



SINGLE CONE CIRCULAR DIFFUSERS

KU 9
SERIES

OVERVIEW

OVERVIEW : The KU 9 series diffusers are designed for air conditioning, heating and ventilation applications. They are composed from an external holding cone and of a central single cone section.

The installation height of the diffuser is normally between 2,5m and 5m.

MATERIALS : The KU 9 series diffusers are made from aluminium with steel central screw. The surface finish is a result of epoxy powder painting white RAL 9010 or RAL 9003.

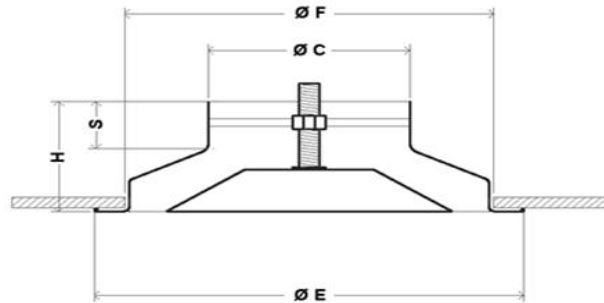
INSTALLATION : The diffuser is fixed with laterally using screws directly to the duct or to the plenum connections. A series of clips is available to fixing to plasterboard counter ceilings and versions complete with panels for installing within modular ceilings.

UNSUITABLE ENVIRONMENTS

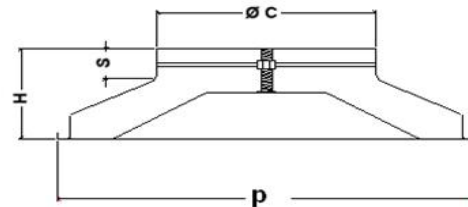
The aluminum products are not suitable for installation in environments with an atmosphere containing corrosive substances for this material and in particular containing chlorine, such as swimming pools, spas and some types of food industries.

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.

DESCRIPTION FOR TENDER: round diffuser with single central cone in aluminium for use in ceilings; milimetric regulation steel screw; predisposed for connection to plenum or a flexible duct; available in standard version and in version complete with aluminium panel painted RAL 9010 or RAL 9003 for fitting within modular ceilings.



Standard version



Version with panel for modular counterceilings

nominal neck diameter mm	C mm	E mm	H mm	S mm	F mm	P mm	Z _{AK} Horizontal throw orizzontale m ²	A _k Vertical throw m ²
100	98	230	75	70	198	595	0,0080	0,00752
150	148	335	105	100	288	595	0,0130	0,01310
160	158	335	105	100	288	595	0,0160	0,01630
200	198	423	118	110	370	595	0,0223	0,02360
250	248	517	130	120	461	595	0,0363	0,03990
300	298	640	146	126	576	595	0,0600	0,06804
315	313	640	146	126	576	595	0,0710	0,08119



SINGLE CONE CIRCULAR DIFFUSERS

KU 9 CT
SERIES

VERSION WITH AUTOMATIC REGULATION
WITH THERMOSTATIC SPRING

The KU9 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.

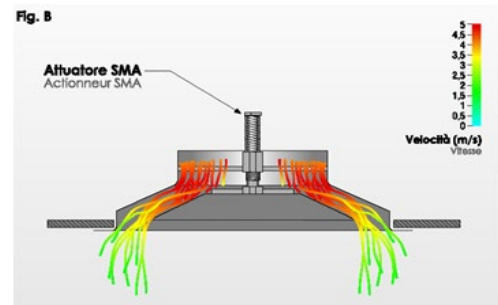
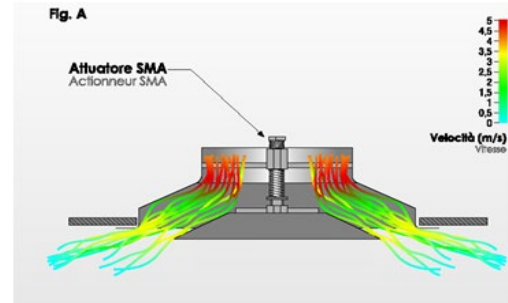
In this way the flow of air is controlled in relation to the temperature, enabling the intermediate cones to be always in the optimal position, both when in the cooling and heating faze.

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

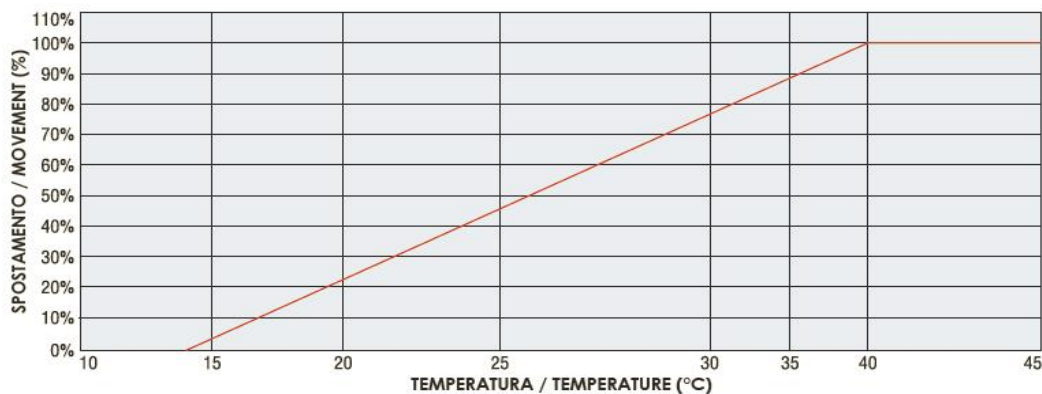
The minimum lasting time of the spring is 100,000 cycles. A cycle is given from an extension followed by a compression of the spring.

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

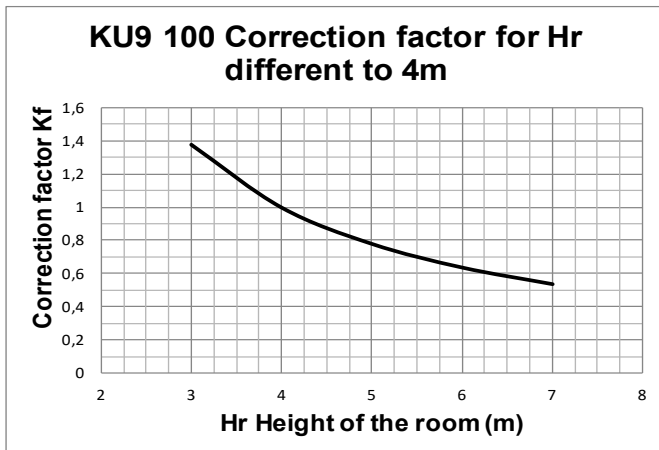
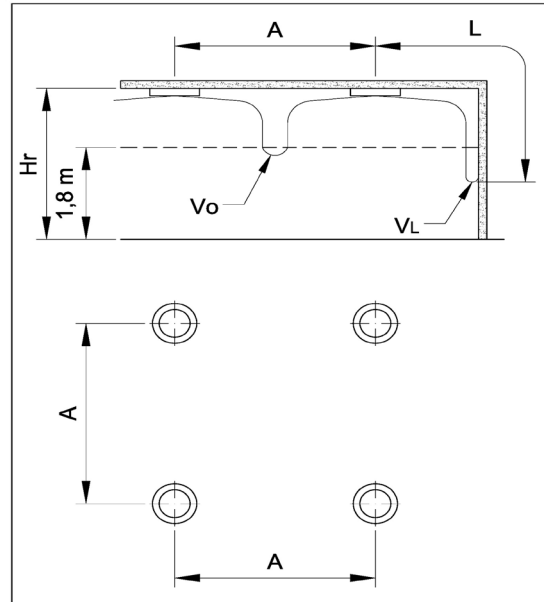
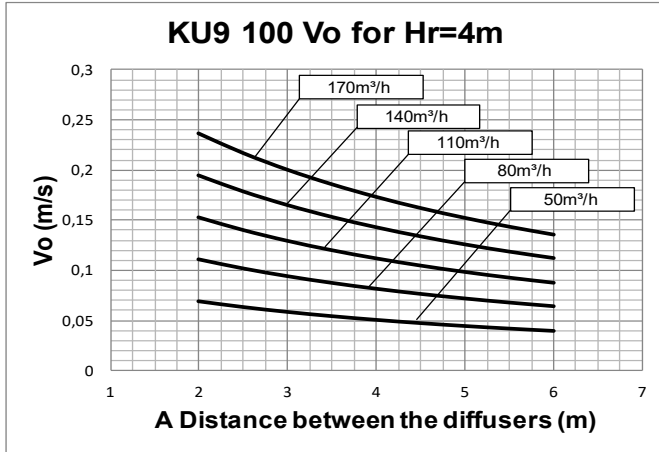




