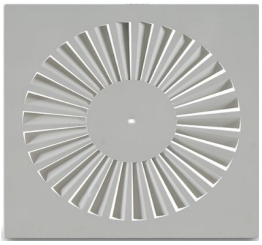


FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

KPQ
SERIES

OVERVIEW

KPQ: Series of diffusers consisting of a support panel on which a rose patter of fixed deflectors is stamped.
This geometry achieves a circular air flow with a large induction effect.
KPQ diffusers are ideal both for heating and cooling even with large temperature differences between the injected air and the air in the room.
This particular diffuser series is normally used in spaces with ceilings heights between 2,6 and 4 metres.

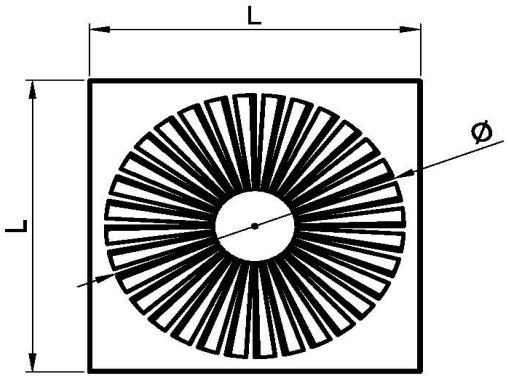
CHARACTERISTICS:
Diffuser made of carbon steel sheet with white RAL 9010 or RAL 9003 epoxy paint.
The KPQ series diffusers are normally fixed to the plenum by means of a central screw. They can also be fixed by means of side screws.

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.

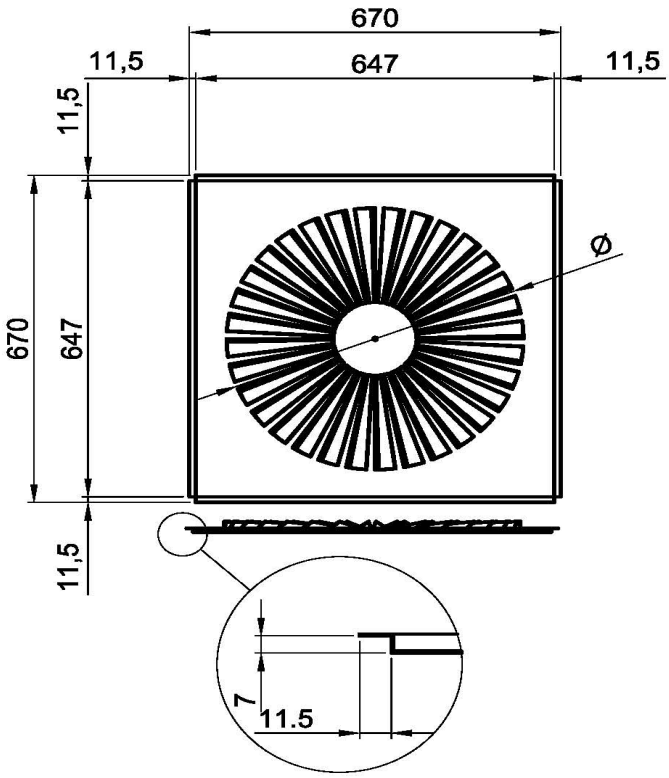
SQUARED VERSIONS			
CODE	L mm	Ø mm	Ak m²
KPQ300	296	236	0,010
KPQ400	396	336	0,016
KPQ500	496	436	0,033
KPQ600	596	536	0,049
KPQ625	621	536	0,049
KPQT300	596	236	0,010
KPQT400	596	336	0,016
KPQT500	596	436	0,033
KPQD300	621	236	0,010
KPQD400	621	336	0,016
KPQD500	621	436	0,033

FINELINE VERSIONS		
CODE	Ø mm	Ak m²
KPQFC300	236	0,010
KPQFC400	336	0,016
KPQFC500	436	0,033
KPQFC600	536	0,049

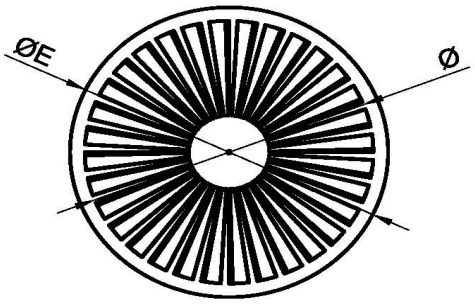
CIRCULAR VERSIONS			
CODE	ØE mm	Ø mm	Ak m²
KPQR300	296	236	0,010
KPQR400	396	336	0,016
KPQR500	496	436	0,033
KPQR600	596	536	0,049
KPQR625	621	536	0,049



