



PLAY DIFFUSERS BY ADJUSTABLE SECTORS

MADEL®

The multi-directional diffusers of the **PLAY** series are designed to be used, in air conditioning, ventilation and heating systems at a temperature differential up to 12° C.

They can be mounted in false ceilings or suspended from the ceiling, from 2,6 up to 4 metres high.

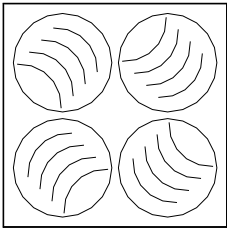
The PLAY diffusers respond to different functional and architectural requirements thanks to their manually adjustable sectors of diffusion in different directions. The adjustment of each sector is made easily by means of marks that indicate the different positions. According to the direction of the sectors, PLAY diffusers can act like a 1, 2, 3 or 4-way diffuser, as well as a swirl diffuser.

In any one of their configurations, PLAY diffusers create a uniform airflow in all the effective areas, with coanda effect. This provides a high induction air rate level, reducing stratification. These diffusers allow a flow variation of 60% keeping the air stream stable.

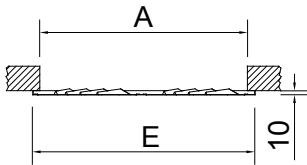
As a result of the collaboration with **Benedito Design**, the original concept of PLAY diffusers represents, not only an innovative technical solution for present architecture, but is also a vanguard in design of air diffusers.

Product protected as industrial model.

PLAY - S



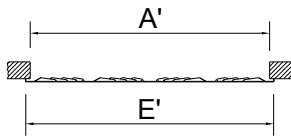
	E	A
600	595	576
625	620	601



PLAY-R 1000x300
PLAY-R 1000x310

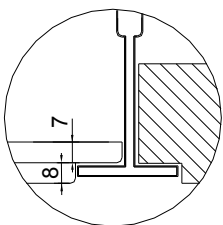
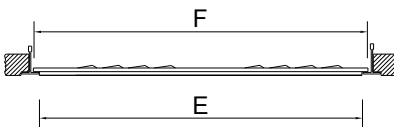


PLAY-R 1200x300
PLAY-R 1250x310



	E	A	E'	A'
1000 300	1000	981	295	276
1000 310	1000	981	308	289
1200 300	1195	1176	295	276
1250 310	1245	1226	308	289

/ T /



PLAY-S / T /

	E	F
600	572	593
625	602	623

CLASSIFICATION

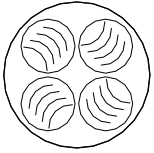
PLAY-S Square diffuser with 4 sectors of diffusion.

PLAY-R Rectangular diffuser with several sectors of diffusion according to the size.

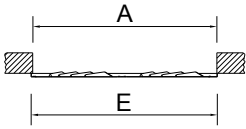
PLAY-ST Square diffuser with angled borders and 4 sectors of diffusion.

PLAY-RT Rectangular diffuser with angled borders and several sectors of diffusion according to the size.

PLAY-C-825



PLAY-C-625



	E	A
625	625	601
825	825	801

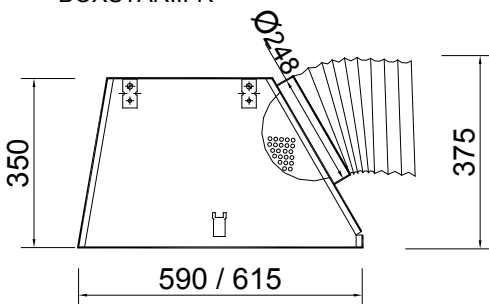
PLAY -C Circular diffuser with 3 or 4 sectors of diffusion according to the diameter.

MATERIAL

Diffusers are constructed from galvanised steel and nylon bearings.

All diffusers are provided with a seal on the back of the frame in order to ensure airtight contact of the perimeter, with the plenum box or ceiling.

BOXSTAR...-R



	B	Z	Y	D1
600	590	350	375	248
625	615	350	375	248

ADDITIONAL ACCESSORIES

BOXSTAR Plenum box with a lateral circular connection for **PLAY-S...** diffusers.

