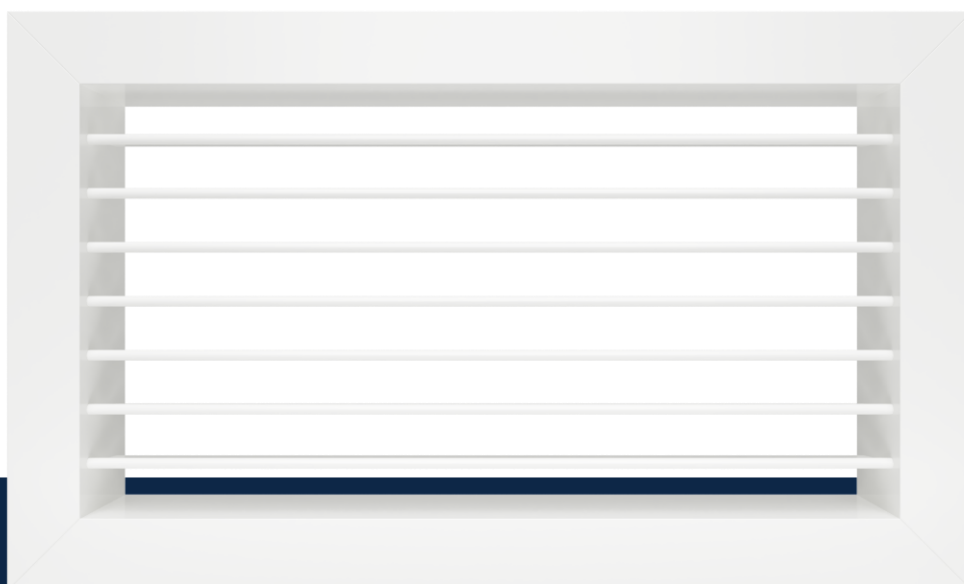


Air through perfection

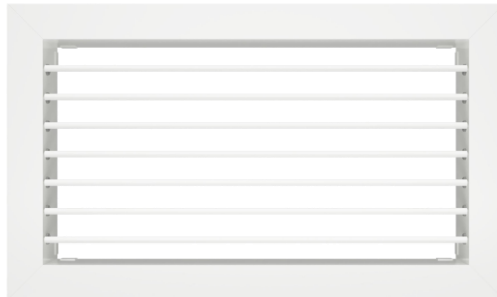
Return grille

DD-I



ACP
Grilles

Return grille DD-1



Description

DD-1 is an aluminum grille with individually adjustable blades.

The DD-1 grille is designed for wall, ceiling or rectangular duct mounting and can be used for introduction or evacuation of air.

Technical specifications

Characteristics

The grille is provided with a row of individually adjustable blades, parallel to the "L" (length) that allow the direction of the air jet.

For lengths ≥ 500 mm, the grille is provided with intermediate elements for stiffening.

As standard, the grille is manufactured with holes for screw mounting, except for the size 595x595 mm (external dimensions) for the false ceiling 600x600 mm.

The product is delivered with fixing screws.

