

ALANDALOSIA

FOR AIR OUTLET



CATALOGUE **NO 3**

SWIRL DIFFUSER



Air Outlet

Andalosalia

OUR PRODUCTS

SELECTION GUIDE

1- SQUARE CEILING DIFFUSER

2- ROUND CEILING DIFFUSER

3- SWIRL DIFFUSER

4- PERFORATED CEILING DIFFUSER

5- LINEAR SLOT DIFFUSER

6- LINEAR CEILING DIFFUSER

7- LINEAR BAR GRILL

8- REGISTER

9- FLOOR & PERFORATED FLOOR GRILL

10- TRANSFER GRILL

11- ACCESS PANEL

12- LOUVER

13- SAND TRAP LOUVER

14- JET NOZZLE

15- BALL JET NOZZLE

16- DRUM JET NOZZLE

17- DISC VALVE

18- NON RETURN DAMPER (SHUTTER)

19- VOLUME DAMPER

20- FIRE DAMPER

21- SMOKE DAMPER

22- DUCT ACCESS DOOR

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Air Outlet

Andalousia

INTERTEK

INTRODUCTION

THE SWIRL DIFFUSER

The swirl diffuser with fixed radially arranged air control blades. This unique type of slots provide high induction "vortex" air flow projecting horizontally from the face of diffuser.

This swirling air flow produce a diffuse air distribution, with no stationary air jet resulting excellent uniformity of temperature in air conditioned space.

Swirl diffuser is suitable in area of high heat load where large quantities of cool air must be rapidly mixed with room air; areas which require high air change in a short time.

The Swirl diffuser can also be used as a return and exhaust type device.

FEATURES

Swirl air pattern provides high induction ratio.

High coanda effect reduces direct-throw of air on occupants.

Standard sizes available for T-bar ceiling on metric or imperial size.

Supply air jet velocity is effectively reduced in the room due to high mixing effect.

Circular duct connection with rubber gasket.



SWIRL DIFFUSERS AND-GI-SW1

Construction

steel face plate with fixed slots .

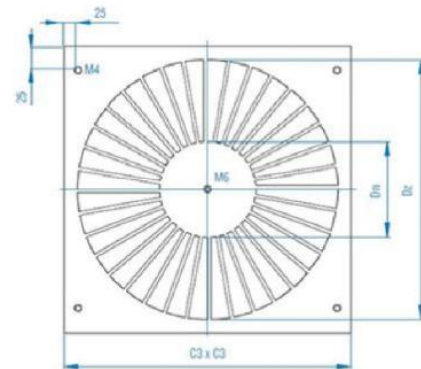
plenum box with inlet spigot .

Spigot damper blades externally or internally operated as optional



Size	D in	D out	Face size	Area eff
395	130	350	395	0.0138
495			495	
595			595	
620			620	

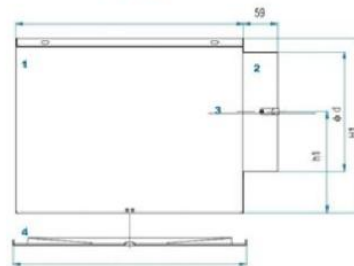
Size	D in	D out	Face size	Area eff
595	200	540	595	0.0367
620			620	
670			670	



Finish : standard white ral 9010 or any other colour as require

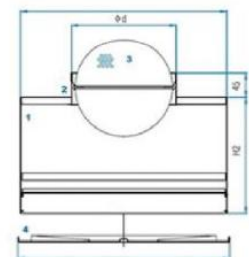
1. PLENUM BOX
2. INLET SPIGOT
3. SPIGOT DAMPER
4. DIFFUSER

SIDE INLET
W*W



FACE SIZE

TOP INLET
W*W

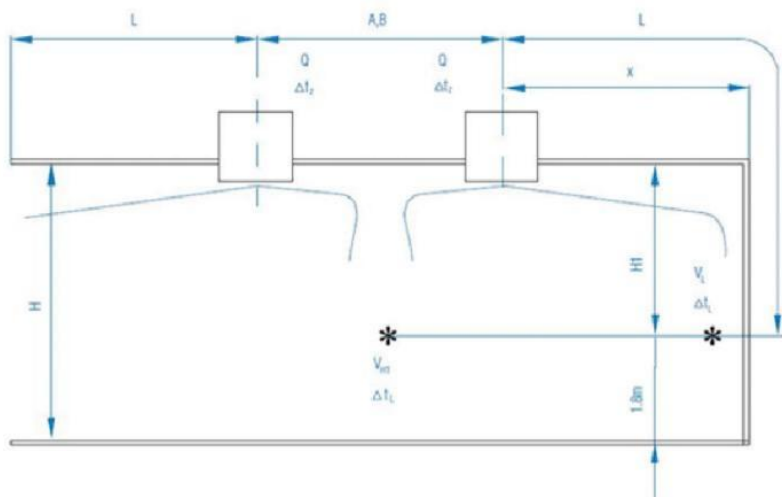


FACE SIZE

Size	Face size	W	H1	h1	H2	Ø D
400	395	390	290	167	240	198
500	495					
600	595					
625	620					

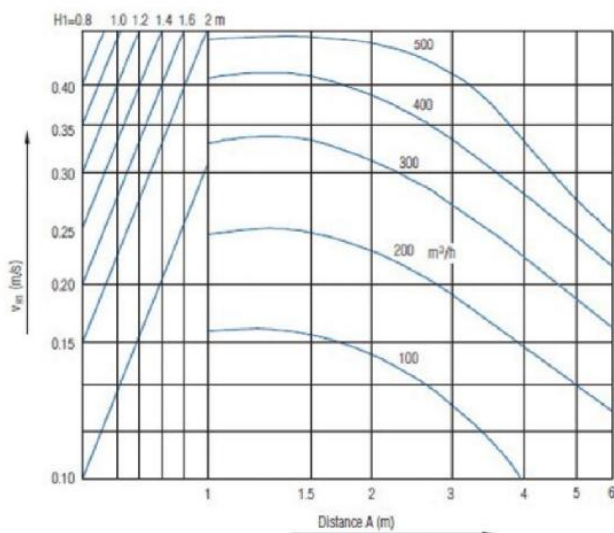
Size	Face size	W	H1	h1	H2	Ø D
600	595	590	325	177	240	248
625	620					
675	670					