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.

Plenum box to pile up. It spares more than 50 % volume in relation to a conventional plenum box.

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

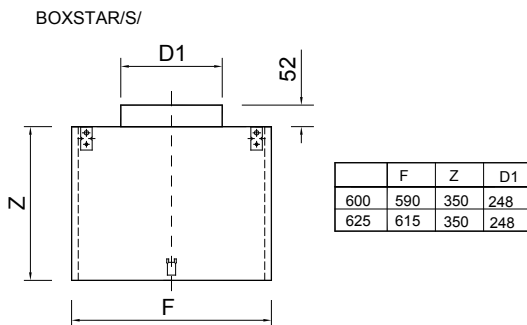
.../AIS/ Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

NFP 92-501 M2

DIN 4102 M2

BOXSTAR/S/ Plenum box with an upper circular neck connection for **PLAY-S...** diffusers. It includes supports to hang from the ceiling. Made in galvanised steel.



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

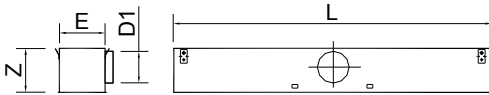
.../AIS/ Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

NFP 92-501 M2

DIN 4102 M2

PLXOR... - R



	L (mm)	Z	E	D1
1000 300	990	324	270	248
1000 310	990	324	285	248
1200 300	1190	324	270	248
1250 310	1240	324	285	248

PLXOR Plenum box with a lateral circular connection for **PLAY-R...** diffusers. It includes supports to hang from the ceiling. Made in galvanised steel.

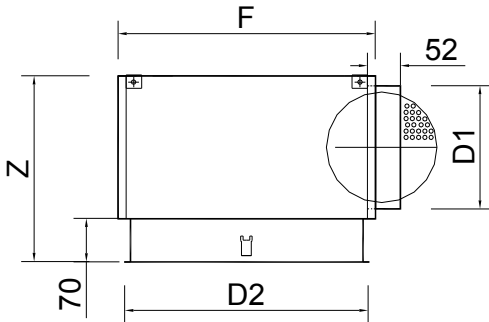
...-R Plenum box with a flow damper in the spigot.

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

PLXOC ... - R



	D2	F	Z	D1
625	620	640	350	248
825	820	840	415	313

PLXOC Plenum box with a lateral circular connection for **PLAY-C** diffusers. It includes supports to hang from the ceiling. Made in galvanised steel.

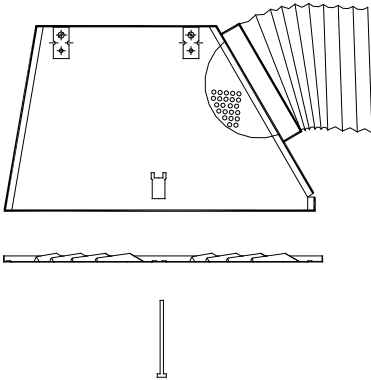
...-R Plenum box with a flow damper in the spigot.

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

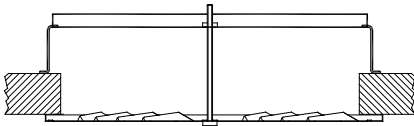
.../AIS/ Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

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

PLENUM (1)



PMXO (1)



FIXING SYSTEMS

1) Connection into the plenum box by means of central screw, to hang the assembly from the ceiling with drops rods.

1) Connection into the **PMXO** crossbar by means of central screw. Suitable for mounting in false ceiling with rectangular duct. Constructed in galvanised steel.

FINISHES

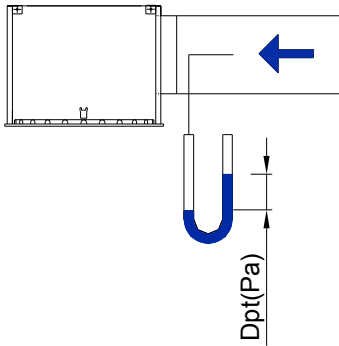
R9010 Lacquer in white colour
RAL 9010.