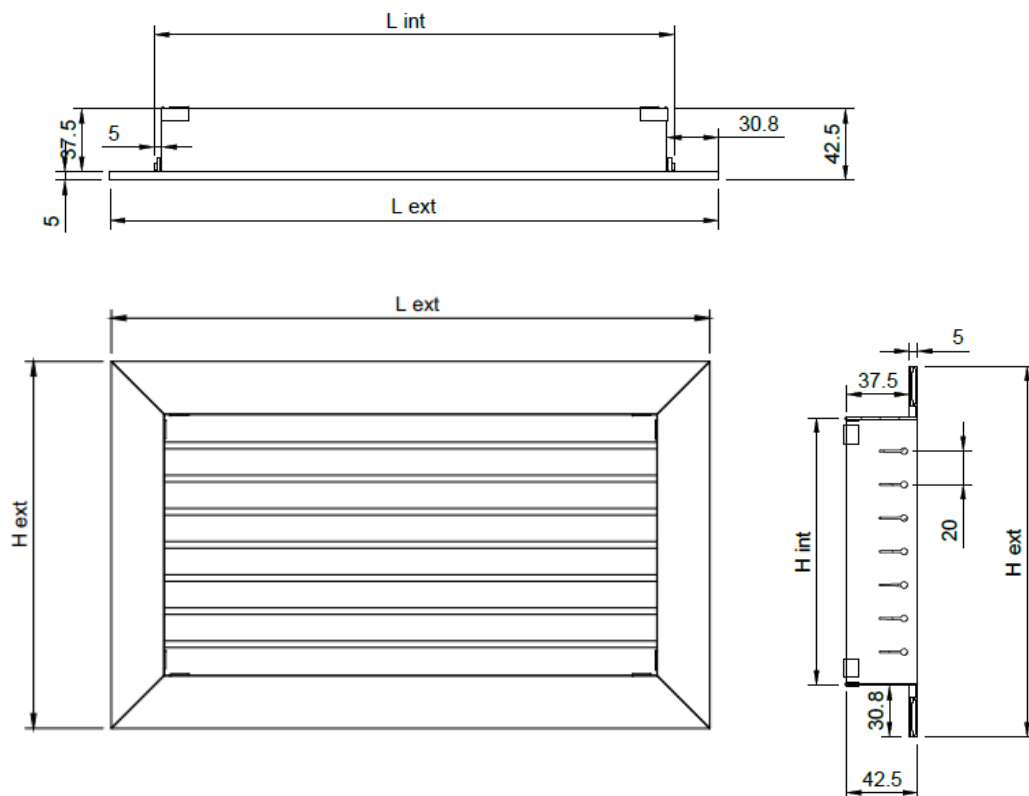
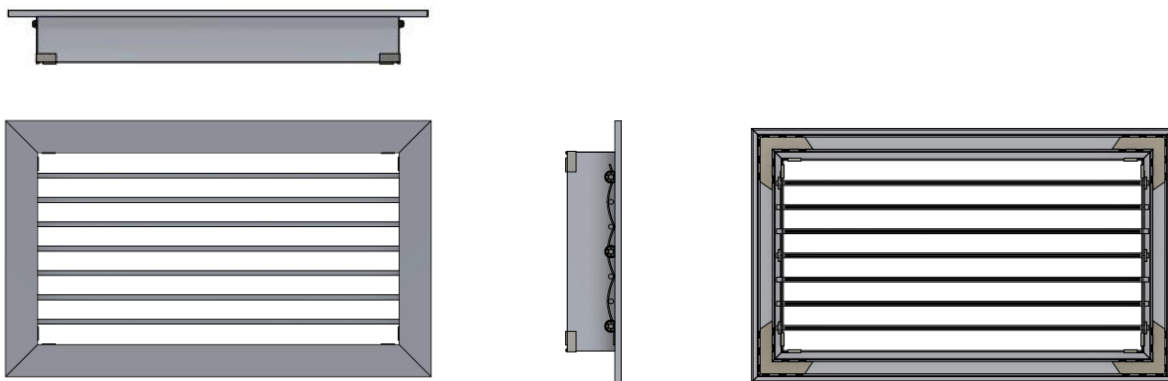
If, on request, a mounting frame is required, then the grille is accessorized with fixing clips.

Materials

The grille is made of extruded aluminum electrostatic field painted in glossy white RAL 9016.

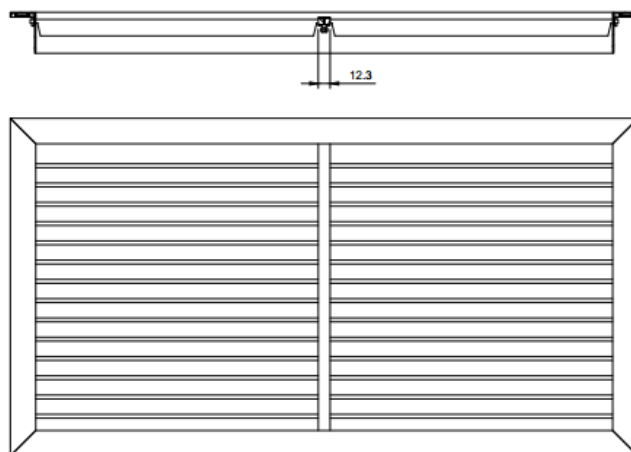
On request, the grille can be painted in other shades from the RAL palette.

