HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

OVERVIEW

KP SERIES

KP: Series of circular ceiling diffusers with fixed deflectors for a helicoidal/centrifugal motion of the air flow suitable for any mixing ventilation system for installation heights between 2.6 and 5.1 metres.

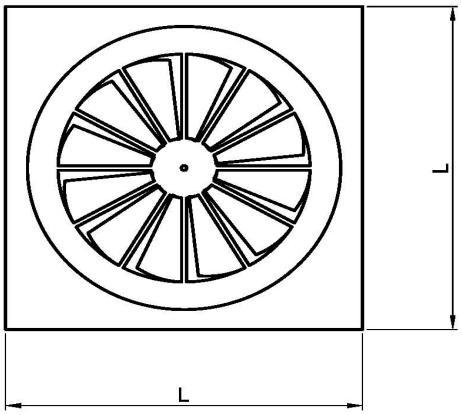
CHARACTERISTICS:
Diffuser made of carbon steel sheet with white RAL 9010 epoxy paint.

The KP series diffusers are normally fixed to the plenum by means of a central screw. They can also be fixed by means of side screws in the nek.
For this purpose they have a countersunk central hole and are supplied with a screw cover to be used in case of installation with central screw and a closing cap to be used in case of fixing with lateral screws.

VERSIONS
KP with squared panel;
KP6 with squared panel 596x596;
KPD with squared panel 623x623
KPR circular

FIELD OF USE
KP diffusers are suitable installation with or without conterceiling and with a height of installation between 2.6 and 5.1meters such as halls, supermarkets, shopping centres, stations or airports.
They are suitable for both supply and extract air.

UNSUITABLE ENVIRONMENTS
Painted carbon steel products are not suitable for installation in high humidity environments and in environments with potentially explosive atmospheres or containing dust or vapours of corrosive substances.

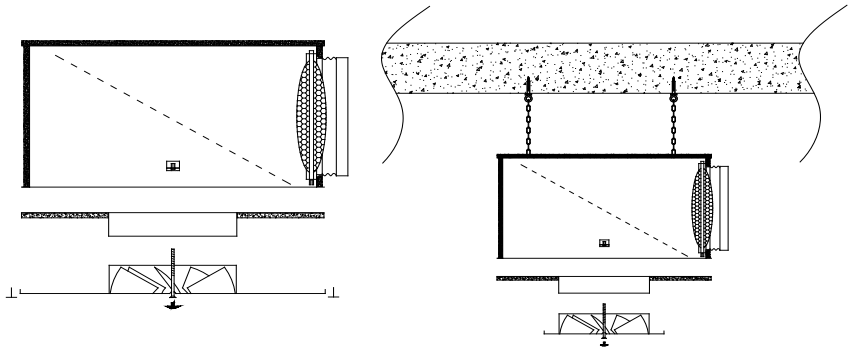


SIZE	A	B	C	D	KP L	KP6 L	KPD L	KPR E	Ak m²
125	122	27	55	82	225	596	623	225	0,0091
160	157	27	55	82	250	596	623	250	0,0146
200	197	27	55	82	300	596	623	300	0,0225
250	247	30	55	85	350	596	623	350	0,0345
315	312	30	55	85	415	596	623	415	0,0537
355	353	38	65	103		596	623	455	0,0676
400	398	38	65	103		596	623	520	0,0850

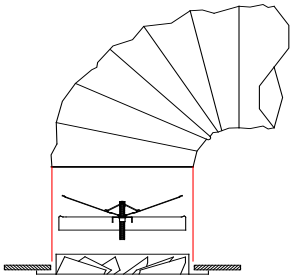
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

INSTALLATION

KP
SERIES

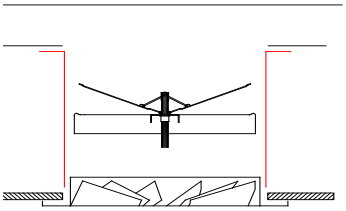


Installation with plenum



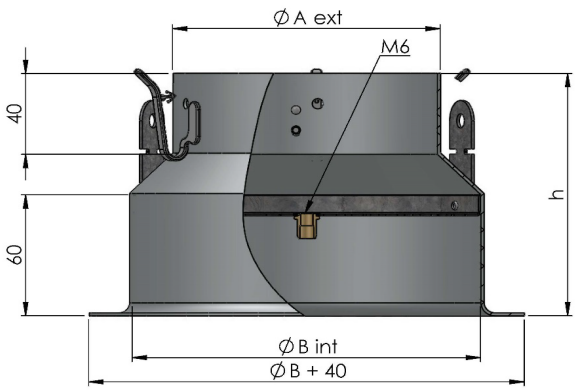
Installation with coupling and flexible duct

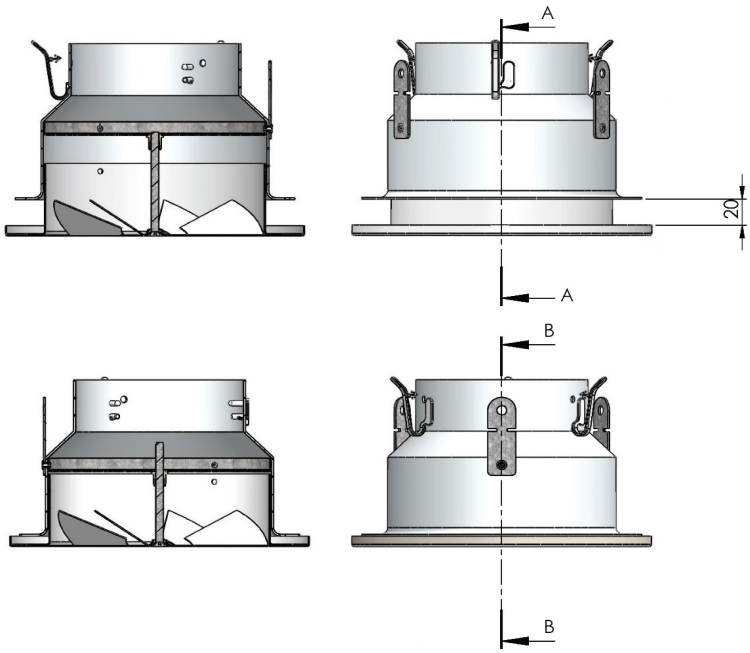
Installation with coupling butterfly damper and flexible duct



Installation with branch and steel duct

Connector PPKPY





PPKPY	125	160	200	200/180	250	315	355	400
ØA	98	123	158	178	198	248	278	315
ØB	125	160	200	200	250	315	355	400
h	115	120	112,5	122,5	127,5	135	140	155

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

QUICK SELECTION

KP SERIES

Model A_k [m²]			Air flow rate																		
		m³/h	50	75	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700	750
		l/s	(14)	(21)	(28)	(35)	(42)	(49)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(181)	(194)	(208)
	L_{WA}	[dB(A)]	<20	28	37															
KP 125	V_k	[m/s]	1,5	2,3	3,1															
(0,009)	Δp_t	[Pa]	14	31	54															
	L 0,2	[m]	1,9	2,2	2,5															
	L_{WA}	[dB(A)]		<20	29	36	42	47												
KP 160	V_k	[m/s]		1,4	1,9	2,4	2,9	3,4												
(0,015)	Δp_t	[Pa]		9	15	24	34	47												
	L 0,2	[m]		2	2,2	2,4	2,6	2,8												
	L_{WA}	[dB(A)]			<20	<20	25	29	33	39	45	49								
KP 200	V_k	[m/s]			1,2	1,6	1,9	2,2	2,5	3,1	3,7	4,3								
(0,022)	Δp_t	[Pa]			6	9	13	17	23	34	50	68								
	L 0,2	[m]			2	2,2	2,3	2,5	2,6	2,9	3,1	3,3								
	L_{WA}	[dB(A)]					<20	<20	21	27	33	37	41	44	48	50				
KP 250	V_k	[m/s]					1,2	1,4	1,6	2	2,4	2,8	3,2	3,6	4	4,4				
(0,034)	Δp_t	[Pa]					5	7	9	14	20	27	36	45	56	68				
	L 0,2	[m]					2,3	2,4	2,5	2,8	3	3,2	3,4	3,6	3,7	3,9				
	L_{WA}	[dB(A)]								<20	<20	22	27	31	35	38	41	44	46	49
KP 315	V_k	[m/s]								1,3	1,5	1,8	2,1	2,3	2,6	2,8	3,1	3,4	3,6	3,9
(0,054)	Δp_t	[Pa]								5	7	10	13	17	21	25	30	35	40	46
	L 0,2	[m]								2,4	2,6	2,8	2,9	3,1	3,2	3,3	3,5	3,6	3,7	3,8
	L_{WA}	[dB(A)]									<20	20	25	30	34	37	41	44	46	49
KP 355	V_k	[m/s]									1,2	1,4	1,6	1,9	2,1	2,3	2,5	2,7	2,9	3,1
(0,068)	Δp_t	[Pa]									7	10	13	17	21	25	30	35	40	46
	L 0,2	[m]									2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,7	2,8
	L_{WA}	[dB(A)]									<20	<20	21	26	30	34	37	41	43	46
KP 400	V_k	[m/s]									1	1,1	1,3	1,5	1,6	1,8	2	2,1	2,3	2,4
(0,085)	Δp_t	[Pa]									5	7	9	11	13	16	19	23	26	30
	L 0,2	[m]									1,9	2	2,1	2,2	2,3	2,4	2,5	2,5	2,6	2,7

