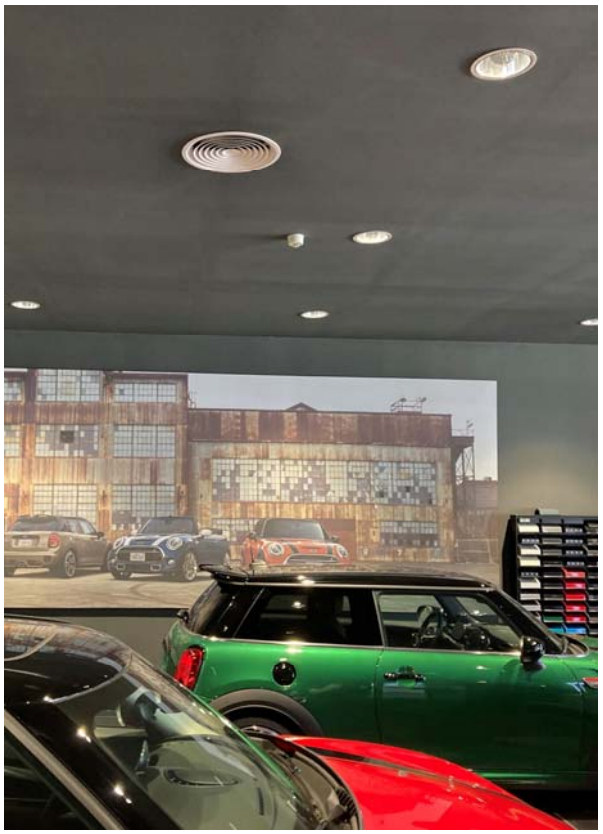
DCN Fixed cones diffusers

The **DCN** series fixed cone diffusers are designed for air supply in HVAC systems.

- Classic design and high technical performance.
- Installation in false ceiling or suspended from the ceiling.
- Suitable for installations in premises between 2.6 and 4 meters and with a temperature differential of up to 12ºC.

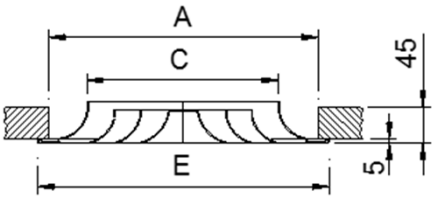
Product advantages:

- Circular execution for better integration in continuous ceilings.
- MOD version for greater integration and faster assembly in technical ceilings.



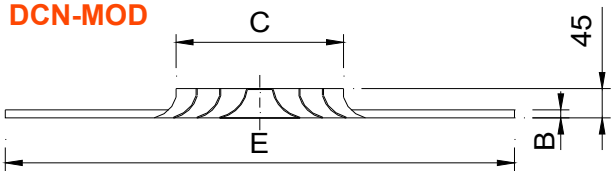
- ❑ Offices
- ❑ Hotels
- ❑ Shopping centres

DCN



	E	A	C
160	263	223	154
200	303	263	194
250	353	313	244
315	418	378	309
355	458	418	349
400	503	463	394

DCN-MOD



		MOD/600		MOD/625		MOD/675	
	C	B	E	B	E	B	E
160	154	12	595	12	620	15	670
200	194	12	595	12	620	15	670
250	244	12	595	12	620	15	670
315	309	12	595	12	620	15	670
355	349	12	595	12	620	15	670
400	394	12	595	12	620	15	670

CLASIFICATION

DCN Fixed cones circular diffuser.

DCN-MOD Fixed cones circular diffuser specially designed for technical ceilings.

.../T15/ False ceiling panel 15 mm profile with angled borders.
.../T24/ False ceiling panel 24 mm profile with angled borders.

MATERIAL

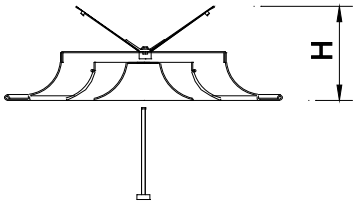
Diffusers constructed from aluminium.
The DCN diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the ceiling is airtight.

FINISHES

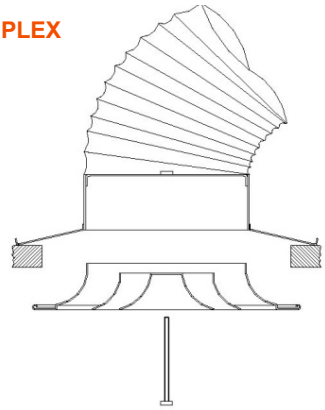
R9016S Painted white RAL 9016 (60-70% gloss)
R9010S Painted white RAL 9010 (60-70% gloss)
R9016B Painted white RAL 9016 (85-95% gloss)
RAL... Painted in other RAL colours
AA Matt silver anodised (only for DCN model)

