AXP Fixed blades swirl diffusers

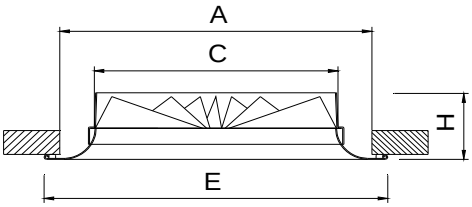
MADEL®

The **AXP** series rotational diffusers are designed to be applied in air conditioning, ventilation and heating.

They are mounted in false ceilings or hanging. Their round shape together with the helical design of their blades causes a rotational diffusion of the air stream, obtaining a high induction index.

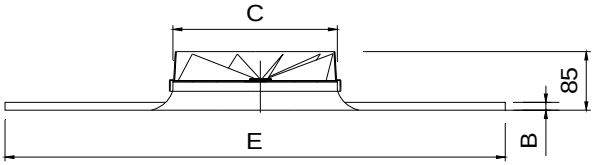
With **AXP** diffusers it is possible to obtain good results in sound pressure in the comfort area. These diffusers can be used in premises from 2.6 to 4 meters high and a temperature differential up to 12º C.

AXP



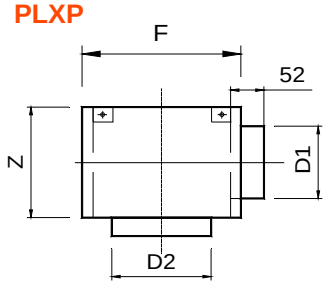
Ø	E	A	C	H
125	230	192	123	75
160	262	227	158	75
200	305	270	198	75
250	355	320	248	75
315	418	383	313	85

AXP-MOD



		MOD / 600		MOD / 625		MOD / 675	
	C	E	B	E	B	E	B
125	123	595	12	620	12	670	15
160	158	595	12	620	12	670	15
200	198	595	12	620	12	670	15
250	248	595	12	620	12	670	15
315	313	595	12	620	12	670	15

PLXP



	D2	F	Z	D1
125	125	200	150	98
160	160	250	175	123
200	200	300	220	158
250	250	380	270	198
315	315	480	335	248

CLASSIFICATION

AXP Fixed blades circular swirl diffuser.

AXP-MOD AXP diffuser specially designed to replace a 600x600 false ceiling tile.

AXP-MOD/625 AXP diffuser specially designed to replace a 625x625 false ceiling tile.

AXP-MOD/675 AXP diffuser specially designed to replace a 675x675 false ceiling tile.

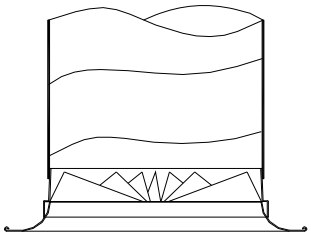
MATERIAL

Diffuser with a nozzle made of spinned aluminium and blades made of stamped 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.

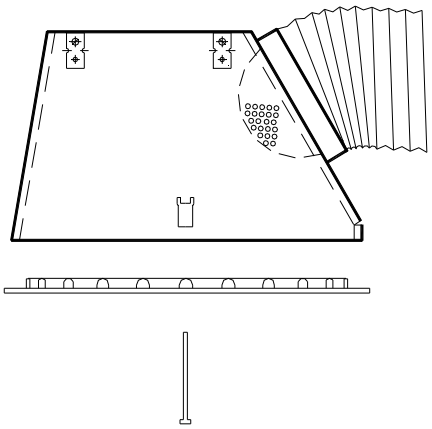
ACCESSORIES

PLXP 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/ Thermally insulated plenum box with foam. Density 30 kg / m3 ISO 845. Thermal conductivity 20º C_0,040 W / mºK ISO 3386/1. Classified reaction to fire B-s2, d0 EN 13501-1.

1)



P)



FIXING SYSTEMS

1) Connection into a circular metallic duct by means of rivets.

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

FINISHES

M9016 Painted white similar to RAL 9016 (85-95% gloss)
R9016S Painted white RAL 9016 semi-matt (60-70% gloss)
R9010S Painted white RAL 9010 semi-matt (60-70% gloss)
M9066 Painted grey similar to RAL 9006 (85-95% gloss)
RAL... Painted in other RAL colours

SPECIFICATION TEXT

Supply and mounting of circular swirl diffuser with fixed blades series **AXP+PLXP-R M9016 dim. 125** constructed from aluminium paint in white **M9016**. With lateral circular connection plenum box and air flow damper in the spigot **PLXP-R**.
Manufacturer **MADEL**.

