

Air through perfection

Gravitational grille

NRD



ACP
Grilles

Gravitational grille NRD



Description

NRD is a gravitational aluminum grille for overpressure with normally closed movable blades.

The grille is recommended for wall or end mounting of rectangular duct.

The product can be used for introducing or evacuating air.

Technical specifications

Characteristics

The grille has movable blades parallel to the "L" (length) and mounting holes.

The opening direction of the blades is towards the outside of the frame according to the image.

On request, the blades can be positioned in the opposite direction.

The grille blades open at overpressure.

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

The grille contains load-bearing sections made of anti-friction plastic and a gasket positioned along the length of the blades.

The product is delivered with fixing screws.

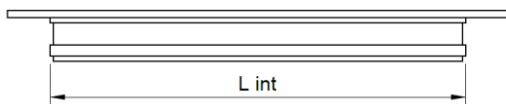
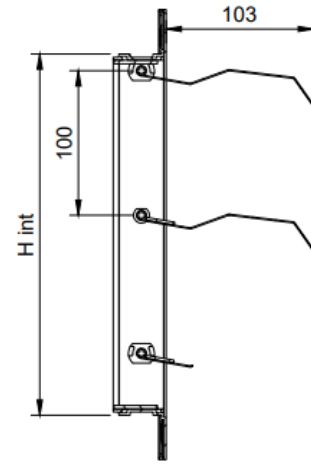
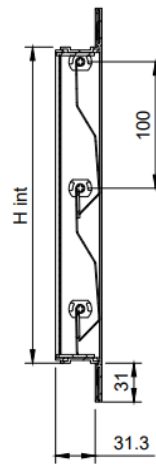
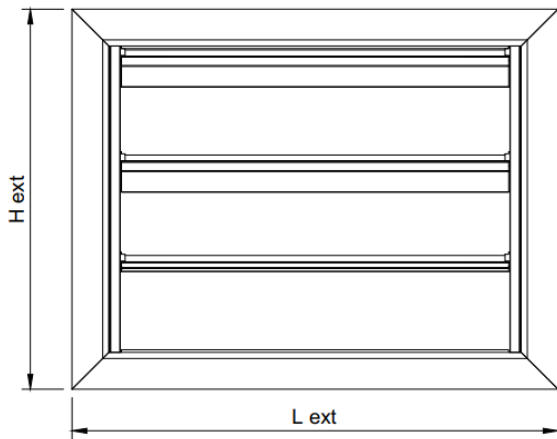
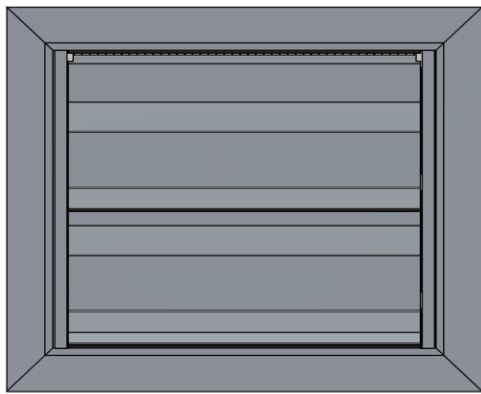
Dimensional limits: minimum dimensions 200x200 mm, the maximum built surface is 1 sqm with the condition H max = 1 m.

Materials

The grille is made of extruded aluminum profiles. The frame is made of anodized aluminum and the blades are made of natural aluminum.

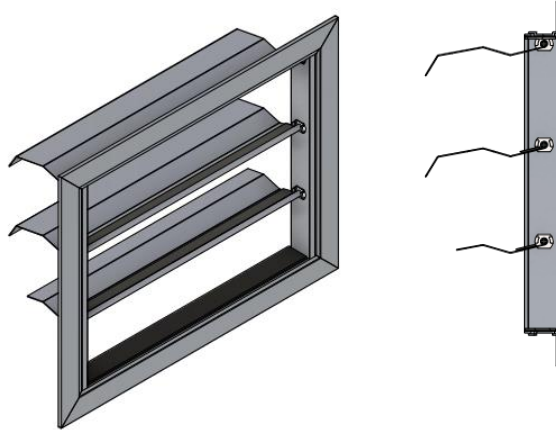
Plastic load-bearing sections.