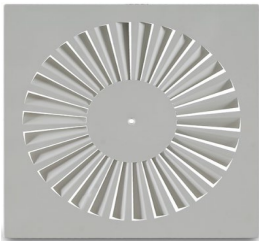
Squared panel version



Fineline panel version



Circular panel version



FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

QUICK SELECTION

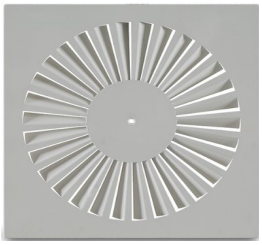
KPQ
SERIES

Model A_k [m²]			Air flow rate																	
		m³/h	75	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700	750	800
		l/s	(21)	(28)	(35)	(42)	(49)	(56)	(69)	(83)	(97)	(111)	(125)	(139)	(153)	(167)	(181)	(194)	(208)	(222)
KPQ 300 (0,01)	L_{WA}	[dB(A)]	<20	<20	25	30	35	39	45	50										
	V_k	[m/s]	2,1	2,8	3,5	4,2	4,9	5,6	6,9	8,3										
	Δp_t	[Pa]	2	3	5	8	10	13	20	30										
	L 0,2	[m]	1,1	1,5	1,9	2,3	2,8	3,2	4	4,9										
KPQ 400 (0,016)	L_{WA}	[dB(A)]		<20	<20	21	25	28	34	38	42	46	49							
	V_k	[m/s]		1,8	2,2	2,6	3,1	3,5	4,3	5,2	6,1	6,9	7,8							
	Δp_t	[Pa]		2	3	5	7	9	14	20	27	35	44							
	L 0,2	[m]		1,1	1,4	1,7	2,1	2,4	3	3,7	4,4	5,1	5,9							
KPQ 500 (0,033)	L_{WA}	[dB(A)]					<20	<20	22	27	31	34	38	40	43	45	47	49		
	V_k	[m/s]					1,5	1,7	2,1	2,5	2,9	3,4	3,8	4,2	4,6	5,1	5,5	5,9		
	Δp_t	[Pa]					3	4	7	10	13	17	22	27	33	39	46	53		
	L 0,2	[m]					1,4	1,6	2	2,5	3	3,5	4	4,5	5	5,6	6,1	6,6		
KPQ 600 (0,049)	L_{WA}	[dB(A)]							<20	<20	21	25	29	32	34	37	39	41	43	45
	V_k	[m/s]							1,4	1,7	2	2,3	2,6	2,8	3,1	3,4	3,7	4	4,2	4,5
	Δp_t	[Pa]							3	4	6	8	10	12	15	17	20	23	27	31
	L 0,2	[m]							1,3	1,6	1,9	2,2	2,6	2,9	3,3	3,6	4	4,3	4,7	5,1
KPQ 625 (0,049)	L_{WA}	[dB(A)]							<20	<20	21	25	29	32	34	37	39	41	43	45
	V_k	[m/s]							1,4	1,7	2	2,3	2,6	2,8	3,1	3,4	3,7	4	4,2	4,5
	Δp_t	[Pa]							3	4	6	8	10	12	15	17	20	23	27	31
	L 0,2	[m]							1,3	1,6	1,9	2,2	2,6	2,9	3,3	3,6	4	4,3	4,7	5,1

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

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

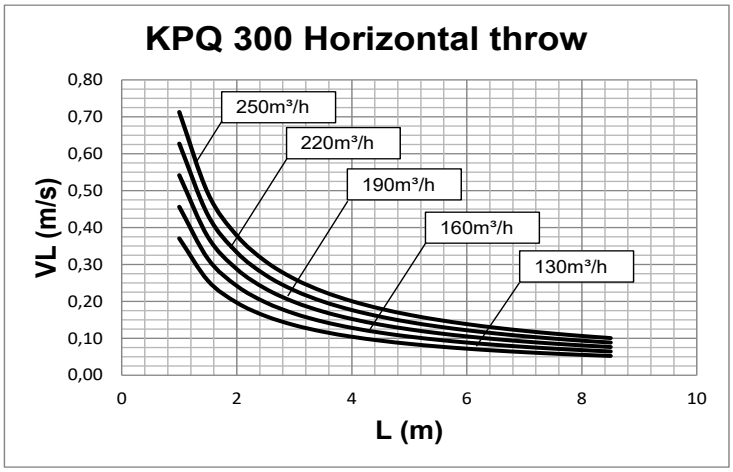
Terminology:
- A_k = effective free area
- V_k = effective face velocity
- Δpt = total pressure loss
- L_{WA} = sound power level
- $L_{0,2}$ = throw to terminal velocity at 0,2 m/s



FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

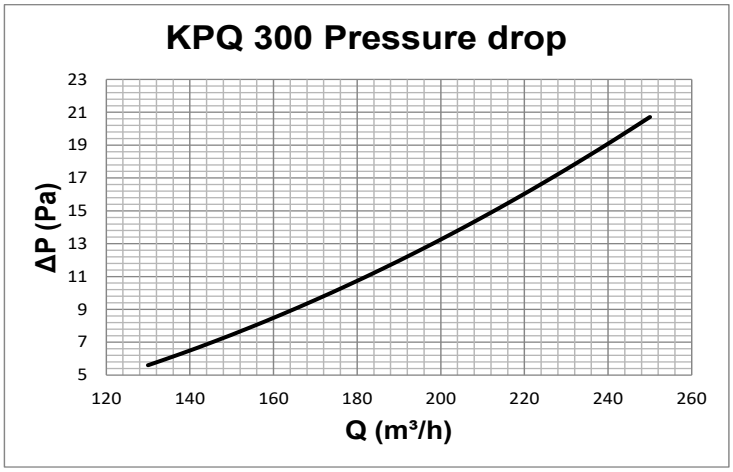
PERFORMANCE KPQ 300

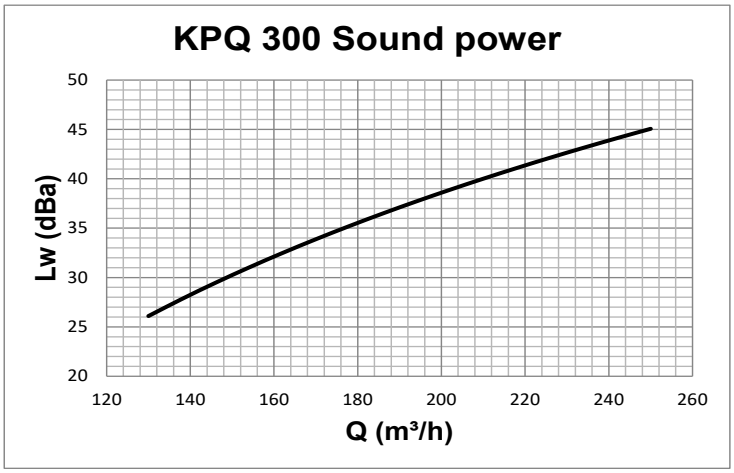
KPQ
SERIES



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.*

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

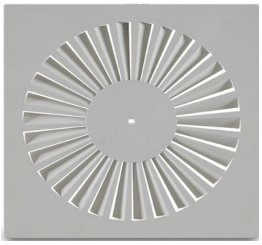




Data measured in reverberation room in accordance with international standards:
ISO 3741 1999: *Acoustic - determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms*

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.*

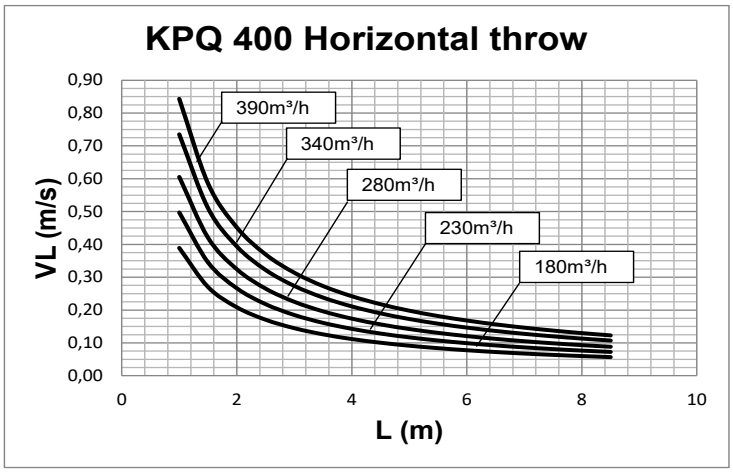
The data presented does not consider the attenuation given by the area of installation. This attenuation is normally between 6 and 10 dBA and is determined by the room size, the shape of the environment and the



FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

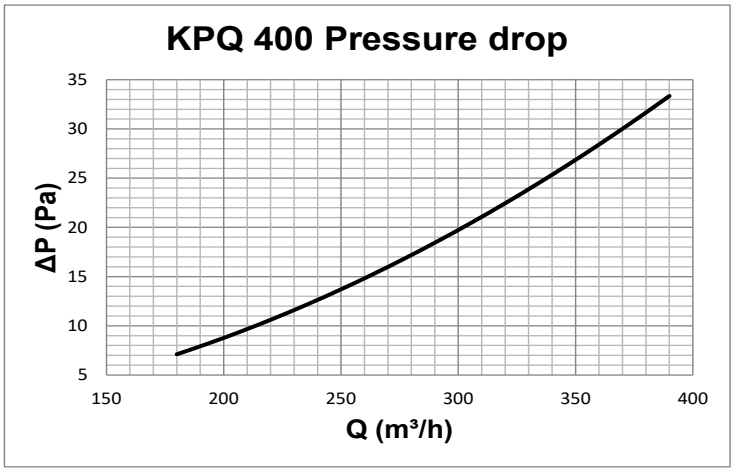
PERFORMANCE KPQ 400

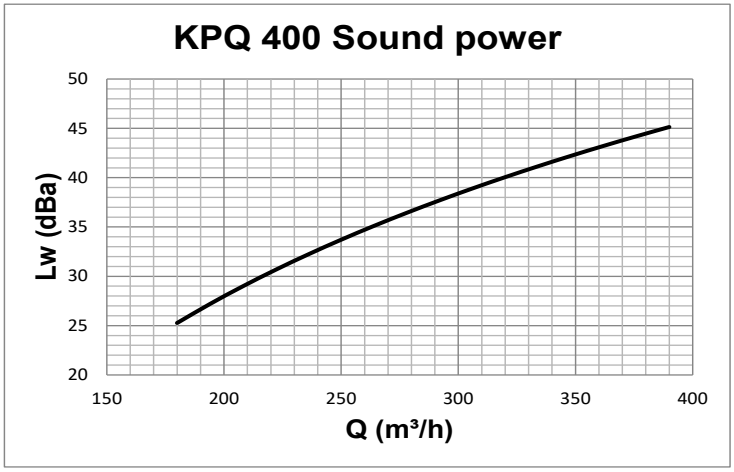
KPQ
SERIES



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.*

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





Data measured in reverberation room in accordance with international standards:
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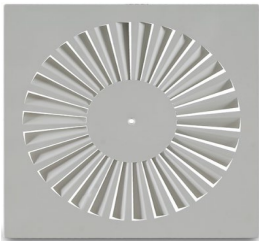
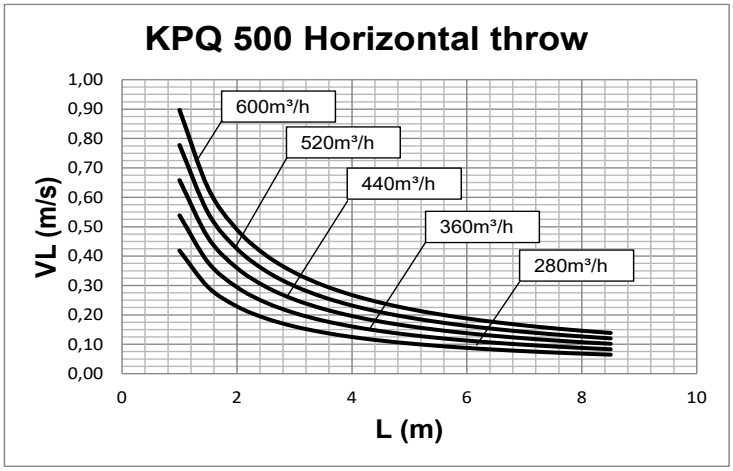


FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

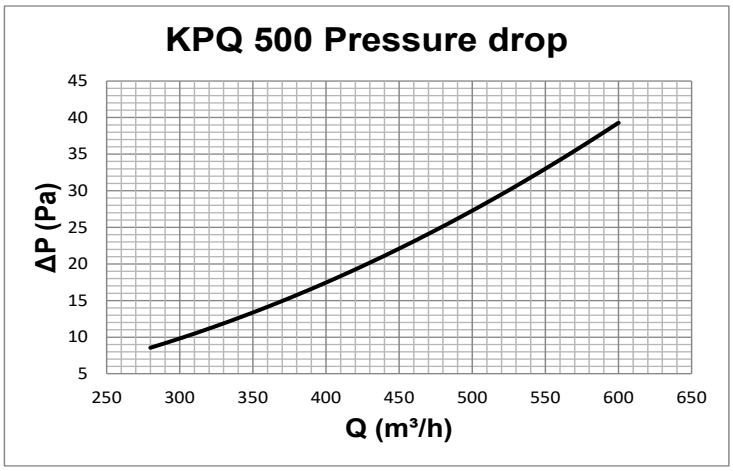
PERFORMANCE KPQ 500

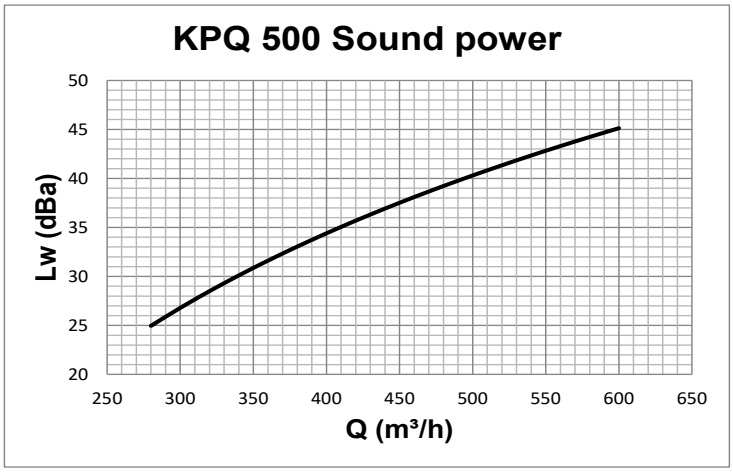
KPQ
SERIES



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.*

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





Data measured in reverberation room in accordance with international standards:
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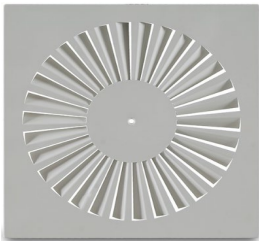
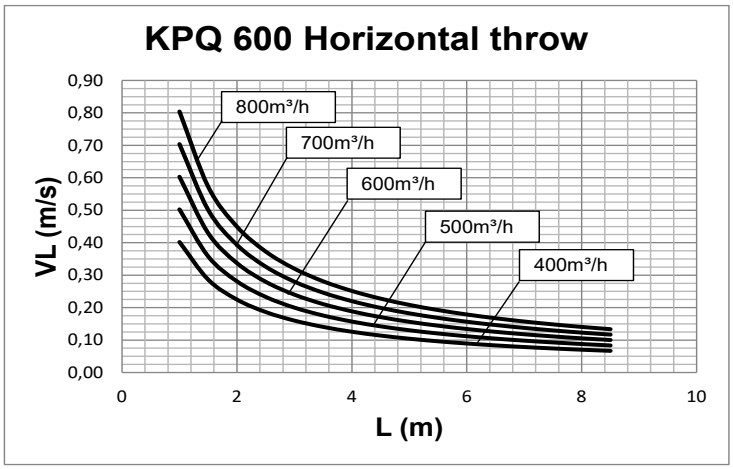


FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

PERFORMANCE KPQ 600

KPQ
SERIES



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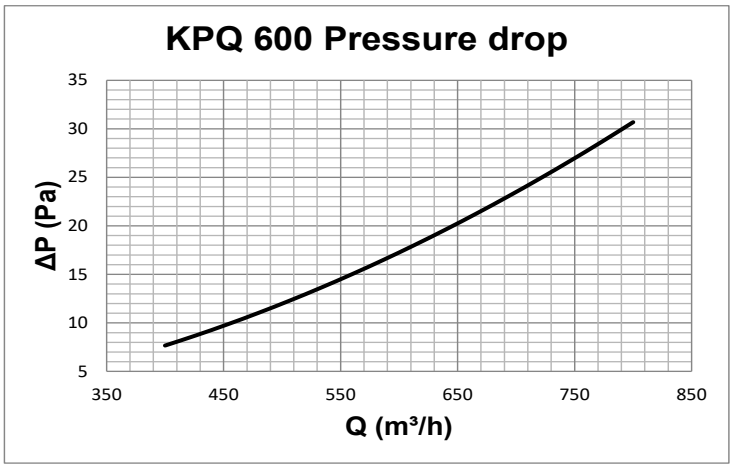
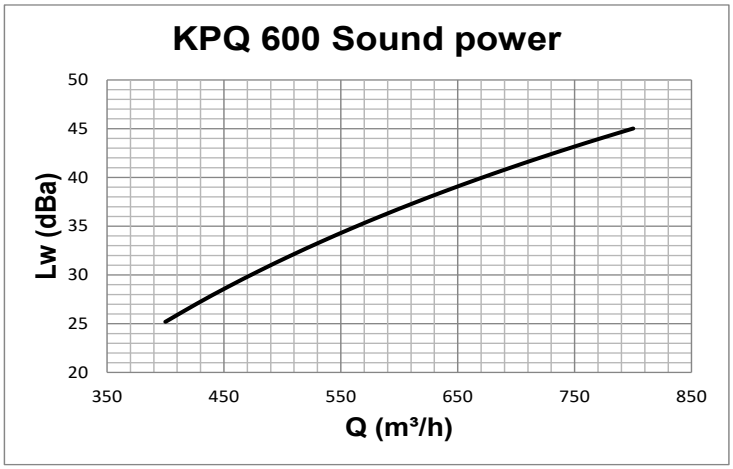
L (m) horizontal distance in metres from the centre of the diffuser
VL (m/s) maximum speed in the air stream