10 ≤ LwA < 30 **30 ≤ LwA < 40** **40 ≤ LwA < 50**

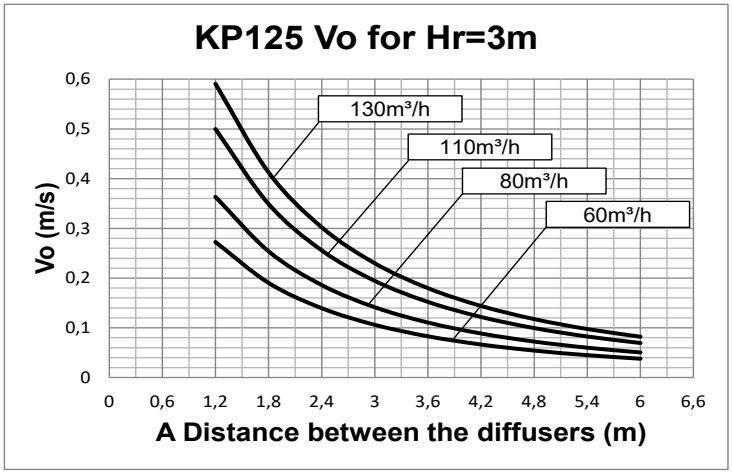
Data valid for:
- Supply air
- Isotherm conditions
- Throw with ceiling effect

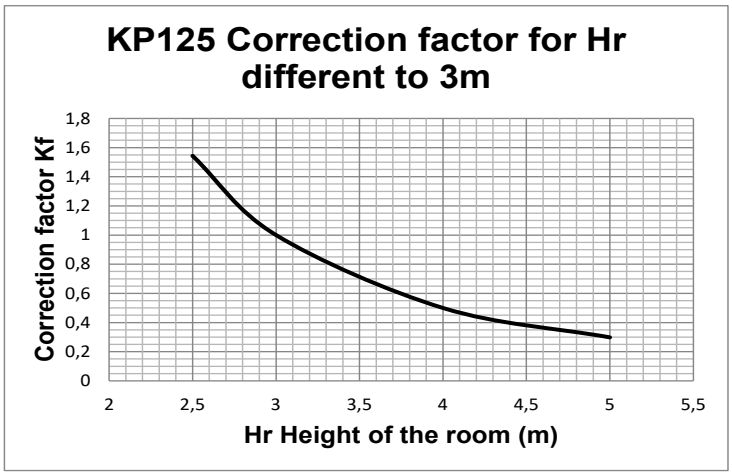
Terminology:
- A_k = effective free area
- V_k = effective face velocity
- Δpt = total pressure loss
- L_{WA} = sound power level
- $L_{0,2}$ = throw to terminal velocity at 0,2 m/s

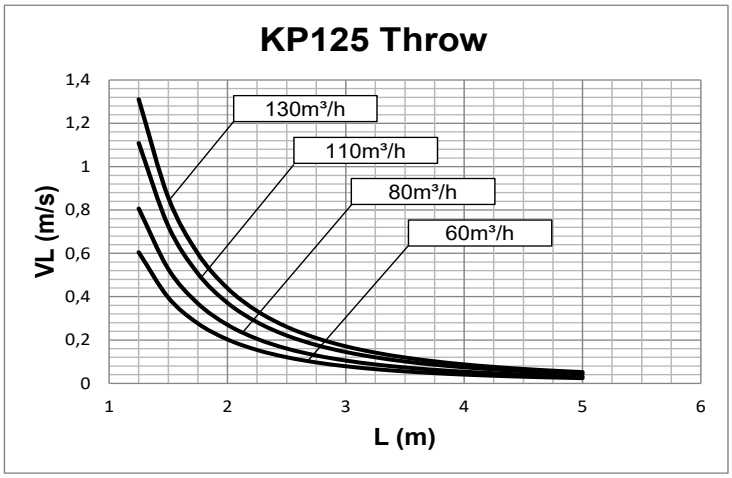
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

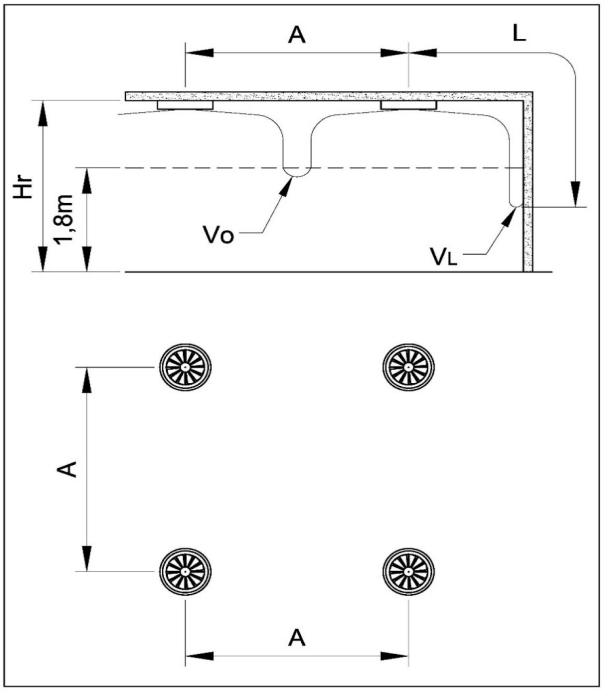
PERFORMANCE KP 125

KP
SERIES









Data measured 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.*

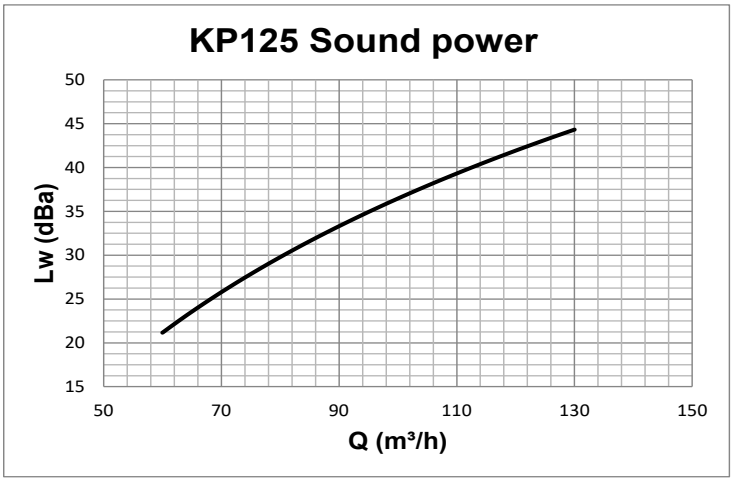
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 3m:
Vo (h) = Vo x Kf

