

## RXO fixed vanes swirl diffusers



**MADEL®**

**RXO** swirl diffusers are designed to be applied in air conditioning ventilation and heating systems.

They can be mounted in false ceilings or suspended from the ceiling.

The design of their vanes and its radial arrangement in the diffuser cause swirl air supply with a coanda effect, which provides a high level of induction rate of the air in the atmosphere and reducing the stratification.

Their sectorized vanes emit a uniform air flow all over the passage section. **RXO** series diffusers admit a flow variation of 60% keeping the air stream stable.

These diffusers can be used from 2,6 up to 4 meters high and at a temperature differential up to 12° C.

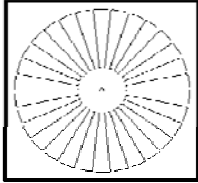
**Models:**

**RXO-S**

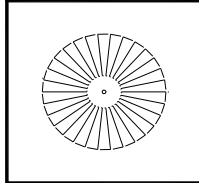
**RXO-KLIN**

**RXO-C**

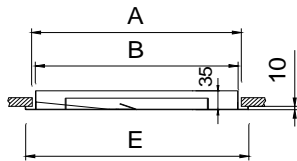
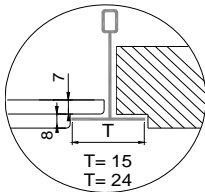
**RXO-S**



**RXO-S/SR/**



**RXO-S.../T.../**



	E	A	B
400	395	370	340
500	495	470	440
600	595	568	538
625	620	568	538

**RXO-S**

**Classification**

**RXO-S** Square diffuser with vanes in circular radial arrangement.

**.../SR/** Reduced face area in relation to the diffuser size.

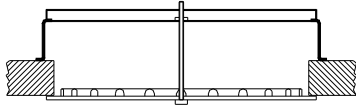
**.../T15/** Panel with angled borders to replace an angled ceiling tile profile 15 mm.

**.../T24/** Panel with angled borders to replace an angled ceiling tile profile 24 mm.

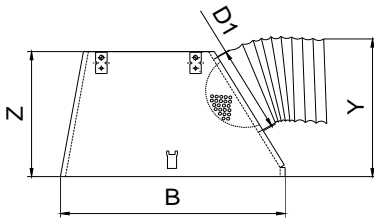
**Material**

Diffuser constructed from galvanised steel. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the plenum box or the ceiling is airtight.

**PMXO**

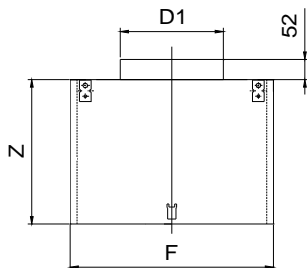


**BOXSTAR**



	B	Z	Y	D1
400	390	300	325	198
500	490	300	325	198
600	590	350	375	248
625	615	350	375	248

**BOXSTAR /S/**



	F
400	390
500	490
600	615
625	615

**Additional accessories**

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**BOXSTAR** Pyramidal plenum box with a lateral circular connection. It includes supports to hang from the ceiling. The crossbar is supplied separately to be assembled manually on the work site. Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

**.../S/** Upper circular connection plenum box .

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

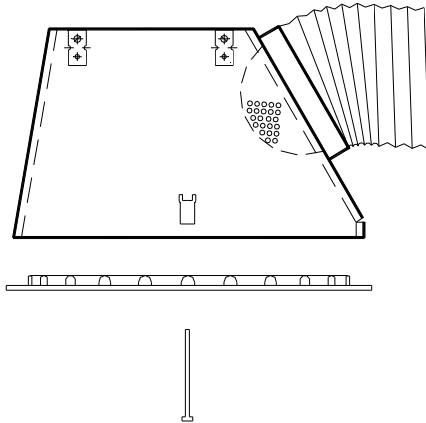
NFP 92-501 M2

DIN 4102 M2

### Fixing systems

1) Connection into the crossbar or to the plenum box by means of central screw.

1)



### Finishes

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

### Specification text

Supply and mounting of square swirl diffuser with fixed blades with radial vanes series

**RXO-S+BOXSTAR-R M9016 dim. 600**

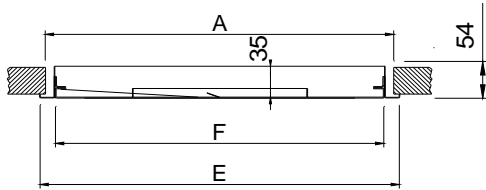
constructed from galvanised steel paint in white

**M9016**. With lateral circular connection

pyramidal plenum box and air flow damper in

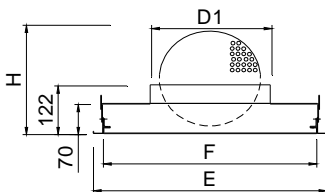
the spigot **BOXSTAR-R**. Manufacturer **MADEL**.

**RXO-S-KLIN**

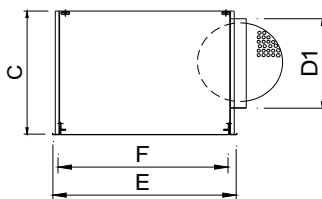


	E	A	F
400	395	369	365
500	495	469	465
600	595	569	565
625	620	594	590
675	670	644	640
600-400	595	569	565
600-500	595	569	565
625-400	620	594	590
625-500	620	594	590
675-400	670	644	640
675-500	670	644	640

**RXO-S-KLIN+PLK...-R**



**RXO-S-KLIN+PLK/L/...-R**



	E	F	D1	H	C
400	395	365	198	205	320
500	495	465	248	286	370
600	595	565	313	353	435
625	620	590	313	353	435
675	670	640	313	353	435

**RXO-S-KLIN**

**Classification**

**RXO-S-KLIN** Hinged removable core diffuser for the easy access to the installations above the ceiling with no need of tools, by means of PUSH fasteners. By slightly pressing on the invisible latch, the core opens, remaining hinged on one side. If necessary the core can be easily removed for maintenance of HVAC installations.

**Material**

Diffuser constructed from galvanised steel.

**Additional accessories**

**PLK** Plenum box fixed to the diffuser with an upper connection. Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

**.../L/** Plenum box with a lateral connection.

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

NFP 92-501 M2

DIN 4102 M2

### Fixing systems

1)



1) Fixing with supports to hang from the ceiling with drops rods.

### Finishes

**M9016** Painted in white similar to RAL 9016.

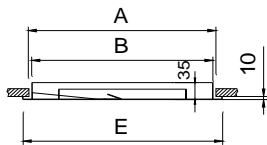
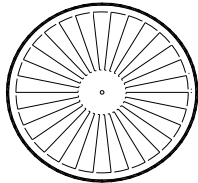
**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

### Specification text

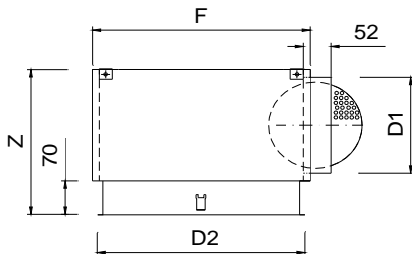
Supply and mounting of square swirl diffuser with fixed blades with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **RXO-S-KLIN+PLK-R M9016 dim. (mm)** constructed from galvanised steel paint in white **M9016**. With upper circular connection plenum box and air flow damper in the spigot **PLK-R**. Manufacturer **MADEL**.

**RXO-C**



	E	A	B
400	400	370	340
500	500	470	440
625	625	568	538

**PLXOC**



	D2	F	Z	D1
400	395	415	300	198
500	495	515	300	198
625	620	640	350	248

**RXO-C**

**Classification**

**RXO-C** Circular diffuser with vanes in circular radial arrangement.

**Material**

Diffuser constructed from galvanised steel. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the plenum box or ceiling is airtight.

**Additional accessories**

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral circular connection. Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

**.../S/** Plenum box with an upper connection.

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

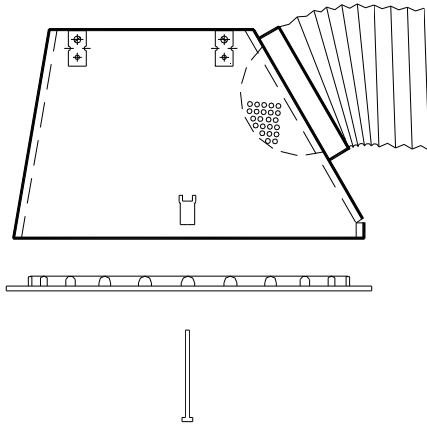
NFP 92-501 M2

DIN 4102 M2

### Fixing systems

- 1) Connection into the crossbar or to the plenum box by means of central screw.

1)



### Finishes

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

### Specification text

Supply and mounting of circular swirl diffuser with fixed blades with radial vanes series

**RXO-C+PLXOC-R M9016 dim. 600** constructed from galvanised steel paint in white **M9016**. With lateral circular connection plenum box and air flow damper in the spigot **PLXOC-R**.

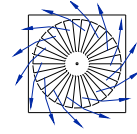
Manufacturer **MADEL**.





RXO-S

MADEL®



RECOMMENDED VELOCITY.

RXO	Vmin m/s	Vmax m/s
400	2.5	6,8
500	2.5	5
600	2.5	4.5
625	2.5	4.5

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.

RXO-S + BOXSTAR

FREE FACE AREA (m2).

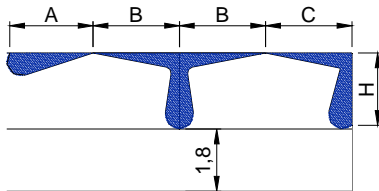
RXO	Afree m2	Qmin. m3/h	Qmax. m3/h
400	0.0165	150	409
500	0.0336	300	600
600	0.05	500	810
625	0.05	500	810

CORRECTION FACTOR FOR DPt AND Lwa1.

BOXSTAR-R	100% Open			50% Open			10% Open		
	Dpt (Kp)	Lwa1 (Kf)		Dpt (Kp)	Lwa1 (Kf)		Dpt (Kp)	Lwa1 (Kf)	
400	Dpt (Kp)	1	1.3	2	Lwa1 (Kf)	+0	+3,2	+1,8	
	Lwa1 (Kf)								
500	Dpt (Kp)	1	1.7	3,3	Lwa1 (Kf)	+1	+4,5	+2	
	Lwa1 (Kf)								
600	Dpt (Kp)	1	1.5	5,8	Lwa1 (Kf)	+0,3	+3,5	+2,5	
	Lwa1 (Kf)								
625	Dpt (Kp)	1	1.5	5,5	Lwa1 (Kf)	+0,3	+3,5	+2,5	
	Lwa1 (Kf)								

$$DPt1 = Kp \times DPt$$

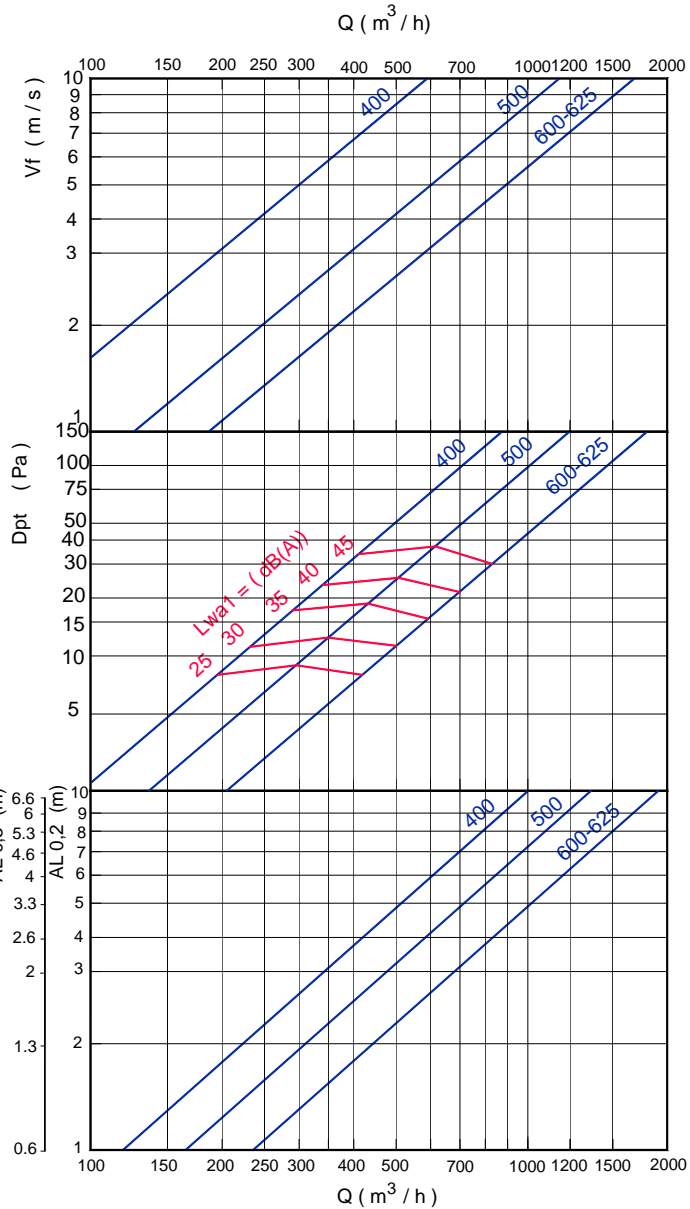
$$Lwa = Lwa1 + Kf$$



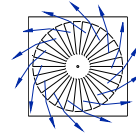
$$AL_{0.2} = A$$

$$AL_{0.2} = B+H$$

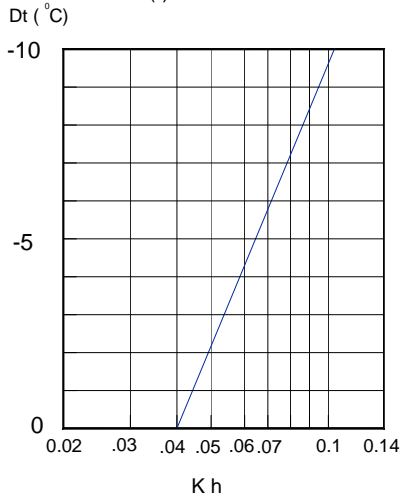
$$AL_{0.2} = C+H$$



Note: In MadelMedia Octava band centre frequency in Hz.

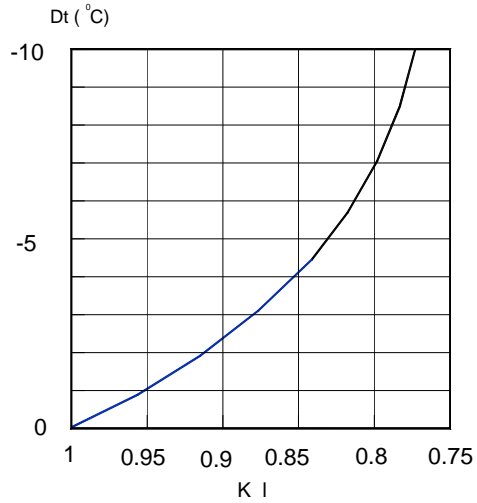


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

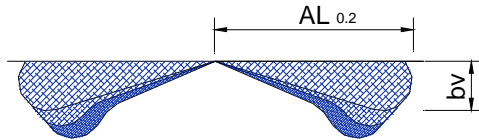


Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



Kl = Correction factor for the throw.



$$bv = Kh \times Al_{0.2}$$

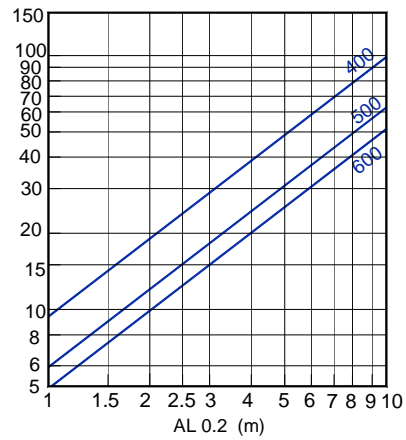
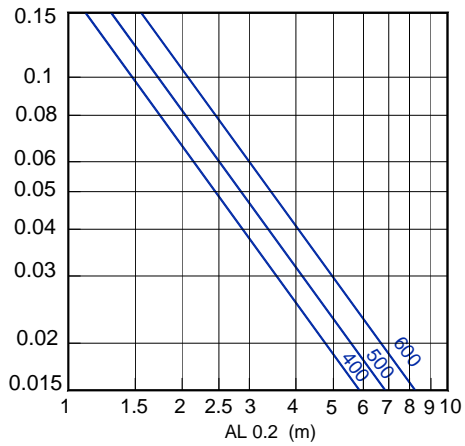
$$AL'_{0.2} (Dt < 0) = Kl \times AL_{0.2}$$

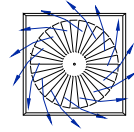
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total at x}}{Q_{of supply}}$$





RECOMMENDED VELOCITY.

RXO KLIN	Vmin m/s	Vmax m/s
400	2.5	6,8
500	2.5	5
600	2.5	4.5
625	2.5	4.5

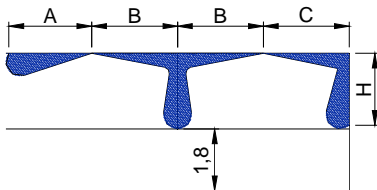
FREE FACE AREA (m2).

RXO KLIN	Afree m2	Qmin. m3/h	Qmax. m3/h
400	0.0165	150	409
500	0.0336	300	600
600	0.05	500	810
625	0.05	500	810

CORRECTION FACTOR FOR DPt AND Lwa1.

PLFZ-R		100% Open	50% Open	10% Open
		400	Dpt (Kp) 1	1.3
	Lwa1 (Kf)	+0	+3,2	+1,8
500	Dpt (Kp)	1	1.7	3,3
	Lwa1 (Kf)	+1	+4,5	+2
600	Dpt (Kp)	1	1.5	5,8
	Lwa1 (Kf)	+0,3	+3,5	+2,5
625	Dpt (Kp)	1	1.5	5,5
	Lwa1 (Kf)	+0,3	+3,5	+2,5

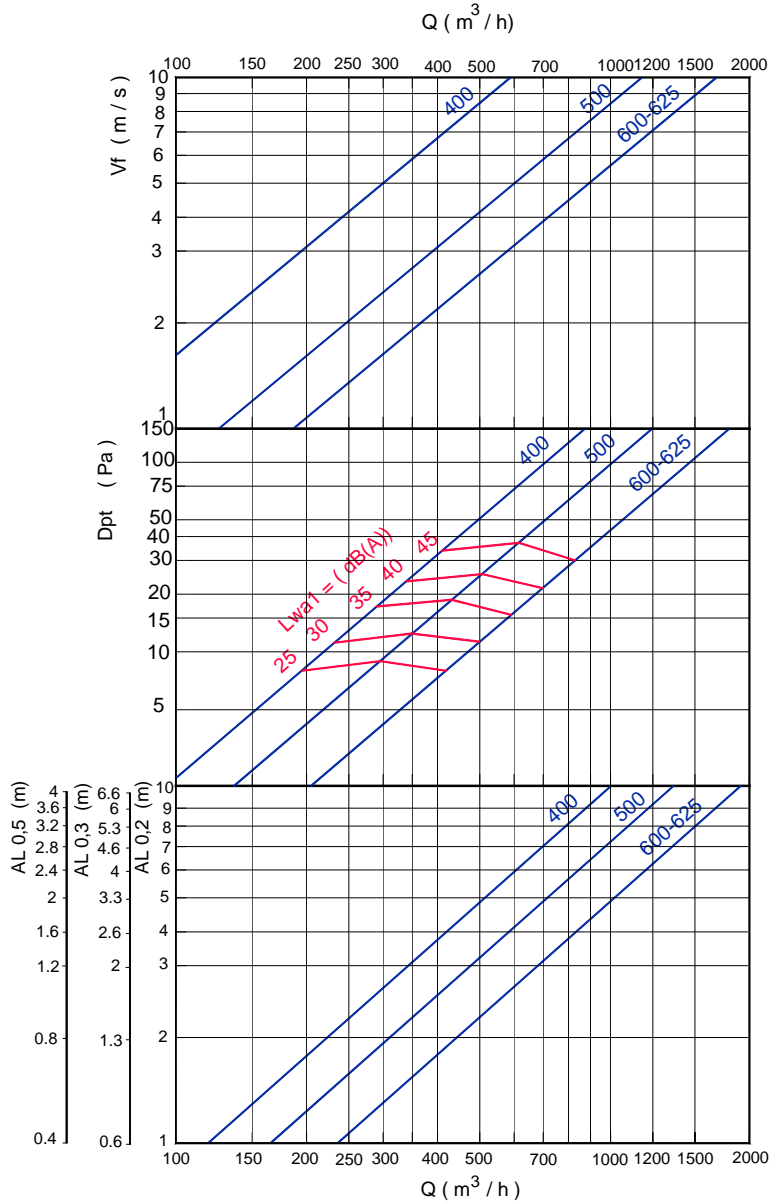
$DPt1 = Kp \times DPt$   
 $Lwa = Lwa1 + Kf$



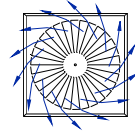
$AL_{0.2} = A$   
 $AL_{0.2} = B+H$   
 $AL_{0.2} = C+H$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.

