klin SYSTEM

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 sectored 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 12º C.

Models:

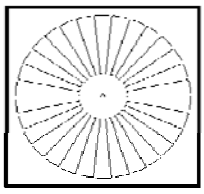
RXO-S

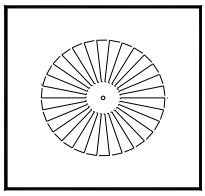
RXO-KLIN

RXO-C

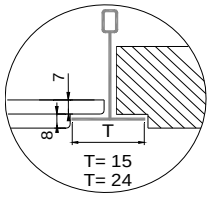
RXO-S

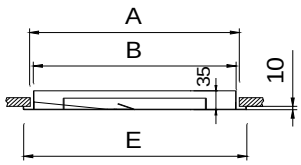
RXO-S/SR/





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.

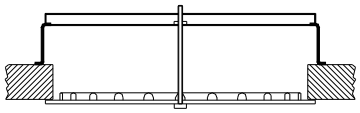
…/T15/ Panel with angled borders to replace an angled ceiling tile profile 15 mm.

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

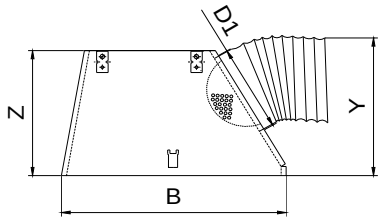
Material

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

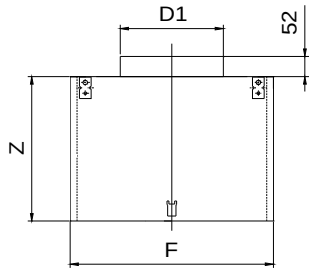


BOXSTAR



	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

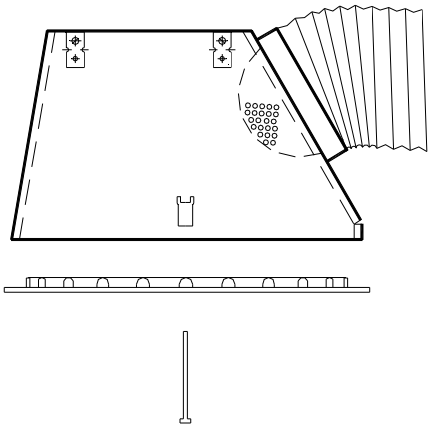
Additional accessories

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

1)



Fixing systems

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

Finishes

M9016 Painted in white similar to RAL 9016.

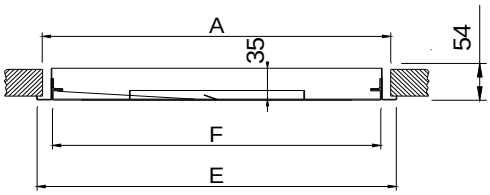
R9010 Painted in white RAL 9010.

RAL... Painted in other RAL colours.

Specification text

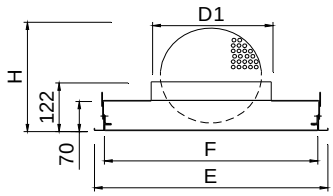
Supply and mounting of square swirl diffuser with fixed blades with radial vanes series **RXO-S+BOXSTAR-R M9016 dim. 600** constructed from galvanised steel paint in white **M9016**. With lateral circular connection pyramidal plenum box and air flow damper in the spigot **BOXSTAR-R**. Manufacturer **MADEL**.

RXO-S-KLIN

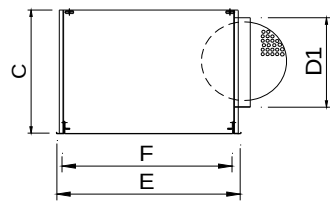


	E	A	F
400	395	369	365
500	495	469	465
600	595	569	565
625	620	594	590
675	670	644	640
600-400	595	569	565
600-500	595	569	565
625-400	620	594	590
625-500	620	594	590
675-400	670	644	640
675-500	670	644	640

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

1)

Fixing systems

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

Finishes

M9016 Painted in white similar to RAL 9016.

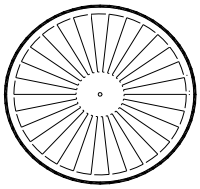
R9010 Painted in white RAL 9010.

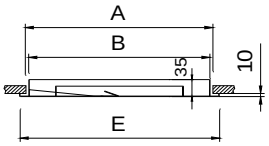
RAL... Painted in other RAL colours.

