



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

OVERVIEW CHARACTERISTICS APPLICATIONS

OVERVIEW :

The KLN series linear diffusers allow to manage high air flows with minimum pressure losses and generated noise power.

They allow to fully make use of the induction principle, guaranteeing optimum comfort conditions, no noticeable air currents and temperature uniformity, even in large areas by positioning the diffusers along the perimeter of the ceiling.

The big innovation on the KLN series is the double flow deflector system: for horizontal throw 2 settings are available and fully adjustable on construction site. The first setting allow supply air horizontally with a big ceiling effect, while the second setting still allow horizontal air supply but for biggest air flow and low pressure loss and noise level.

CHARACTERISTICS AND OPERATION :

The KLN series diffusers are constructed from an aluminium diffuser body lots and a series of deflectors, also in aluminium, for the horizontal or vertical air through. The change of direction of the air through can be easily made without removing the diffuser.

APPLICATIONS :

The KLN series diffusers are ideal in application with a ceiling height between 3 and 6 meters like open space offices, commercial galleries hospital wards or hotel rooms.

VERSIONS :

Standard, with or without filter holder
Fineline, with or without filter holder
Fitted, without filter holder
With panel, with or without filter holder

DIFFUSER INSTALLATION:

The KLN series diffusers are installed inside special plenum boxes, by suspension using quick fix connectors.

This solution allows a quick installation even at the end of work carried out on the building site.

Possibility of installation in continuous lines.

FINISH :

The KLN diffusers are constructed from an aluminium body anodized or painted white RAL 9010.

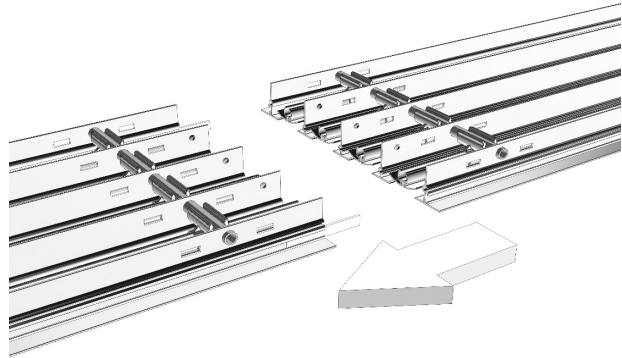
The deflectors can be anodized, painted white RAL 9010 or black painted.

The KLN diffusers with panel are constructed from an aluminium body and a carbon steel panel .

Special finishes for the diffuser body can be made on request.

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.



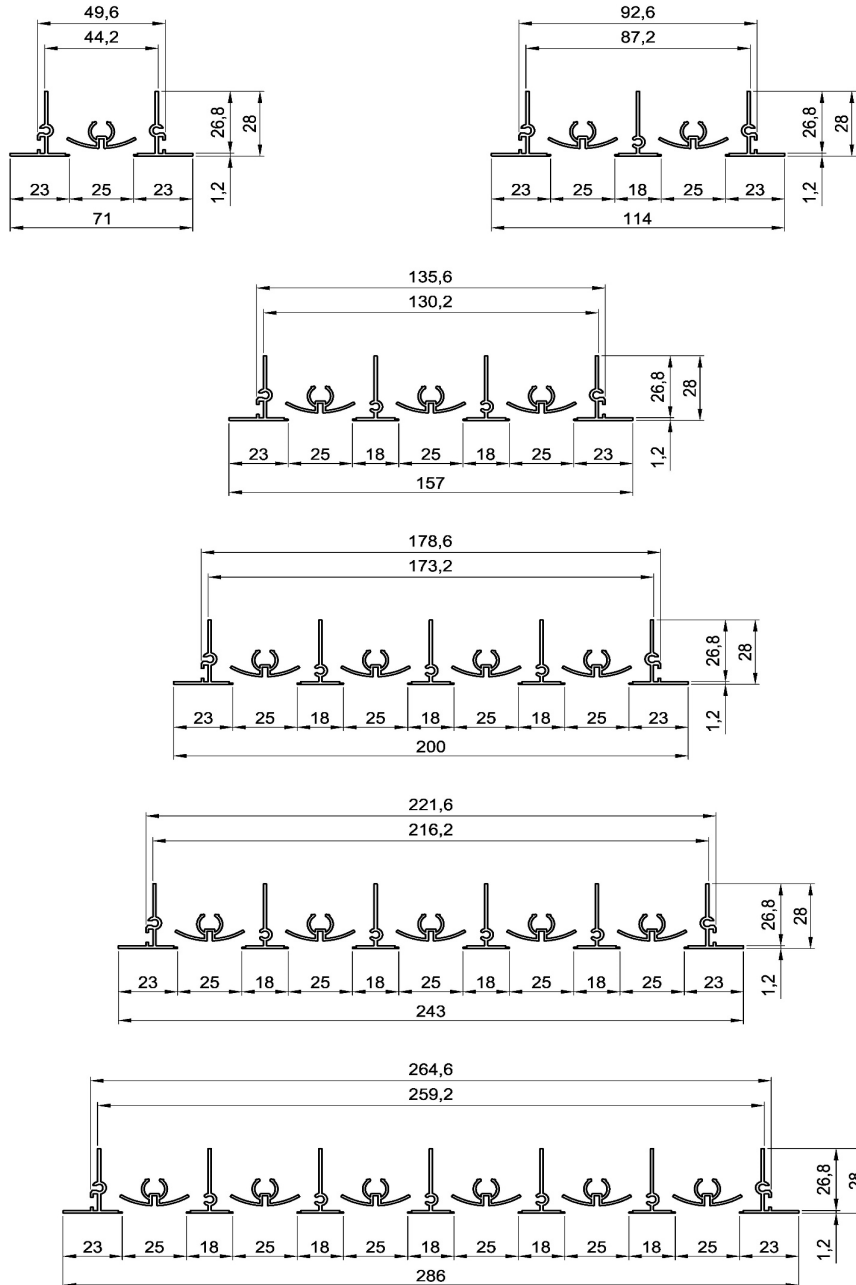
installation in continuous lines



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OVERALL DIMENSIONS

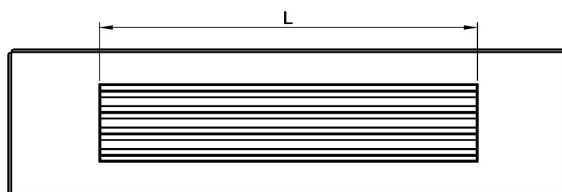
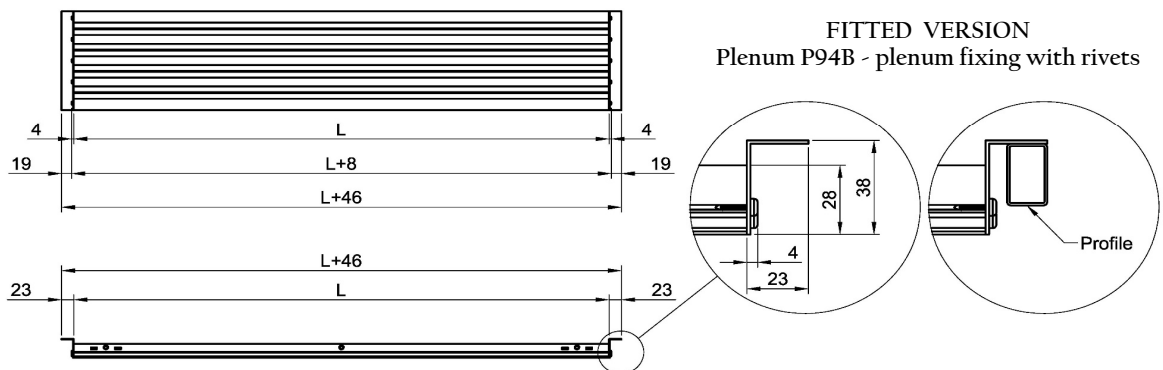
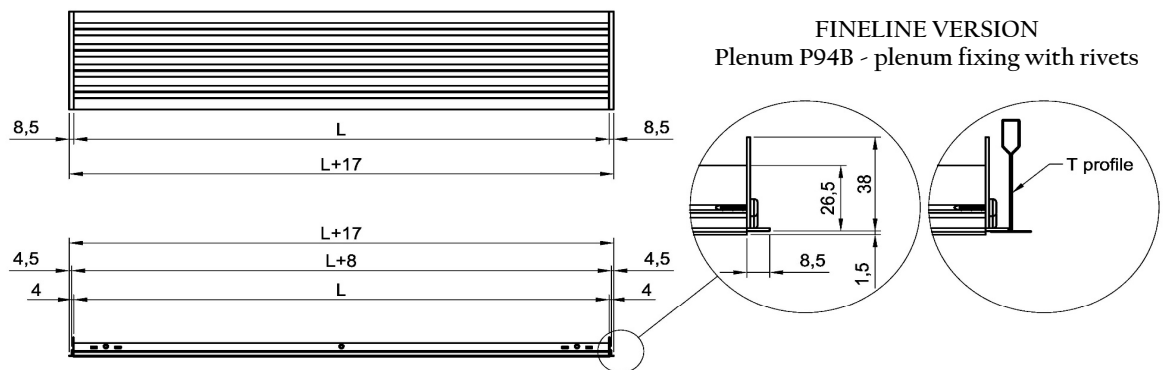
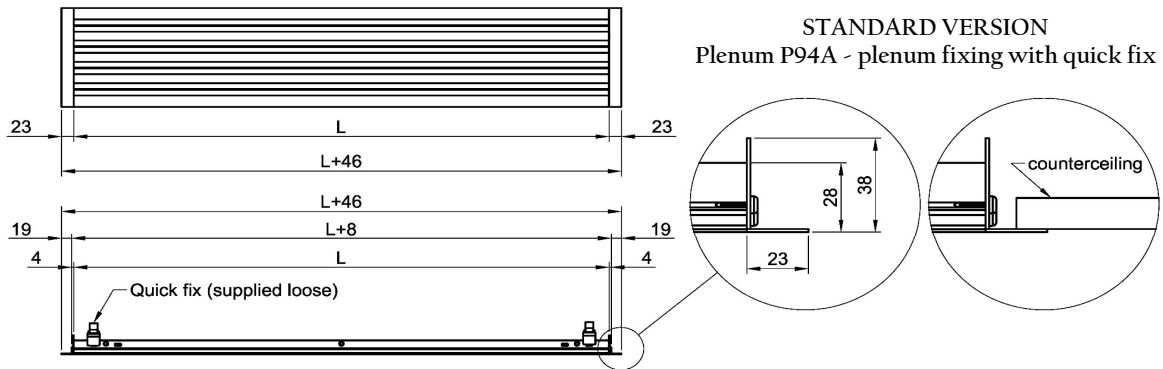


Ak Efficient section for diffuser L=1 m (m ²)						
	1 slot	2 slots	3 slots	4 slots	5 slots	6 slots
Horizontal throw high Coandă effect	0,00944	0,01888	0,02832	0,03776	0,04720	0,05664
Horizontal throw high air flow	0,01544	0,03088	0,04632	0,06176	0,0772	0,09264
Vertical throw	0,01500	0,03000	0,04500	0,06000	0,07500	0,09000

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VERSIONS



VERSION WITH PANEL
Plenum P94B - plenum fixing with rivets
Dimensions of the panel on request



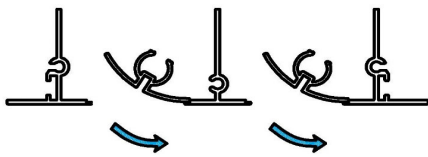
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AIR THROW ADJUSTMENT

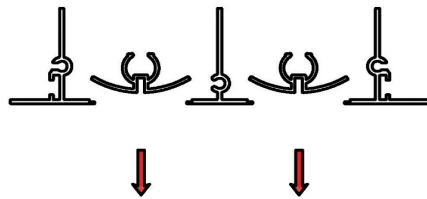
Horizontal throw configuration for high Coandă effect

The throw moves along the ceiling
It guarantees the complete absence of air currents
both in heating and cooling.



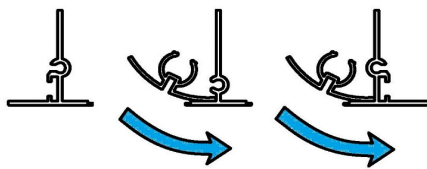
Vertical throw configuration

The air throw penetrates directly into the room
Prevents the formation of layers of hot air when
used for heating.



Horizontal throw configuration for high air flow

The throw moves along the ceiling
It guarantees the possibility of supply high air flow
with minimal levels of pressure drop and spund power



CHOICE OF AIR THROW ORIENTATION :

The horizontal throw represents the most common use of this type of diffuser, both for heating and cooling. The throw follows the ceiling and expands horizontally within the room. This generates a vertical recall of air present in the room, guaranteeing a perfect mixture of air without the presence of air currents within the occupied area.

The vertical throw, used when heating, allows to send the hot air directly within the occupied area to hinder the formation of layers of hot air in higher parts of the room caused by the lesser density.

The change of orientation of the air throw is obtained by rotating the deflector blade from an inclined position to a horizontal one, and vice versa.

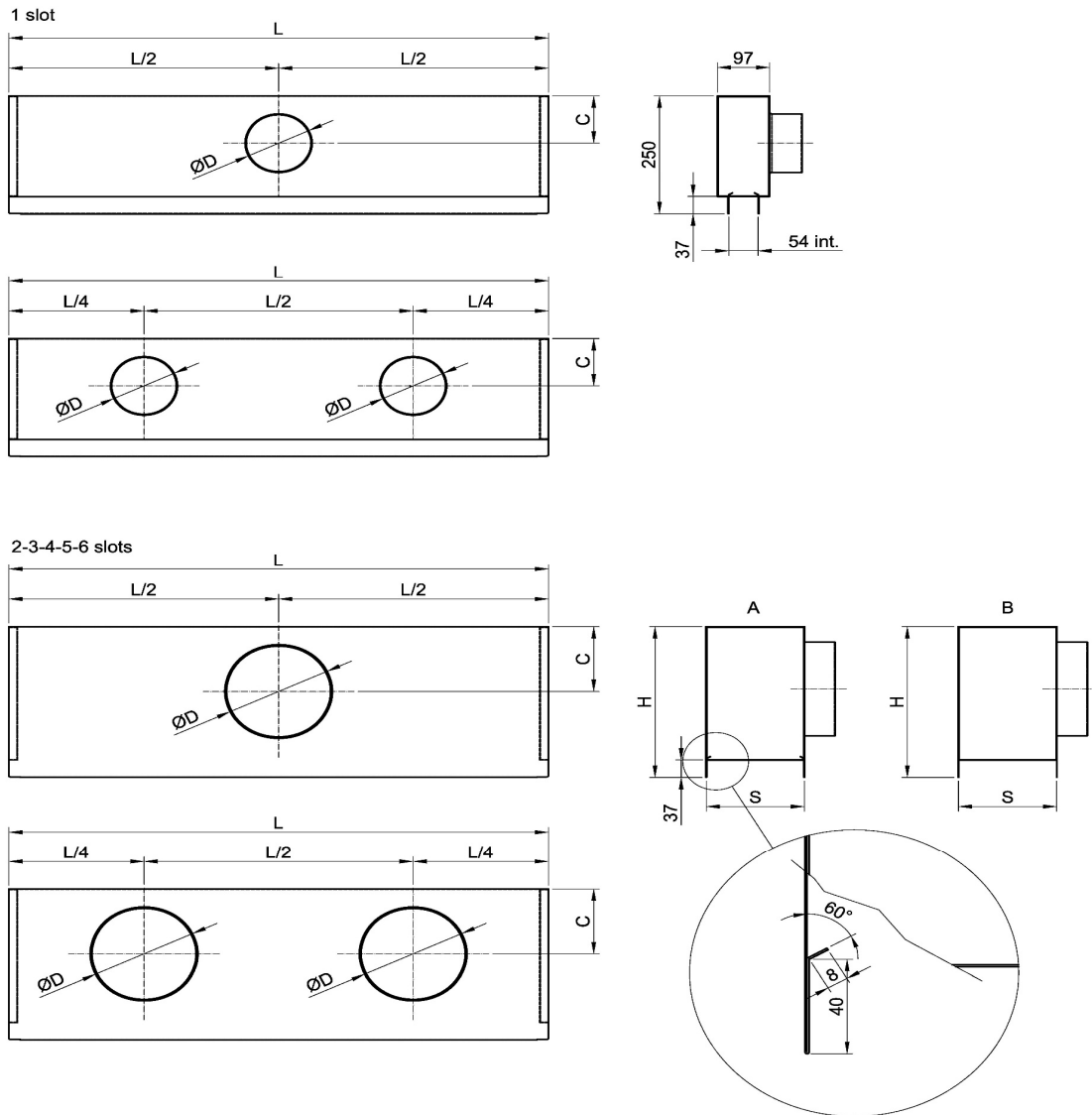
The blade is rotated from within the diffuser, with the use of a lever at both extremities of the air slot.



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STANDARD KLN PLENUM BOXES



L Nominal length of the diffuser

A Version for installation with quick fix connectors (standard version without filter holder)

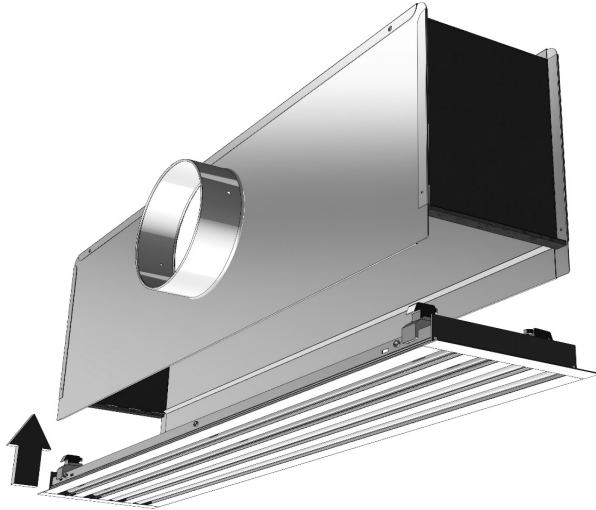
B Version for installation with rivets (filter holder, fineline, fitted and with panel versions)

Slots	H (mm)	S (mm)	C (mm)	L ≤ 1200 mm		1201 ≤ L ≤ 2000 mm		Holes in the countersceiling KLN standard version
				connector qty	ØD (mm)	connector qty	ØD (mm)	
1	250	54	100	1	124	2	124	L+15 x 61
2	250	95	115	1	158	2	158	L+15 x 104
3	320	138	135	1	198	2	198	L+15 x 147
4	320	181	135	1	198	2	198	L+15 x 190
5	370	224	160	1	248	2	248	L+15 x 233
6	370	267	160	1	248	2	248	L+15 x 276

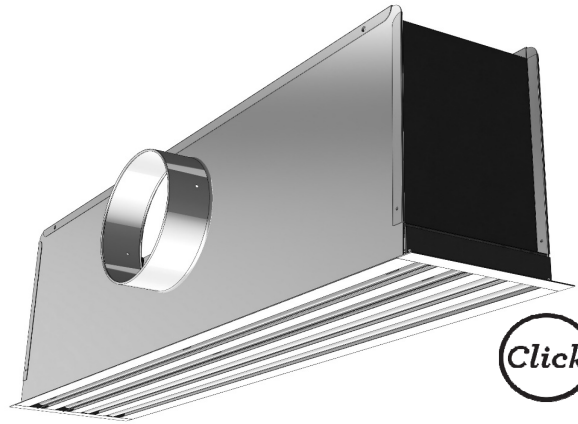
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INSTALLATION WITH QUICK FIX CONNECTORS STANDARD DIFFUSER



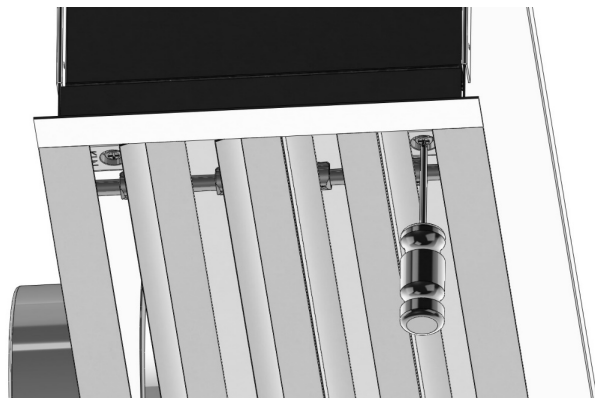
Insert the diffuser into the plenum



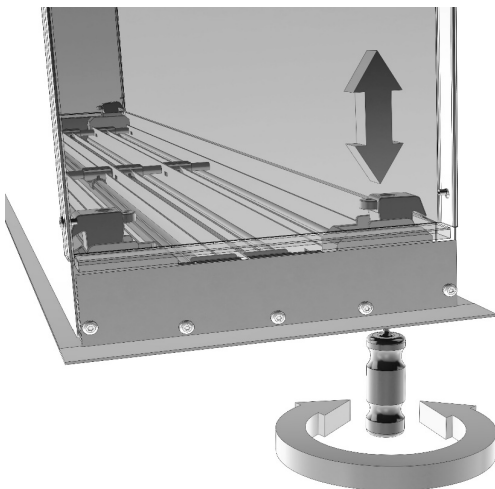
The diffuser will remain suspended



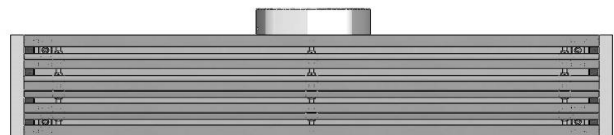
Open the deflectors



Insert a screwdriver



Tight the screws of the quick fix connectors



All done

One slot diffuser
Length up to 1500mm: 2 quick-fixes
Length over 1500mm: 4 quick-fixes

Diffuser with 2-3-4-5-6 slots
Length up to 1500mm: 4 quick-fixes
Length over 1500mm: 6 quick-fixes