PERFORMANCE DATA

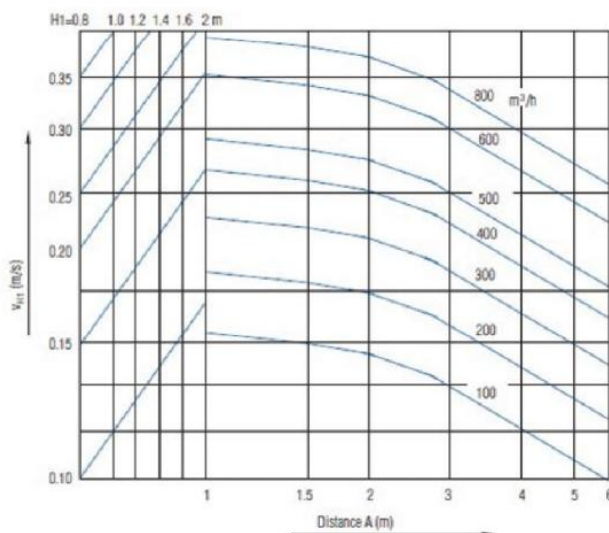


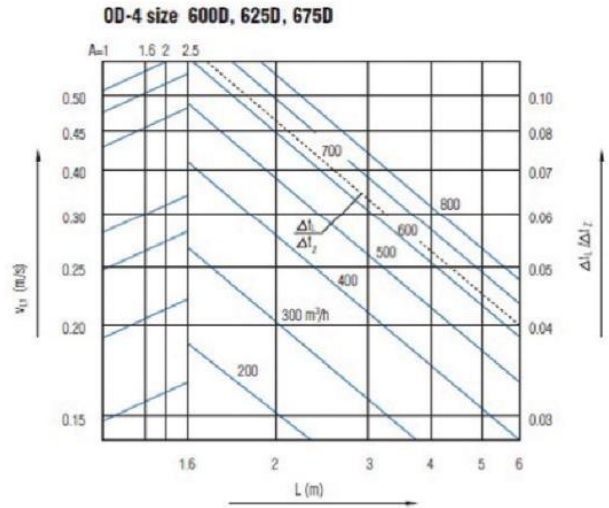
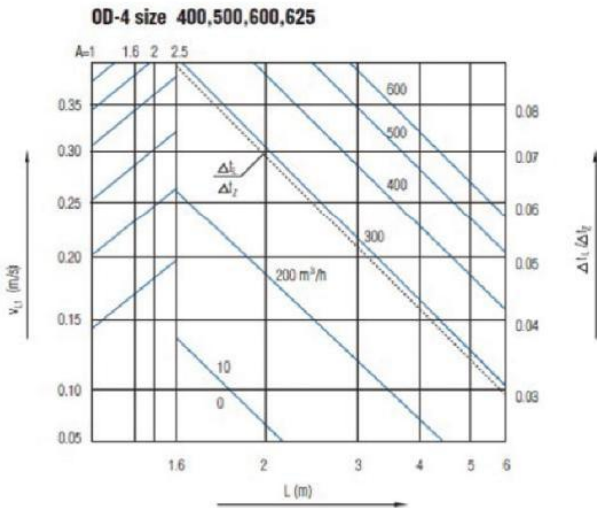
- Q (m³/h)** Air flow
- x (m)** Horizontal distance to the wall
- H (m)** Room height
- H1 (m)** Distance from ceiling to occupied zone
- L (m)** Throw distance ($L = H1 + x$)
- V_L (m/s)** Air velocity at the throw distance L
- Δt_z (K)** Temperature difference between the supply and room air
- Δt_c (K)** Difference between the core and room air temperature
- Δp_t (Pa)** Pressure drop
- L_{WA} (dB(A))** Sound power level
- V_{H1} (m/s)** Air velocity at the H1 distance
- A, B (m)** Distance between diffusers by length and by width

OD-4 size 400,500,600,625
B=2.5 ... 3.5 m

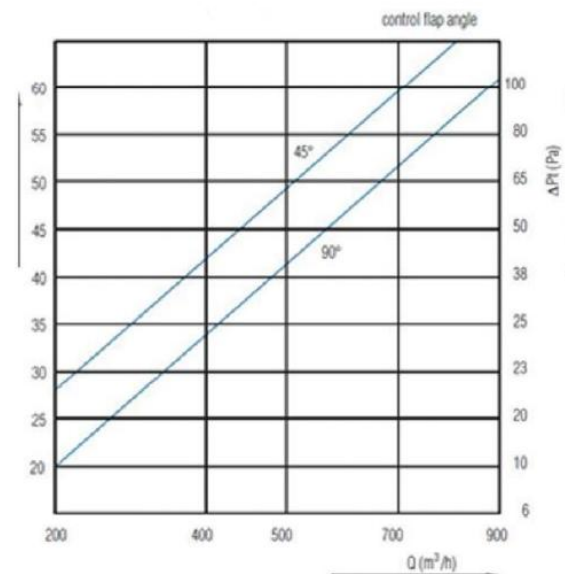
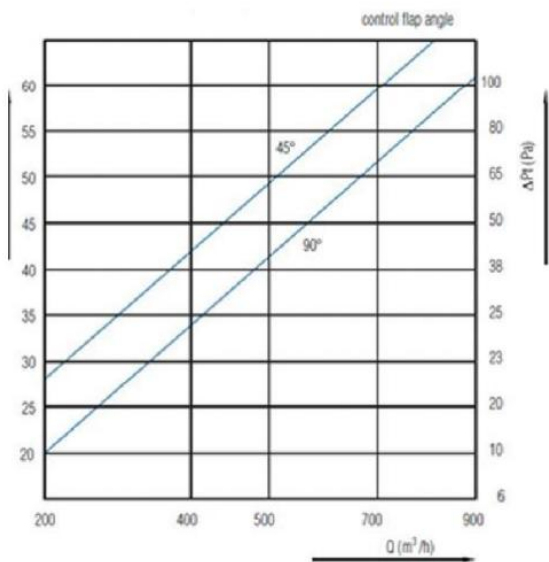


OD-4 size 600D, 625D, 675D
B=2.5 ... 3.5 m





Pressure drop and sound power level control flap angle: 90° - opened, 45° - half opened .