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**.

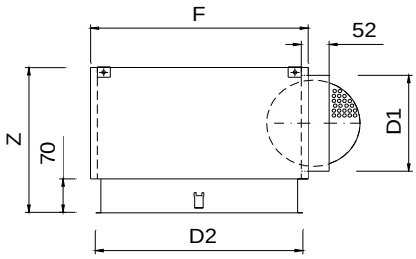
RXO-C





	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.

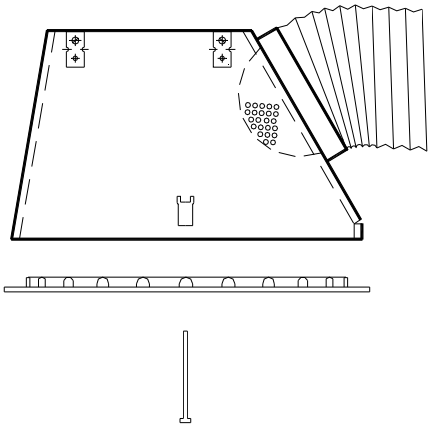
…-R Plenum box with a flow damper in the spigot.

…/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

1)



Fixing systems

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

Finishes

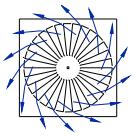
M9016 Painted in white similar to RAL 9016.

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**.



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 FACE AREA (m2).

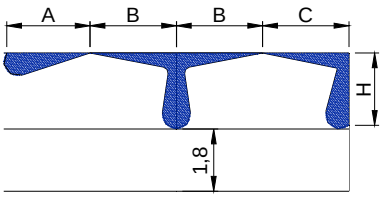
RXO	Afree m2	Qmin. m3/h	Qmax. m3/h
400	0.0165	150	409
500	0.0336	300	600
600	0.05	500	810
625	0.05	500	810

CORRECTION FACTOR FOR DPt AND Lwa1.

BOXSTAR-R		100% Open	50% Open	10% Open
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
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 x DPt