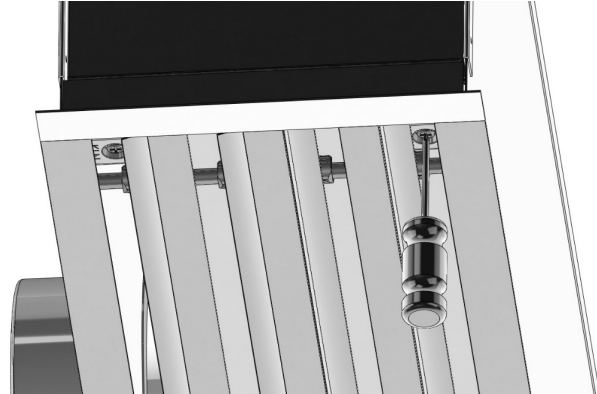
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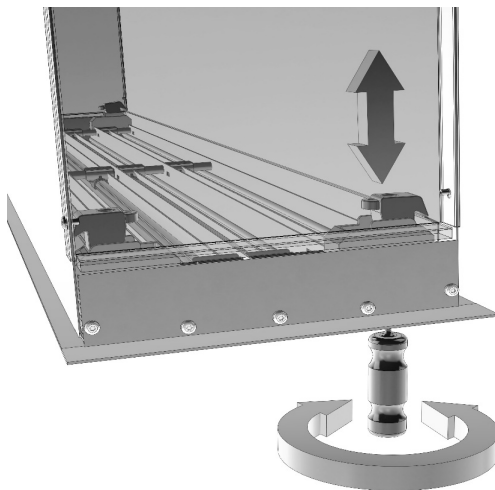
REMOVE THE DIFFUSER
FIXED WITH QUICK FIX CONNECTORS
STANDARD DIFFUSER



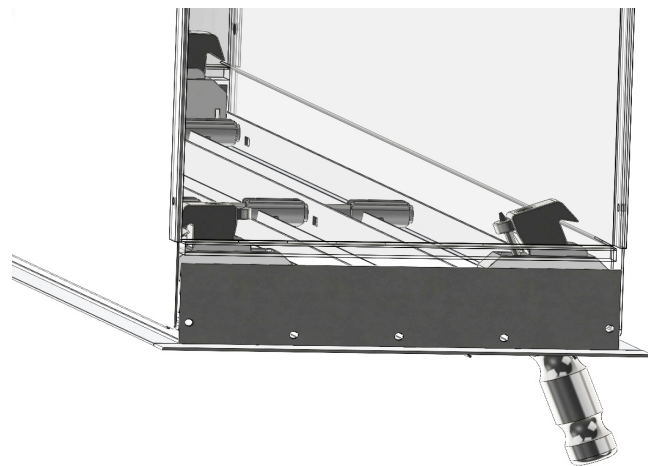
Open the blades



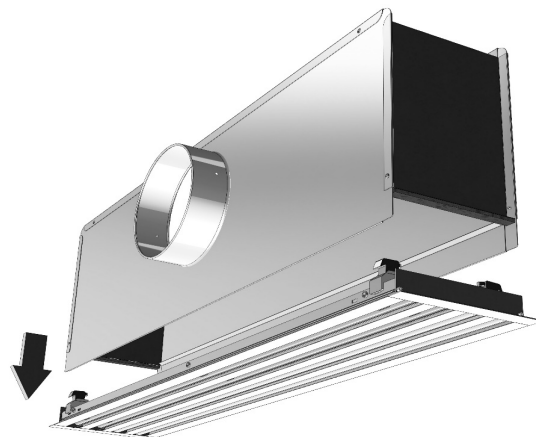
Insert a screwdriver



Loose the screws



Off-hook using the screwdriver



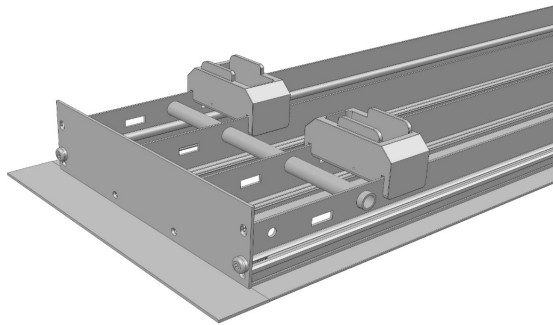
Estract the diffuser



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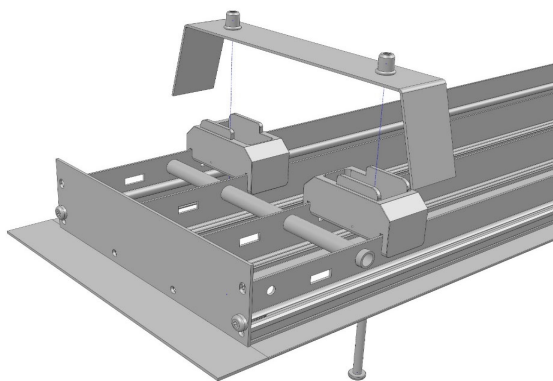
INSTALLATION IN PALSTERBOARD COUNTERCEILING STANDARD DIFFUSER WITHOUT PLENUM



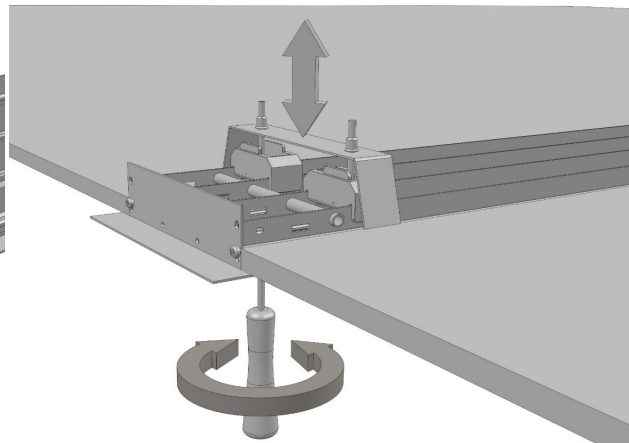
Fix the plastic elements



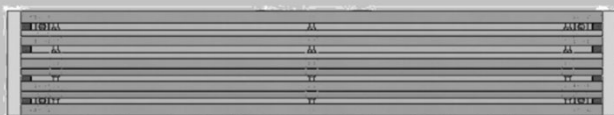
Insert the screws



Fix the metallic bridge



Insert the diffuser into the counterceiling
and tight the screws



All done

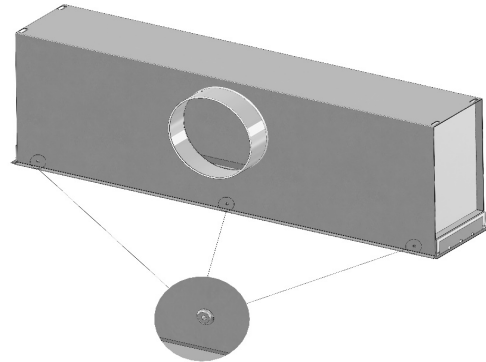
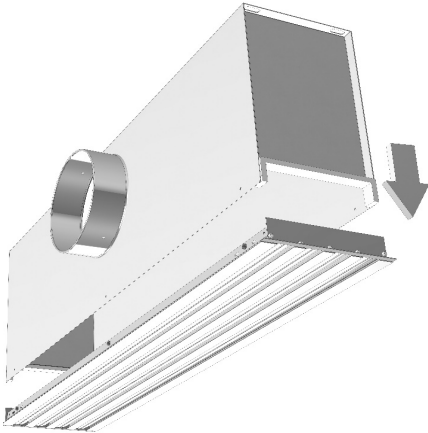


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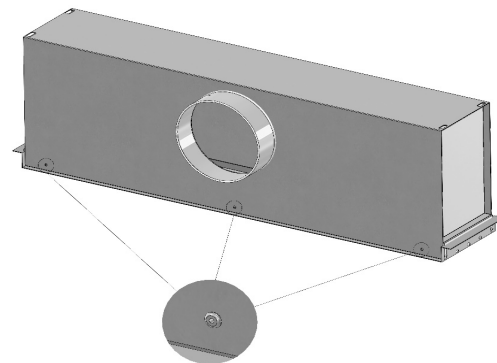
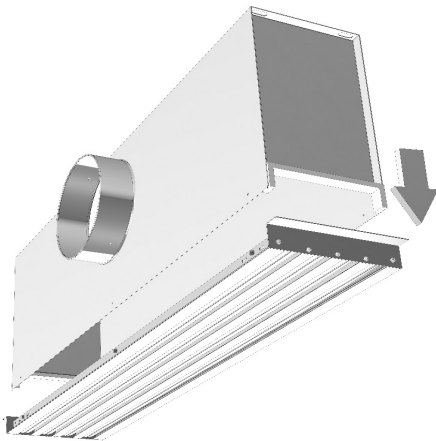
INSTALLATION WITH RIVETS

FINELINE VERSION



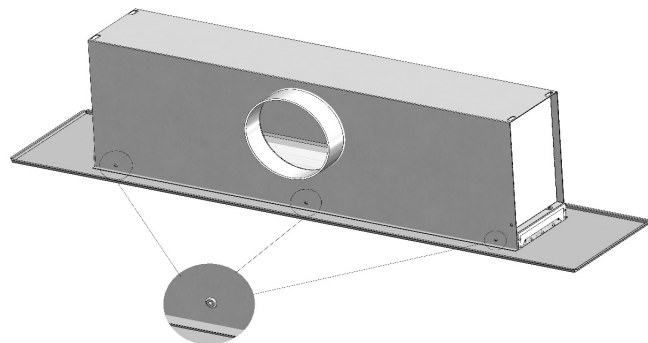
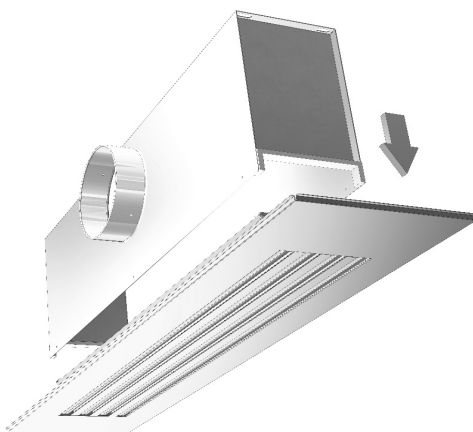
Fix both sides with rivets $\text{Ø}4,8 \times 10$
aligning them with each pipe placed on the diffuser frame

FITTED VERSION



Fix both sides with rivets $\text{Ø}4,8 \times 10$
aligning them with each pipe placed on the diffuser frame

VERSION WITH PANEL



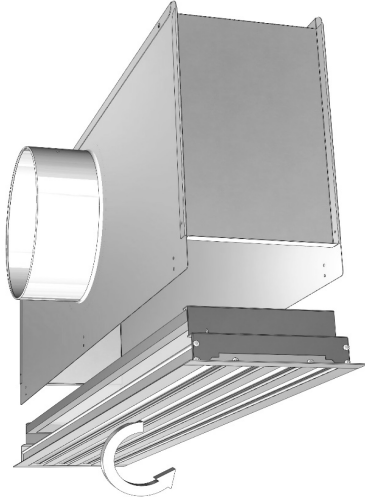
Fix both sides with rivets $\text{Ø}4,8 \times 10$
aligning them with each pipe placed on the diffuser frame



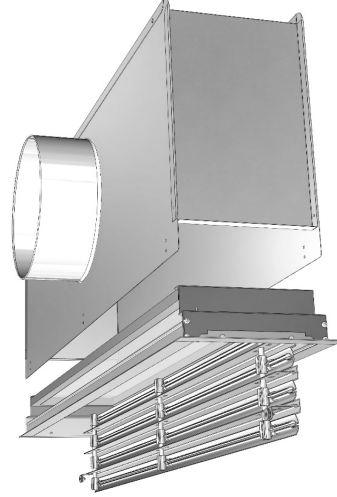
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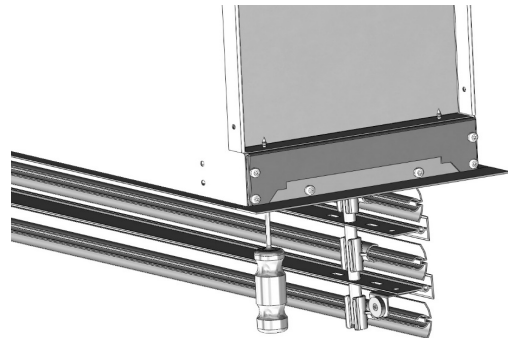
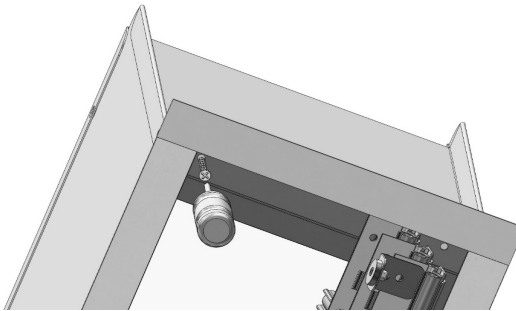
INSTALLATION FILTER HOLDER VERSION WITHOUT PANEL



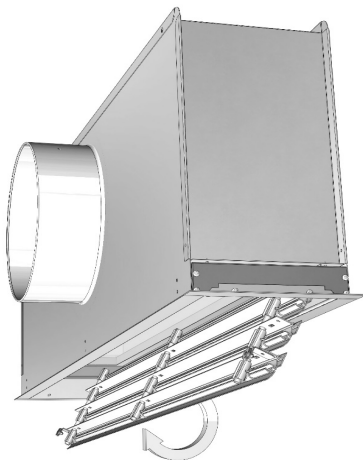
Open the diffuser



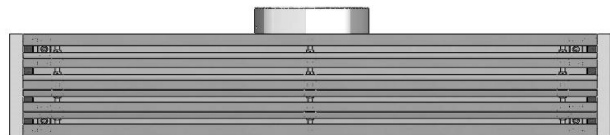
Insert the diffuser into the plenum



Fix the diffuser to the plenum using self-drilling screws



Close the diffuser



All done



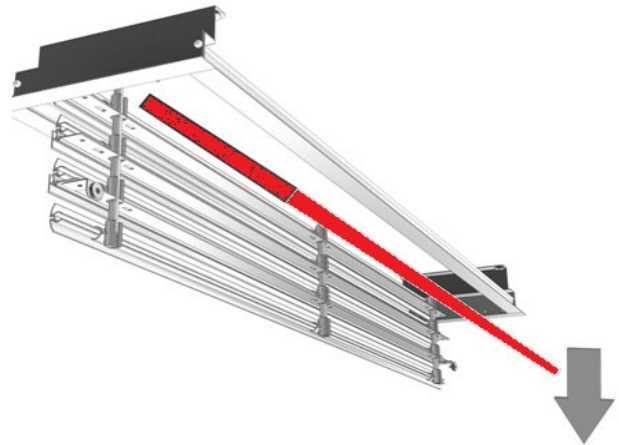
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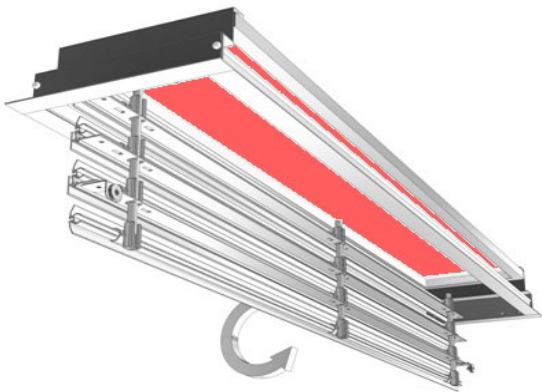
CHANGING THE FILTER



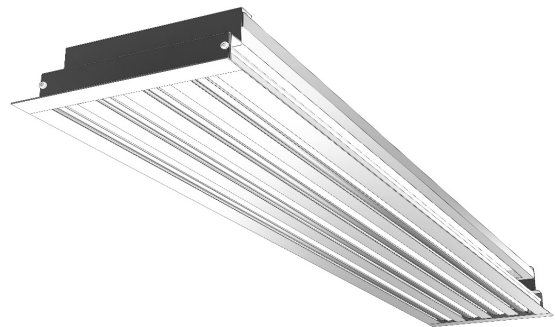
Open the diffuser



Pull the old filter in order to extract it
insert the new filter and fix it to the magnets



Close the diffuser



All done

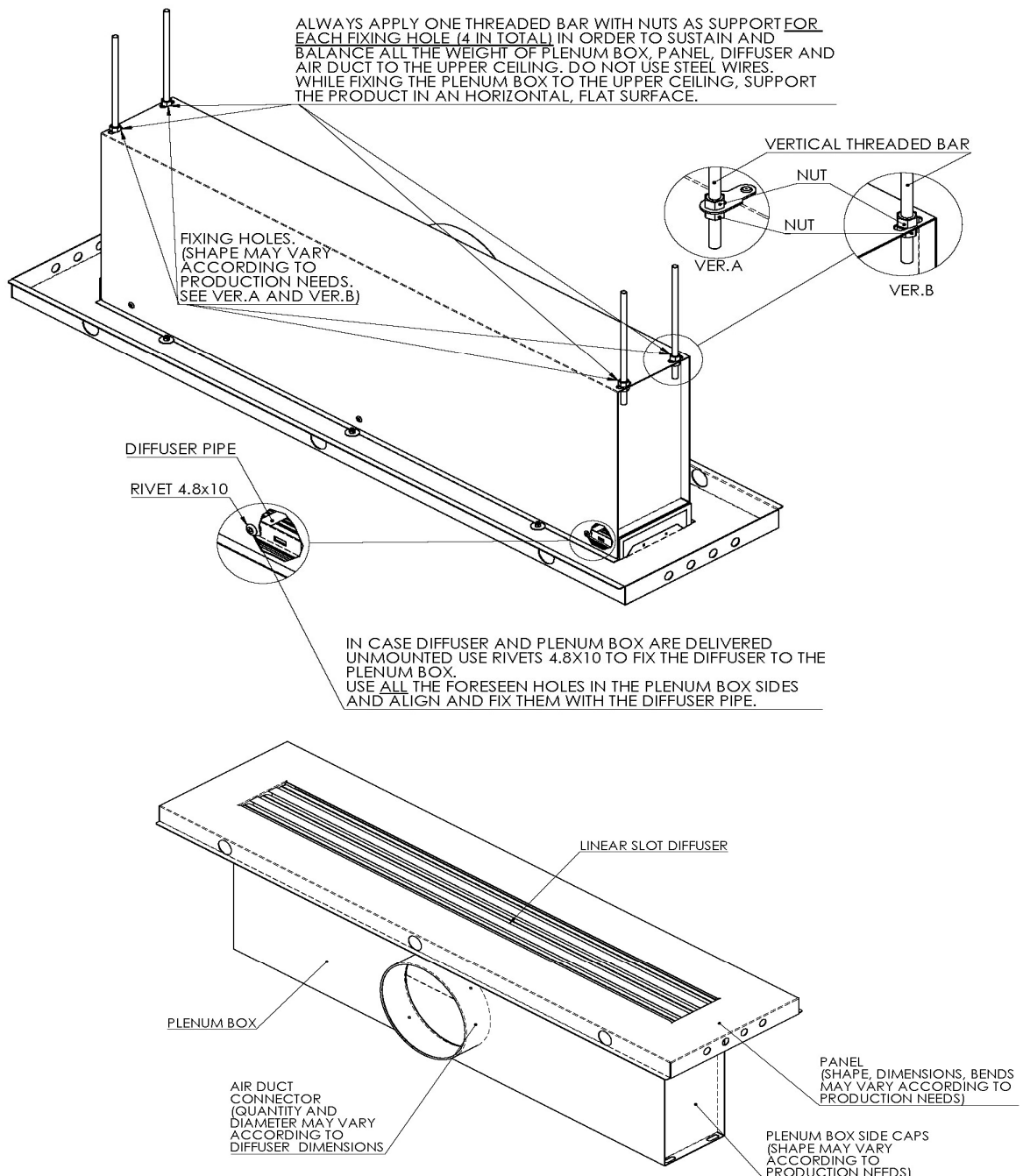


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CAUTIONS FOR VERSIONS WITH PANEL

Never apply forces of any kind on panel, this may imply panel deformation.
The weight of the panel itself, of the diffuser, of the plenum box and of the air duct has to be supported by plenum box hangers and not by the panel.
Always handle with care. never lift or handle the product using the panel.
To lift or handle the product please hold the plenum box body.
The manufacturer does not assume any responsibility in the event of uncorrect use.

