

## DBQ Four-way square diffusers

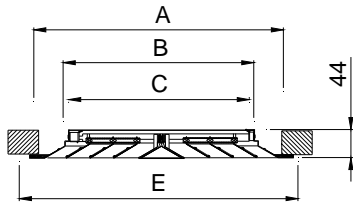


The four-way square diffusers meet the functional and architectural requirements of modern updated locations. Its geometrical shape, fits perfectly in the style of the surroundings.

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.

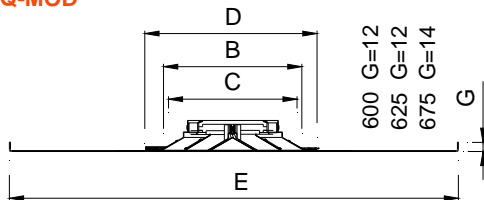
**.../T15/** False ceiling panel 15 mm profile with angled borders.

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

**MATERIAL**

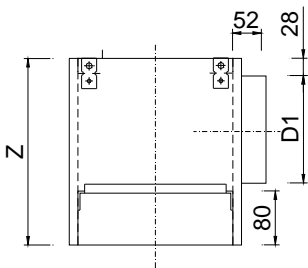
Diffusers made with extruded aluminium. All diffusers are provided with a seal on the back of the frame in order that the perimeter in contact with the ceiling is airtight.

**DBQ-MOD**

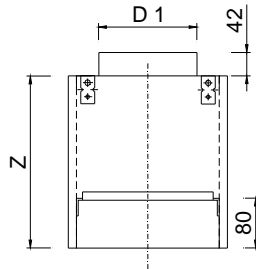


				600	625	675
	C	B	D	E	E	E
150 x 150	137	148	259	595	620	670
225 x 225	212	223	332	595	620	670
300 x 300	287	298	407	595	620	670
375 x 375	362	373	482	595	620	670
450 x 450	437	448	557	595	620	670

**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.

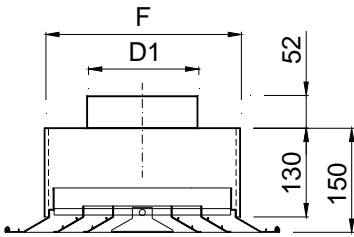
**.../S/** Plenum box with an upper circular neck connector.

**.../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.

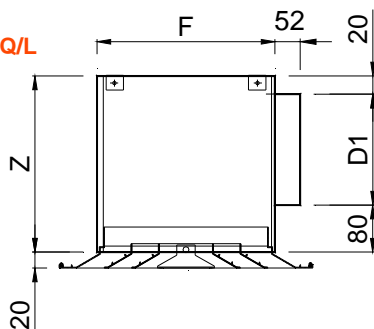
**.../L/** Plenum box with a lateral circular neck connector.

**.../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**



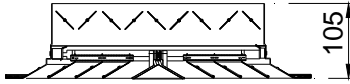
	F	Z	D1
150 x 150	177	225	125
225 x 225	252	260	158
300 x 300	327	300	198
375 x 375	402	350	248
450 x 450	477	415	315
525 x 525	552	455	355
600 x 600	632	455	355

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

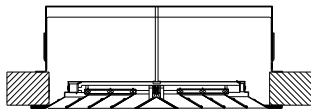
**SPQ** Opposed blades damper to regulate the air flow. The damper is operated by an easily accessible key inside the grille.