Lwa = Lwa1 + Kf



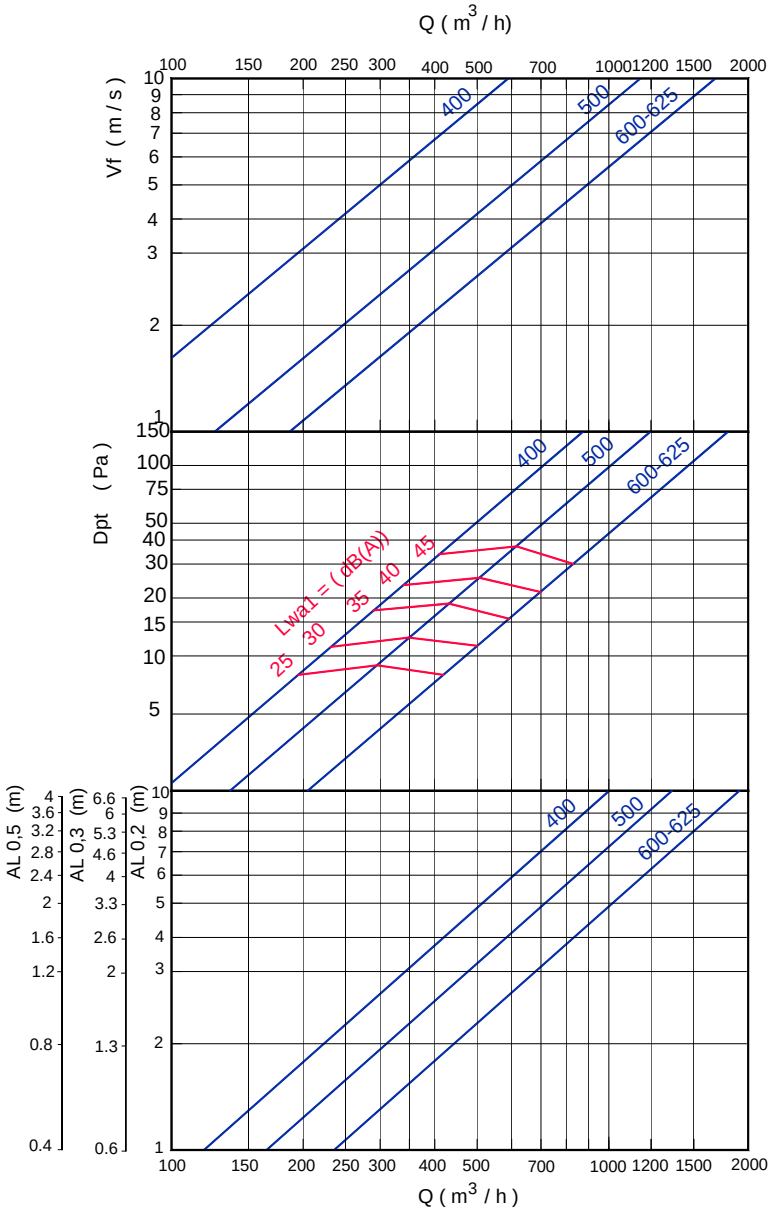
$AL_{0.2}$ = A

$AL_{0.2}$ = B+H

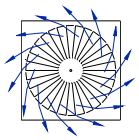
$AL_{0.2}$ = C+H

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

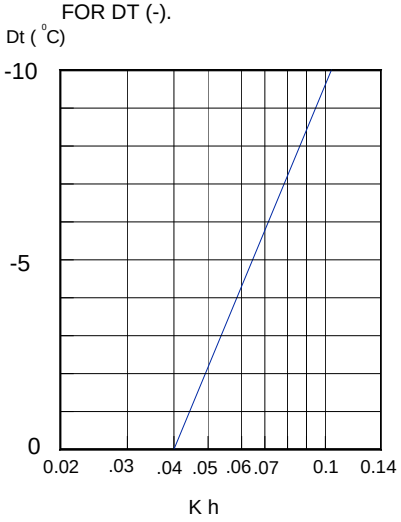
RXO-S + BOXSTAR



Note: In MadelMedia Octava band centre frequency in Hz.

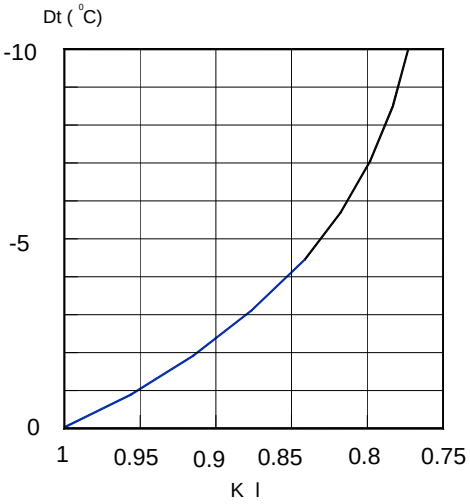


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bV) FOR DT (-).

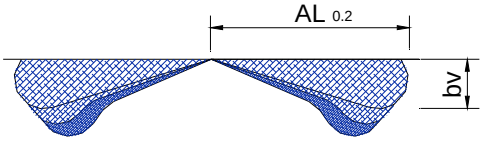


Kh = Correction factor for the vertical diffusion.

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



Kl = Correction factor for the throw.



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

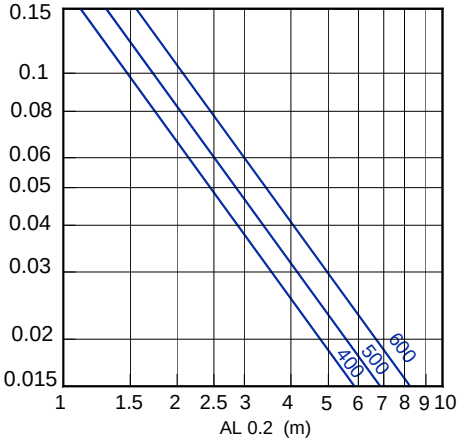
$$AL'_{0.2} \ (Dt<0) = Kl \times AL_{0.2}$$

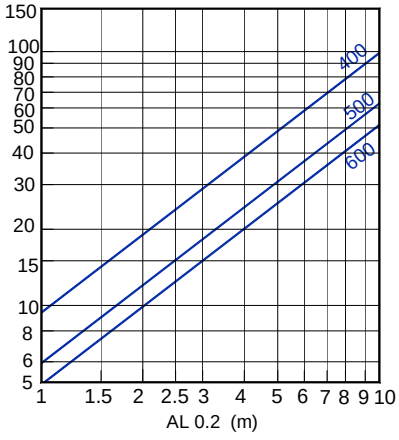
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t\ room - t\ x}{t\ room - t\ supply}$$

INDUCTION RATIO.

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





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).