Technical drawing

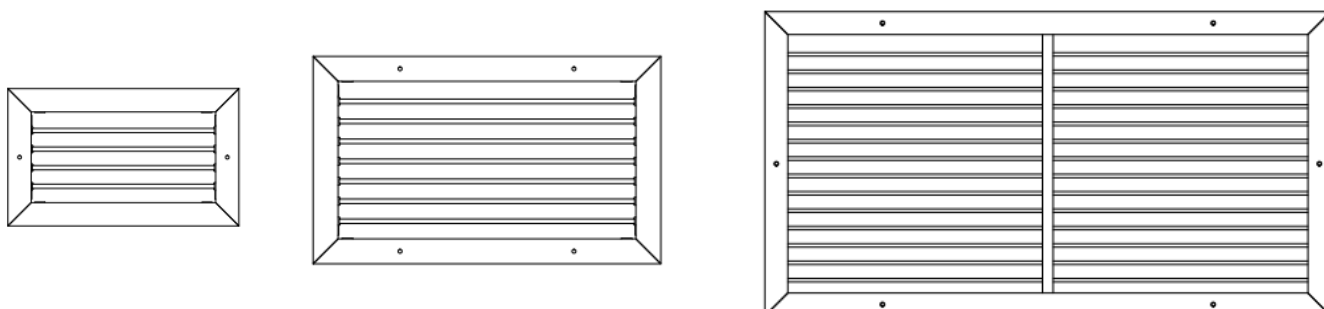


Product specifications

Grilles with dimensions ≥ 500 mm are made with intermediate elements for stiffening (blades are split in two or more segments).



The grille is made standard with mounting holes positioned on the product frame. The number of holes and their position are made according to the size of the product, according to the pictures and table.



L x H [mm]	Number of holes																			
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
85	2	2	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
100	2	2	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
150	-	2	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
200	-	2	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
300	-	-	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
400	-	-	-	4	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
500	-	-	-	-	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
600	-	-	-	-	-	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8

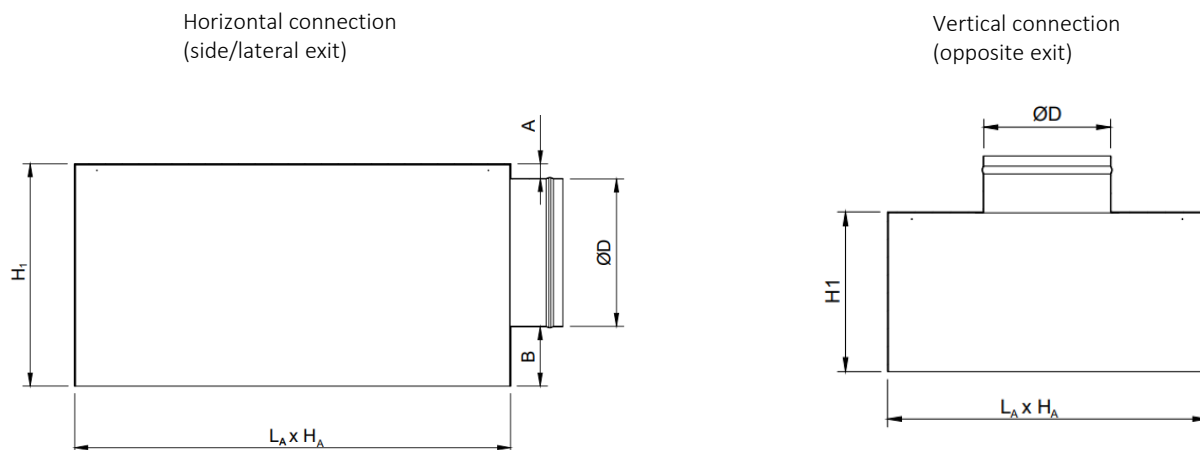
Accessories

The grille can be accessorized with plenum box (adapter), opposed blade damper, mounting frame or G4 air filter.

Adapter (plenum box)

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.

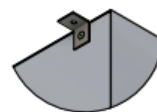
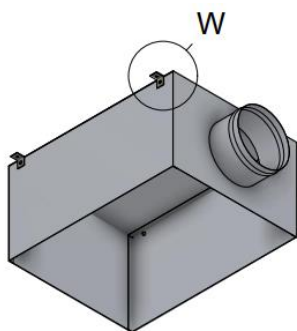


* For fixing with screws: $L_A \times H_A = L_{int} \times H_{int} \text{ grille} + 5 \text{ mm}$

* For fixing with mounting frame: $L_A \times H_A = L_c \times H_c \text{ mounting frame} + 3 \text{ mm}$

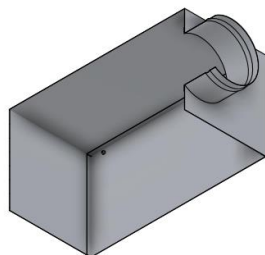
A, B, H_1 – depending on demand and $\varnothing D$