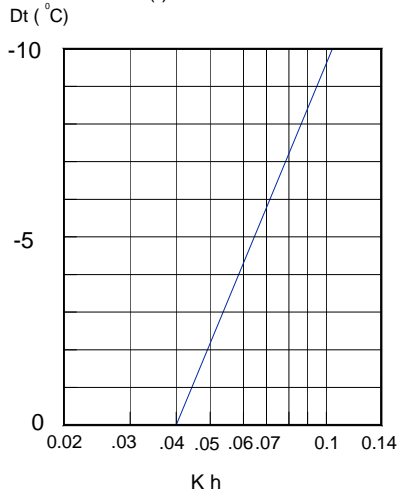
RXO-KLIN + PLFZ



Note: In MadelMedia Octava band centre frequency in Hz.

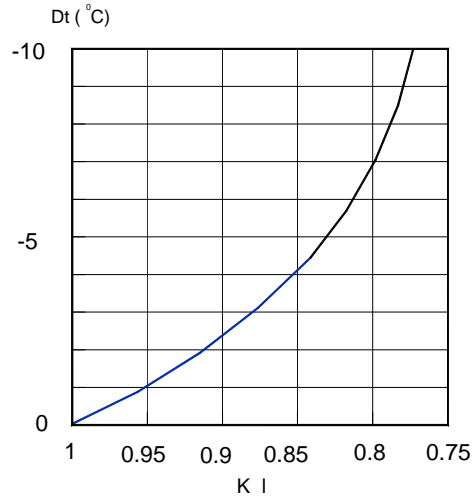


**CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).**

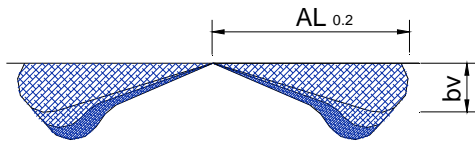


Kh = Correction factor for the vertical diffusion.

**CORRECTION FACTOR FOR THROW (L0.2) DT (-).**



Kl = Correction factor for the throw.



$$bv = Kh \times AL_{0.2}$$

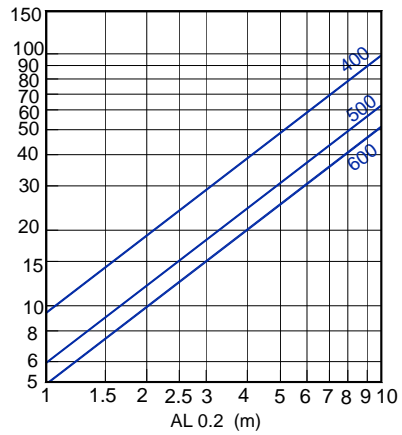
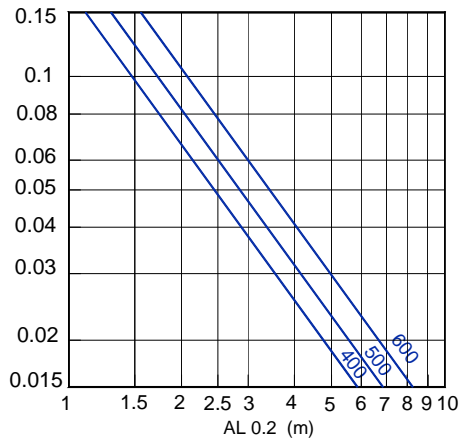
$$AL'_{0.2} (Dt < 0) = Kl \times AL_{0.2}$$

**TEMPERATURE RATIO.**

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

**INDUCTION RATIO.**

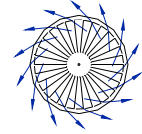
$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q_{of\ supply}}$$





RXO-C

MADEL®



RECOMMENDED VELOCITY.

RXO-C	Vmin m/s	Vmax m/s
400	2.5	6,8
500	2.5	5
625	2.5	4.5

FREE FACE AREA (m2).

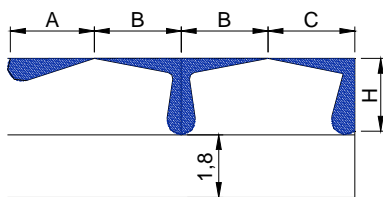
RXO-C	Afree m2	Qmin. m3/h	Qmax. m3/h
400	.0165	150	409
500	.0336	300	600
625	0.05	500	810

CORRECTION FACTOR FOR Dpt AND Lwa1.

PLXOC-R		100% Open	50% Open	10% Open
400	Dpt (Kp)	1	1.3	2
	Lwa1 (Kf)	+0	+3,2	+1,8
500	Dpt (Kp)	1	1.7	3,3
	Lwa1 (Kf)	+1	+4,5	+2
625	Dpt (Kp)	1	1.5	5,8
	Lwa1 (Kf)	+0,3	+3,5	+2,5

$$DPt1 = Kp \times DPt$$

$$Lwa = Lwa1 + Kf$$



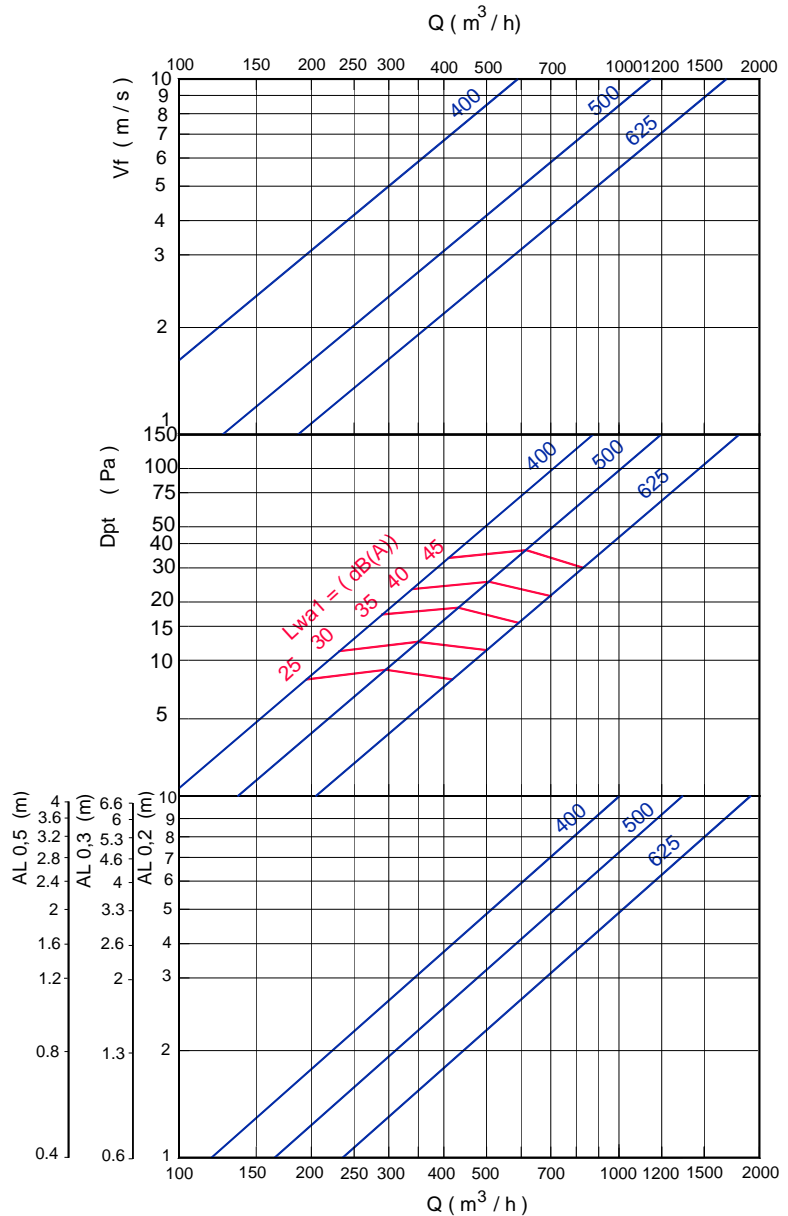
$$AL_{0,2} = A$$

$$AL_{0,2} = B+H$$

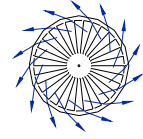
$$AL_{0,2} = C+H$$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.

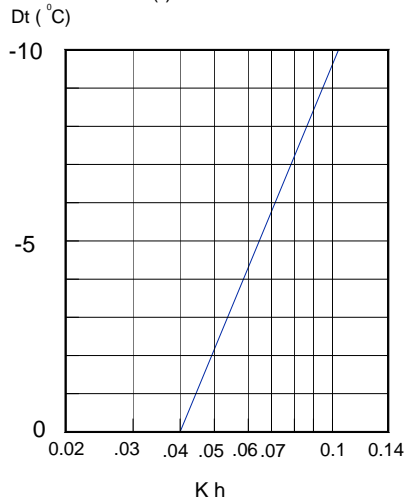
RXO-C + PLXOC



Note: In MadelMedia Octava band centre frequency in Hz.

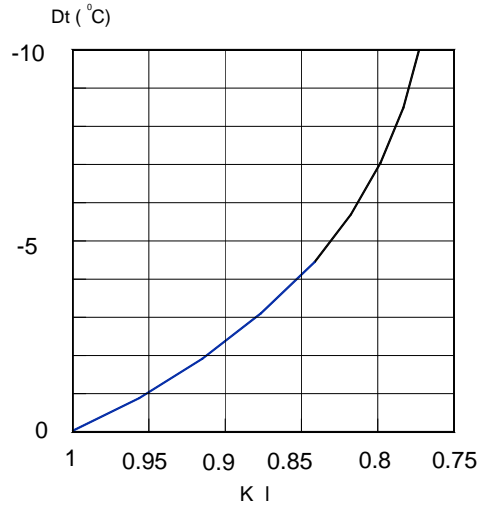


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

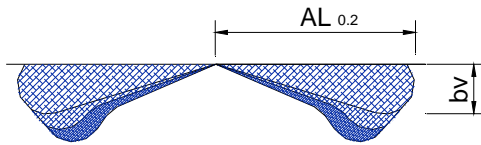


Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



KI = Correction factor for the throw.



$$bv = Kh \times AL_{0.2}$$

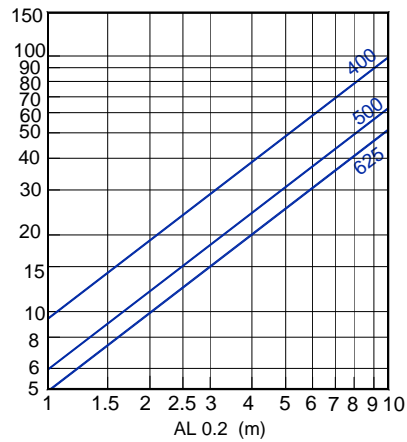
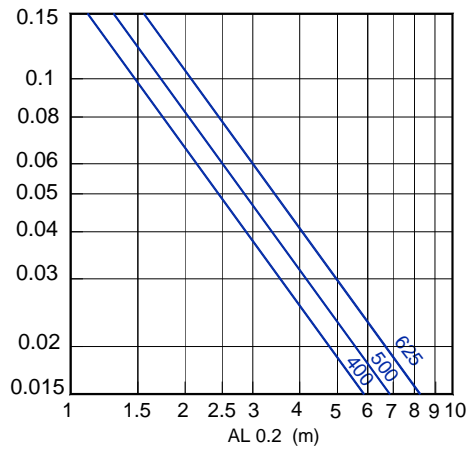
$$AL'_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

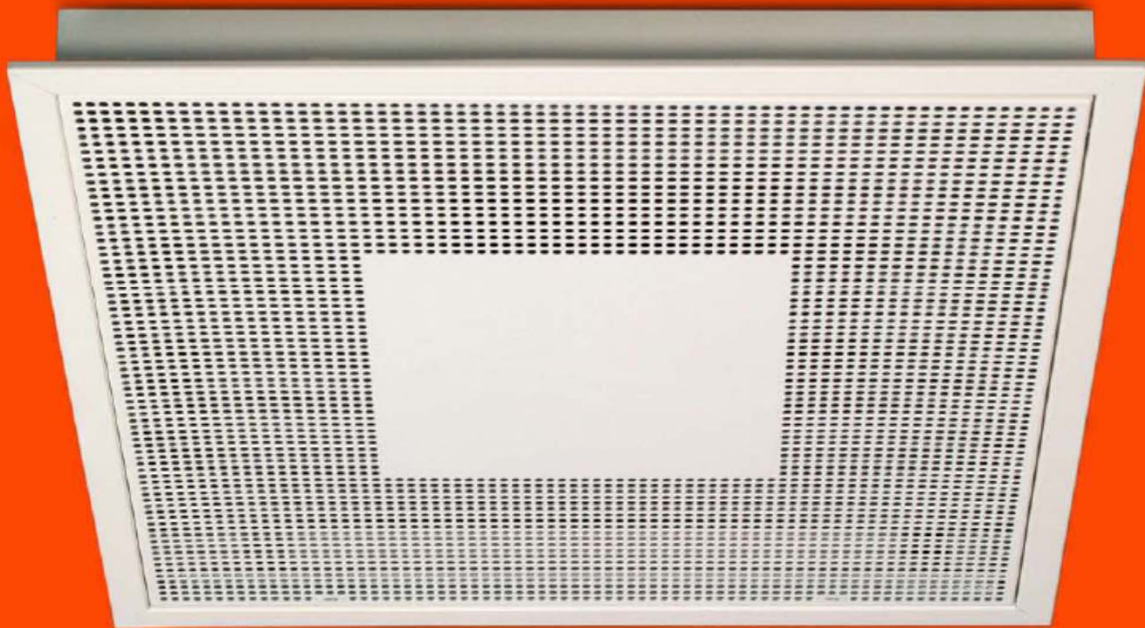
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q_{of\ supply}}$$





## DFZ Perforated face diffusers

MADEL®

The **DFZ** series perforated diffusers are designed to be applied in air conditioning ventilation and heating systems.

They can be mounted in false ceilings.

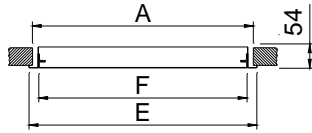
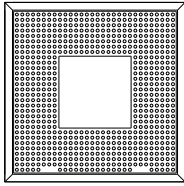
The face design **DFZ-S4** diffuser cause a 4- way horizontal air supply with an accentuate coanda effect. Their multiple small openings provides a high level of induction rate, emitting a uniform air flow all over the passage section.

The **DFZ** series diffuser admit a flow variation of 60 % Keeping the air stream stable.

These diffusers can be used from 2.6 up to 4 meters high and at a temperature differential up to 12 °C.

Its sober and discreet design gives to **DFZ** series an excellent capacity of integration with modern ceiling constructions.

## DFZ-S4

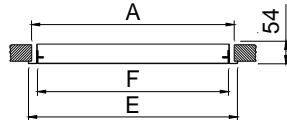
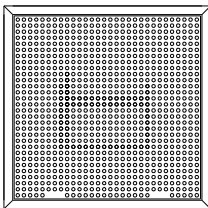


	E	A	F
300	295	269	265
400	395	369	365
500	495	469	465
600	595	569	565
625	620	594	590
675	670	644	640

## CLASSIFICATION

**DFZ-S4** Four-Way square perforated face diffuser with hinged removable core for the easy access to the installations above the ceiling with no need of tools, by means of PUSH fasteners. By slightly pressing on the invisible latch, the core opens, remaining hinged on one side. If necessary the core can be easily removed for maintenance of HVAC installations.

## DFZ-R



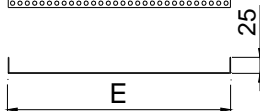
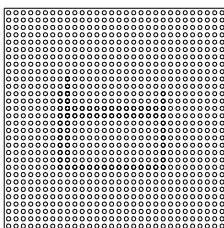
	E	A	F
300	295	269	265
400	395	369	365
500	495	469	465
600	595	569	565
625	620	594	590
675	670	644	640

L x H	E	F
600 x 300	595 x 295	565 x 265
675 x 338	670 x 333	640 x 303
1200 x 300	1195 x 295	1165 x 265
1200 x 600	1195 x 595	1165 x 565
1350 x 338	1345 x 333	1315 x 303
1350 x 675	1345 x 670	1315 x 640

**DFZ-R** Air return square perforated face diffuser with hinged removable core for the easy access to the installations above the ceiling with no need of tools, by means of PUSH fasteners. By slightly pressing on the invisible latch, the core opens, remaining hinged on one side. If necessary the core can be easily removed for maintenance of HVAC installations.

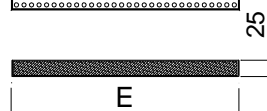
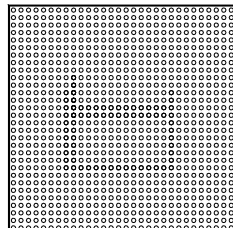
**DFR** Square diffuser for extract without plenum box, to replace a false ceiling tile.

## DFR



	E
300	295
400	395
500	495
600	595
625	620
675	670

## DFR+PFT



L x H	E
600 x 300	595 x 295
675 x 338	670 x 333
1200 x 300	1195 x 295
1200 x 600	1195 x 595
1350 x 338	1345 x 333
1350 x 675	1345 x 670



## MATERIAL

Diffuser constructed from galvanised steel.

## ACCESSORIES

**PLK** Plenum box fixed to the diffuser, with an upper connection. Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

**.../L/** Plenum box with a lateral connection.

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

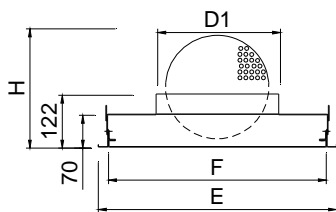
UNE 23-727 M2

NFP 92-501 M2

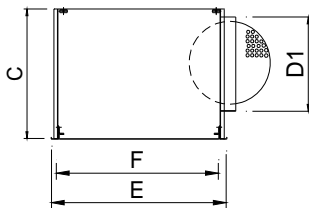
DIN 4102 M2

**PFT** K/8 class EN 779 G3 filter incorporated to the diffuser.

**PLK...-R**

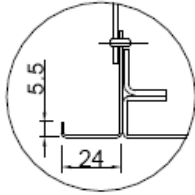


**PLK/L...-R**



	E	F	D1	H	C
300	295	265	123	185	280
400	395	365	198	205	320
500	495	465	248	286	370
600	595	565	313	353	435
625	620	590	313	353	435
675	670	640	313	353	435

L x H	E	F	D1	H	C
600 x 300	595 x 295	565 x 265	2/198	353	435
675 x 338	670 x 333	640 x 303	2/198	353	435
1200 x 300	1195 x 295	1165 x 265	2/198	353	435
1200 x 600	1195 x 595	1165 x 565	2/313	353	435
1350 x 338	1345 x 333	1315 x 303	313	353	435
1350 x 675	1345 x 670	1315 x 640	2/313	353	435

**PLK****FIXING SYSTEMS**

1) Support brackets to hang from the ceiling with drop rods.

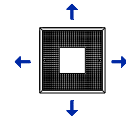
**FINISHES**

**R9010** Lacquer in white colour RAL 9010.

**M9016** Lacquer in white colour similar to RAL 9016.

**RAL...** Lacquer in other colours (RAL specifications).

## DFZ SÈRIES



RECOMMENDED VELOCITY.

DFZ-S4	Vmin m/s	Vmax m/s
300	2,5	5,4
400	2,5	4,5
500	2	3,7
600	2,5	3,1
625	2,5	3,1

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.  
DFZ-S4 + PLFZ

FREE FACE AREA (m<sup>2</sup>).

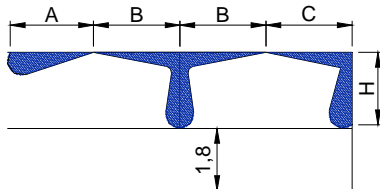
DFZ-S4	Afree m <sup>2</sup>	Qmin. m <sup>3</sup> /h	Qmax. m <sup>3</sup> /h
300	.0149	135	290
400	.0309	280	500
500	.0522	375	700
600	.0798	600	900
625	.0798	600	900

CORRECTION FACTOR FOR DPt AND Lwa1.