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 125

KP
SERIES



Data measured in reverberation room in accordance with international standards:
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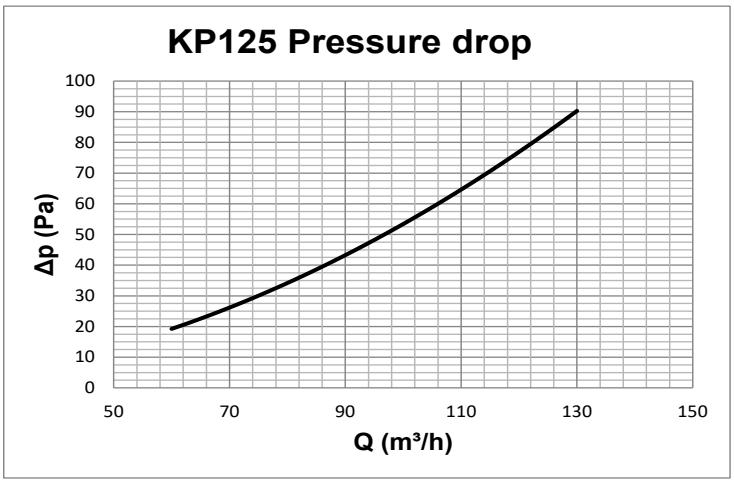

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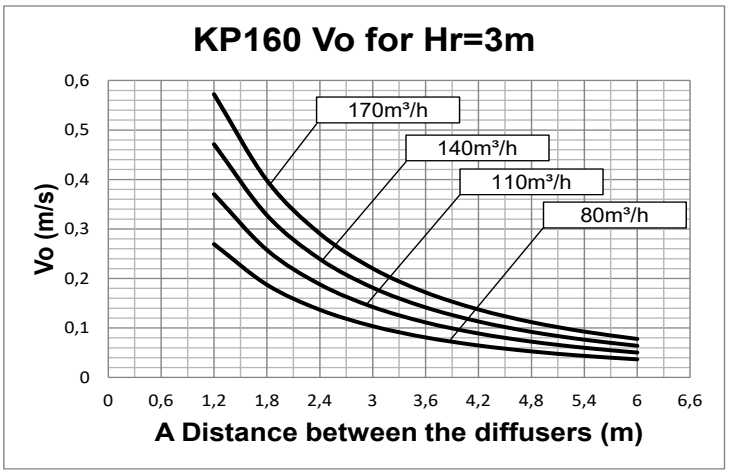
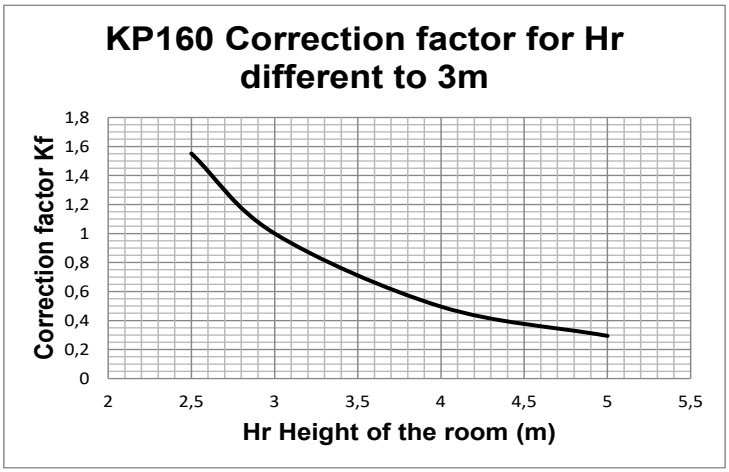
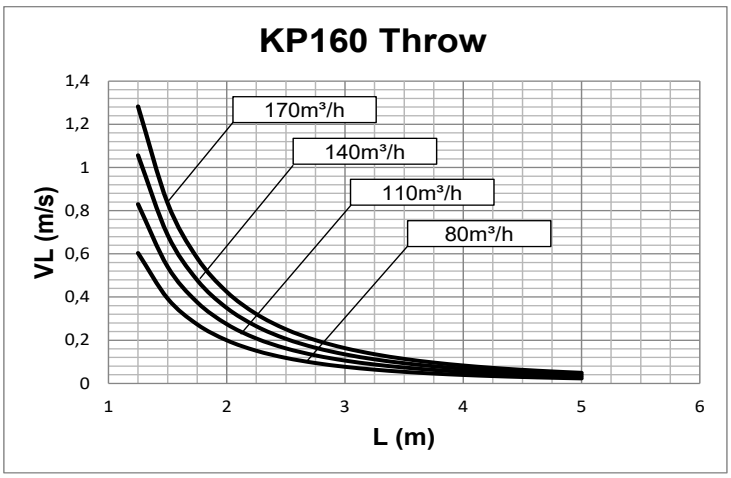
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

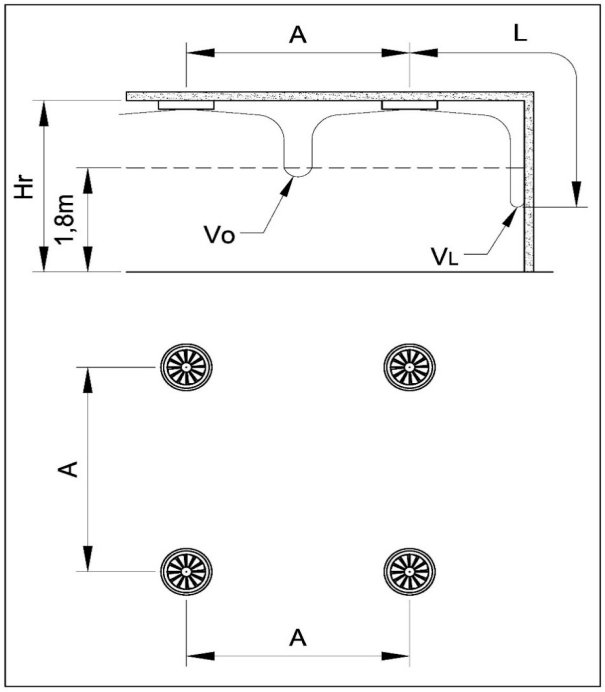
PERFORMANCE KP 160

KP
SERIES









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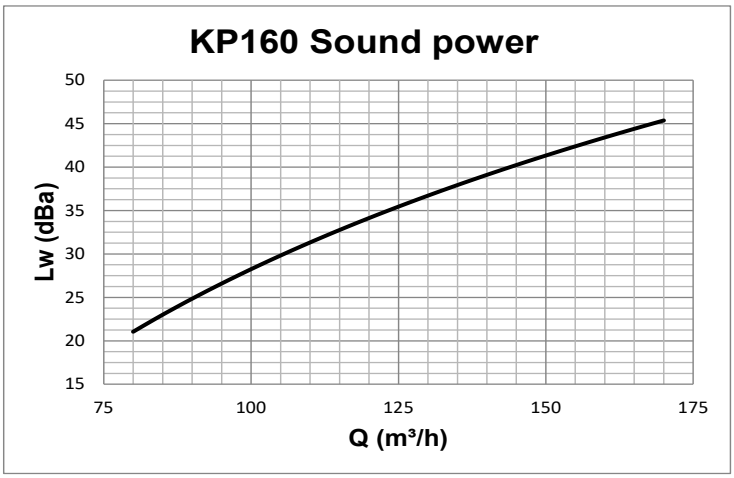
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 160

KP
SERIES



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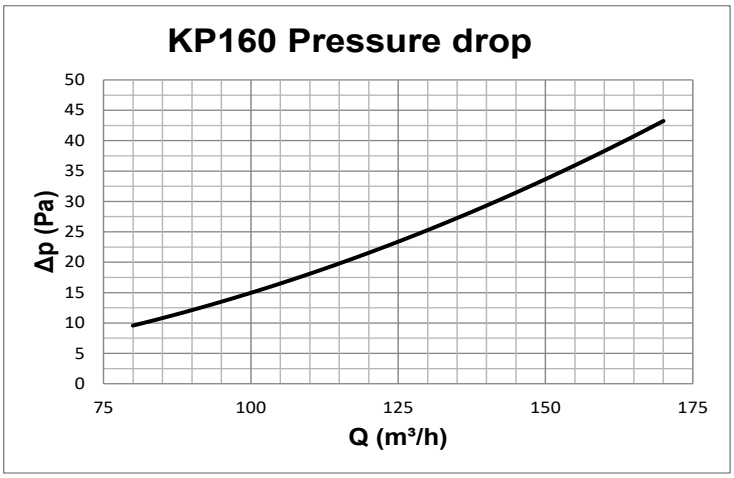