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

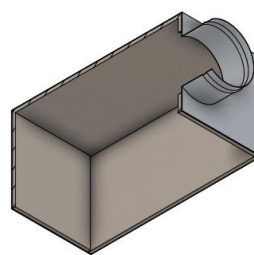


W - Suspension lug

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

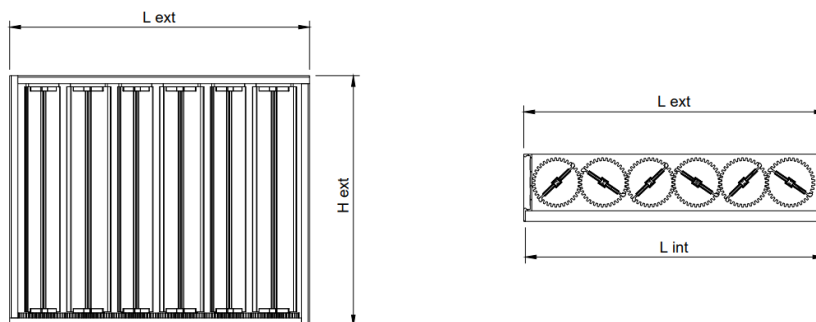


AN - Uninsulated adapter



AIZ - Insulated adapter

Opposed blade damper (OBD)

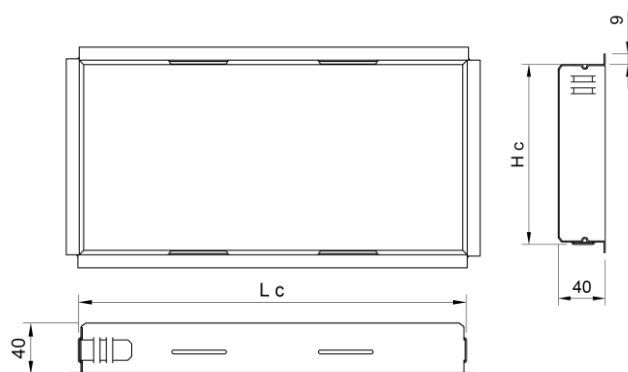


The damper is provided with opposable blades and gears, it is mounted on the grille connection for adjusting the air flow. The large dimensions are made in several pieces according to the table.

L x H [mm]	Opposed blade damper																			
	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

Mounting frame (CC)

The mounting frame is used when a hidden, easy and fast installation of the grille is desired. Depending on the size required, it is made and delivered in one or more pieces.

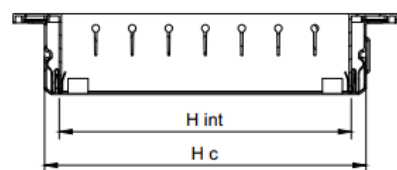
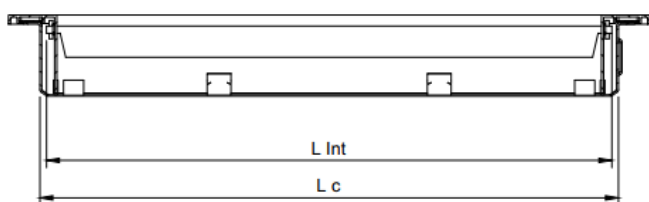


L x H [mm]	Mounting frame																			
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
85	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
100	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
150	-	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
200	-	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
300	-	-	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
400	-	-	-	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
500	-	-	-	-	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
600	-	-	-	-	-	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2

For installation with mounting frame, the grille is equipped with clips that allow quick and easy clamping. The number of clips with which the grille is equipped depends on the size of the product.

L x H [mm]	Number of mounting clips																			
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
85	2	2	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
100	2	2	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
150	-	2	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
200	-	2	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
300	-	-	4	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
400	-	-	-	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8	8	8
500	-	-	-	-	6	6	6	6	6	6	6	6	8	8	8	8	10	10	10	10
600	-	-	-	-	-	8	8	8	8	8	8	6	8	8	8	8	10	10	10	10