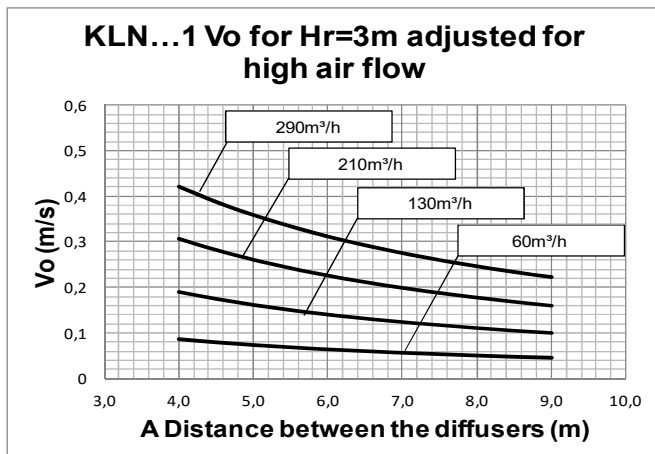
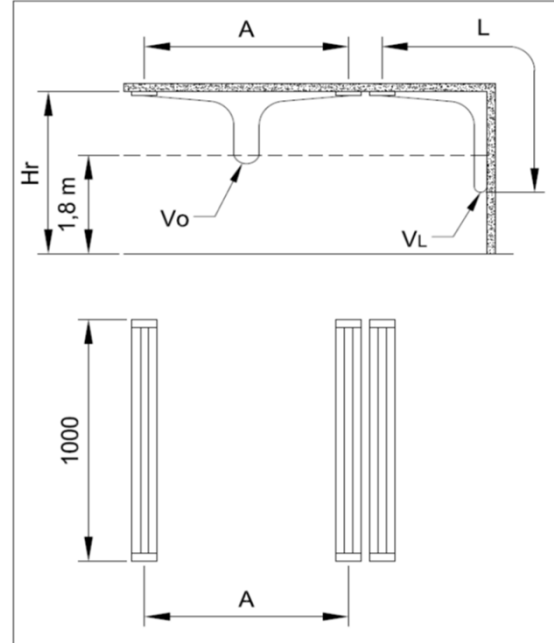
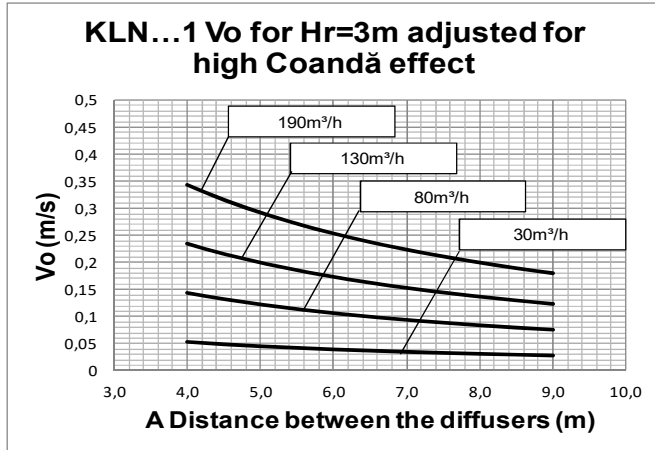




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ONE SLOT
Vo LIMIT OF THE OCCUPIED ZONE



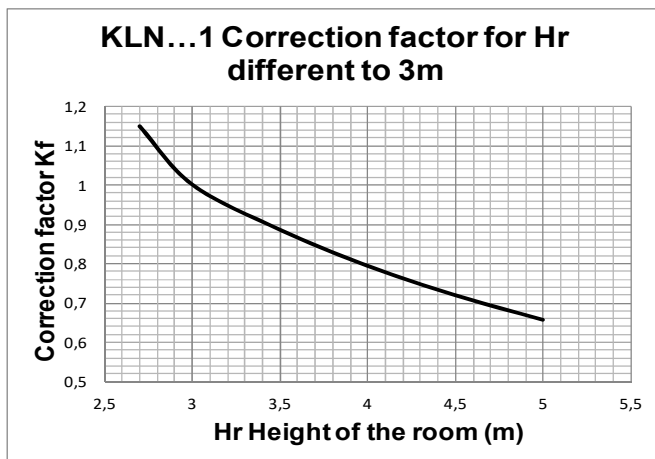
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

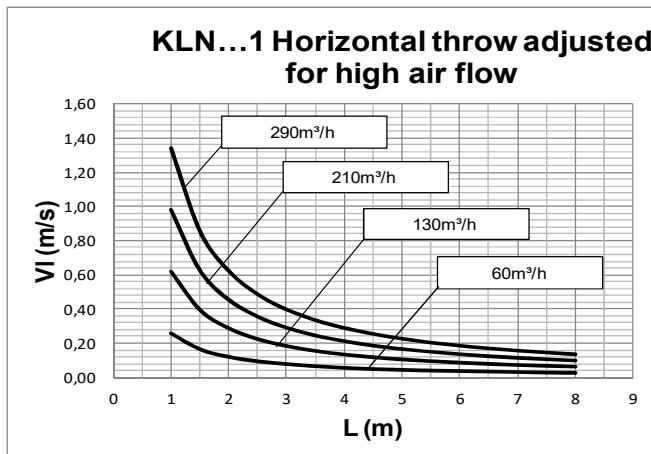
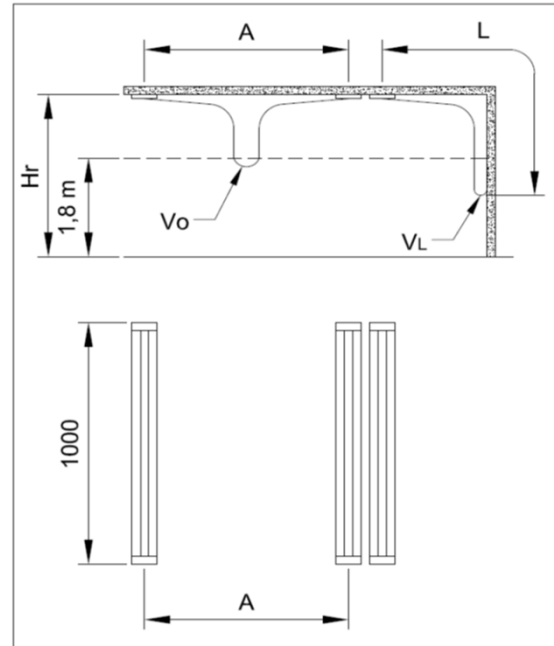
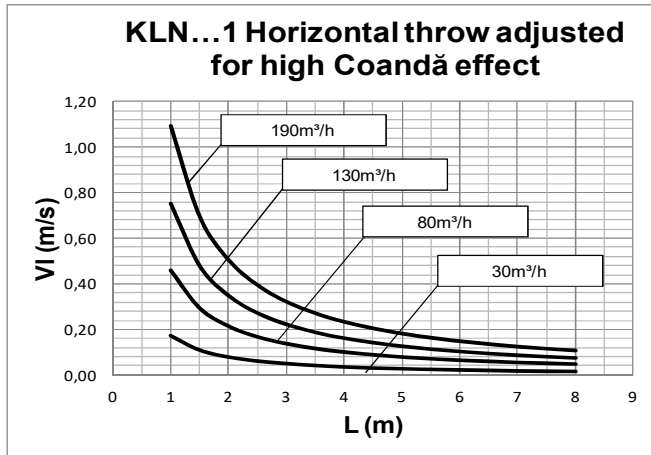




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ONE SLOT
HORIZONTAL THROW

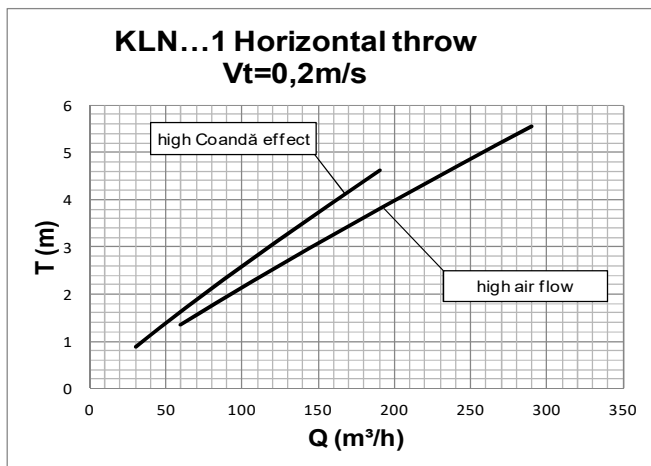


Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

L (m) horizontal distance in meters from the centre of diffuser

VL (m/s) maximum speed in air stream at distance L
T0,2 (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of $V_t=0,20\text{m/s}$.



Correction factor for non isothermal conditions

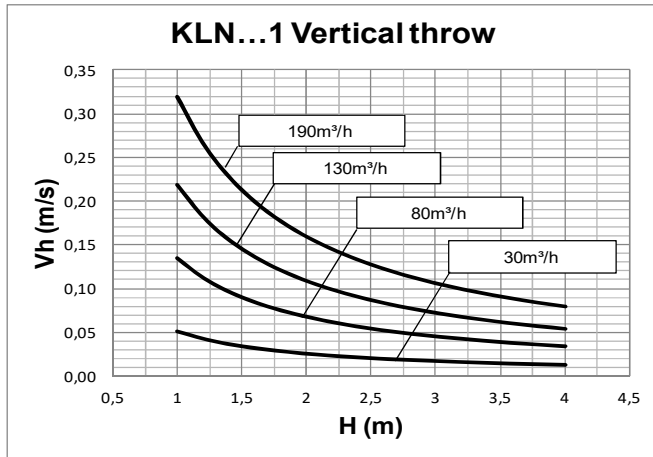
		ΔT	$\times K_f$
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



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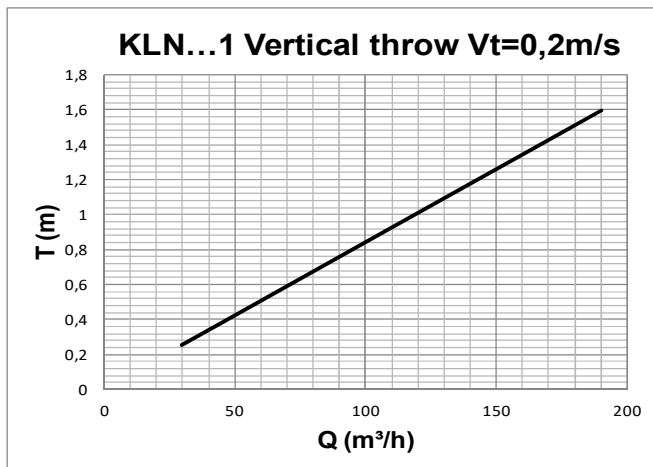
ONE SLOT VERTICAL THROW



Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

H (m) vertical distance in meters from ceiling
 Vh (m/s) maximum speed in air stream at distance H
 T0,2 (m) throw for an isothermal air jet for a terminal speed of Vt=0,20m/s.



Correction factor for non isothermal conditions

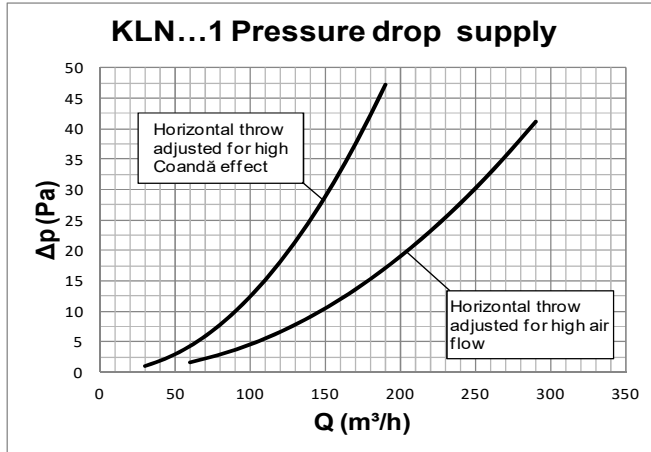
		ΔT	x Kf
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

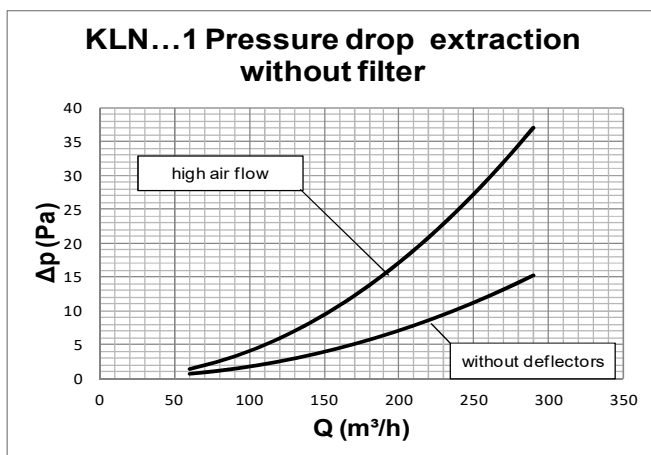
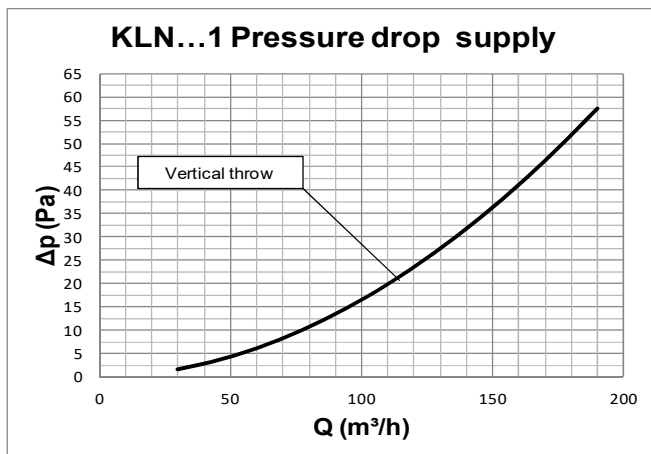
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ONE SLOT PRESSURE DROP



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

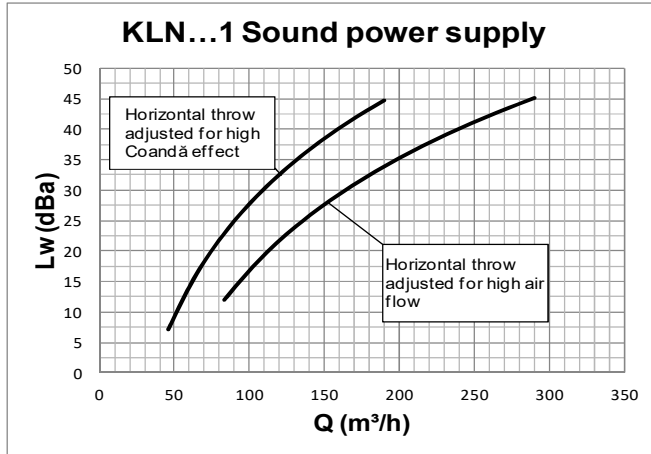




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ONE SLOT SOUND POWER

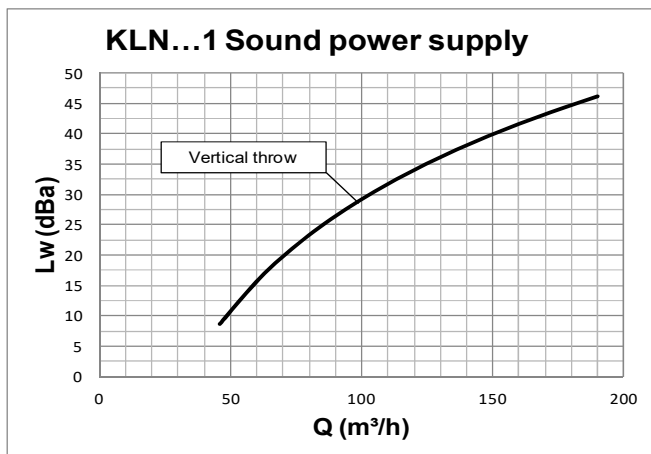


Data measured in reverberating room in accordance with the following international standards:

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

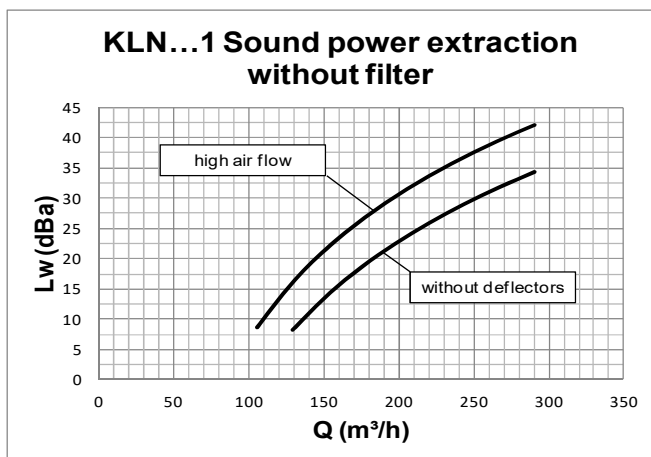
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

The data shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0

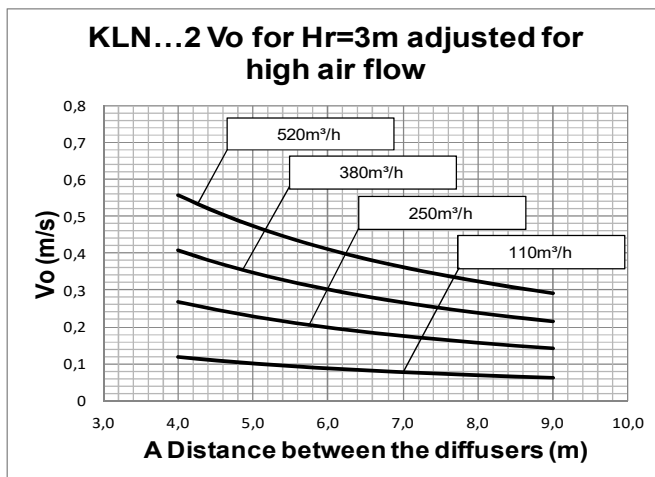
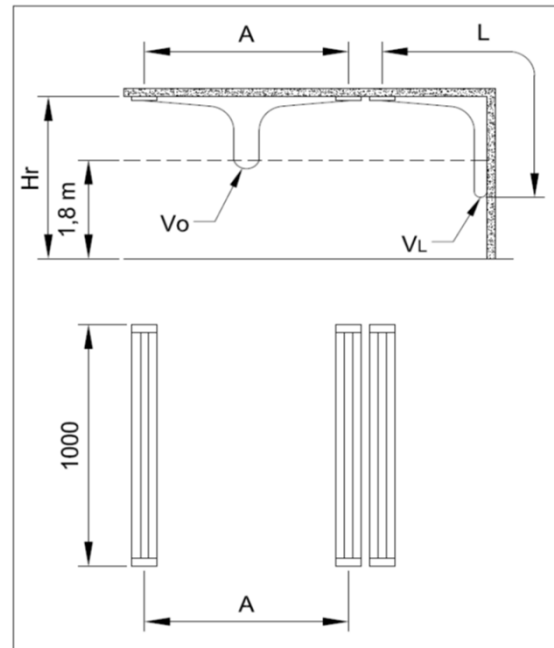
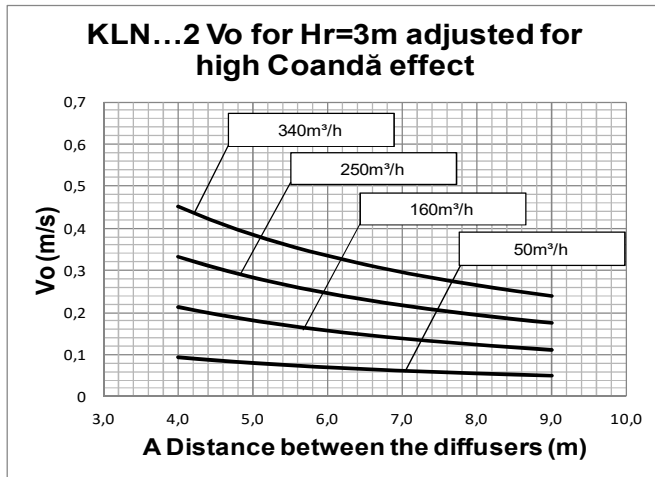




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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TWO SLOTS
Vo LIMIT OF THE OCCUPIED ZONE



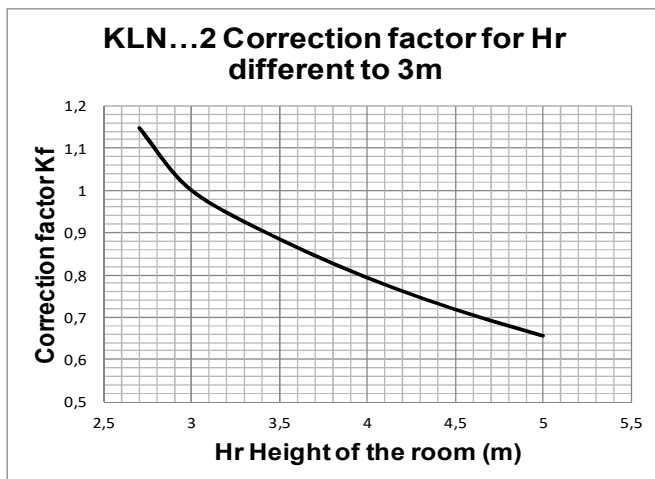
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

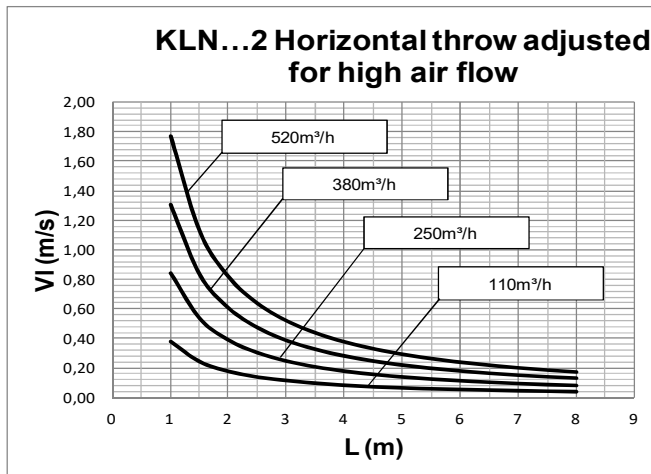
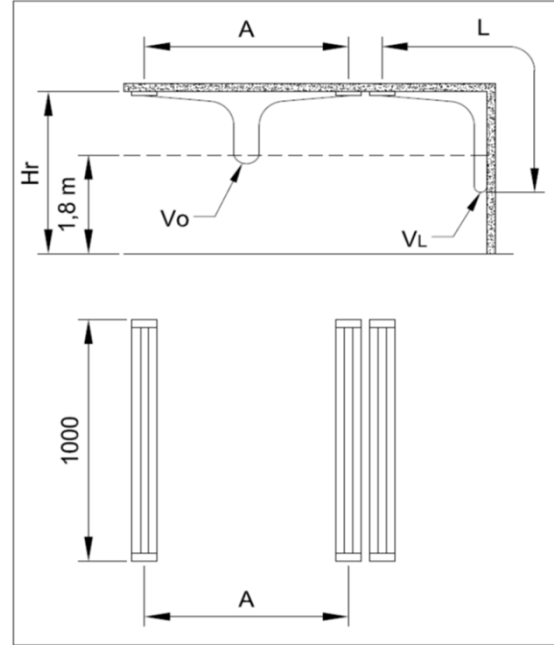
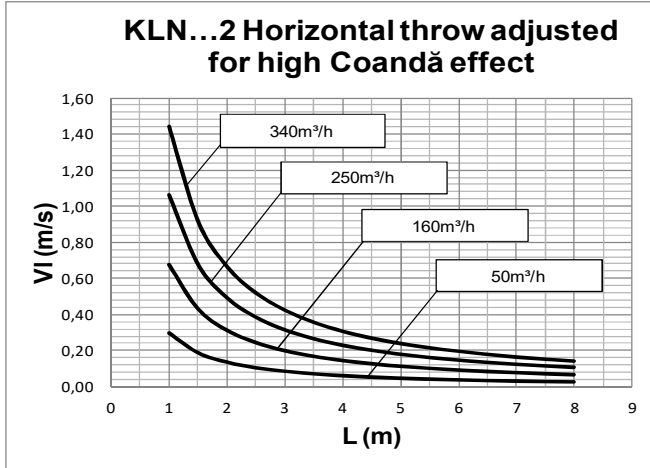




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

TWO SLOTS HORIZONTAL THROW

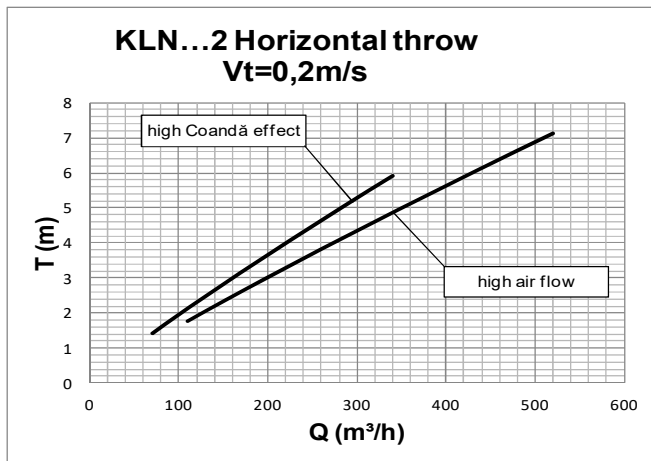


Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

L (m) horizontal distance in meters from the centre of diffuser

VL (m/s) maximum speed in air stream at distance L
T0,2 (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of $V_t=0,20\text{m/s}$.