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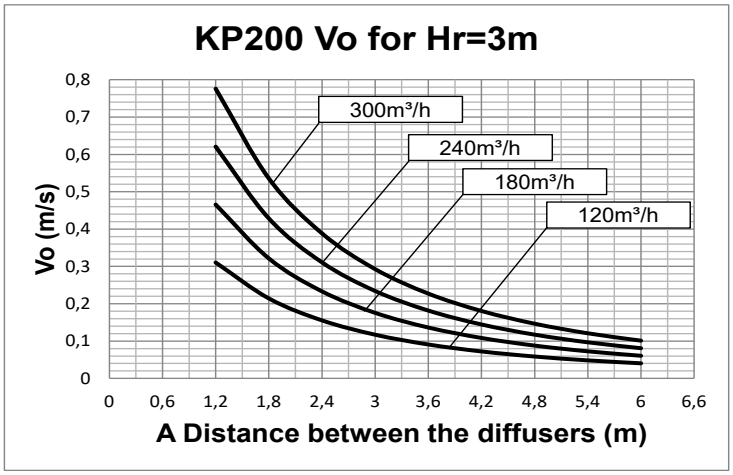
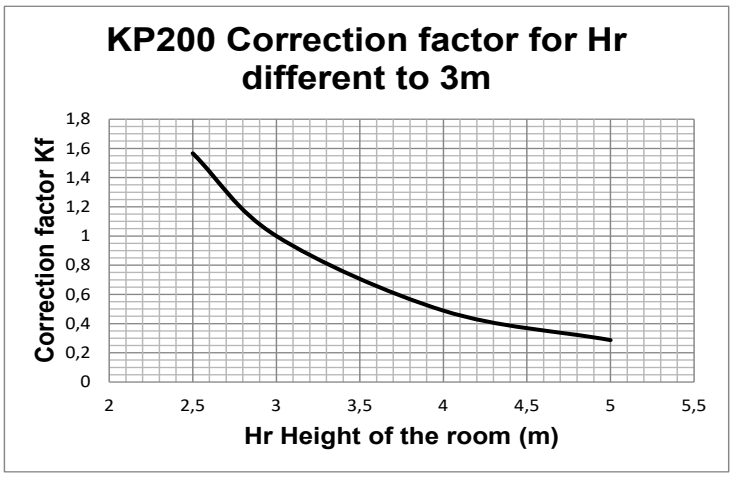
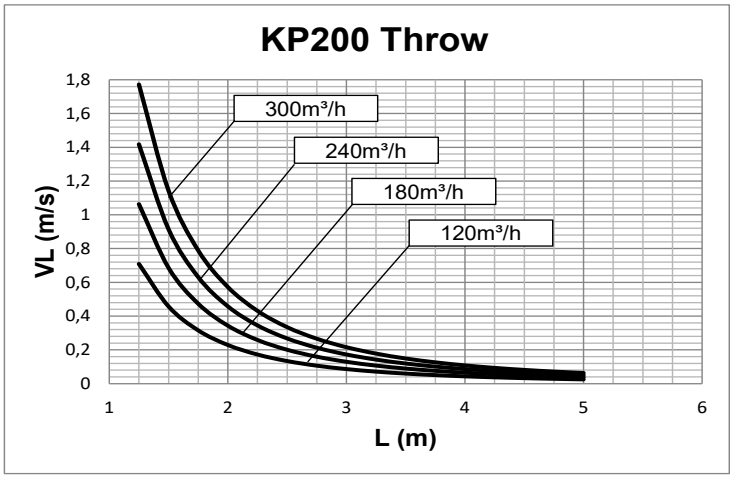
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

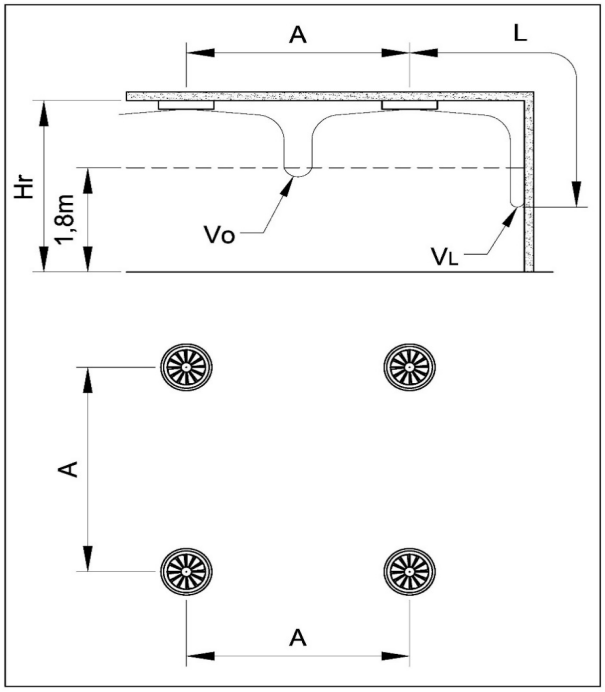
PERFORMANCE KP 200

KP
SERIES









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L (m) horizontal distance in metres from the centre of the diffuser
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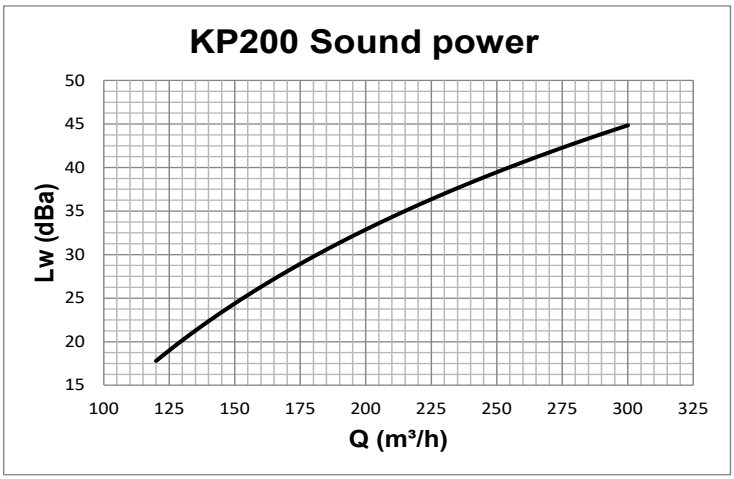
For Hr different from 3m:
Vo (h) = Vo x Kf

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 200

KP
SERIES



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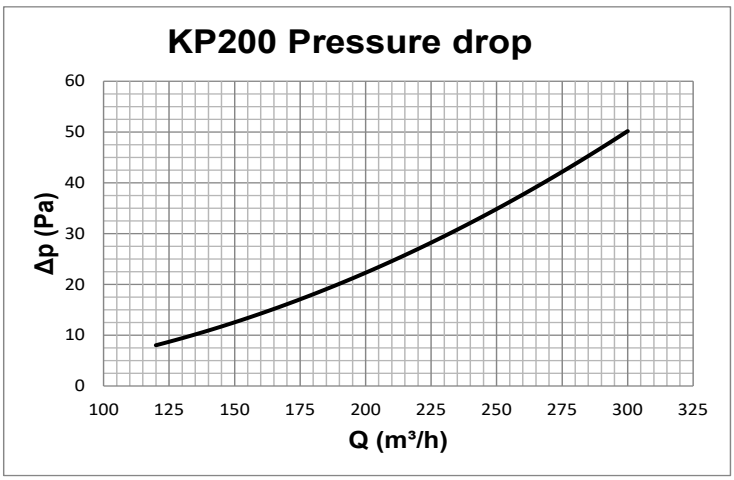