Technical drawing



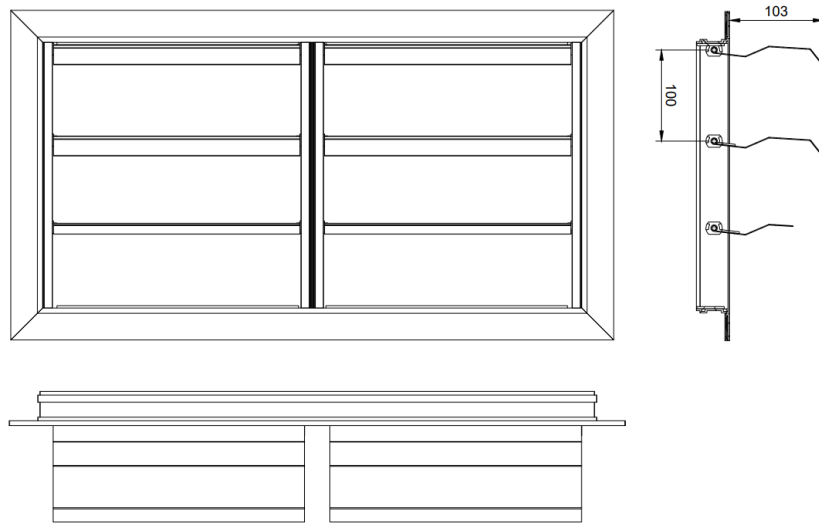
On request, the blades can be positioned in the opposite direction according to the picture.

NRD-I



Product specifications

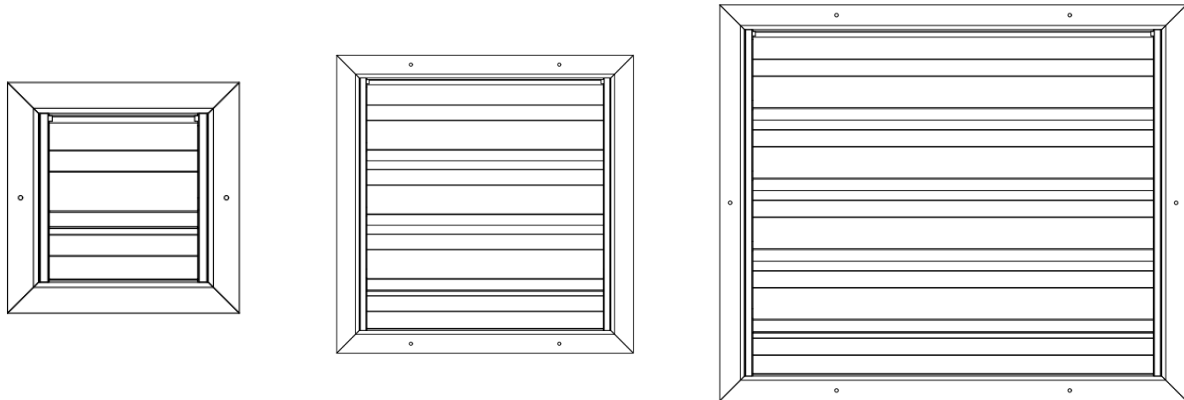
Products with a length > 500 mm will be made with stiffeners.



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								
	200	300	400	500	600	700	800	900	1000
200	2	4	4	4	4	4	4	4	4
300	4	4	4	4	4	4	4	4	4
400	4	4	4	4	4	4	4	4	4
500	4	4	4	4	4	4	4	4	4
600	4	4	4	4	4	4	4	4	4
700	4	4	4	4	4	6	6	6	6
800	4	4	4	4	4	6	6	6	6
900	4	4	4	4	4	6	6	6	6
1000	4	4	4	4	4	6	6	6	6