Correction factor for non isothermal conditions

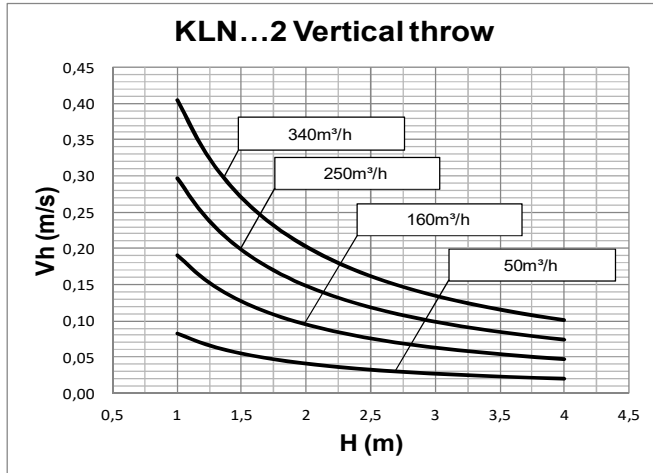
		ΔT	$\times K_f$
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

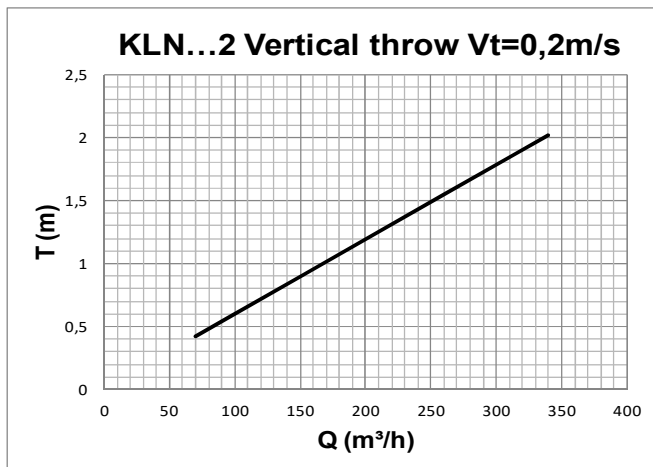
TWO SLOTS
VERTICAL THROW



Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

H (m) vertical distance in meters from ceiling
 Vh (m/s) maximum speed in air stream at distance H
 T0,2 (m) throw for an isothermal air jet for a terminal speed of Vt=0,20m/s.



Correction factor for non isothermal conditions

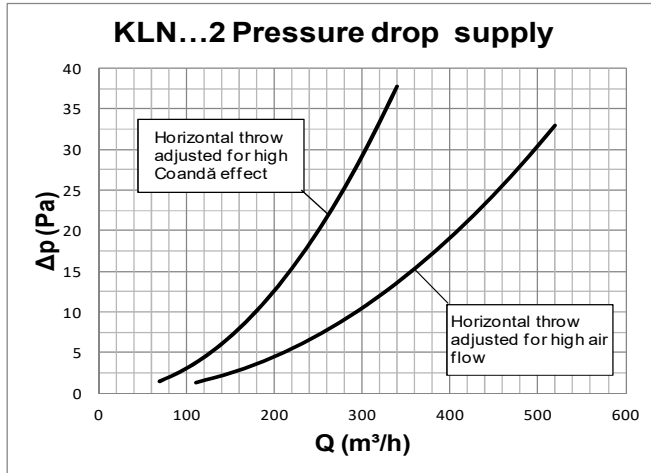
		ΔT	x Kf
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

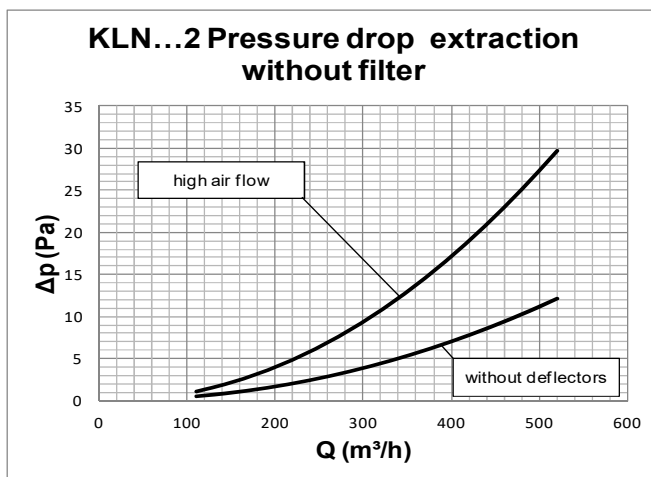
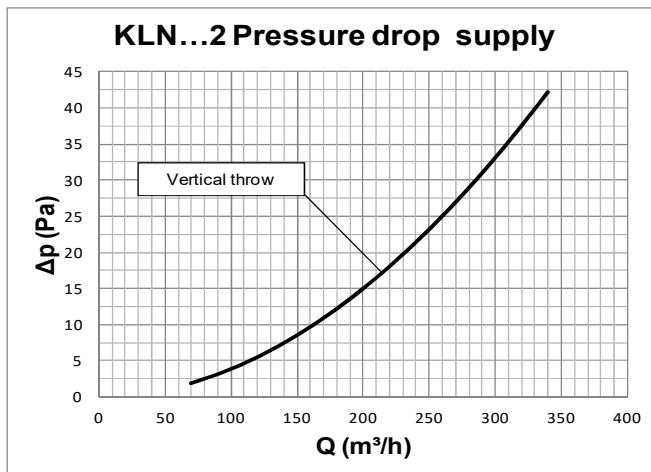
KLN
SERIES

TWO SLOTS PRESSURE DROP



Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

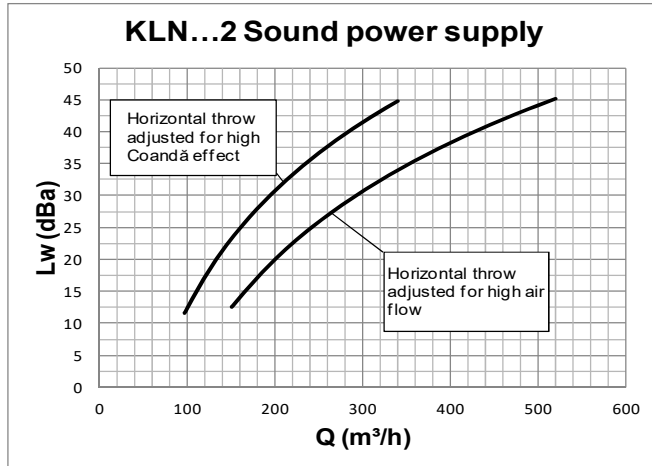




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

TWO SLOTS SOUND POWER

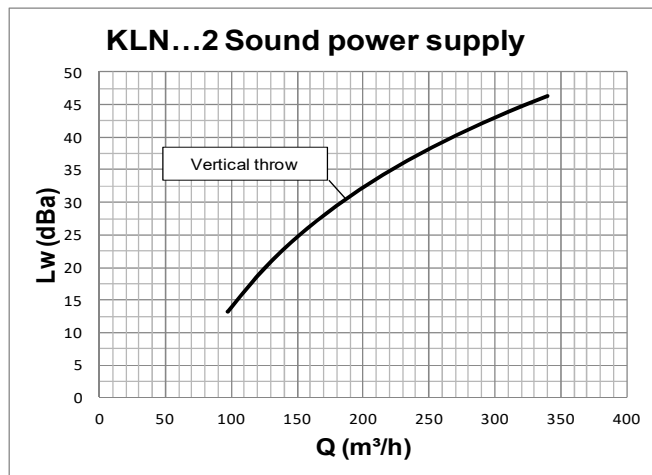


Data measured in reverberating room in accordance with the following international standards:

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

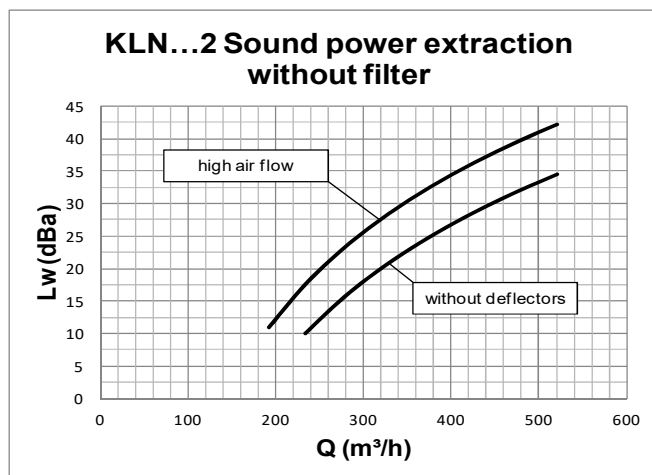
ISO 5135 1997: *Acoustic - determination of sound power levels of noise from air-terminal devices ; air terminal units; dampers and valves by measurement in a reverberation room.*

The data shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0

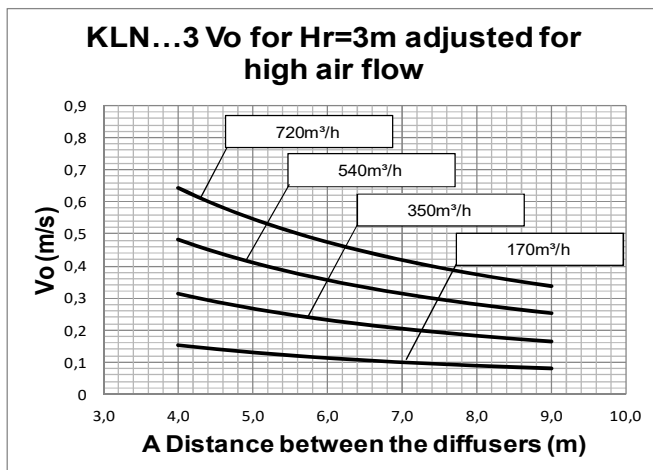
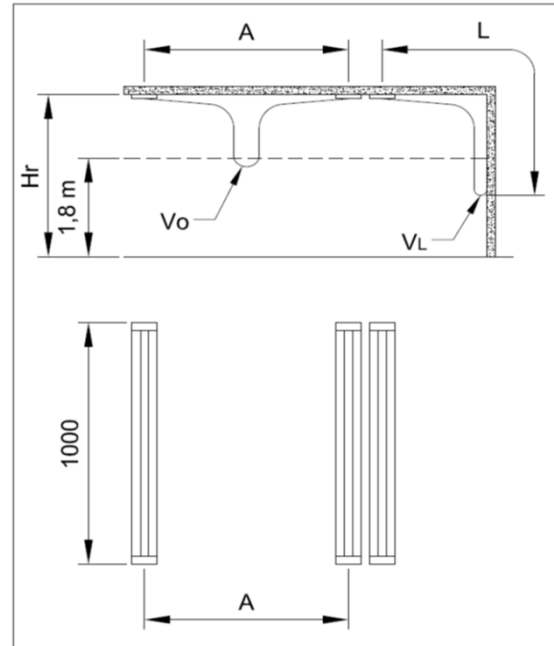
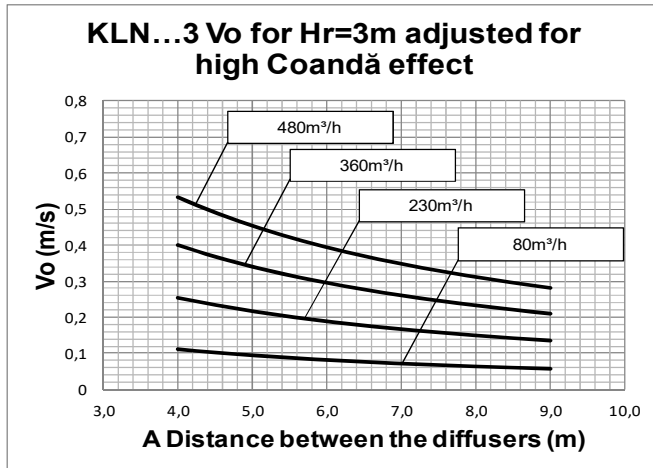




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

THREE SLOTS
Vo LIMIT OF THE OCCUPIED ZONE



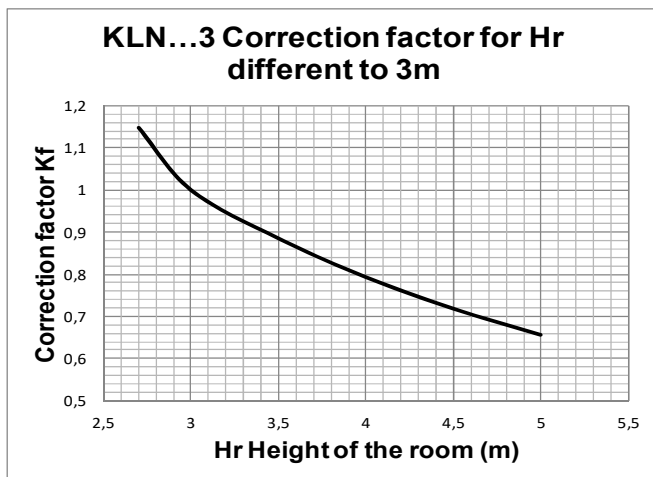
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

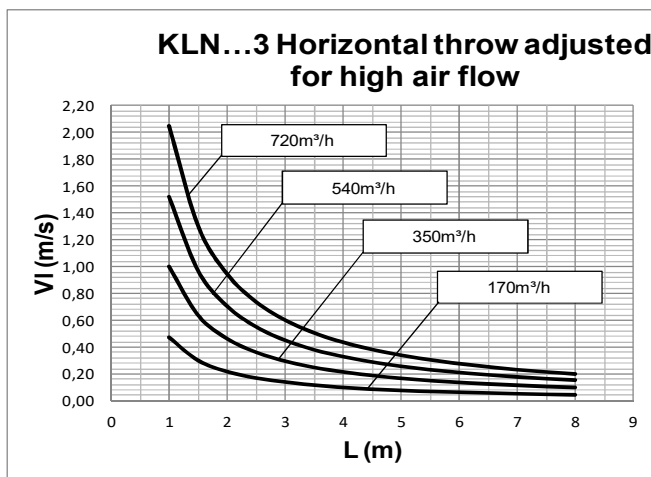
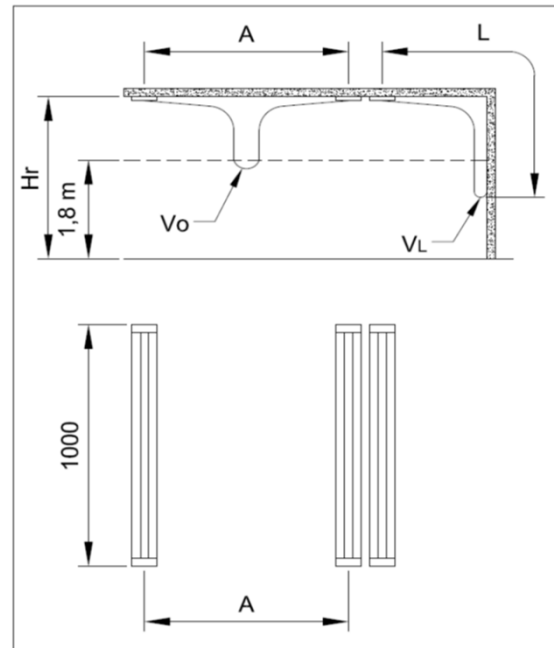
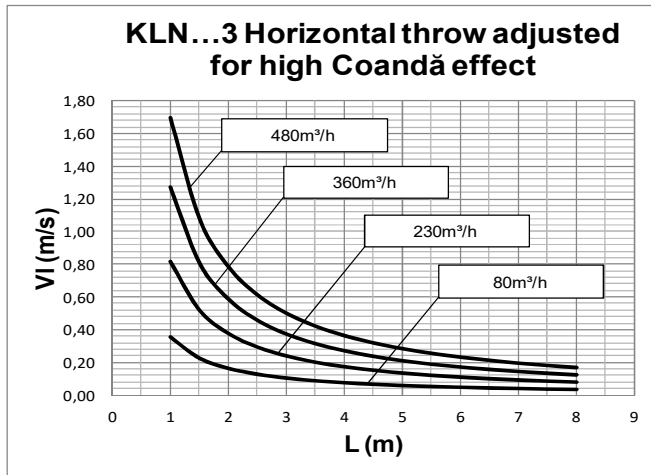




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

THREE SLOTS HORIZONTAL THROW

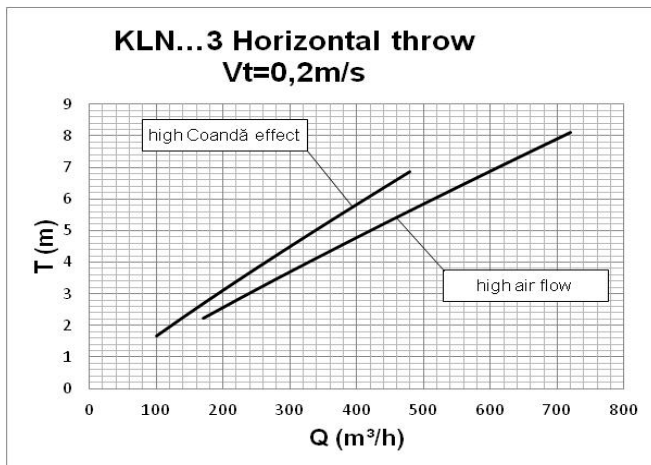


Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

L (m) horizontal distance in meters from the centre of diffuser

VL (m/s) maximum speed in air stream at distance L
T0,2 (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of $V_t=0,20\text{m/s}$.



Correction factor for non isothermal conditions

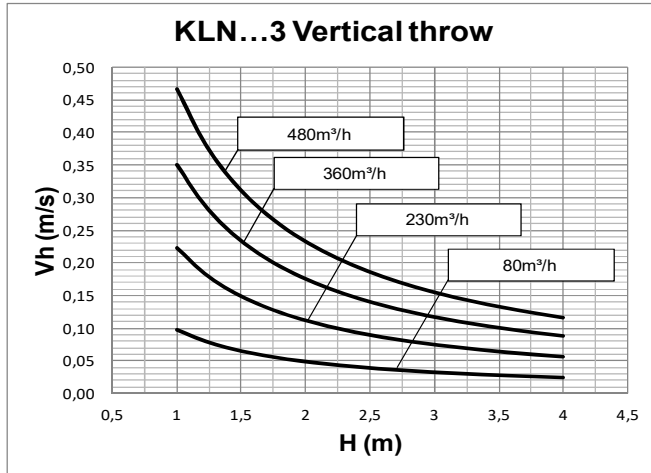
		ΔT	$\times K_f$
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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THREE SLOTS VERTICAL THROW

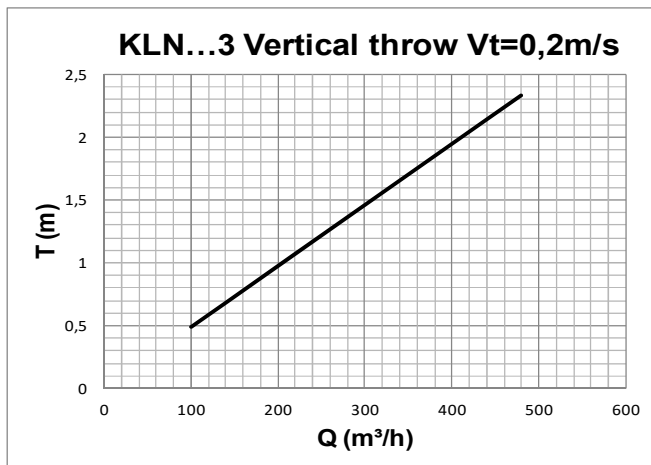


Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

ISO 5219 1984: *Air distribution and air diffusion -*

Laboratory. Aerodynamic testing and rating of air terminal devices.

H (m) vertical distance in meters from ceiling
 Vh (m/s) maximum speed in air stream at distance H
 T0,2 (m) throw for an isothermal air jet for a terminal speed of $V_t=0,20\text{m/s}$.



