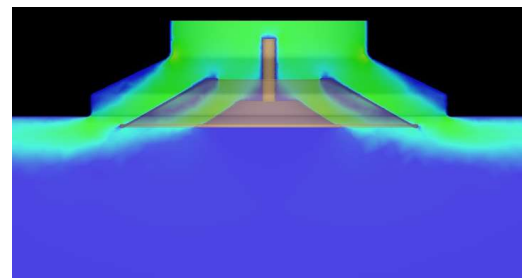


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



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

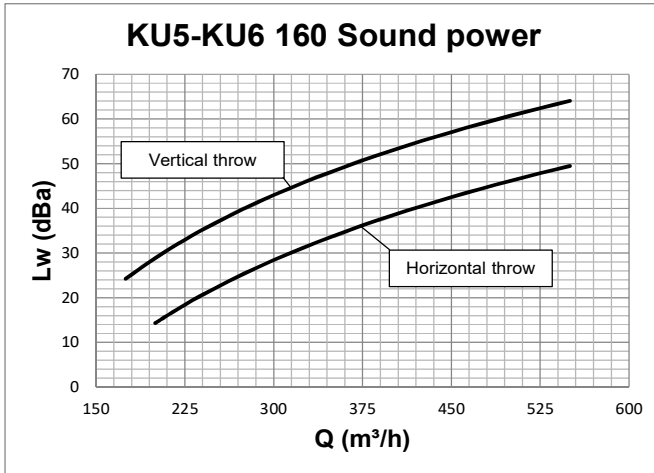




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 160

KU5
KU6
SERIES

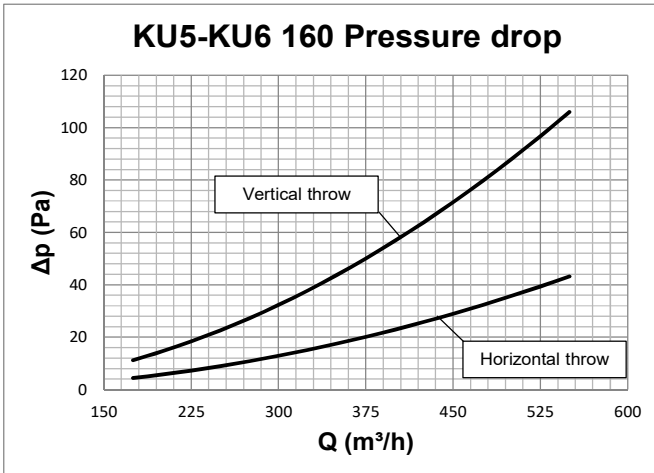


Data measured in reverberation room in accordance with international standards:

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

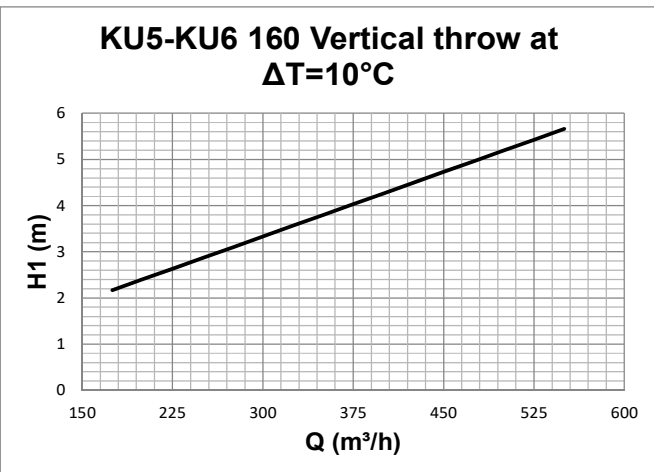
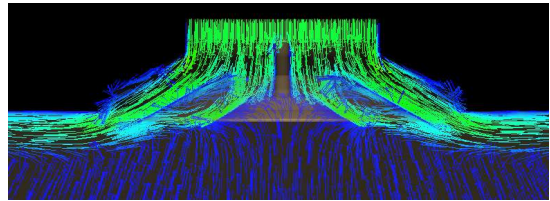
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

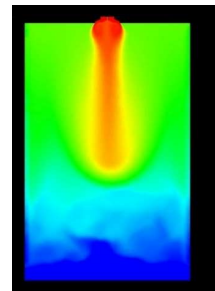
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

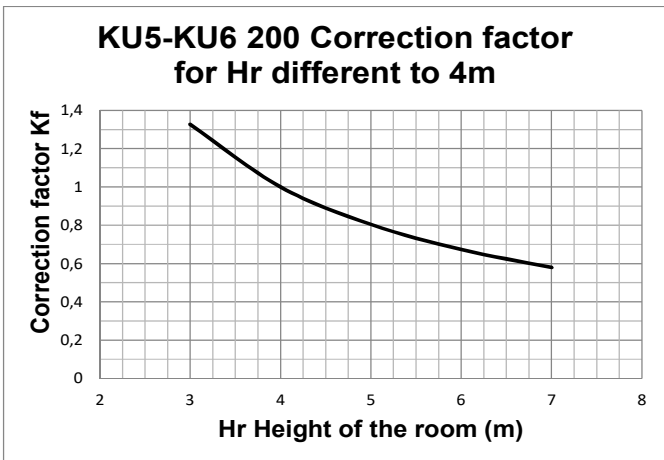
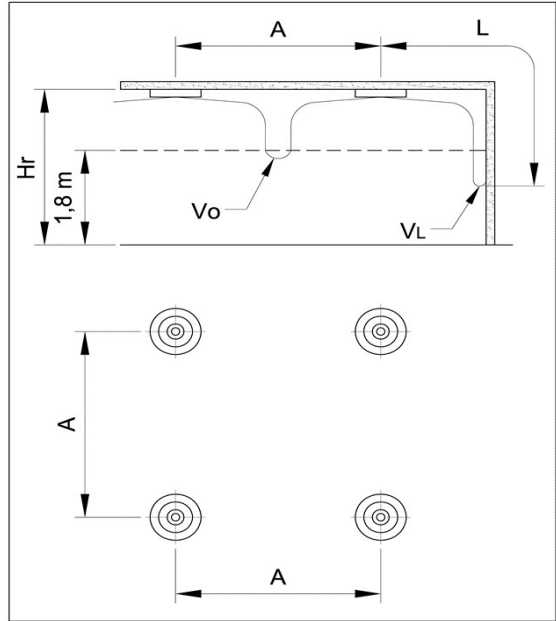
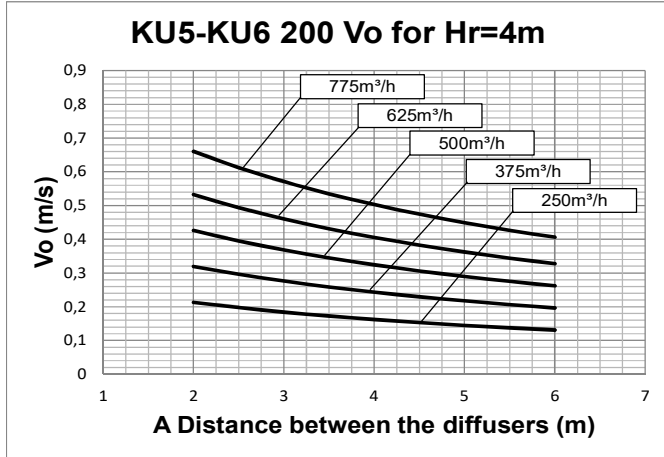




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

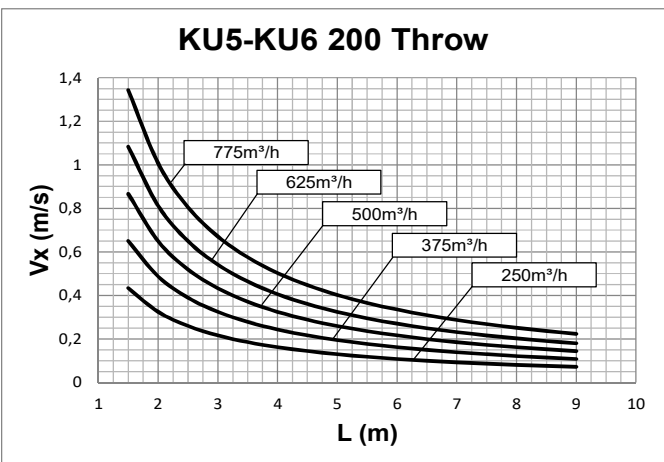
PERFORMANCE KU5 KU6 200

**KU5
KU6
SERIES**



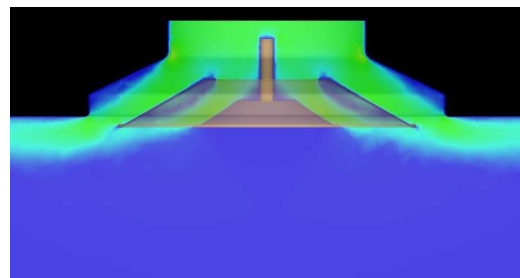
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

A (m) distance between the diffusers
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 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:

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

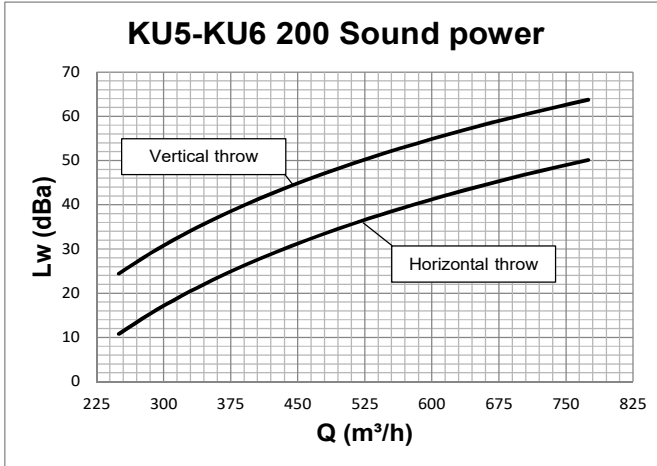




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 200

KU5
KU6
SERIES

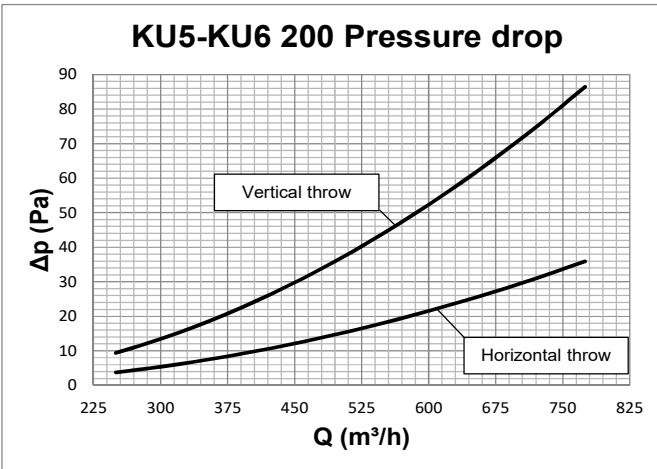


Data measured in reverberation room in accordance with international standards:

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

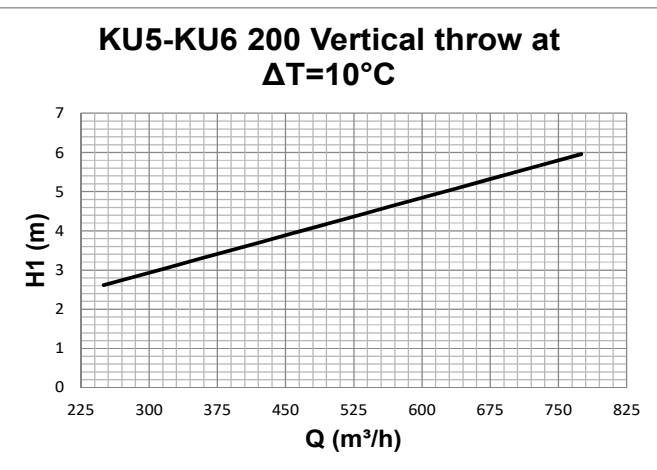
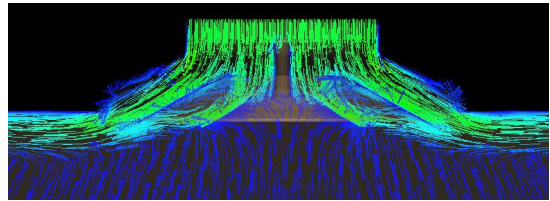
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Data obtained by CFD mathematical model in virtual test room operating in accordance with the international standard:

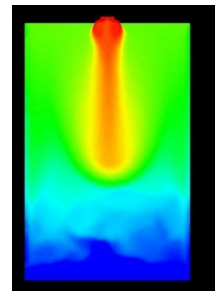
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

