DSO central disc diffusers

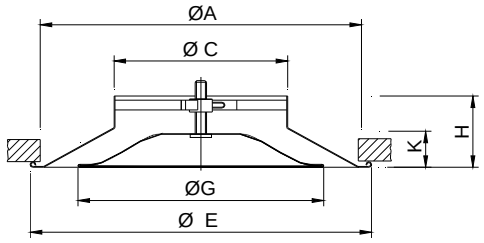
MADEL®

The **DSO** series diffusers are designed to be applied in air conditioning ventilation and heating systems. This sort of diffuser can be used in premises from 2,6 up to 4 m high and with a temperature differential up to 12º C, obtaining good results, not only in air speed but also in sound pressure level in the comfort zone.

They can be mounted in false ceilings, suspended from ductwork or from the ceiling. Its removable central disc makes easy its installation and maintenance.

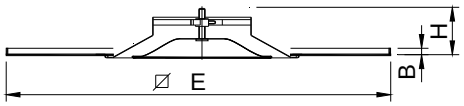
The **DSO** modular diffusers meet the functional requirements of modern updated locations. Its minimalist design fits perfectly in any kind of architecture.

DSO



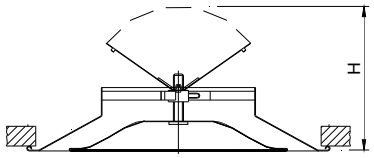
	E	A	G	H	K	C
160	325	300	206	101	44	157
200	425	398	325	115	58	197
250	510	487	380	128	72	248
315	575	550	435	137	80	313

DSO-MOD



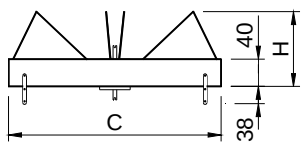
			MOD/600		MOD/625		MOD/675	
	H	C	B	E	B	E	B	E
160	101	157	12	595	12	620	15	670
200	115	197	12	595	12	620	15	670
250	114	247	12	595	12	620	15	670
315	137	313	12	595	12	620	15	670

DSO + R3G



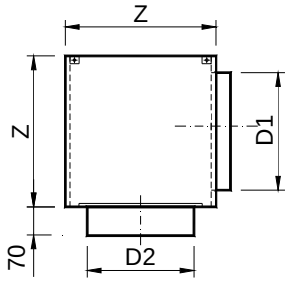
	H
160	165
200	199
250	237
315	280

SPC



	H	D1
160	62	158
200	72	198
250	90	248
315	105	313

PLDG



	D2	Z	D1
160	160	220	158
200	200	260	198
250	250	310	248
315	317	375	313

CLASSIFICATION

DSO Removable central disc diffuser to make easy installation and maintenance.

DSO-MOD Diffusers specially designed for modular ceilings.

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

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

MATERIAL

Diffuser constructed from aluminium.

ADDITIONAL ACCESSORIES

R3G Flap damper assembled in the diffuser neck. Manually operated. Constructed in galvanised steel.

SPC Opposed blades damper. It includes supports to be fixed directly into a circular duct. Screwdriver operated. Constructed in galvanised steel.

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

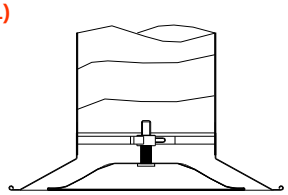
…-R Plenum box with a flow damper in the spigot.

…/S/ Plenum box with an upper circular connection.

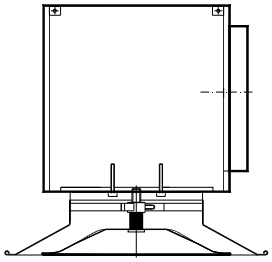
…/AIS/ Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

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

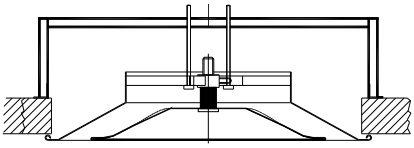
1)



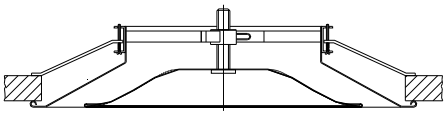
(P)



(P)



(O)



FIXING SYSTEMS

1) Connection into a circular metallic duct.