Correction factor for non isothermal conditions

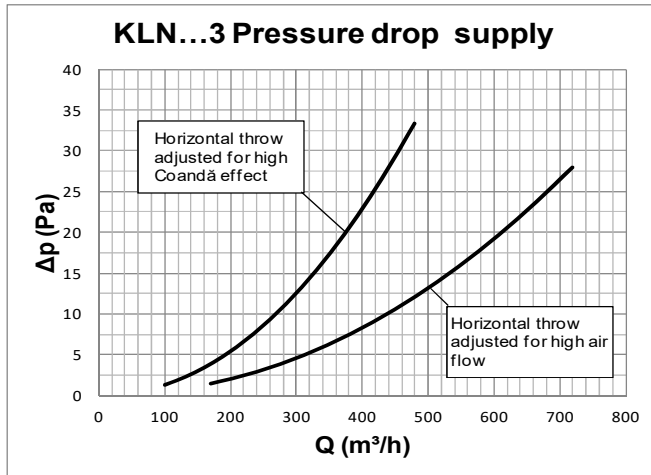
		ΔT	x Kf
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

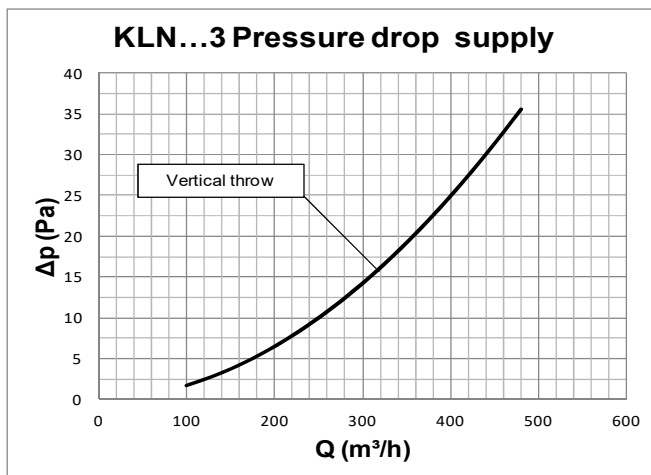
KLN
SERIES

THREE SLOTS PRESSURE DROP - SUPPLY



Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

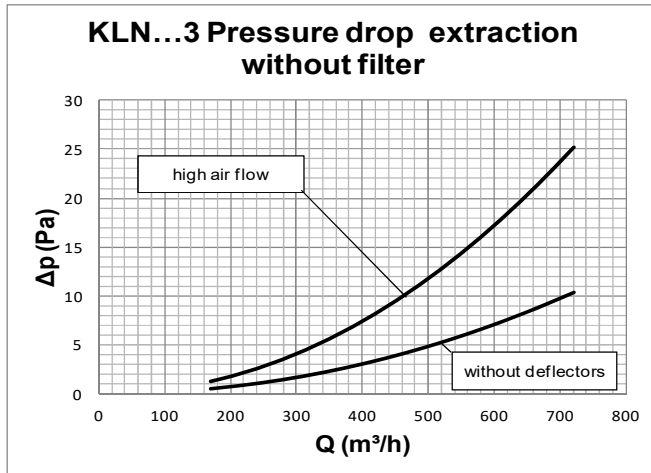




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

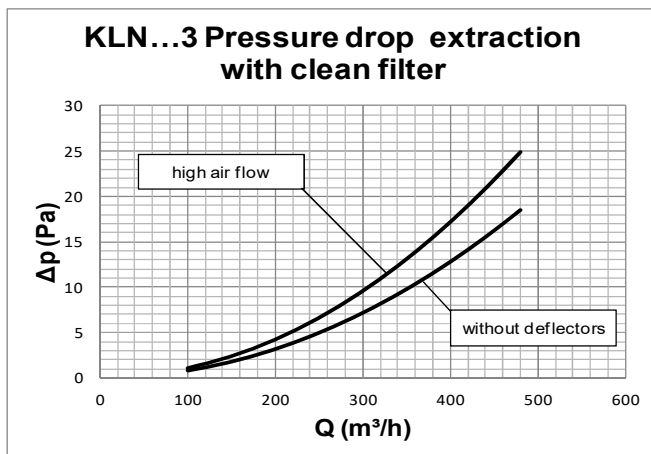
KLN
SERIES

THREE SLOTS PRESSURE DROP - EXTRACTION



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

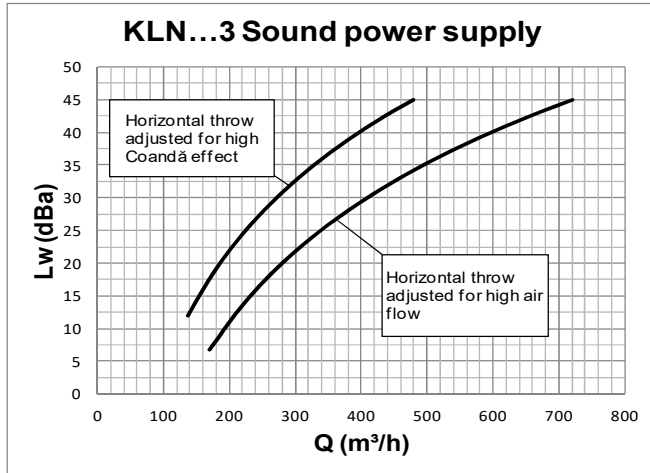




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

THREE SLOTS SOUND POWER - SUPPLY

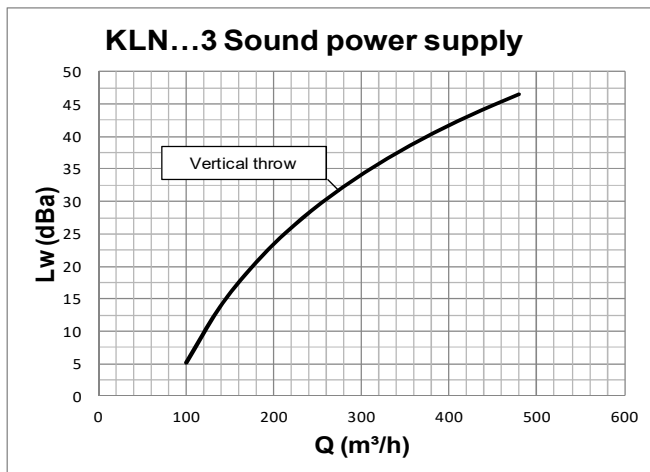


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

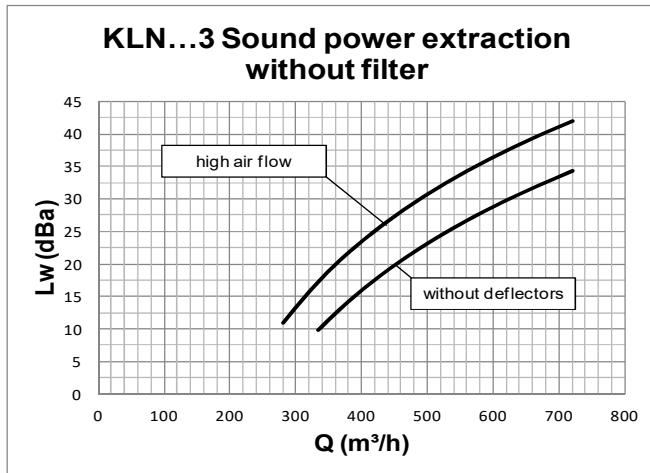
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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THREE SLOTS SOUND POWER - EXTRACTION

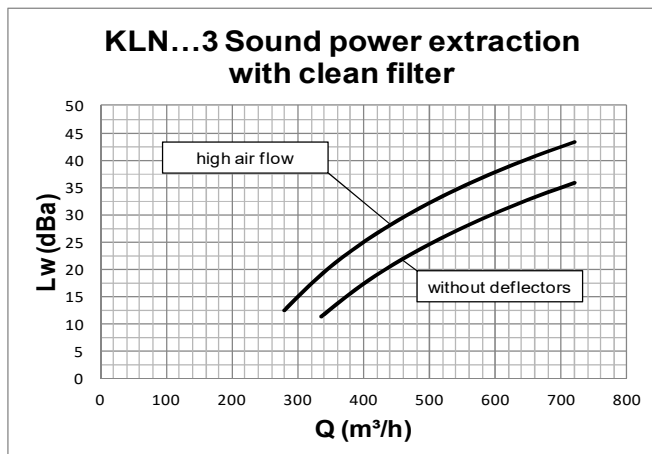


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

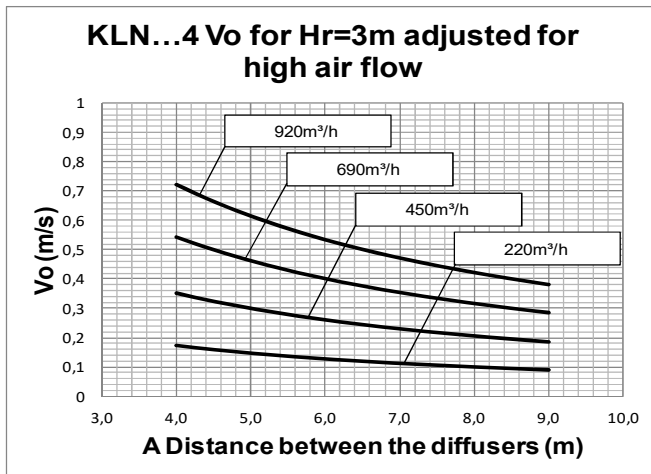
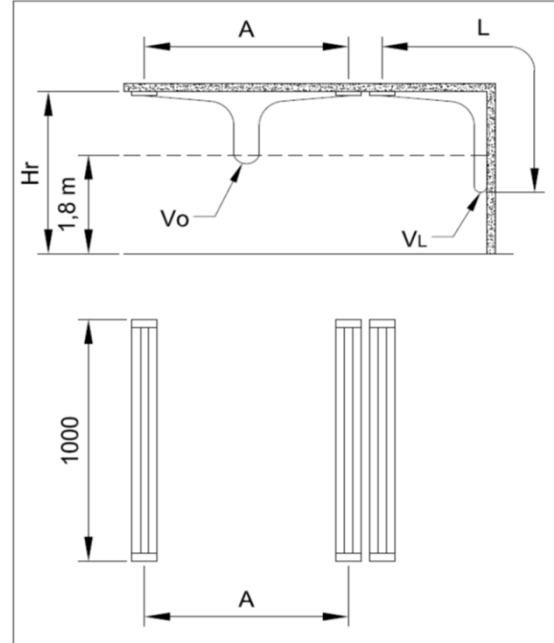
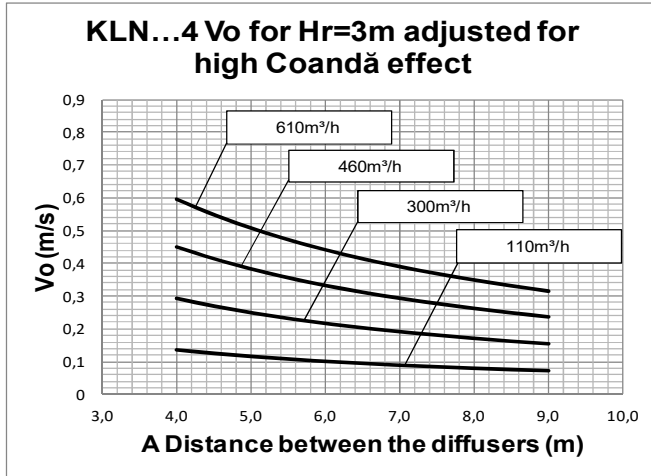
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FOUR SLOTS
Vo LIMIT OF THE OCCUPIED ZONE



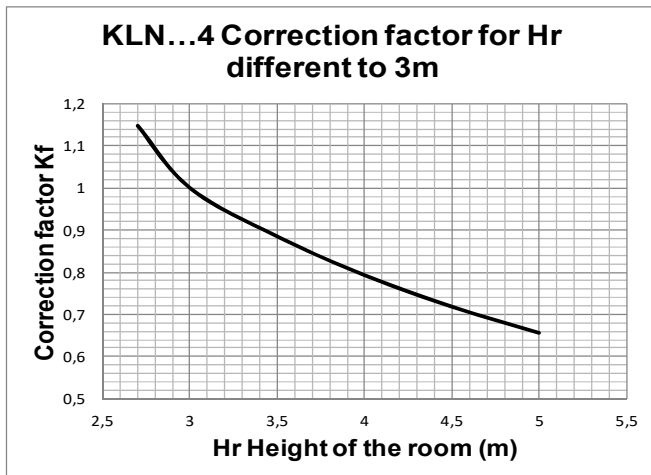
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

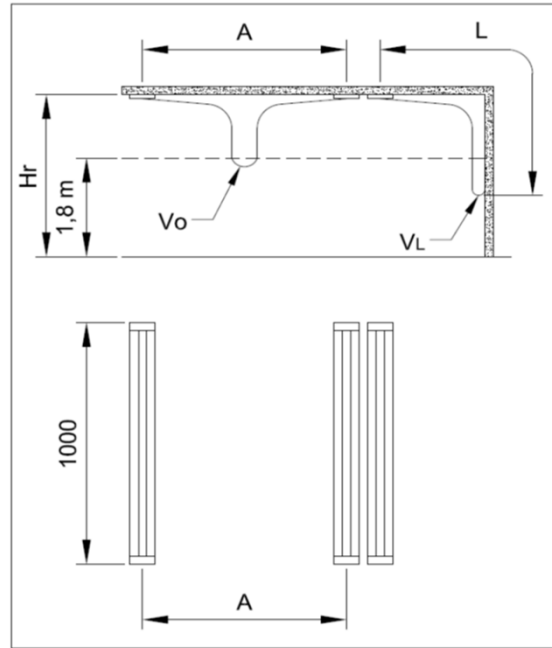
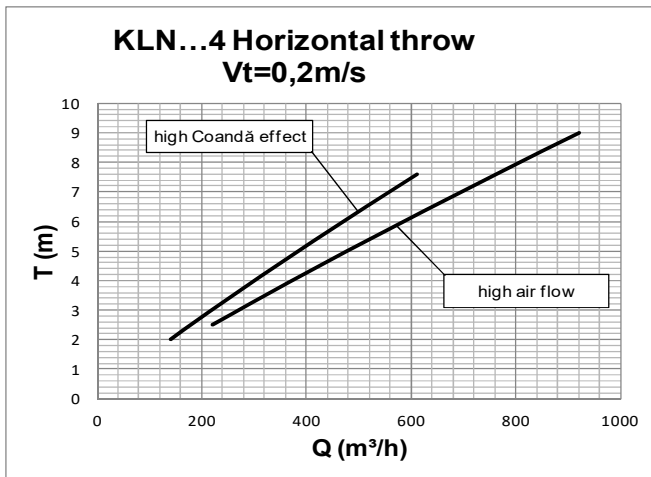
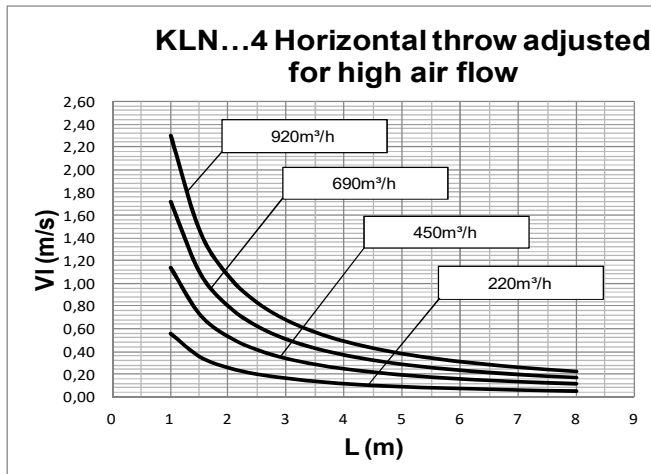
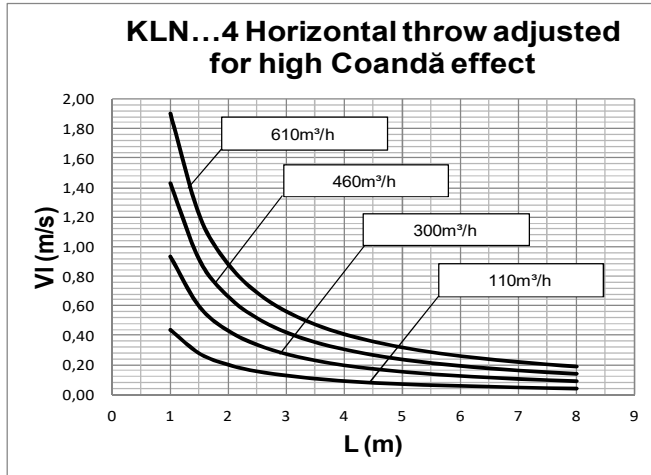




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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FOUR SLOTS
HORIZONTAL THROW



Aeraulic data measured in isothermic conditions for a one meter long diffuser 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 meters from the centre of diffuser

VL (m/s) maximum speed in air stream at distance L
T0,2 (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of Vt=0,20m/s.

Correction factor for non isothermal conditions

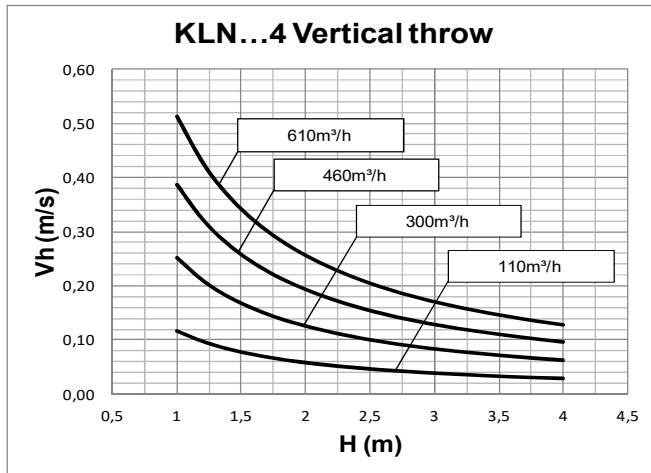
		ΔT	$\times K_f$
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

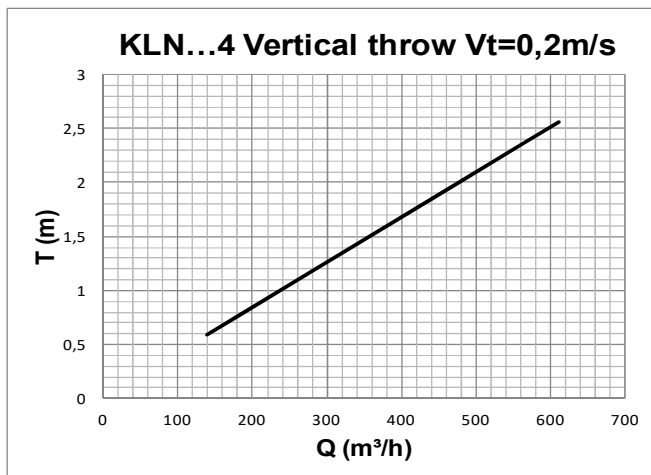
FOUR SLOTS VERTICAL THROW



Aerulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

H (m) vertical distance in meters from ceiling
 Vh (m/s) maximum speed in air stream at distance H
 T0,2 (m) throw for an isothermal air jet for a terminal speed of $V_t=0,20\text{m/s}$.



Correction factor for non isothermal conditions

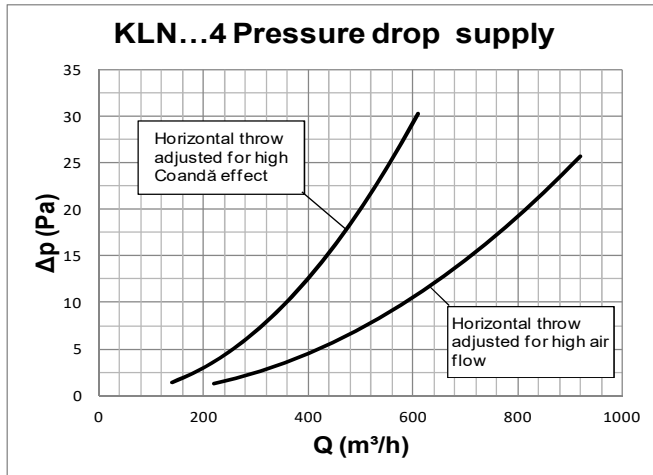
		ΔT	$\times K_f$
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

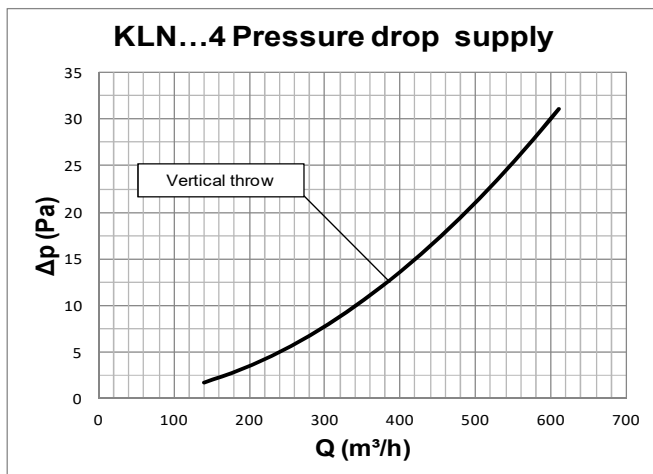
KLN
SERIES

FOUR SLOTS PRESSURE DROP - SUPPLY



Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

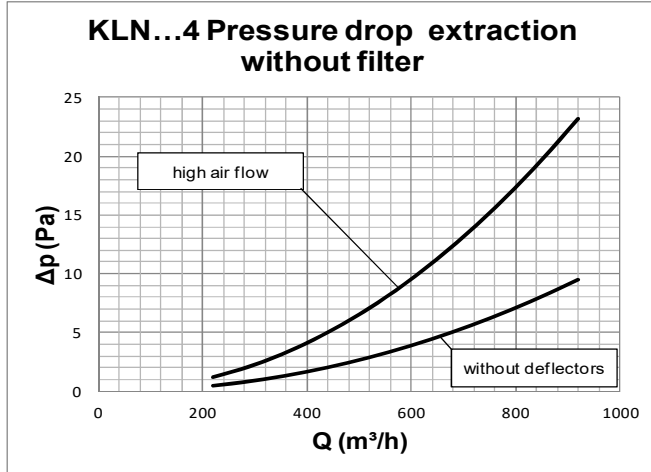




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

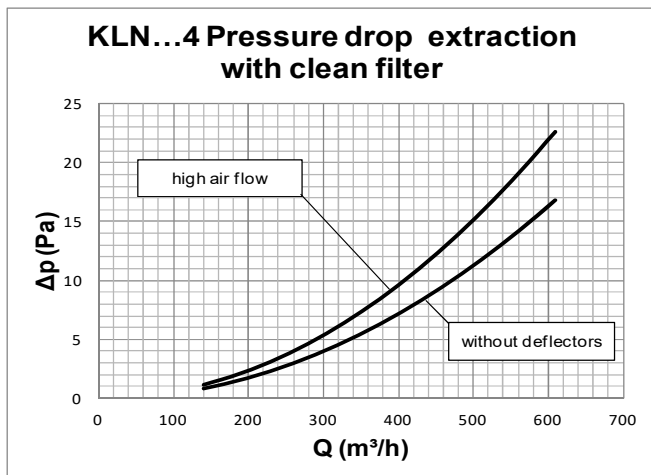
KLN
SERIES

FOUR SLOTS
PRESSURE DROP - EXTRACTION



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

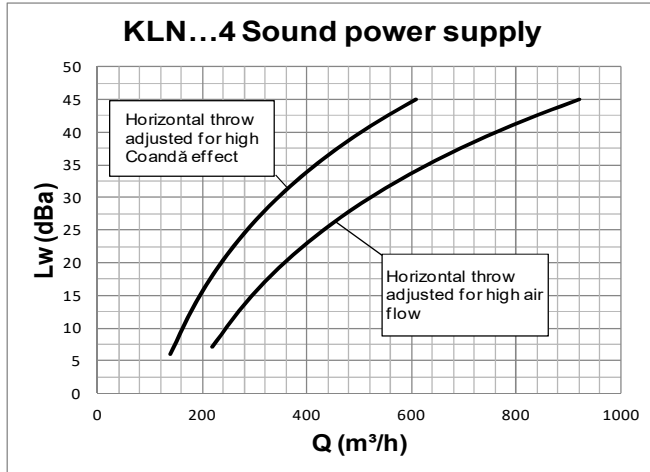




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FOUR SLOTS
SOUND POWER - SUPPLY