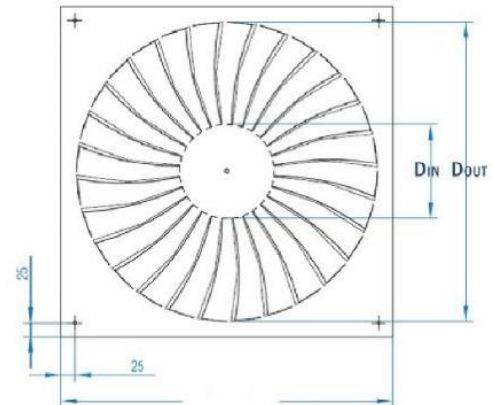
SWIRL DIFFUSERS AND-GI-SW2

Construction

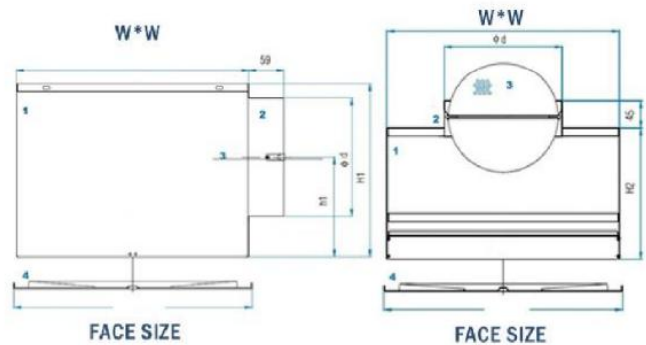
steel face plate with fixed slots plenum box with inlet spigot .
spidot damper blades externally or internally operated as optional .



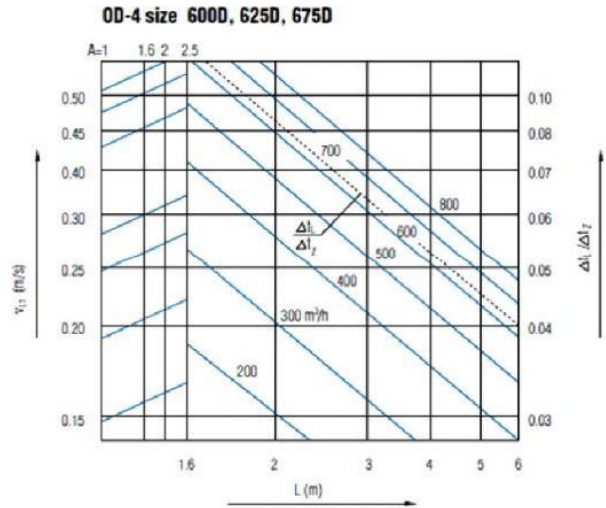
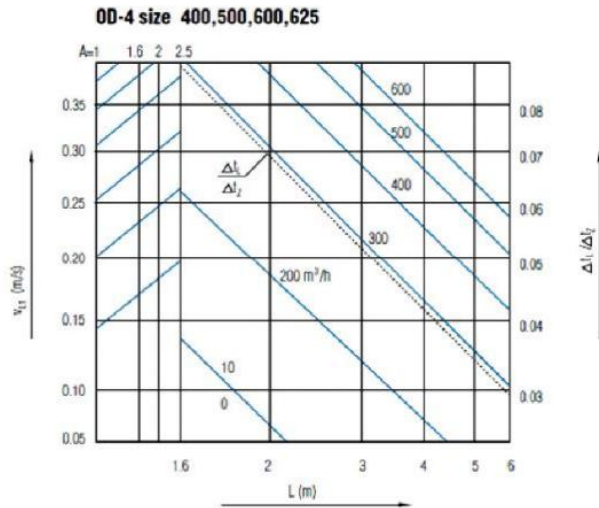
Size	D in	D out	Face size	Area eff
300	84	254	295	0.0145
400	92	395	395	0.0301
500	150	450	495	0.0386
600	170	540	595	0.0580
625	170	540	620	0.0580



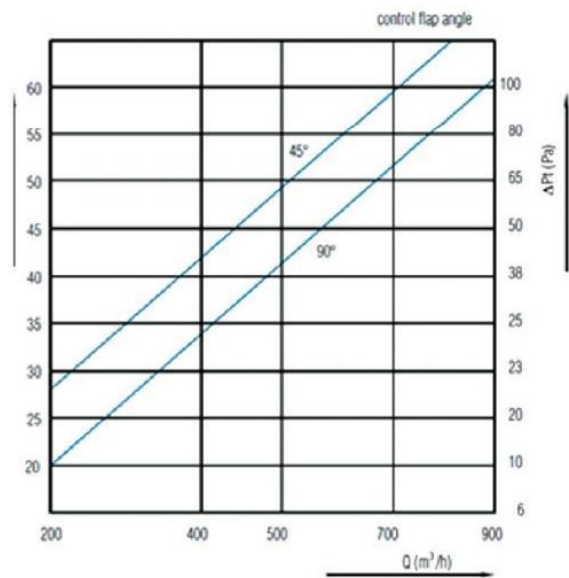
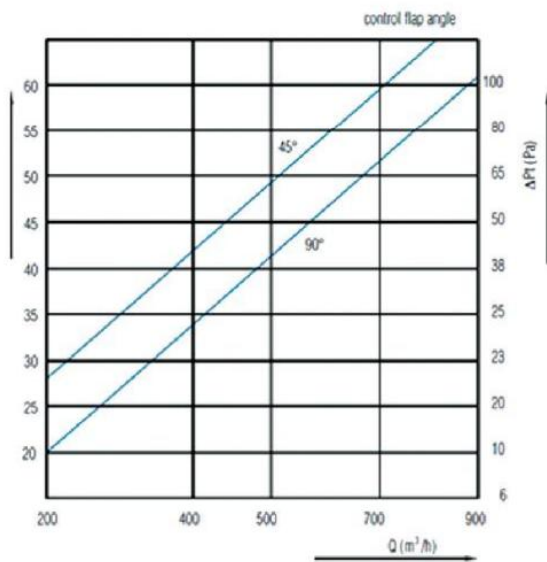
1. PLENUM BOX
2. INLET SPIGOT
3. SPIGOT DAMPER
4. DIFFUSER