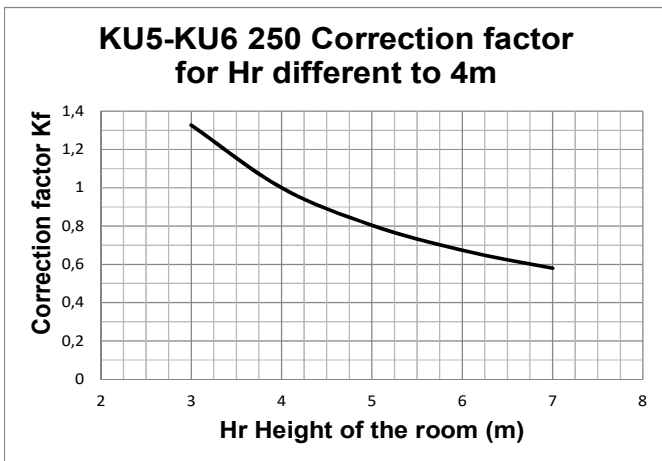
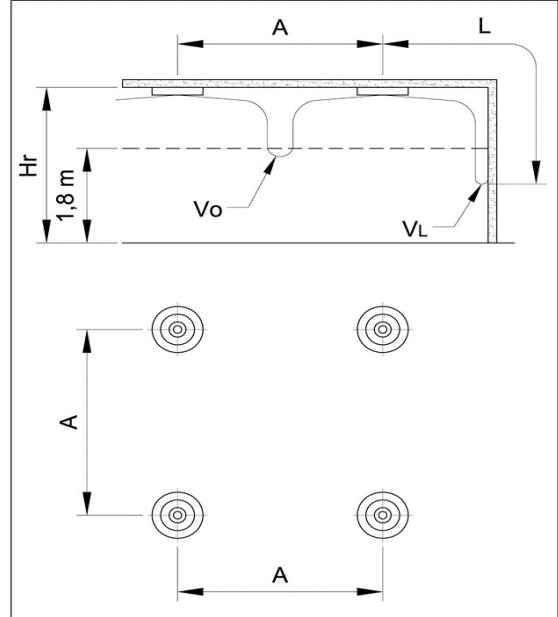
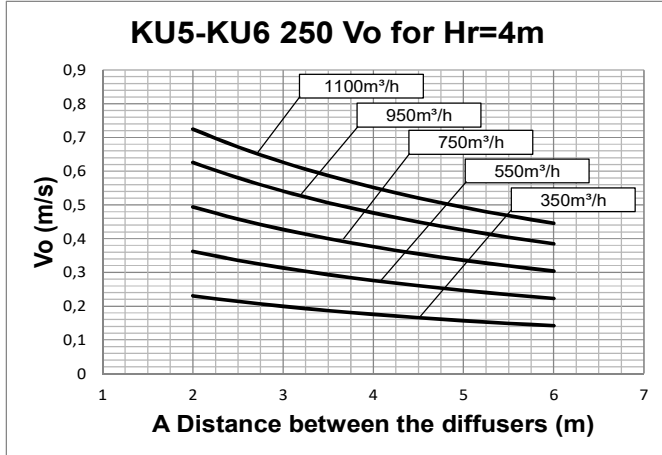




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

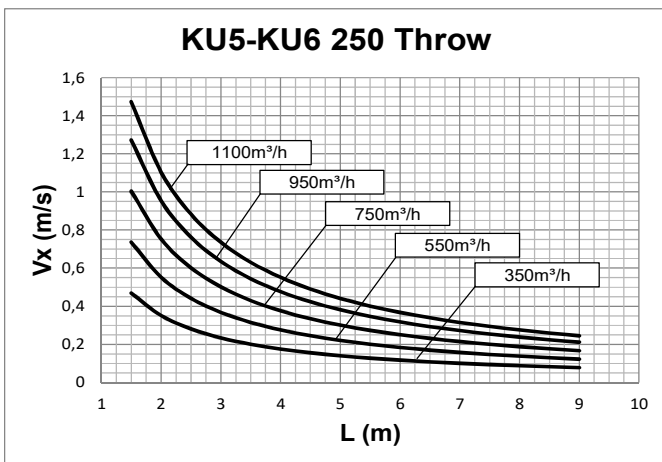
PERFORMANCE KU5 KU6 250

**KU5
KU6
SERIES**



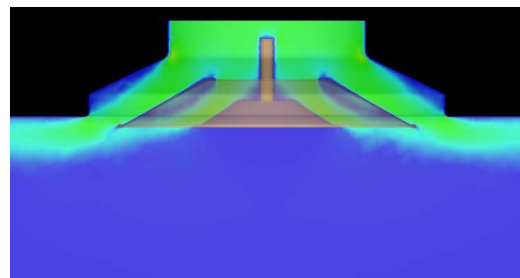
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



For Hr different from 4m:

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

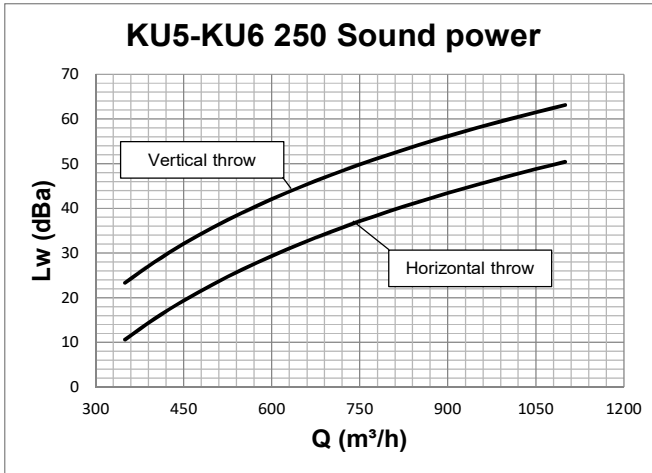




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 250

KU5
KU6
SERIES

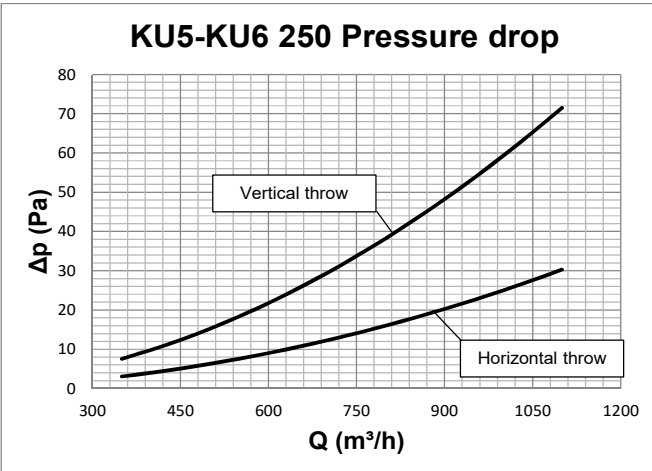


Data measured in reverberation room in accordance with international standards:

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

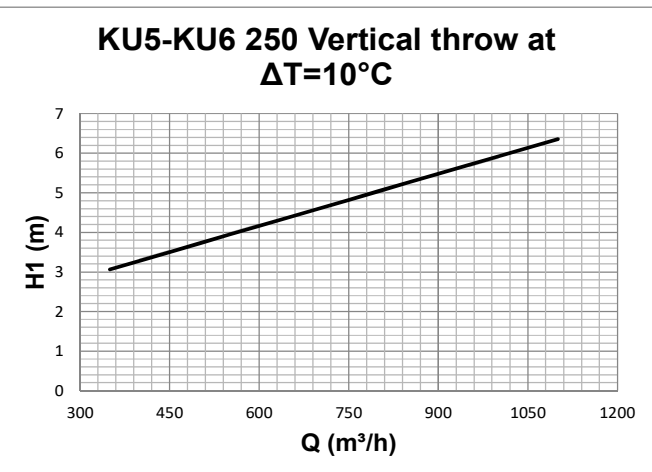
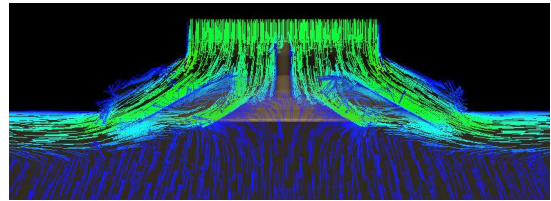
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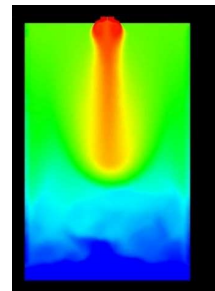
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

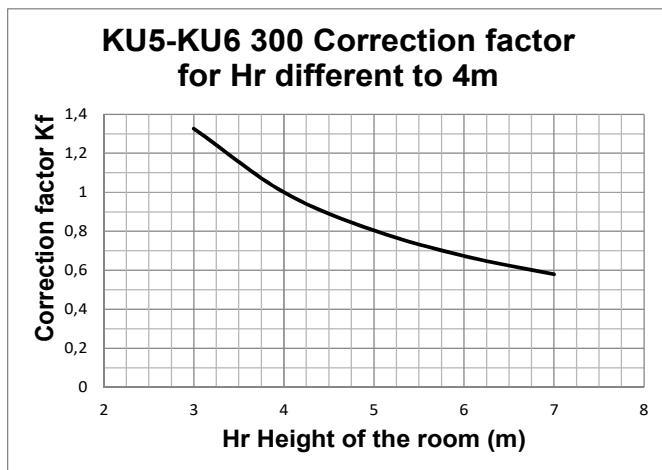
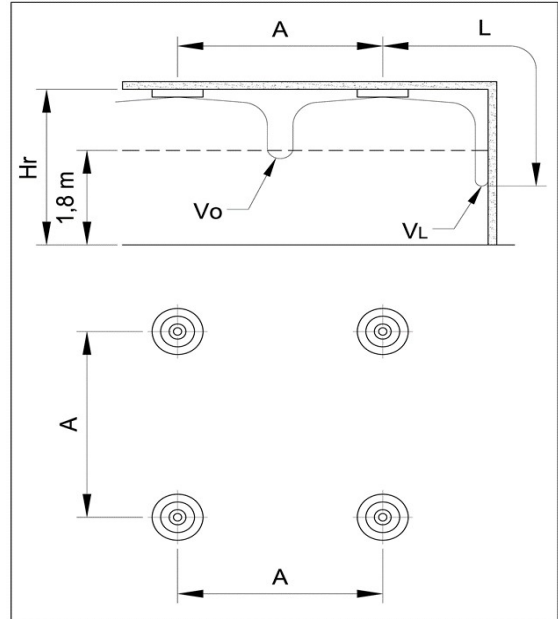
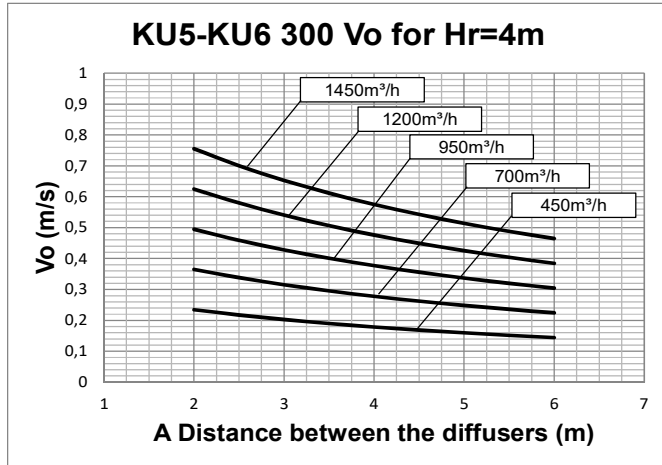




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

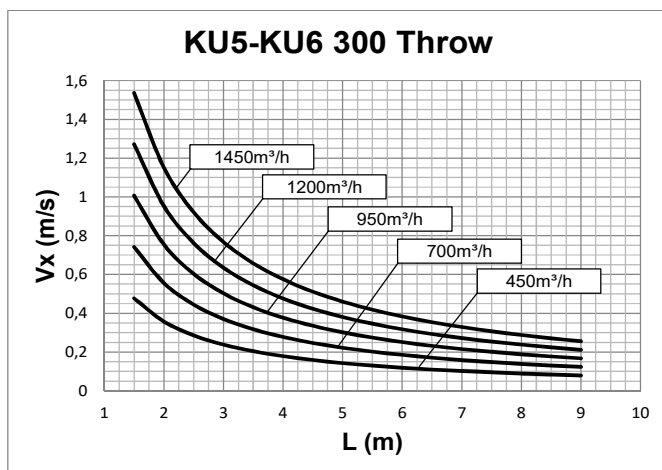
PERFORMANCE KU5 KU6 300

**KU5
KU6
SERIES**

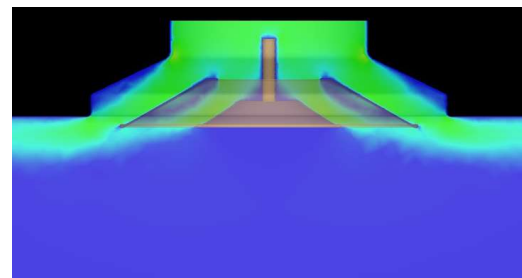


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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