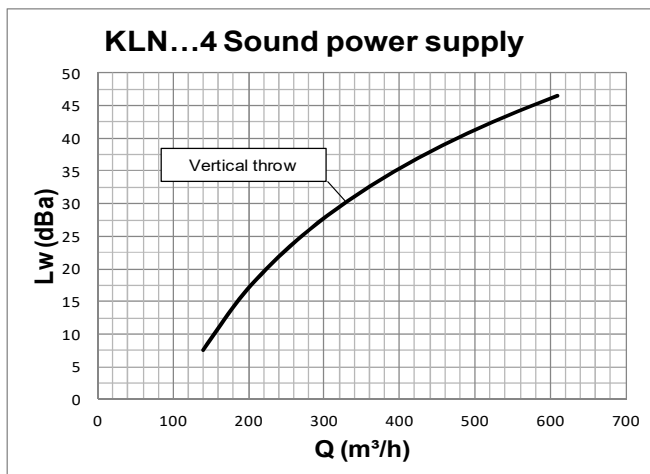


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

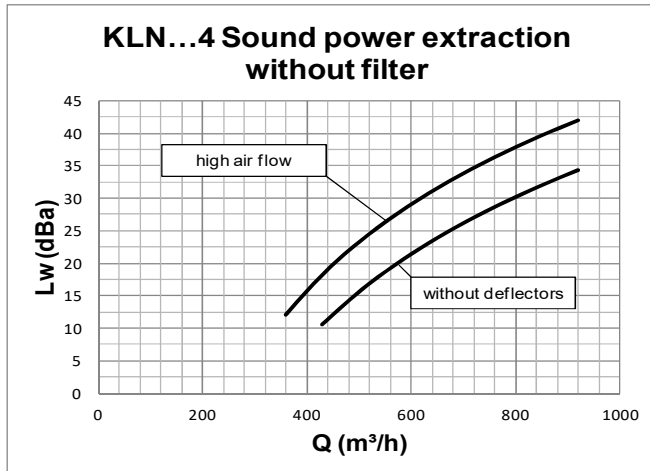
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FOUR SLOTS SOUND POWER - EXTRACTION

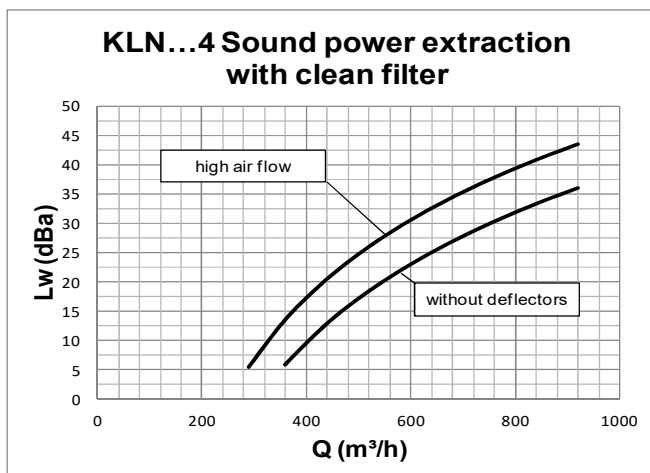


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

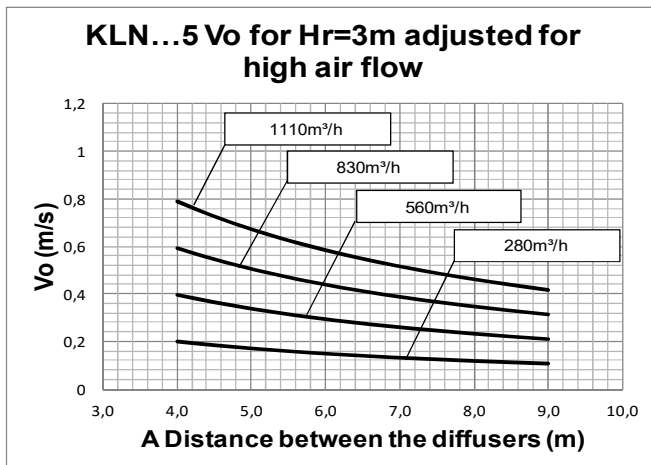
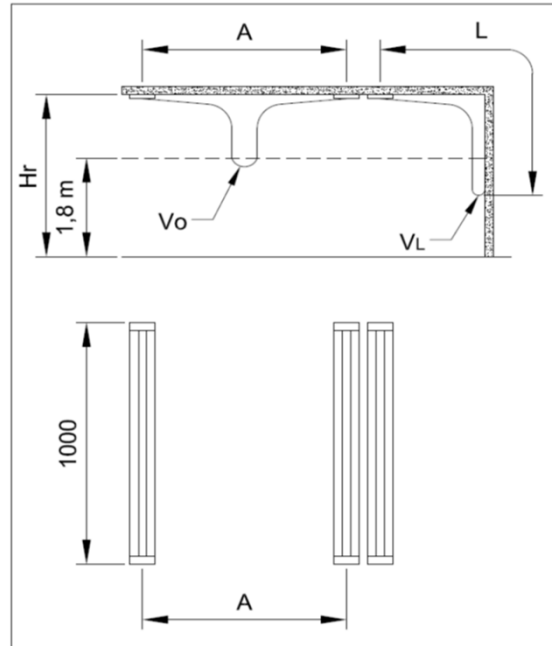
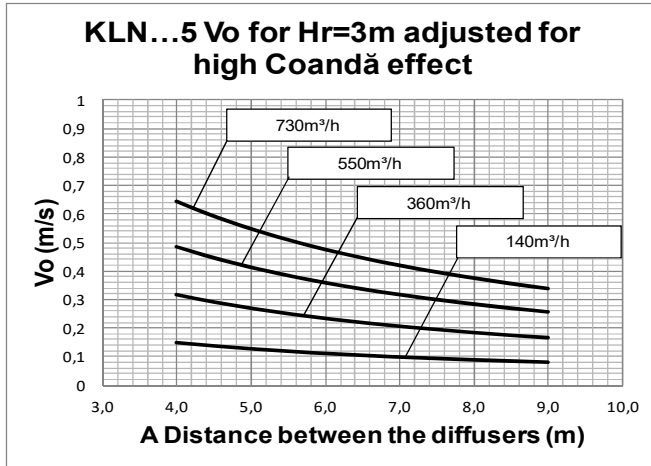
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FIVE SLOTS
Vo LIMIT OF THE OCCUPIED ZONE



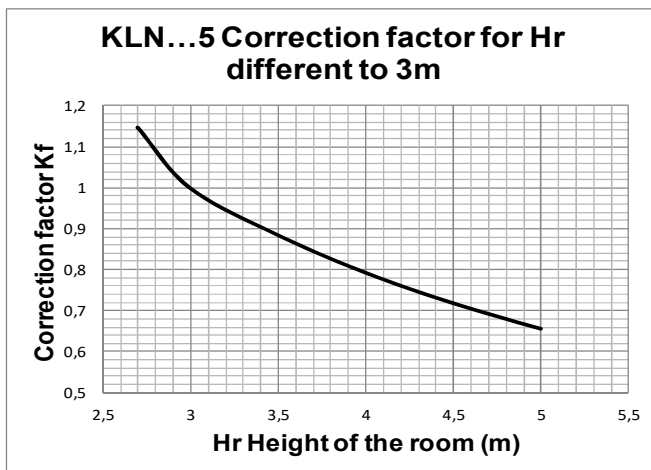
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

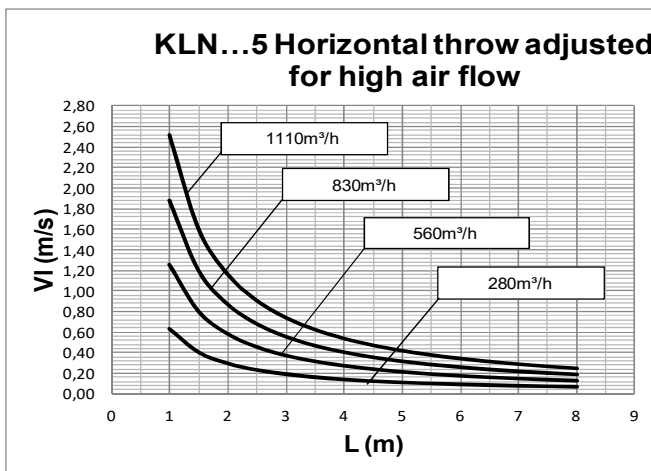
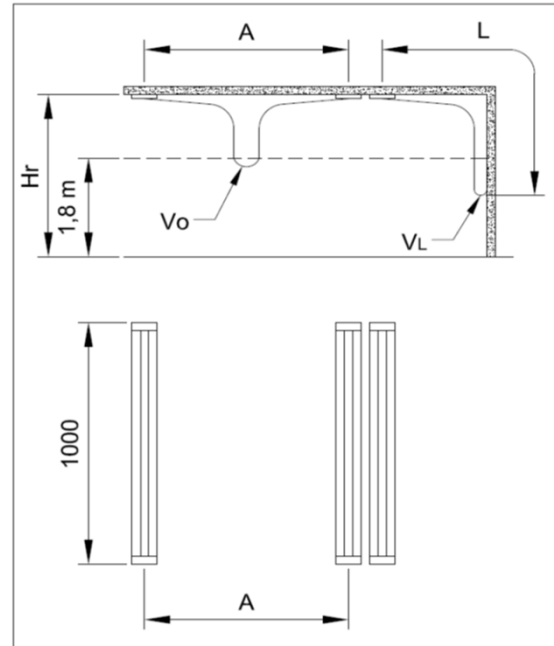
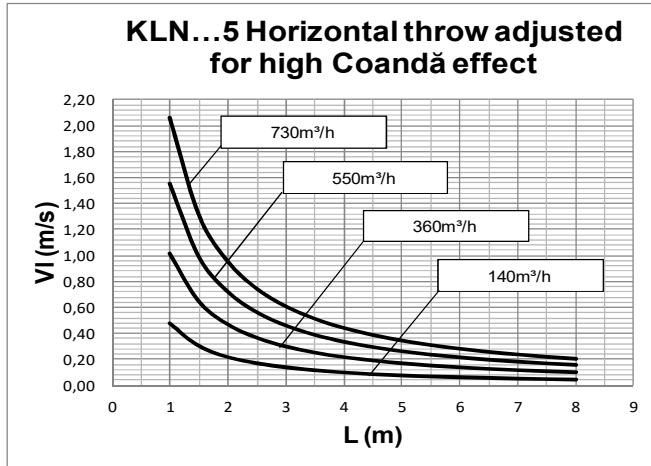




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FIVE SLOTS
HORIZONTAL THROW

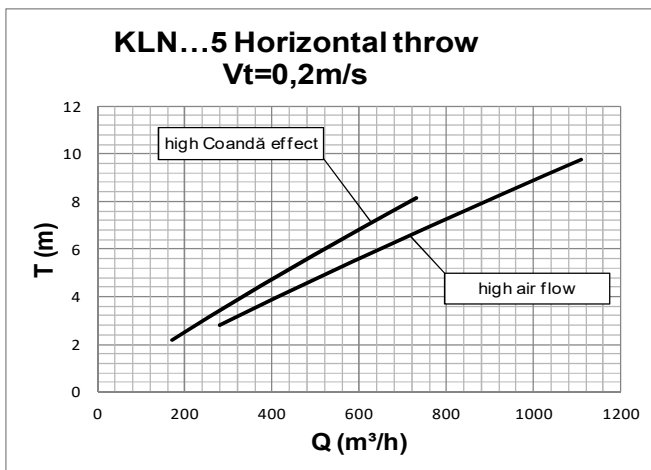


Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

L (m) horizontal distance in meters from the centre of diffuser

V_L (m/s) maximum speed in air stream at distance L
T_{0,2} (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of V_t=0,20m/s.



Correction factor for non isothermal conditions

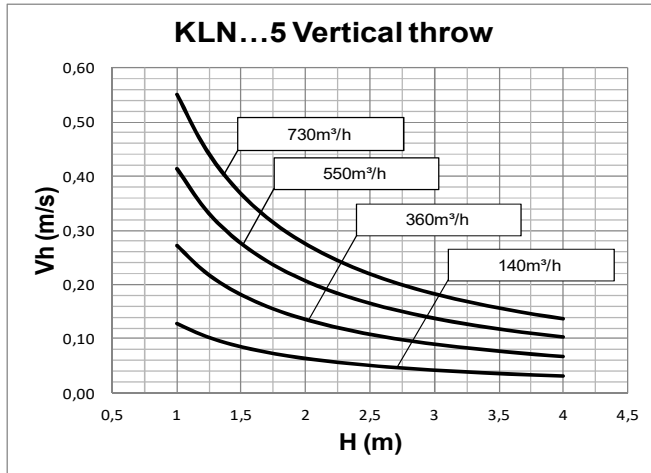
		ΔT	$\times K_f$
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

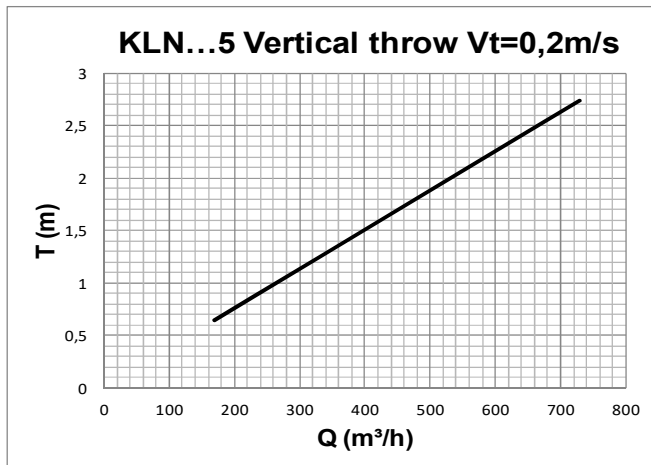
FIVE SLOTS VERTICAL THROW



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

H (m) vertical distance in meters from ceiling
 Vh (m/s) maximum speed in air stream at distance H
 T0,2 (m) throw for an isothermal air jet for a terminal speed of Vt=0,20m/s.



Correction factor for non isothermal conditions

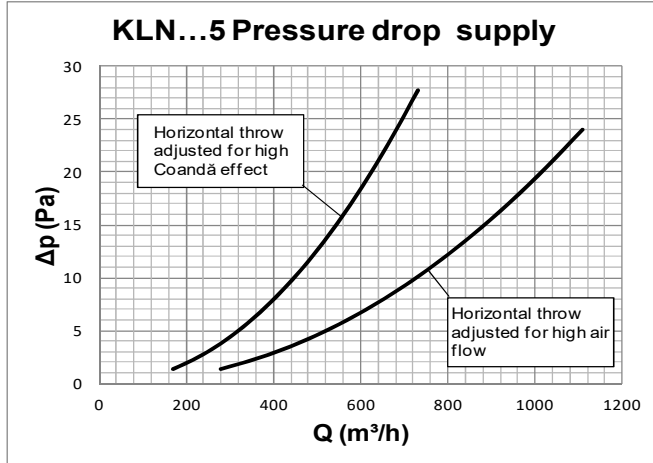
		ΔT	x Kf
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

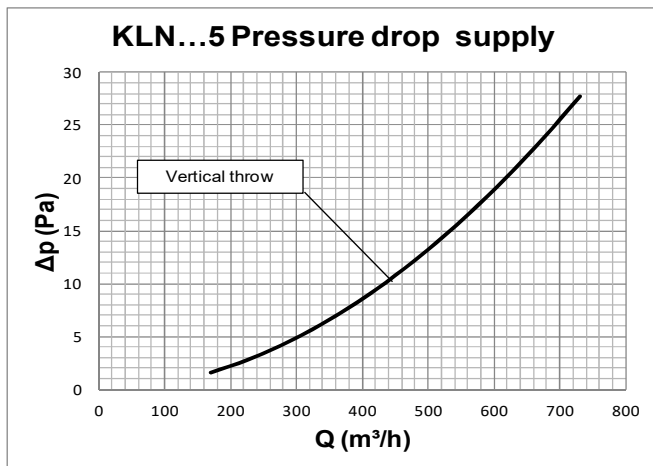
KLN
SERIES

FIVE SLOTS PRESSURE DROP - SUPPLY



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

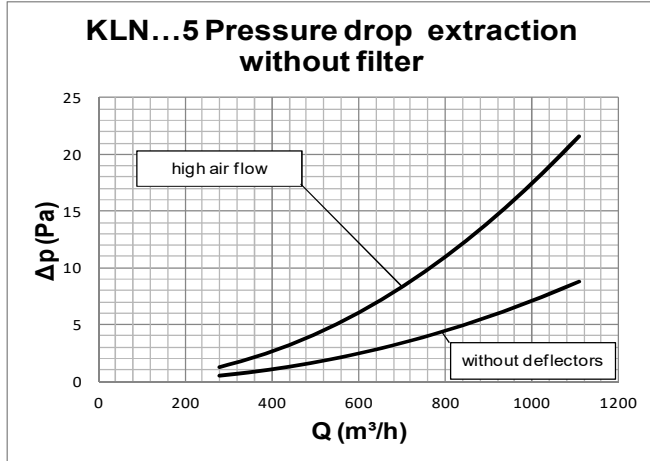




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

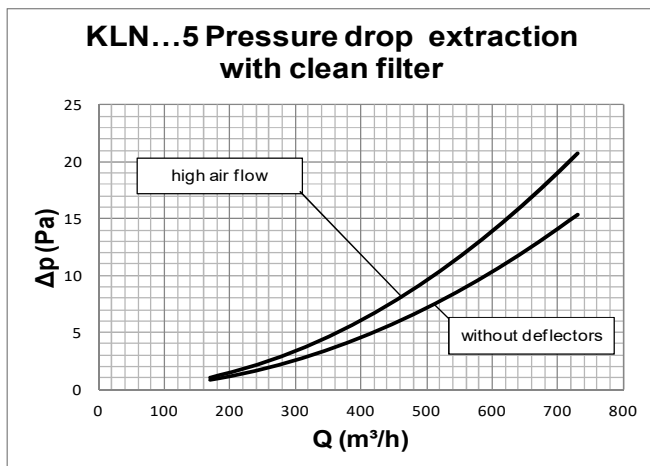
KLN
SERIES

FIVE SLOTS PRESSURE DROP - EXTRACTION



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

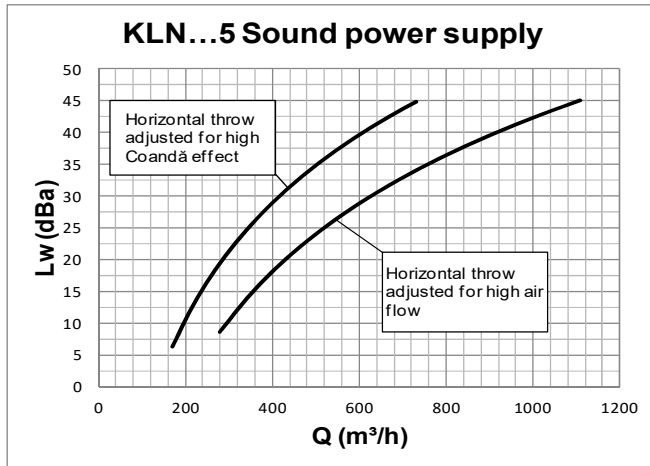




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FIVE SLOTS
SOUND POWER - SUPPLY

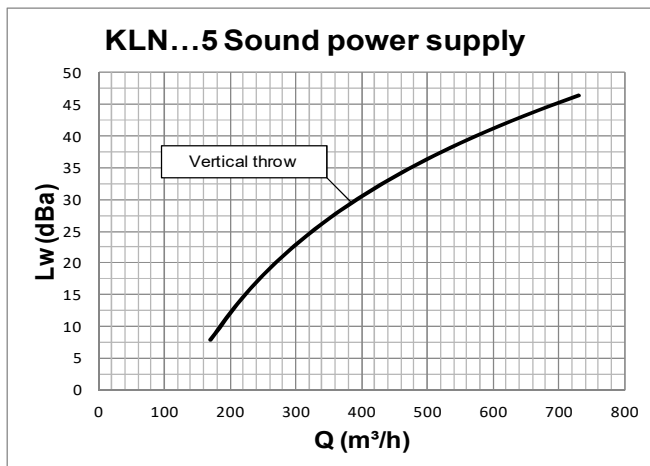


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

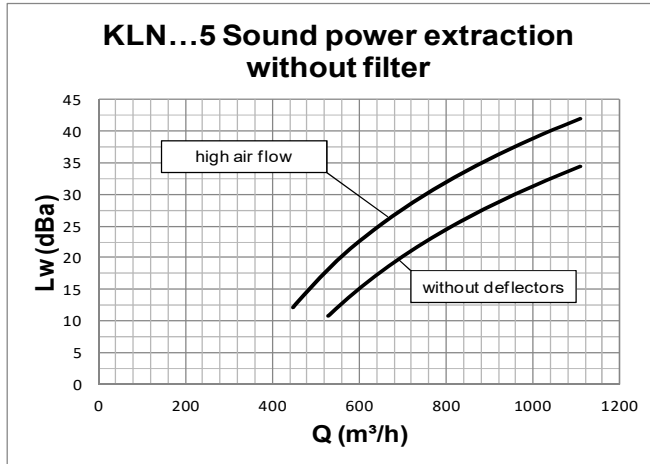
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