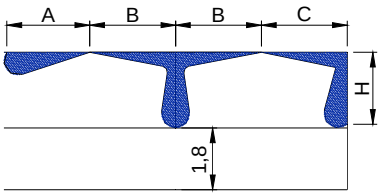
RXO KLIN	Afree m2	Qmin. m3/h	Qmax. m3/h
400	0.0165	150	409
500	0.0336	300	600
600	0.05	500	810
625	0.05	500	810

CORRECTION FACTOR FOR DPt AND Lwa1.

PLFZ-R		100% Open	50% Open	10% Open
400	Dpt (Kp)	1	1.3	2
	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 x DPt

Lwa = Lwa1 + Kf



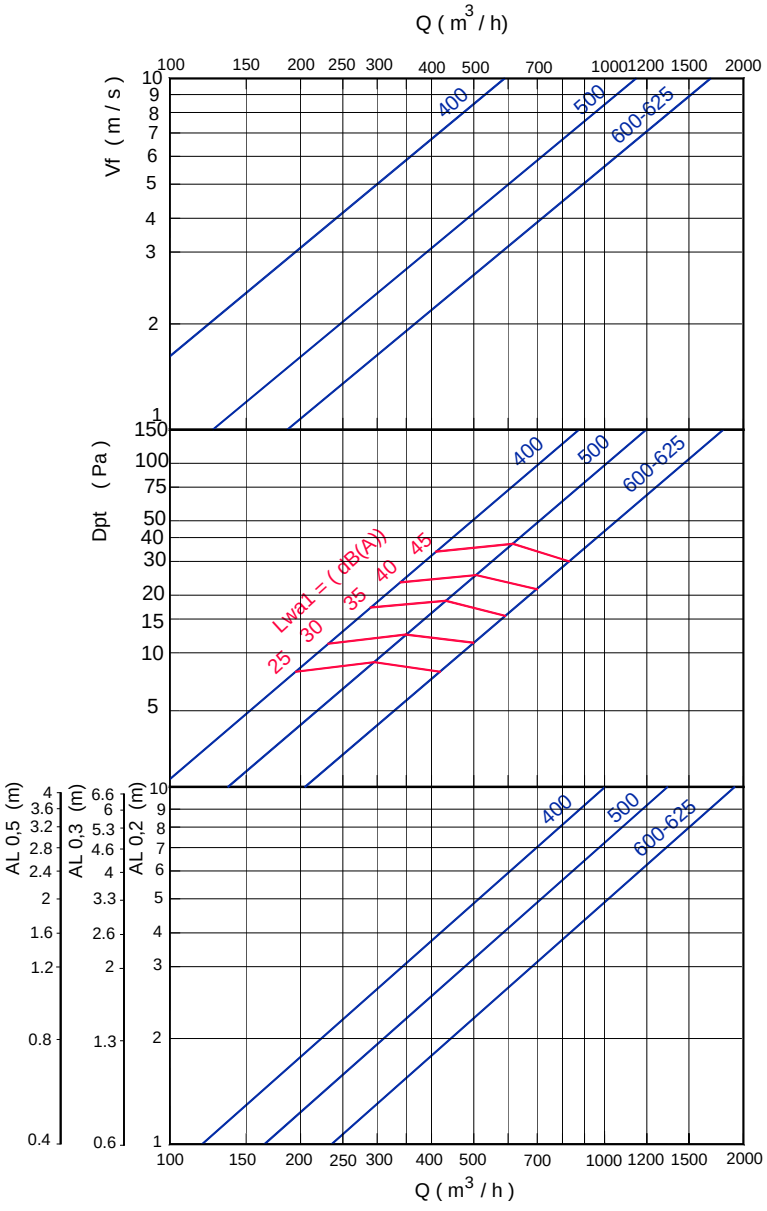
$AL_{0.2}$ = A

$AL_{0.2}$ = B+H

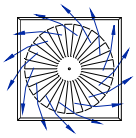
$AL_{0.2}$ = C+H

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

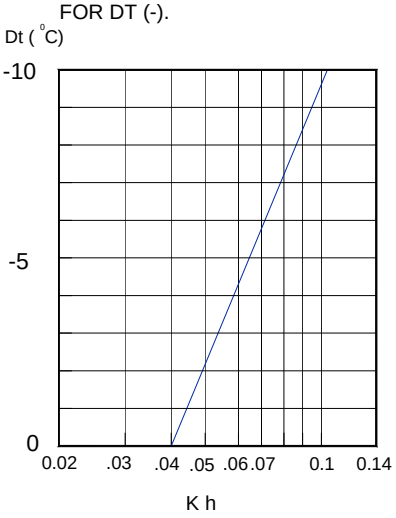
RXO-KLIN + PLFZ



Note: In MadelMedia Octava band centre frequency in Hz.

