Air through perfection

Double deflection grille

DD-T

ACP
Smoke evacuation grilles

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DD-T

Description

DD-T is a double deflection grille, made of galvanized steel, with individually adjustable blades.

The grille is used for introducing or evacuating air and is intended for mounting on a ceiling, wall or rectangular duct.

Technical specifications

Characteristics

The grille is equipped with two rows of individually adjustable blades that allow the directing of the air jet.

The front blades are perpendicular to the length.

Grilles with dimensions > 625 mm are built with intermediate crossbar for stiffening. Large products can have multiple crossbars.

The grille is made with mounting holes.

The standard finish is natural galvanized steel.

Dimensional limits: minimum 100 x 50 and maximum 1600 x 1600 mm.

Materials

The grille is made of galvanized steel with natural finishing.

On request, the product can be painted in electrostatic field in any shade from the RAL palette.

Technical drawing

Accessories

The grille can be delivered with a connecting plenum to the circular duct, with horizontal or vertical connection.

The plenum is provided with suspension elements (lugs) and bead roll on the spigot, for easy fixing of the flexible duct.

The air flow control can be adjusted by mounting an OBD control damper on the grille connection.

Adapter (plenum box)

Horizontal connection
(side/lateral exit)

Vertical connection
(opposite exit)

L_A X H_A – depending on L x H grille
A, B, H1 - depending on demand and ØD

The adapter is made of Z140 galvanized steel sheet and is equipped with suspension lugs.

W - Suspension lug

On request, the plenum can be insulated with 6 mm thick elastomeric rubber.

AN - Uninsulated adapter

AIZ - Insulated adapter

Opposed blade damper OBD

The damper is provided with opposable blades and gears, it is mounted on the grille connection. Depending on the size required, it is made and delivered in one or more pieces.

L x H	Opposed blade damper																			
[mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
85	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
100	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
150	-	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
200	-	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
300	-	-	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
400	-	-	-	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	4	4
500	-	-	-	-	1	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4
600	-	-	-	-	-	2	2	4	4	4	4	4	4	4	4	4	5	5	5	5