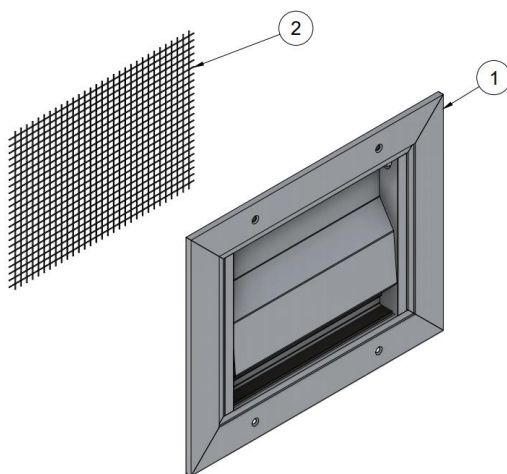
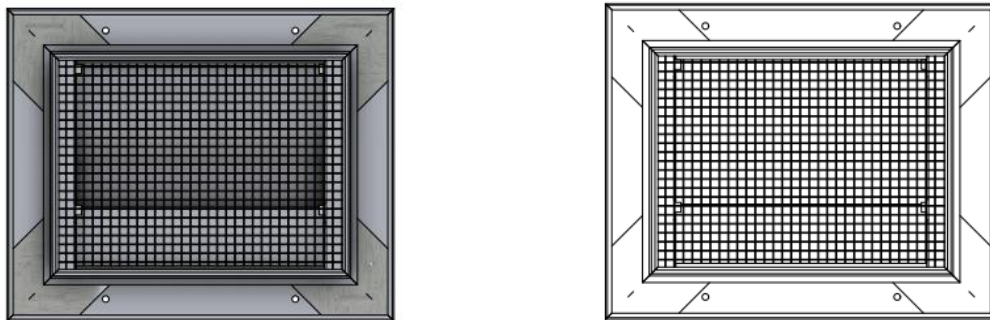
Example of positioning mounting holes on the product frame



Accessories

Wire mesh (PS)

The grille can be equipped with a wire mesh with a mesh size of 10x10 mm



- 1 - NRD
- 2 - Wire mesh (optional)

Functional parameters

Ak [m ²]									
Height [mm]	Length [mm]								
	200	300	400	500	600	700	800	900	1000
200	0.03	0.05	0.07	0.08	0.10	0.12	0.14	0.15	0.17
300	0.05	0.08	0.10	0.13	0.16	0.19	0.21	0.24	0.27
400	0.07	0.10	0.14	0.18	0.22	0.25	0.29	0.33	0.37
500	0.08	0.13	0.18	0.23	0.27	0.32	0.37	0.42	0.46
600	0.10	0.16	0.22	0.27	0.33	0.39	0.45	0.50	0.56
700	0.12	0.19	0.25	0.32	0.39	0.46	0.52	0.59	0.66
800	0.14	0.21	0.29	0.37	0.45	0.52	0.60	0.68	0.76
900	0.15	0.24	0.33	0.42	0.50	0.59	0.68	0.77	0.85
1000	0.17	0.27	0.37	0.46	0.56	0.66	0.76	0.85	0.95

Flow selection table for speed of 3m/s

Air flow [m ³ /h]									
Height [mm]	Length [mm]								
	200	300	400	500	600	700	800	900	1000
200	324	540	756	864	1080	1296	1512	1620	1836
300	540	864	1080	1404	1728	2052	2268	2592	2916
400	756	1080	1512	1944	2376	2700	3132	3564	3996
500	864	1404	1944	2484	2916	3456	3996	4536	4968
600	1080	1728	2376	2916	3564	4212	4860	5400	6048
700	1296	2052	2700	3456	4212	4968	5616	6372	7128
800	1512	2268	3132	3996	4860	5616	6480	7344	8208
900	1620	2592	3564	4536	5400	6372	7344	8316	9180
1000	1836	2916	3996	4968	6048	7128	8208	9180	10260

Veff [m/s]	1	2	3	4	5	6	7
ΔPt [Pa]	10	18	25	29	37	48	63

Note

The optimal speed for choosing the grille size is between 2 and 4 m/s.

The grille dimensions are determined by applying the formula $A_k [m^2] = \text{Flow [mc/h]} / 3600 [s] / V_{\text{eff}} [m/s]$ and the selection table.