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

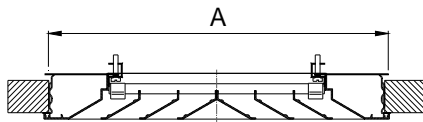
**DBQ+SPQ**



**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

**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**.

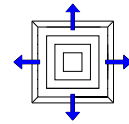
**DBQ M9016 / RAL...**



**DBQ AA**



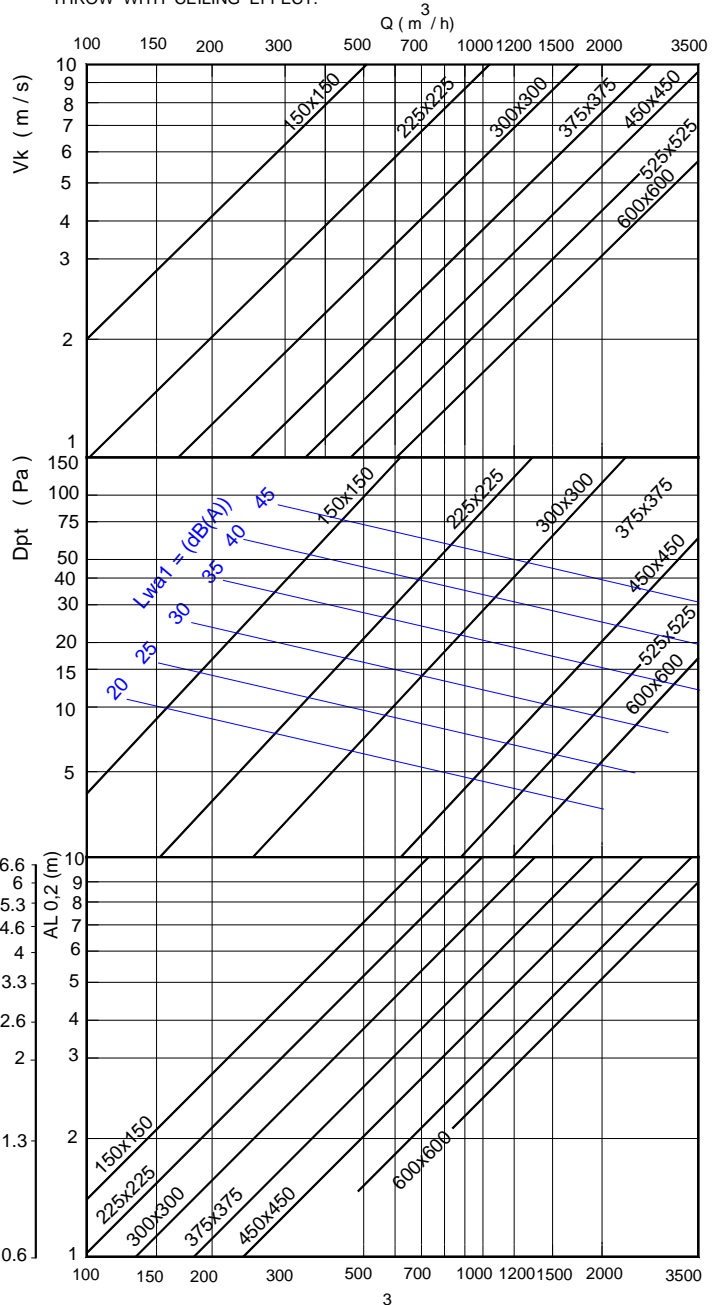
# DBQ SERIES



### 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>.

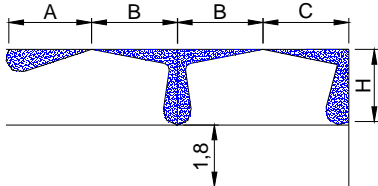
DBQ	Afree m <sup>2</sup>	Qmin. m <sup>3</sup> /h	Qmax. m <sup>3</sup> /h
150x150	.0138	124	223.5
225x225	.0277	249	449
300x300	.0486	437	787
375x375	.0694	624	1124
450x450	.0972	875	1575
525x525	.1296	1166	2100
600x600	.1666	1499	2699

### 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	3	18
	Lwa1 (Kf)	+0	+7	+16
525x525	Dpt (Kp)	1	2,5	5
	Lwa1 (Kf)	+0	+7	+17
600x600	Dpt (Kp)	1	4,1	6
	Lwa1 (Kf)	+0	+6	+17
600x600	Dpt (Kp)	1	3,3	5
	Lwa1 (Kf)	+0	+7	+17