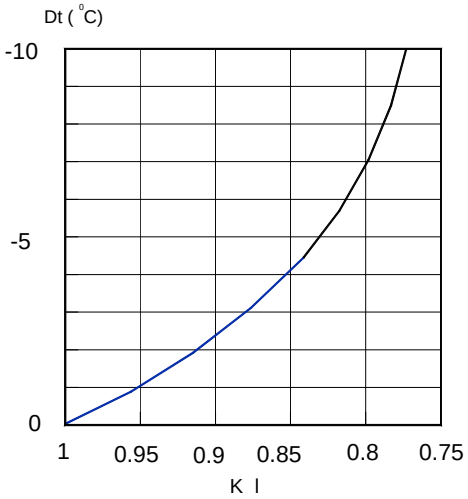


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bV) FOR DT (-).

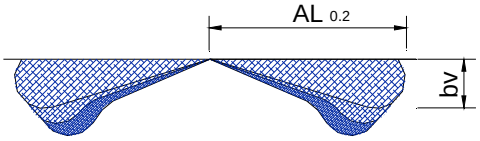


Kh = Correction factor for the vertical diffusion.

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



Kl = Correction factor for the throw.

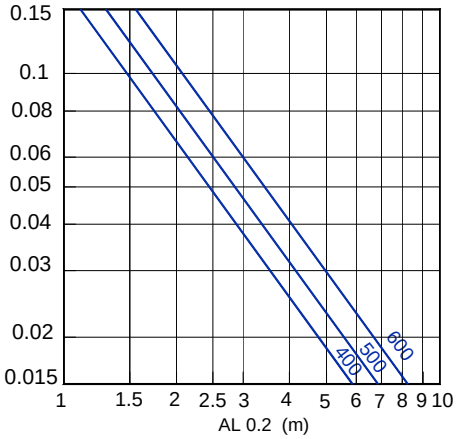


$$bv = Kh \times Al_{0.2}$$

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

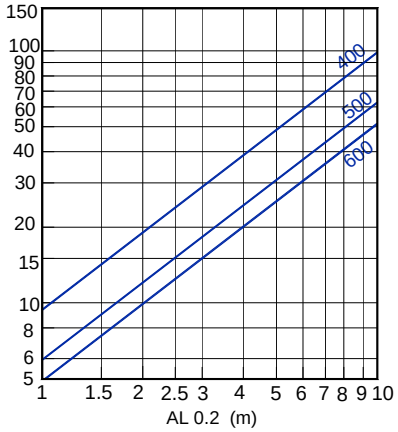
TEMPERATURE RATIO.

$$\frac{Dtl}{Dtz} = \frac{t\ room - t\ x}{t\ room - t\ supply}$$



INDUCTION RATIO.

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



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).

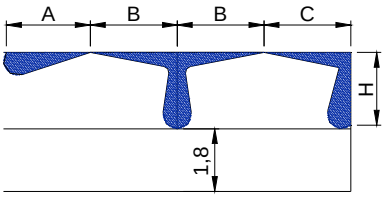
RXO-C	Afree m2	Qmin. m3/h	Qmax. m3/h
400	.0165	150	409
500	.0336	300	600
625	0.05	500	810