M9016 Lacquer in white colour similar
to RAL 9016.

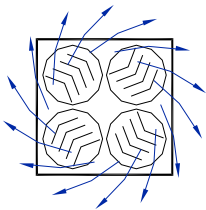
RAL... Lacquer in other colours (RAL
specifications).

RAL..A / RAL..B Lacquer in other RAL
colours. RAL A indicates the colour of
the panel and RAL B indicates the colour
of the adjustable sectors.

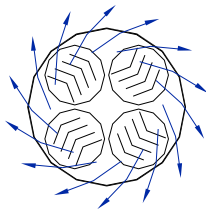
PLAY SERIES



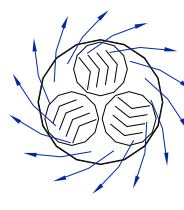
PLAY-S 600
PLAY-S 625



PLAY-C 825

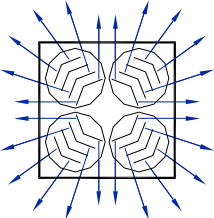


PLAY-C 625

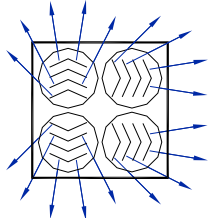


PLAY-S 600
PLAY-S 625

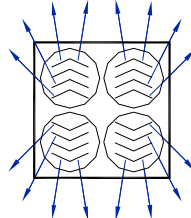
4-w



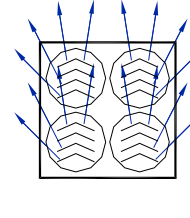
3-w



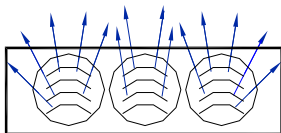
2-w



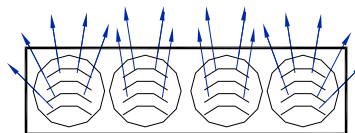
1-w



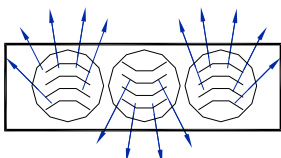
PLAY-R 1000 300
PLAY-R 1000 310
1-w



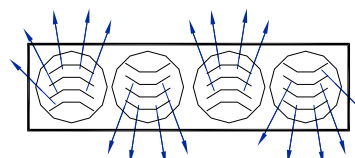
PLAY-R 1200 300
PLAY-R 1250 310
1-w



2-w



2-w

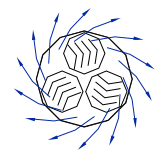
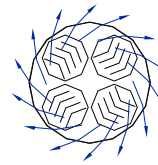
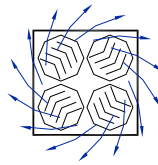


PLAY SERIES

-S 600
-S 625

-C 825

-C 625



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

PLAY-S+BOXSTAR
PLAY-R+PLXOC

RECOMMENDED VELOCITY.

PLAY	Vmin m/s	Vmax m/s
-S 600	2,5	4,7
-S 625	2,5	4,7
-C 625	2,5	4,9
-C 825	2,5	4,7

FREE FACE AREA (m2).

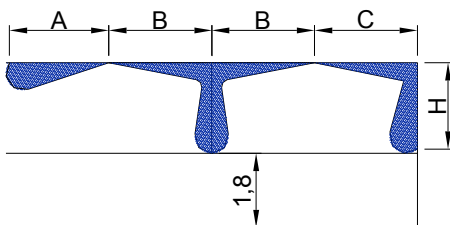
PLAY	Afree m2	Qmin. m3/h	Qmax. m3/h
-S 600	0,04	360	680
-S 625	0,04	360	680
-C 625	0,03	270	530
-C 825	0,04	360	680

CORRECTION FACTOR FOR Dpt AND Lwa1.