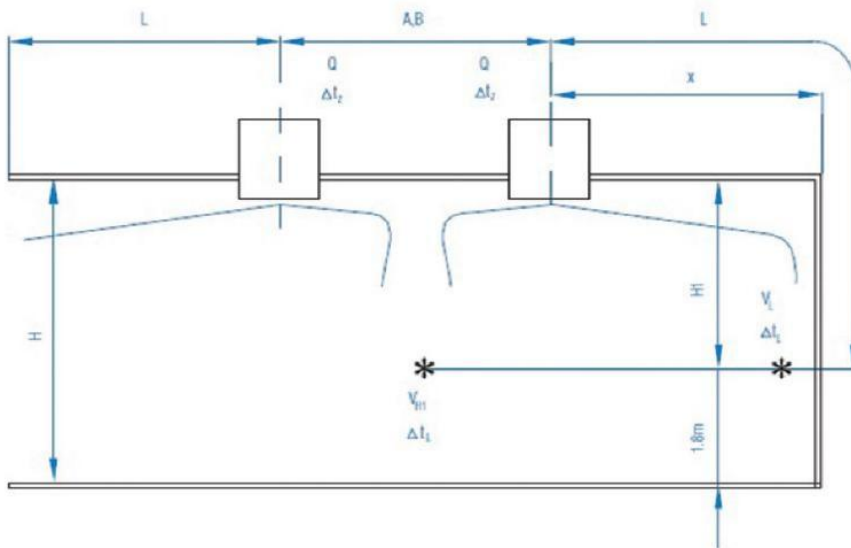


Size	Face size	w	H 1	h 1	H 2	Ød
300	295	325	240	137	200	158
400	395	390	290	167	240	198
500	495	390	290	167	240	198
600	595	590	325	177	240	248
625	620	590	325	177	240	248



Pressure drop and sound power level control flap angle: 90° - opened, 45° - half opened .





- Q (m³/h)** air volume per diffuser
- x (m)** horizontal distance to wall
- H (m)** room height
- H1 (m)** ceiling to living zone distance
- L (m)** throw distance ($L = H1 + x$)
- v_L (m/s)** air speed on the throw distance L
- Δt_₂ (K)** difference between room temperature and supply air temperature
- Δt_₁ (K)** difference between room temperature and air flow temperature on distance L
- Δp_t (Pa)** pressure drop
- L_{WA} (dB(A))** sound power level
- v_{H1} (m/s)** air speed on distance H1
- A, B (m)** distance between two diffusers (length and width)

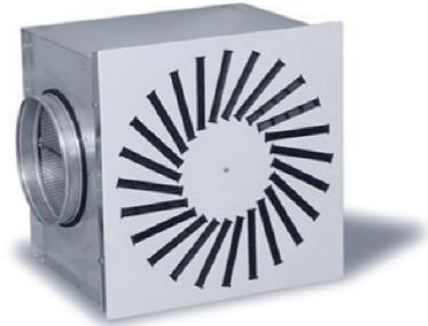
Quick selection table: ΔT = -10K

Size	Q (m³/h) Q (l/s)	150 42	200 56	250 69	300 83	400 111	500 139	600 167	700 194	800 222	900 250
300	H1=1m: v _{H1} (m/s)	0.16	0.23	0.29	0.44	/					
	H1=1.5m: v _{H1} (m/s)	/	0.10	0.14	0.22	/					
	L=3m: v _{L1} (m/s)	0.14	0.19	0.24	0.28	0.38					
	L=3.5m: v _{L1} (m/s)	0.12	0.16	0.20	0.24	0.32					
	Δp (Pa)	14.3	26.0	39.7	55.8	96.5					
	L _{WA} (dB(A))	26.6	34.3	40.9	46.8	52.7					
400	H1=1m: v _{H1} (m/s)	/	/	0.27	0.33	0.47	/				
	H1=1.5m: v _{H1} (m/s)	/	/	0.13	0.16	0.24	0.31				
	L=3m: v _{L1} (m/s)	/	0.14	0.18	0.21	0.28	/				
	L=3.5m: v _{L1} (m/s)	/	0.12	0.15	0.18	0.24	0.3				
	Δp (Pa)	/	7.1	11.9	17.2	29.5	44.5				
	L _{WA} (dB(A))	/	19.3	24.1	28.9	36.5	44.0				
500	H1=1m: v _{H1} (m/s)	/	/	/	0.20	0.29	0.38	0.48			
	H1=1.5m: v _{H1} (m/s)	/	/	/	/	0.14	0.19	0.24			
	L=3m: v _{L1} (m/s)	/	0.11	0.14	0.17	0.23	0.29	0.34			
	L=3.5m: v _{L1} (m/s)	/	/	0.12	0.15	0.20	0.24	0.29			
	Δp (Pa)	/	/	/	10.8	20.7	32.1	45.2			
	L _{WA} (dB(A))	/	14.6	19.4	24.6	32.6	39.7	45.8			
600	H1=1m: v _{H1} (m/s)	/	/	/	/	0.22	0.30	0.38	0.45	0.52	
	H1=1.5m: v _{H1} (m/s)	/	/	/	/	/	0.14	0.21	0.23	0.27	
	L=3m: v _{L1} (m/s)	/	/	0.14	0.17	0.23	0.30	0.34	0.40	0.45	
	L=3.5m: v _{L1} (m/s)	/	/	0.12	0.14	0.19	0.24	0.29	0.34	0.39	
	Δp (Pa)	/	/	/	/	10.5	18.0	26.1	35.0	44.7	
	L _{WA} (dB(A))	/	/	16.1	19.6	26.0	32.6	37.7	41.7	45.2	
625	H1=1m: v _{H1} (m/s)	/	/	/	/	0.22	0.30	0.38	0.45	/	/
	H1=1.5m: v _{H1} (m/s)	/	/	/	/	/	0.14	0.19	0.23	0.27	0.35
	L=3m: v _{L1} (m/s)	/	/	/	/	0.23	0.28	0.34	0.40	0.45	0.51
	L=3.5m: v _{L1} (m/s)	/	/	/	/	0.19	0.24	0.29	0.34	0.39	0.45
	Δp (Pa)	/	/	/	/	10.5	18.0	26.1	35.0	44.7	55.2
	L _{WA} (dB(A))	/	/	/	/	26.0	32.6	37.7	41.7	45.2	48.5