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 100

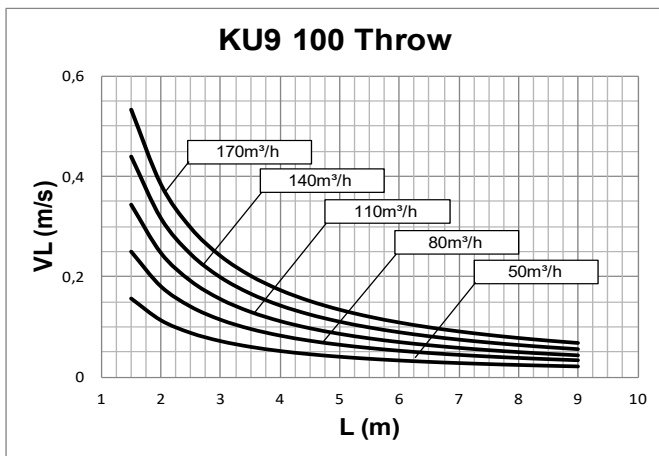
KU 9
SERIES



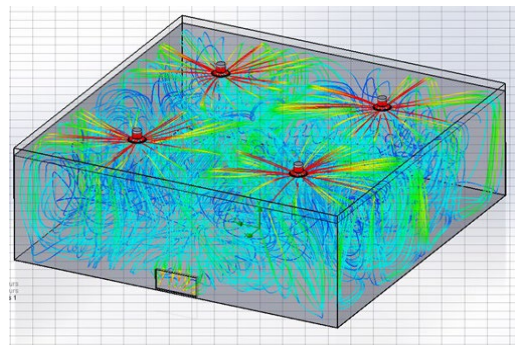
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard:

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:

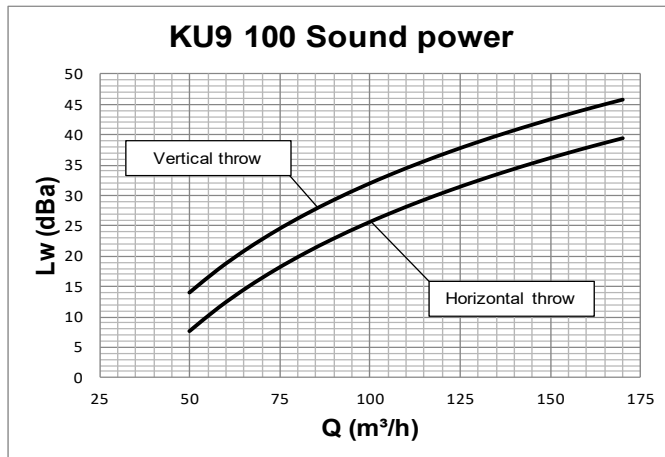




SINGLE CONE CIRCULAR DIFFUSERS

KU 9
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PERFORMANCE KU9 100

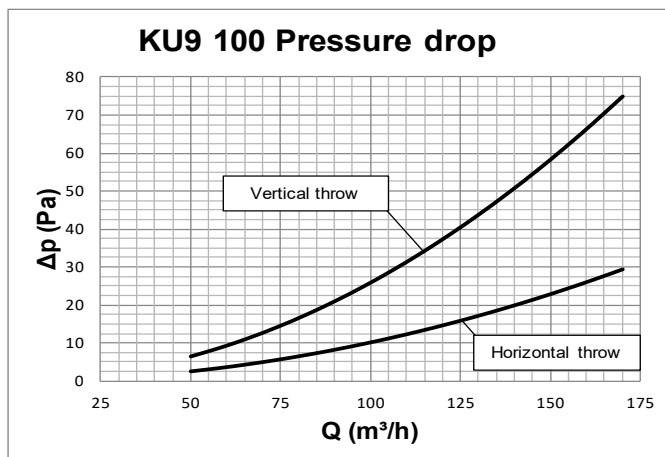


Data measured in reverberation room in accordance with international standards:

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

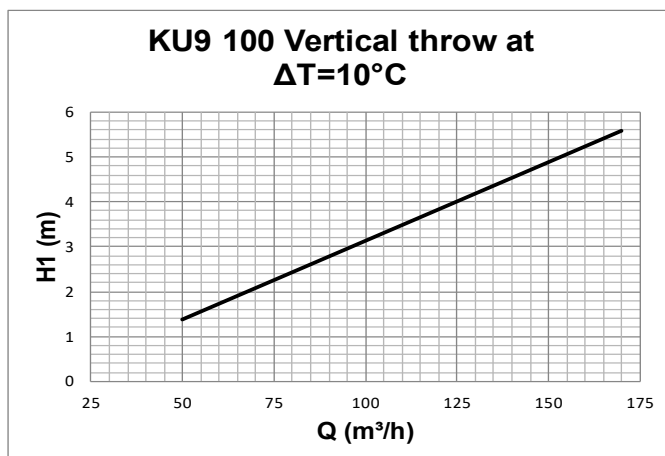
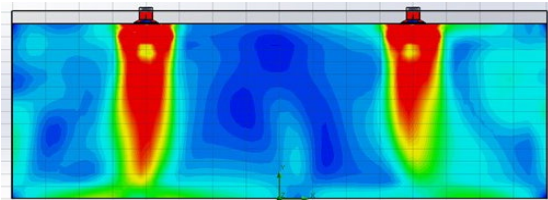
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Data obtained from CFD mathematical model in virtual test room operating in heating conditions with $\Delta T = 10^\circ C$ in accordance with the international standard:

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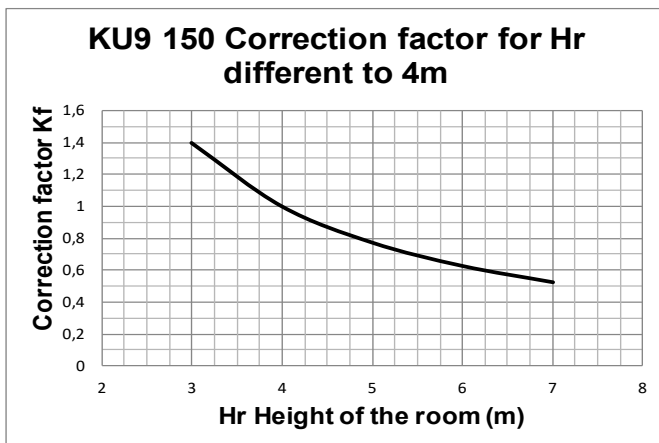
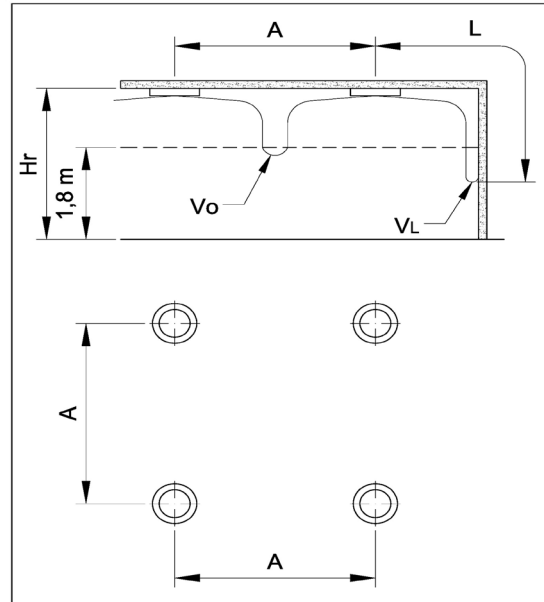
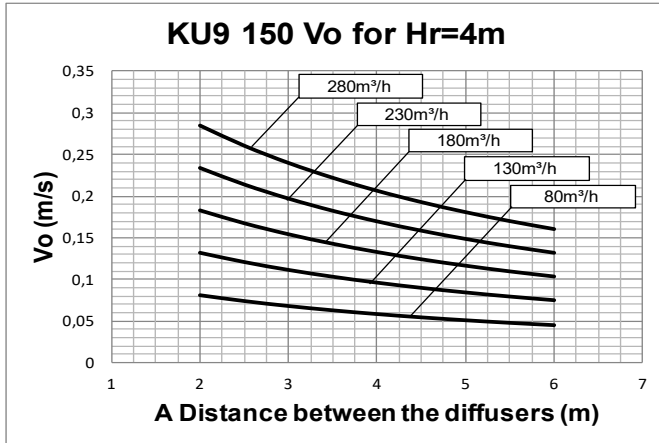
H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air



SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 150

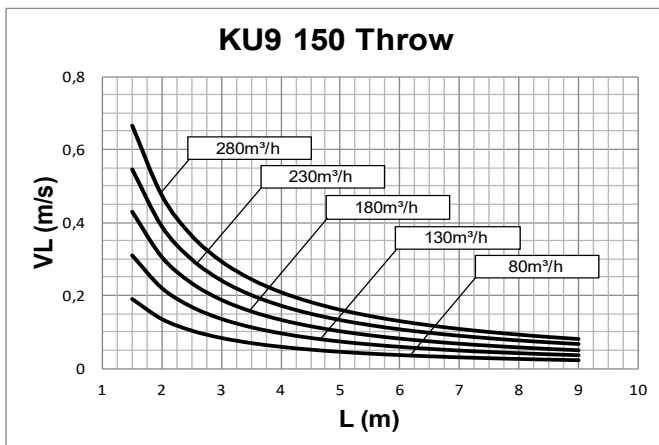
KU 9
SERIES



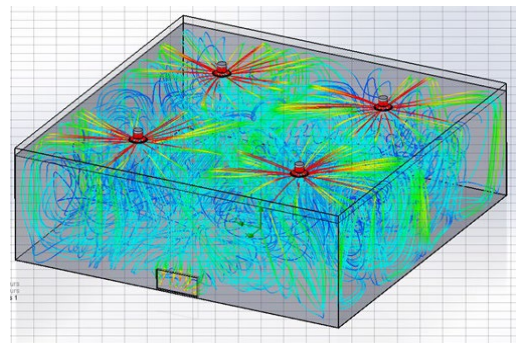
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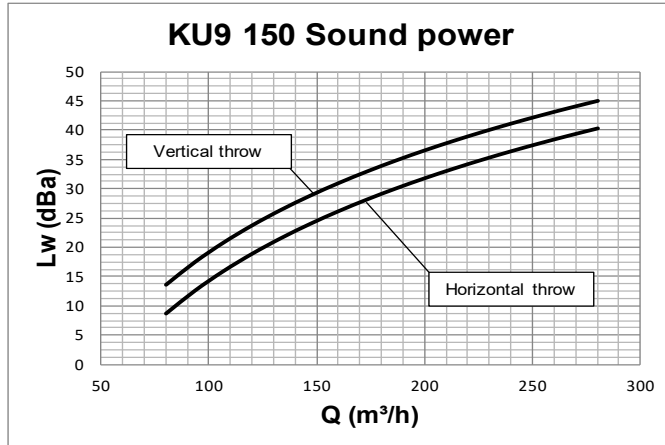




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 150

KU 9
SERIES

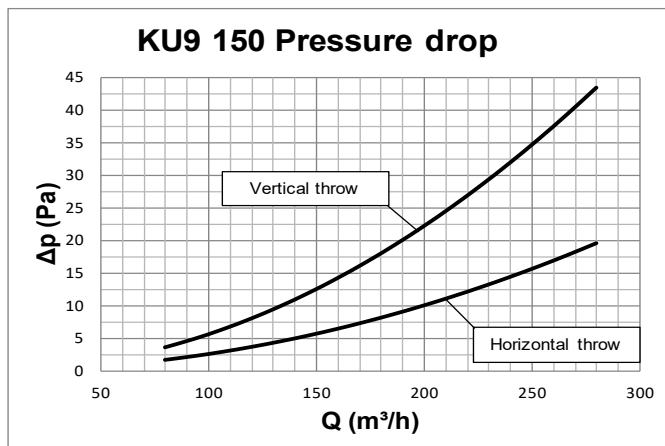


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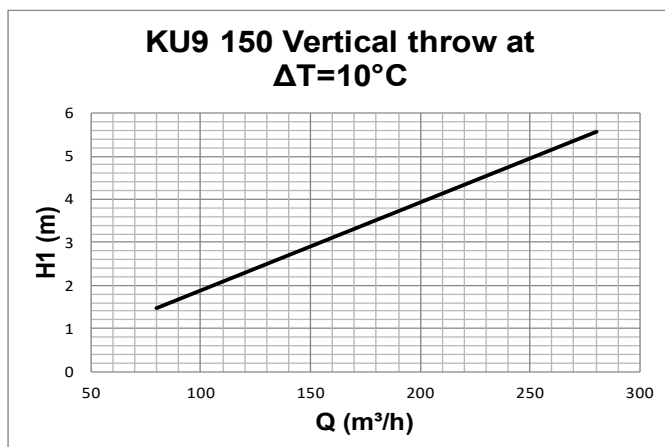
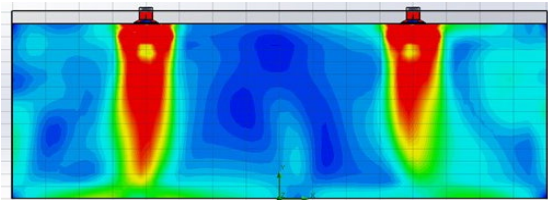
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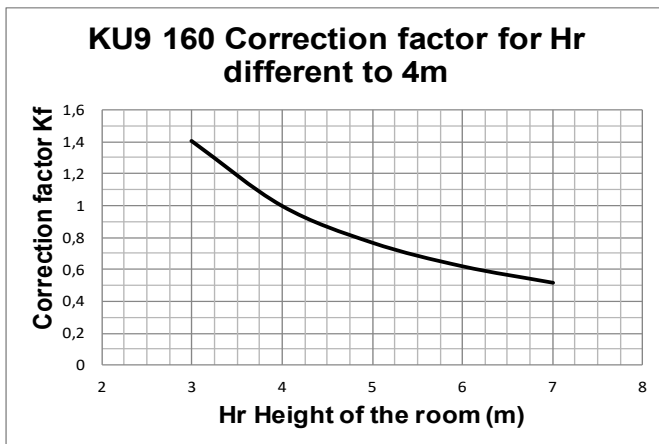
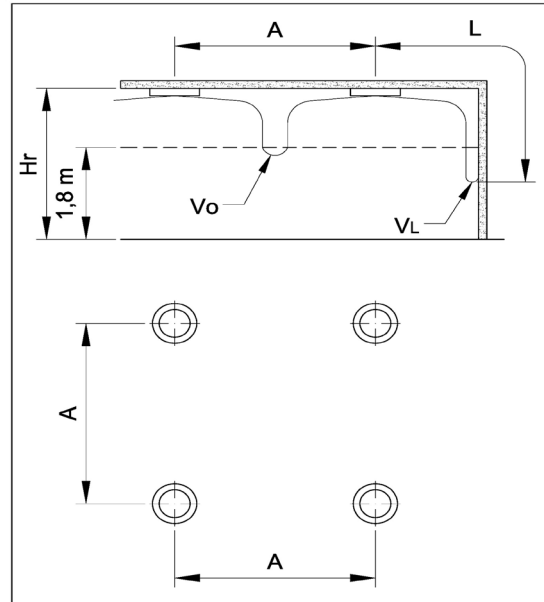
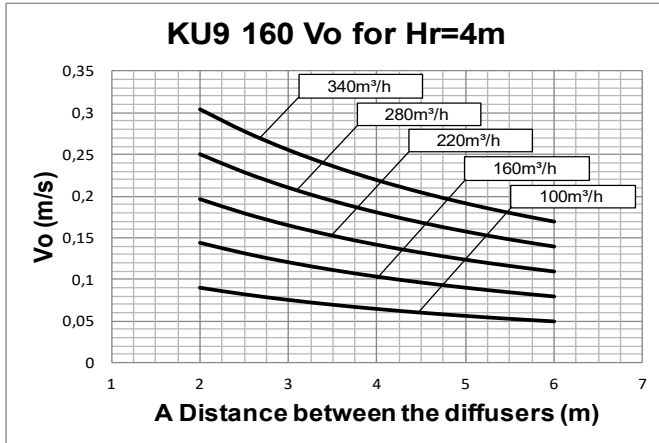
H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air



SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 160

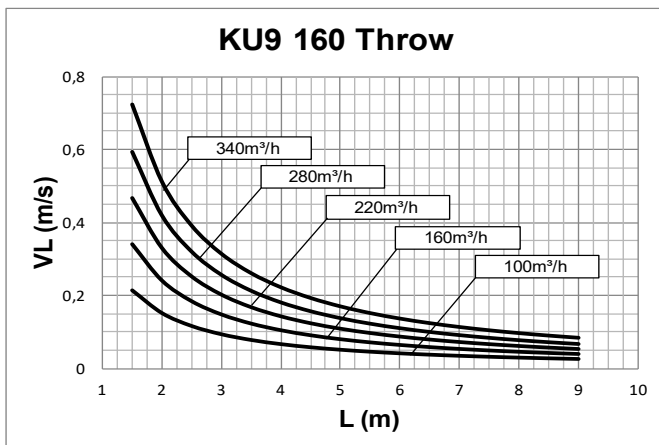
KU 9
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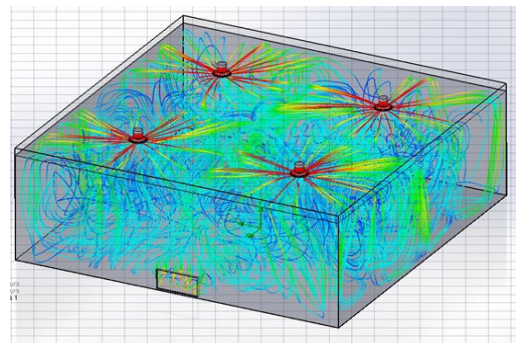
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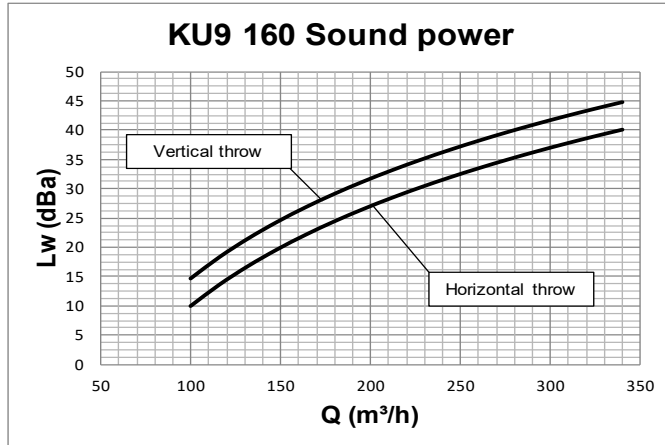




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 160

KU 9
SERIES

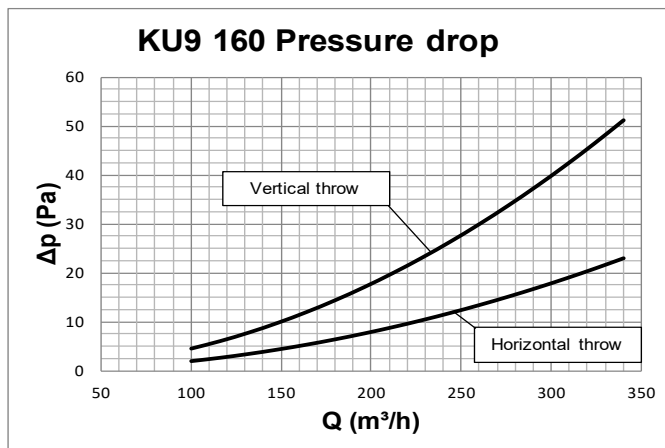


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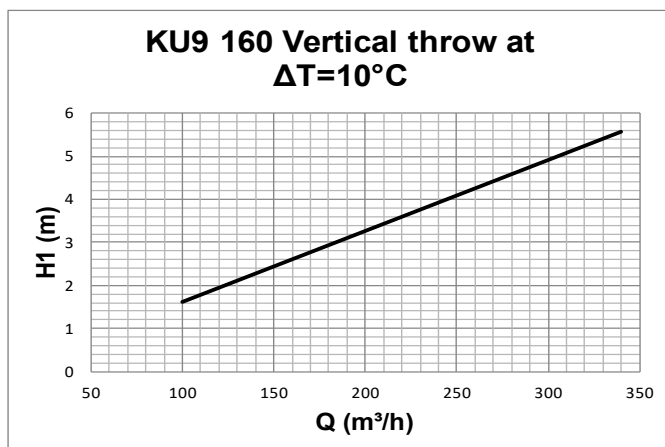
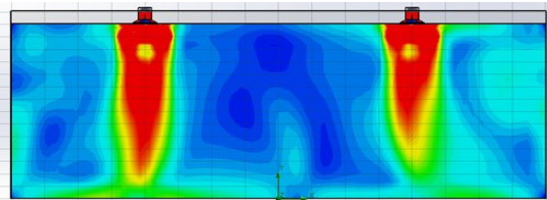
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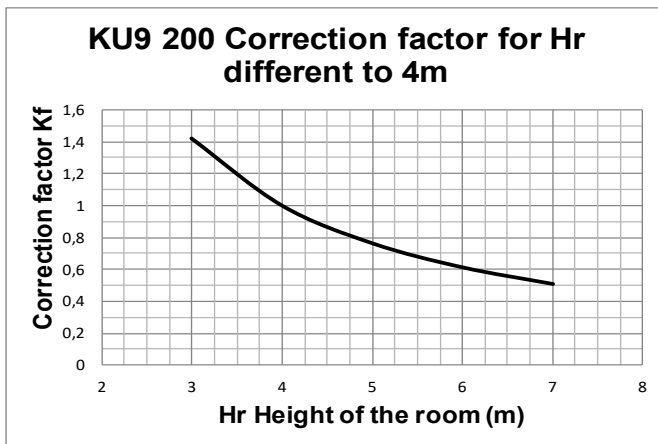
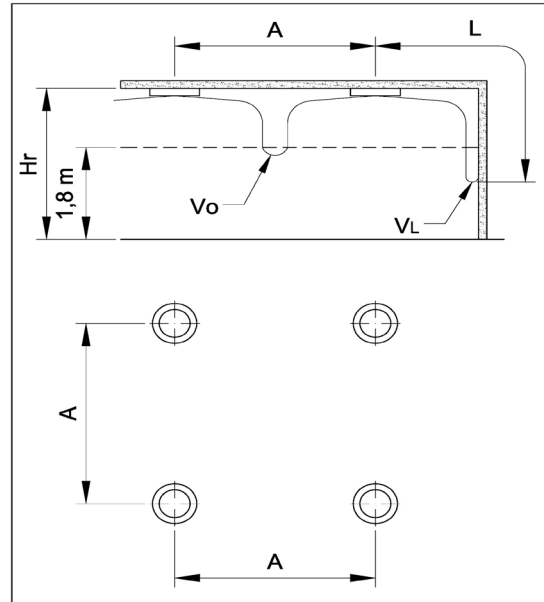
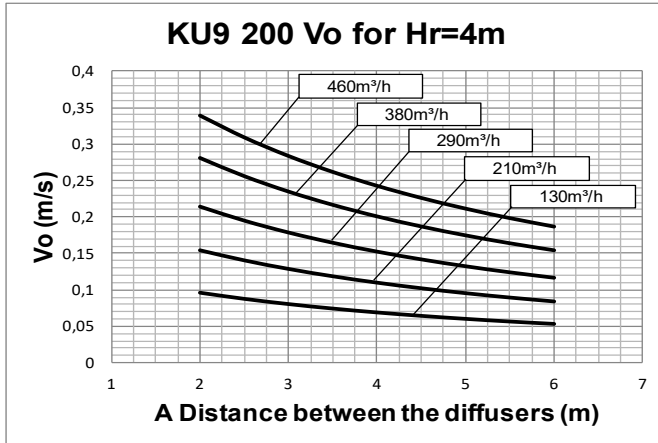
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SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 200