FIVE SLOTS SOUND POWER - EXTRACTION

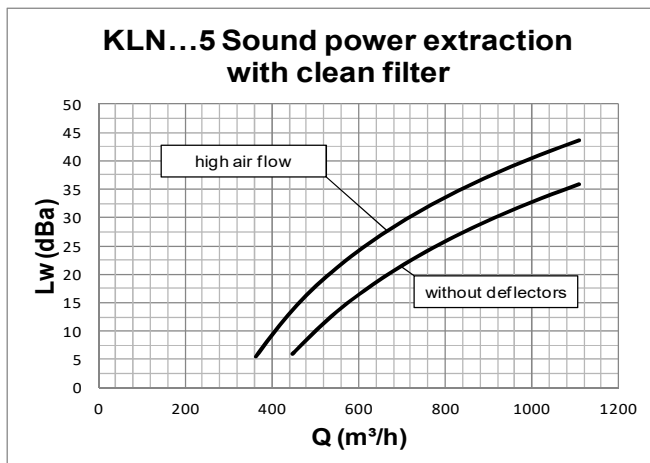


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

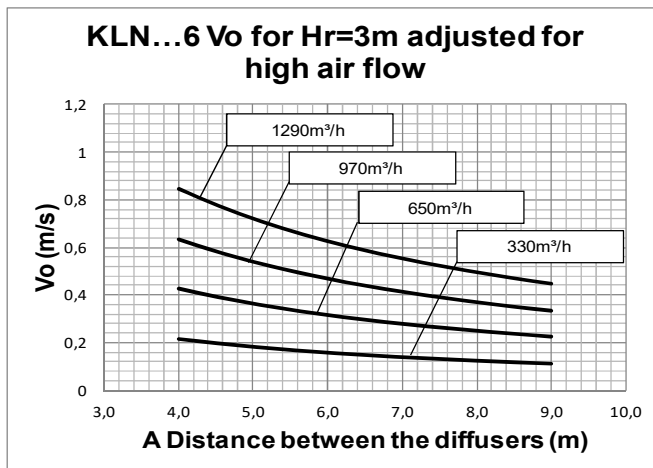
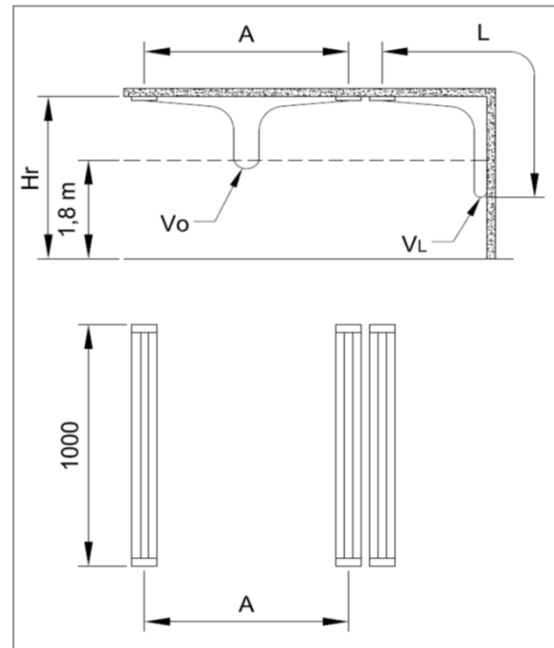
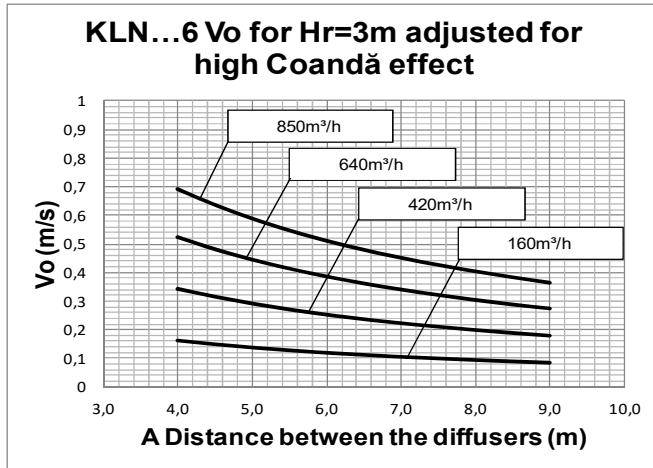
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

SIX SLOTS
Vo LIMIT OF THE OCCUPIED ZONE



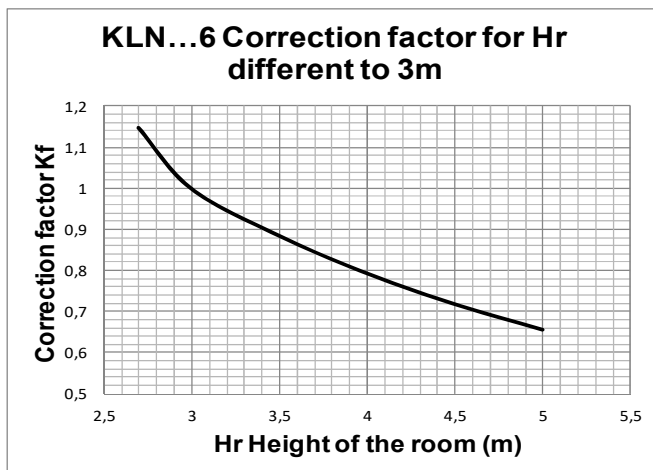
Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

A (m) distance between diffusers
Vo (m/s) speed at limit of occupied area

For Hr different to 3m, use the multiplier factor Kf:

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

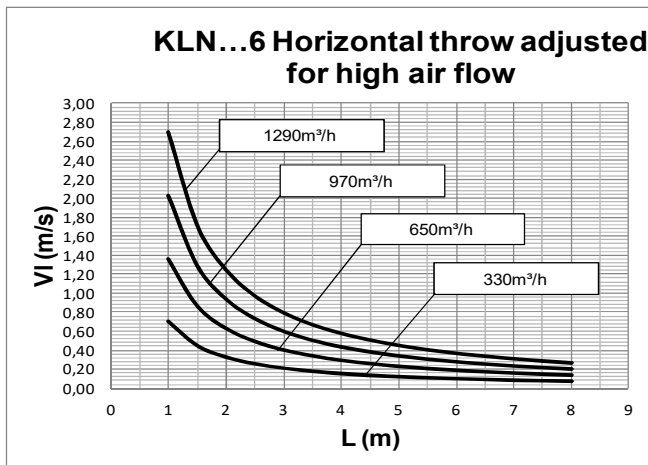
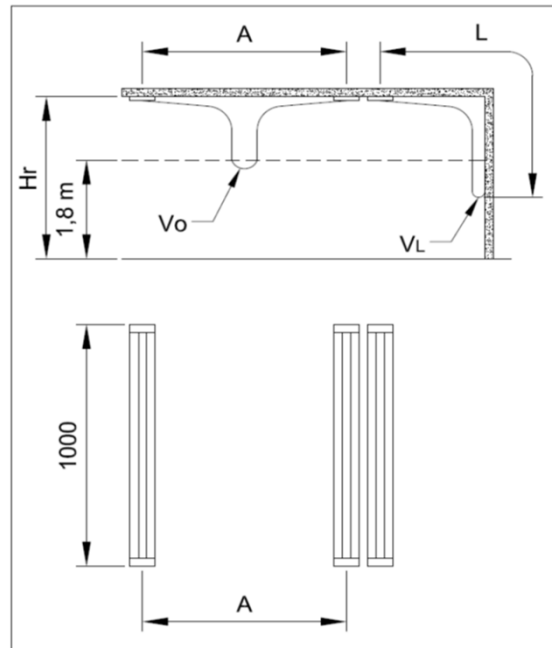
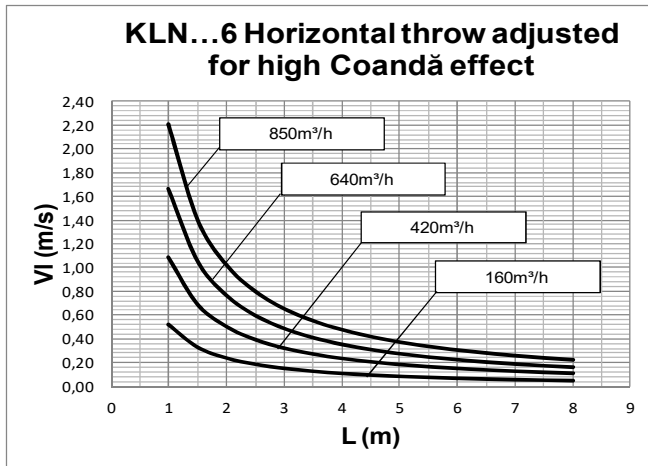




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

SIX SLOTS
HORIZONTAL THROW

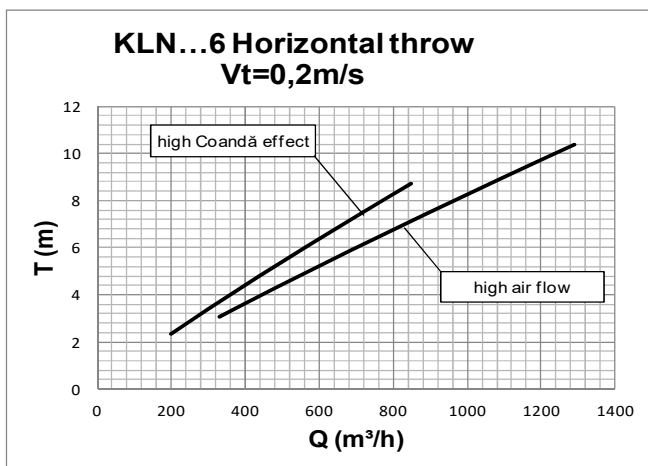


Aeraulic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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L (m) horizontal distance in meters from the centre of diffuser

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T_{0,2} (m) throw for an isothermal air jet with a Coandă effect for a terminal speed of V_t=0,20m/s.



Correction factor for non isothermal conditions

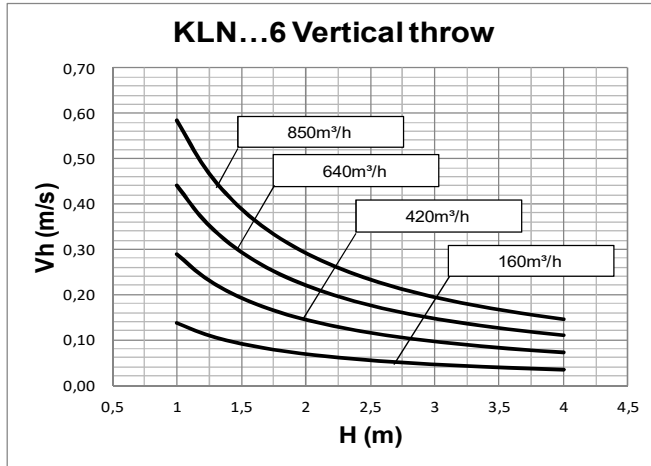
		ΔT	x Kf
Cooling		-10	0,90
		-8	0,92
		-6	0,94
		-4	0,96
		-2	0,98
Heating		2	1,02
		4	1,04
		6	1,06
		8	1,08
		10	1,10



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

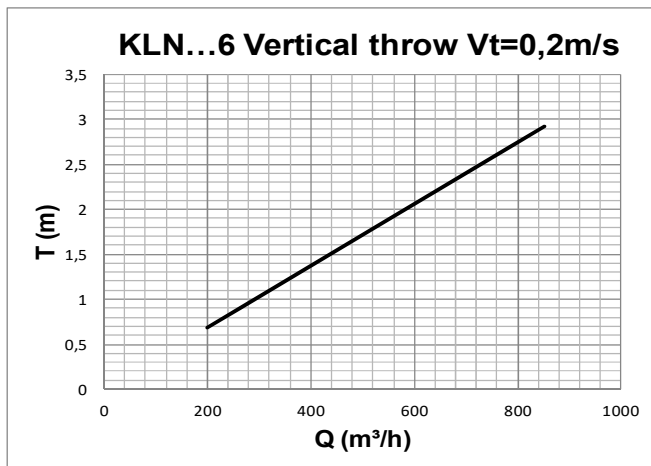
SIX SLOTS VERTICAL THROW



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

H (m) vertical distance in meters from ceiling
Vh (m/s) maximum speed in air stream at distance H
T0,2 (m) throw for an isothermal air jet for a terminal speed of Vt=0,20m/s.



Correction factor for non isothermal conditions

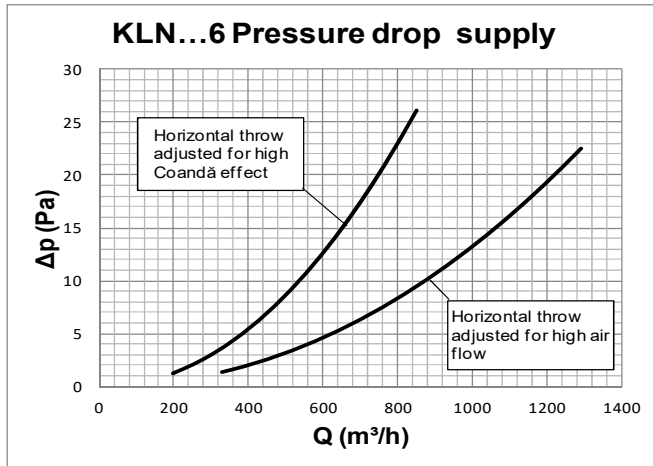
		ΔT	x Kf
Cooling		-10	1,11
		-8	1,09
		-6	1,06
		-4	1,04
		-2	1,02
Heating		2	0,98
		4	0,96
		6	0,94
		8	0,93
		10	0,91



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

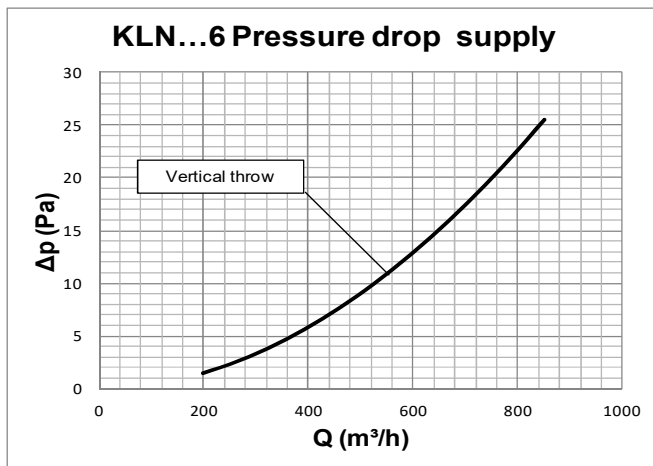
KLN
SERIES

SIX SLOTS PRESSURE DROP - SUPPLY



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

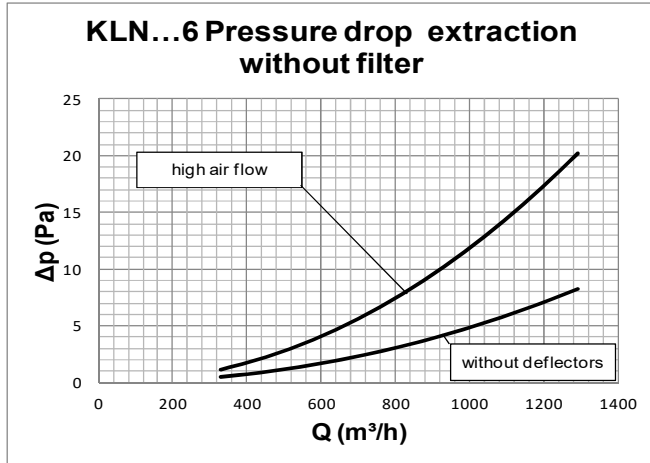




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

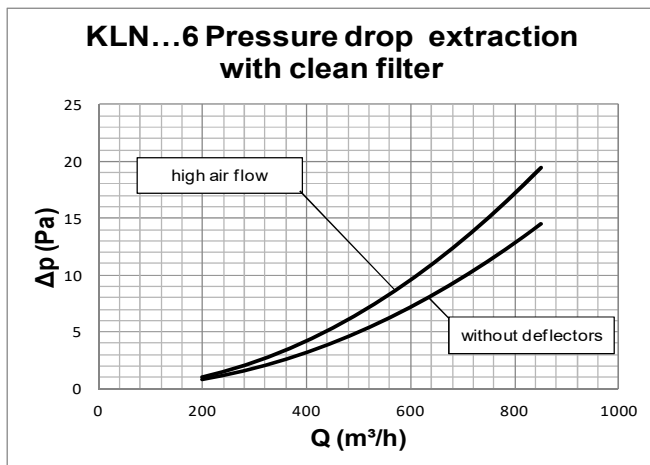
KLN
SERIES

SIX SLOTS PRESSURE DROP - EXTRACTION



Aerualic data measured in isothermic conditions for a one meter long diffuser in accordance with the international standard:

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

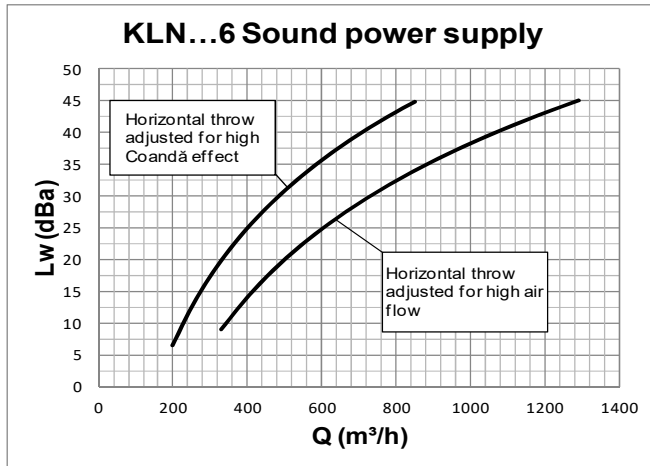




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

SIX SLOTS
SOUND POWER - SUPPLY

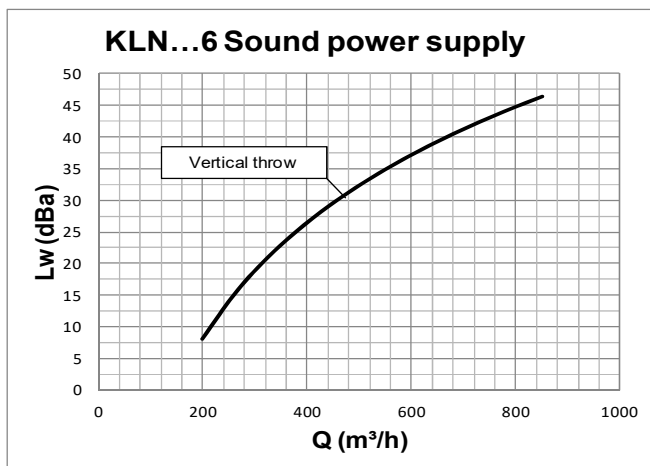


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

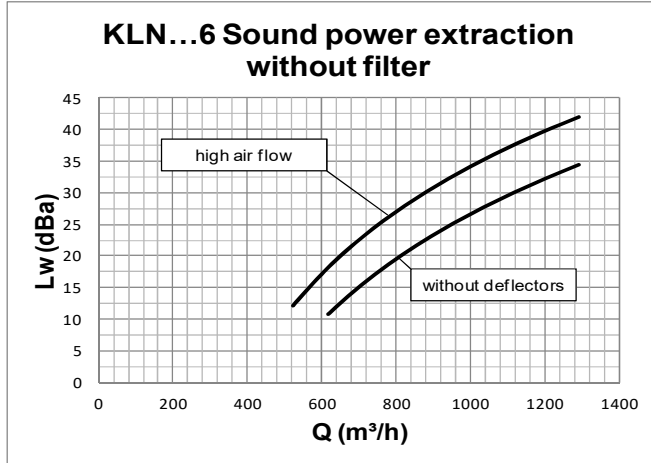
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

SIX SLOTS
SOUND POWER - EXTRACTION

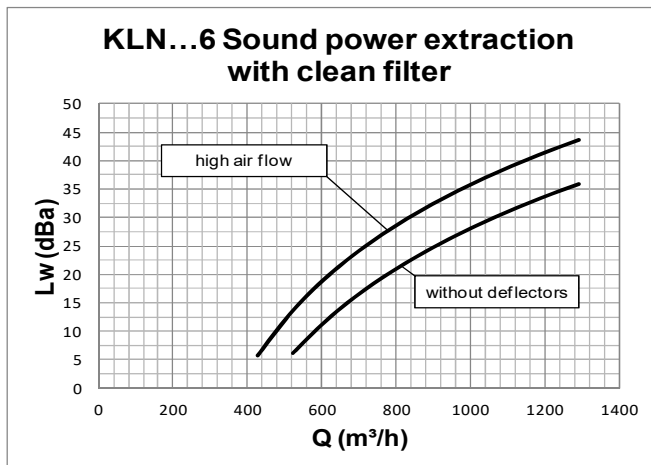


Data measured in reverberating room in accordance with the following international standards:

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 shown does not consider the attenuation given by the place of installation. This attenuation is normally included between 6 and 10dBa and is determined by the dimensions of the room, its shape and the arrangements of the furnishings within it.



Correction factor for different length same flow rate per meter of diffuser

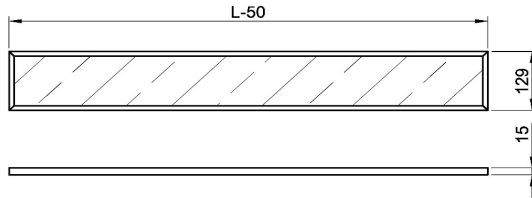
L	+Kf
600	-2,2
800	-1,0
1000	0,0
1200	0,8
1500	1,8
2000	3,0

HIGH AIR FLOW LINEAR SLOT DIFFUSERS

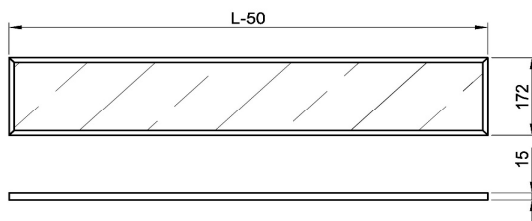
KLN
SERIES



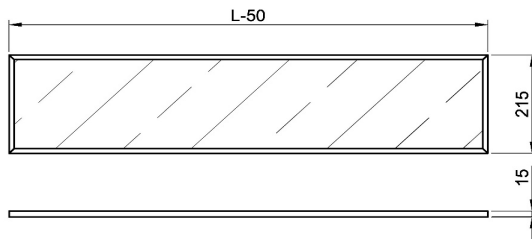
FILTERS



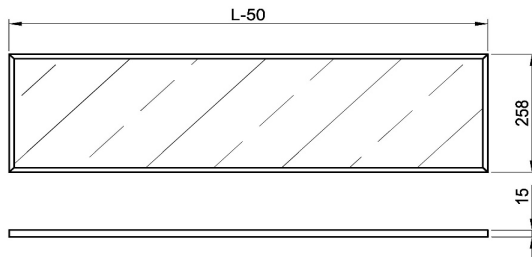
Filter for 3 slots diffuser
Filtering class G3.
Polyester fiber material.
Galvanized steel containment frame .
Metal net on both sides.



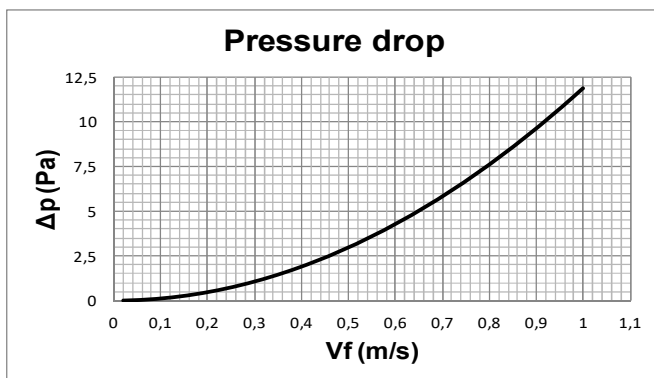
Filter for 4 slots diffuser
Filtering class G3.
Polyester fiber material.
Galvanized steel containment frame .
Metal net on both sides.