SWIRL DIFFUSERS AND-GI-SW2

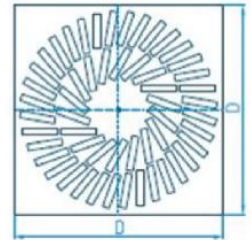
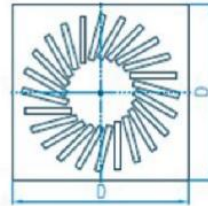
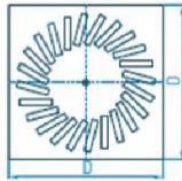
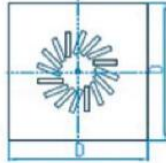
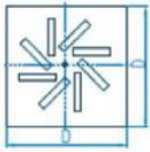
Construction

Steel face plate with fixed slots plenum box with inlet spigot .
spidot damper blades externally or internally oper
plastic deflector .



According to number of slots it can be classified into:-

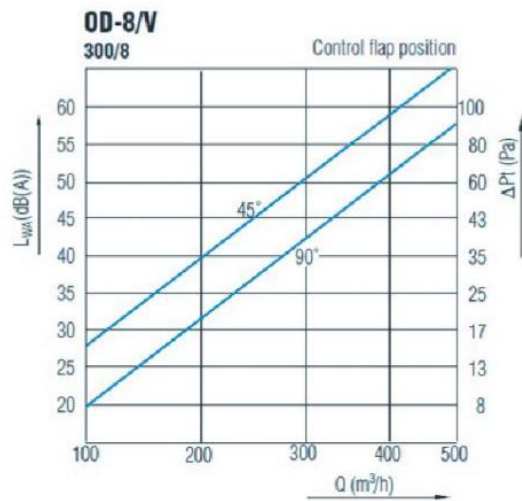
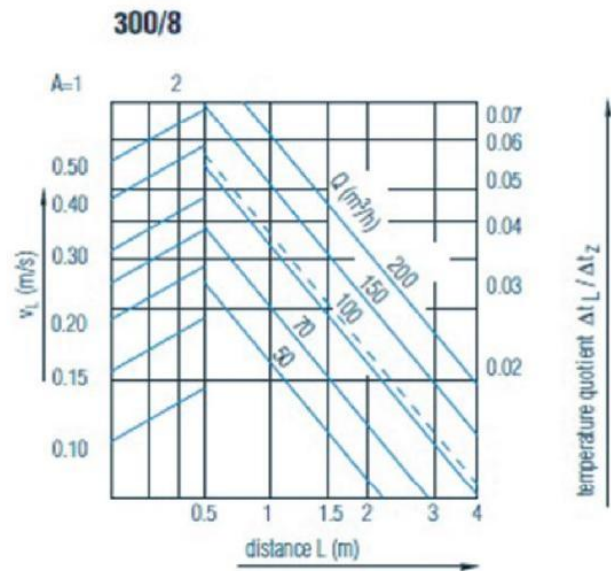
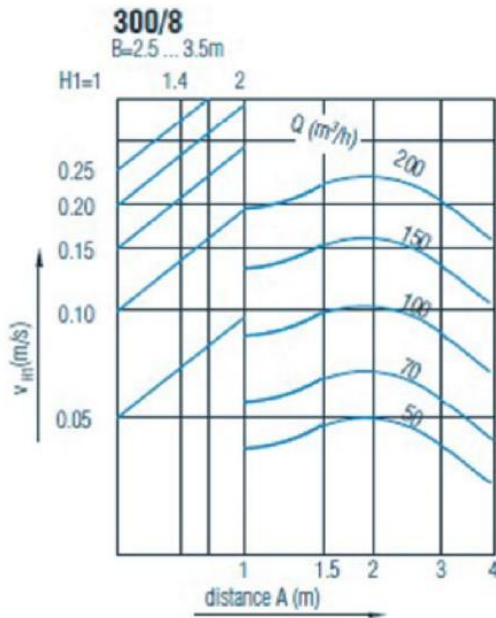
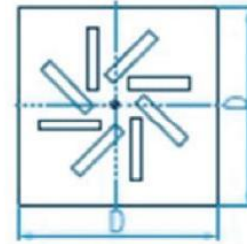
- 8- slot type
- 16- slot type
- 24- slot type
- 48- slot type



Finish : standard white ral 9010 or any other colour as require .