RECOMMENDED VELOCITY.

AXP	Vmin m/s	Vmax m/s
125	2.5	6,2
160	2.5	6.7
200	2.5	5.6
250	2.5	5,6
315	2.5	4.2

FREE FACE AREA (m2).

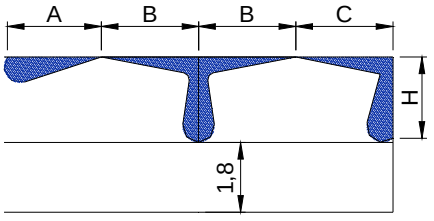
AXP	Ak m2	Afree m2	Qmin. m3/h	Qmax. m3/h
125	0.012	0.006	55	135
160	0.015	0.009	80	220
200	0.028	0.0133	120	270
250	0.045	0.0192	175	390
315	0.066	0.0384	345	590

CORRECTION FACTOR FOR DPt AND Lwa1.

PLXP-R		100% Open	50% Open	10% Open
125	Dpt (Kp)	1	1.2	2
	Lwa1 (Kf)	+0,6	+1,6	+0,8
160	Dpt (Kp)	1	1.1	2.1
	Lwa1 (Kf)	+0,7	+1,7	+0,9
200	Dpt (Kp)	1	1.3	1.9
	Lwa1 (Kf)	+0	+0	+0,3
250	Dpt (Kp)	1	1.4	2,1
	Lwa1 (Kf)	+0	+0	+0
315	Dpt (Kp)	1	1.2	1,8
	Lwa1 (Kf)	+0,7	+1,7	+0,9