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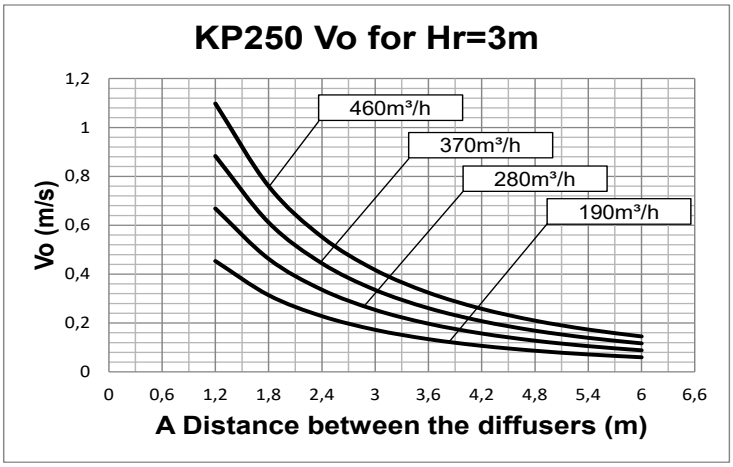
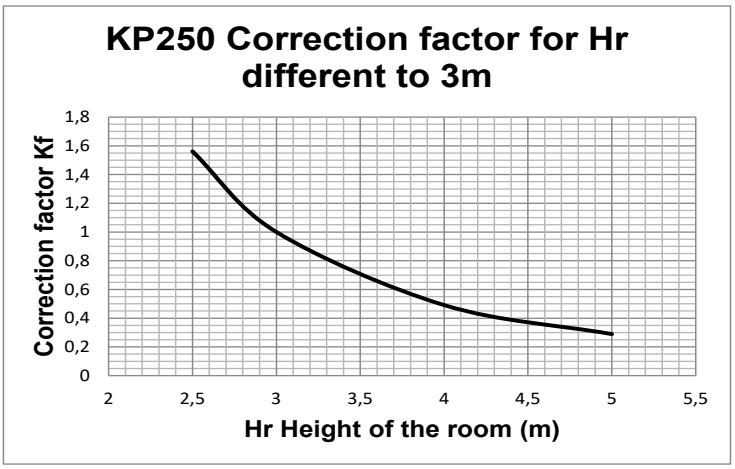
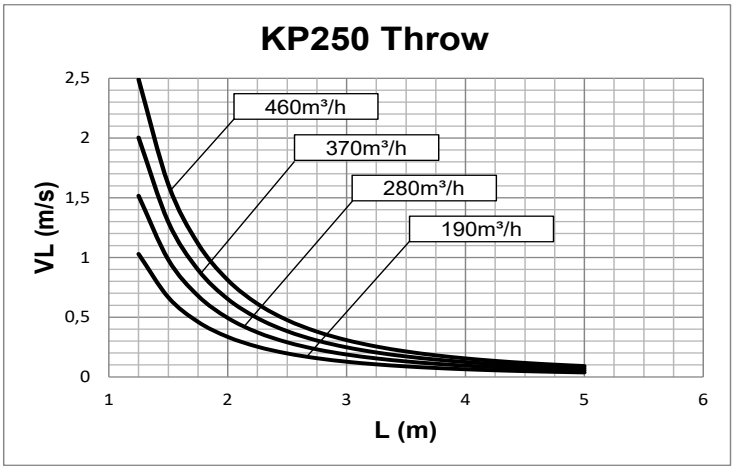
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

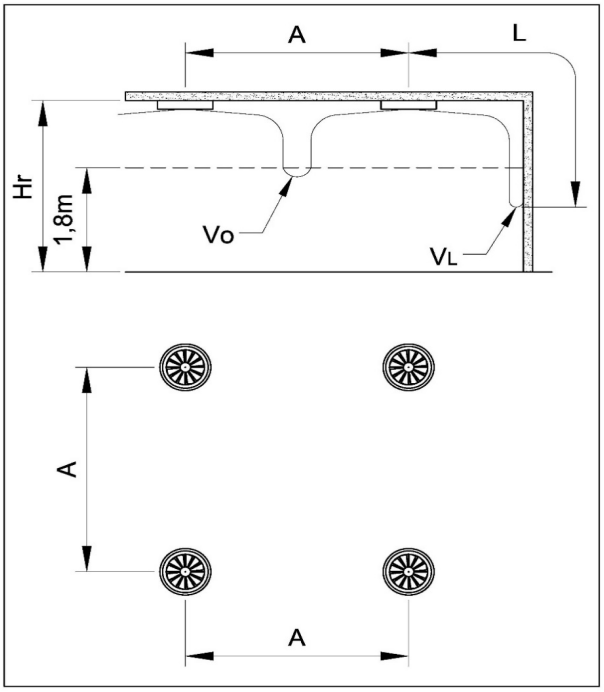
PERFORMANCE KP 250

KP
SERIES









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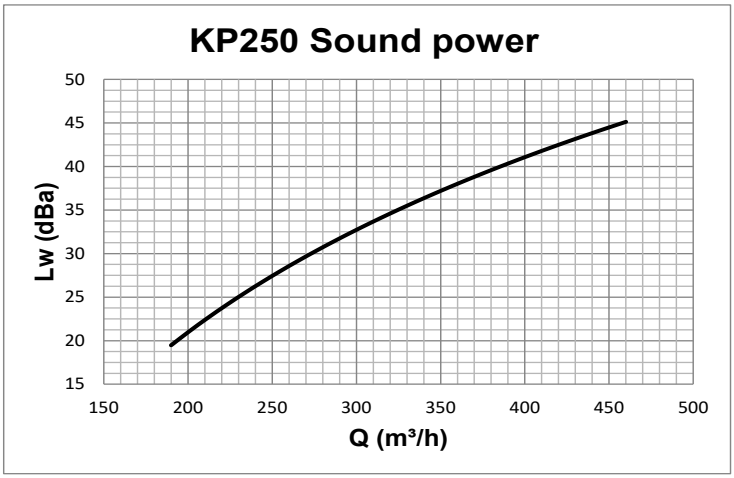
VL (m/s) maximum speed in the air stream

For Hr different from 3m:
Vo (h) = Vo x Kf

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 250

KP
SERIES



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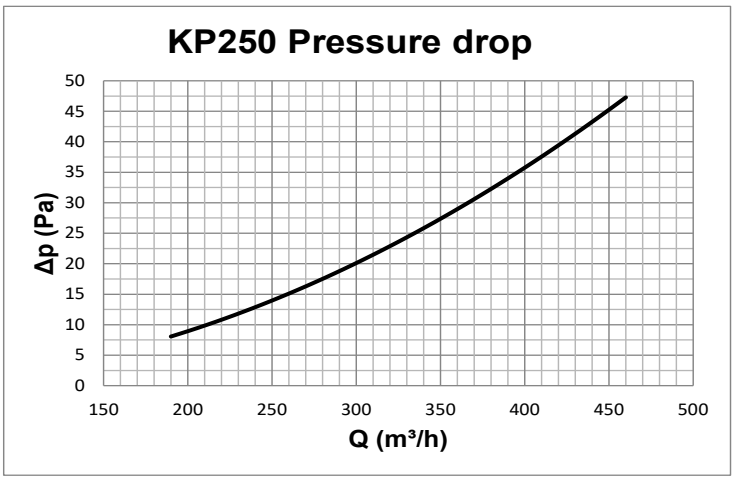