(P) Connection into the crossbar or plenum box by central screw. Unsuitable for SPC.

(O) Hidden screws for false ceiling mounting with flexible duct.

FINISHES

M9016 Painted in white similar to RAL 9016.

R9010 Painted in white RAL 9010.

M9006 Painted in grey similar to RAL 9006.

RAL... Painted in other RAL colours.

SPECIFICATION TEXT

Supply and mounting of removable central disc diffuser series **DSO+R3G+PLDG M9016 160** constructed from aluminium paint in white **M9016**. With flap damper **R3G** and lateral circular connection plenum box **PLDG**. Manufacturer **MADEL**.

RECOMMENDED VELOCITY.

DSO	Vmin m/s	Vmax m/s
160	2.5	5
200	2.5	5
250	2.5	5
315	2.5	5

NECK AREA m2.

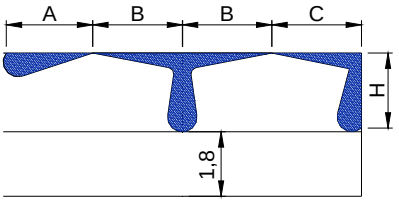
DSO	Ak m2	Qmin. m3/h	Qmax. m3/h
160	.020	180	360
200	.0314	282	565
250	.049	441	882
315	.0779	701	1400

CORRECTION FACTOR FOR DPt AND Lwa1.

DSO+R3G		100% Open	50% Open
160	Dpt (Kp)	1,3	5,4
	Lwa1 (Kf)	+1,6	+10,4
200	Dpt (Kp)	1,2	5,5
	Lwa1 (Kf)	+0,6	+11,7
250	Dpt (Kp)	1,3	5,8
	Lwa1 (Kf)	+0,2	+10,3
315	Dpt (Kp)	1,3	5,5
	Lwa1 (Kf)	-0,8	+6,2