DPt1 = Kp x DPt

Lwa = Lwa1 + Kf



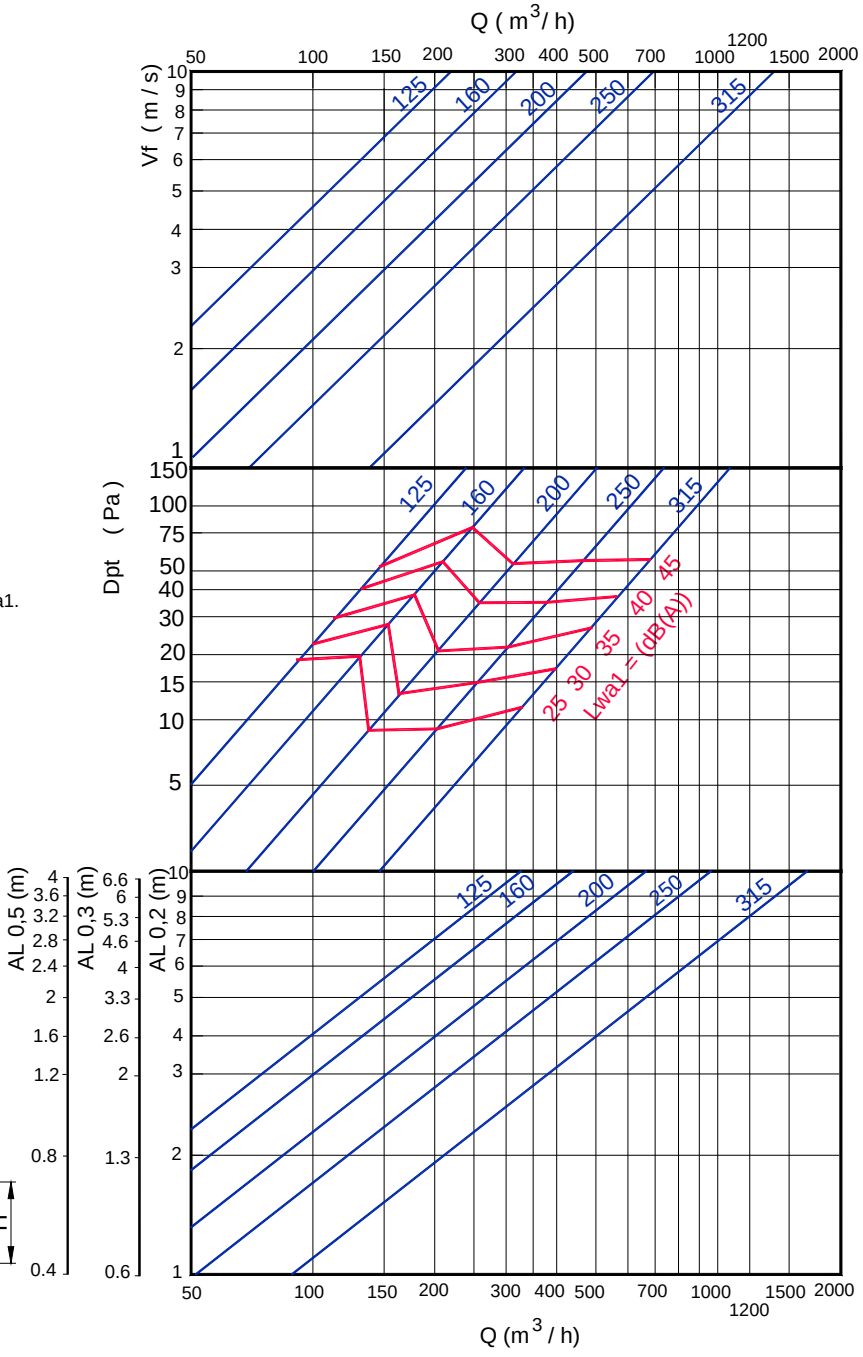
AL0.2= A

AL0.2= B+H

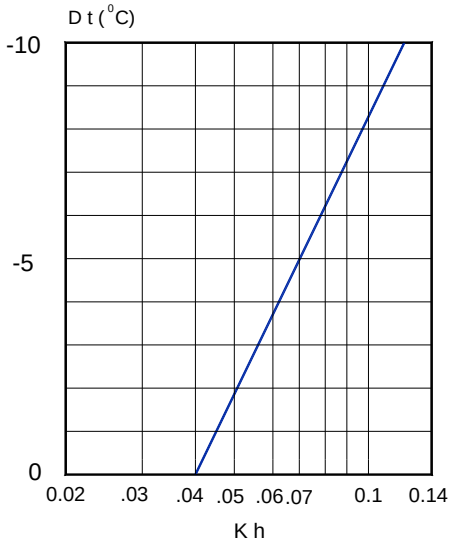
AL 0.2= C+H

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

AXP + PLXP

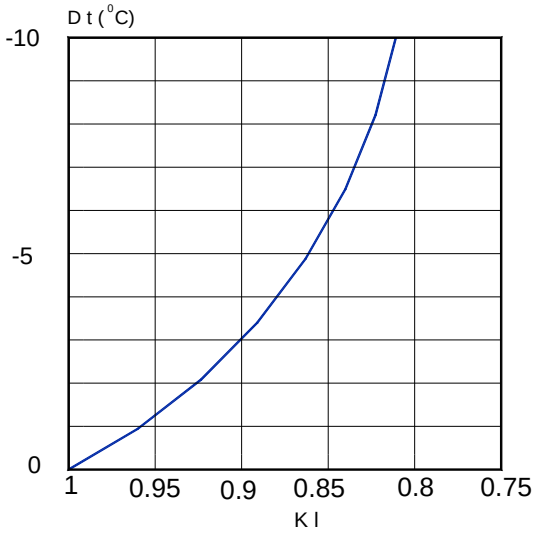


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bV) FOR DT (-).

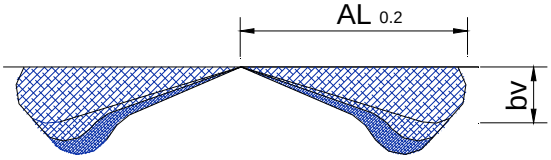


Kh = Correction factor for the vertical diffusion.

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



Kl = Correction factor for the throw.

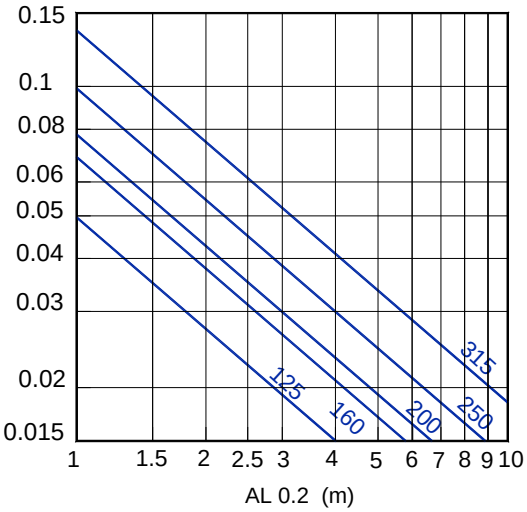


$$bv = Kh \times Al_{0.2}$$

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

TEMPERATURE RATIO.

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



INDUCTION RATIO.

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