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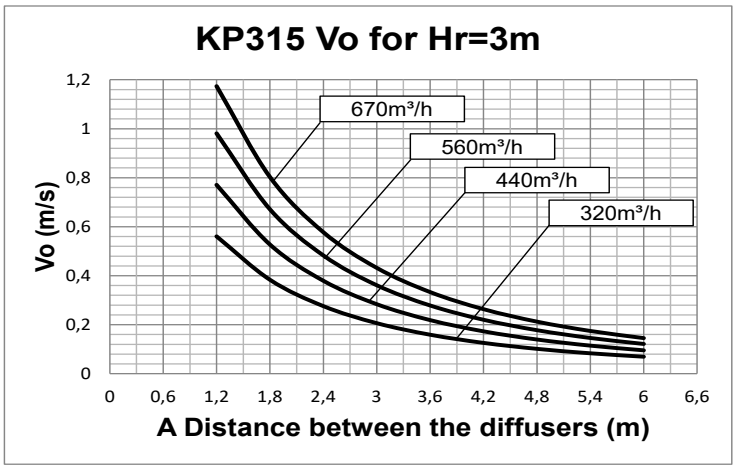
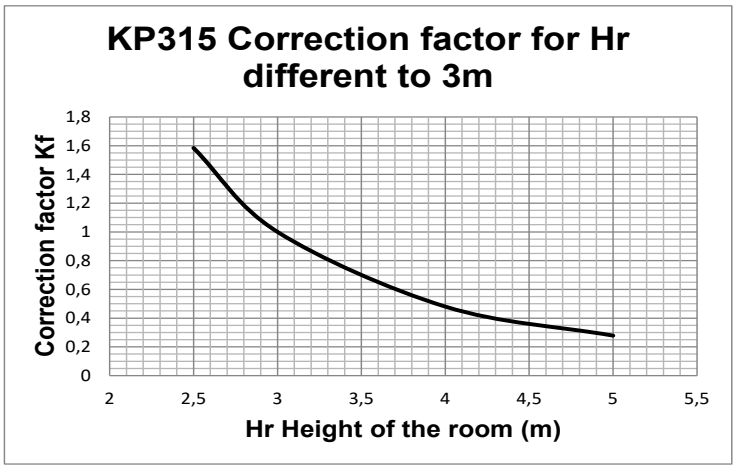
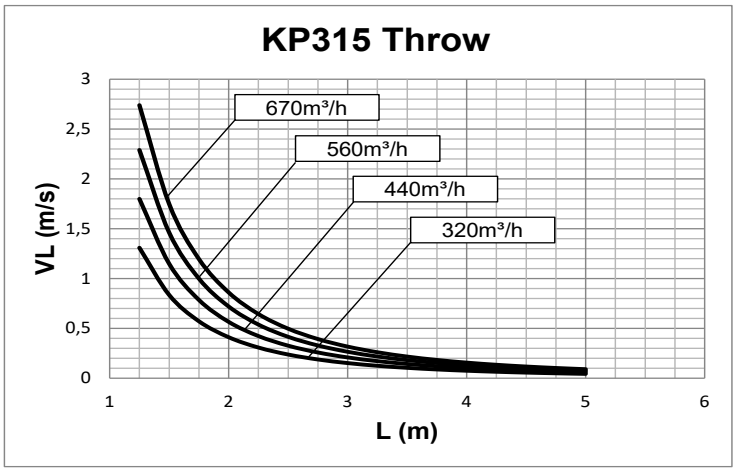
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

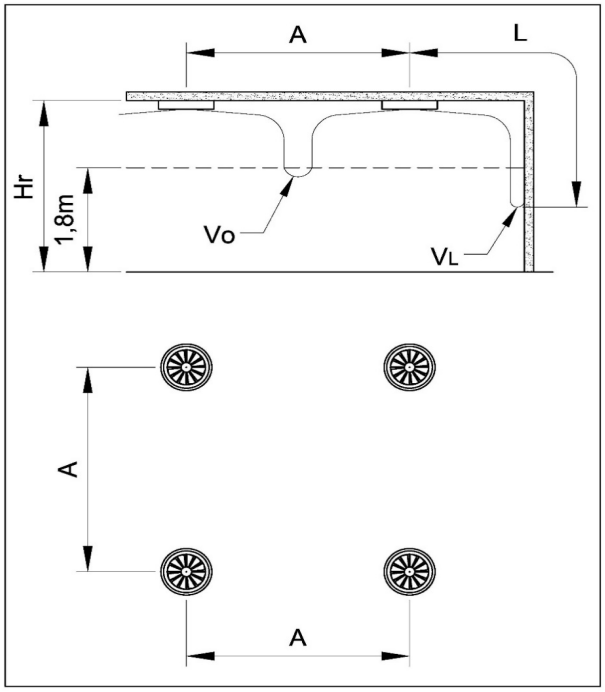
PERFORMANCE KP 315

KP
SERIES









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

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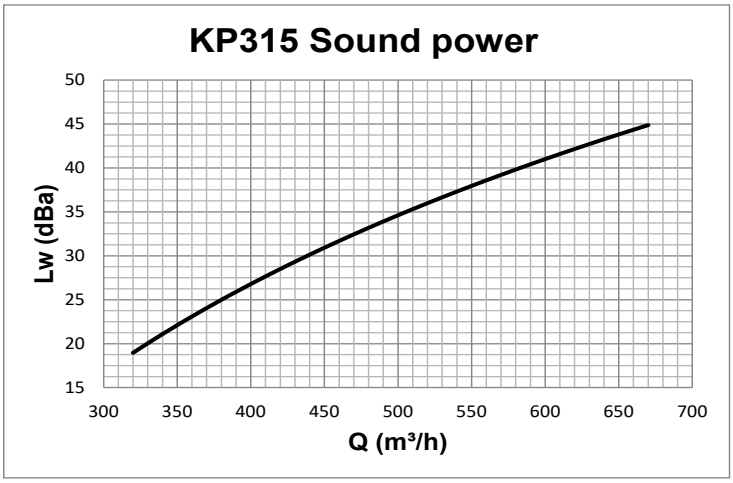
Vo (h) = Vo x Kf

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 315

KP
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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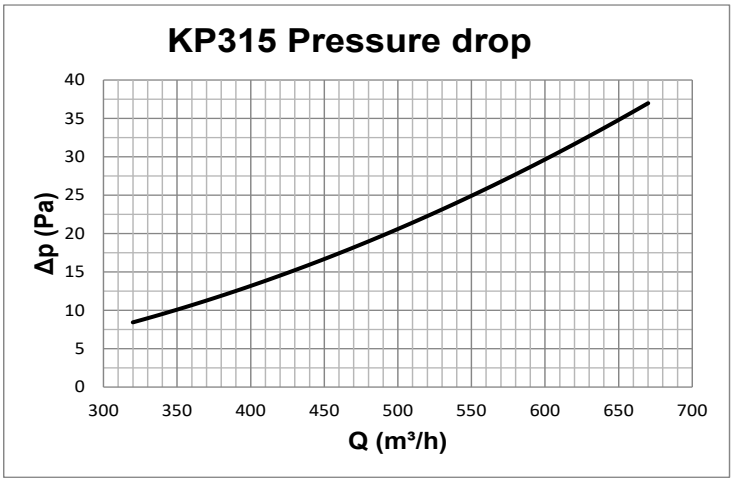
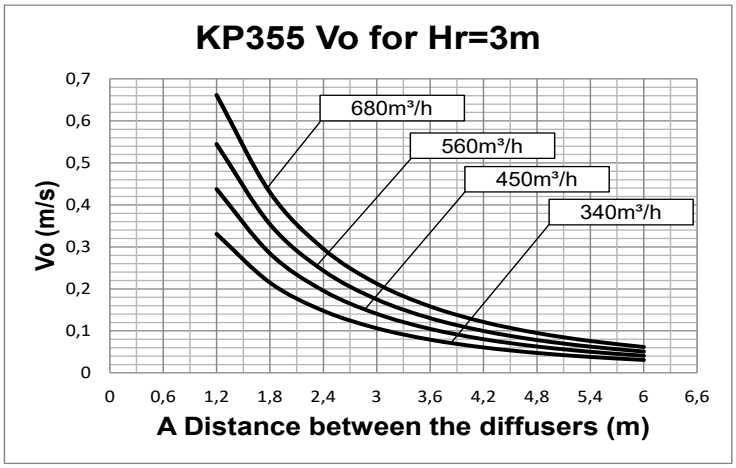


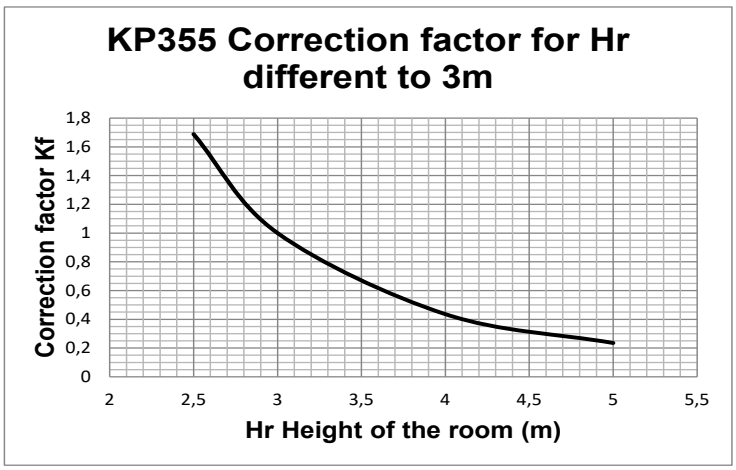
Data measured operating in accordance with the international standard:
ISO 5219 1984: *Air distribution and air diffusion - Laboratory. Aerodynamic testing and rating of air terminal devices.*