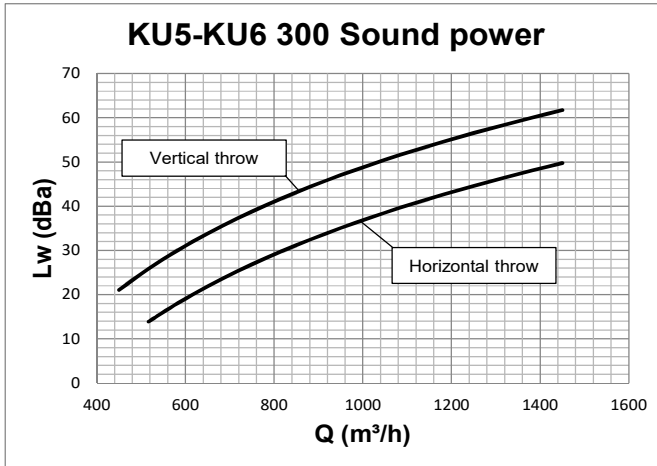




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 300

KU5
KU6
SERIES

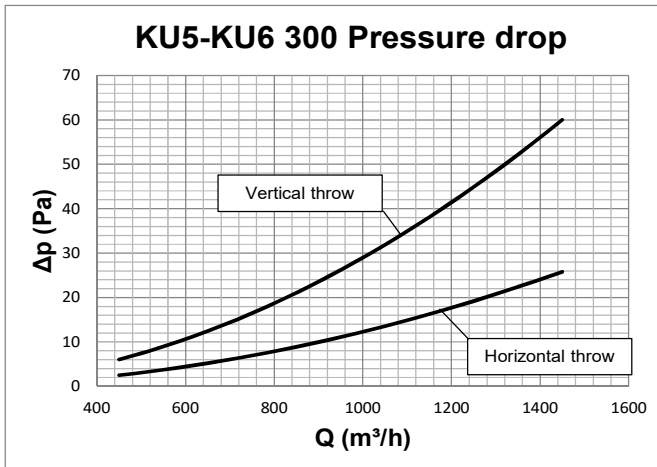


Data measured in reverberation room in accordance with international standards:

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

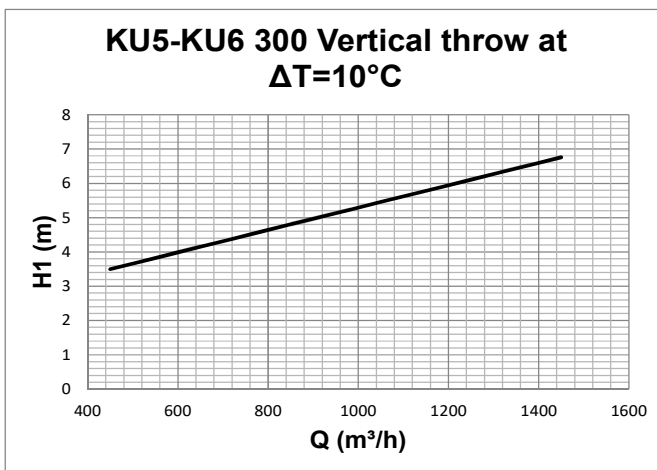
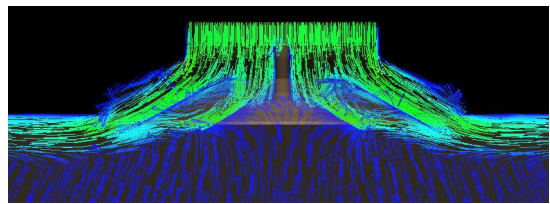
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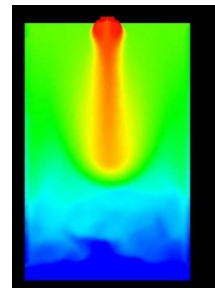
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

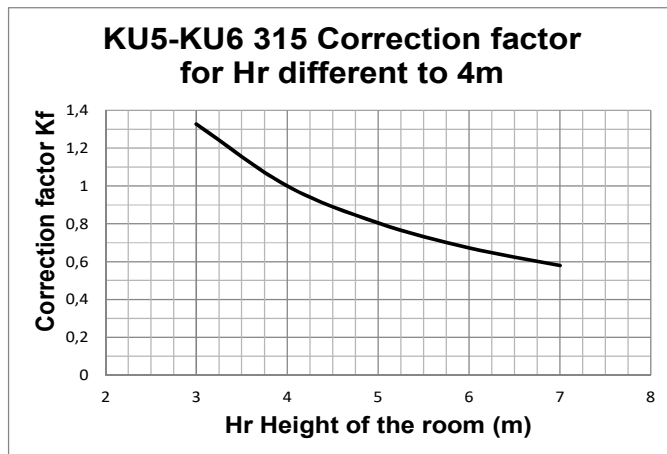
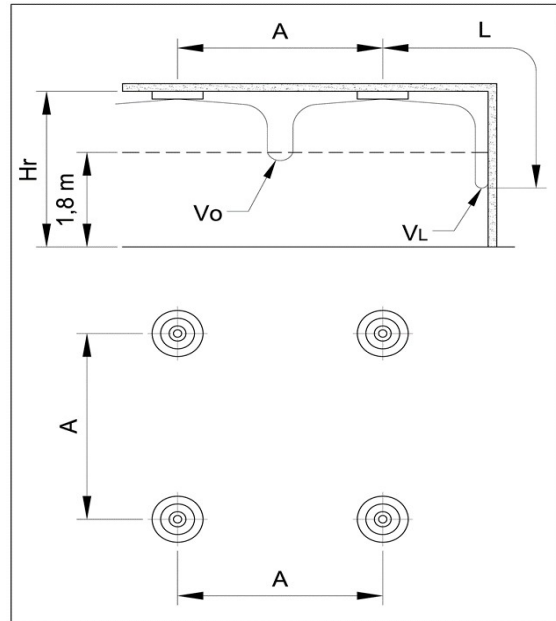
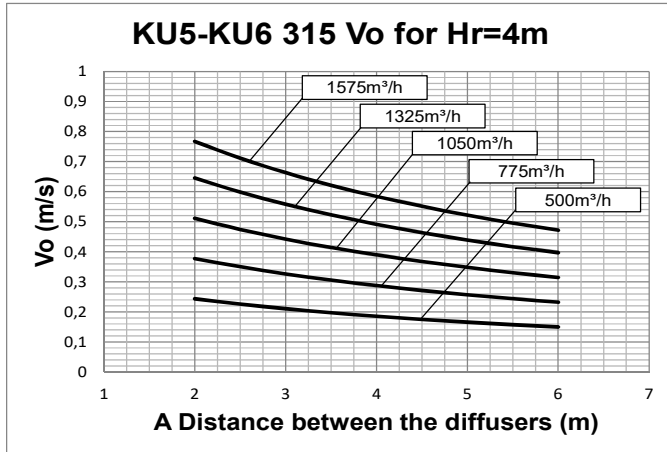




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

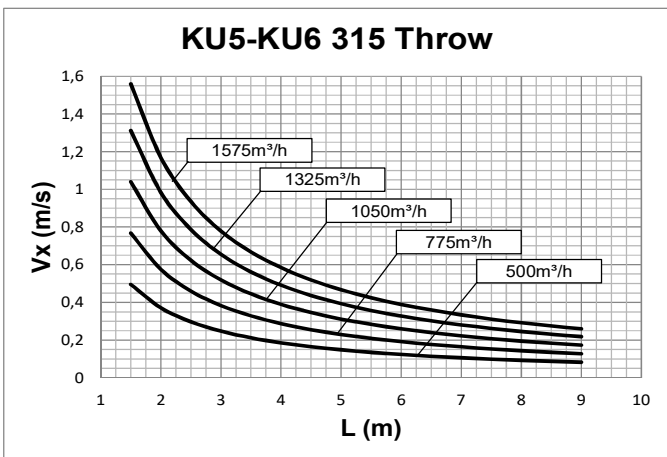
PERFORMANCE KU5 KU6 315

**KU5
KU6
SERIES**

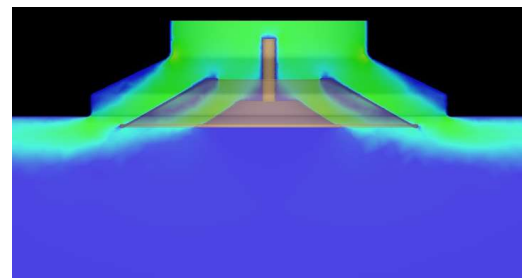


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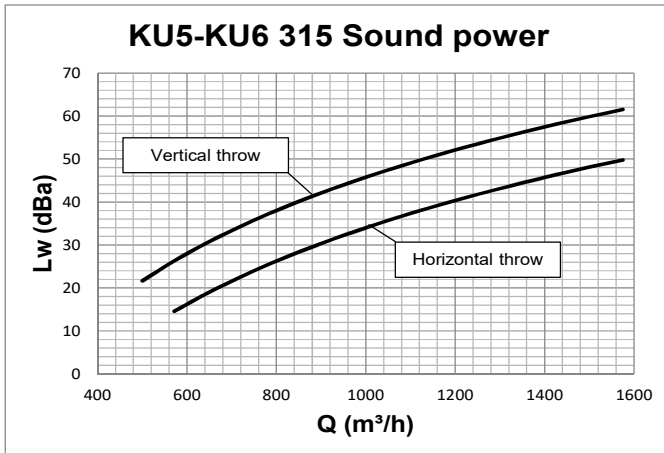




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 KU6 315

KU5
KU6
SERIES

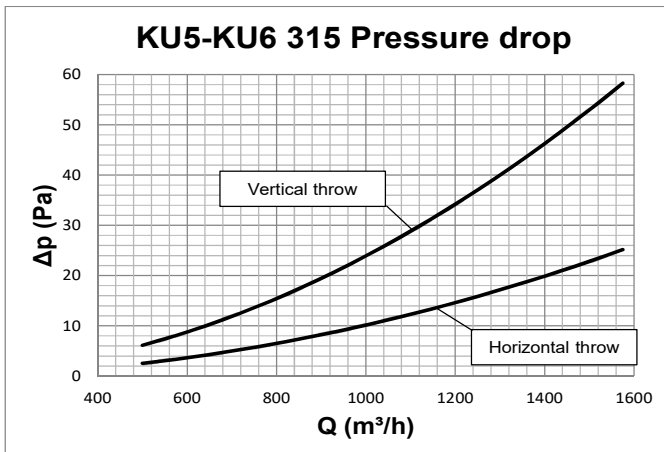


Data measured in reverberation room in accordance with international standards:

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

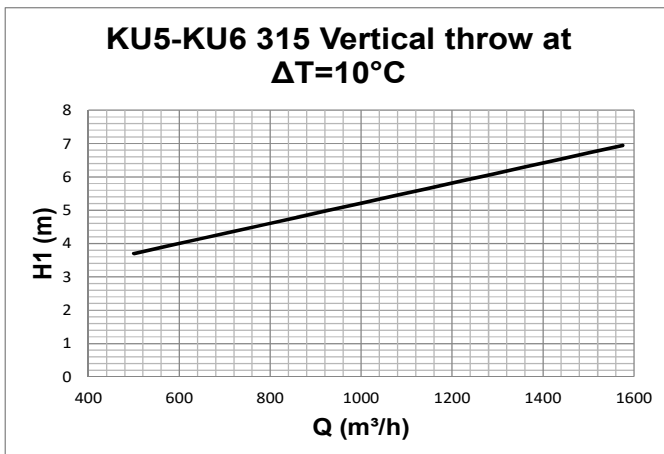
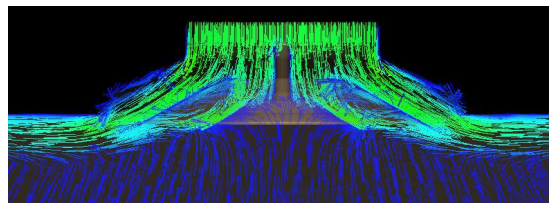
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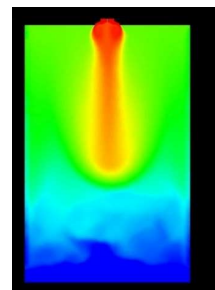
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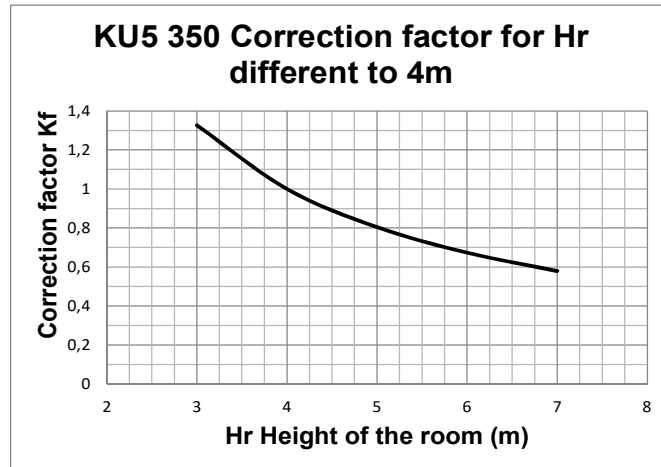
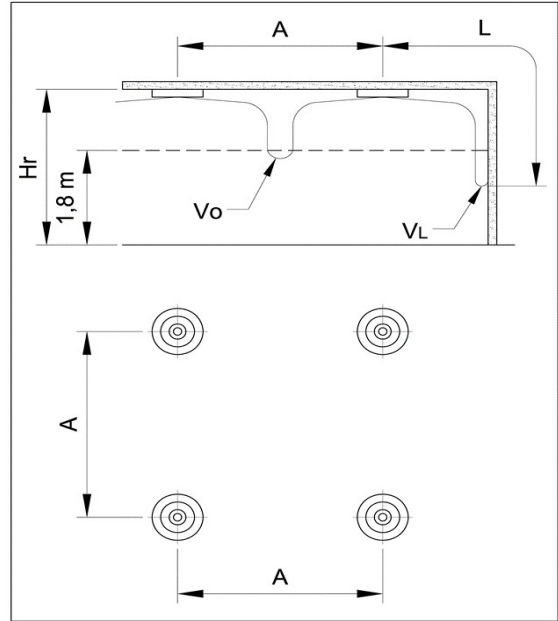
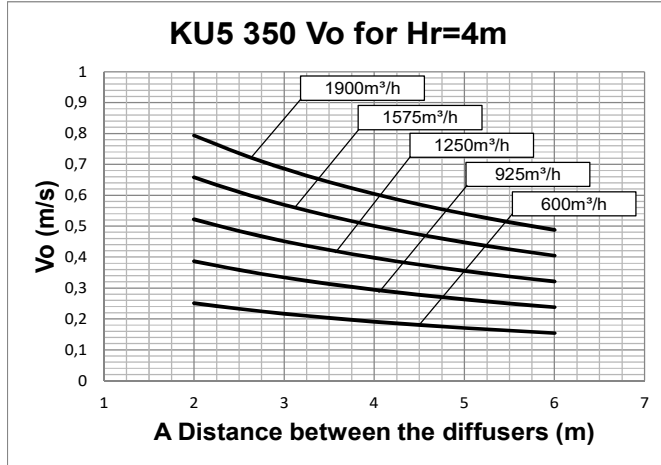