...-S+BOXSTAR-R ...-R+PLXOC-R		100% Open	50% Open	10% Open
-S 600	Dpt (Kp)	1	1,5	2,3
	Lwa1 (Kf)	+0,8	+1,2	+1,5
-S 625	Dpt (Kp)	1	1,5	2,3
	Lwa1 (Kf)	+0,9	+1,2	+1,5
-C 625	Dpt (Kp)	1	1	1,4
	Lwa1 (Kf)	+0,8	+0,7	+1,2
-C 800	Dpt (Kp)	1	1,5	2,3
	Lwa1 (Kf)	+0,9	+1	+0,8

$$Dpt1 = Kp \times Dpt$$

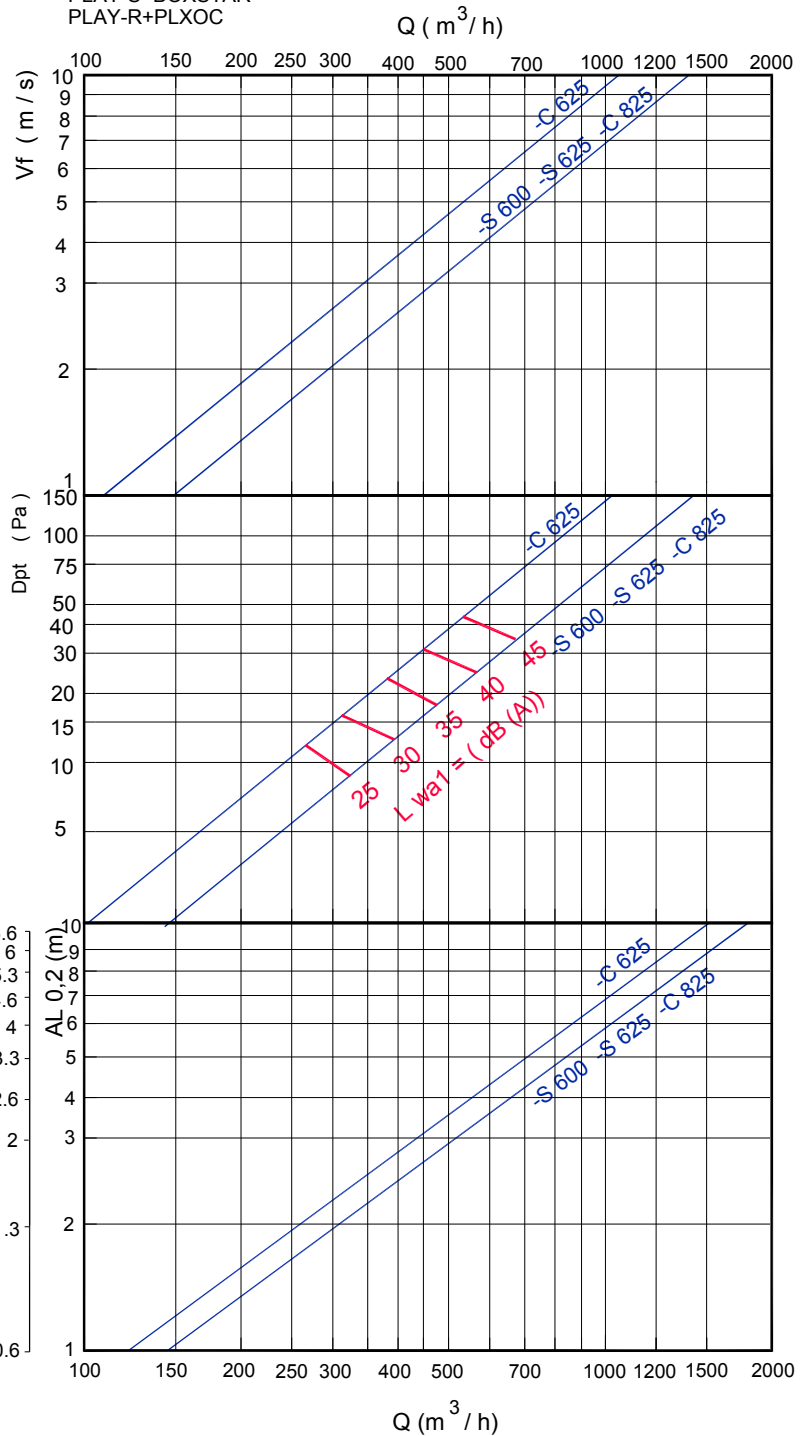
$$Lwa = Lwa1 + Kf$$



$$AL_{0.2} = A$$

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

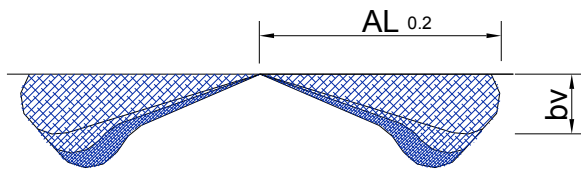
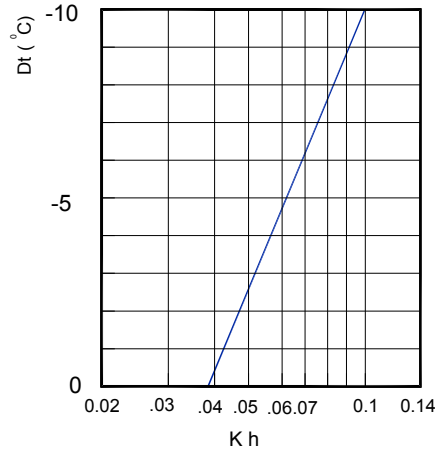