PLFZ-R		100% Open	50% Open	10% Open
		300	Dpt (Kp) 1	1,25
	Lwa1 (Kf) +0,7	+4,1	+8	
400	Dpt (Kp) 1	1,7	3,4	
	Lwa1 (Kf) +0,8	+3,2	+7,1	
500	Dpt (Kp) 1	1,5	2	
	Lwa1 (Kf) +0,9	+2,6	+6	
600	Dpt (Kp) 1	1,7	4,3	
	Lwa1 (Kf) +0,9	+4,3	+8,6	
625	Dpt (Kp) 1	1,7	4,3	
	Lwa1 (Kf) +0,9	+4,3	+8,6	

$$Dpt1 = Kp \times DPt$$

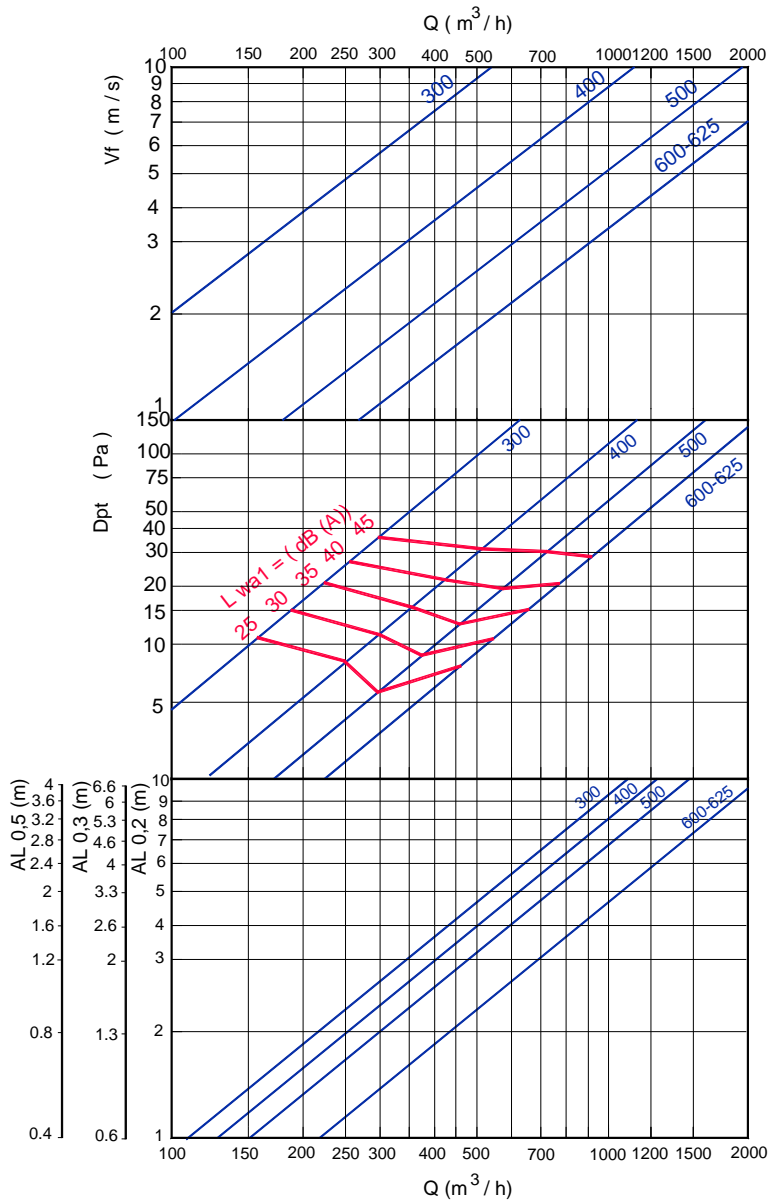
$$Lwa = Lwa1 + Kf$$



$$AL_{0.2} = A$$

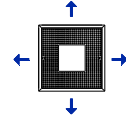
$$AL_{0.2} = B+H$$

$$AL_{0.2} = C+H$$

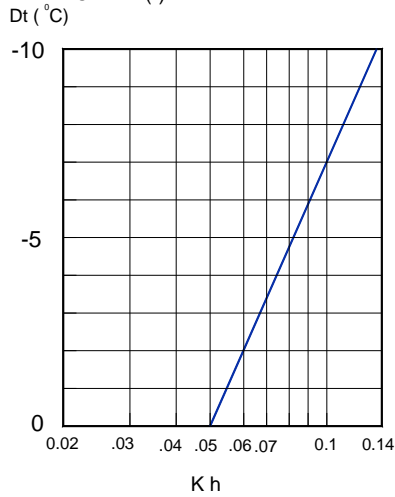


Note: In MadelMedia Octava band centre frequency in Hz.

## DFZ SÈRIES

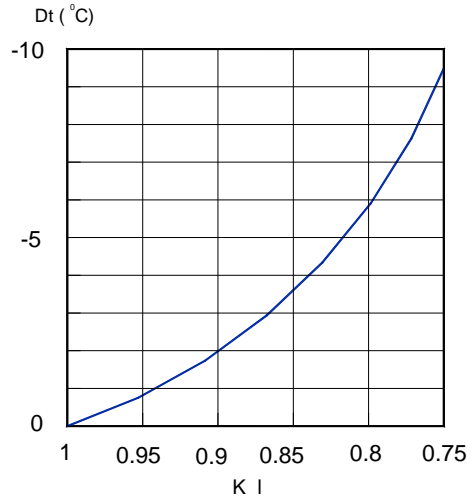


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

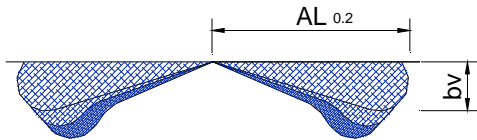


Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



Kl = Correction factor for the throw.



$$bv = Kh \times Al_{0.2}$$

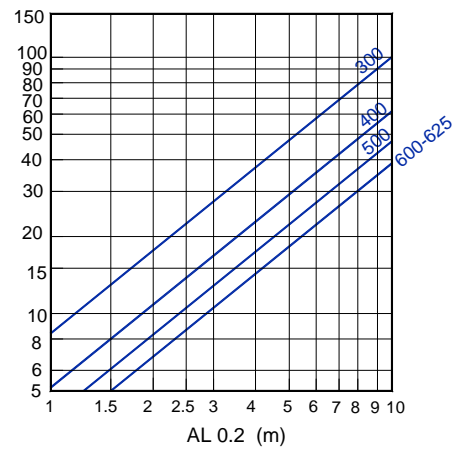
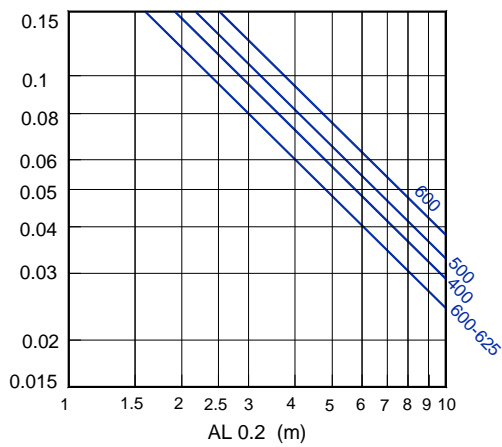
$$AL'_{0.2} (Dt < 0) = Kl \times AL_{0.2}$$

TEMPERATURE RATIO.

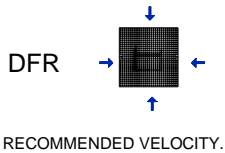
$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total \ at \ x}}{Q_{of \ supply}}$$



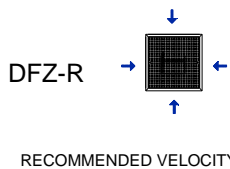
## DFZ SÈRIES



DFR	Vmin m/s	Vmax m/s
300	2	3,5
400	2	3,5
500	2	3
600	2	3
625	2	3

FREE FACE AREA (m2).

DFR	Afree m2	Qmin. m3/h	Qmax. m3/h
300	.028	201	353
400	.05	360	630
500	.08	576	1008
600	0.117	842	1263
625	0.117	842	1263

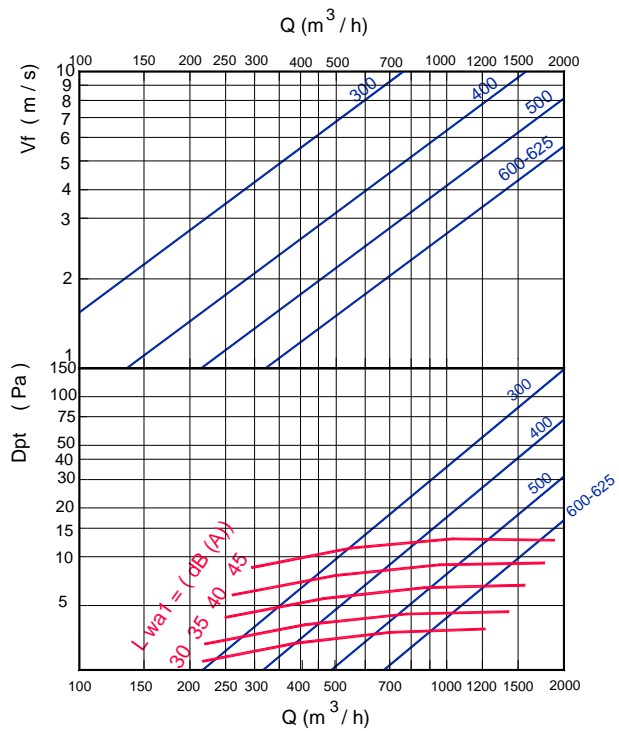
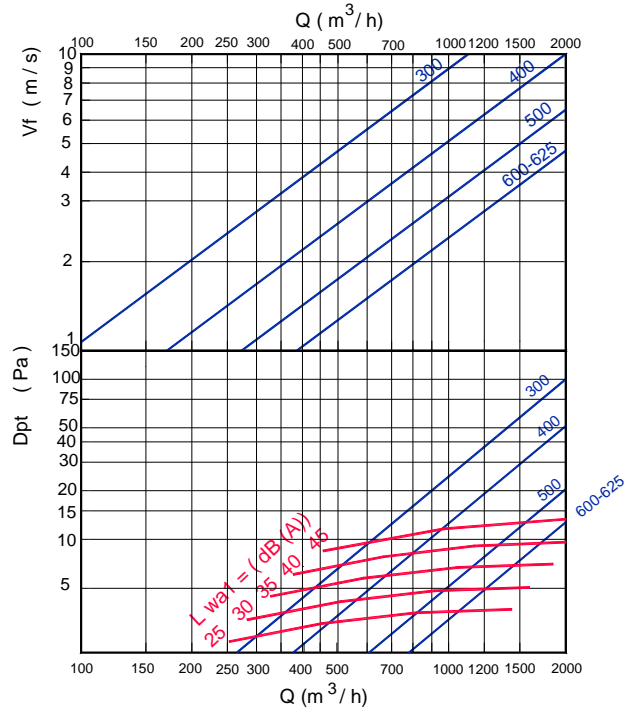


DFZ-R	Vmin m/s	Vmax m/s
300	2	3,5
400	2	3,5
500	2	3
600	2	3
625	2	3

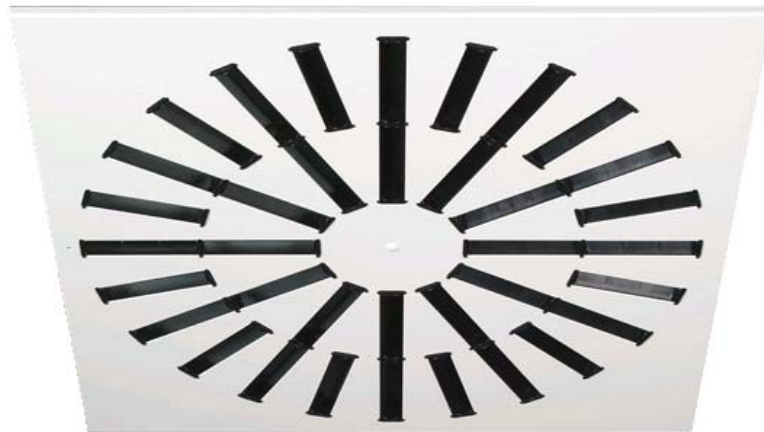
FREE FACE AREA (m2).

DFZ-R	Afree m2	Qmin. m3/h	Qmax. m3/h
300	.02	144	252
400	.043	309	464
500	.067	482	723
600	0.1	720	1080
625	0.1	720	1080

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, FOR EXTRACT.



MADEL®



## AXO adjustable vanes swirl diffusers

MADEL®

The **AXO** swirl diffusers are designed to be applied in air conditioning ventilation and heating systems. They can be mounted in false ceilings or suspended from ceiling.

The design of their vanes and its radial arrangement in the diffuser cause a swirl air supply with a coandaeffect, which provides a high level of induction rate of the air in the atmosphere and reducing the stratification. Their individually adjustable vanes allow to change the supply angle to adjust the diffuser to the different architectonics environments. Their sectored vanes emit a uniform air flow all over the passage section.

The **AXO** series diffusers are designed for both CAV and VAV installations. These diffusers can be used from 2,6 up to 4 meters high and at a temperature differential up to 12°C.

**Models:**

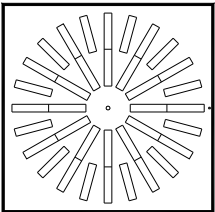
**AXO-S**

**AXO-KLIN**

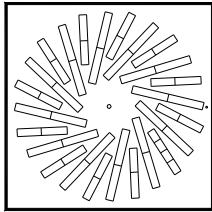
**AXO-C**

**AXO-R**

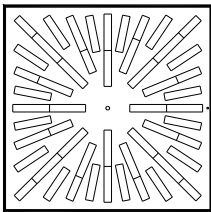
**AXO-S**



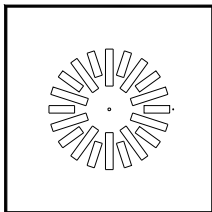
**AXO-SY**



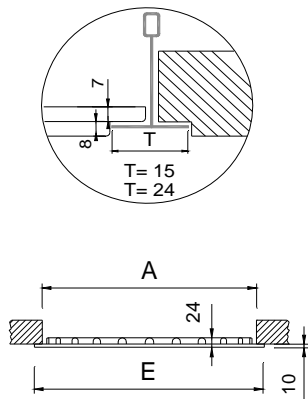
**AXO-SX**



**AXO-S.../SR/**



**AXO-S.../T.../**



### Classification

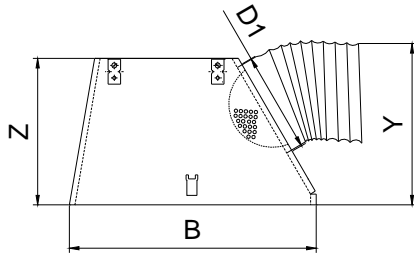
- AXO-S** Diffuser with vanes in radial arrangement.
- ...-SY** Vanes in radial inclined arrangement.
- ...-SX** Vanes in square radial arrangement.
- .../SR/** Reduced supply area.
- .../T15/** Panel with angled borders to replace an angled ceiling tile profile 15 mm.
- .../T24/** Panel with angled borders to replace an angled ceiling tile profile 24 mm.

### Material

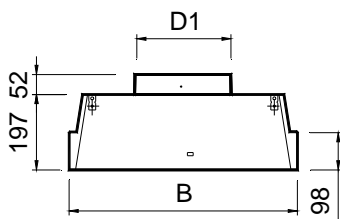
Diffuser constructed from galvanised steel and deflection vanes made of injected plastic, ABS type. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the plenum box or the ceiling is airtight.

	E	A
300	295	280
310	308	289
400	395	376
500	495	476
600	595	576
610	605	591
625	620	601
675	670	651
800	795	776
825	820	801

**BOXSTAR/**

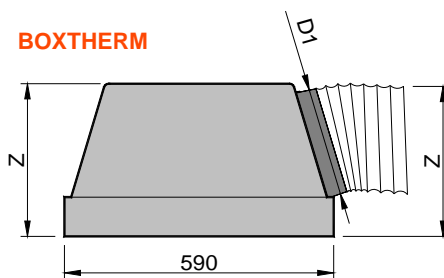


**BOXSTAR /S/**



	B	Z	Y	D1
300	290	250	275	123
310	303	250	275	123
400	390	300	325	198
500	490	300	325	198
600-D1:250	590	350	375	248
600-D1:200	590	300	325	198
610-D1:250	600	350	375	248
610-D1:200	600	300	325	198
625-D1:250	615	350	375	248
625-D1:200	615	300	325	198
675-D1:250	665	350	375	248
675-D1:200	665	300	325	198
800	790	415	440	313
825	815	415	440	313

**BOXTHERM**



	Z	D1
BOXTHERM 600-DIAM250	350	248
BOXTHERM 600-DIAM200	300	198

**Accessories**

**BOXSTAR** Plenum box with a lateral circular connection for AXO-S...diffusers. It includes supports to hang from the ceiling. The crossbar is supplied separately to be assembled manually on the work site. Made in galvanised steel. Plenum box with a lateral Circular.

**...-R** Plenum box with a flow damper in the spigot. The AXO diffusers incorporate a vane, indicated by means of a point, that can be positioned totally in vertical to allow the access to the regulator once the diffuser is mounted.

**.../S/** Plenum box with an upper connection.

**.../AIS/** Thermally insulated plenum box with foam. Density 30 kg / m3 ISO 845.

Thermal conductivity 20° C\_0,040 W / m°K ISO 3386/1  
Classified reaction to fire B-s2, d0 EN 13501-1

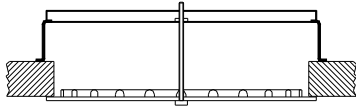
**BOXTHERM** Plenum box thermo acoustically insulated with a lateral circular connection.

**...-R** Plenum box with a flow damper in the spigot.

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.



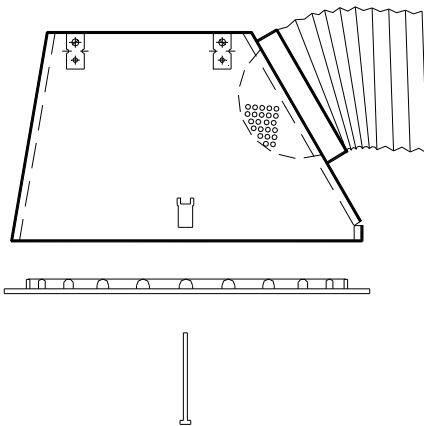
1)



### FIXING SYSTEMS

- 1) Connection into the crossbar or to the plenum box by means of central screw. Plenum box incorporates supports to hang the assembly from the ceiling with drops rods.

1)



### Finishes

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

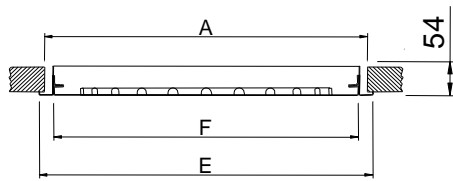
**RAL...** Painted in other RAL colours.

**.../AB/** ABS plastic vanes in white.

### Specification Text

Supply and mounting of square swirl diffuser with individually adjustable radial vanes series **AXO-S+BOXSTAR-R M9016 dim. 600** constructed From galvanised steel paint in white **M9016** and black ABS plastic vanes. With lateral circular connection Pyramidal plenum box and air flow damper in the spigot **BOXSTAR-R**. Manufacturer **MADEL**.

**AXO-S-KLIN**



	E	A	F
400	395	369	345
500	495	469	445
600	595	569	545
610	605	579	555
625	620	594	570
675	670	644	620
600-400	595	569	545
600-500	595	569	545
610-400	605	579	555
610-500	605	579	555
625-400	620	594	570
625-500	620	594	570
675-400	670	644	620
675-500	670	644	620

**AXO-S-KLIN**

**Classification**

**AXO-S-KLIN** KLIN Hinged removable core diffuser for the easy access to the installations above the ceiling with no need of tools, by means of PUSH fasteners. By slightly pressing on the invisible latch, the core opens, remaining hinged on one side. If necessary the core can be easily removed for maintenance of HVAC installations.

**Material**

Diffuser constructed from galvanised steel and deflection vanes made of injected plastic, ABS type. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the plenum box or the ceiling is Airtight.

**Accessories**

**PLK** Plenum box fixed to the diffuser, suitable for -KLIN models.

Plenum Box with upper connection, made in galvanised steel.

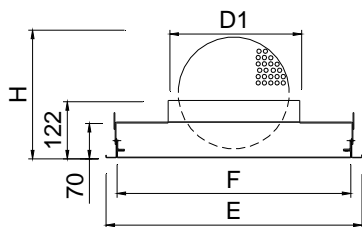
**...-R** Plenum box with a flow damper in the spigot.

**.../L/** Plenum box with a lateral connection.

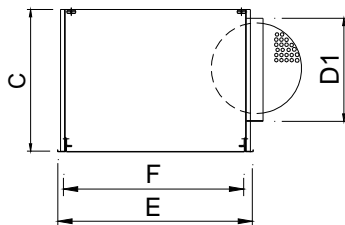
**.../AIS/** Thermally insulated plenum box with foam. Density 30 kg / m<sup>3</sup> ISO 845.

Thermal conductivity 20° C\_0,040 W / m°K ISO 3386/1  
Classified reaction to fire B-s2, d0 EN 13501-1

**AXO-S-KLIN+PLK...-R**



**AXO-S-KLIN+PLK/L/...-R**



	E	F	D1	H	C
400	395	365	198	205	320
500	495	465	248	286	370
600	595	565	313	353	435
610	605	575	313	353	435
625	620	590	313	353	435
675	670	640	313	353	435

## FIXING SYSTEMS

1) Suspended at the false ceiling.

1)



## Finishes

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

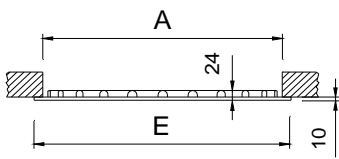
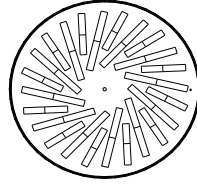
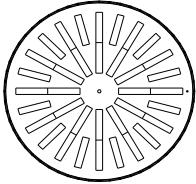
**../AB/** ABS plastic vanes in white..

## Specification Text

Supply and mounting of square swirl diffuser with adjustable vanes with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **AXO-S-KLIN+PLK-R M9016 dim. (mm)** constructed from galvanised steel paint in white **M9016** and black ABS plastic vanes. With upper circular connection plenum box and air flow damper in the spigot **PLK-R**. Manufacturer **MADEL**.