$$Dpt1 = Kp \times Dpt$$

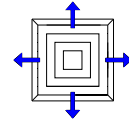
$$Lwa = Lwa1 + Kf$$



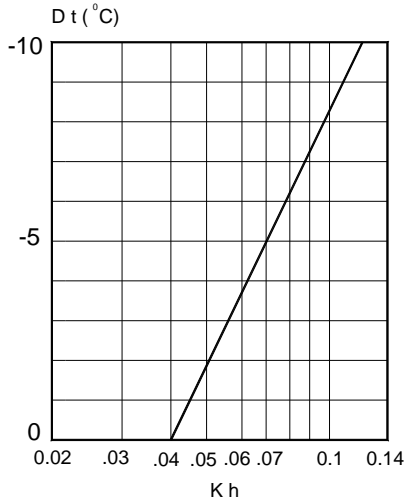
$$AL_{0.2} = A$$

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

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

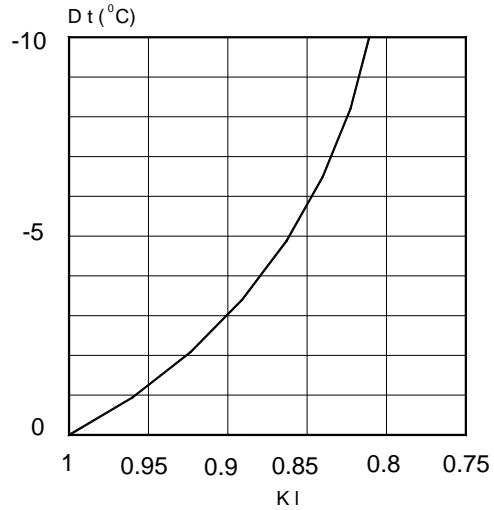


CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

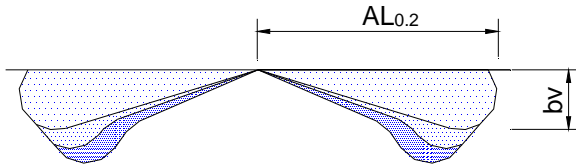


Kh = Correction factor for the vertical diffusion.

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



KI = Correction factor for the throw.



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

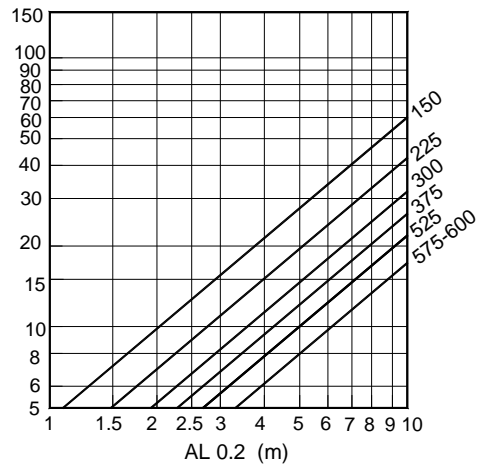
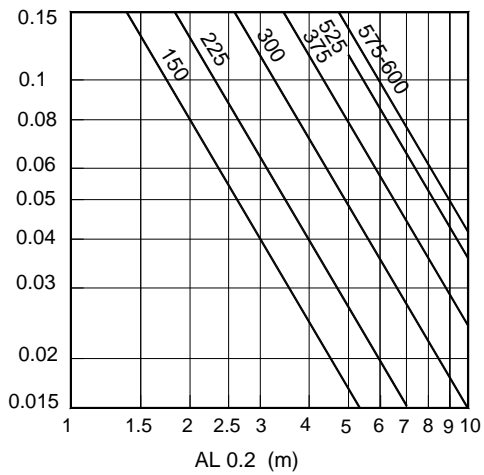
$$AL'_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

TEMPERATURE RATIO.

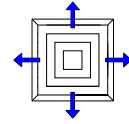
$$\frac{Dtl}{Dtz} = \frac{t_{room} - t_x}{t_{room} - t_{supply}}$$

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

### 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	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 DPt AND Lwa1.

DBQ		100% Open	50% Open	10% Open
		Dpt (Kp)	1	1,82
150x150	Lwa1 (Kf)	+0	+6	+15
	Dpt (Kp)	1	4,38	7,5
225x225	Lwa1 (Kf)	+0	+6	+15
	Dpt (Kp)	1	4,17	8,33
300x300	Lwa1 (Kf)	+0	+6	+16
	Dpt (Kp)	1	3	18
375x375	Lwa1 (Kf)	+0	+7	+16
	Dpt (Kp)	1	2,5	5
450x450	Lwa1 (Kf)	+0	+7	+17
	Dpt (Kp)	1	4,1	6
525x525	Lwa1 (Kf)	+0	+6	+17
	Dpt (Kp)	1	3,3	5
600x600	Lwa1 (Kf)	+0	+7	+17

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