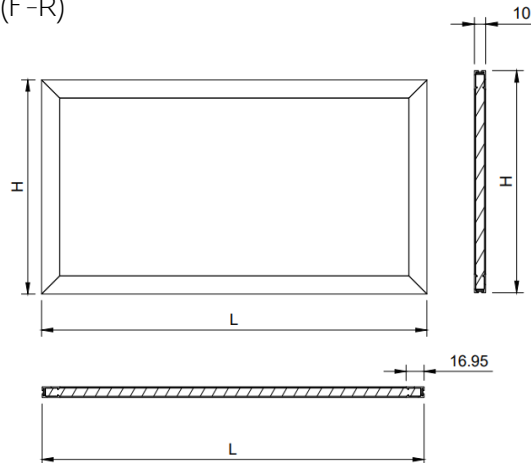
Example : DD-1 + CC



$L_c = L_{int} \text{ grille} + 8 \text{ mm}$

$H_c = H_{int} \text{ grille} + 18 \text{ mm}$

Air filter G4 with frame (F-R)



G4 air filter with aluminum frame, used for air filtration and mounting on the grille connection. The large dimensions are made in several pieces.

L x H [mm]	Air filter																			
	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
300	-	-	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
400	-	-	-	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
500	-	-	-	-	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
600	-	-	-	-	-	1	2	2	2	2	2	2	2	3	2	3	3	3	3	4