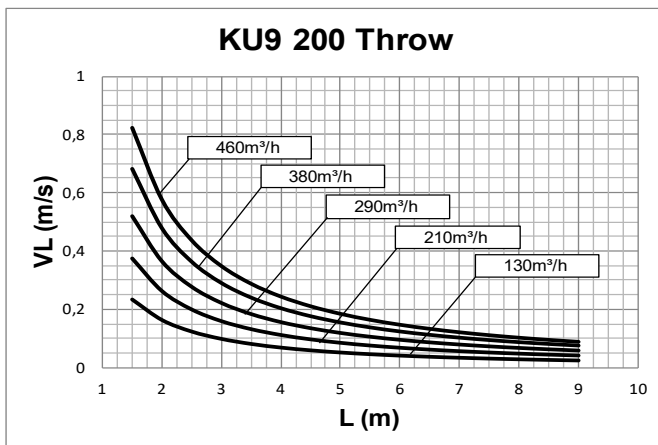
KU 9
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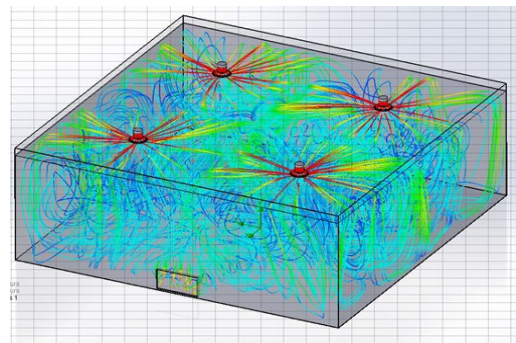
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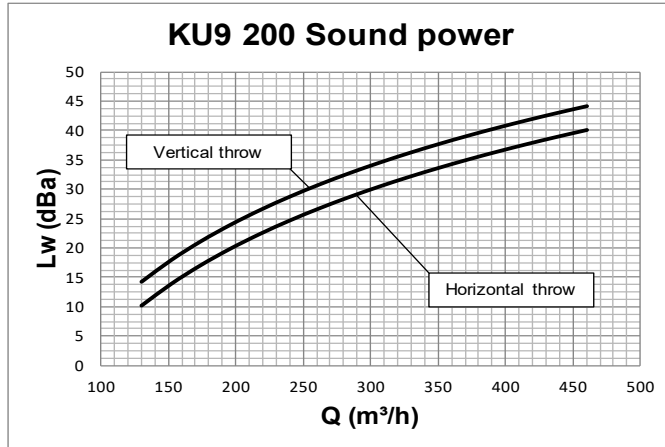




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 200

KU 9
SERIES

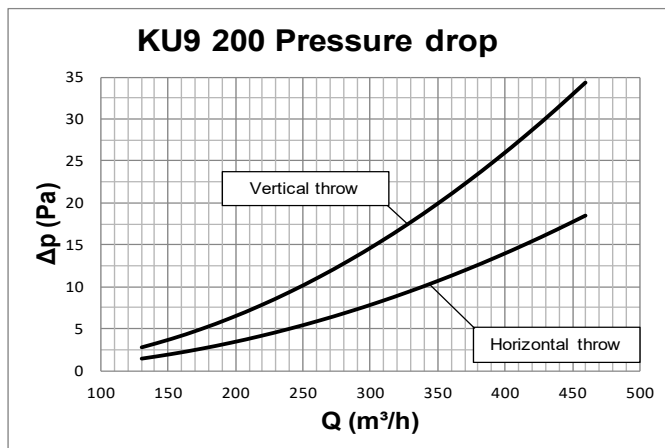


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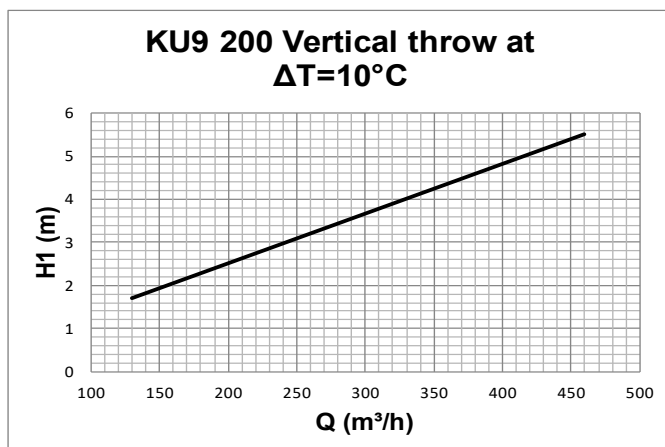
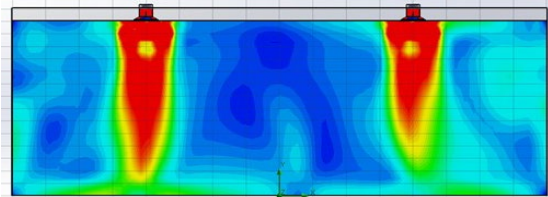
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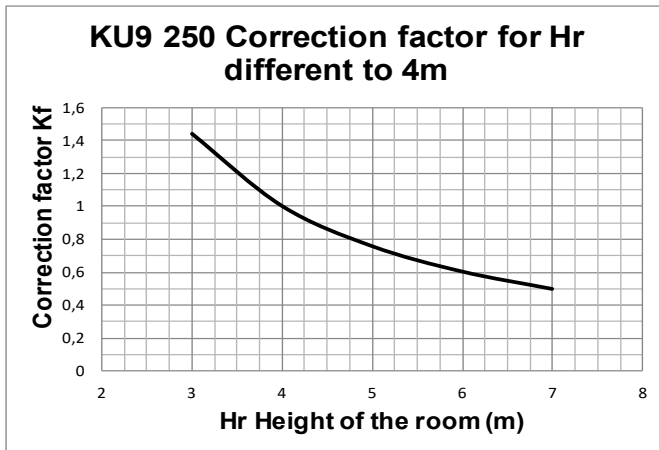
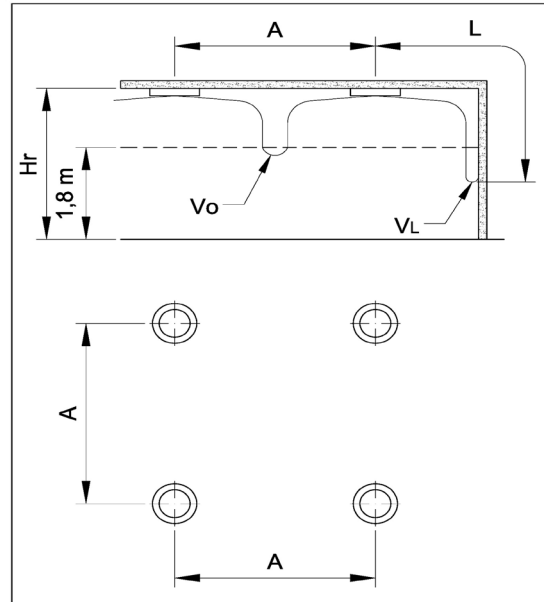
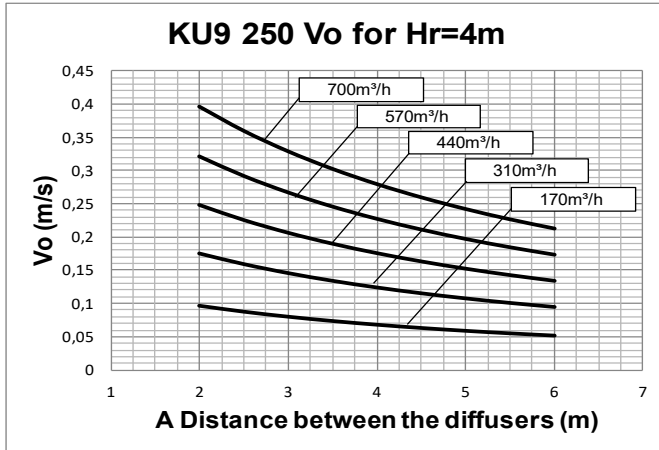
H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air



SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 250

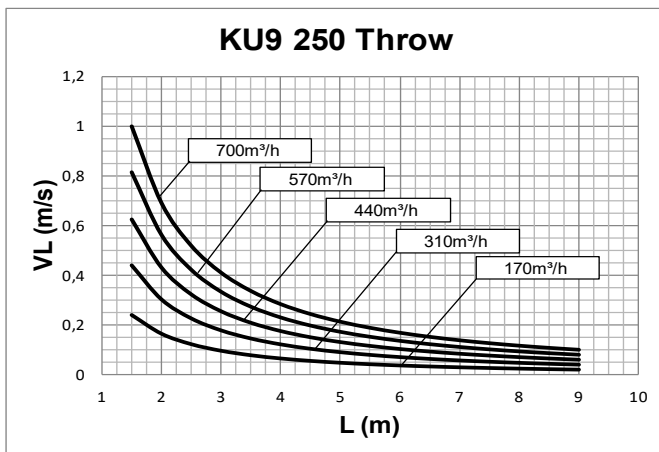
KU 9
SERIES



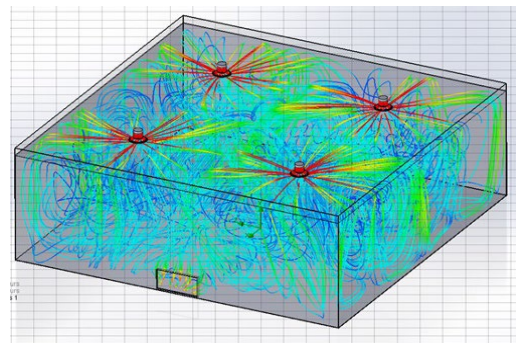
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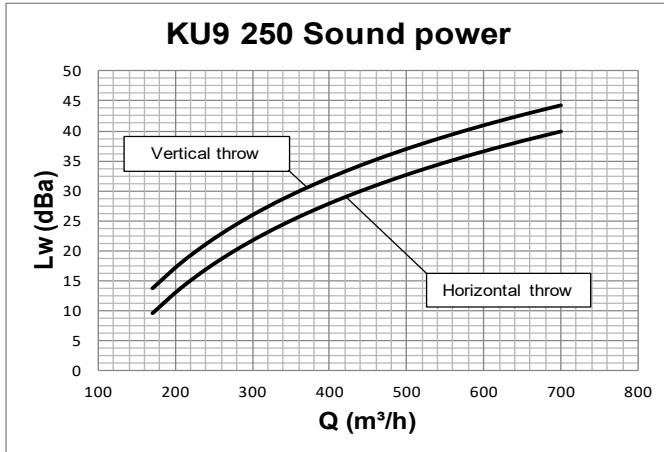




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 250

KU 9
SERIES

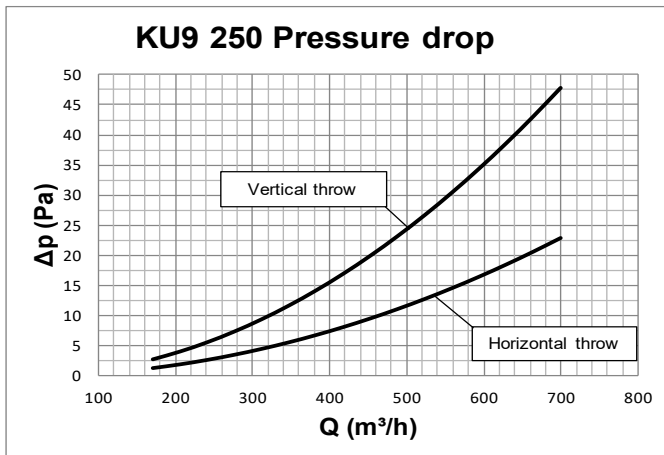


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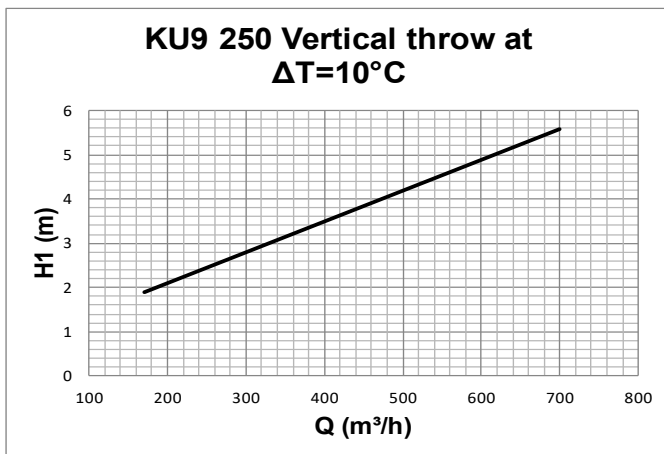
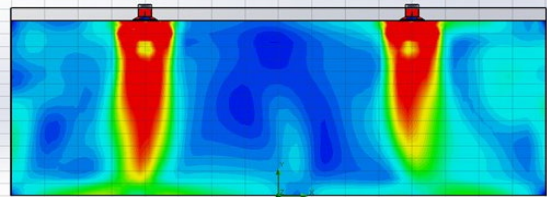
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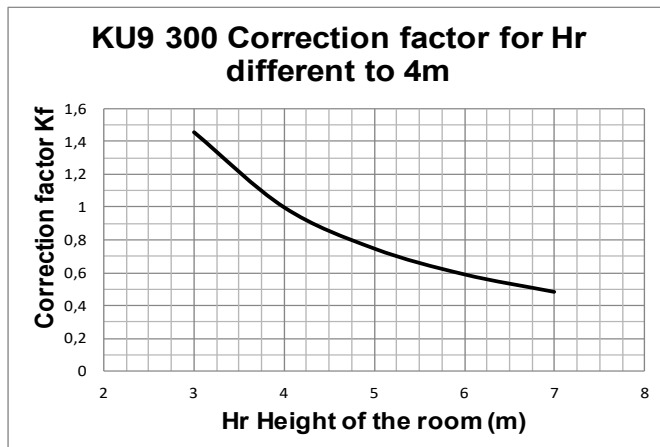
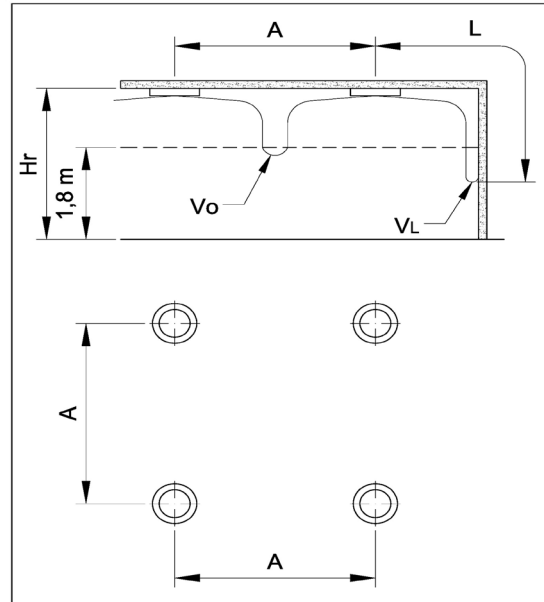
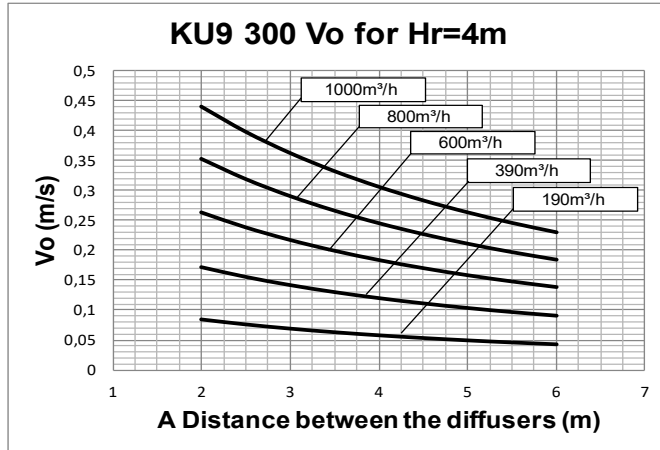
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SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 300