$$AL_{0.2} = C+H$$



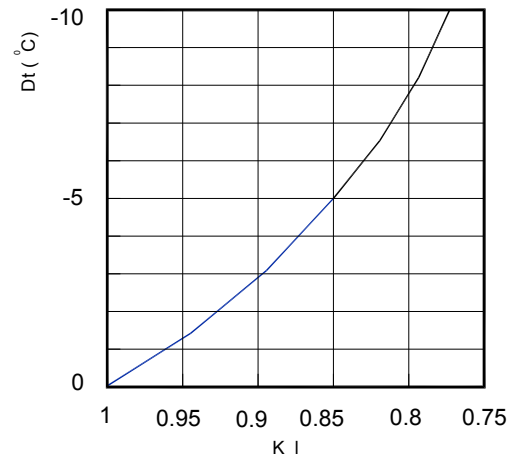
Note: In MadelMedia Octava band centre frequency in Hz.

PLAY SERIES

CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).
 Kh = Correction factor for vertical diffusion.



CORRECTION FACTOR FOR THROW (L 0,2) DT (-).
 KI = Correction factor for throw.

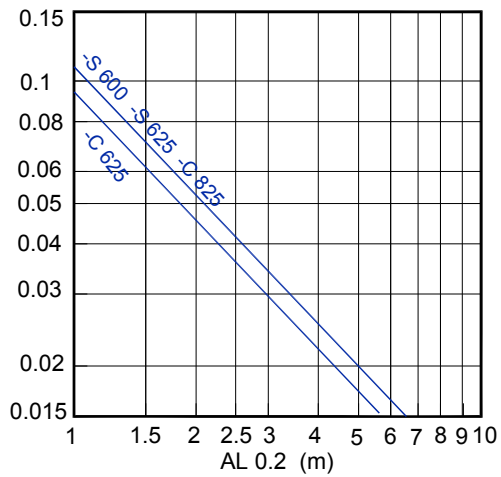


$$bv = Kh \times AL_{0.2}$$

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

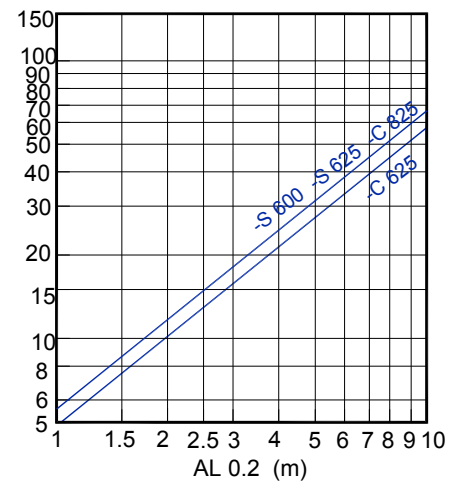
TEMPERATURE RATIO.