The legend

A_k [m²] - The free surface of the grille

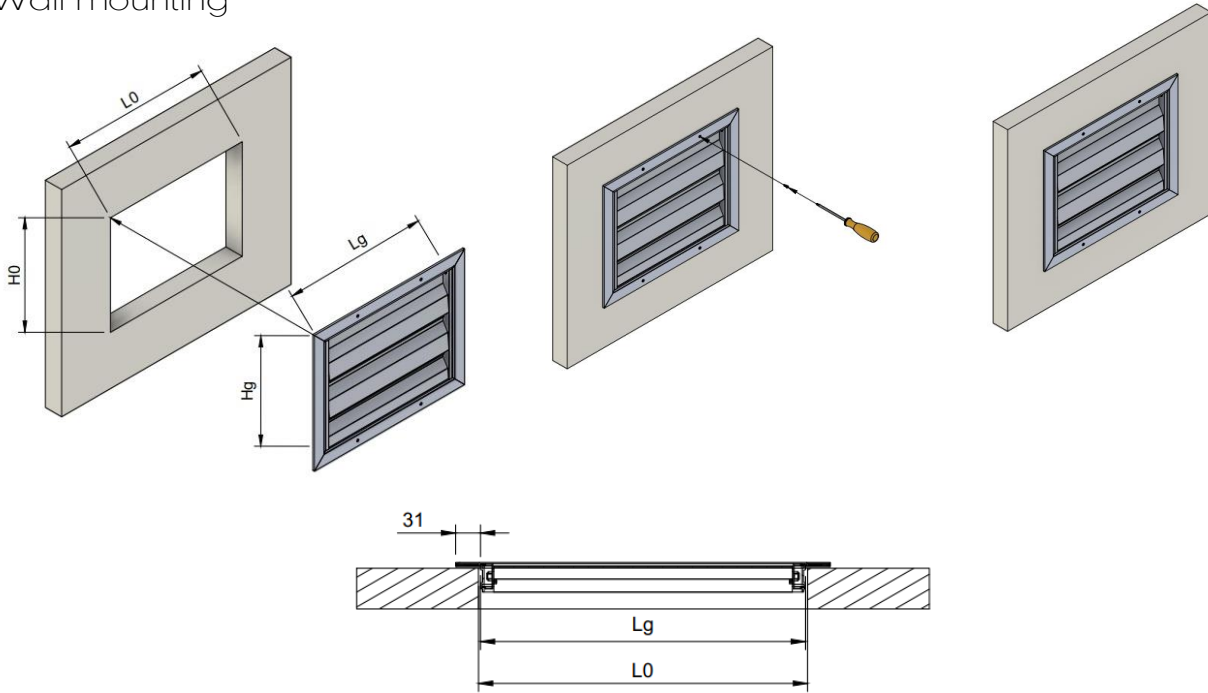
V_{eff} [m/s] - The effective flow rate of air in the grille

ΔPt [Pa] - Pressure loss

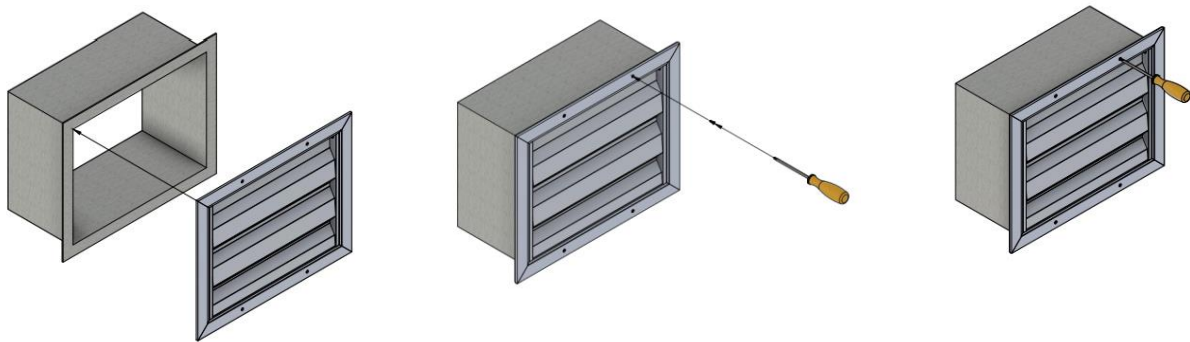
Installation

The grille is mounted with screws.

Wall mounting



Rectangular duct end assembly



Order code

Example on how to place an order

Type	Dimensions	Accessories
NRD		
On request		
PS-10 - Wire mesh		