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]	0.0117	0.0149	0.0182	0.0243	0.0246	0.0298	0.0310	0.0401	0.0505	0.0544	0.0613	0.0686	0.0832	0.1094	0.1306	0.1717
160	Veff[m/s]	3.81	2.99	2.44	1.83													
	ΔPt [Pa]	10.62	7.08	4.42	2.65													
	X [m]	2.56	2.34	2.02	1.71													
	NR [dB(A)]	16.20	14.58	12.15	8.10													
200	Veff[m/s]	4.77	3.73	3.05	2.29	2.26	1.87											
	ΔPt [Pa]	17.40	10.62	7.08	3.83	3.83	2.60											
	X [m]	3.15	2.79	2.52	2.16	2.18	2.03											
	NR [dB(A)]	19.44	16.20	14.58	11.34	11.34	9.72											
250	Veff[m/s]	5.96	4.67	3.81	2.86	2.83	2.3											
	ΔPt [Pa]	25.96	15.93	11.21	6.49	6.49	4.7											
	X [m]	3.96	3.69	3.19	2.70	2.66	2.5											
	NR [dB(A)]	23.49	21.06	16.20	12.96	12.15	10.53											
300	Veff[m/s]	7.15	5.60	4.57	3.43	3.39	2.80	2.69	2.08									
	ΔPt [Pa]	38.05	22.71	15.34	8.55	8.26	6.20	5.60	3.07									
	X [m]	4.73	4.23	3.96	3.38	3.35	3.06	3.02	2.57									
	NR [dB(A)]	30.78	20.25	18.63	15.39	14.58	12.96	12.15	8.10									
350	Veff[m/s]	8.34	6.53	5.33	4.00	3.96	3.27	3.14	2.43	1.93								
	ΔPt [Pa]	50.74	31.27	20.95	11.80	11.80	8.26	7.38	4.42	3.24								
	X [m]	5.85	5.13	4.59	3.87	3.91	3.60	3.42	2.97	2.70								
	NR [dB(A)]	36.45	25.92	22.68	19.44	19.44	14.58	12.96	11.34	8.91								
400	Veff[m/s]		7.47	6.10	4.57	4.53	3.73	3.58	2.77	2.20	2.04	1.81						
	ΔPt [Pa]		40.12	27.14	15.34	15.34	10.62	10.03	5.60	3.84	3.24	2.48						
	X [m]		5.67	5.13	4.41	4.50	4.01	3.96	3.42	3.15	3.02	2.88						
	NR [dB(A)]		29.97	25.92	21.06	20.25	16.20	15.39	12.96	10.53	9.72	8.91						
500	Veff[m/s]			7.62	5.71	5.66	4.67	4.48	3.47	2.75	2.55	2.27	2.03					
	ΔPt [Pa]			42.48	24.19	23.30	16.52	14.75	9.14	5.60	5.01	3.83	3.07					
	X [m]			6.39	5.62	5.49	5.04	4.95	4.37	3.96	3.78	3.56	3.24					
	NR [dB(A)]			33.21	25.92	25.92	19.44	17.82	16.20	13.77	13.77	11.34	9.72					
600	Veff[m/s]			9.14	6.86	6.79	5.60	5.38	4.16	3.30	3.06	2.72	2.43	2.00	1.52			
	ΔPt [Pa]			59.00	34.22	33.04	22.71	20.65	12.98	8.26	7.08	5.90	4.42	3.54	2.06			
	X [m]			7.74	6.75	6.75	6.03	5.99	5.22	4.59	4.41	4.14	4.05	3.60	3.19			
	NR [dB(A)]			37.26	31.59	30.78	25.11	24.30	19.44	16.20	14.58	12.96	11.34	9.72	6.48			
700	Veff[m/s]				7.92	6.53	6.27	4.85	3.85	3.57	3.17	2.84	2.34	1.78	1.49			
	ΔPt [Pa]				45.43	31.27	28.91	17.70	11.21	9.14	7.08	6.49	4.72	2.48	2.36			
	X [m]				7.74	7.11	6.93	6.03	5.45	5.13	4.77	4.59	4.14	3.65	3.33			
	NR [dB(A)]				35.64	29.97	27.54	23.49	20.25	17.82	14.58	13.77	10.53	8.91	5.67			
800	Veff[m/s]					9.05	7.47	7.17	5.55	4.40	4.08	3.63	3.24	2.67	2.03	1.70		
	ΔPt [Pa]					59.00	40.12	37.76	22.42	14.16	12.39	9.44	8.26	5.90	3.54	2.95		
	X [m]					8.82	8.10	7.92	6.93	6.30	5.94	5.58	5.40	4.77	4.14	3.87		
	NR [dB(A)]					39.69	34.02	31.59	27.54	23.49	20.25	17.82	14.58	12.15	9.72	7.29		
900	Veff[m/s]						8.40	8.06	6.24	4.95	4.59	4.08	3.65	3.00	2.29	1.91	1.46	
	ΔPt [Pa]						51.33	47.20	27.73	18.29	16.52	11.80	10.62	6.49	3.54	2.95	2.06	
	X [m]						9.00	8.10	7.83	7.02	6.75	6.39	5.94	5.40	4.73	4.32	3.87	
	NR [dB(A)]						36.45	35.64	30.78	27.54	25.11	20.25	17.82	14.58	12.15	9.72	5.67	
1000	Veff[m/s]							8.96	6.94	5.50	5.10	4.53	4.05	3.34	2.54	2.13	1.62	1.28
	ΔPt [Pa]							59.00	34.81	22.42	19.47	15.34	11.80	8.85	5.31	2.95	2.06	1.47
	X [m]							9.90	8.73	7.83	7.47	7.02	6.75	6.03	5.22	4.86	4.14	3.78
	NR [dB(A)]							38.07	34.02	30.78	27.54	24.30	21.06	16.20	13.77	12.15	9.72	4.86
1200	Veff[m/s]								8.32	6.60	6.12	5.44	4.86	4.01	3.05	2.55	1.94	1.54
	ΔPt [Pa]								50.74	32.45	27.14	22.42	17.70	11.21	7.67	5.31	3.24	2.06
	X [m]								10.35	9.36	9.09	8.41	8.01	7.29	6.30	5.71	5.13	4.50
	NR [dB(A)]								38.88	35.64	33.21	29.16	25.92	17.82	15.39	13.77	10.53	6.48
1400	Veff[m/s]									7.71	7.14	6.35	5.67	4.67	3.56	2.98	2.26	1.79
	ΔPt [Pa]									43.66	37.17	28.91	24.19	16.52	8.85	7.67	4.13	2.36
	X [m]									10.80	10.44	9.99	9.27	8.46	7.47	6.75	5.85	5.31
	NR [dB(A)]									40.50	38.07	34.02	29.97	21.87	18.63	15.39	12.15	9.72
1800	Veff[m/s]											8.16	7.29	6.01	4.57	3.83	2.91	2.31
	ΔPt [Pa]											48.38	39.53	25.96	14.75	11.21	5.90	3.83
	X [m]											12.60	11.97	10.98	9.45	8.73	7.65	6.79
	NR [dB(A)]											42.12	38.88	29.16	25.11	21.06	15.39	12.15
2000	Veff[m/s]												8.10	6.68	5.08	4.25	3.23	2.56
	ΔPt [Pa]												48.38	31.86	18.88	13.57	8.26	4.72
	X [m]												13.32	12.15	10.44	9.72	8.64	7.47
	NR [dB(A)]												42.12	32.40	26.73	19.44	18.63	14.58
2500	Veff[m/s]													8.35	6.35	5.32	4.04	3.20
	ΔPt [Pa]													50.74	29.50	20.06	12.98	7.08
	X [m]													15.12	13.23	11.97	10.62	9.36
	NR [dB(A)]													38.88	32.40	26.73	22.68	21.87
3000	Veff[m/s]														7.62	6.38	4.85	3.84
	ΔPt [Pa]														42.48	29.50	17.70	10.62
	X [m]														15.84	14.58	12.60	11.34
	NR [dB(A)]														38.07	32.40	24.30	22.68
3500	Veff[m/s]															7.45	5.66	4.48
	ΔPt [Pa]															40.71	23.60	14.16
	X [m]															17.01	14.67	13.23
	NR [dB(A)]															38.07	27.54	24.30
4000	Veff[m/s]																6.47	5.12
	ΔPt [Pa]																30.68	20.06
	X [m]																16.83	15.12
	NR [dB(A)]																28.35	26.73