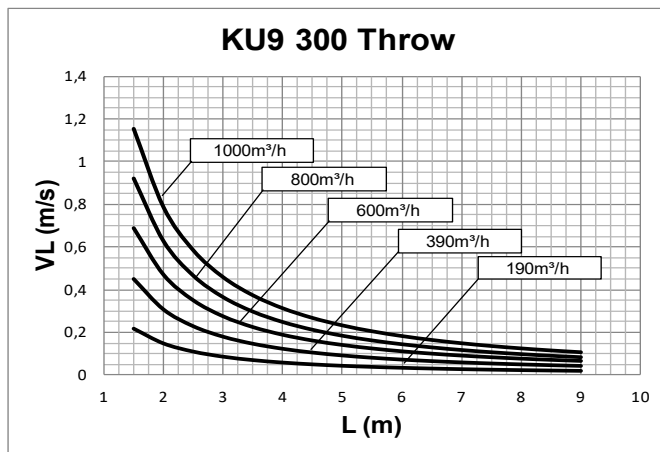
KU 9
SERIES



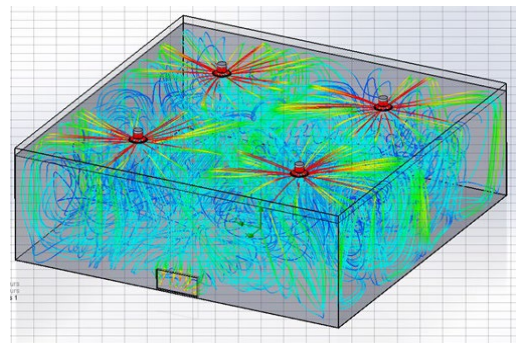
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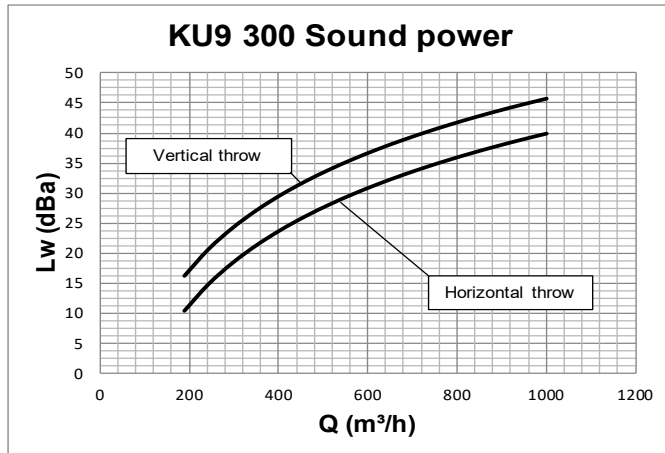




SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 300

KU 9
SERIES

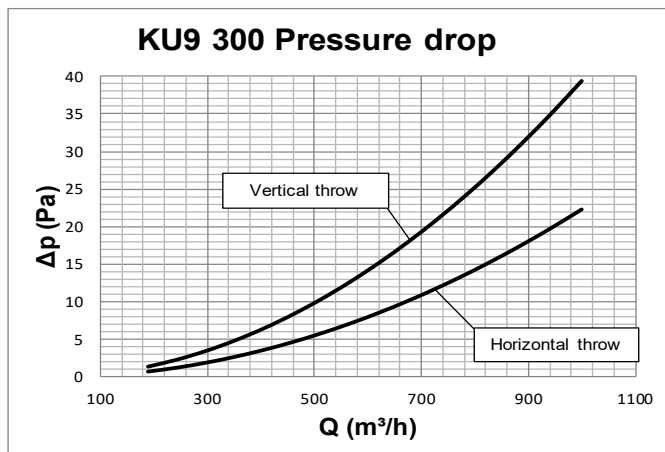


Data measured in reverberation room in accordance with international standards:

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

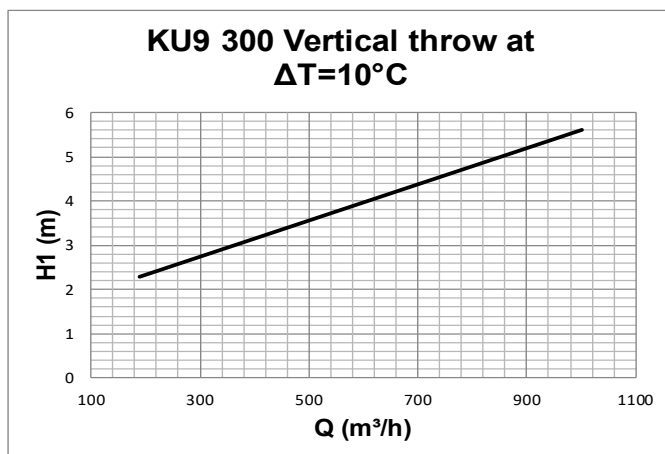
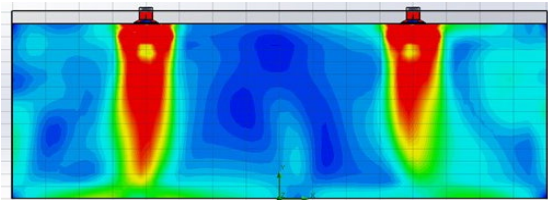
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

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 $\Delta T = 10^\circ C$ in accordance with the international standard:

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

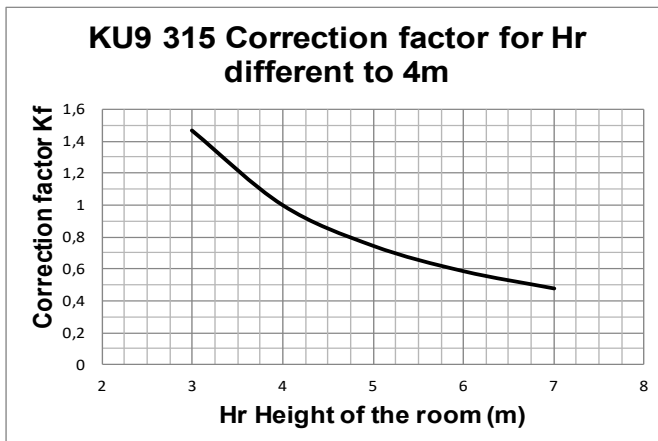
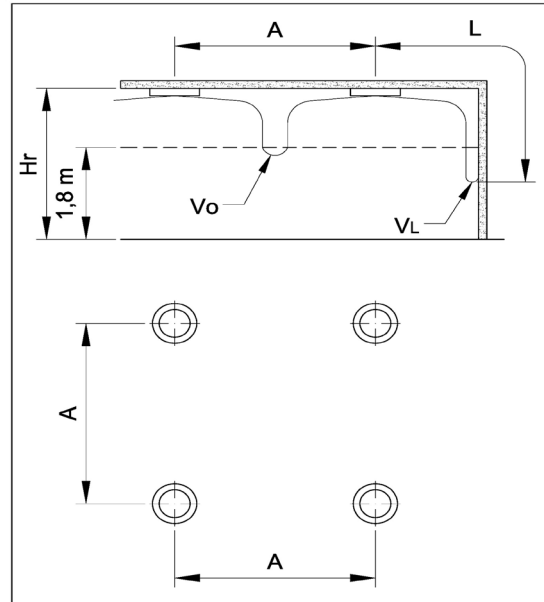
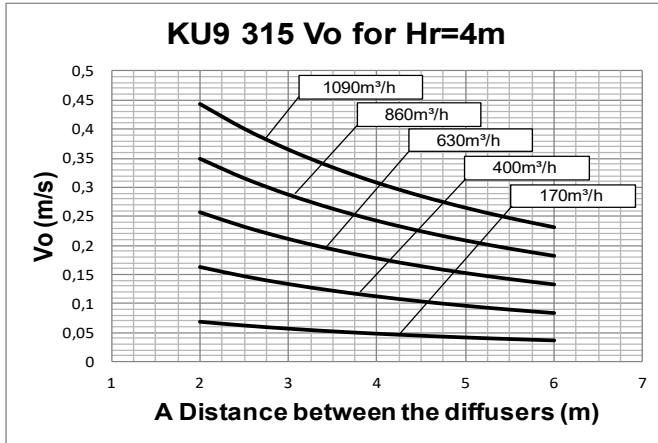
H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air



SINGLE CONE CIRCULAR DIFFUSERS

PERFORMANCE KU9 315

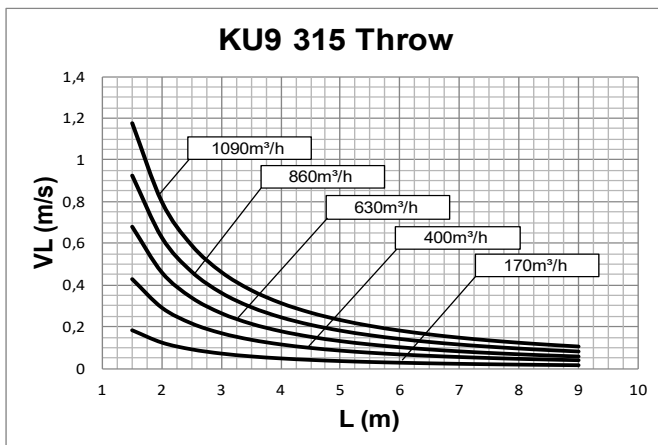
KU 9
SERIES



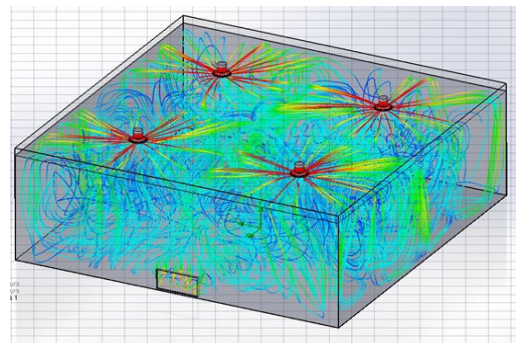
Data obtained from CFD mathematical model in virtual test room operating in isothermal conditions in accordance with the international standard:

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:

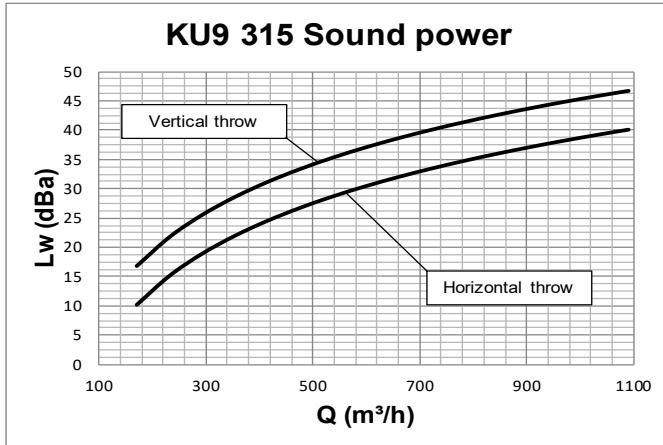




SINGLE CONE CIRCULAR DIFFUSERS

KU 9
SERIES

PERFORMANCE KU9 315

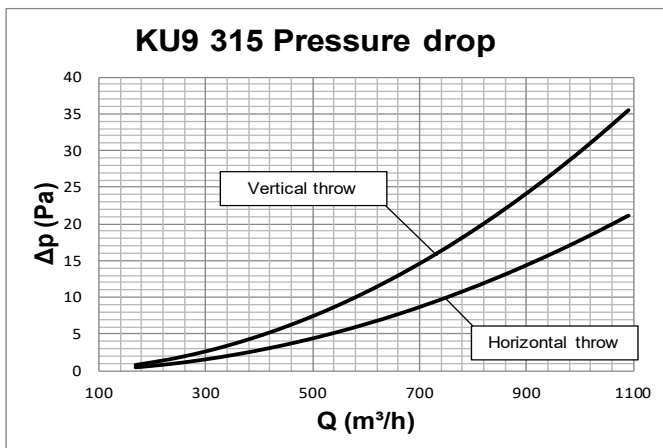


Data measured in reverberation room in accordance with international standards:

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

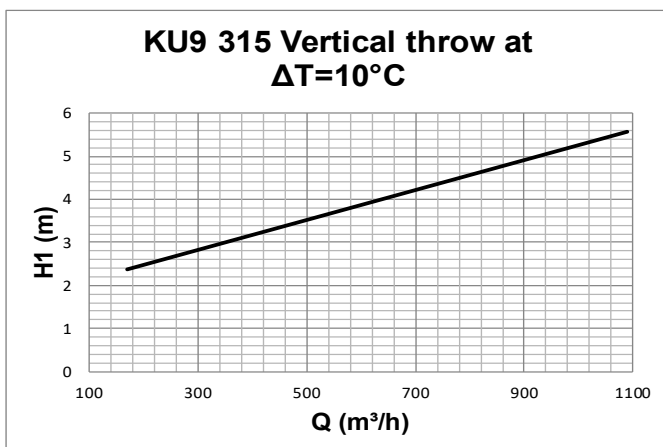
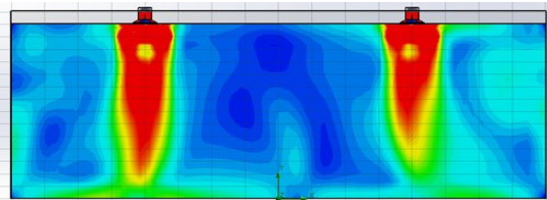
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

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 $\Delta T = 10^\circ C$ in accordance with the international standard:

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

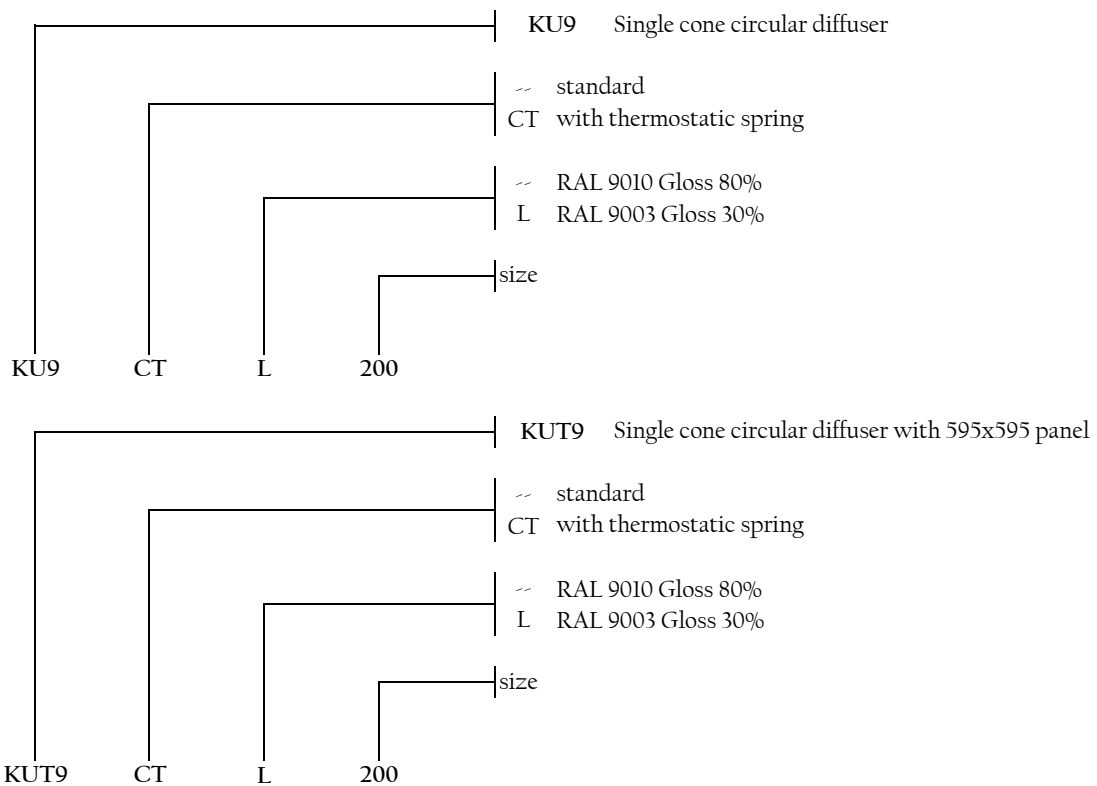
H1 (m) vertical distance in metres from the centre of the diffuser at which there is the inversion of the direction of air



SINGLE CONE CIRCULAR DIFFUSERS

KU 9
SERIES

HOW TO ORDER



Available diameters with thermostatic spring
160
200
250
315



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 :

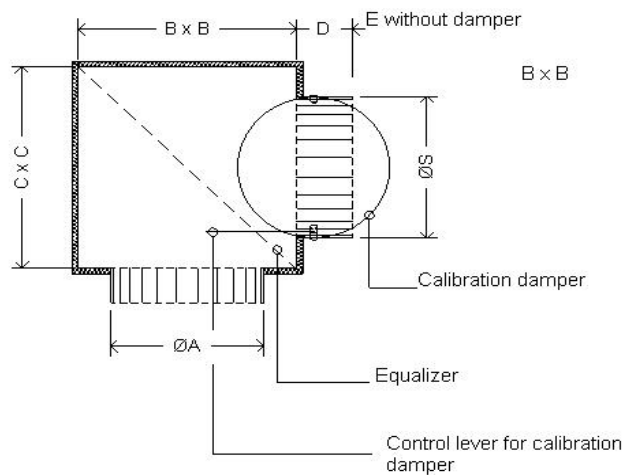
PP 60 standard plenum : galvanized steel sheet.
Insulation: expanded polyethylene certified for the reaction to fire according to european class B-s2 d0.

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