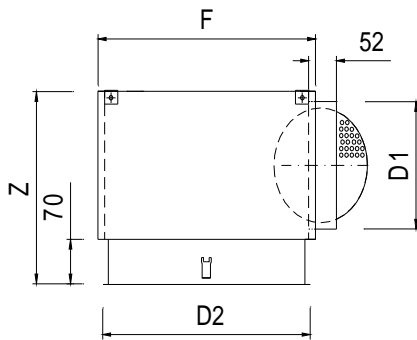
**AXO-C**

**AXO-CY**



	E	A
300	300	284
400	400	376
500	500	476
625	625	601
825	825	801

**PLXOC**



	D2	F	Z	D1
300	295	315	300	198
400	395	415	300	198
500	495	515	300	198
625	620	640	350	248
825	820	840	415	313

**AXO-C**

**Classification**

**AXO-C** Circular diffuser with vanes in circular Radial arrangement.

**...-CY** Vanes in circular radial arrangement, inclined in relation to the centre.

**Material**

Diffuser constructed from galvanised steel and deflection vanes made of injected plastic, ABS type. All diffusers are provided with a seal on The back of the frame in order that the perimeter in contact with the plenum box or the ceiling is Airtight.

**Accessories**

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral circular connection for AXO-C. circular diffusers. Made in galvanised steel.

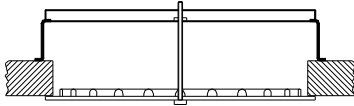
**...-R** Plenum box with a flow damper in the spigot. The AXO diffusers incorporate a vane, indicated by means of a point, that can be positioned totally in vertical to allow the access to the regulator once the diffuser is mounted.

**.../S/** Plenum box with an upper connection.

**.../AIS/** Thermally insulated plenum box with foam. Density 30 kg / m3 ISO 845. Thermal conductivity 20° C\_0,040 W / m°K ISO 386/1 Classified reaction to fire B-s2, d0 EN 13501-1

## FIXING SYSTEMS

1)



1) Crossbar suitable for mounting in false ceiling with rectangular duct.

### Finishes

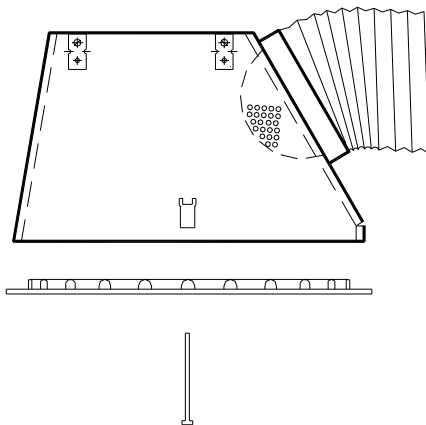
**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

**.../AB/** ABS plastic vanes in white.

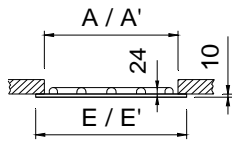
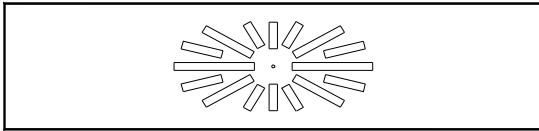
1)



### Specification Text

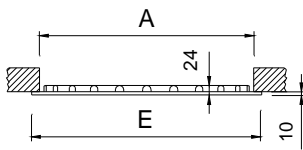
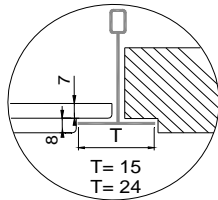
Supply and mounting of circular swirl diffuser with individually adjustable radial vanes series **AXO-C+PLXOC-R M9016 dim. 600** constructed from galvanised steel paint in white **M9016** and black ABS plastic vanes. With lateral circular connection plenum box and air flow damper in the spigot **PLXOC-R**. Manufacturer **MADEL**.

**AXO-R**



Dim.	E	E'	A	A'
600 x 300	595	295	576	276
625 x 310	620	305	601	286
675 x 335	670	330	651	311
1200 x 300	1195	295	1176	276
1250 x 310	1245	308	1226	286
1350 x 335	1345	330	1326	311

**AXO-R.../T.../**



	E	A
300	295	280
310	308	289
400	395	376
500	495	476
600	595	576
625	620	601
800	795	776
825	820	801

**AXO-R**

**Classification**

**AXO-R** Rectangular diffuser with vanes in radial arrangement.

**.../T15/** Panel with angled borders to replace an angled ceiling tile profile 15 mm.

**.../T24/** Panel with angled borders to replace an angled ceiling tile profile 24 mm.

**Material**

Diffuser constructed from galvanised steel and deflection vanes made of injected plastic, ABS type. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the plenum box or the ceiling is Airtight.

### Accessories

**PMYR** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOR** Plenum box with a lateral circular Connection . Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.  
**.../S/** Plenum box with an upper connection.  
**.../AIS/** Thermally insulated plenum box with foam. Density 30 kg / m3 ISO 845. Thermal conductivity 20°C\_0,040 W / m°K ISO 3386/1 Classified reaction to fire B-s2, d0 EN 13501-1

### FIXING SYSTEMS

**1)** Crossbar suitable for mounting in false ceiling with rectangular duct.

### Finishes

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

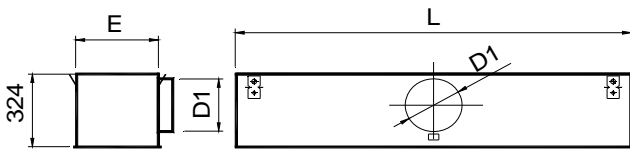
**.../AB/** ABS plastic vanes in white.

### Specification Text

Supply and mounting of rectangular swirl diffuser with individually adjustable radial vanes series

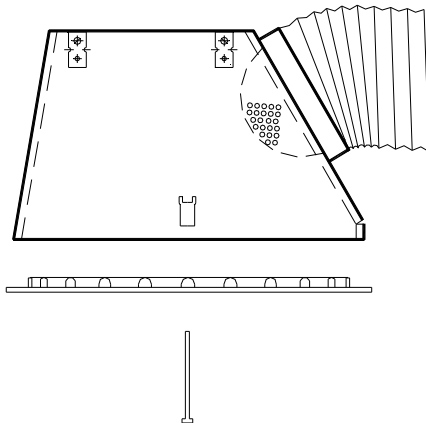
**AXO-R+PLXOR M9016 dim. 1000X300** constructed from galvanised steel paint in white **M9016** and black ABS plastic vanes. With lateral circular connection plenum box **PLXOR**. Manufacturer **MADEL**.

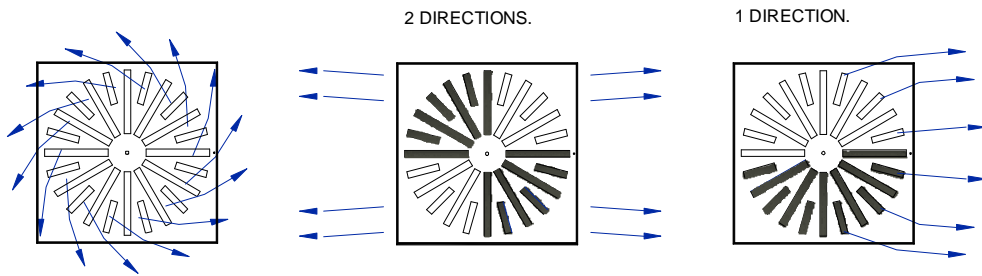
PLXOR



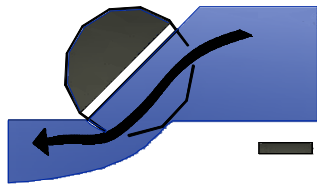
Dim.	L (mm)	E	D1
600 x 300	590	290	248
625 x 310	615	300	248
675 x 335	665	325	248
1200 x 300	1190	290	248
1250 x 310	1240	300	248
1350 x 335	1340	325	248

1)

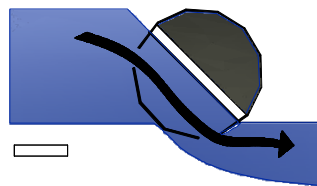
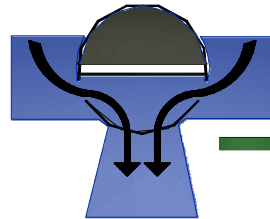




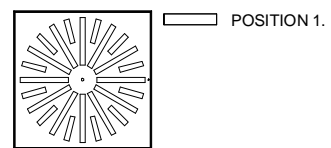
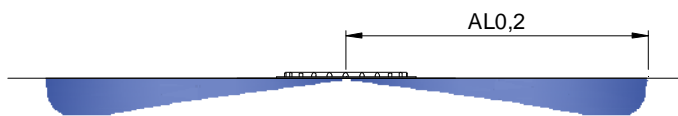
HORIZONTAL SUPPLY.  
POSITION 1.



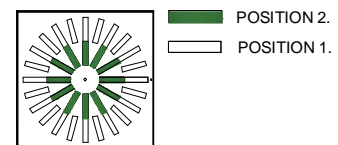
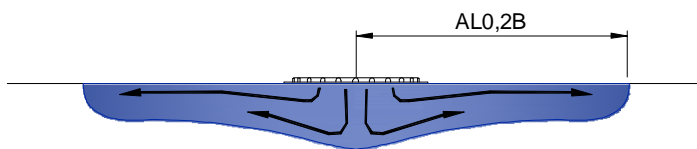
VERTICAL SUPPLY.  
POSITION 2.



TYPE A. 100% POSITION 1.



TYPE B. 50% POSITION 1 AND 50% POSITION 2.



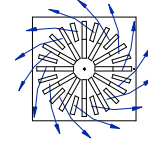




**MADDEL®**

**AXO-S**

(Technical data equal to 600, 610, 625 or 675)



RECOMMENDED VELOCITY.

AXO-S	Vmin m/s	Vmax m/s
310	2,5	6,5
400	2,5	5,9
500	2,5	5,4
600	2,5	5,3
625	2,5	5,3
800	2,5	4,2
825	2,5	4,2

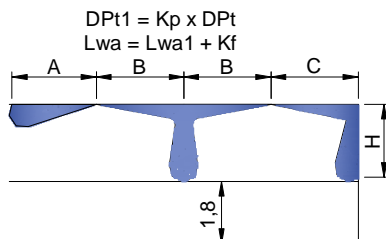
FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.  
AXO-S + BOXSTAR

FREE FACE AREA (m<sup>2</sup>).

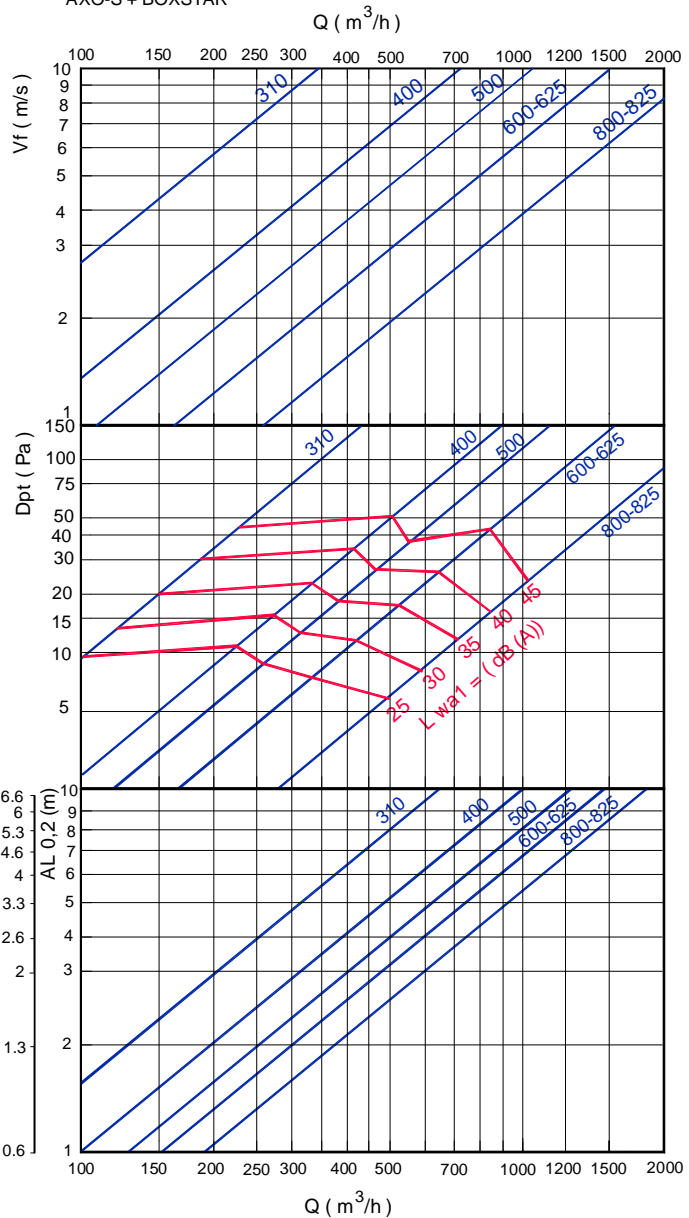
AXO-S	Afree m <sup>2</sup>	Qmin. m <sup>3</sup> /h	Qmax. m <sup>3</sup> /h
310	.0096	87	225
400	.0201	181	430
500	.029	261	565
600	.044	396	845
625	.044	396	845
800	.068	612	1025
825	.068	612	1025

CORRECTION FACTOR FOR DPT AND Lwa1.

BOXSTAR-R		100% Open	50% Open	10% Open
		Dpt (Kp)	1	1,2
310	Lwa1 (Kf)	+0,7	+1,1	+2,4
	Dpt (Kp)	1	1,2	2,3
400	Lwa1 (Kf)	+0,8	+1,5	+2,9
	Dpt (Kp)	1	1,4	4
500	Lwa1 (Kf)	+0,8	+2,1	+2,8
	Dpt (Kp)	1	1,5	4,8
600	Lwa1 (Kf)	+0,9	+5,8	+7,7
	Dpt (Kp)	1	1,5	4,8
625	Lwa1 (Kf)	+0,9	+5,8	+7,7
	Dpt (Kp)	1	1,7	4,5
800	Lwa1 (Kf)	+0,9	+3,6	+5,2
	Dpt (Kp)	1	1,7	4,5
825	Lwa1 (Kf)	+0,9	+3,6	+5,2



$AL_{0,2} = A$   
 $AL_{0,2} = B+H$   
 $AL_{0,2} = C+H$

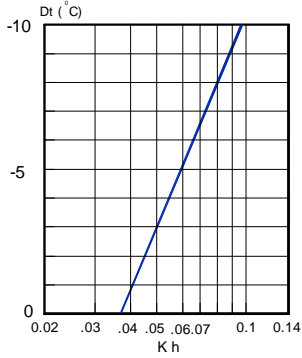


Note: In MadelMedia Octava band centre frequency in Hz.

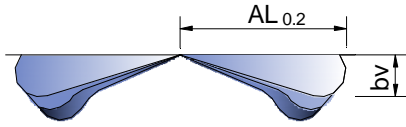
# AXO-S

(Technical data equal to 600, 610, 625 or 675)

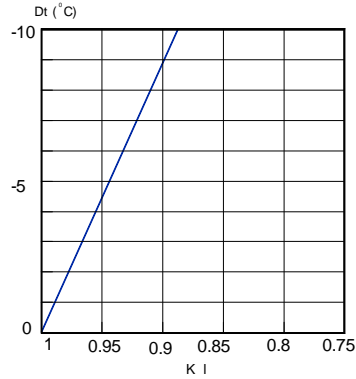
CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).



Kh = Correction factor for the vertical diffusion.



CORRECTION FACTOR FOR THROW (L0.2) DT (-).



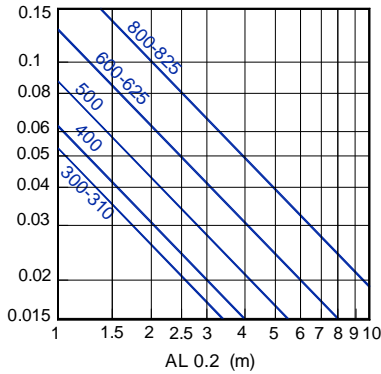
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

$$AL'_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

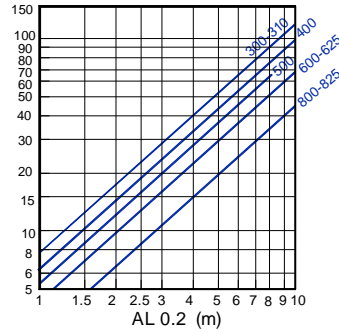
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$



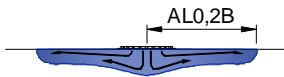
INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply.}$$



INDUCTION RATIO. TYPE B.

TYPE B. 50% POSITION 1 AND 50% POSITION 2.



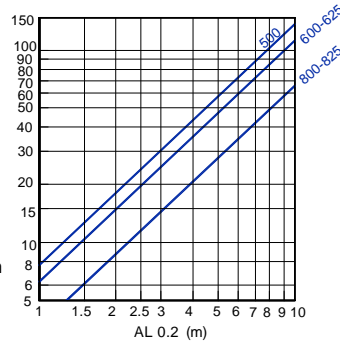
$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply.}$$

$$AL_{0,2B} = KB \times AL_{0,2}$$

EXAMPLE:  
 AXO-S-600-625  
 Q = 600 m<sup>3</sup>/h  
 AL<sub>0,2</sub> = 4 m  
 AL<sub>0,2B</sub> = 0,74 \* 4 = 2,96 m  
 i = 28

CORRECTION FACTOR FOR THROW TYPE B.

AXO-S	KB
500	0,75
600-625	0,74
800-825	0,7

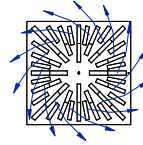




**MADEL®**

**AXO-SX**

(Technical data equal to 600, 610, 625 or 675)

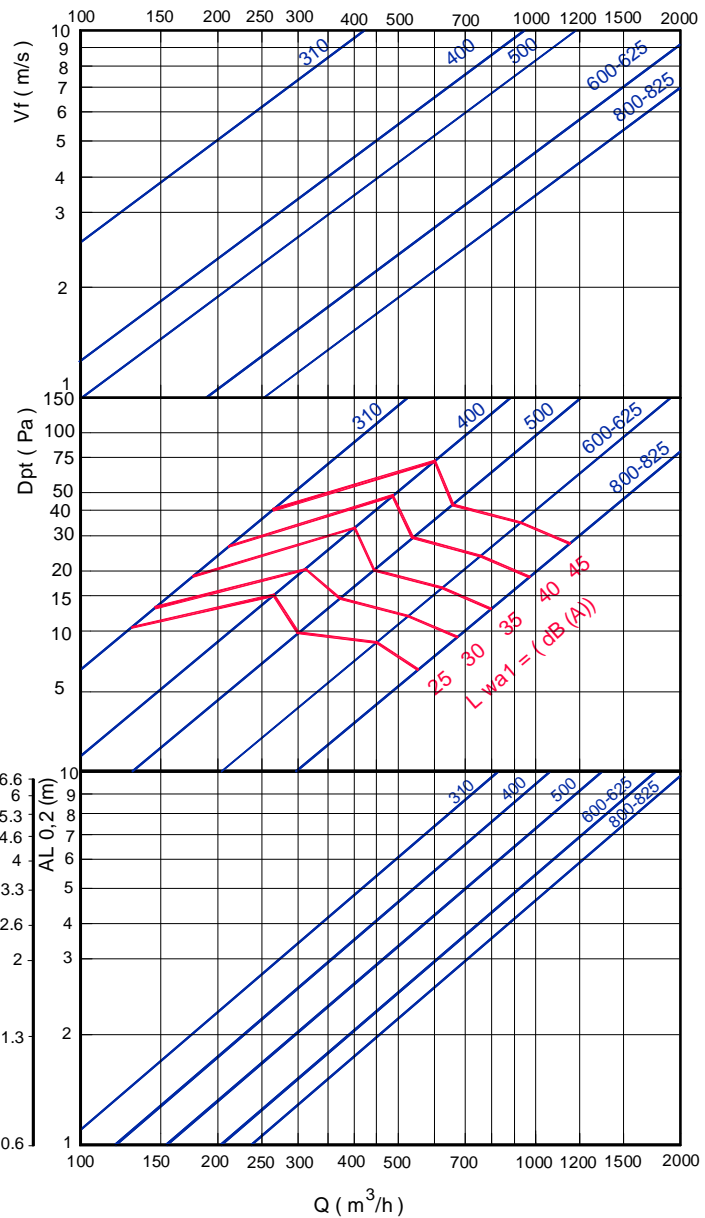


RECOMMENDED VELOCITY.

AXO-SX	Vmin m/s	Vmax m/s
310	2.5	6,5
400	2.5	6,9
500	2.5	5,6
600	2.5	4,2
625	2.5	4,2
800	2.5	3,9
825	2.5	3,9

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.

AXO-SX + BOXSTAR Q (m<sup>3</sup>/h)

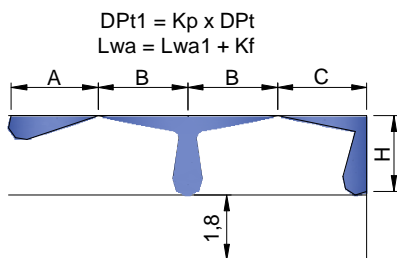


FREE FACE AREA (m<sup>2</sup>).

AXO-SX	Afree m <sup>2</sup>	Qmin. m <sup>3</sup> /h	Qmax. m <sup>3</sup> /h
310	.0112	101	263
400	.024	216	598
500	.032	288	652
600	.058	522	880
625	.058	522	880
800	.079	711	1110
825	.079	711	1110

CORRECTION FACTOR FOR Dpt AND Lwa1.