	H
125	100
160	122
200	145
250	170
315	200
355	220
400	248

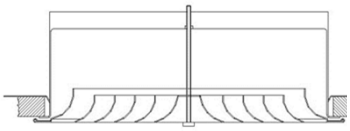
R3E



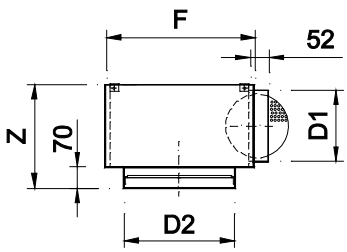
PLEX



PMN



PLDN



	D2	F	Z	D1
125	210	250	300	123
160	245	285	300	123
200	285	335	300	158
250	335	385	300	198
315	400	435	340	248
355	440	485	340	248
400	485	535	420	313

ACCESSORIES

R3E Flap damper riveted on the diffuser neck. Manually operated. Constructed of galvanised steel.

PMN Crossbar for installation in false ceiling with rectangular duct. Constructed of galvanized steel.

PFLEX Mounting collar for false ceiling installation with flexible duct. Constructed of galvanized steel.

PLDN Plenum box with lateral circular connection. Includes supports for suspension on the ceiling. Constructed of galvanized steel.
…-R Airflow damper in the spigot.
…/S/ Upper connection.
…/AIS/ Thermal insulation inside with a foam of 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.

FIXING SYSTEMS

1) DCN Fixing to the crossbar or mounting collar or to the plenum box by means of a central screw

1) DCN-MOD Supported on the profiles of the modular ceiling to replace a plate.

SPECIFICATION TEXT

Supply and mounting of fixed cones circular diffuser series **DCN+R3E+PFLEX R9010S** dim. 200, constructed from aluminium paint in white RAL 9010S. With flap damper R3E and collar suitable for mounting in false ceiling with flexible duct PFLEX. **Manufacturer MADEL**.

RECOMMENDED VELOCITY.

DCN	Vmin m/s	Vmax m/s
160	2.5	5,2
200	2.5	5,9
250	2.5	5
315	2.5	5
355	2.5	4,8
400	2.5	4,2

FREE FACE AREA (m2).

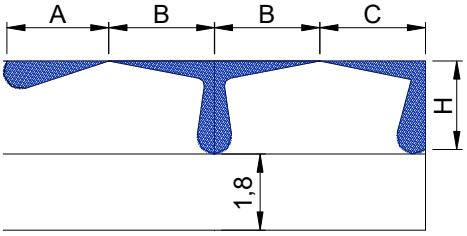
DCN	Ak m2	Afree m2	Qmin. m3/h	Qmax. m3/h
160	.0183	.016	144	300
200	.0292	.02	180	425
250	.0462	.0330	297	595
315	.0743	.0460	414	835
355	.0949	.0550	495	970
400	.121	.070	630	1060

CORRECTION FACTOR FOR DPt AND Lwa1.

DCN+R3E		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
355	Dpt (Kp)	1,25	6,6
	Lwa1 (Kf)	+0,1	+10,7
400	Dpt (Kp)	1,1	6,2
	Lwa1 (Kf)	+0,3	+10,6