ADJUSTABLE CONES CIRCULAR DIFFUSERS

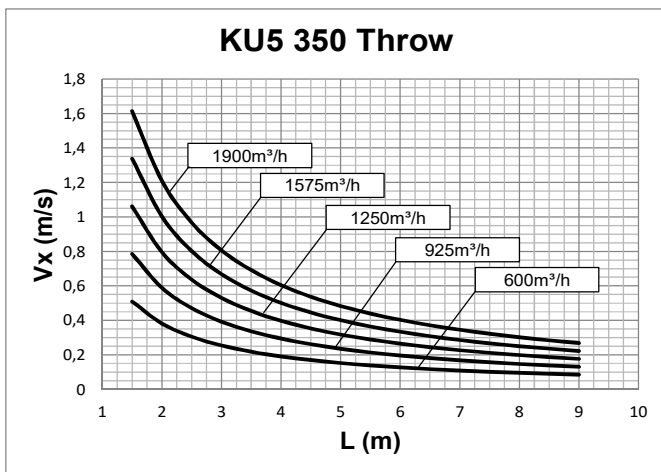
PERFORMANCE KU5 350

KU5 SERIES



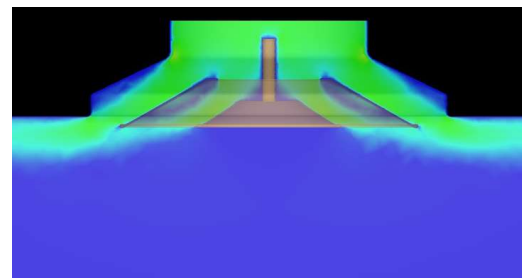
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For Hr different from 4m:

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

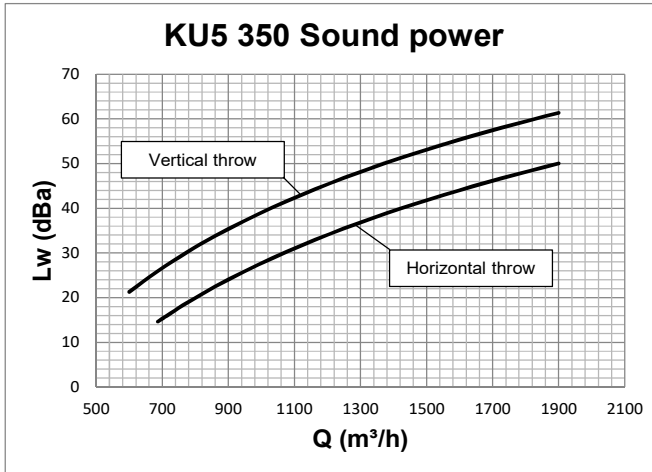




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 350

KU5
SERIES

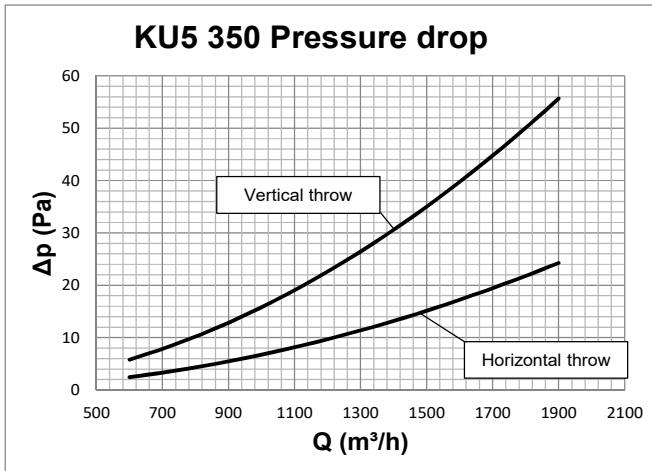


Data measured in reverberation room in accordance with international standards:

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

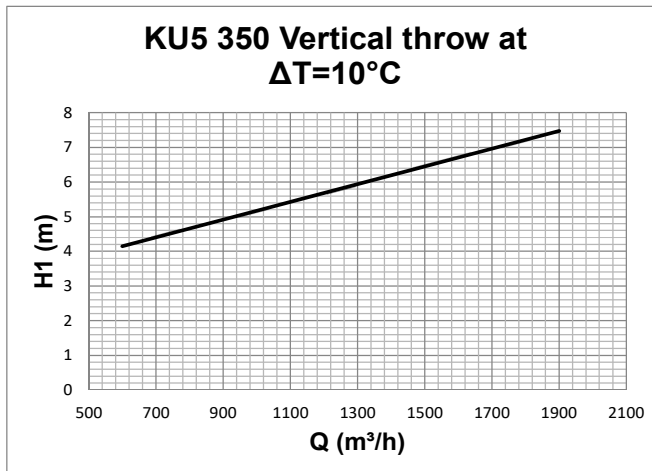
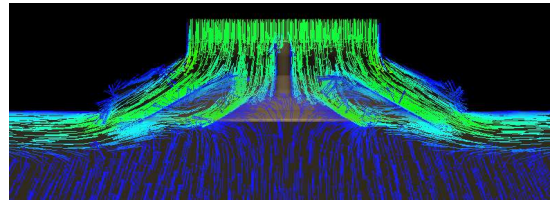
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.*

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



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

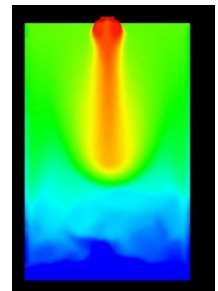
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ\text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

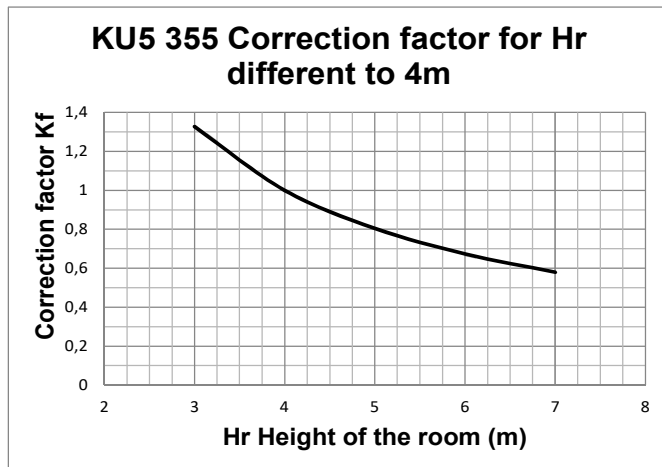
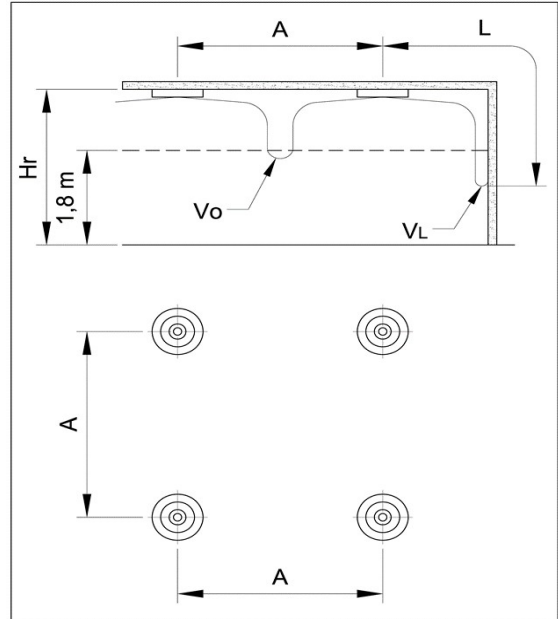
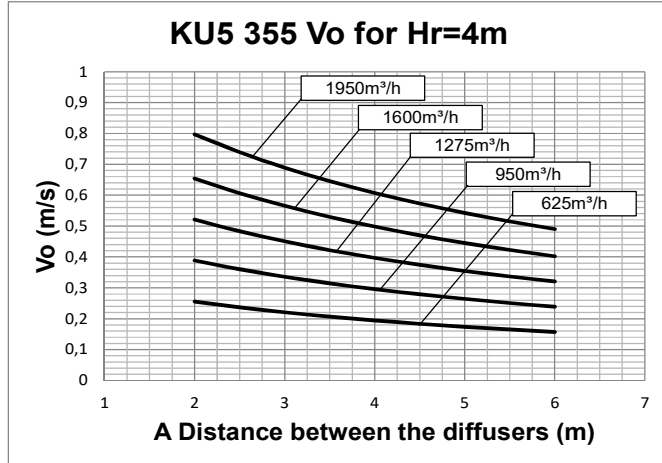




ADJUSTABLE CONES CIRCULAR DIFFUSERS

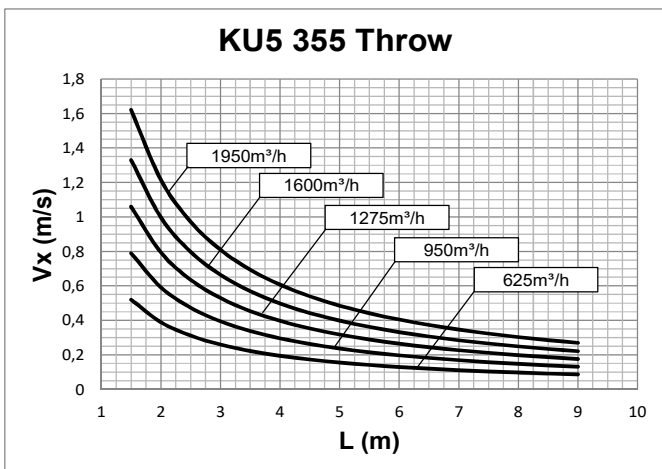
PERFORMANCE KU5 355

KU5 SERIES



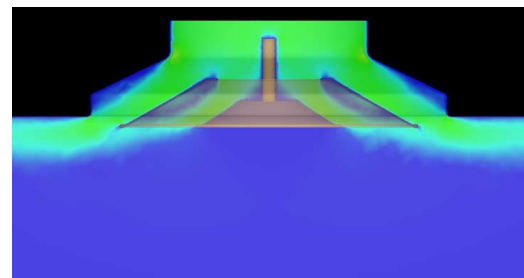
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



For Hr different from 4m:

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

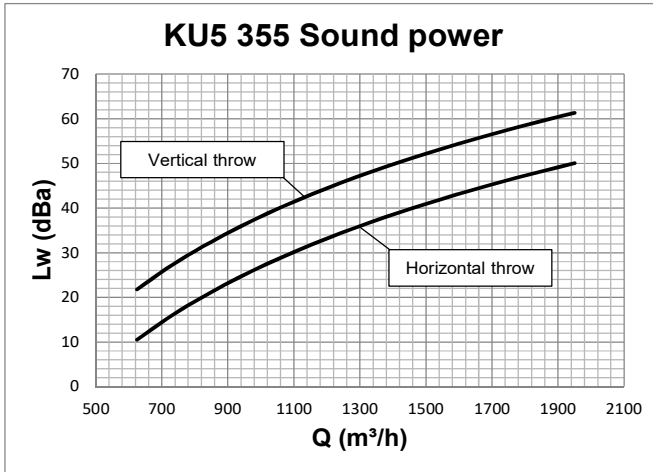




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 355

KU5
SERIES

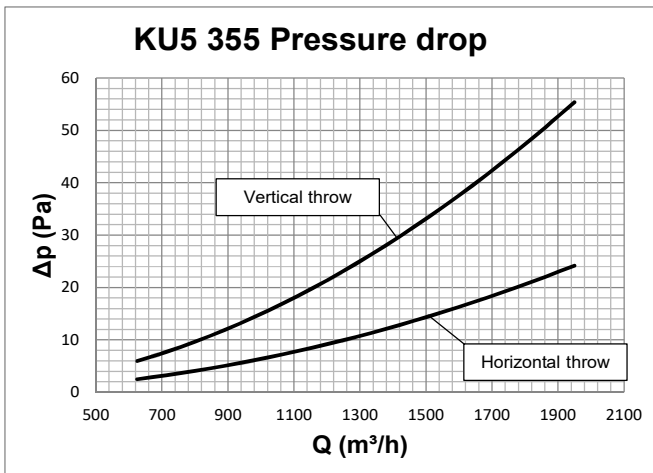


Data measured in reverberation room in accordance with international standards:

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

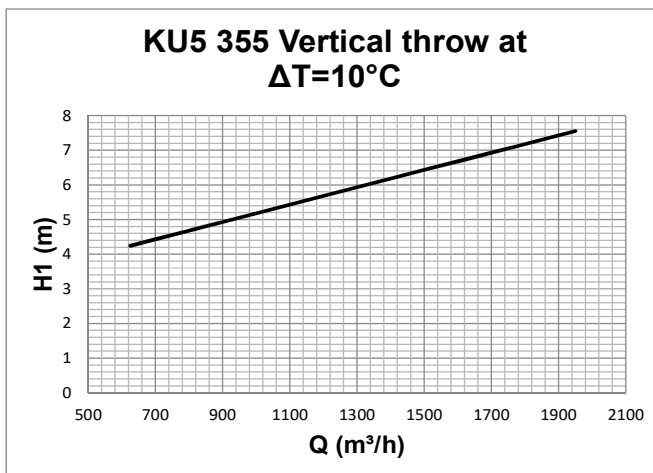
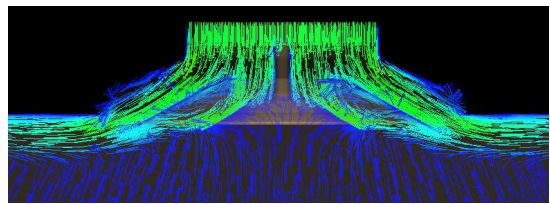
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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



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

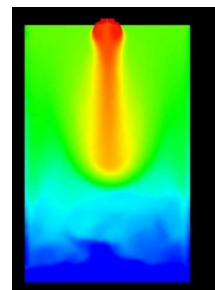
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ \text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

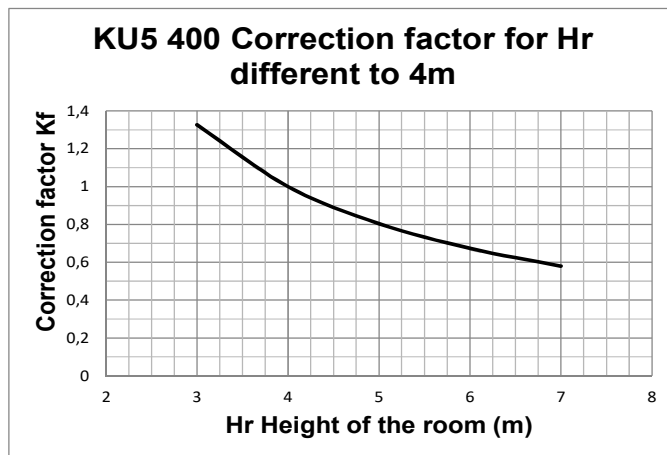
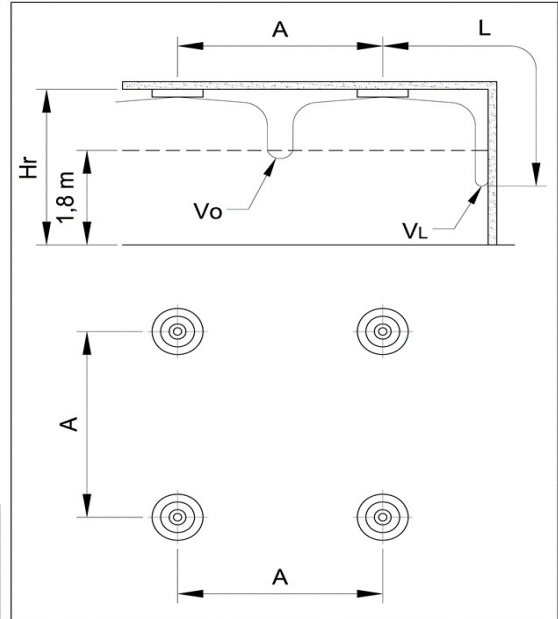
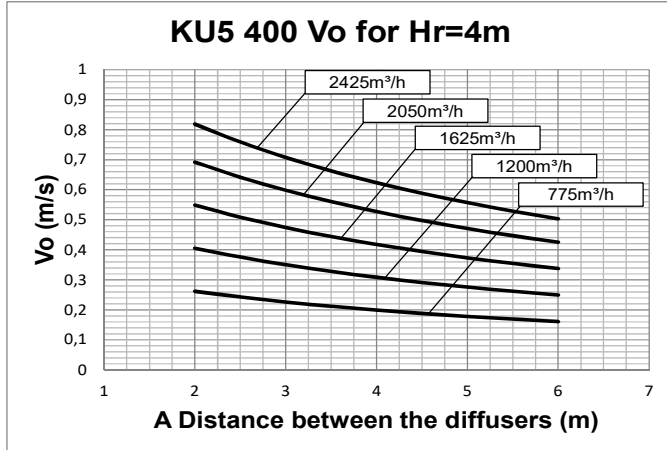




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

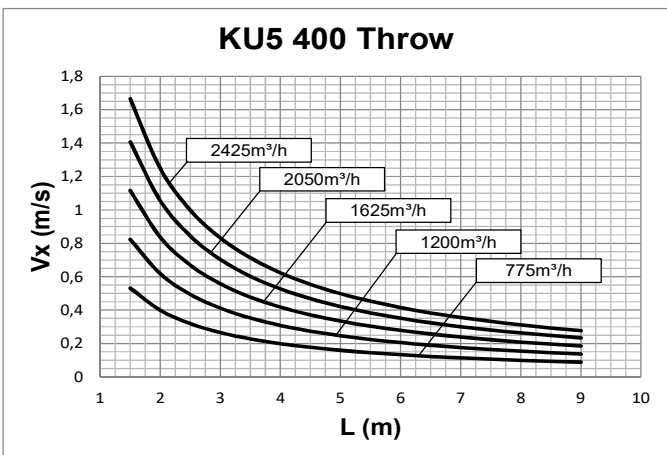
PERFORMANCE KU5 400

**KU5
SERIES**



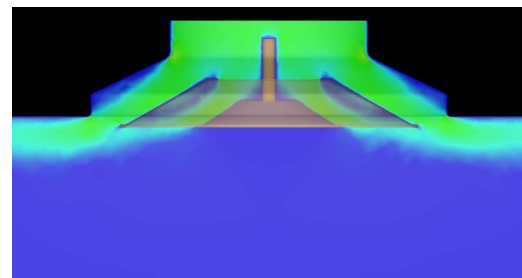
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



For Hr different from 4m:

Vo (h) = Vo x Kf

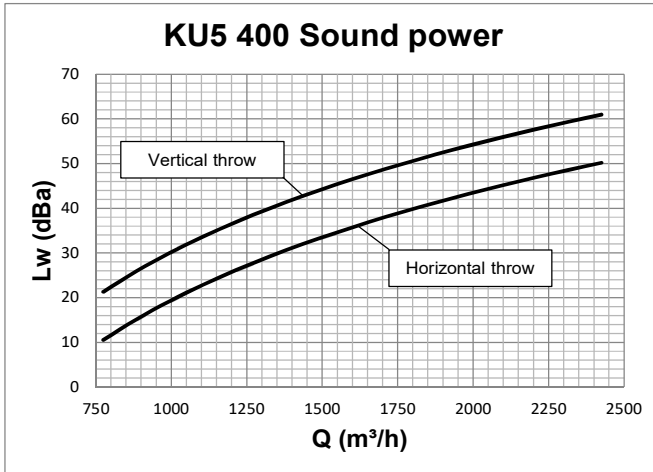




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 400

KU5 SERIES

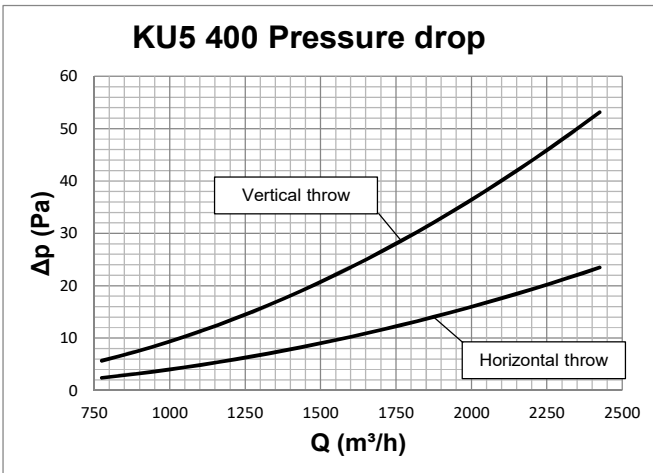


Data measured in reverberation room in accordance with international standards:

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

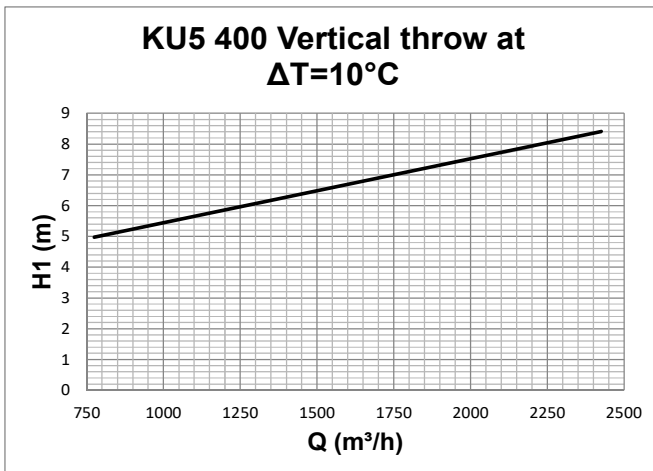
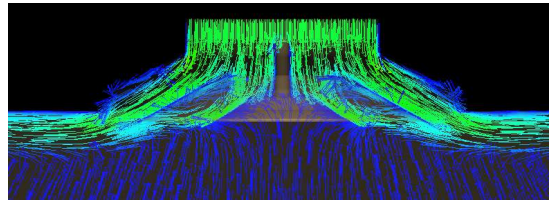
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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



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

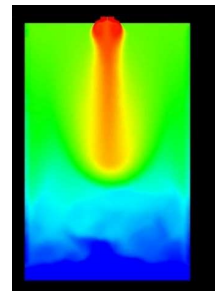
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ \text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

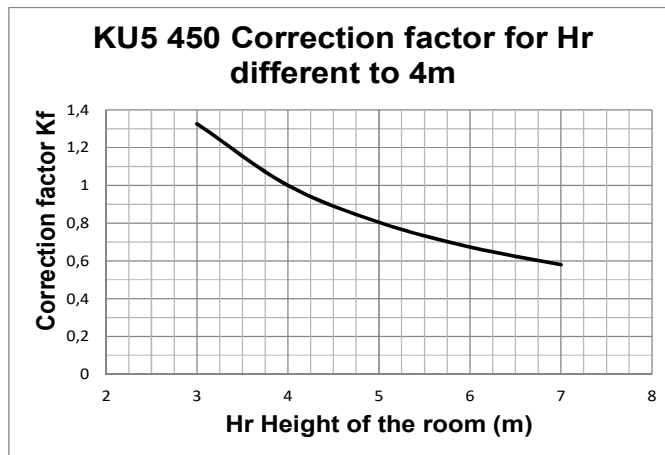
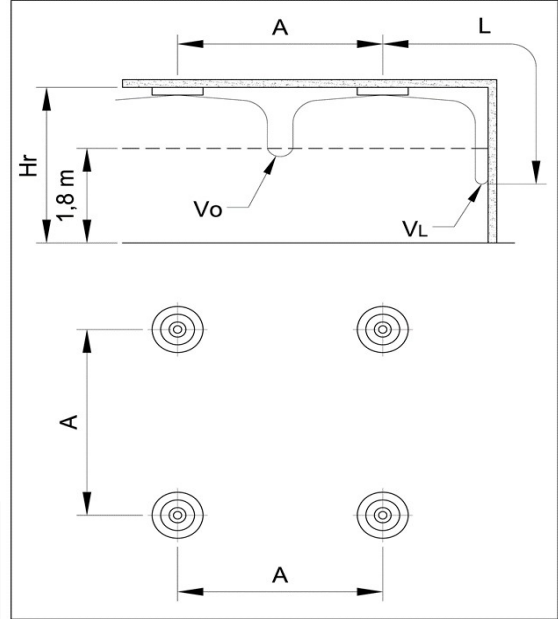
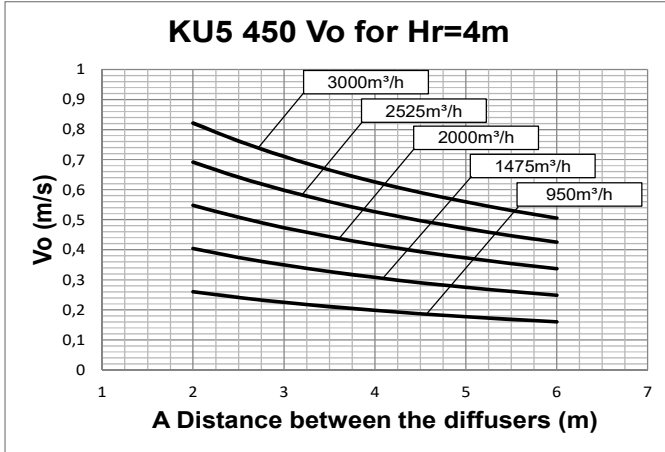