BOXSTAR-R		100% Open	50% Open	10% Open
		Dpt (Kp)	1	1,2
310	Lwa1 (Kf)	+0,8	+1,5	+1,1
	Dpt (Kp)	1	1,2	2,6
400	Lwa1 (Kf)	+0,8	+2,1	+2
	Dpt (Kp)	1	1,4	4
500	Lwa1 (Kf)	+0,9	+2	+1
	Dpt (Kp)	1	1,5	4,8
600	Lwa1 (Kf)	+0,8	+4,8	+5,2
	Dpt (Kp)	1	1,3	4,8
625	Lwa1 (Kf)	+0,9	+4,8	+5,3
	Dpt (Kp)	1	1,8	4,5
800	Lwa1 (Kf)	+0,9	+3,6	+2,7
	Dpt (Kp)	1	1,8	4,5
825	Lwa1 (Kf)	+0,9	+3,7	+2,8



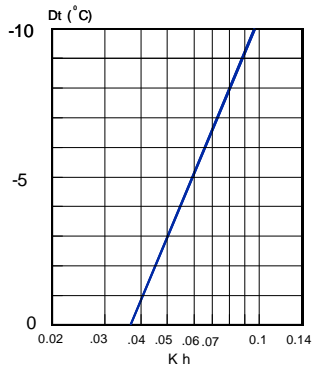
AL<sub>0.2</sub> = A  
AL<sub>0.2</sub> = B+H  
AL<sub>0.2</sub> = C+H

Note: In MadelMedia Octava band centre frequency in Hz.

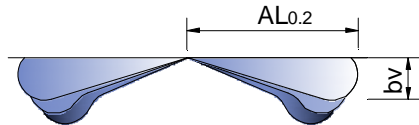
## AXO-SX

(Technical data equal to 600, 610, 625 or 675)

FACTOR DE CORRECCION DE LA DIFUSION VERTICAL (bv) PARA DT (-).

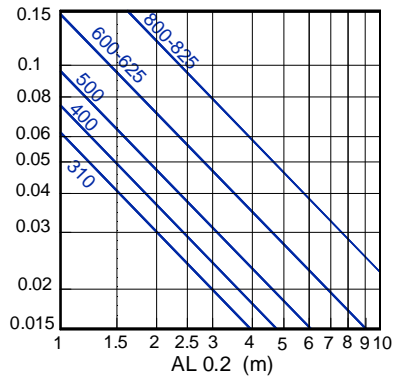


Kh = Factor de corrección de la difusión vertical.

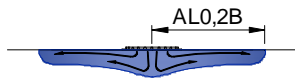


RELACION DE TEMPERATURAS.

$$\frac{Dtl}{Dtz} = \frac{t \text{ local} - t x}{t \text{ local} - t \text{ imp}}$$



TIPO B. 50% POSICION 1 Y 50% POSICION 2.



FACTOR DE CORRECCION DEL ALCANCE TIPO B.

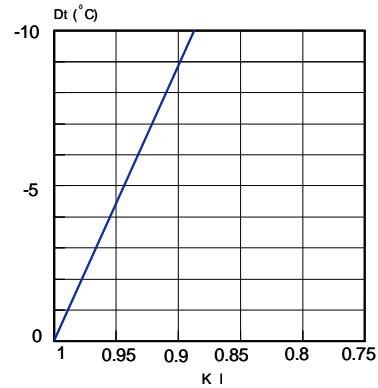
AXO-SX	KB
400	0,75
500	0,65
600-625	0,6
800-825	0,65

$$i = \frac{Q_r}{Q_0} = \frac{Q \text{ total en } x}{Q \text{ de impulsión}}$$

$$AL_{0,2B} = KB * AL_{0,2}$$

EJEMPLO:  
 AXO-SX-800-825  
 Q = 800 m<sup>3</sup>/h  
 AL<sub>0,2</sub> = 4,25 m  
 AL<sub>0,2B</sub> = 0,6 \* 4,25 = 2,55 m  
 i = 28

FACTOR DE CORRECCION DEL ALCANCE (L0.2) DT (-).



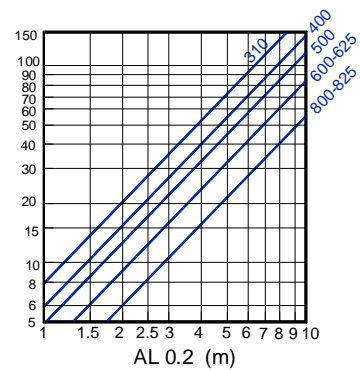
kl = Factor de corrección del alcance.

$$bv = Kh * AL_{0,2}$$

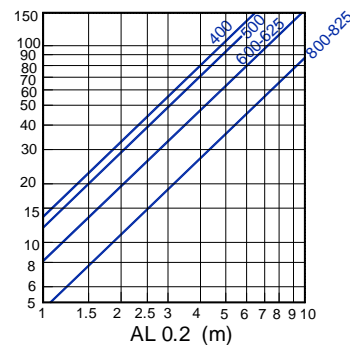
$$AL'_{0,2} (Dt < 0) = kl * AL_{0,2}$$

RELACION DE INDUCCION.

$$i = \frac{Q_r}{Q_0} = \frac{Q \text{ total en } x}{Q \text{ de impulsión}}$$



RELACION DE INDUCCION. TIPO B.

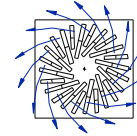




**MADEL**<sup>®</sup>

**AXO-SY**

(Technical data equal to 600, 610, 625 or 675)



RECOMMENDED VELOCITY.

AXO-SY	Vmin m/s	Vmax m/s
310	2.5	6.6
400	2.5	6.8
500	2.5	6.1
600	2.5	5.3
625	2.5	5.3
800	2.5	4.5
825	2.5	4.5

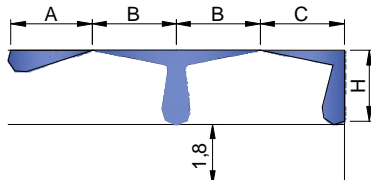
FREE FACE AREA (m2).

AXO-SY	Afree m2	Qmin. m3/h	Qmax. m3/h
310	.01	90	240
400	.0181	163	445
500	.025	225	555
600	.044	387	840
625	.044	387	840
800	.068	612	1105
825	.068	612	1105

CORRECTION FACTOR FOR DPT AND Lwa1.

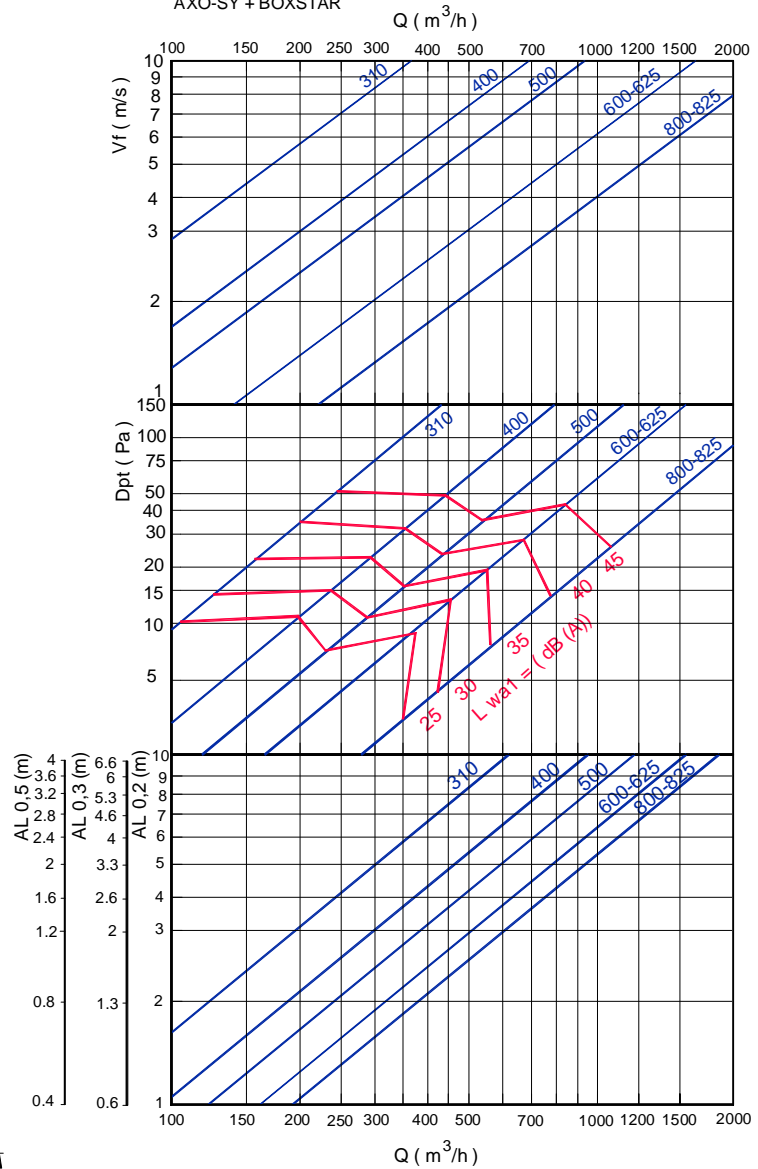
BOXSTAR-R	100% Open			50% Open			10% Open		
	Dpt (Kp)	Lwa1 (Kf)		Dpt (Kp)	Lwa1 (Kf)		Dpt (Kp)	Lwa1 (Kf)	
310	Dpt (Kp)	1	1,2	2,4					
	Lwa1 (Kf)	+0,8	+1,4	+0,2					
400	Dpt (Kp)	1	2	2,3					
	Lwa1 (Kf)	+0,8	+2,2	+1,9					
500	Dpt (Kp)	1	1,4	4					
	Lwa1 (Kf)	+0,8	+2,1	+1,7					
600	Dpt (Kp)	1	1,5	4,8					
	Lwa1 (Kf)	+0,9	+5,1	+7					
625	Dpt (Kp)	1	1,5	4,8					
	Lwa1 (Kf)	+0,8	+5,1	+7					
800	Dpt (Kp)	1	1,7	4,5					
	Lwa1 (Kf)	+0,9	+4,7	+7,7					
825	Dpt (Kp)	1	1,7	4,5					
	Lwa1 (Kf)	+0,9	+4,4	+7,8					

$Dpt1 = Kp \times Dpt$   
 $Lwa = Lwa1 + Kf$



$AL_{0.2} = A$   
 $AL_{0.2} = B+H$   
 $AL_{0.2} = C+H$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT. AXO-SY + BOXSTAR

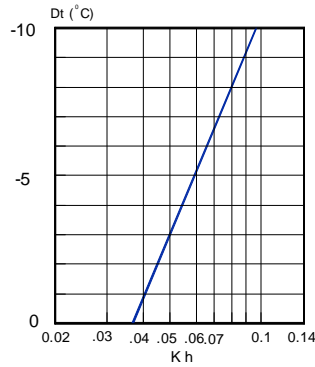


Note: In MadelMedia Octava band centre frequency in Hz.

## AXO-SY

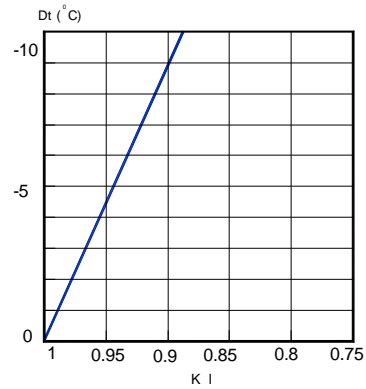
(Technical data equal to 600, 610, 625 or 675)

CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).



Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



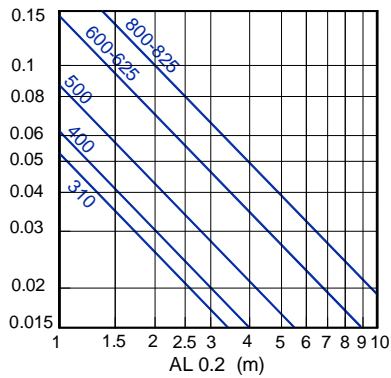
Kl = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

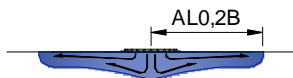
$$AL_{0.2} (Dt < 0) = Kl \times AL_{0.2}$$

TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{\text{room}} - t_x}{t_{\text{room}} - t_{\text{supply}}}$$



TYPE B. 50% POSITION 1 AND 50% POSITION 2.



CORRECTION FACTOR FOR THROW TYPE B.

AXO-SY	KB
500	0,75
600-625	0,75
800-825	0,7

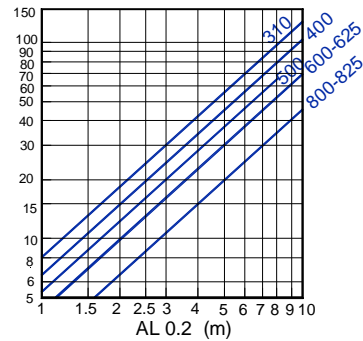
$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$

$$AL_{0,2B} = KB \cdot AL_{0,2}$$

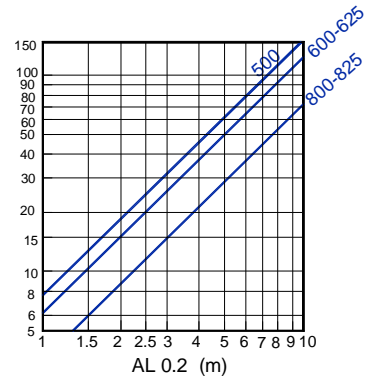
EXAMPLE:  
 AXO-SY-600-625  
 Q = 600 m<sup>3</sup>/h  
 AL<sub>0,2</sub> = 4 m  
 AL<sub>0,2B</sub> = 0,74 \* 4 = 3 m  
 i = 27

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$



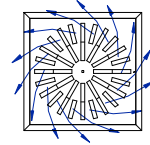
INDUCTION RATIO. TYPE B.





**AXO-KLIN**

(Technical data equal to 600, 610, 625 or 675)



RECOMMENDED VELOCITY.

AXO-S KLIN	Vmin m/s	Vmax m/s
400	2,5	5,9
500	2,5	5,4
600	2,5	5,3

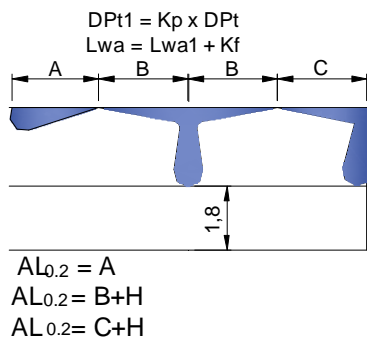
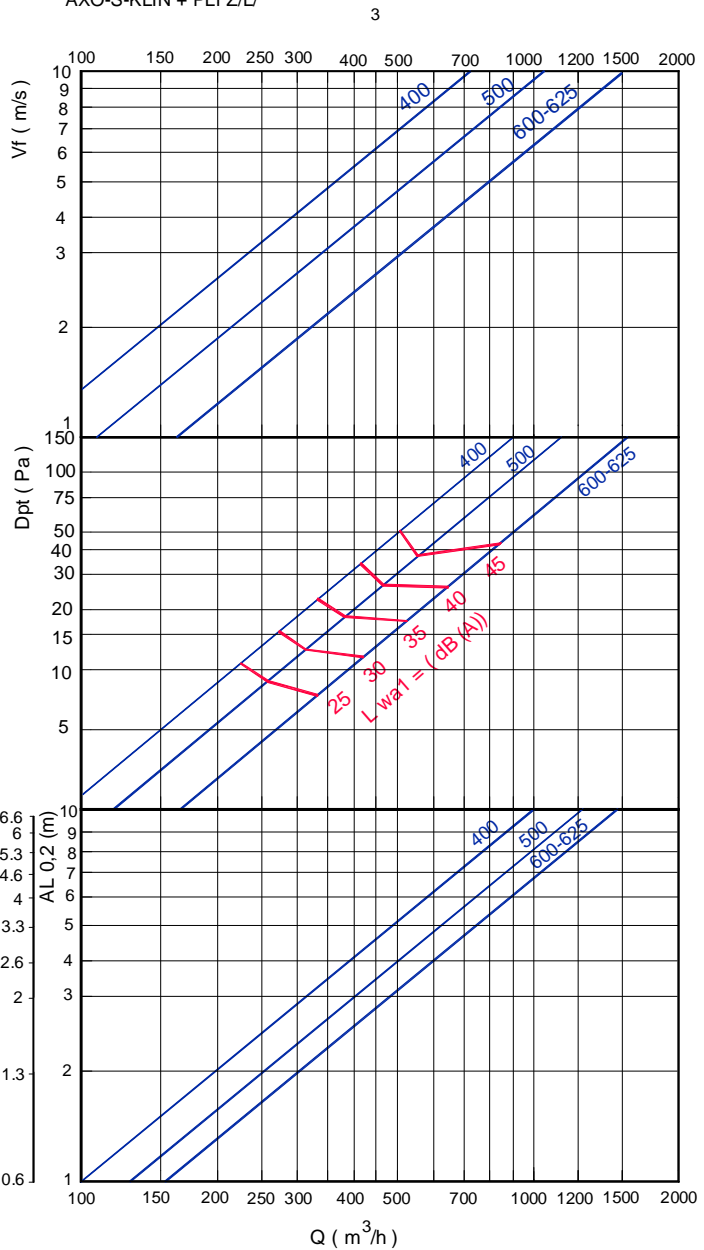
FREE FACE AREA (m2).

AXO-S KLIN	Afree m2	Qmin. m3/h	Qmax. m3/h
400	.0201	181	430
500	.029	261	565
600	.044	396	845
625	.044	396	845

CORRECTION FACTOR FOR Dpt AND Lwa1.

PLFZ/L-R		100% Open	50% Open	10% Open
		400	Dpt (Kp) 1	1,2
	Lwa1 (Kf) +0,8	+1,5	+2,9	
500	Dpt (Kp) 1	1,4	4	
	Lwa1 (Kf) +0,8	+2,1	+2,8	
600	Dpt (Kp) 1	1,5	4,8	
	Lwa1 (Kf) +0,9	+5,8	+7,7	
625	Dpt (Kp) 1	1,5	4,8	
	Lwa1 (Kf) +0,9	+5,8	+7,7	

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,  
THROW WITH CEILING EFFECT.  
AXO-S-KLIN + PLFZ/L/

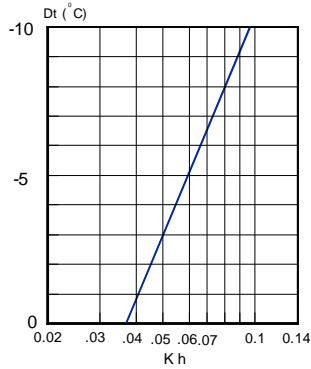


Note: In MadelMedia Octava band centre frequency in Hz.

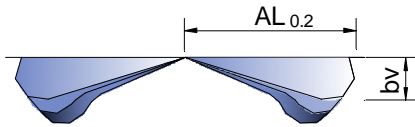
## AXO-KLIN

(Technical data equal to 600, 610, 625 or 675)

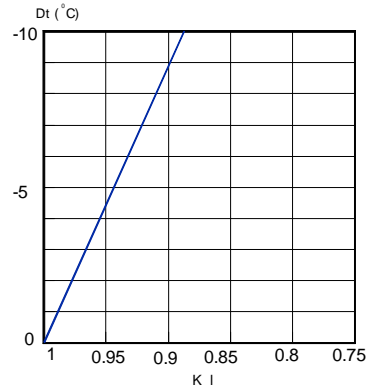
FACTOR DE CORRECCION DE LA DIFUSION VERTICAL (bv) PARA DT (-).



Kh = Factor de corrección de la difusión vertical.



FACTOR DE CORRECCION DEL ALCANCE (L0.2) DT (-).



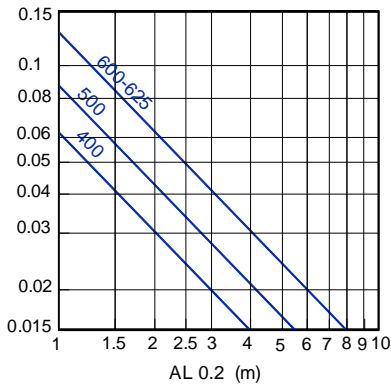
kl = Factor de corrección del alcance.

$$bv = Kh \times AL_{0.2}$$

$$AL'_{0.2} (Dt < 0) = kl \times AL_{0.2}$$

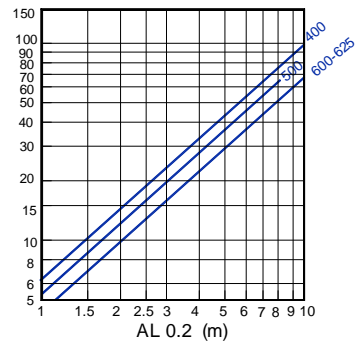
RELACION DE TEMPERATURAS.

$$\frac{Dtl}{Dtz} = \frac{t_{local} - t_x}{t_{local} - t_{imp}}$$



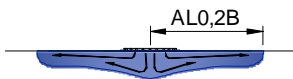
RELACION DE INDUCCION.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ en\ x}}{Q_{de\ impulsión}}$$



RELACION DE INDUCCION. TIPO B.

TIPO B.



FACTOR DE CORRECCION DEL ALCANCE TIPO B.