The legend

Ak [m²] - The free surface

Veff [m/s] - The effective velocity of air 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

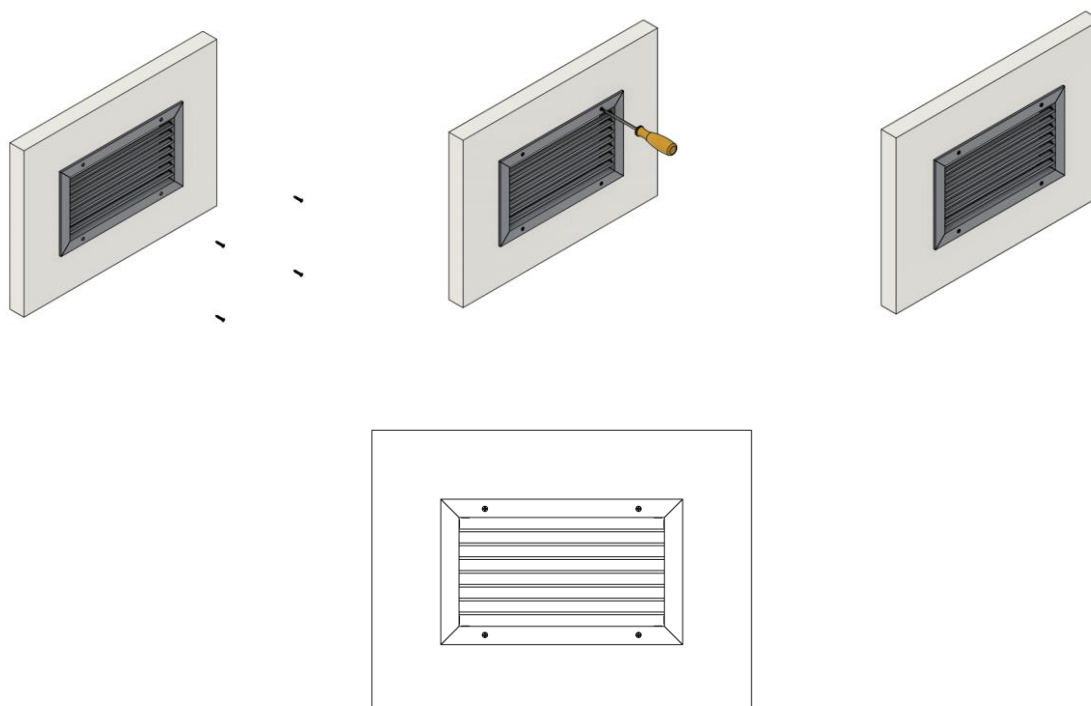
Installation

As standard the grille is mounted by means of screws.

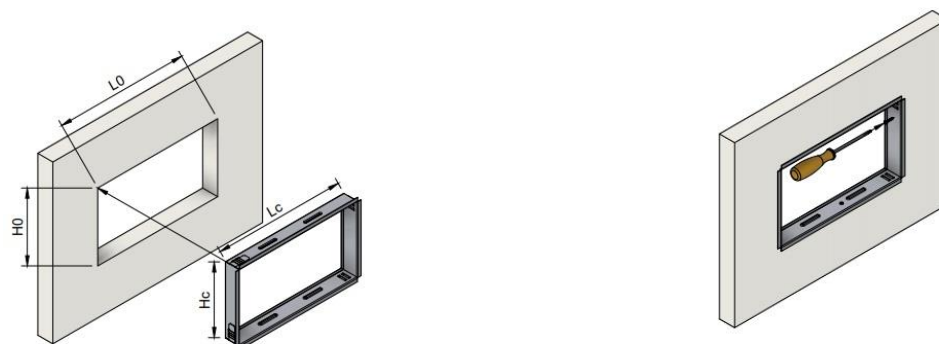
Optionally, for a hidden and easy assembly, a mounting frame can be used. The installation of the grille in the mounting frame is done by clamping.