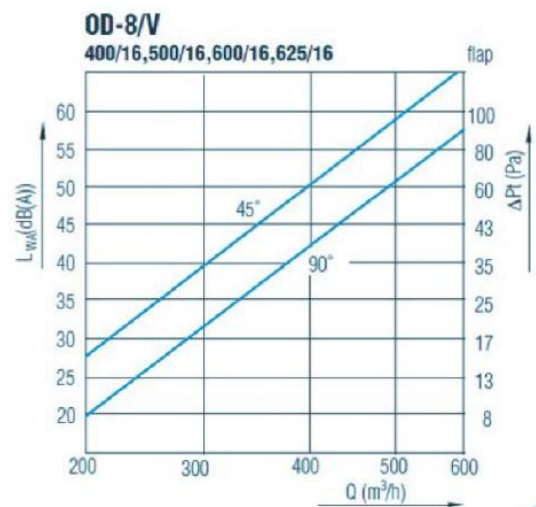
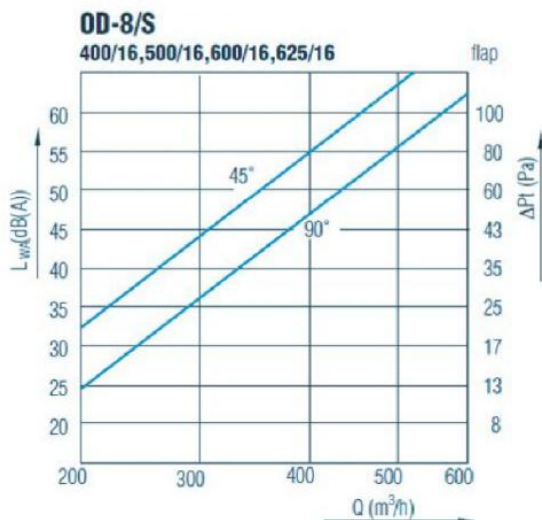
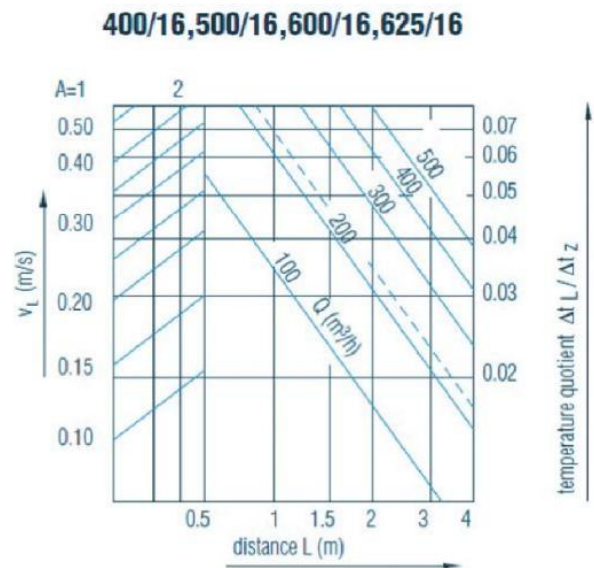
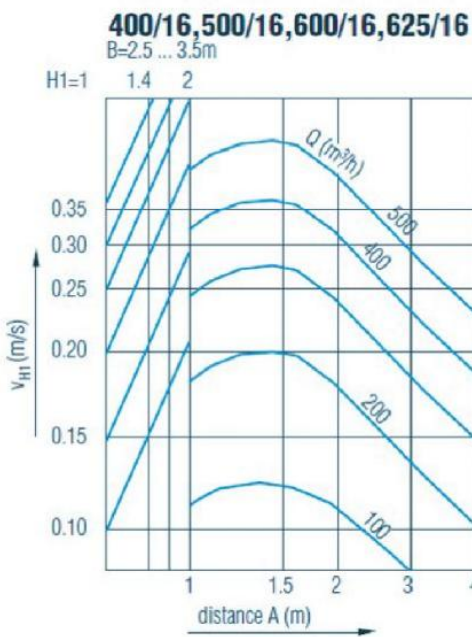
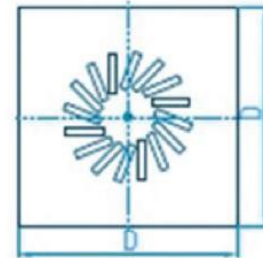
SLOT 8