AXO-S KLIN	KB
500	0,75
600-625	0,74

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ en\ x}}{Q_{de\ impulsión}}$$

$$AL_{0,2B} = KB \times AL_{0,2}$$

EJEMPLO:

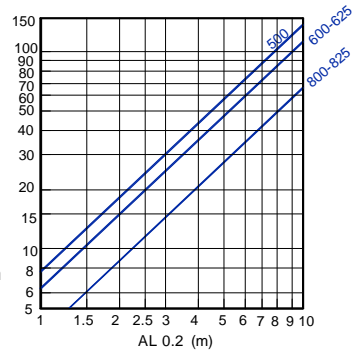
AXO-S-KLIN-600-625

Q = 600 m<sup>3</sup>/h

AL<sub>0,2</sub> = 4 m

AL<sub>0,2B</sub> = 0,74 \* 4 = 2,96 m

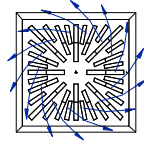
i = 28





## AXO-KLIN

(Technical data equal to 600, 610, 625 or 675)



**RECOMMENDED VELOCITY.**

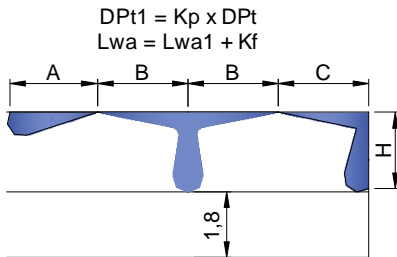
AXO-SX KLIN	Vmin m/s	Vmax m/s
400	2,5	6,9
500	2,5	5,6
600	2,5	4,2
625	2,5	4,2

**FREE FACE AREA (m2).**

AXO-SX KLIN	Afree m2	Qmin. m3/h	Qmax. m3/h
400	.024	216	598
500	.032	288	652
600	.058	522	880
625	.058	522	880

**CORRECTION FACTOR FOR Dpt AND Lwa1.**

PLFZ/L-R		100% Open	50% Open	10% Open	
		400	Dpt (Kp)	1	1,2
	Lwa1 (Kf)	+0,8	+2,1	+2	
	500	Dpt (Kp)	1	1,4	4
	Lwa1 (Kf)	+0,9	+2	+1	
	600	Dpt (Kp)	1	1,5	4,8
	Lwa1 (Kf)	+0,8	+4,8	+5,2	
	625	Dpt (Kp)	1	1,3	4,8
	Lwa1 (Kf)	+0,9	+4,8	+5,3	



$$Dpt1 = Kp \times Dpt$$

$$Lwa = Lwa1 + Kf$$

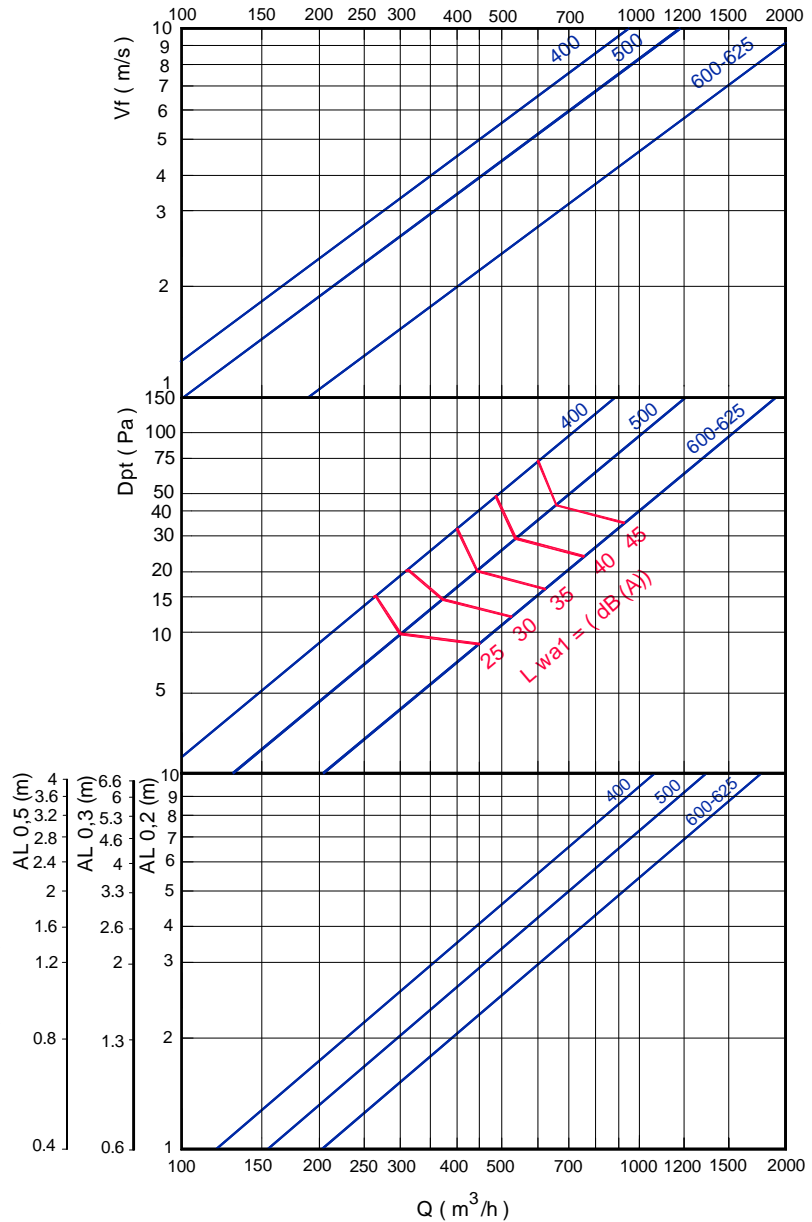
$$AL_{0,2} = A$$

$$AL_{0,2} = B+H$$

$$AL_{0,2} = C+H$$

**FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.**

AXO-SX-KIN + PLFZ/L  $Q$  (m<sup>3</sup>/h)

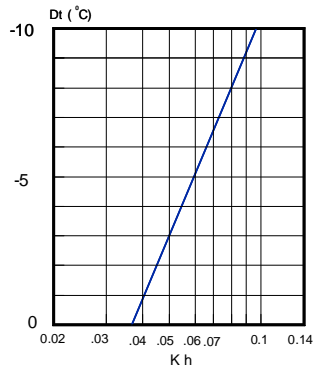


Note: In MadelMedia Octava band centre frequency in Hz.

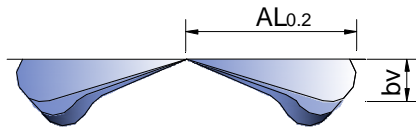
**AXO-KLIN**

(Technical data equal to 600, 610, 625 or 675)

**CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).**

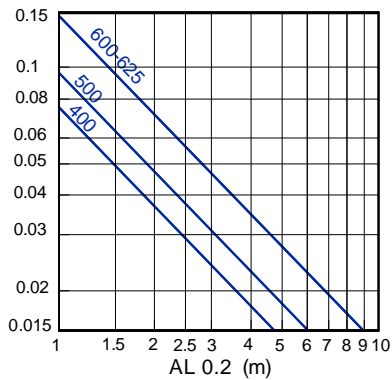


Kh = Correction factor for the vertical diffusion.

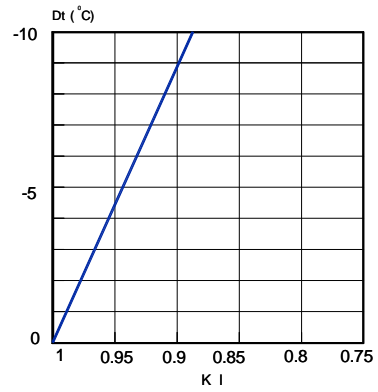


TEMPERATURE RATIO.

$$\frac{Dt_i}{Dt_z} = \frac{t_{\text{room}} - t_x}{t_{\text{room}} - t_{\text{supply}}}$$



**CORRECTION FACTOR FOR THROW (L0.2) DT (-).**



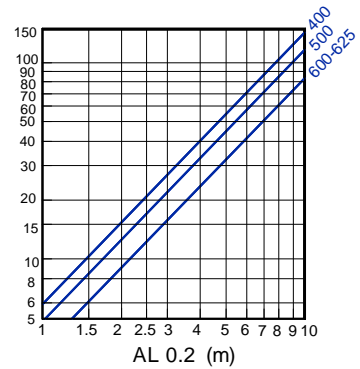
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

$$AL_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

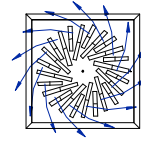
INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$



## AXO-KLIN

(Technical data equal to 600, 610, 625 or 675)



### RECOMMENDED VELOCITY.

AXO-SY KLIN	Vmin m/s	Vmax m/s
400	2,5	6,8
500	2,5	6,1
600	2,5	5,3
625	2,5	5,3

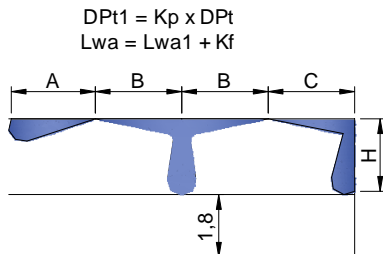
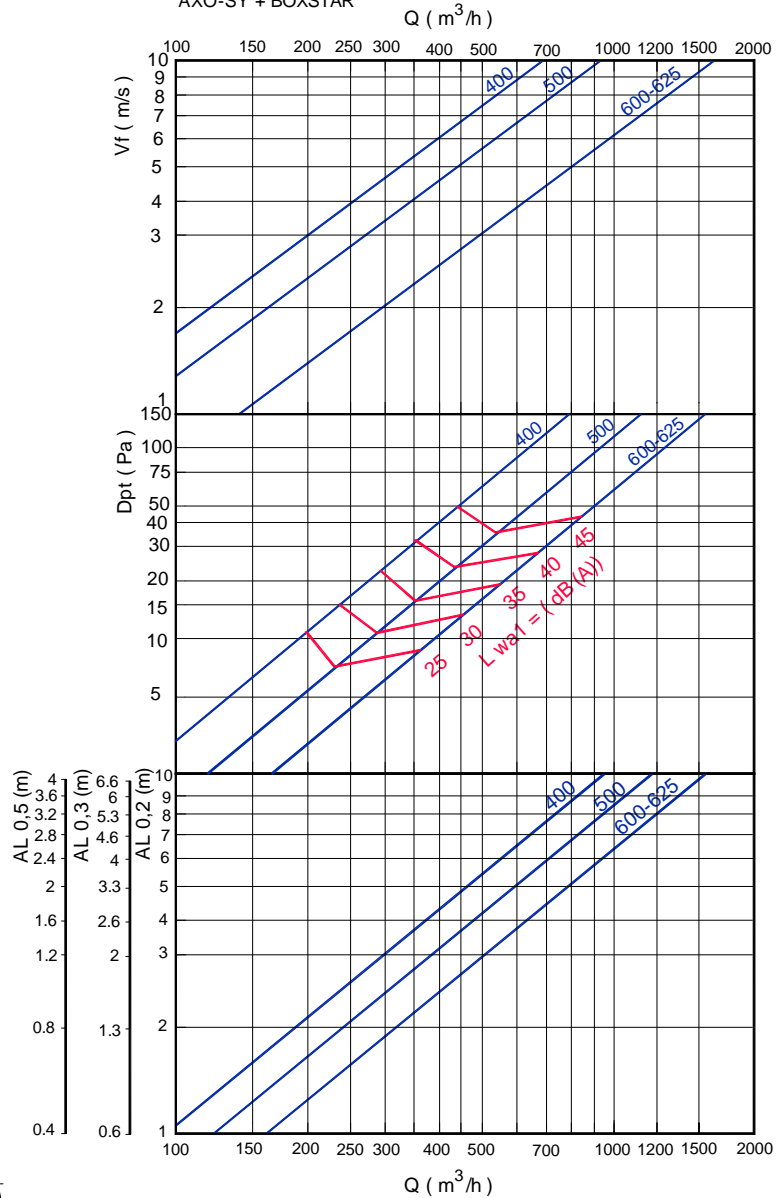
### FREE FACE AREA (m2).

AXO-SY KLIN	Afree m2	Qmin. m3/h	Qmax. m3/h
400	.0181	163	445
500	.025	225	555
600	.044	387	840
625	.044	387	840

### CORRECTION FACTOR FOR Dpt AND Lwa1.

PLFZ-R	100% Open	50% Open	10% Open	
400	Dpt (Kp)	1	2	2,3
	Lwa1 (Kf)	+0,8	+2,2	+1,9
500	Dpt (Kp)	1	1,4	4
	Lwa1 (Kf)	+0,8	+2,1	+1,7
600	Dpt (Kp)	1	1,5	4,8
	Lwa1 (Kf)	+0,9	+5,1	+7
625	Dpt (Kp)	1	1,5	4,8
	Lwa1 (Kf)	+0,8	+5,1	+7

### FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT. AXO-SY + BOXSTAR



$$AL_{0,2} = A$$

$$AL_{0,2} = B+H$$

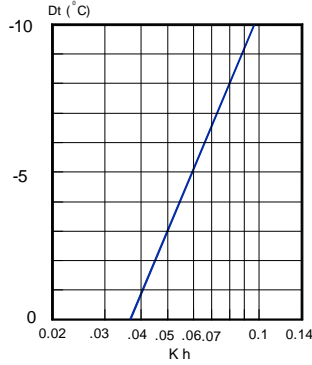
$$AL_{0,2} = C+H$$

Note: In MadelMedia Octava band centre frequency in Hz.

**AXO-KLIN**

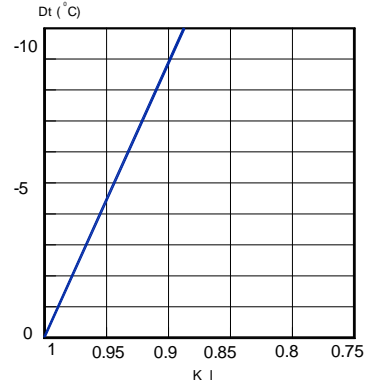
(Technical data equal to 600, 610, 625 or 675)

CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).



Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



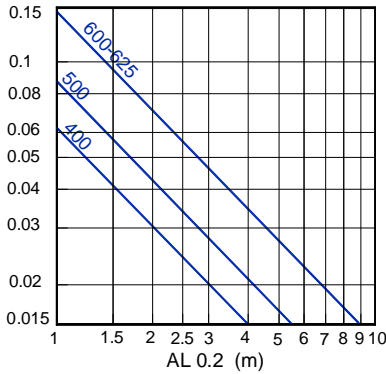
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

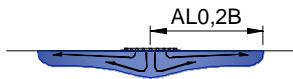
$$AL_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$



TYPE B. 50% POSITION 1 AND 50% POSITION 2.



$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply.}$$

$$AL_{0,2B} = KB \cdot AL_{0,2}$$

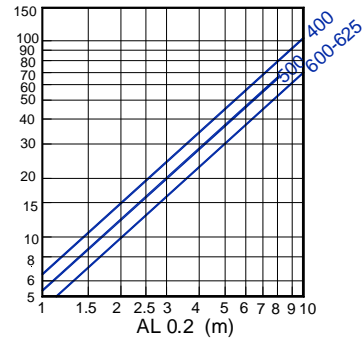
EXAMPLE:  
 AXO-SY-KLIN-600-625  
 Q = 600 m<sup>3</sup>/h  
 AL<sub>0,2</sub> = 4 m  
 AL<sub>0,2B</sub> = 0,74 · 4 = 3 m  
 i = 27

CORRECTION FACTOR FOR THROW TYPE B.

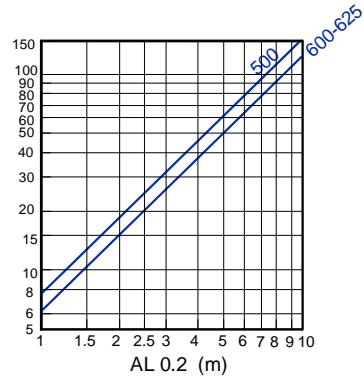
	KB
500	0,75
600-625	0,75

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply.}$$



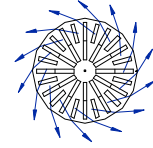
INDUCTION RATIO. TYPE B.





MADEL®

AXO-C



RECOMMENDED VELOCITY.

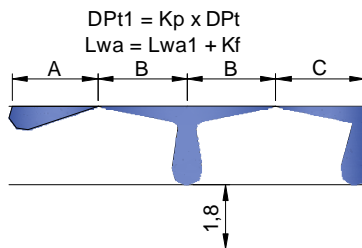
AXO-C	Vmin m/s	Vmax m/s
300	2,5	6,5
400	2,5	5,9
500	2,5	5,4
625	2,5	5,3
825	2,5	4,2

FREE FACE AREA (m2).

AXO-C	Afree m2	Qmin. m3/h	Qmax. m3/h
300	.0096	87	225
400	.0201	181	430
500	.029	261	565
625	.044	396	845
825	.068	612	1025

CORRECTION FACTOR FOR DPt AND Lwa1.

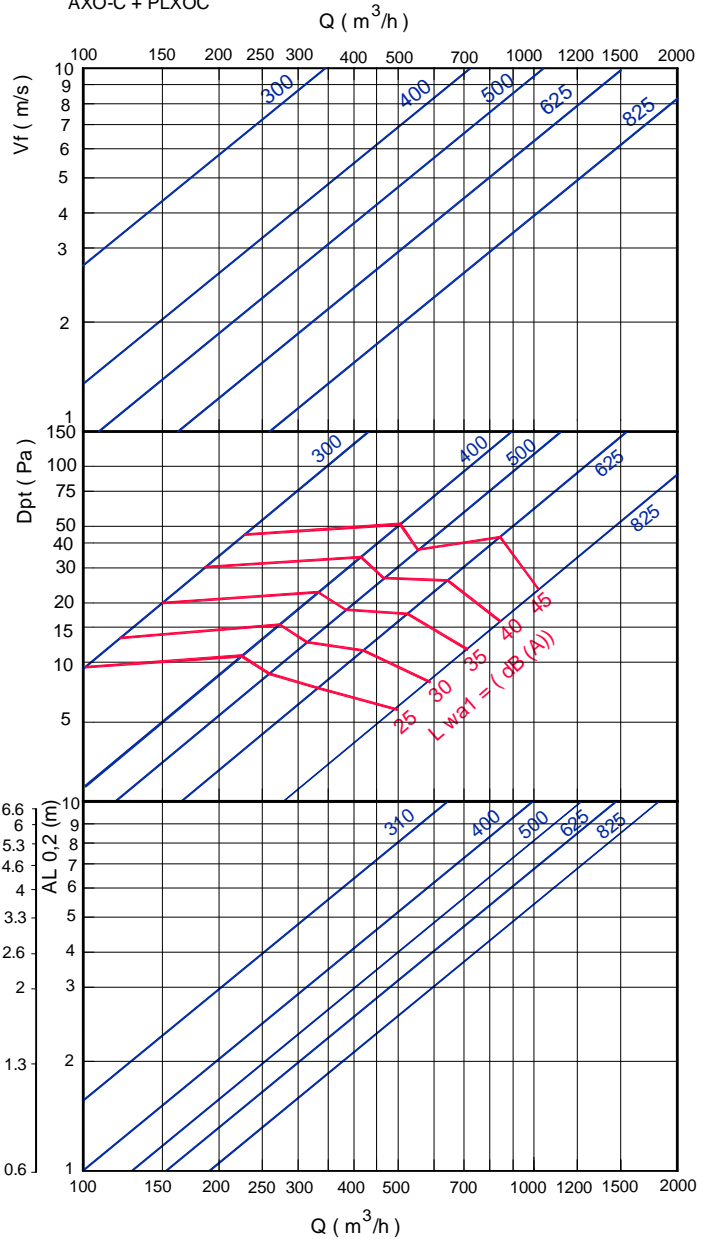
PLXOC-R		100% Open	50% Open	10% Open
		300	Dpt (Kp) 1	1,2
	Lwa1 (Kf) +0,7	+1,1	+2,4	
400	Dpt (Kp) 1	1,2	2,3	
	Lwa1 (Kf) +0,8	+1,5	+2,9	
500	Dpt (Kp) 1	1,4	4	
	Lwa1 (Kf) +0,8	+2,1	+2,8	
625	Dpt (Kp) 1	1,5	4,8	
	Lwa1 (Kf) +0,9	+5,8	+7,7	
825	Dpt (Kp) 1	1,7	4,5	
	Lwa1 (Kf) +0,9	+3,6	+5,2	



$AL_{0,2} = A$   
 $AL_{0,2} = B+H$   
 $AL_{0,2} = C+H$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.

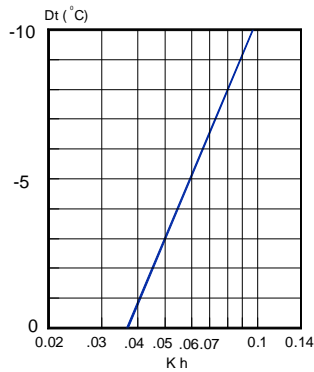
AXO-C + PLXOC



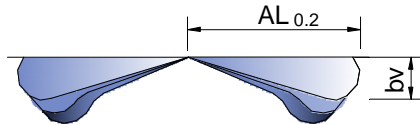
Note: In MadelMedia Octava band centre frequency in Hz.