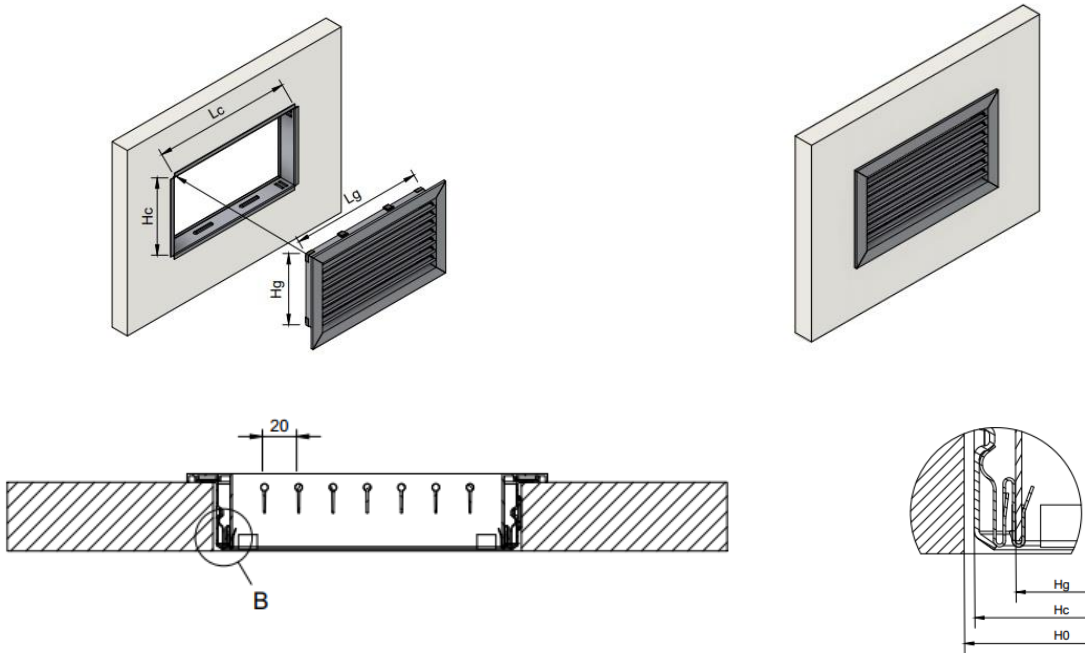
The grille with dimensions 595x595 mm (LxHext) is placed on the profile of the false suspended ceiling with size 600x600 mm (the product is made without holes).

Installation in wall or continuous ceiling with screws

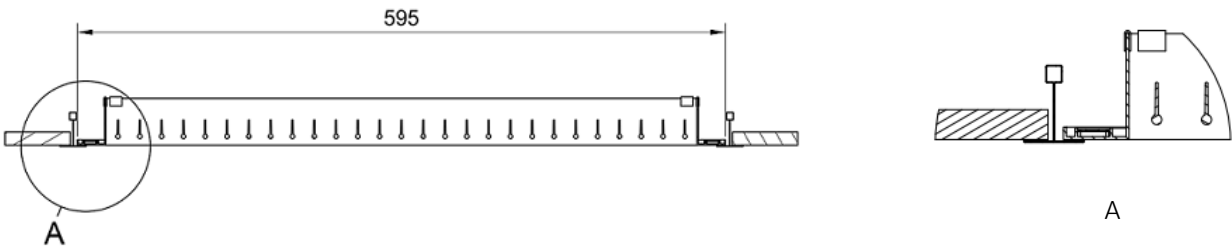


Installation in wall or continuous ceiling with mounting frame





Installation in T-bar suspended ceiling
DD-I 595X595 mm (external size)



Order code

Example on how to place an order

Type	Dimensions	Accessories	Mounting	Finish
DD-1				
On request				
OBD - Control damper				
F-R - Air filter G4				
AIZ - Insulated adapter				
AN - Uninsulated adapter				
Screws (standard)				
CC - Mounting frame (optional)				
RAL9016				
RAL...- Other RAL colors on request				