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



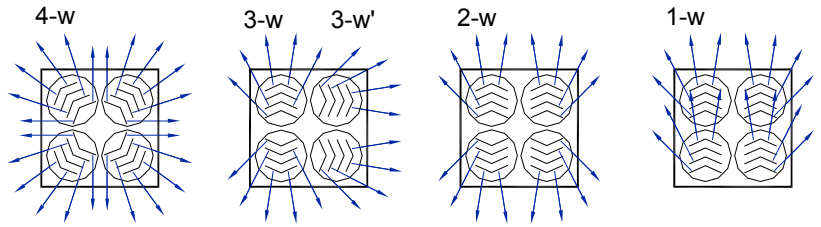
INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{total\ at\ x}}{Q\ of\ supply}$$



PLAY SERIES

-S 600
-S 625



RECOMMENDED VELOCITY.

PLAY	Vmin m/s	Vmax m/s
-S 600 -S 625	2,5	3,5

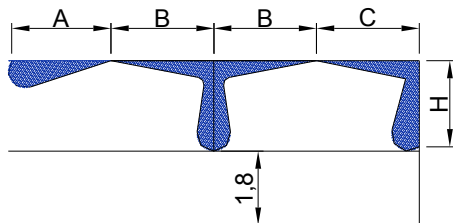
FREE FACE AREA (m2).

PLAY	Afree m2	Qmin. m3/h	Qmax. m3/h
-S 600 -S 625	0,04	360	504

CORRECTION FACTOR FOR Dpt AND Lwa1.

BOXSTAR-R		100% Open	50% Open	10% Open
-S 600	Dpt (Kp)	1	1,5	2,3
-S 625	Lwa1 (Kf)	+0,8	+1,7	+1,7

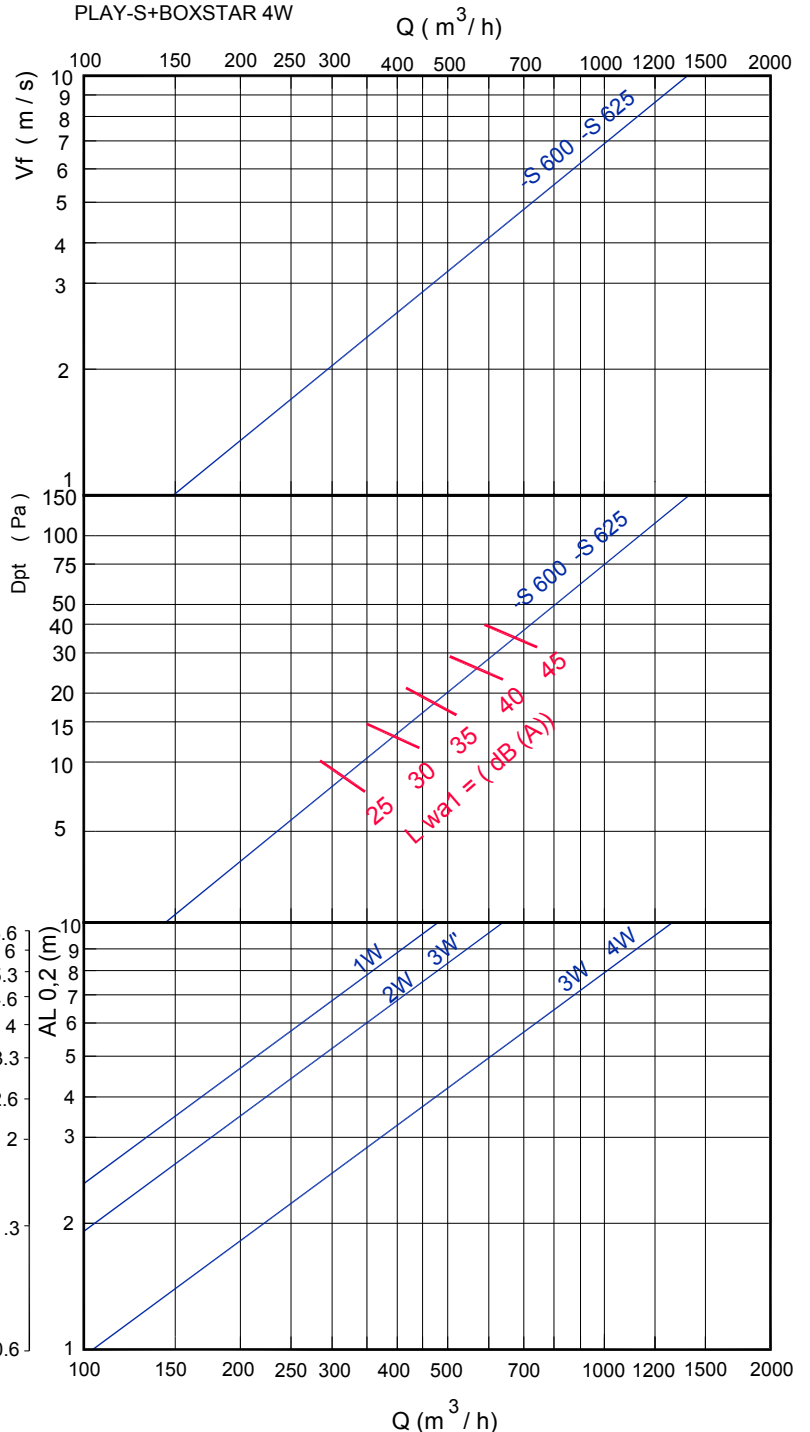
$Dpt1 = Kp \times Dpt$
 $Lwa = Lwa1 + Kf$