Size	ØD	Area eff
300	295	0.009464



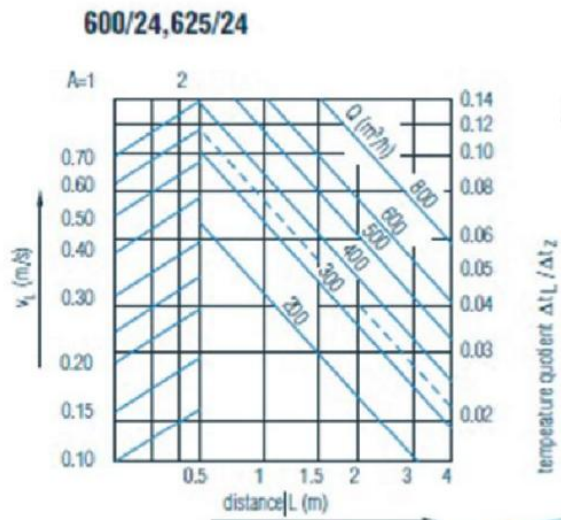
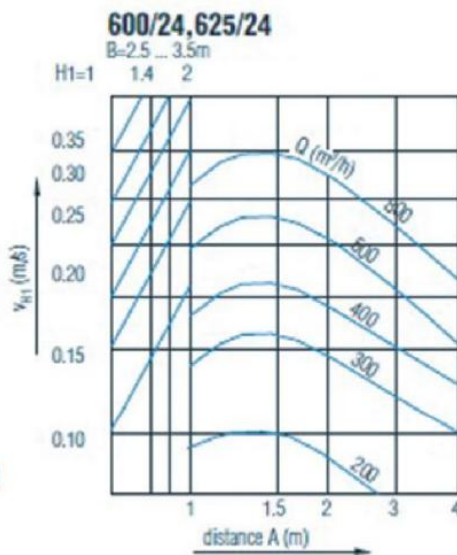
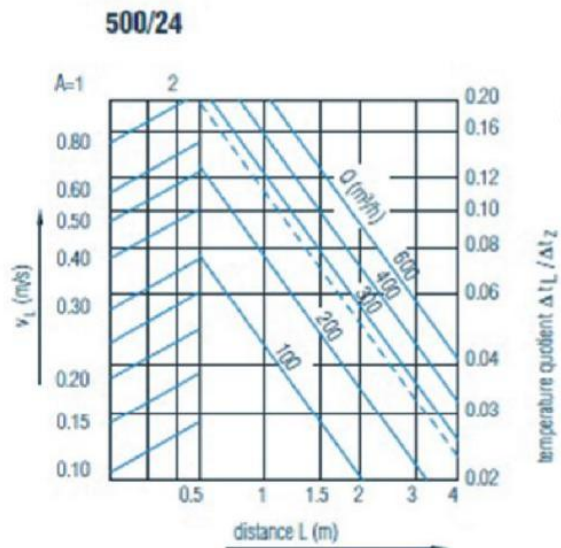
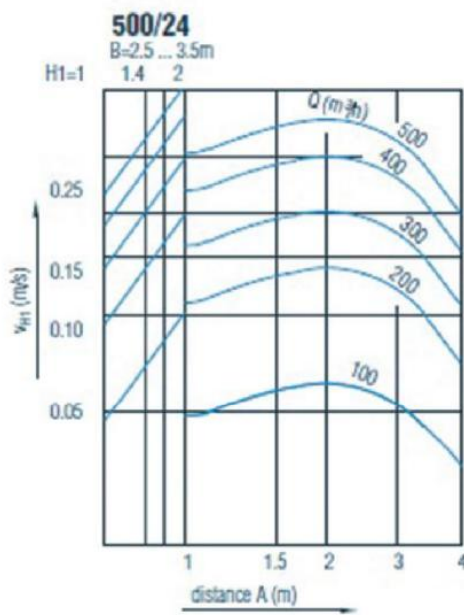
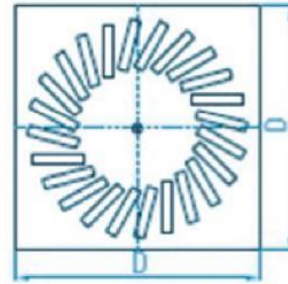
SLOT 16

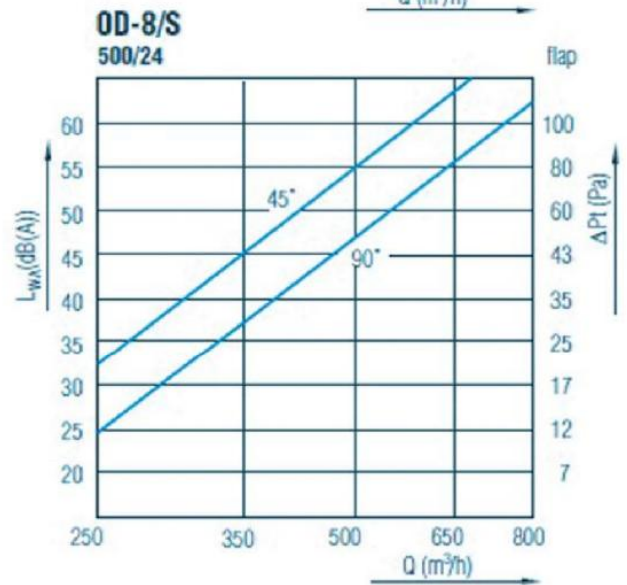
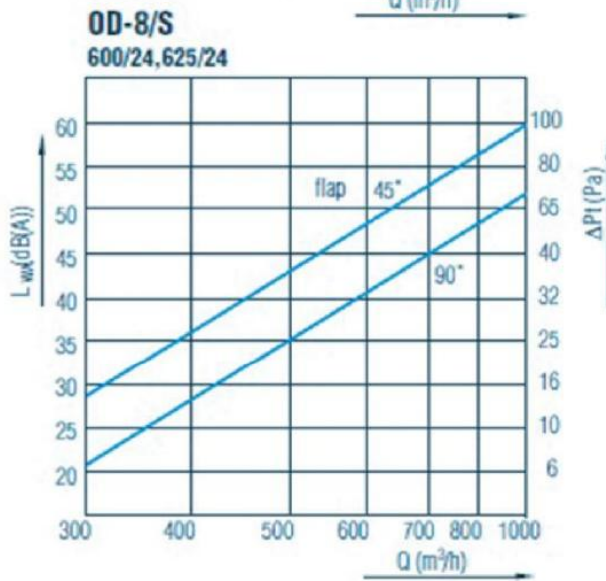
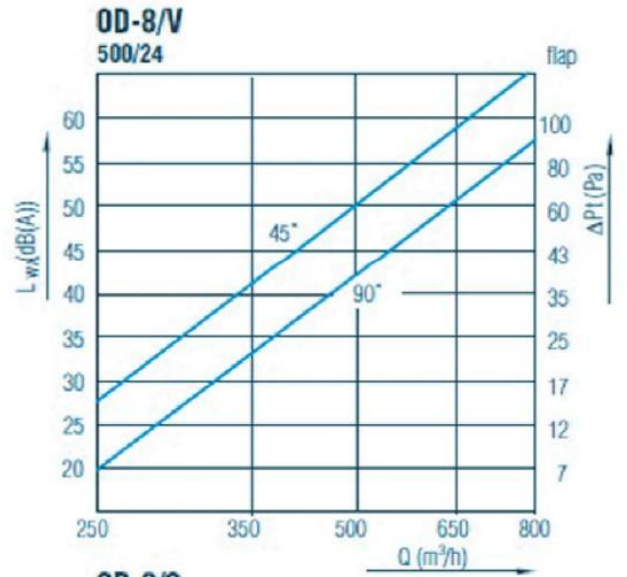
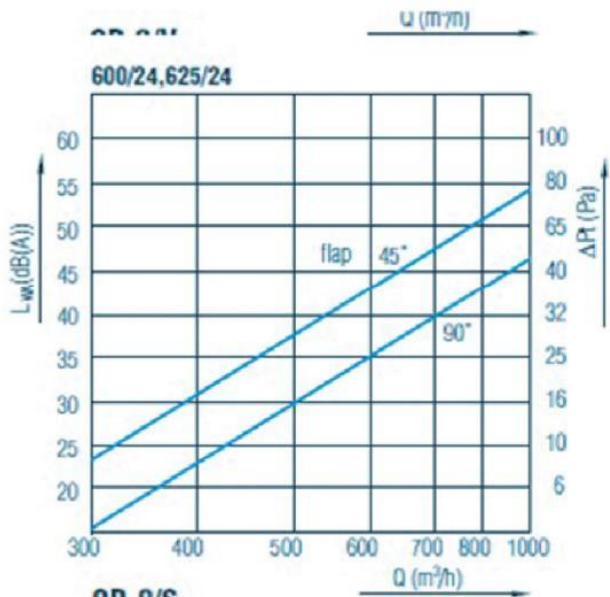
Size	ØD	Area eff
400	395	0.018928
500	495	
600	595	
625	620	