Data measured in reverberation room in accordance with international standards:
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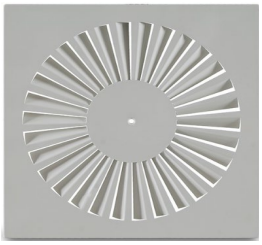
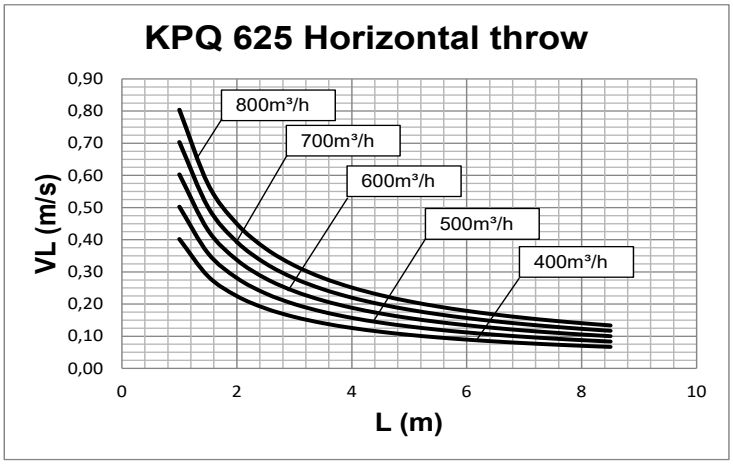


FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

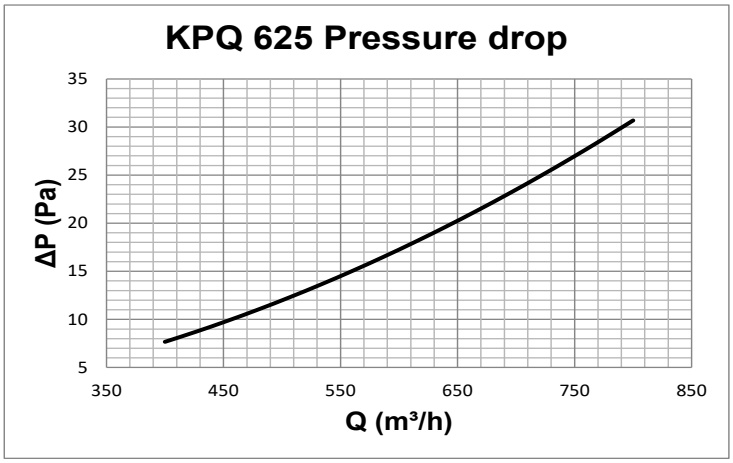
PERFORMANCE KPQ 625

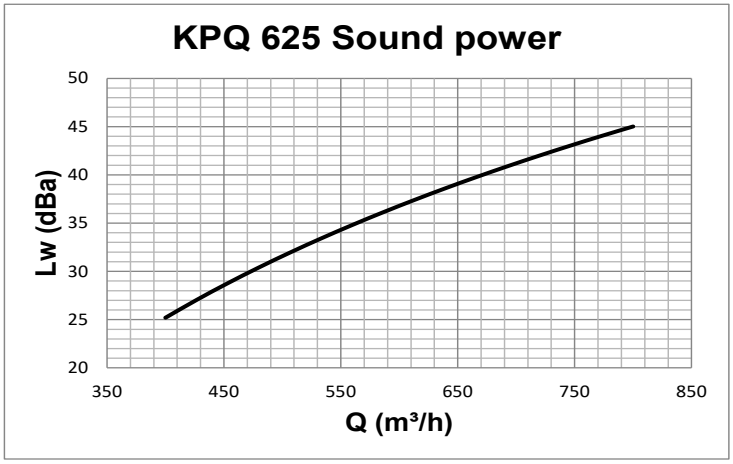
KPQ
SERIES



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.*

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





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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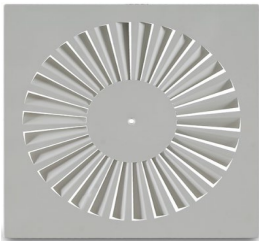
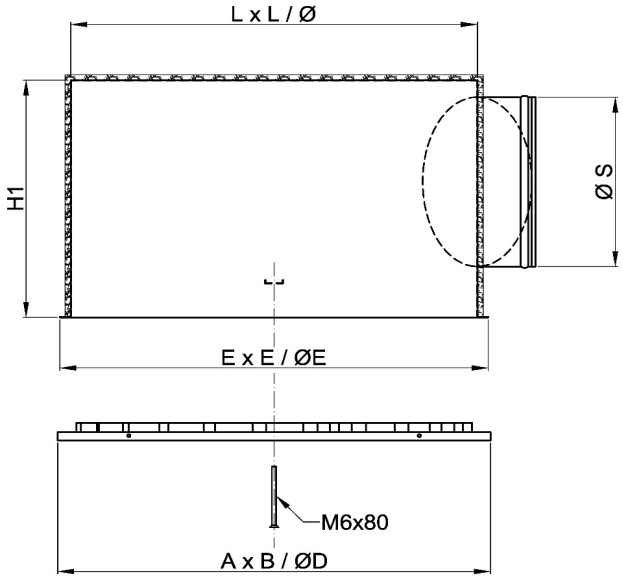


FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

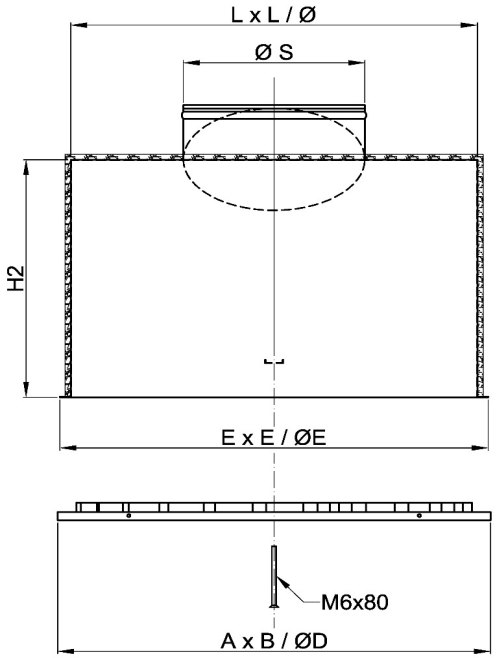
PP80
PP81

PLENUM IN SEEL SHEET



PLENUM PP80
Made of galvanized sheet steel.
Lateral connection.
Mounting bridge for mounting diffuser with central screw.
Complete with hooks for ceiling suspension.

optionals:
polyethylene insulation;
equalizer steel mesh;
control damper into the connection.



PLENUM PP81
Made of galvanized sheet steel.
Rear connection.
Mounting bridge for mounting diffuser with central screw.
Complete with hooks for ceiling suspension.

optionals:
polyethylene insulation;
equalizer steel mesh;
control damper into the connection.

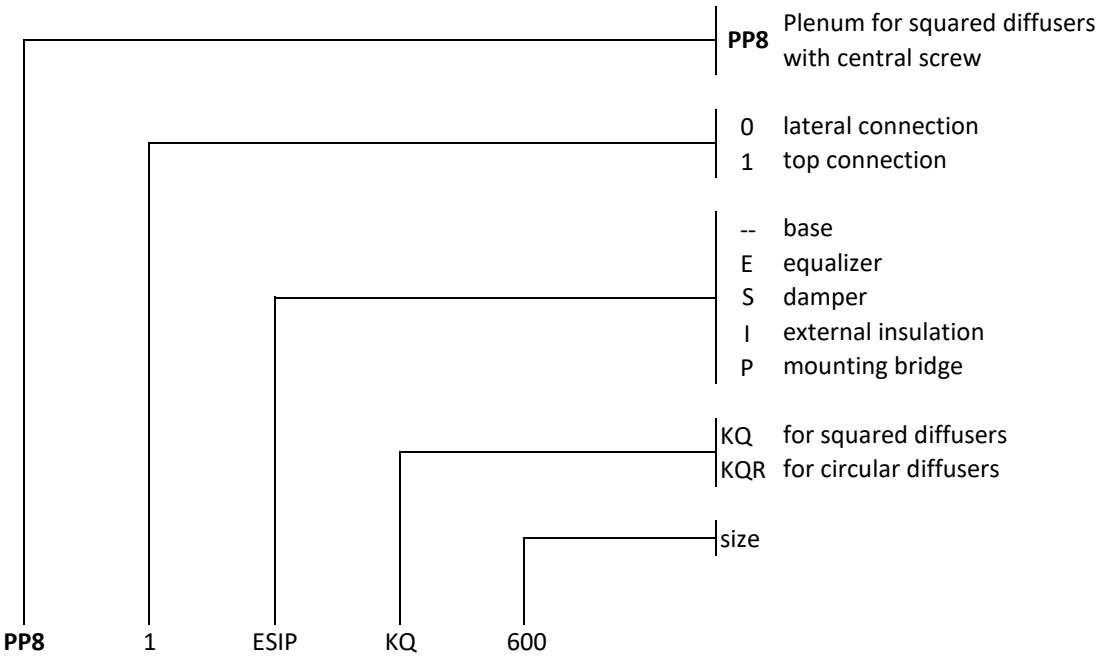
Nominal dimensions of the diffuser A x B	Real dimansions of the panel	L x L	S x S	H	N° connections	S	Connection and damper material
300 x 300	296	260	290	240	1	123	ABS (*)
400 x 400	396	360	390	290	1	199	ABS (*)
500 x 500	496	460	490	290	1	199	ABS (*)
600 x 600	596	560	590	290	1	250	ABS (*)
625 x 625	621	585	615	290	1	250	ABS (*)
800 x 800	796	760	790	400	1	301	steel
825 x 825	821	785	815	340	1	301	steel

(*) steel on request

FIXED GEOMETRY
HIGH INDUCTION DIFFUSERS

PP80
PP81

PLENUM IN SEEL SHEET



Standard sizes
300
400
500
600
625

PS PLENUM

OVERVIEW

PPS
SERIES

OVERVIEW :

The PPS series of polystyrene assemblable plenum boxes have a density of 45 kg/m3, with a Fire class 1 quality, eternally crystallised.