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 x DPt

Lwa = Lwa1 + Kf



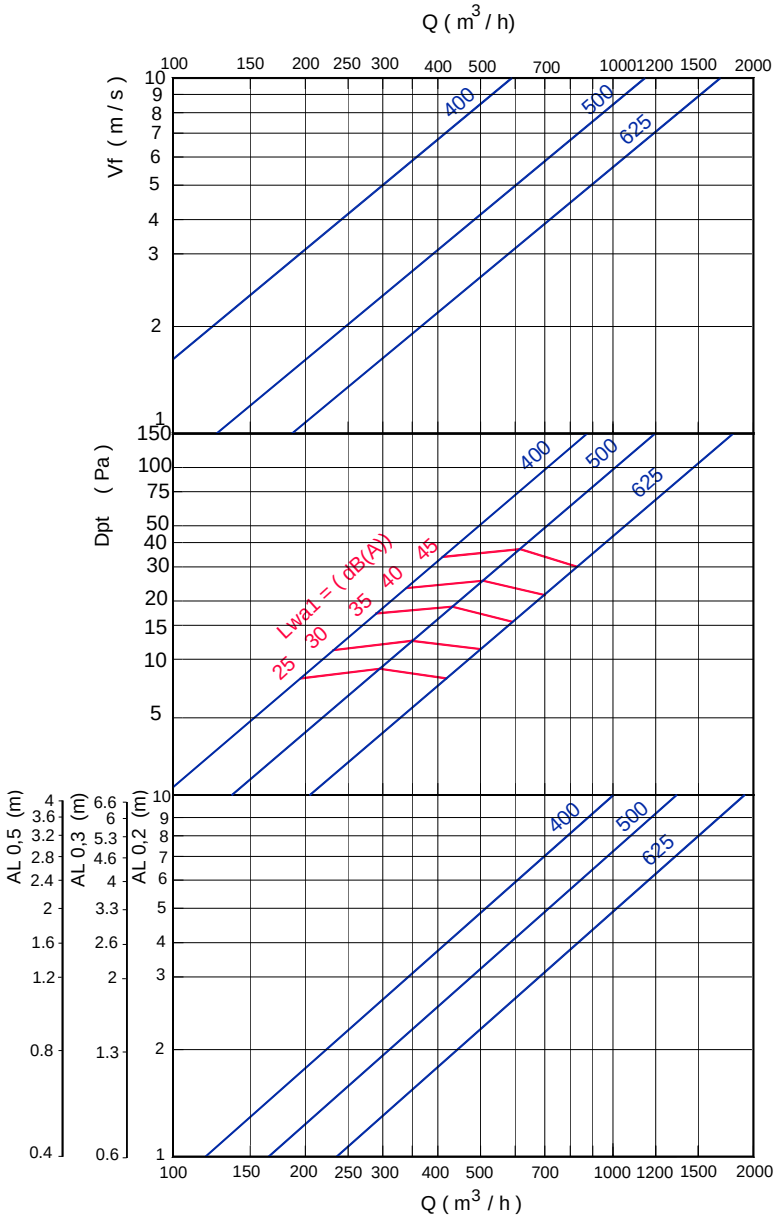
$AL_{0.2}$ = A

$AL_{0.2}$ = B+H

$AL_{0.2}$ = C+H

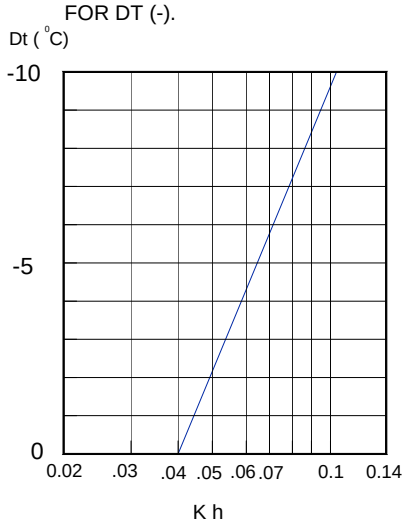
FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.

RXO-C + PLXOC



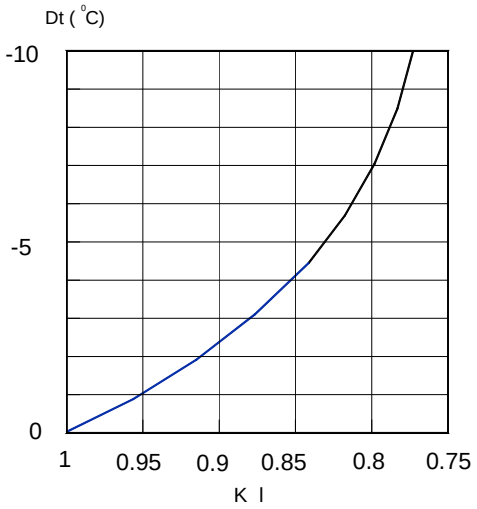
Note: In MadelMedia Octava band centre frequency in Hz.

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

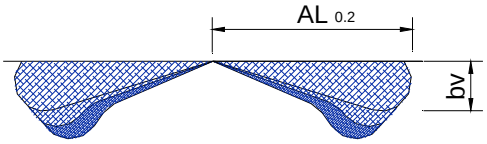


Kh = Correction factor for the vertical diffusion.

CORRECTON 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.

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