Filter for 5 slots diffuser
Filtering class G3.
Polyester fiber material.
Galvanized steel containment frame .
Metal net on both sides.



Filter for 6 slots diffuser
Filtering class G3.
Polyester fiber material.
Galvanized steel containment frame .
Metal net on both sides.



Vf = frontal velocity

B = length of the filter (mm)

H = height of the filter (mm)

Q = air flow (m³/h)

$S = B \times H / 1000000$

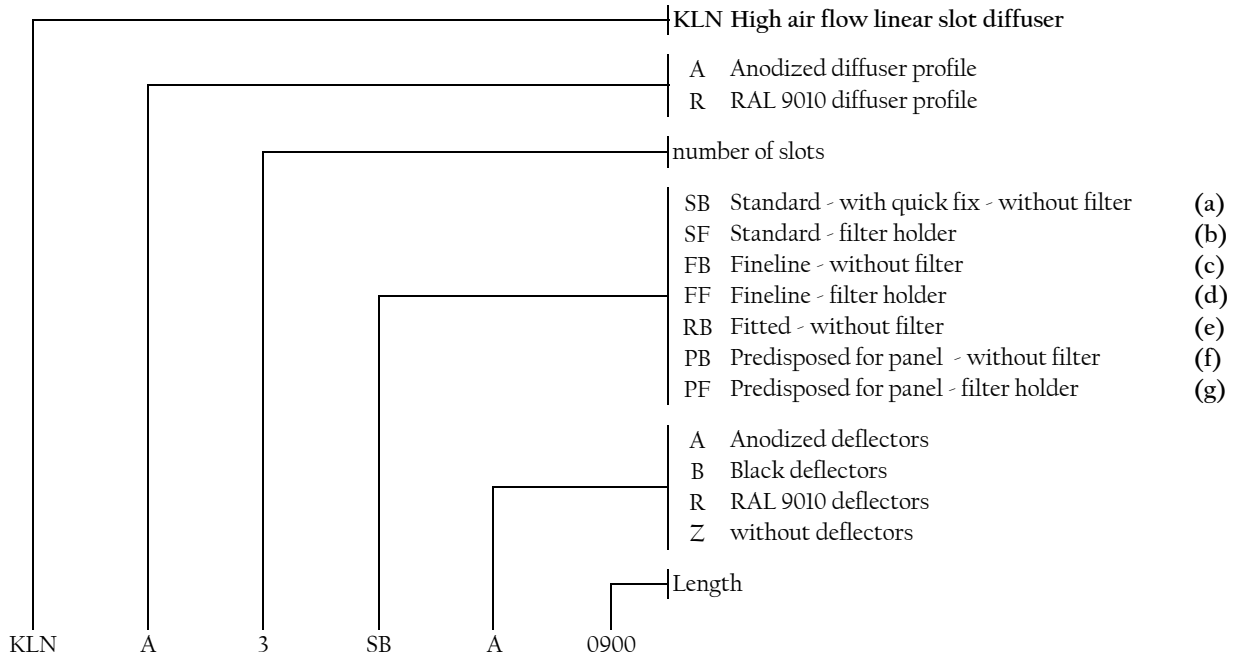
$Vf = Q / 3600 / S$

HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES



CODES



- (a) From one up to 6 slots. Length from 300mm up to 2000mm
Optional plenum P94A fixed with quick fix
- (b) From 3 up to 6 slots. Length from 300mm up to 1200mm
Optional plenum P94B fixed with screws Filter to be ordered separately
- (c) From one up to 6 slots. Length from 300mm up to 2000mm
Optional plenum P94B fixed with rivets
- (d) From 3 up to 6 slots. Length from 300mm up to 1200mm
Optional plenum P94B fixed with screws Filter to be ordered separately
- (e) From one up to 6 slots. Length from 300mm up to 2000mm
Optional plenum P94B fixed with rivets
- (f) From 3 up to 6 slots. Size of the panel on request, panel to be ordered separately
Length of the diffuser from 300mm up to 1200mm Optional plenum P94B fixed with rivets
- (g) From 3 up to 6 slots. Size of the panel on request, panel to be ordered separately
Length of the diffuser from 300mm up to 1200mm Optional plenum P94B fixed with rivets
Filter to be ordered separately

Standard one slot diffuser
 Length up to 1500mm: 2 quick-fixes
 Length over 1500mm: 4 quick-fixes

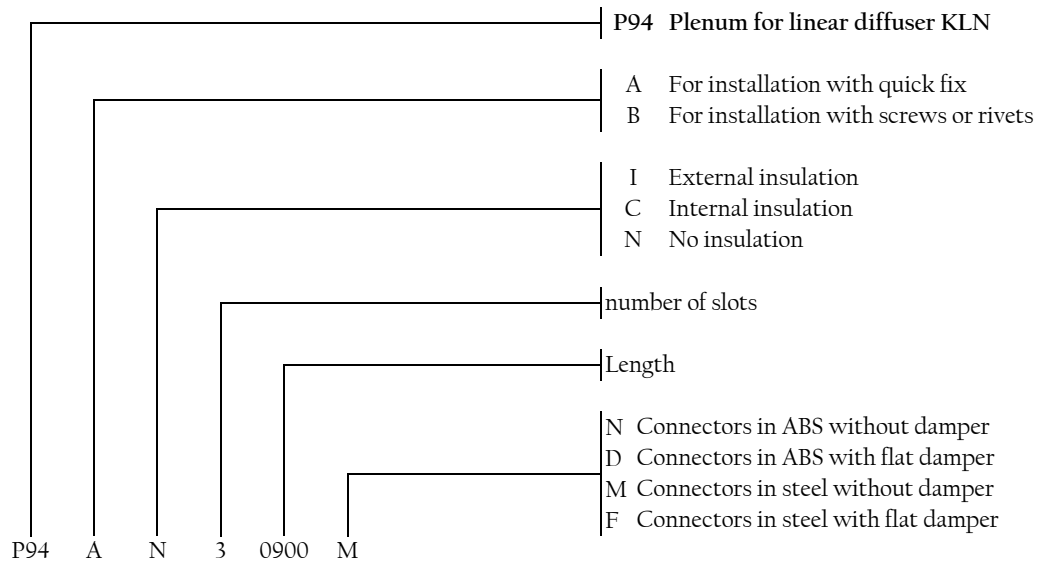
Diffusore standard 2-3-4-5-6 feritoie
 Length up to 1500mm: 4 quick-fixes
 Length over 1500mm: 6 quick-fixes



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

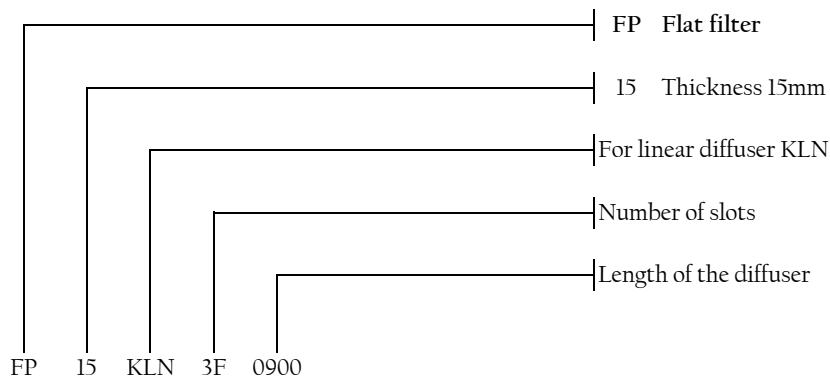
CODES - INSPECTION AND MAINTENANCE



As standard the plenum box is supplied separated from the diffuser

For the plenum box mounted on the diffuser use code:

KLN-PLNMONT mounting of the plenum box on the diffuser



INSPECTION AND MAINTENANCE:

We recommend to check the filter condition at least every six months.

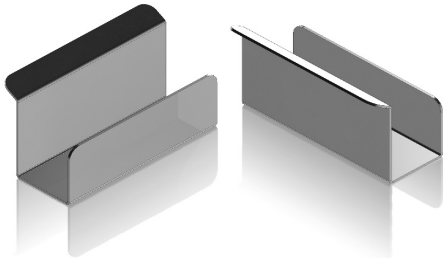
Replace the filter if necessary and dispose of in accordance to local legislation separating the metal structure from the filter media.



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

KLN
SERIES

ACCESSORIES SPARE PARTS

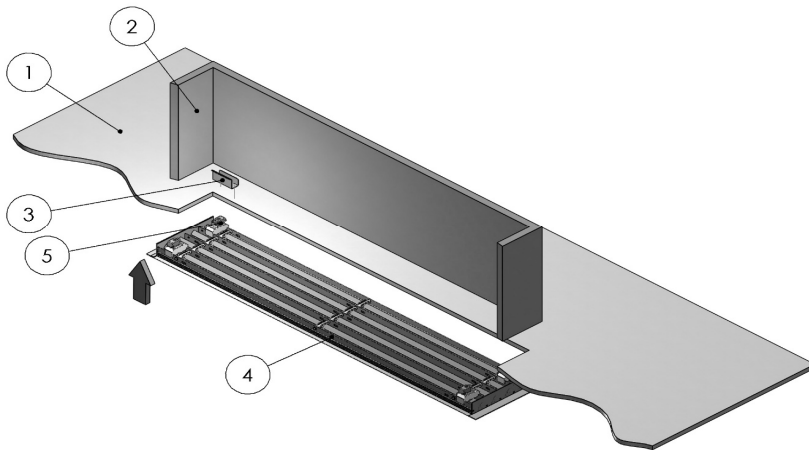


KLN-SW2 Pair of brackets for quick fix

Brackets KLN-SW2 let you use the quick fix method to install the diffuser KLN with the plenum (not supplied by MP3) made on site with 20mm thick sandwich panel in plasterboard ceilings thickness 12.5mm thick.

Diffuser length up to 1500mm : order two pairs of brackets.
Diffuser length more than 1500mm: order three pairs of brackets.

It is recommended to attach the brackets with the same sealant used for joining panels.



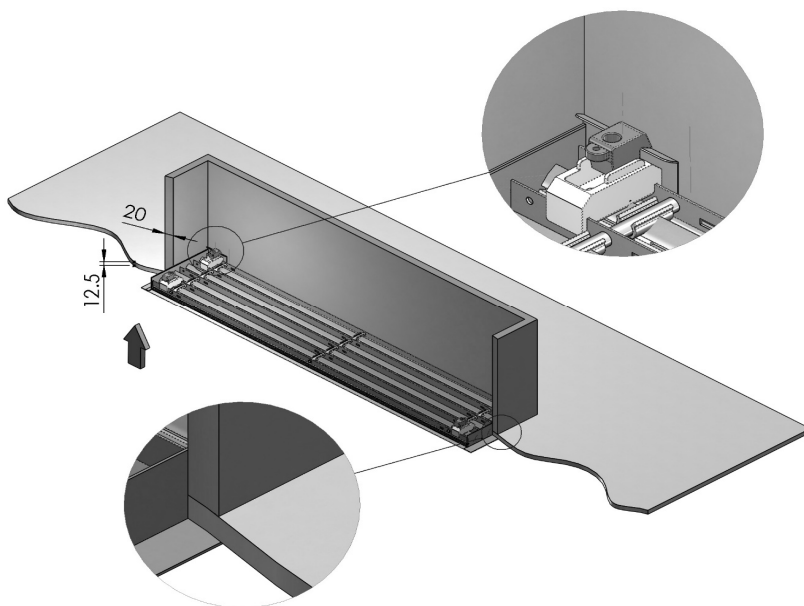
1 Counterceiling in plasterboard
12,5mm thick

2 Sandwich panel 20 mm thick

3 Bracket for quick fix

4 KLN diffuser

5 Quick fix

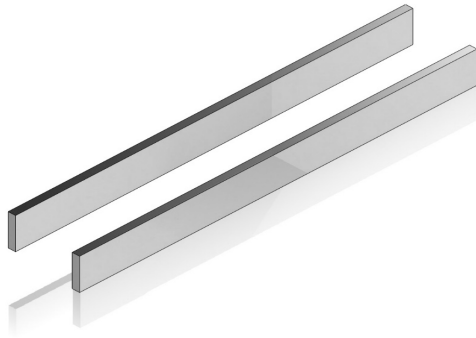




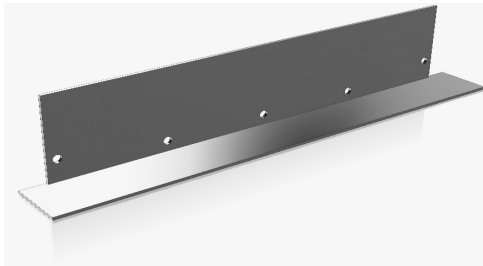
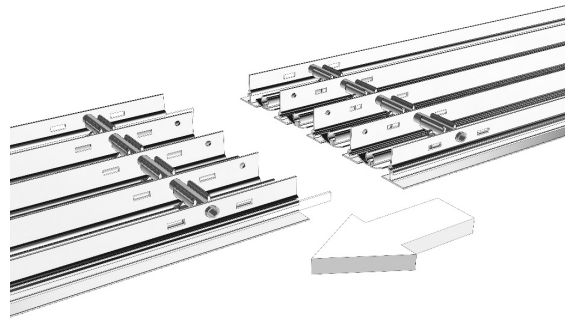
**HIGH AIR FLOW
LINEAR SLOT DIFFUSERS**

**KLN
SERIES**

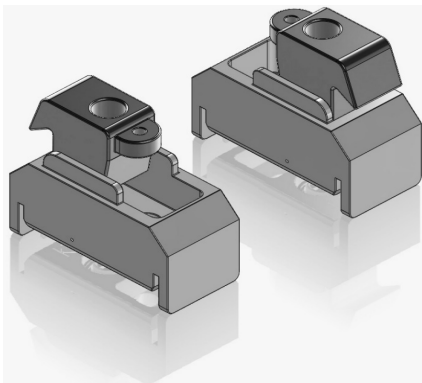
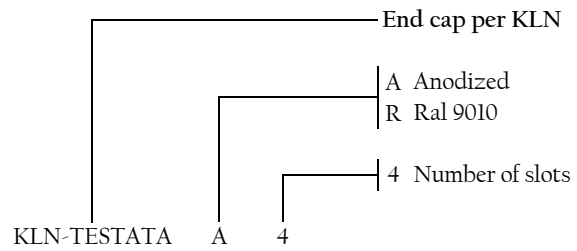
**ACCESSORIES
SPARE PARTS**



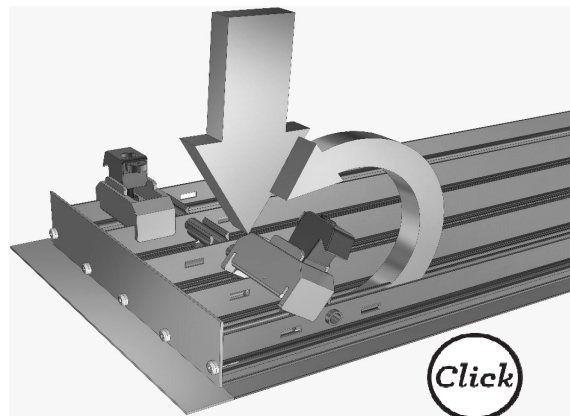
KLN-BAIONETTE Pair of bayonets for line mounting



KLN-TESTATA Standard end cap in aluminum



KLN-QF2 Couple of Quick fix hooks

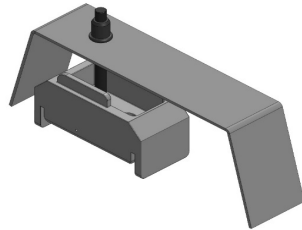




HIGH AIR FLOW LINEAR SLOT DIFFUSERS

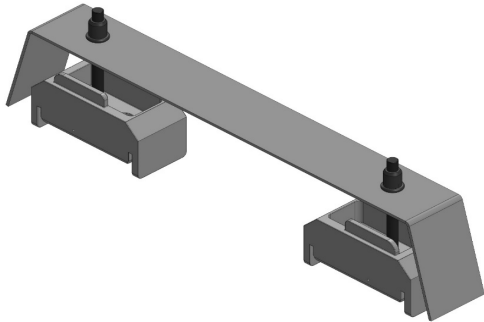
KLN
SERIES

ACCESSORIES SPARE PARTS

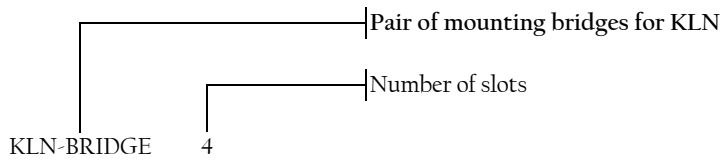


KLN-BRIDGE Pair of mounting bridges for installation
in plasterboard counterceilings
without plenum

from 1 up to 2 slots one screw



from 3 up to 6 slots two screws



Only for installation without plenum

Only for standard version KLN ... SB (no filterholder, no panel)

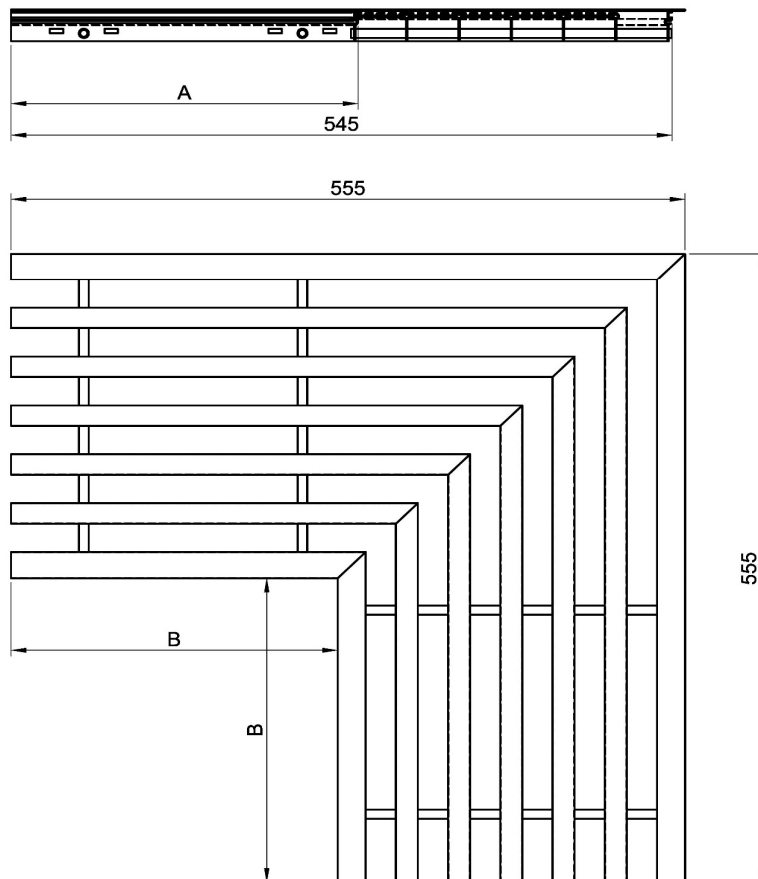
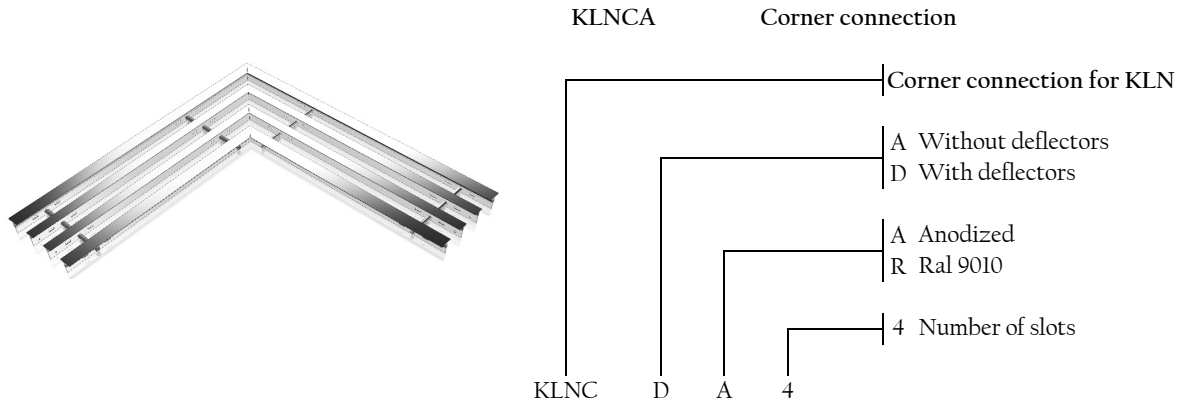
For diffusers with a length equal or higher to 1650 mm it is suggested to use two pairs of mounting bridges



HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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number of Slots	A mm	B mm
1	501	484
2	458	441
3	415	398
4	372	355
5	329	312
6	286	269

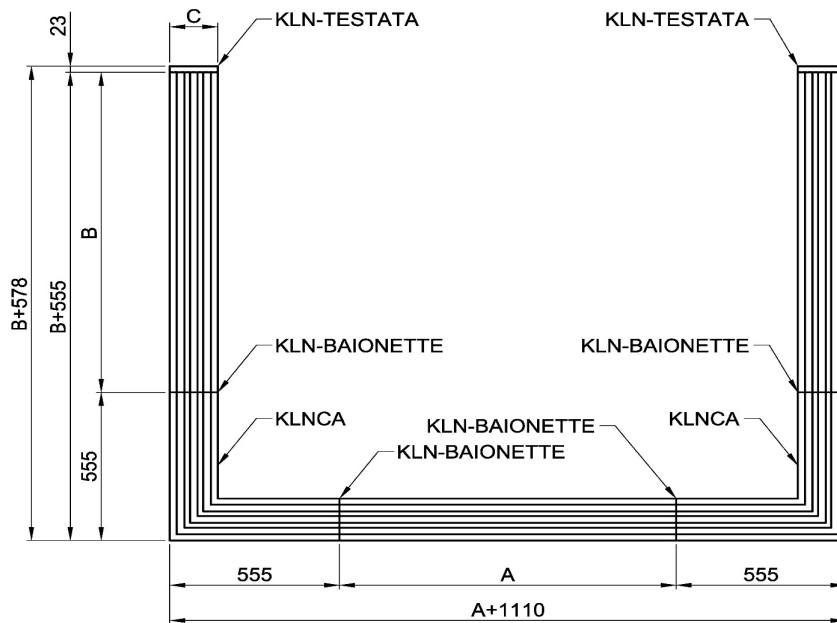


HIGH AIR FLOW LINEAR SLOT DIFFUSERS

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Example of installation in continuos lines with corners



Number of slots	C (mm)
1	71
2	114
3	157
4	200
5	243
6	286