Functional parameters

Air flow [m³/h]	L x H [mm]	200 x 100	250 x 100	300 x 100	250 x 150	400 x 100	300 x 150	500 x 100	400 x 150	500 x 150	400 x 200	600 x 150	500 x 200	600 x 200	800 x 200	600 x 300	800 x 300	1000 x 300
	Ak [m²]	0.0094	0.012	0.0147	0.0196	0.0198	0.024	0.025	0.0323	0.0407	0.0439	0.0494	0.0553	0.0671	0.0882	0.1053	0.1385	0.1749
160	Veff [m/s]	4.73	3.70	3.02	2.27													
	ΔPt [Pa]	18.00	12.00	7.50	4.50													
	X [m]	2.85	2.60	2.25	1.90													
	NR [dB(A)]	20.00	18.00	15.00	10.00													
200	Veff [m/s]	5.91	4.63	3.78	2.83	2.81	2.31											
	ΔPt [Pa]	29.50	18.00	12.00	6.50	6.50	4.40											
	X [m]	3.50	3.10	2.80	2.40	2.42	2.25											
	NR [dB(A)]	24.00	20.00	18.00	14.00	14.00	12.00											
250	Veff [m/s]	7.39	5.79	4.72	3.54	3.51	2.9											
	ΔPt [Pa]	44.00	27.00	19.00	11.00	11.00	8.0											
	X [m]	4.40	4.10	3.55	3.00	2.95	2.8											
	NR [dB(A)]	29.00	26.00	20.00	16.00	15.00	13.00											
300	Veff [m/s]	8.87	6.94	5.67	4.25	4.21	3.47	3.33	2.58									
	ΔPt [Pa]	64.50	38.50	26.00	14.50	14.00	10.50	9.50	5.20									
	X [m]	5.25	4.70	4.40	3.75	3.72	3.40	3.35	2.85									
	NR [dB(A)]	38.00	25.00	23.00	19.00	18.00	16.00	15.00	10.00									
350	Veff [m/s]	10.34	8.10	6.61	4.96	4.91	4.05	3.89	3.01	2.39								
	ΔPt [Pa]	86.00	53.00	35.50	20.00	20.00	14.00	12.50	7.50	5.50								
	X [m]	6.50	5.70	5.10	4.30	4.35	4.00	3.80	3.30	3.00								
	NR [dB(A)]	45.00	32.00	28.00	24.00	24.00	18.00	16.00	14.00	11.00								
400	Veff [m/s]		9.26	7.56	5.67	5.61	4.63	4.44	3.44	2.73	2.53	2.25						
	ΔPt [Pa]		68.00	46.00	26.00	26.00	18.00	17.00	9.50	6.50	5.50	4.20						
	X [m]		6.30	5.70	4.90	5.00	4.45	4.40	3.80	3.50	3.35	3.20						
	NR [dB(A)]		37.00	32.00	26.00	25.00	20.00	19.00	16.00	13.00	12.00	11.00						
500	Veff [m/s]			9.45	7.09	7.01	5.79	5.56	4.30	3.41	3.16	2.81	2.51					
	ΔPt [Pa]			72.00	41.00	39.50	28.00	25.00	15.50	9.50	8.50	6.50	5.20					
	X [m]			7.10	6.25	6.10	5.60	5.50	4.85	4.40	4.20	3.95	3.60					
	NR [dB(A)]			41.00	32.00	32.00	24.00	22.00	20.00	17.00	17.00	14.00	12.00					
600	Veff [m/s]			11.34	8.50	8.42	6.94	6.67	5.16	4.10	3.80	3.37	3.01	2.48	1.89			
	ΔPt [Pa]			100.00	58.00	56.00	38.50	35.00	22.00	14.00	12.00	10.00	7.50	6.00	3.50			
	X [m]			8.60	7.50	7.50	6.70	6.65	5.80	5.10	4.90	4.60	4.50	4.00	3.55			
	NR [dB(A)]			46.00	39.00	38.00	31.00	30.00	24.00	20.00	18.00	16.00	14.00	12.00	8.00			
700	Veff [m/s]					9.82	8.10	7.78	6.02	4.78	4.43	3.94	3.52	2.90	2.20	1.85		
	ΔPt [Pa]					77.00	53.00	49.00	30.00	19.00	15.50	12.00	11.00	8.00	4.20	4.00		
	X [m]					8.60	7.90	7.70	6.70	6.05	5.70	5.30	5.10	4.60	4.05	3.70		
	NR [dB(A)]					44.00	37.00	34.00	29.00	25.00	22.00	18.00	17.00	13.00	11.00	7.00		
800	Veff [m/s]					11.22	9.26	8.89	6.88	5.46	5.06	4.50	4.02	3.31	2.52	2.11		
	ΔPt [Pa]					100.00	68.00	64.00	38.00	24.00	21.00	16.00	14.00	10.00	5.50	4.80		
	X [m]					9.80	9.00	8.80	7.70	7.00	6.60	6.20	6.00	5.30	4.60	4.30		
	NR [dB(A)]					49.00	42.00	39.00	34.00	29.00	25.00	22.00	18.00	15.00	12.00	9.00		