DPt1 = Kp x DPt

Lwa = Lwa1 + Kf



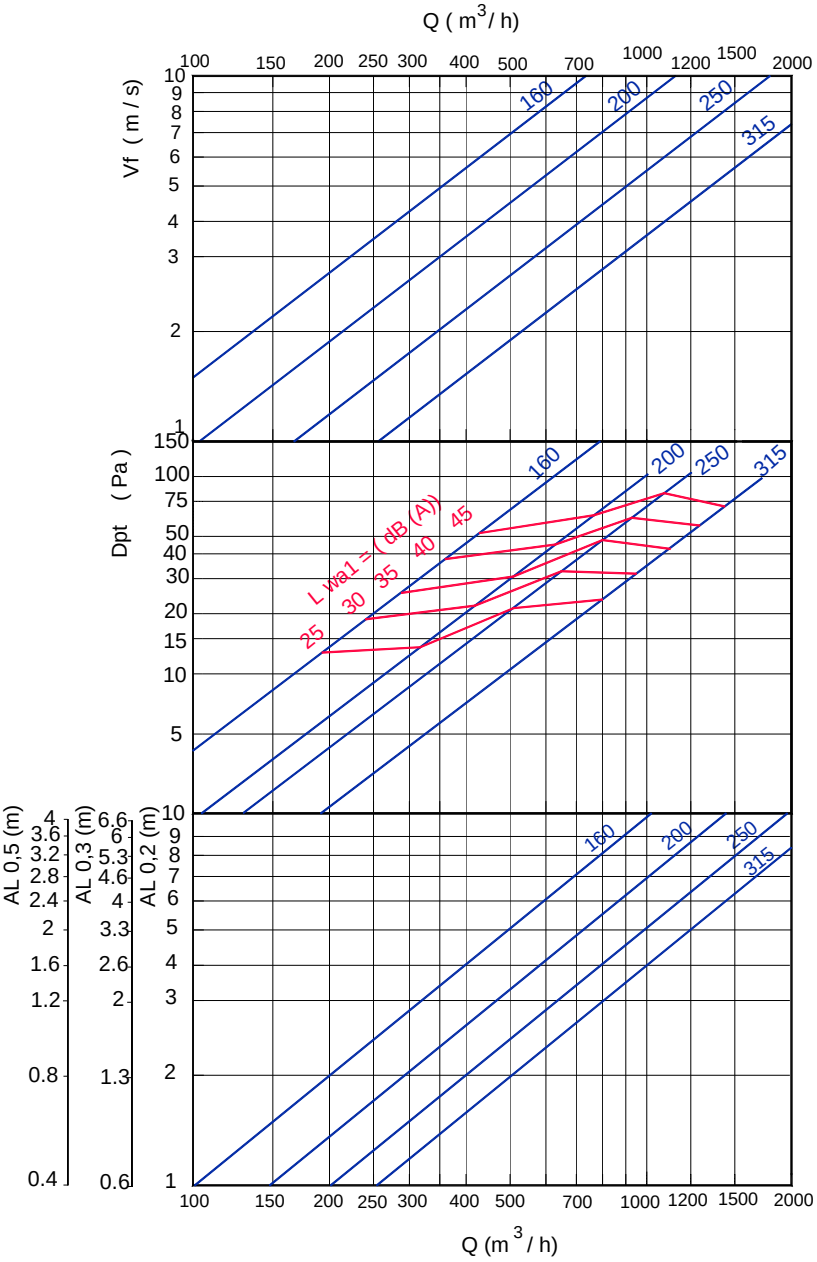
$AL_{0.2}$ = A

$AL_{0.2}$ = B+H

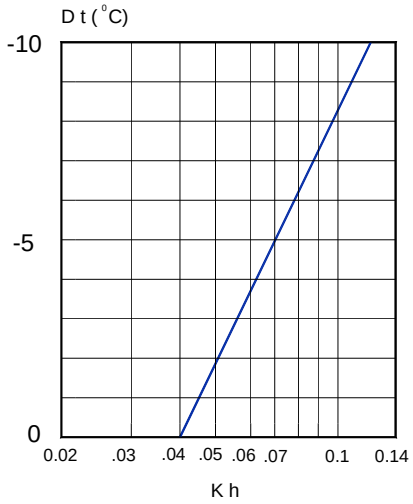
$AL_{0.2}$ = C+H

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

DSO

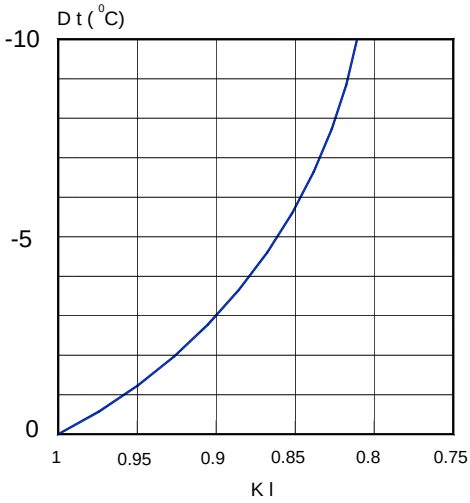


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bV) FOR DT (-).

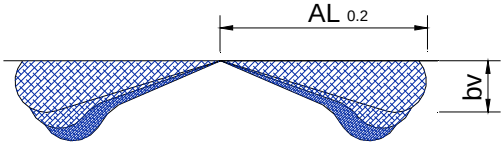


Kh = Correction factor for the vertical diffusion.

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



Kl = Correction factor for the throw.

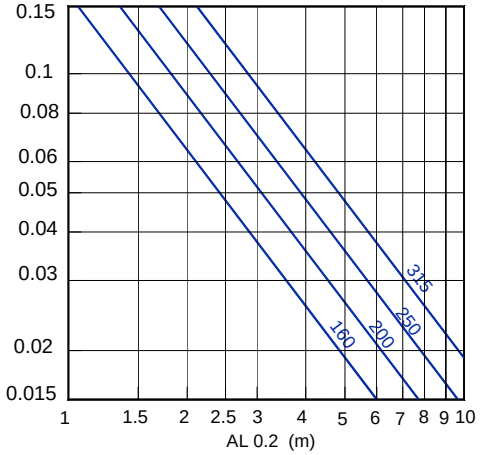


$$bv = Kh \times Al_{0.2}$$

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

TEMPERATURE RATIO.

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



INDUCTION RATIO.

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