**AXO-C**

**CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).**

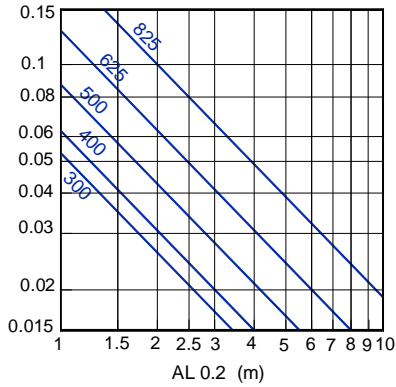


Kh = Correction factor for the vertical diffusion.

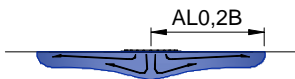


**TEMPERATURE RATIO.**

$$\frac{Dtl}{Dtz} = \frac{t_{\text{room}} - t_x}{t_{\text{room}} - t_{\text{supply}}}$$



**TYPE B. 50% POSITION 1 AND 50% POSITION 2.**



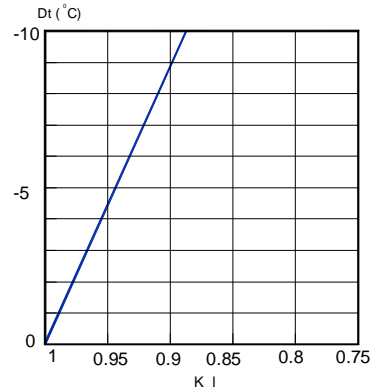
**CORRECTION FACTOR FOR THROW TYPE B.**

	KB
500	0,75
625	0,74
825	0,7

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$

AL0,2B = KB \* AL0,2  
**EXAMPLE:**  
 AXO-C-600-625  
 Q = 600 m<sup>3</sup>/h  
 AL0,2 = 4 m  
 AL0,2B = 0,74 \* 4 = 2,96 m  
 i = 28

**CORRECTION FACTOR FOR THROW (L0.2) DT (-).**



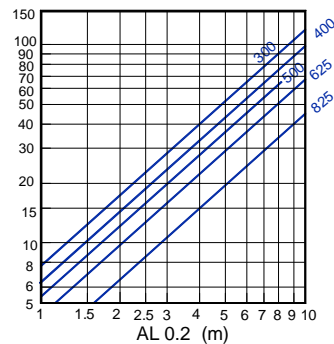
Kl = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

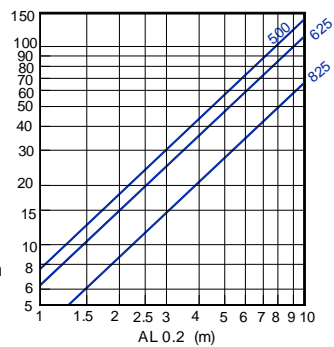
$$AL'_{0.2}(Dt < 0) = Kl \times AL_{0.2}$$

**INDUCTION RATIO.**

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$



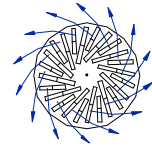
**INDUCTION RATIO TYPE B.**





MADEL®

AXO-CY



RECOMMENDED VELOCITY.

AXO-CY	Vmin m/s	Vmax m/s
300	2,5	6,6
400	2,5	6,8
500	2,5	6,1
625	2,5	5,3
825	2,5	4,5

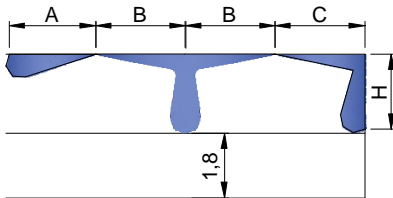
FREE FACE AREA (m2).

AXO-CY	Afree m2	Qmin. m3/h	Qmax. m3/h
300	.01	90	240
400	.0181	163	445
500	.025	225	555
625	.044	387	840
825	.068	612	1105

CORRECTION FACTOR FOR Dpt AND Lwa1.

PLXOC-R		100% Open	50% Open	10% Open
		Dpt (Kp)	1	1,2
300	Lwa1 (Kf)	+0,8	+1,4	+0,2
	Dpt (Kp)	1	2	2,3
400	Lwa1 (Kf)	+0,8	+2,2	+1,9
	Dpt (Kp)	1	1,4	4
500	Lwa1 (Kf)	+0,8	+2,1	+1,7
	Dpt (Kp)	1	1,5	4,8
625	Lwa1 (Kf)	+0,8	+5,1	+7
	Dpt (Kp)	1	1,7	4,5
825	Lwa1 (Kf)	+0,9	+4,4	+7,8

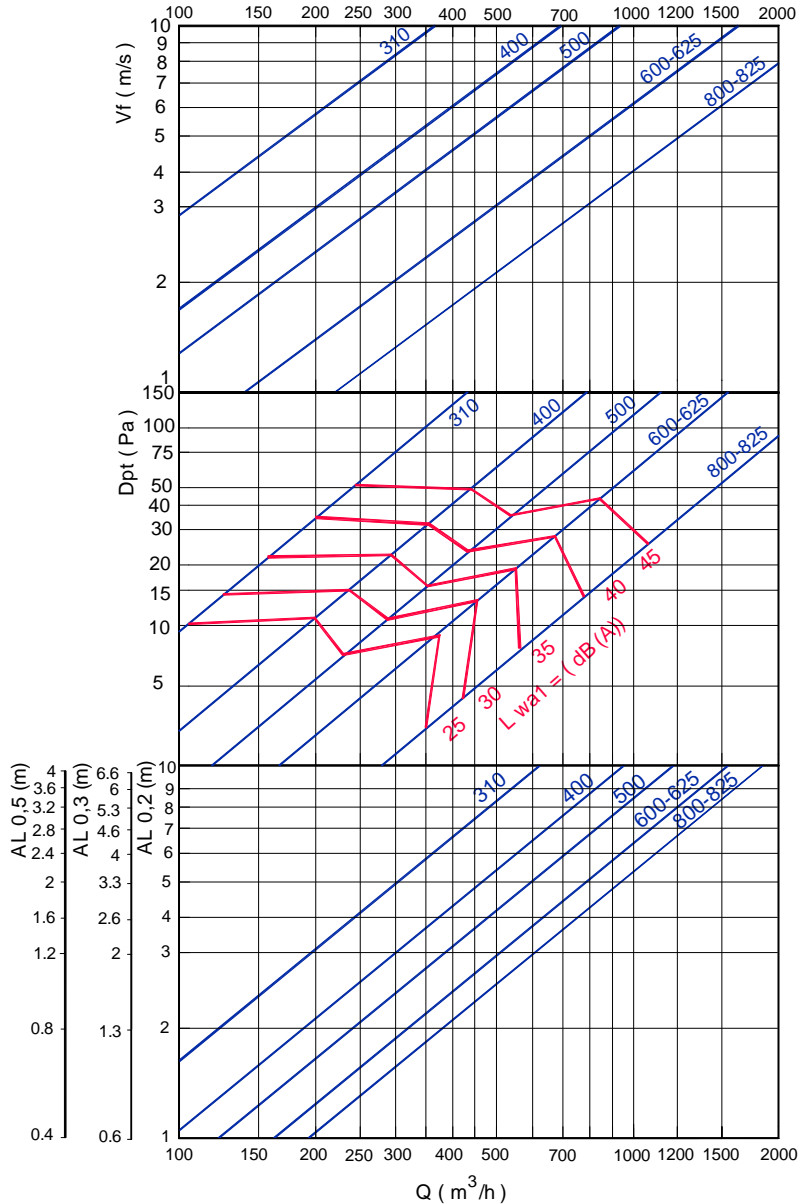
$Dpt1 = Kp \times Dpt$   
 $Lwa = Lwa1 + Kf$



- AL<sub>0,2</sub>= A
- AL<sub>0,2</sub>= B+H
- AL<sub>0,2</sub>= C+H

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.

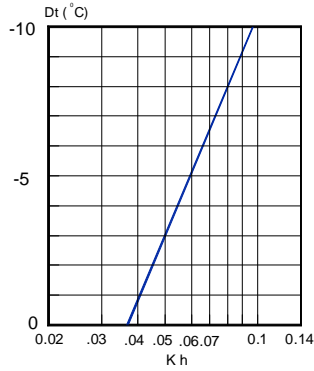
AXO-CY + PLXOC-R Q (m<sup>3</sup>/h)



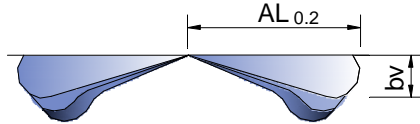
Note: In MadelMedia Octava band centre frequency in Hz.

**AXO-CY**

**CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).**

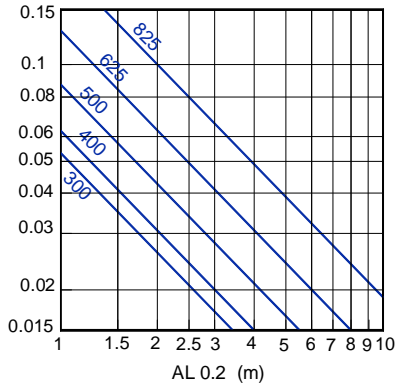


Kh = Correction factor for the vertical diffusion.

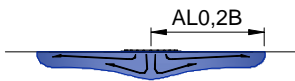


**TEMPERATURE RATIO.**

$$\frac{Dtl}{Dtz} = \frac{t_{\text{room}} - t_x}{t_{\text{room}} - t_{\text{supply}}}$$



TYPE B. 50% POSITION 1 AND 50% POSITION 2.



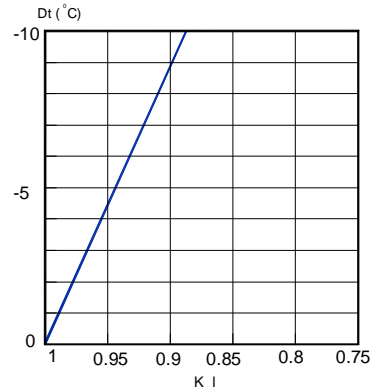
**CORRECTION FACTOR FOR THROW TYPE B.**

	KB
500	0,75
625	0,74
825	0,7

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$

AL0,2B = KB \* AL0,2  
**EXAMPLE:**  
 AXO-C-600-625  
 Q = 600 m<sup>3</sup>/h  
 AL0,2 = 4 m  
 AL0,2B = 0,74 \* 4 = 2,96 m  
 i = 28

**CORRECTION FACTOR FOR THROW (L0.2) DT (-).**



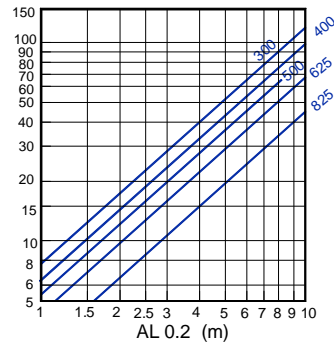
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

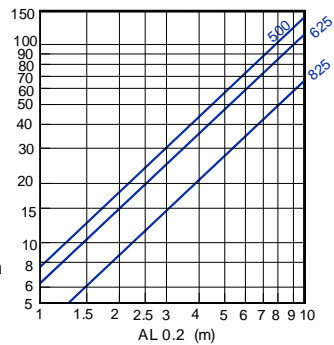
$$AL'_{0.2}(Dt < 0) = KI \times AL_{0.2}$$

**INDUCTION RATIO.**

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total at } x}}{Q_{\text{of supply}}}$$



**INDUCTION RATIO. TYPE B.**

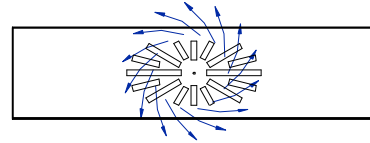






MADEL®

AXO-R



RECOMMENDED VELOCITY.

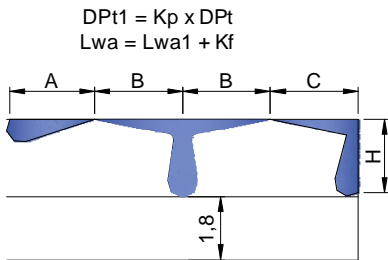
AXO-R	Vmin m/s	Vmax m/s
	2,5	6,8

FREE FACE AREA (m2).

AXO-R	Afree m2	Qmin. m3/h	Qmax. m3/h
	.0181	163	445

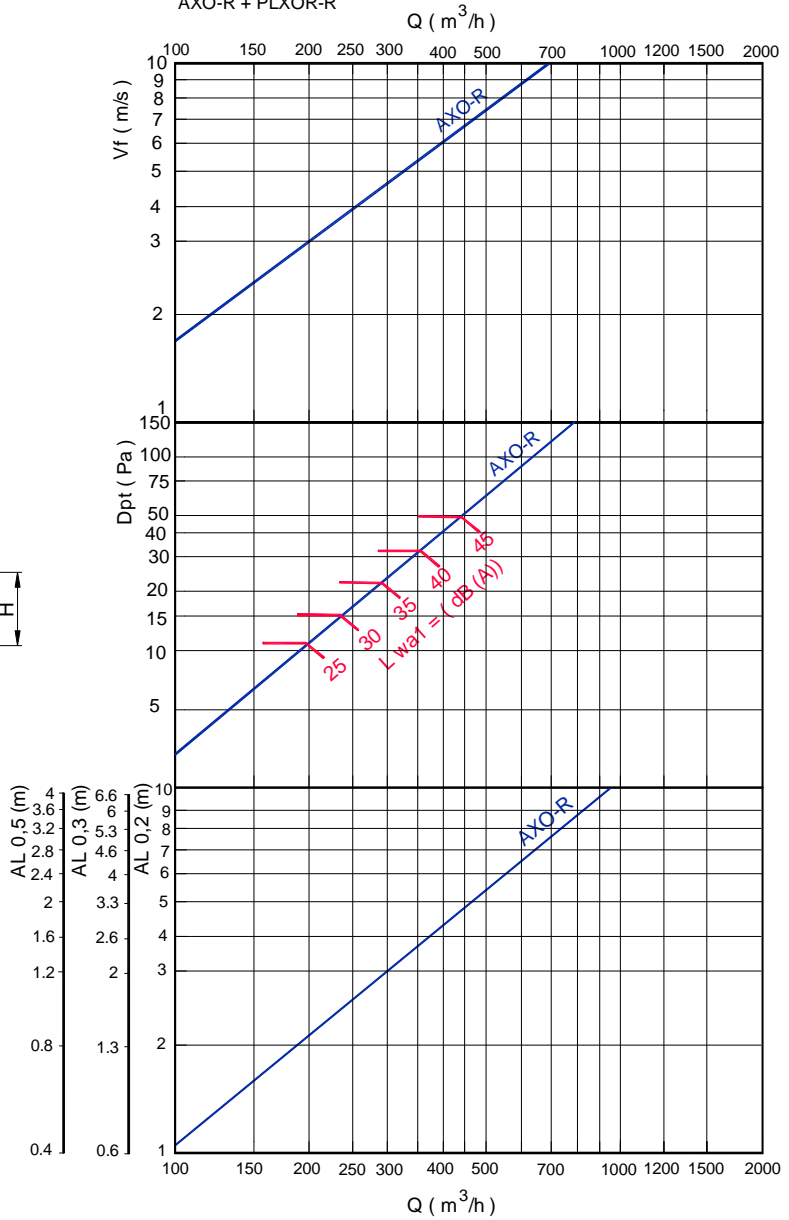
CORRECTION FACTOR FOR Dpt AND Lwa1.

PLXOR-R		100% Open	50% Open	10% Open
	Dpt (Kp)	1	2	2,3
	Lwa1 (Kf)	+0,8	+2,2	+1,9



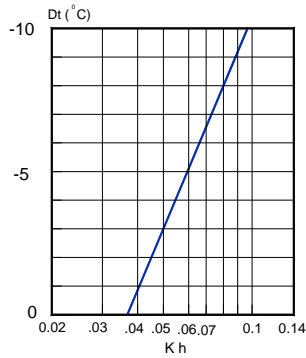
$AL_{0.2} = A$   
 $AL_{0.2} = B+H$   
 $AL_{0.2} = C+H$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT. AXO-R + PLXOR-R



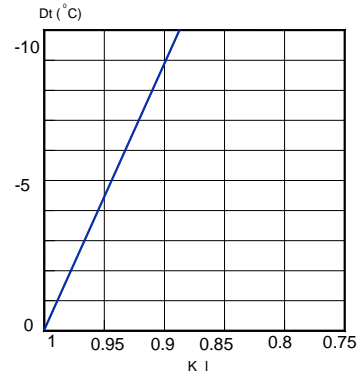
Note: In MadelMedia Octava band centre frequency in Hz.

CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).



Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



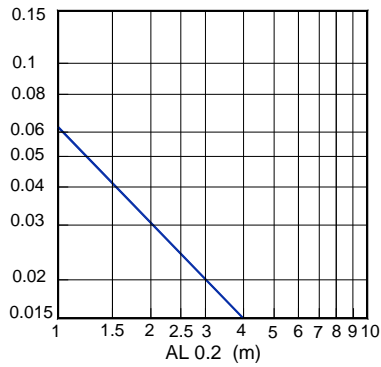
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

$$AL_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

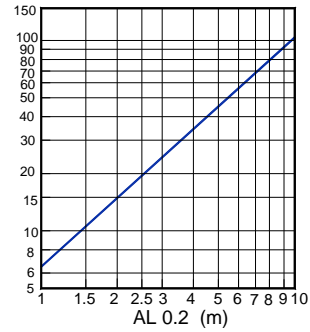
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$



INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply}$$

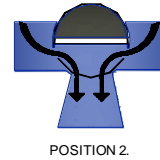


CORRECTION FACTOR FOR VERTICAL THROW (AV0,2) DT(+).

AXO-S	DT(+0)	DT(+5)	DT(+10)
310 (Kv)	0,75	0,53	0,44
400 (Kv)	0,76	0,54	0,47
500 (Kv)	0,7	0,5	0,4
600 (Kv)	0,8	0,7	0,53
625 (Kv)	0,8	0,7	0,53
800 (Kv)	0,85	0,74	0,57
825 (Kv)	0,85	0,74	0,57

AXO-SY	DT(+0)	DT(+5)	DT(+10)
310 (Kv)	0,75	0,53	0,44
400 (Kv)	0,76	0,54	0,47
500 (Kv)	0,7	0,5	0,4
600 (Kv)	0,84	0,72	0,55
625 (Kv)	0,84	0,72	0,55
800 (Kv)	0,85	0,74	0,57
825 (Kv)	0,85	0,74	0,57

VERTICAL SUPPLY.

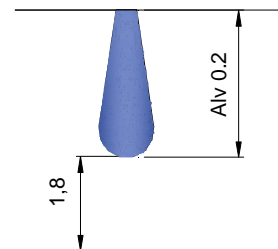


AXO-SX	DT(+0)	DT(+5)	DT(+10)
310 (Kv)	0,78	0,55	0,47
400 (Kv)	0,81	0,56	0,5
500 (Kv)	0,75	0,53	0,47
600 (Kv)	0,89	0,74	0,57
625 (Kv)	0,89	0,74	0,57
800 (Kv)	0,9	0,78	0,6
825 (Kv)	0,9	0,78	0,6

DT(+)= T supply - T room

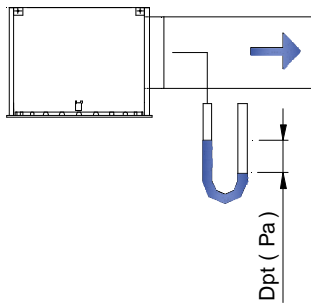
EXAMPLE:  
 AXO-S-600-625  
 Q = 600 m<sup>3</sup>/h  
 DT(+5)  
 AL0,2 = 4 m  
 ALv0,2 = 0,7 \* 4 = 2,8 m

TYPE C. 100% POSITION 2.

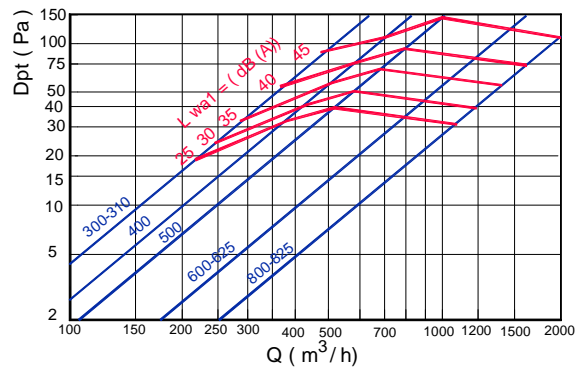


PRESSURE LOSS AND SOUND POWER LEVEL : EXTRACT.

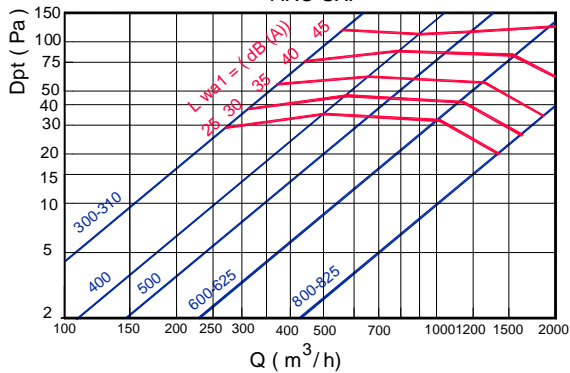
EXTRACT.