SLOT 24

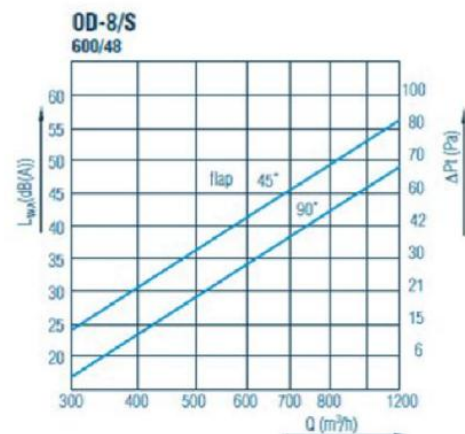
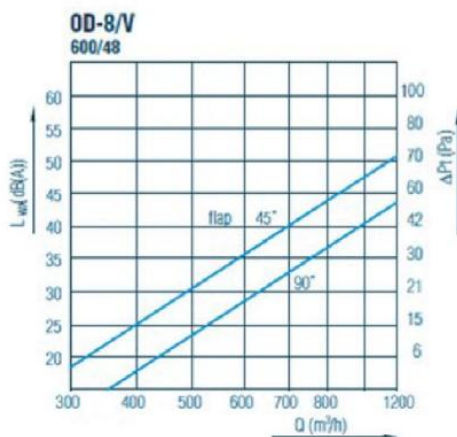
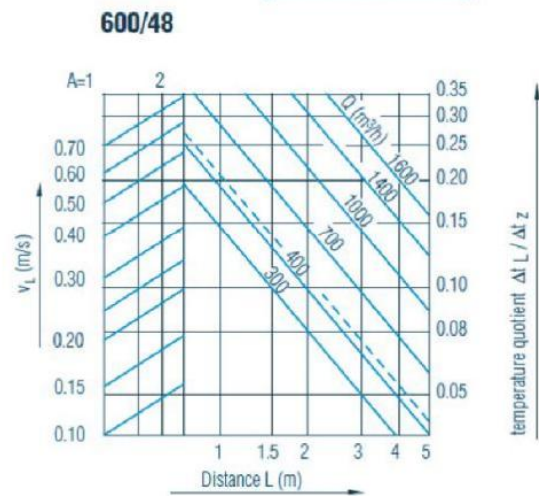
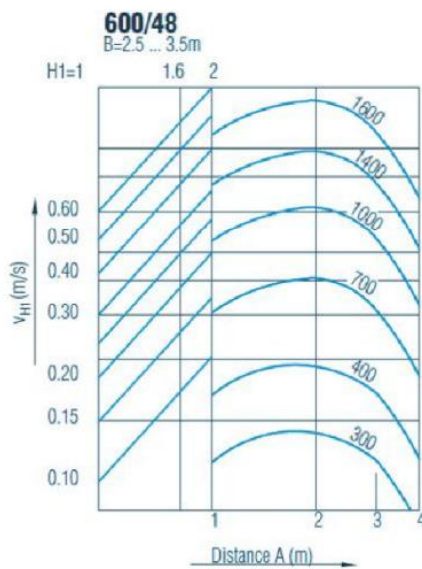
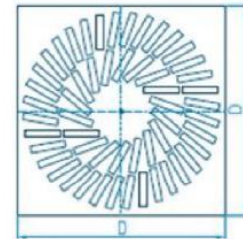
Size	ØD	Area eff
500	495	0.028392
600	595	0.044928
625	620	



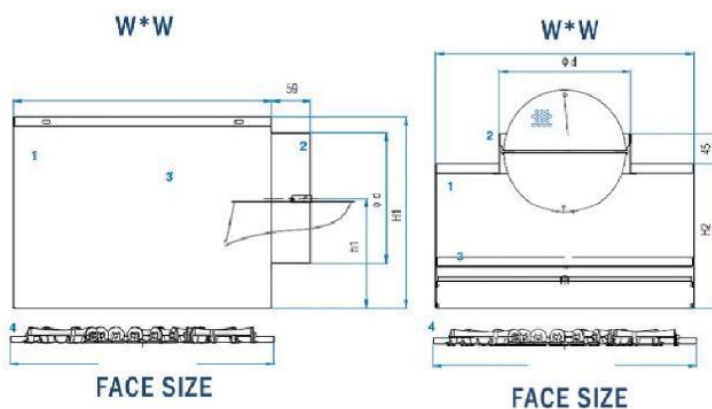


SLOT 48

Size	ØD	Area eff
600	595	0.056784



- 1. PLENUM BOX
- 2. INLET SPIGOT
- 3. SPIGOT DAMPER
- 4. DIFFUSER



Size	Face size	W	H1	h1	H2	∅d
300/8	295	325	240	137	200	158
400/16	395	390	290	167	240	198
500/16	495					
600/16	595					
625/16	620					
500/24	495	590	325	177	240	248
600/24	595					
625/24	620					
600/48	595					