900	Veff [m/s]						10.42	10.00	7.74	6.14	5.69	5.06	4.52	3.73	2.83	2.37	1.81	
	ΔPt [Pa]						87.00	80.00	47.00	31.00	28.00	20.00	18.00	11.00	6.00	5.00	3.50	
	X [m]						10.00	9.00	8.70	7.80	7.50	7.10	6.60	6.00	5.25	4.80	4.30	
	NR [dB(A)]						45.00	44.00	38.00	34.00	31.00	25.00	22.00	18.00	15.00	12.00	7.00	
1000	Veff [m/s]							11.11	8.60	6.83	6.33	5.62	5.02	4.14	3.15	2.64	2.01	1.59
	ΔPt [Pa]							100.00	59.00	38.00	33.00	26.00	20.00	15.00	9.00	5.20	3.50	2.50
	X [m]							11.00	9.70	8.70	8.30	7.80	7.50	6.70	5.80	5.40	4.60	4.20
	NR [dB(A)]							47.00	42.00	38.00	34.00	30.00	26.00	20.00	17.00	15.00	12.00	6.00
1200	Veff [m/s]								10.32	8.19	7.59	6.75	6.03	4.97	3.78	3.17	2.41	1.91
	ΔPt [Pa]								86.00	55.00	46.00	38.00	30.00	19.00	13.00	9.00	5.50	3.50
	X [m]								11.50	10.40	10.10	9.35	8.90	8.10	7.00	6.35	5.70	5.00
	NR [dB(A)]								48.00	44.00	41.00	36.00	32.00	22.00	19.00	17.00	13.00	8.00
1400	Veff [m/s]									9.56	8.86	7.87	7.03	5.80	4.41	3.69	2.81	2.22
	ΔPt [Pa]									74.00	63.00	49.00	41.00	28.00	15.00	13.00	7.00	4.00
	X [m]									12.00	11.60	11.10	10.30	9.40	8.30	7.50	6.50	5.90
	NR [dB(A)]									50.00	47.00	42.00	37.00	27.00	23.00	19.00	15.00	12.00
1800	Veff [m/s]											10.12	9.04	7.45	5.67	4.75	3.61	2.86
	ΔPt [Pa]											82.00	67.00	44.00	25.00	19.00	10.00	6.50
	X [m]											14.00	13.30	12.20	10.50	9.70	8.50	7.55
	NR [dB(A)]											52.00	48.00	36.00	31.00	26.00	19.00	15.00
2000	Veff [m/s]												10.05	8.28	6.30	5.28	4.01	3.18
	ΔPt [Pa]												82.00	54.00	32.00	23.00	14.00	8.00
	X [m]												14.80	13.50	11.60	10.80	9.60	8.30
	NR [dB(A)]												52.00	40.00	33.00	24.00	23.00	18.00
2500	Veff [m/s]													10.35	7.87	6.59	5.01	3.97
	ΔPt [Pa]													86.00	50.00	34.00	22.00	12.00
	X [m]													16.80	14.70	13.30	11.80	10.40
	NR [dB(A)]													48.00	40.00	33.00	28.00	27.00
3000	Veff [m/s]														9.45	7.91	6.02	4.76
	ΔPt [Pa]														72.00	50.00	30.00	18.00
	X [m]														17.60	16.20	14.00	12.60
	NR [dB(A)]														47.00	40.00	30.00	28.00
3500	Veff [m/s]															9.23	7.02	5.56
	ΔPt [Pa]															69.00	40.00	24.00
	X [m]															18.90	16.30	14.70
	NR [dB(A)]															47.00	34.00	30.00
4000	Veff [m/s]																8.02	6.35
	ΔPt [Pa]																52.00	34.00
	X [m]																18.70	16.80
	NR [dB(A)]																35.00	33.00

The legend
Ak [m²] - The free surface
Veff [m/s] - The effective air speed in the grille
ΔPt [Pa] - Pressure loss
X [m] - The length of the air jet at a speed of 0.25 m/s
NR [dB (A)] - Noise level without room attenuation
The data presented is for 100% open damper

Installation

The mounting/fixing of the grille is done with screws.

Wall/ceiling mounting with screws

Order code

Example on how to place an order

Type	Dimensions	Accessories	Finish
DD-T			
	On request		
		AIZ - Insulated adapter	
		AN - Uninsulated adapter	
		OBD - Control damper	
			Natural (galvanized steel)
			RAL..- Other RAL colors on request