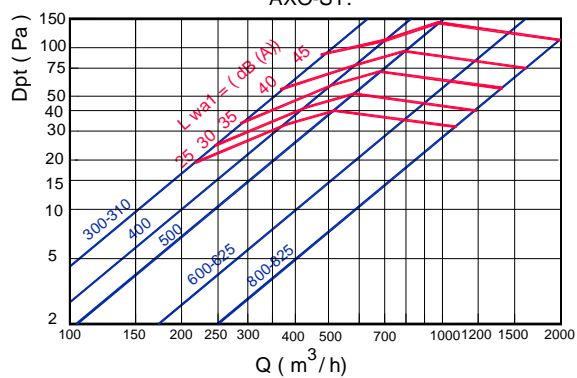
AXO-C.  
 AXO-S.

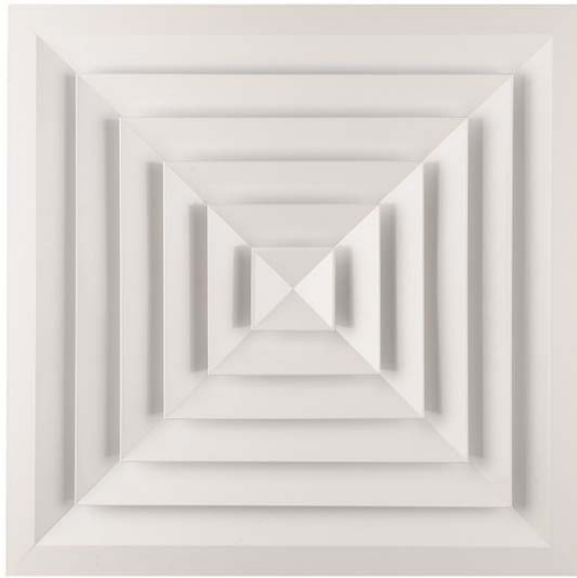


AXO-SX.



AXO-CY.  
 AXO-SY.





## DBQ Four-way square diffusers

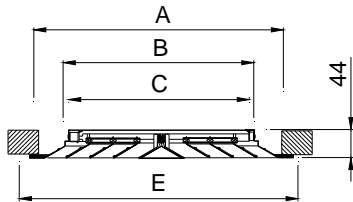


The four-way square diffusers meet the functional and architectural requirements of modern updated locations. Its geometrical shape, fits perfectly in the style of the surroundings.

The **DBQ** diffuser offers great flexibility of use, as it can provide a diffusion of air suitable to the type of surroundings.

A characteristic of this sort of diffuser is its high level of induction rate. They can be used in premises up to 4 meters high and with a temperature differential up to 12°C, obtaining good results, not only in air speed but also in sound pressure level in the comfort zone.

**DBQ**



	E	A	C	B
150 x 150	259	219	134	148
225 x 225	334	294	209	223
300 x 300	409	369	284	298
375 x 375	484	444	359	373
450 x 450	559	519	434	448
525 x 525	634	594	509	523
600 x 600	709	669	584	598

**CLASSIFICATION**

**DBQ** Four-Way square diffuser with removable core.

**DBQ-MOD** Four-Way square diffuser with removable core, specially designed to replace a false ceiling tile.

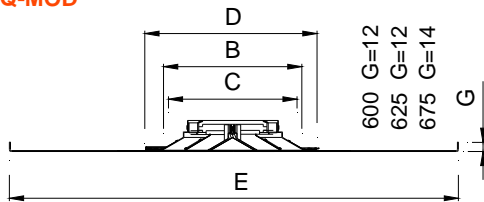
**.../T15/** False ceiling panel 15 mm profile with angled borders.

**.../T24/** False ceiling panel 24 mm profile with angled borders.

**MATERIAL**

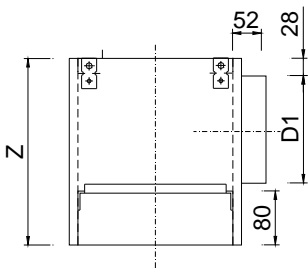
Diffusers made with extruded aluminium. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the ceiling is airtight.

**DBQ-MOD**

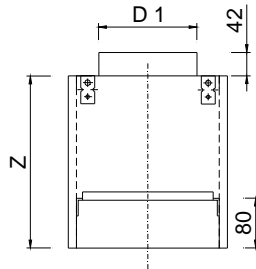


				600	625	675
	C	B	D	E	E	E
150 x 150	137	148	259	595	620	670
225 x 225	212	223	332	595	620	670
300 x 300	287	298	407	595	620	670
375 x 375	362	373	482	595	620	670
450 x 450	437	448	557	595	620	670

**PLDQ**



**PLDQ/S**



	F	Z	D1
150 x 150	256	275	125
225 x 225	332	300	158
300 x 300	406	375	198
375 x 375	480	375	248
450 x 450	555	450	313
525 x 525	630	490	313
600 x 600	705	490	313

**ACCESSORIES**

**PLDQ** Plenum box with a lateral circular connection. It includes supports to hang from the ceiling. Made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

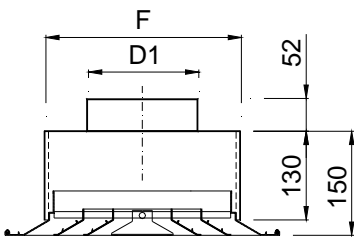
**.../S/** Plenum box with an upper circular neck connector.

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk.

This foam complies with the fire reaction specifications:

- UNE 23-727 M2
- NFP 92-501 M2
- DIN 4102 M2

**DBQ+ADPQ**



	F	D1
150 x 150	177	125
225 x 225	252	198
300 x 300	327	248
375 x 375	402	313
450 x 450	477	353
525 x 525	552	398
600 x 600	632	398

**ADPQ** Adapter to circular connection. Riveted to the diffuser.

**...-R** Plenum box with a flow damper in the spigot.

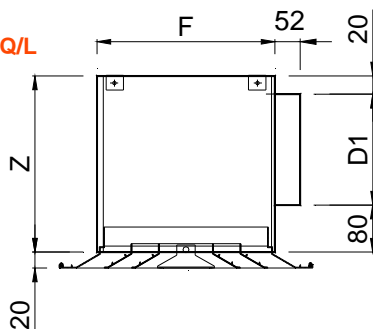
**.../L/** Plenum box with a lateral circular neck connector.

**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk.

This foam complies with the fire reaction specifications:

- UNE 23-727 M2
- NFP 92-501 M2
- DIN 4102 M2

**DBQ+ADPQ/L**



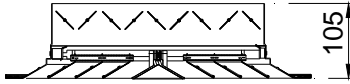
	F	Z	D1
150 x 150	177	225	125
225 x 225	252	260	158
300 x 300	327	300	198
375 x 375	402	350	248
450 x 450	477	415	315
525 x 525	552	455	355
600 x 600	632	455	355

**R3Q** Flap damper assembled in the diffuser neck. Manually operated. Constructed in galvanised steel.

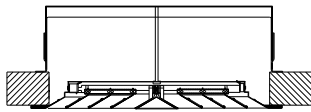
**SPQ** Opposed blades damper to regulate the air flow. The damper is operated by an easily accessible key inside the grille.

Constructed from electro-zinc steel, painted in black colour. The damper is held in place by "S" springs.

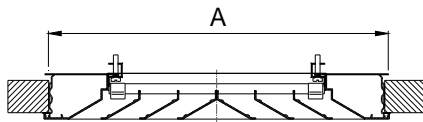
**DBQ+SPQ**



**DBQ (P)+PMQ**



**DBQ+CQ (O)**



L ó H	A
150	233
225	308
300	383
375	458
450	533
525	608
600	683

	R3Q	SPQ	PLDQ	ADPQ
DBQ (D)	ok	ok	x	ok
DBQ (P)	ok	x	ok	x
DBQ (O)	x	x	x	x

**DBQ M9016 / RAL...**



**DBQ AA**



**FIXING SYSTEMS**

**(D)** Connection into a metallic duct by means of rivets.

1) Suspended at the false ceiling. To replace a false ceiling plate. Standard for DBQ-MOD

**(P)** Connection into the **PMQ** crossbar by means of central screw. Constructed in galvanised steel. Unsuitable for **SPQ** damper.

Connection into the plenum box by means of central screw, to hang the assembly from the ceiling with drop rods. To regulate the flow in plenum box mounting, we suggest **...-R** versions that incorporates a damper in the plenum.

**FINISHES**

**R9010** Lacquer in white colour RAL 9010.

**M9016** Lacquer in white colour similar to RAL 9016.

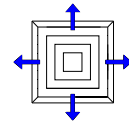
**RAL...** Lacquer in other colours (RAL specifications)

**AA** Matt silver anodised. Diffuser with a central flat core, different from painted DBQ diffuser.

**SPECIFICATION TEXT**

Supply and mounting of fixed cones square diffuser series **DBQ-MOD M9016 dim. LxH**, designed to replace a false ceiling plate. Constructed from aluminium paint in white **M9016**. Manufacturer **MADEL**.

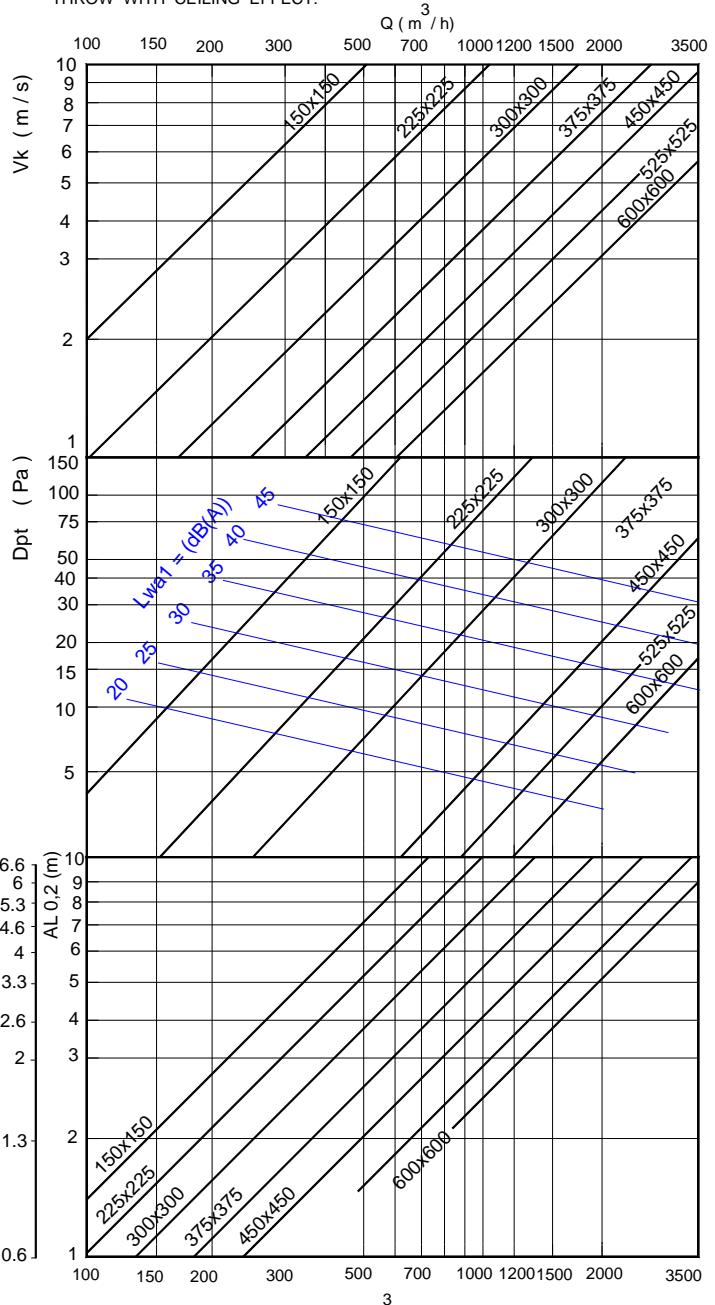
# DBQ SERIES



### RECOMMENDED VELOCITY.

DBQ	Vmin m/s	Vmax m/s
150x150	2.5	4.5
225x225	2.5	4.5
300x300	2.5	4.5
375x375	2.5	4.5
450x450	2.5	4.5
525x525	2.5	4.5
600x600	2.5	4.5

### NECK VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.



### NECK AREA m<sup>2</sup>.

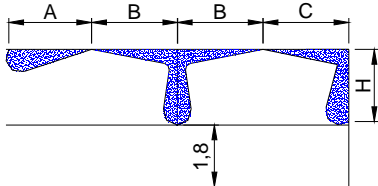
DBQ	Afree m <sup>2</sup>	Qmin. m <sup>3</sup> /h	Qmax. m <sup>3</sup> /h
150x150	.0138	124	223.5
225x225	.0277	249	449
300x300	.0486	437	787
375x375	.0694	624	1124
450x450	.0972	875	1575
525x525	.1296	1166	2100
600x600	.1666	1499	2699

### CORRECTION FACTOR FOR Dpt AND Lwa1.

DBQ	100% Open			
	Dpt (Kp)	50% Open	10% Open	
150x150	Dpt (Kp)	1	1,82	4,55
	Lwa1 (Kf)	+0	+6	+15
225x225	Dpt (Kp)	1	4,38	7,5
	Lwa1 (Kf)	+0	+6	+15
375x375	Dpt (Kp)	1	4,17	8,33
	Lwa1 (Kf)	+0	+6	+16
450x450	Dpt (Kp)	1	2,5	5
	Lwa1 (Kf)	+0	+7	+17
525x525	Dpt (Kp)	1	4,1	6
	Lwa1 (Kf)	+0	+6	+17
600x600	Dpt (Kp)	1	3,3	5
	Lwa1 (Kf)	+0	+7	+17

$$Dpt1 = Kp \times Dpt$$

$$Lwa = Lwa1 + Kf$$

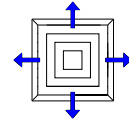


$$AL_{0.2} = A$$

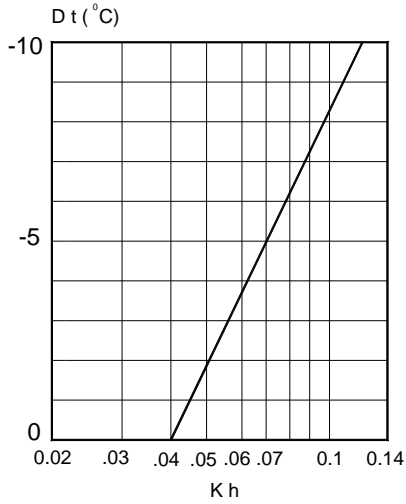
$$AL_{0.2} = B + H$$

$$AL_{0.2} = C + H$$



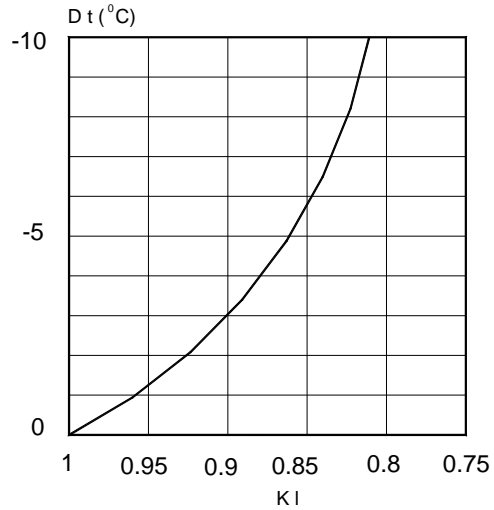


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

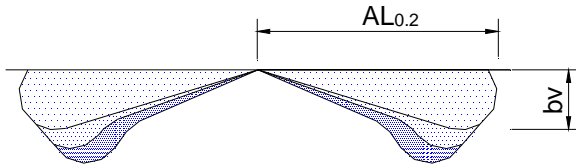


Kh = Correction factor for the vertical diffusion.

CORRECTION FACTOR FOR THROW (L0.2) DT (-).



KI = Correction factor for the throw.



$$bv = Kh \times AL_{0.2}$$

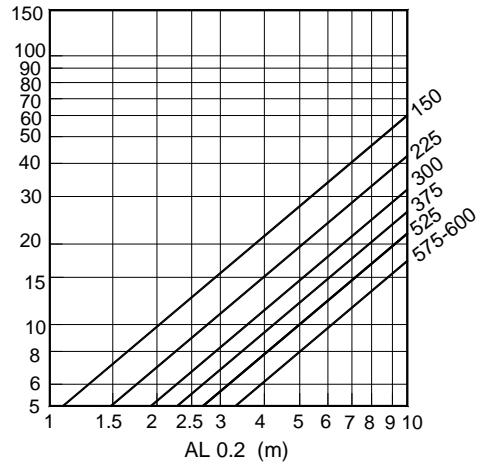
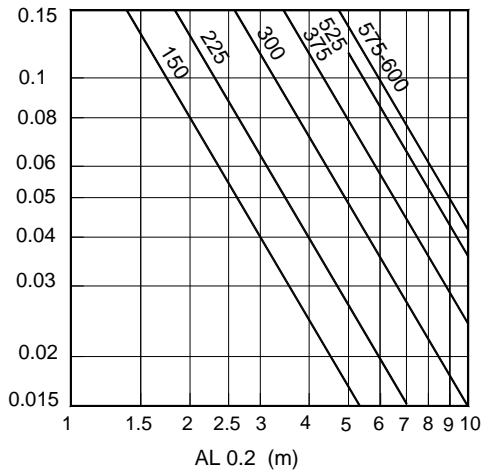
$$AL'_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

TEMPERATURE RATIO.

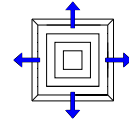
$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q_{of\ supply}}$$



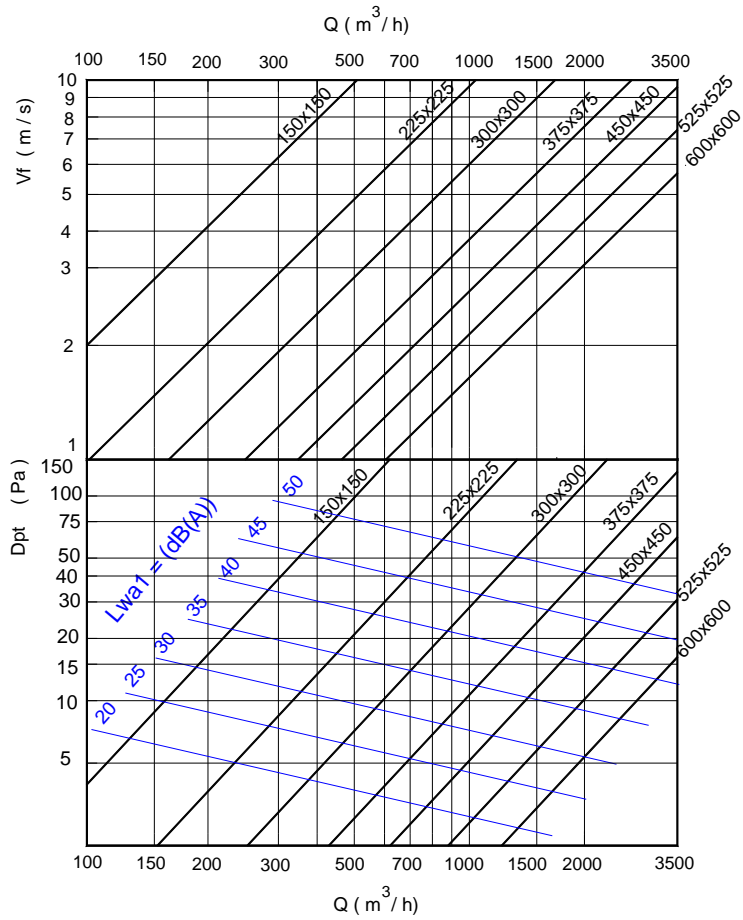
# DBQ SERIES



### RECOMMENDED VELOCITY.

DBQ	Vmin m/s	Vmax m/s
150x150	2	3.5
225x225	2	3.5
300x300	2	3.5
375x375	2	3.5
450x450	2	3.5
525x525	2	3.5
600x600	2	3.5

### FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, FOR EXTRACT.



### NECK AREA $m^2$ .

DBQ	Afree $m^2$	Qmin. $m^3/h$	Qmax. $m^3/h$
150x150	.0138	100	174
225x225	.0277	200	349
300x300	.0486	350	612
375x375	.0694	500	874
450x450	.0972	700	1224
525x525	.1296	933	1633
600x600	.1666	1200	2099

### CORRECTION FACTOR FOR $D_{Pt}$ AND $L_{wa1}$ .

DBQ		100% Open	50% Open	10% Open
		$D_{pt}$ (Kp)	1	1,82
150x150	$L_{wa1}$ (Kf)	+0	+6	+15
	$D_{pt}$ (Kp)	1	4,38	7,5
225x225	$L_{wa1}$ (Kf)	+0	+6	+15
	$D_{pt}$ (Kp)	1	4,17	8,33
300x300	$L_{wa1}$ (Kf)	+0	+6	+16
	$D_{pt}$ (Kp)	1	3	18
375x375	$L_{wa1}$ (Kf)	+0	+7	+16
	$D_{pt}$ (Kp)	1	2,5	5
450x450	$L_{wa1}$ (Kf)	+0	+7	+17
	$D_{pt}$ (Kp)	1	4,1	6
525x525	$L_{wa1}$ (Kf)	+0	+6	+17
	$D_{pt}$ (Kp)	1	3,3	5
600x600	$L_{wa1}$ (Kf)	+0	+7	+17