The transformation process and the special properties of the material, make the PPS a very compact and lightweight plenum.

These special features combined to the trapezoidal shape that distinguish it, allows the fixing of the unit in completed countersealing structure. This facilitates both the realisation and maintenance of the system. Given the light weight, the plenum is positioned on the structure of the counter ceiling, eliminating therefore the necessity of using hanging clips for fixing to the ceiling.
This has the advantage of reducing considerably the fitting time and a saving of the space used of over 50%, compared to a traditional plenum box.

The PPS has an excellent thermal acoustic insulation characteristic. It does not therefore require additional insulating material.

The PPS plenums can be supplied already assembled with a square 600x60mm diffuser panel , model KQ1, complete with regulation damper in ABS and equalizer, ready for installation.

As an alternative, there is also a version assembled but without the diffuser fitted.

Lastly a kit is also available, comprising the plenum, the connection "C", bar "A" and assembly diagram.

Installation: once the diffuser has been fitted to the plenum using the screw "V" (PPS-V680T) to bar "A, the plenum is positioned on the counter ceiling structure.

TECHNICAL CHARACTERISTICS:

fire reaction:
Class 1 - Test report CSI DC01/378F05.
Euroclass E - Test report CSI DC01/656F07

Mechanic resistance:
10% deformation with 226kPa pressure - Test report CSI 0936/FPM/MATs/07.

Water absorption:
Increase average volume 3,26% in full immersion, tested according to UNI EN 12087 method 2A - Test report CSI 0936/FPM/MATs/07_2.

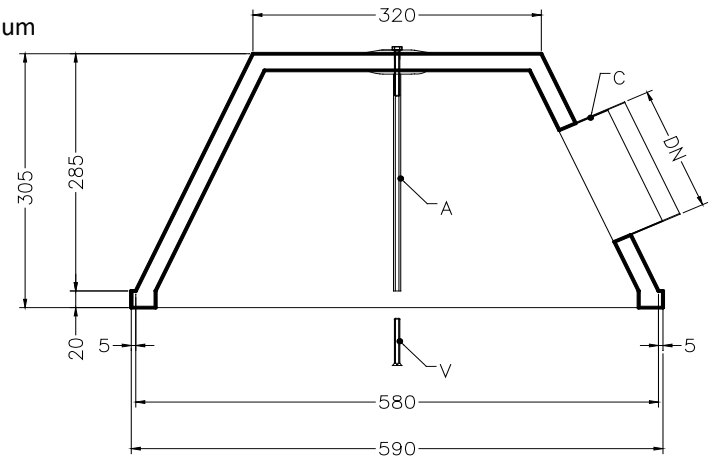
Thermal conductivity:
Δ (average) 0,0320 W/mK - Test report CSI 0037/DC/TTS/07.

Thermal resistance:
R (average) 0.637 m²K/W- Test report CSI 0037/DC/TTS/07.

Test certificate type:
Certificate CSI DE/1831/07 issued in conformity to directive 89/106/CEE on the bais of UNI EN 13163/2003 and UNI EN 13172/2003.

The documentation indicated above can viewed in electronic form in Italian with prior agreement from the Technical Department.

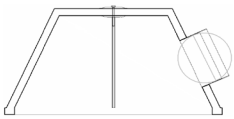
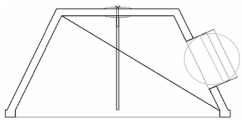
ASSEMBLED PPS



PS PLENUM

CODES

PPS
SERIES

Image	Description	Connector diameter	Code
	Plenum in PS already assembled with connector in ABS with damper and without equalizer.	125	PPS-PS125
		160	PPS-PS160
		200	PPS-PS200
		250	PPS-PS250
	Plenum in PS already assembled, complete with connector in ABS with damper and equalizer.	125	PPS-PES125
		160	PPS-PES160
		200	PPS-PES200
		250	PPS-PES250

ACCESSORIES

PPS-G	PS bell shape body
PPS-CA	Fixing rod
PPS-E	Equalizer in steel
PPS-E ABS	Equalizer in ABS
RR10 …	Connector in ABS ø …
RRS10 …	Connector in ABS ø … with regulation damper
PPS-V680T	Screw for fixing diffuser