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

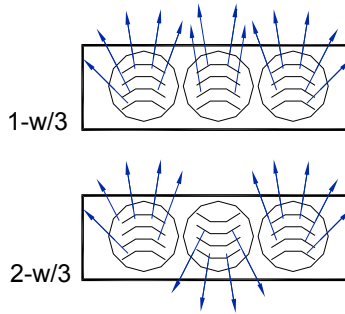
FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL,
THROW WITH CEILING EFFECT.

PLAY-S+BOXSTAR 4W

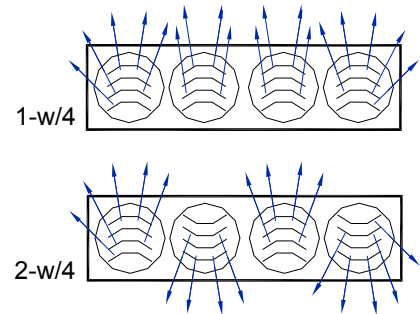


Note: In MadelMedia Octava band centre frequency in Hz.

PLAY-R 1000x300
PLAY-R 1000x310



PLAY-R 1200x300
PLAY-R 1200x310



RECOMMENDED VELOCITY.

PLAY	Vmin m/s	Vmax m/s
-R 1000x300 -R 1000x310	2,5	3,5
-R 1200x300 -R 1200x310	2,5	3,5

FREE FACE AREA (m2).

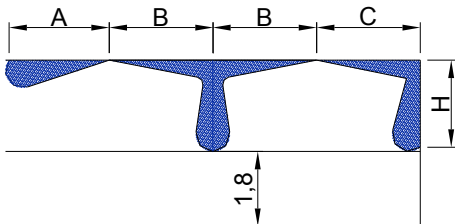
PLAY	Afree m2	Qmin. m3/h	Qmax. m3/h
-R 1000x300 -R 1000x310	0,03	270	378
-R 1200x300 -R 1200x310	0,04	360	504

CORRECTION FACTOR FOR DPt AND Lwa1.