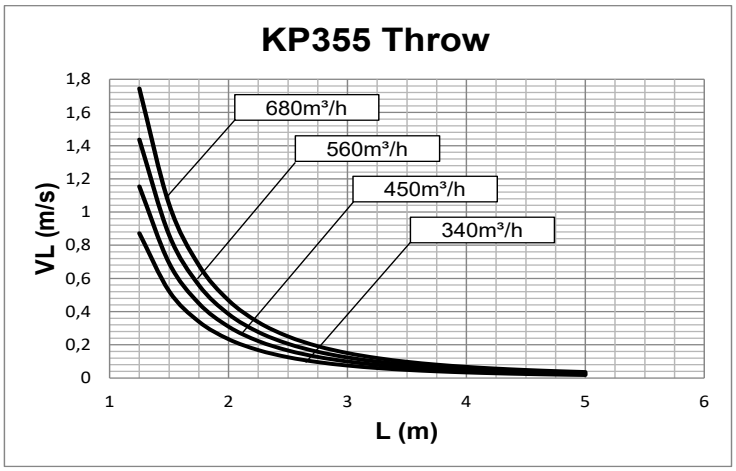
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

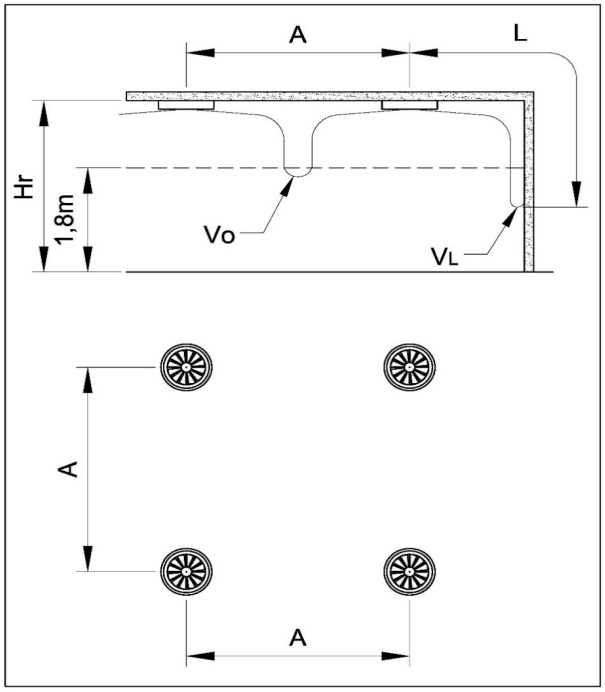
PERFORMANCE KP 355

KP
SERIES









Data measured 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.*

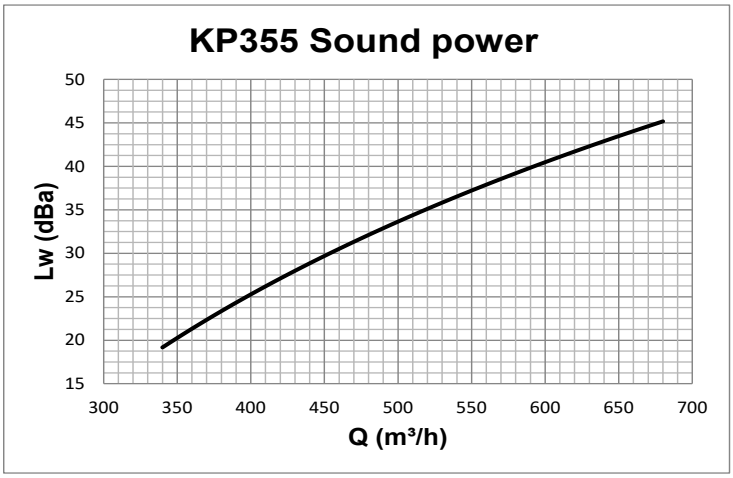
A (m) distance between the diffusers
Vo (m/s) speed at the limit of the occupied zone
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream

For Hr different from 3m:
Vo (h) = Vo x Kf

HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 355

KP
SERIES



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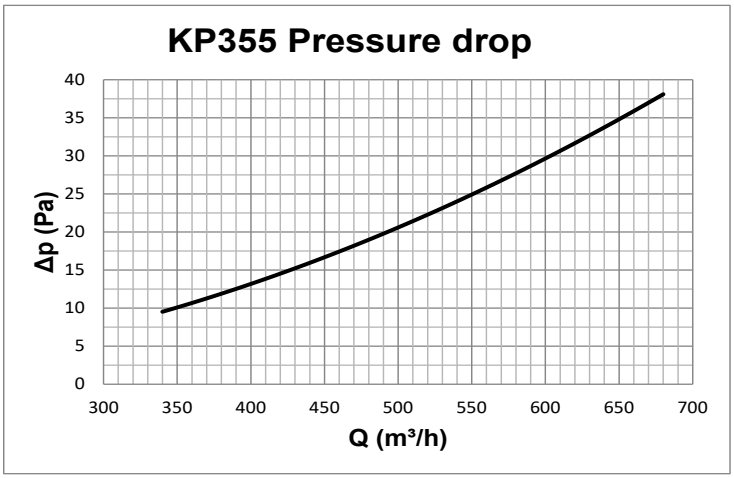

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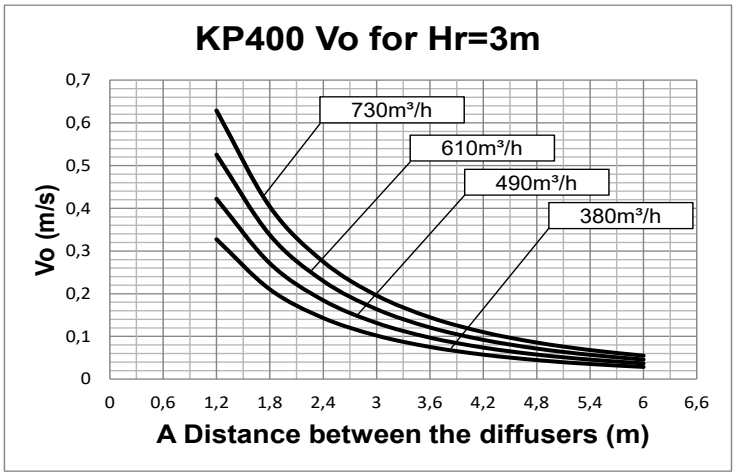
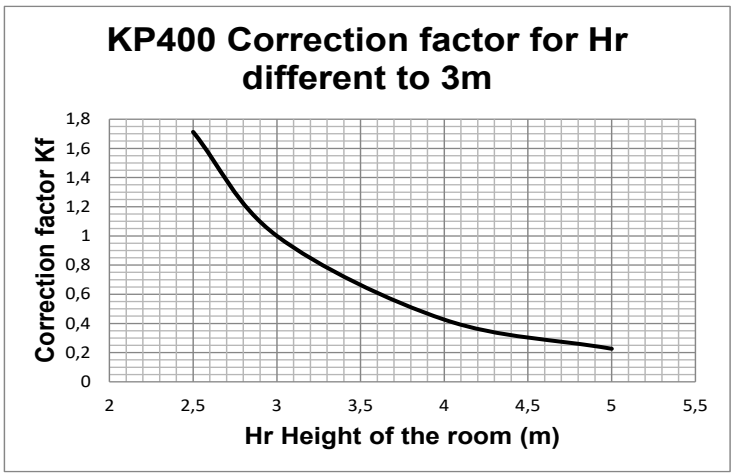
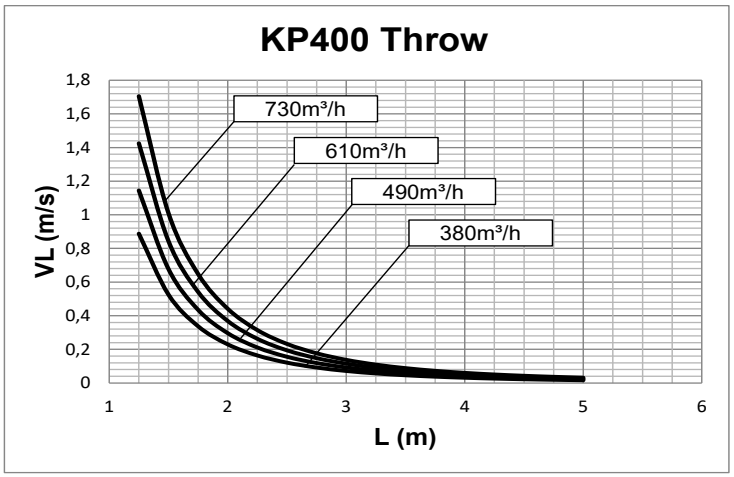
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