DPt1 = Kp x DPt

Lwa = Lwa1 + Kf



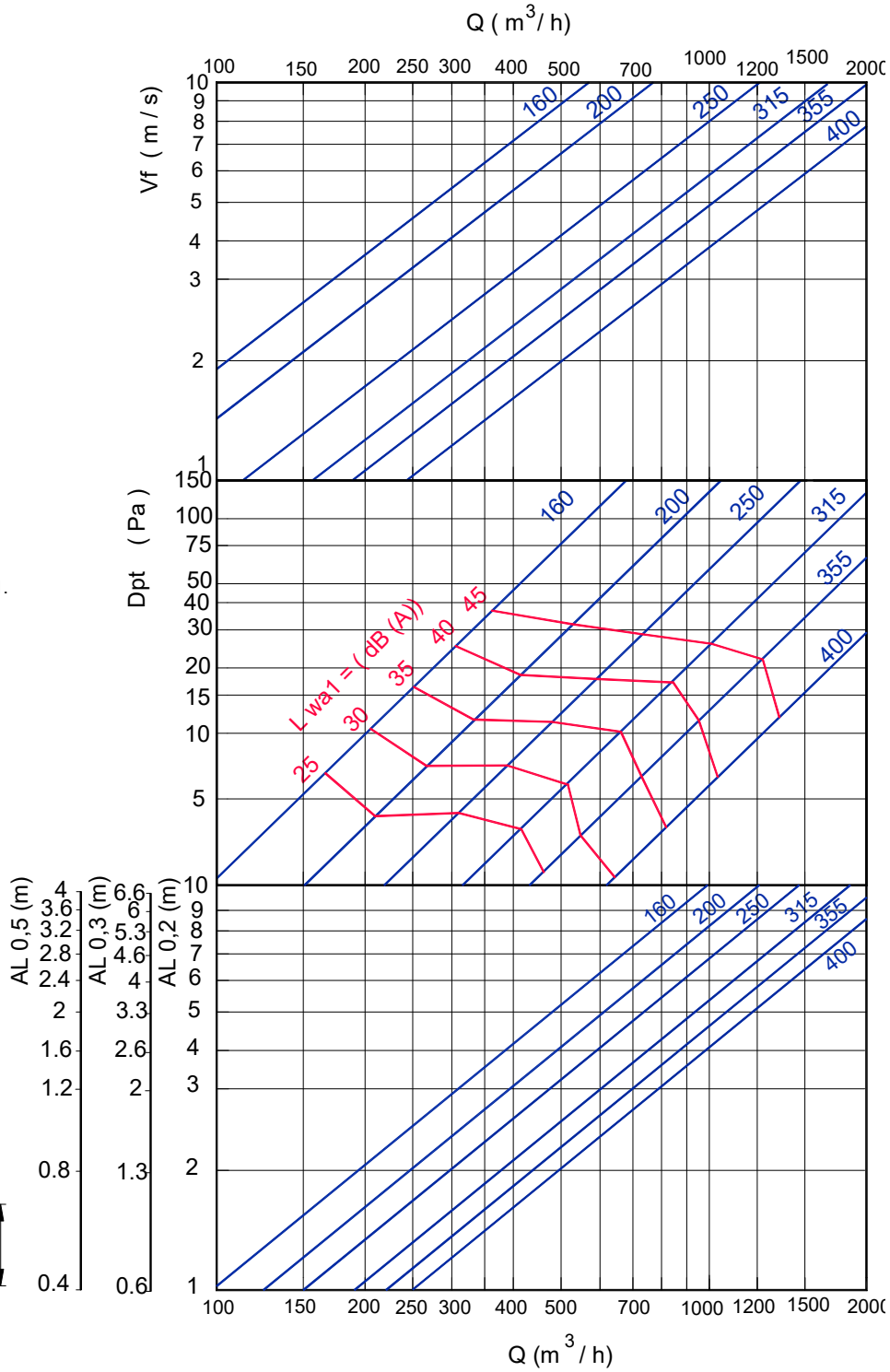
$AL_{0.2}$ = A

$AL_{0.2}$ = B+H

$AL_{0.2}$ = C+H

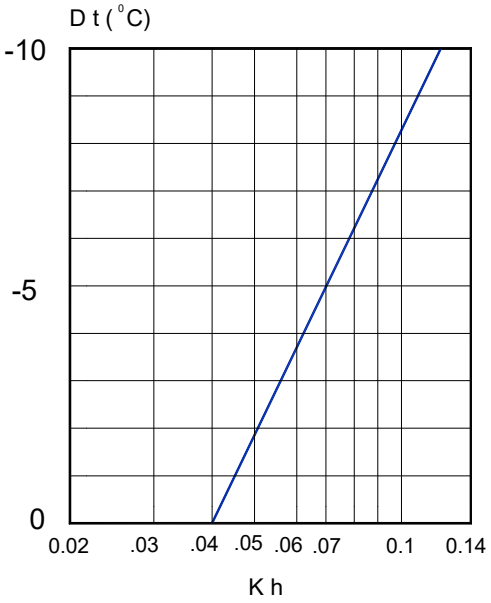
FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT.

DCN



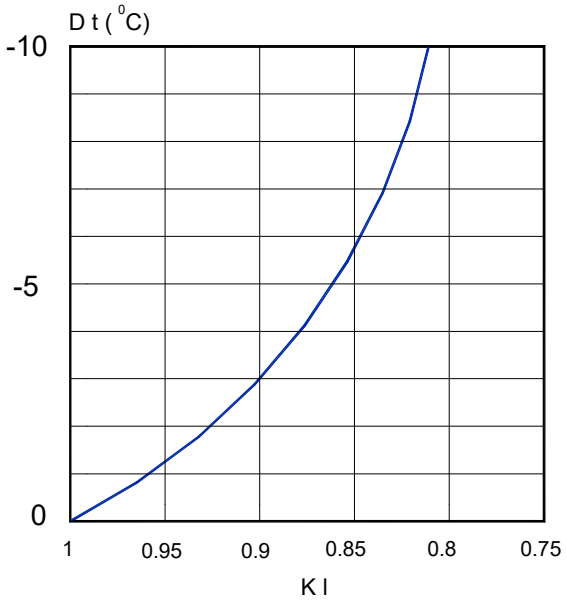
Note: In MadelMedia Octava band centre frequency in Hz.

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

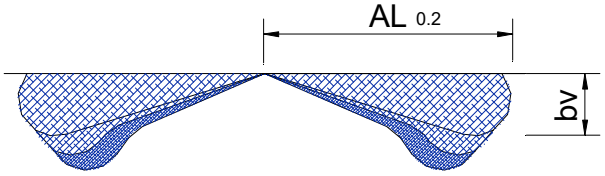


Kh = Correction factor for the vertical diffusion.

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.

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