PLXOR-R		100% Open	50% Open	10% Open
		-R 1000x300	Dpt (Kp)	1
-R 1000x310	Lwa1 (Kf)	+0,7	+1,7	+2,5
-R 1200x300	Dpt (Kp)	1	1,5	2,3
-R 1200x310	Lwa1 (Kf)	+0,7	+1,7	+2,4

$$DPt1 = Kp \times DPt$$

$$Lwa = Lwa1 + Kf$$



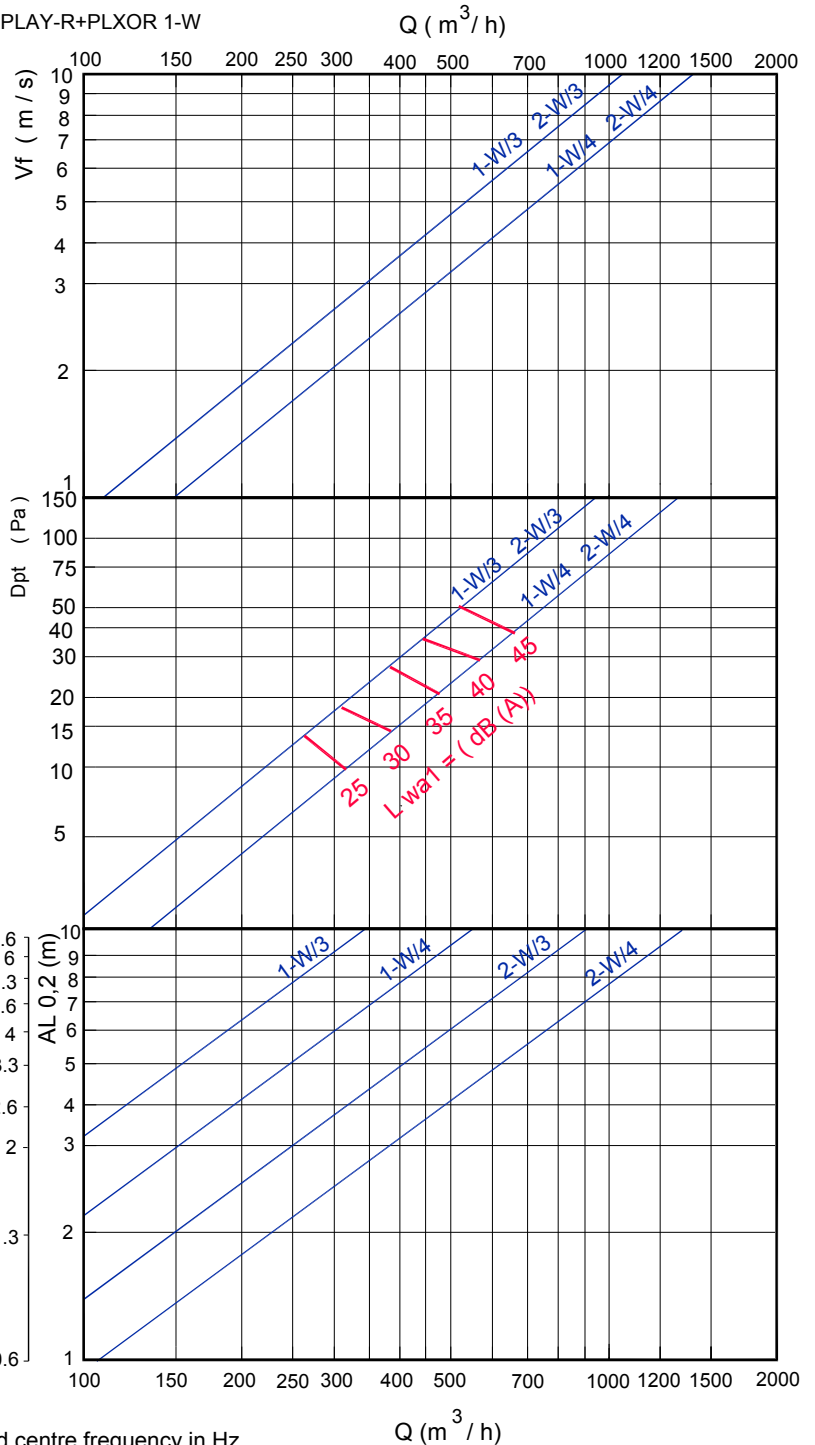
$$AL_{0.2} = A$$

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

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

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

PLAY-R+PLXOR 1-W



Note: In MadelMedia Octava band centre frequency in Hz.

Q (m³/h)