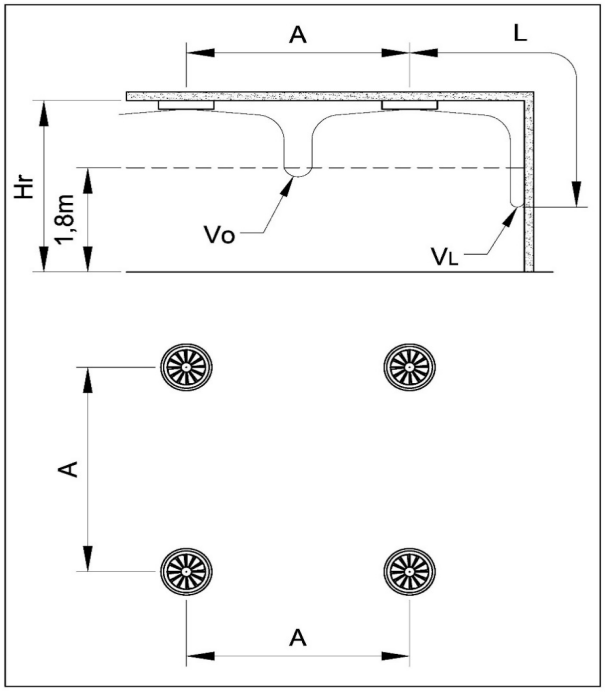
PERFORMANCE KP 400

KP
SERIES









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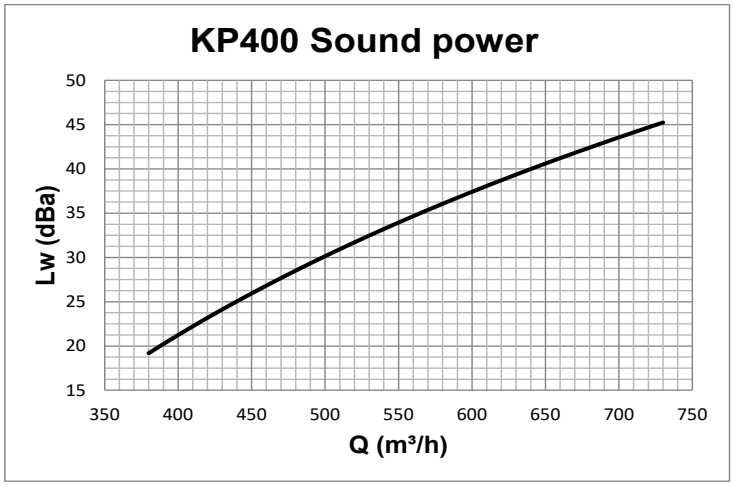
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

PERFORMANCE KP 400

KP
SERIES



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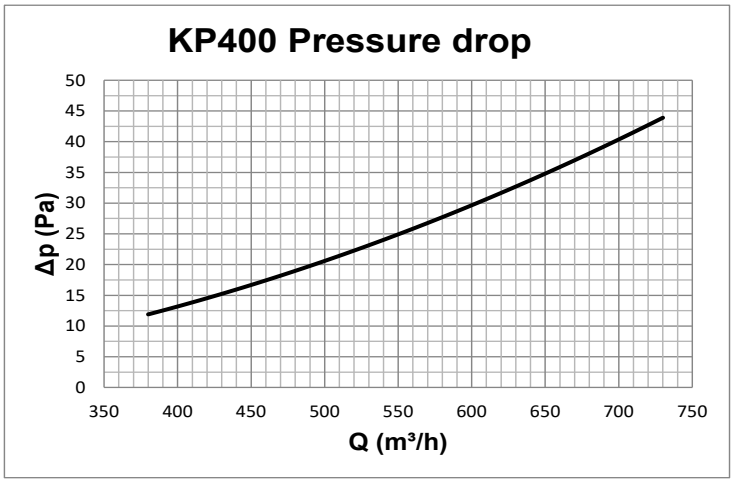

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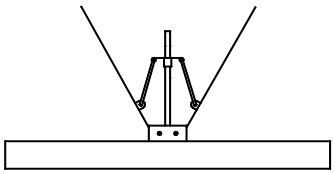
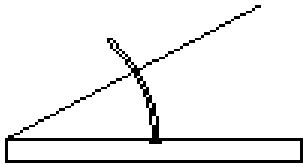
HIGH INDUCTION DIFFUSER WITH FIXED GEOMETRY ROUND NEK

ACCESSORIES
HOW TO ORDER

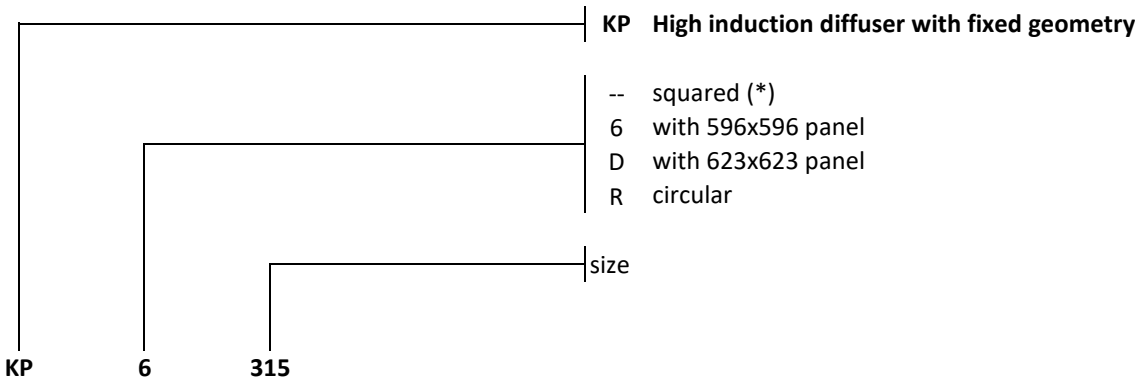
KP
SERIES



SF Butterfly damper
available for all diameters
specify diameter at order stage
Installation on the diffuser: specify the diameter of the diffuser
Installation on the connector PPKPY: specify the size ØA of the connector



SB Collection damper forKU5/6/9 diffusers
available for diameters 100 to 500 included
specify diameter at order stage



(*) Not avaiable for KP315 e KP400

PLENUM FOR CIRCULAR DIFFUSER

OVERVIEW

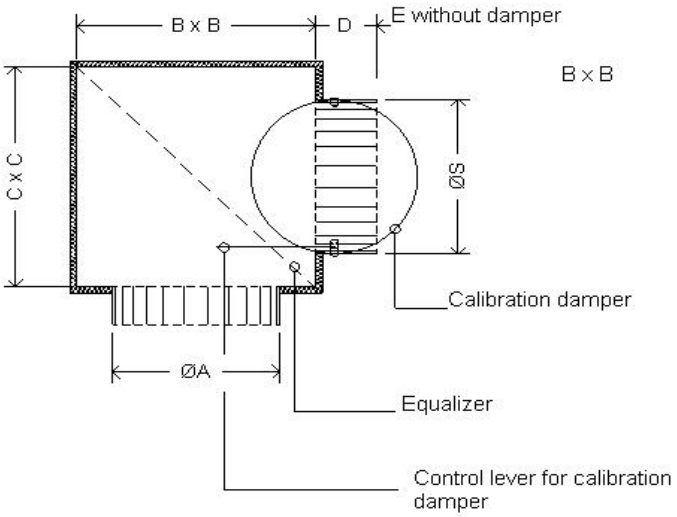
PP 60 SERIES

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
125	127	225	225	90	60	1	121	ABS (*)
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 (*)
315	317	400	400	90	60	1	311	steel
355	357	450	450	90	90	1	346	steel
400	402	500	500	90	90	1	396	steel

(*) steel on request

PLENUM FOR CIRCULAR DIFFUSER

HOW TO ORDER

PP 60
SERIES