**ADJUSTABLE CONES
CIRCULAR DIFFUSERS**

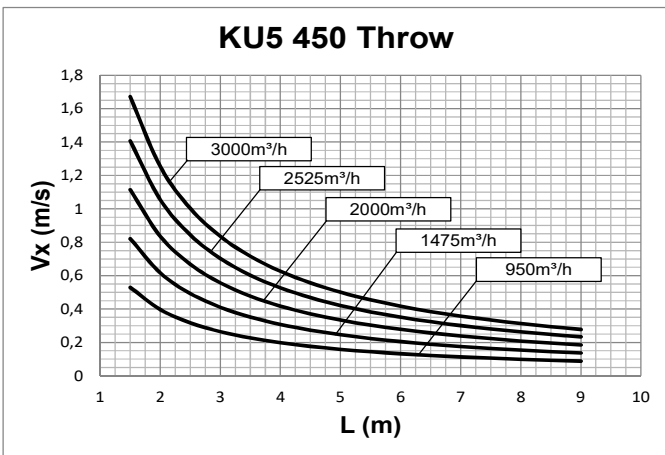
PERFORMANCE KU5 450

**KU5
SERIES**

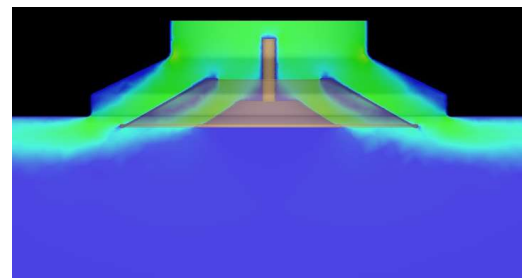


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



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

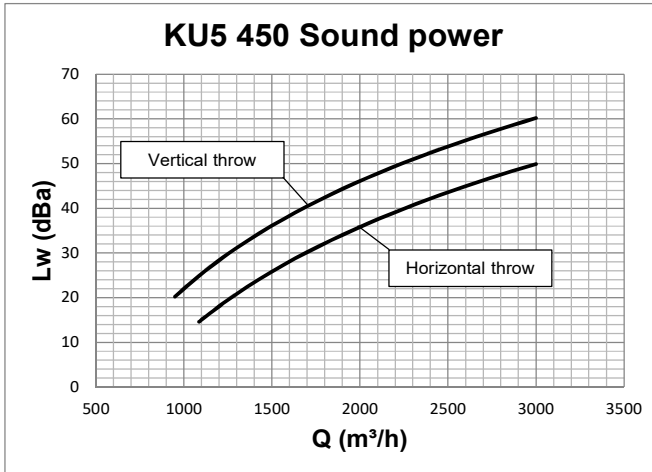




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 450

KU5
SERIES

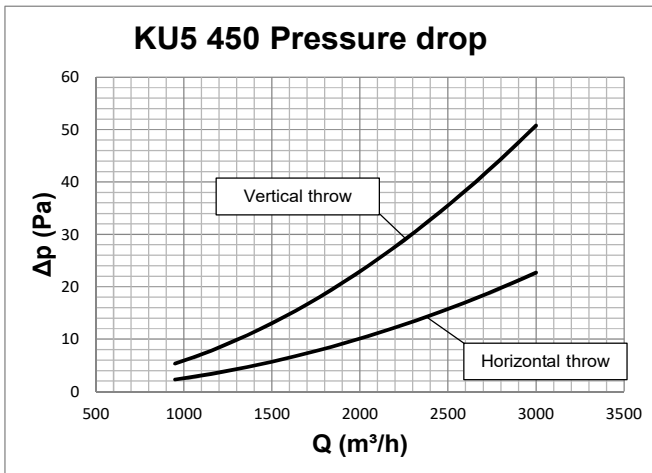


Data measured in reverberation room in accordance with international standards:

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

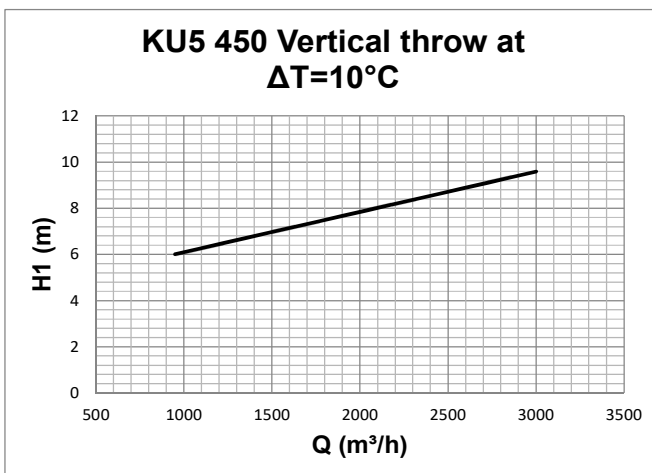
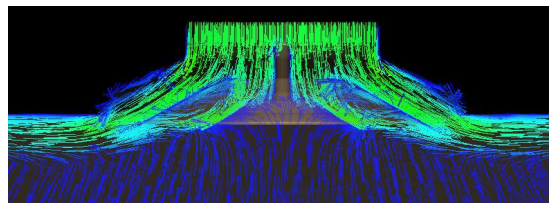
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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

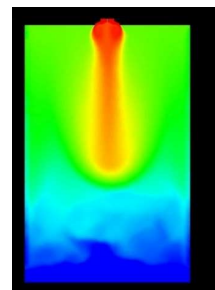
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ \text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

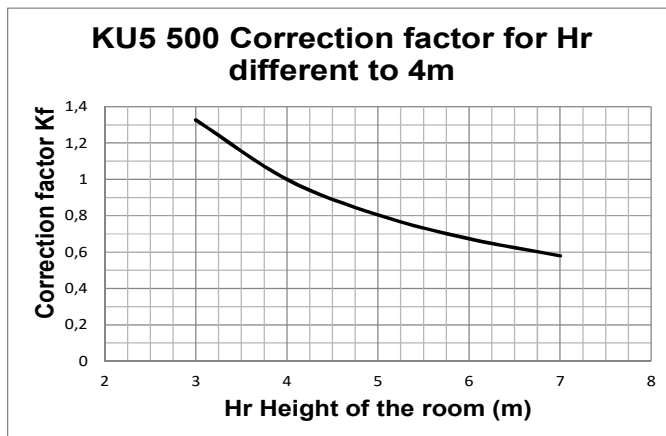
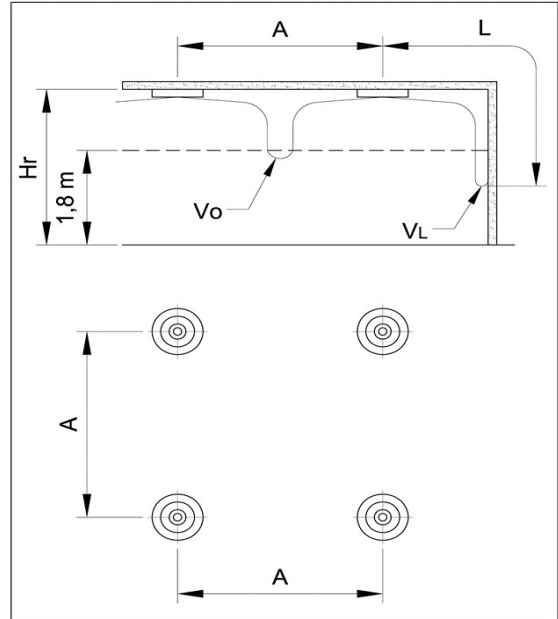
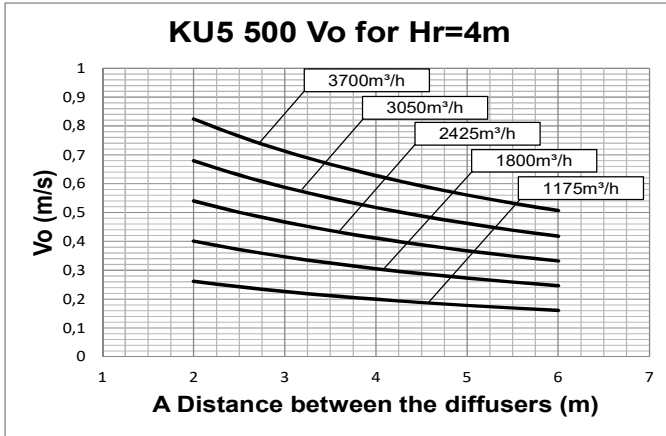




ADJUSTABLE CONES CIRCULAR DIFFUSERS

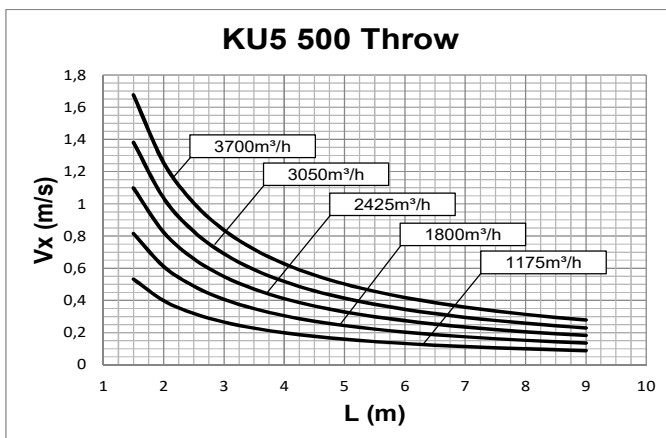
PERFORMANCE KU5 500

KU5 SERIES



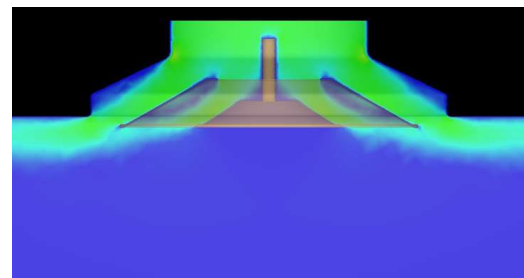
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



For Hr different from 4m:

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

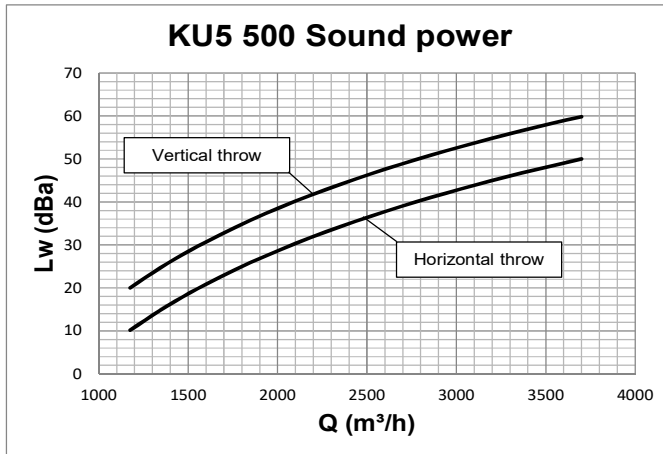




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 500

KU5 SERIES

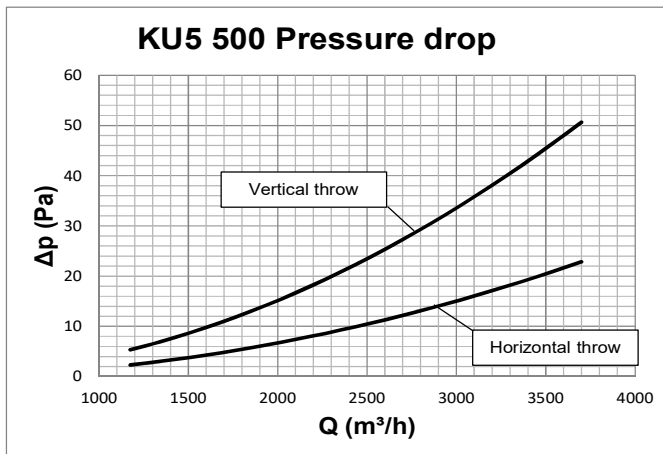


Data measured in reverberation room in accordance with international standards:

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

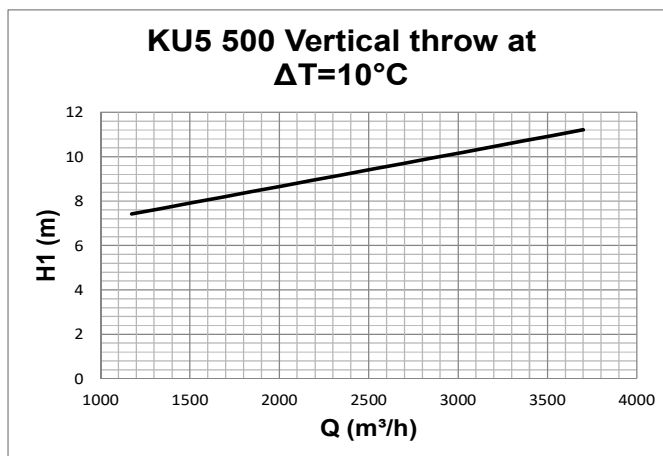
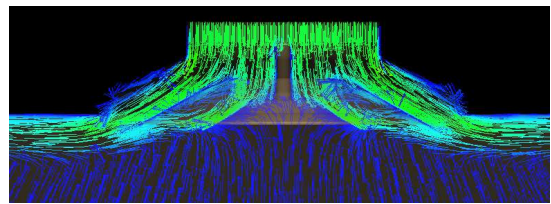
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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

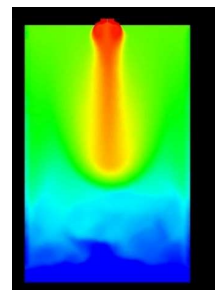
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ \text{C}$ in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

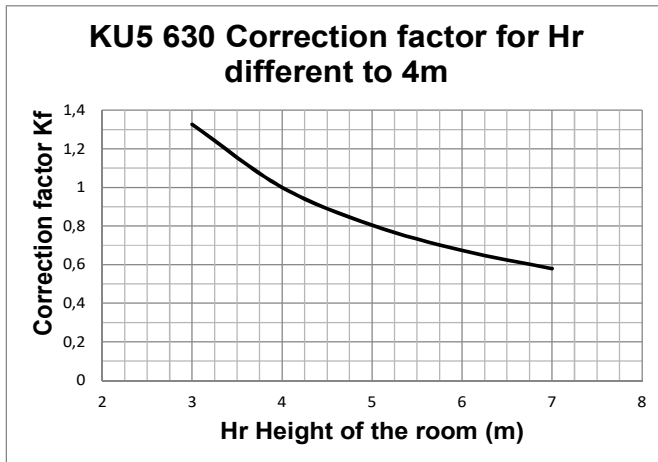
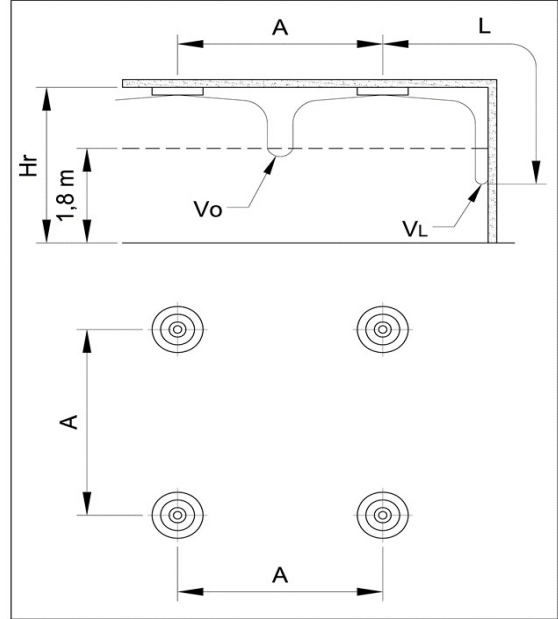
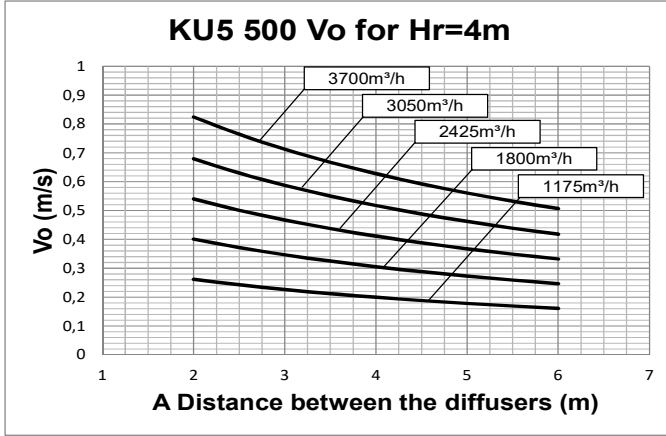




ADJUSTABLE CONES CIRCULAR DIFFUSERS

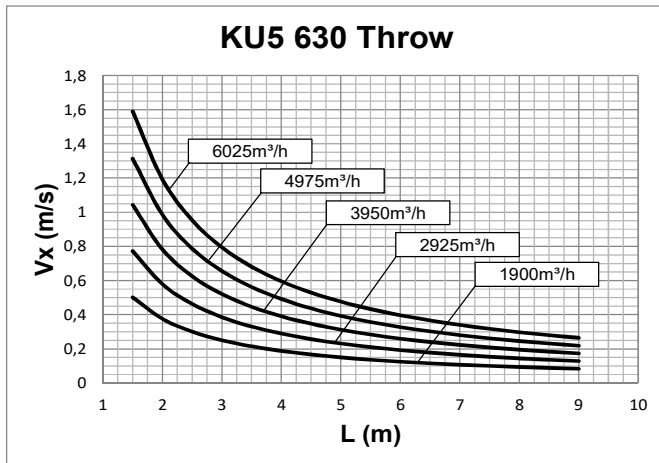
PERFORMANCE KU5 630

KU5 SERIES

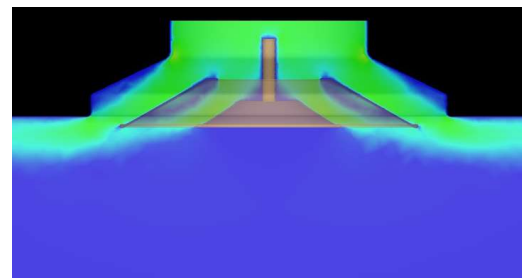


Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard: **ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.**

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



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

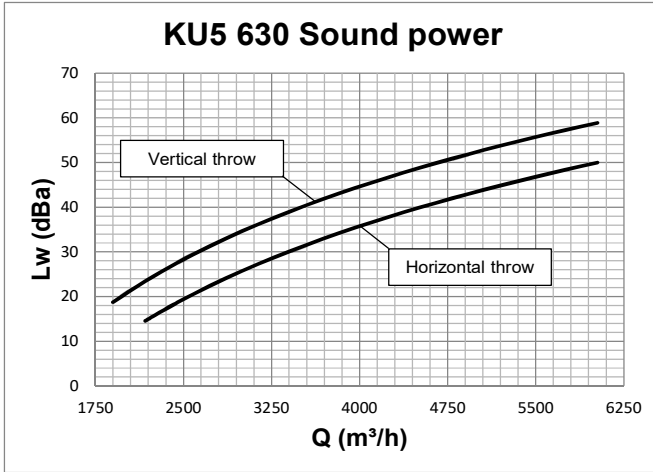




ADJUSTABLE CONES CIRCULAR DIFFUSERS

PERFORMANCE KU5 630

KU5 SERIES

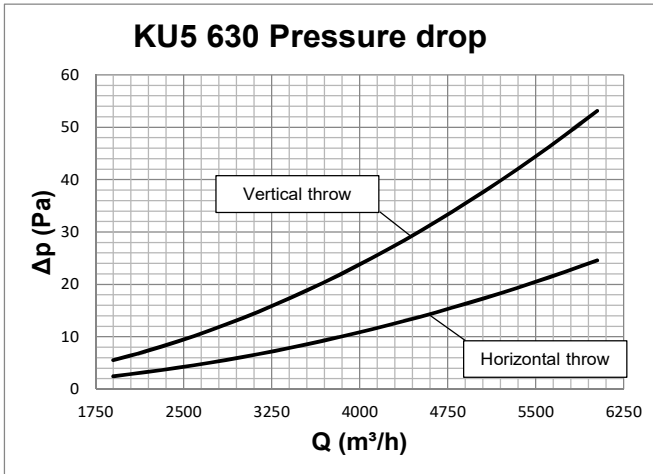


Data measured in reverberation room in accordance with international standards:

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

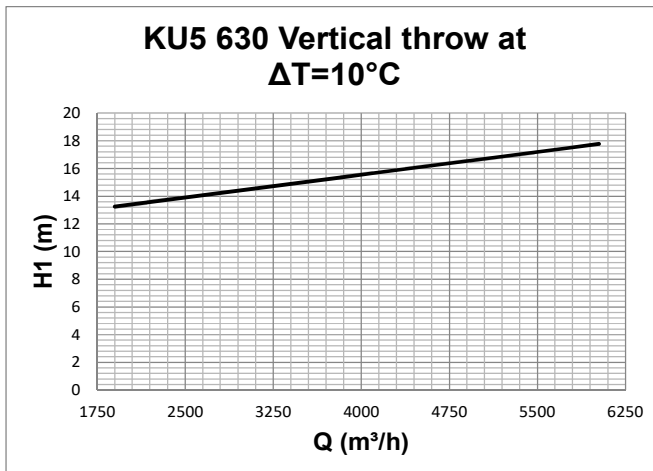
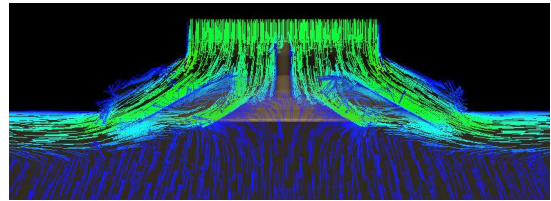
ISO 5135 1997: Acoustic - determination of sound power levels of noise from air-terminal devices; air terminal units; dampers and valves by measurement in a reverberation room.

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

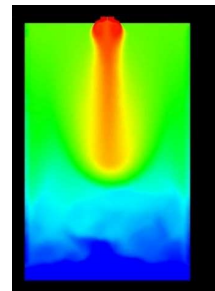
ISO 5219 1984: Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.



Data obtained from CFD mathematical model in virtual test room operating in heating conditions with ΔT = 10 ° C in accordance with the international standard:

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

H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air

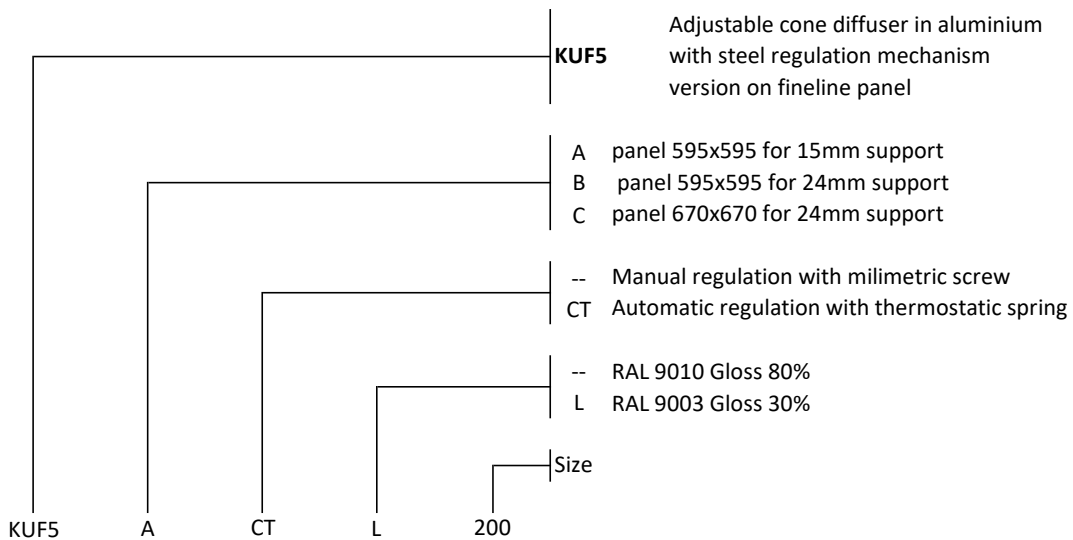
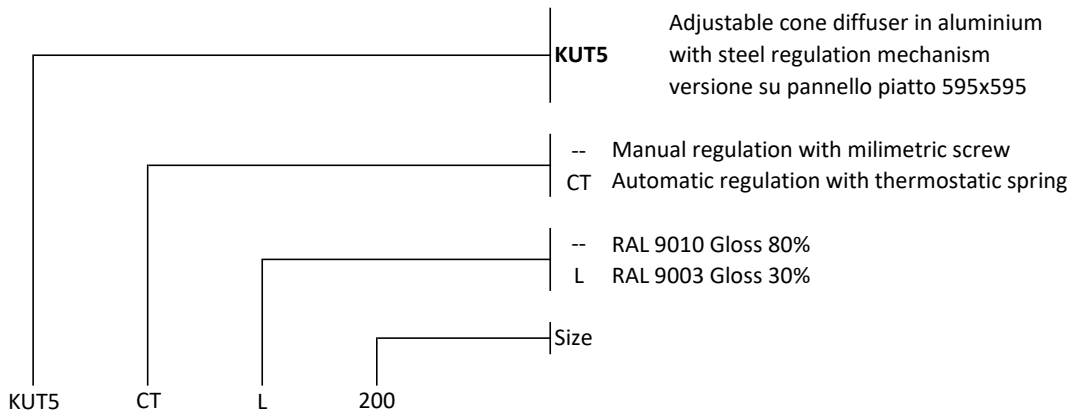
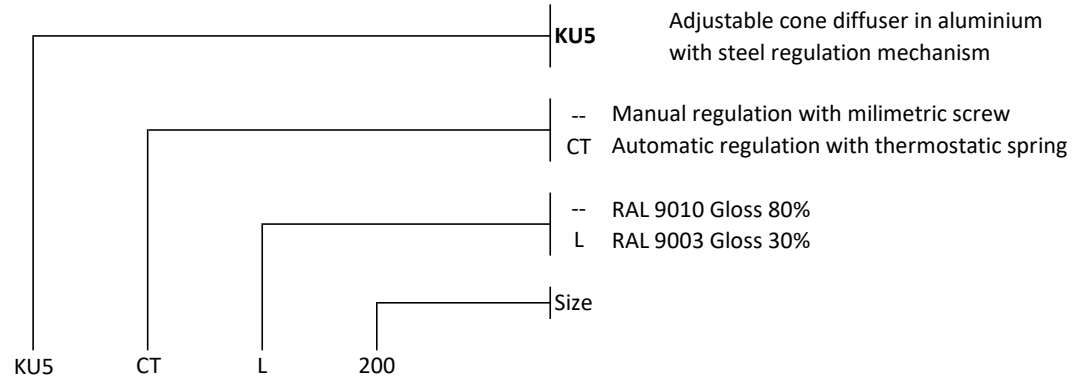




ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU5 SERIES

HOW TO ORDER

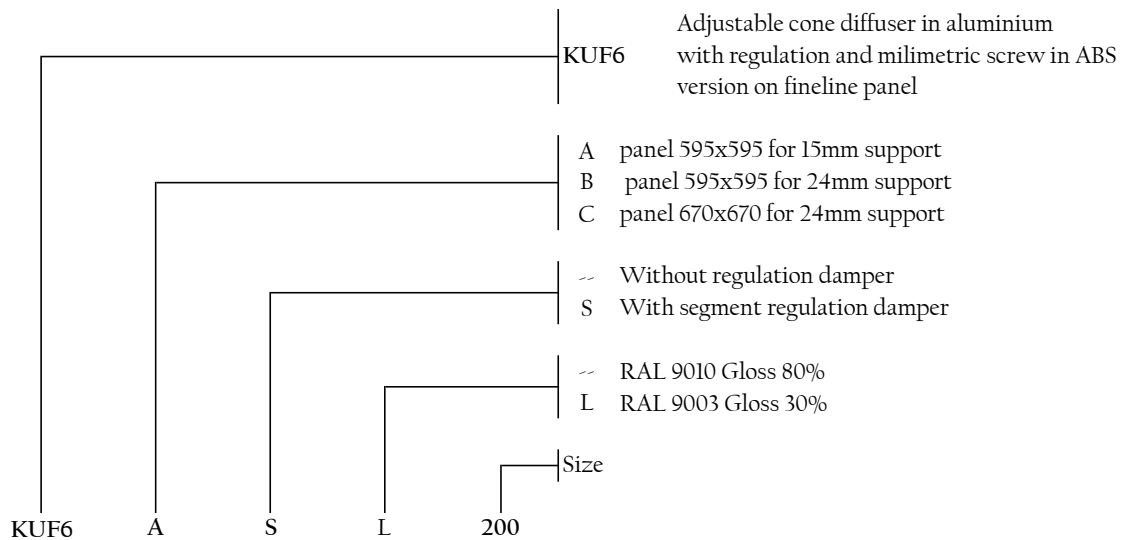
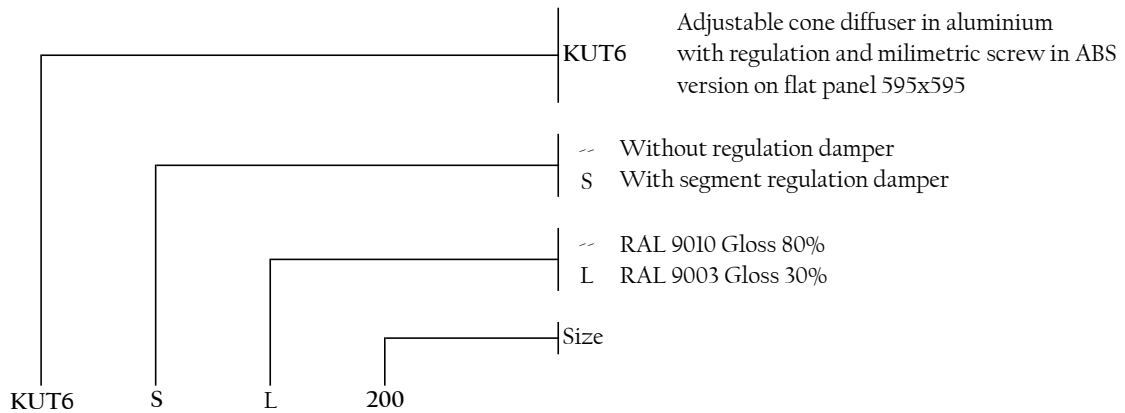
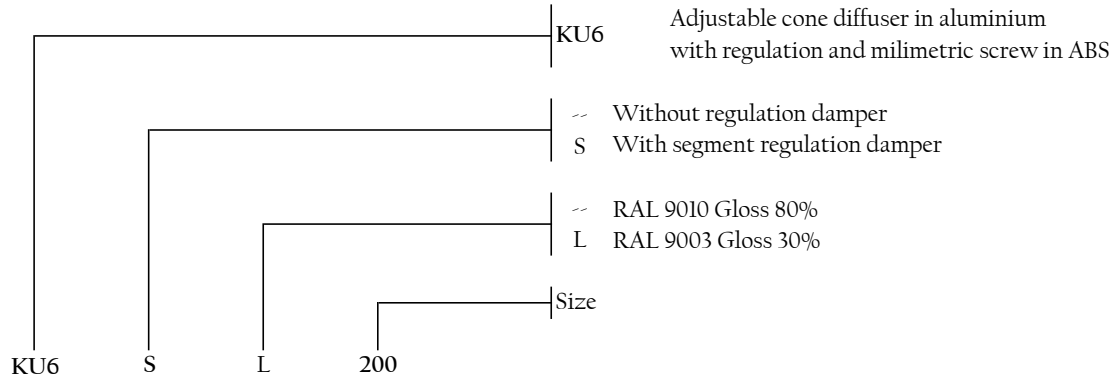




ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU6 SERIES

HOW TO ORDER

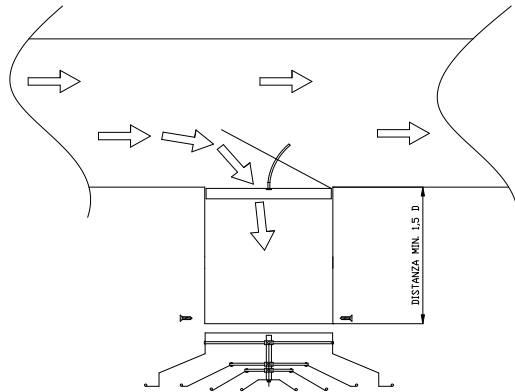




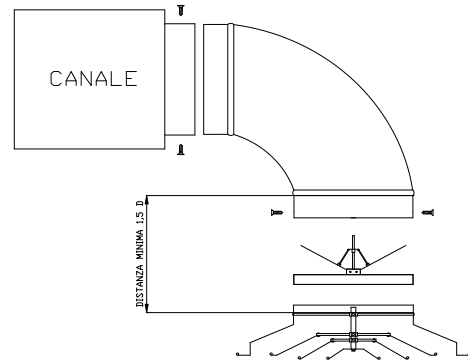
ADJUSTABLE CONES CIRCULAR DIFFUSERS

INSTALLATION EXAMPLES

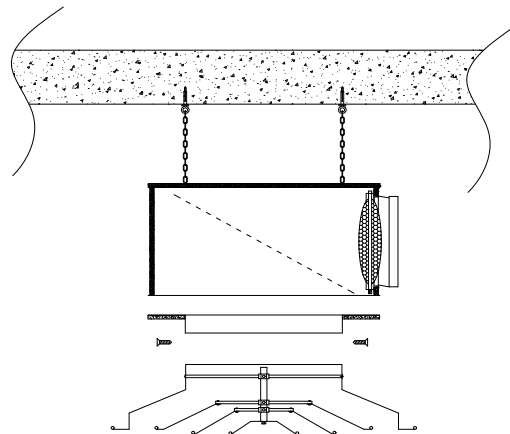
KU5
KU6
SERIES



FITTING TO DUCT



FITTING WITH FLEXIBLE DUCT



FITTING WITH PLENUM



ADJUSTABLE CONES CIRCULAR DIFFUSERS

KU5
KU6
SERIES

ACCESSORIES



KU5KD Set of 3 clips for fitting to ceilings of KU5 and KU6 diffusers
available for diameters 150 to 355
specify diameter at order stage



KUDC Connection collar with brackets
available for diameters 160 to 315 included
specify diameter at order stage



KUSF Connection collar with brackets
with regulation damper included
available for diameters 160 to 315 included
specify diameter at order stage



SF Butterfly damper for KU5 and KU6 diffusers
available for all diameters
specify diameter at order stage



SB Collection damper for KU5 and KU6 diffusers
available for diameters 100 to 500 included
specify diameter at order stage



PLENUM FOR CIRCULAR DIFFUSER

PP 60
SERIES

OVERVIEW

PLENUM :

The PP60 plenums, also named "calm cases", allow the correct entry of air in the neck of the diffuser thus ensuring that the throw of air in the room is homogenous along all the circumference of the diffuser.

Materials :

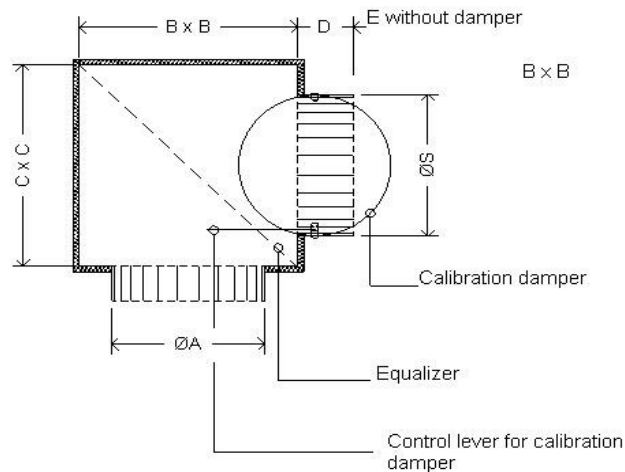
PP 60 standard plenum : galvanized steel sheet.
Insulation: expanded polyethylene certified for the reaction to fire according to european class B-s2 d0.

Versions :

Made from insulated steel sheet with expanded polyethylene, ideal for the supply of air, and in simple sheet steel normally used for air extraction.

Accessories:

Regulation damper and equalizing net in the connection of the plenum.



nominal deck diameter mm	A mm	B mm	C mm	D mm	E mm	N° of connections	S [mm] mm	connection and damper material
100	102	200	200	65	65	1	96	steel
150	152	250	250	70	70	1	146	steel
160	162	250	250	90	60	1	156	ABS (*)
200	202	300	300	90	60	1	196	ABS (*)
250	252	350	350	90	60	1	246	ABS (*)
300	302	400	400	90	60	1	296	steel
315	317	400	400	90	60	1	311	steel
350	352	450	450	90	90	1	346	steel
355	357	450	450	90	90	1	346	steel
400	402	500	500	90	90	1	396	steel
450	453	550	550	100	100	1	446	steel
500	503	600	600	100	100	1	496	steel
630	633	730	730	100	100	1	600	steel

(*) steel on request



PLENUM FOR CIRCULAR DIFFUSER

PP 60 SERIES

HOW TO ORDER

