

Return air access grilles **RAAG**



Return air access grilles

RAAG

Applications:

Return air access grilles, with or without filter, are the terminal elements of a manifold HVAC system, that provides both the evacuation or recirculation of air from room and easy access for checks and maintenance to equipment installed above false ceilings. They are successfully used also for smoke removal systems.

Description:

The foldable (central) part of return air access grilles is provided with one row of fixed blades, made of semi-round profiles, displayed horizontally or vertically, based on client's demand. Blades are fastened with a peripheral gasket made of silicon rubber (this material is inert to temperature variations and age-resistant), flush-mounted, preventing accidental release. This is also a method to prevent possible noises that may occur in time due to air flow and operating micro-vibrations.

The additional frame (counter-frame) shall remain fastened to its installation spot, allowing only the actual grille to be folded, while remaining suspended by hinges and by the adjustable safety system. The lock system is click-clack type (closing/opening by successive pushes). **On request, this closing system may be provided with magnetic support elements.**

Based on order specifications, grilles may be provided with fixed or detachable protective filter, with a frame sliding on rails specially provided on the grille. Rated sizes (specified in order) shall be the frame sizes.

Material:

- Fixed part: special profiles, made of extruded aluminum, in RITECH design;
- Mobile part: special profiles, made of extruded aluminum, in RITECH design.

Finish:

Electrostatically painted surface, dried in polymerization oven, providing increased lifetime of the paint layer and its pigment. Standard color: WHITE - RAL code 9016. On request, products may be delivered in any RAL color.

Fastening:

Pre-punched Ø 5 mm holes, on long side or within interior side of the fixed frame, for recessed-head anchor screw, painted in grille's color. The number and position of holes may be adjusted, if requested in order. For installation in place of a ceiling cell (595x595 mm) perforation of holes is not required, as the grille fits perfectly into the standard "T" profile.

Packaging:

Individual packaging, in polyethylene foil and delivered in cardboard boxes. Corners are protected with cardboard guards.

Technical specifications text-box, for price quotation requests:

Return air access grille, with fixed counter-frame and foldable grille with blades, click-clack lock system, made of extruded aluminum, painted with electrostatic coating;

Color: RAL #####;

Sizes: mm X mm;

Accessories: Plenum box; Fixed protective net; Detachable air filter; Standard/magnetic closing system;

Type: RITECH RAAG #####.



Design your environment

Performance table

Product code	A	B	Con- nection area	Free area	Tube V = 2 [m/s]			Tube V = 3 [m/s]			Tube V = 4 [m/s]		
	[mm]	[mm]	[m ²]	[m ²]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]
RAAG010020	100	200	0,020	0,010	144	51,93	4,1	216	118,5	6,15	288	193,2	8,2
RAAG010030	100	300	0,030	0,015	216	51,93	4,1	324	118,5	6,15	432	193,2	8,2
RAAG010040	100	400	0,040	0,020	288	51,93	4,1	432	118,5	6,15	576	193,2	8,2
RAAG010050	100	500	0,050	0,024	360	51,93	4,1	540	118,5	6,15	720	193,2	8,2
RAAG010060	100	600	0,060	0,029	432	51,93	4,1	648	118,5	6,15	864	193,2	8,2
RAAG010070	100	700	0,070	0,034	504	51,93	4,1	756	118,5	6,15	1.008	193,2	8,2
RAAG010080	100	800	0,080	0,039	576	51,93	4,1	864	118,5	6,15	1.152	193,2	8,2
RAAG010090	100	900	0,090	0,044	648	51,93	4,1	972	118,5	6,15	1.296	193,2	8,2
RAAG010100	100	1.000	0,100	0,049	720	51,93	4,1	1.080	118,5	6,15	1.440	193,2	8,2
RAAG010110	100	1.100	0,110	0,054	792	51,93	4,1	1.188	118,5	6,15	1.584	193,2	8,2
RAAG010120	100	1.200	0,120	0,059	864	51,93	4,1	1.296	118,5	6,15	1.728	193,2	8,2
RAAG010130	100	1.300	0,130	0,063	936	51,93	4,1	1.404	118,5	6,15	1.872	193,2	8,2
RAAG010140	100	1.400	0,140	0,068	1.008	51,93	4,1	1.512	118,5	6,15	2.016	193,2	8,2
RAAG010150	100	1.500	0,150	0,073	1.080	51,93	4,1	1.620	118,5	6,15	2.160	193,2	8,2
RAAG015020	150	200	0,030	0,015	216	51,93	4,1	324	118,5	6,15	432	193,2	8,2
RAAG015030	150	300	0,045	0,022	324	51,93	4,1	486	118,5	6,15	648	193,2	8,2
RAAG015040	150	400	0,060	0,029	432	51,93	4,1	648	118,5	6,15	864	193,2	8,2
RAAG015050	150	500	0,075	0,037	540	51,93	4,1	810	118,5	6,15	1.080	193,2	8,2
RAAG015060	150	600	0,090	0,044	648	51,93	4,1	972	118,5	6,15	1.296	193,2	8,2
RAAG015070	150	700	0,105	0,051	756	51,93	4,1	1.134	118,5	6,15	1.512	193,2	8,2
RAAG015080	150	800	0,120	0,059	864	51,93	4,1	1.296	118,5	6,15	1.728	193,2	8,2
RAAG015090	150	900	0,135	0,066	972	51,93	4,1	1.458	118,5	6,15	1.944	193,2	8,2
RAAG015100	150	1.000	0,150	0,073	1.080	51,93	4,1	1.620	118,5	6,15	2.160	193,2	8,2
RAAG015110	150	1.100	0,165	0,080	1.188	51,93	4,1	1.782	118,5	6,15	2.376	193,2	8,2
RAAG015120	150	1.200	0,180	0,088	1.296	51,93	4,1	1.944	118,5	6,15	2.592	193,2	8,2
RAAG015130	150	1.300	0,195	0,095	1.404	51,93	4,1	2.106	118,5	6,15	2.808	193,2	8,2
RAAG015140	150	1.400	0,210	0,102	1.512	51,93	4,1	2.268	118,5	6,15	3.024	193,2	8,2
RAAG015150	150	1.500	0,225	0,110	1.620	51,93	4,1	2.430	118,5	6,15	3.240	193,2	8,2
RAAG020020	200	200	0,040	0,020	288	51,93	4,1	432	118,5	6,15	576	193,2	8,2
RAAG020030	200	300	0,060	0,029	432	51,93	4,1	648	118,5	6,15	864	193,2	8,2
RAAG020040	200	400	0,080	0,039	576	51,93	4,1	864	118,5	6,15	1.152	193,2	8,2
RAAG020050	200	500	0,100	0,049	720	51,93	4,1	1.080	118,5	6,15	1.440	193,2	8,2
RAAG020060	200	600	0,120	0,059	864	51,93	4,1	1.296	118,5	6,15	1.728	193,2	8,2
RAAG020070	200	700	0,140	0,068	1.008	51,93	4,1	1.512	118,5	6,15	2.016	193,2	8,2
RAAG020080	200	800	0,160	0,078	1.152	51,93	4,1	1.728	118,5	6,15	2.304	193,2	8,2
RAAG020090	200	900	0,180	0,088	1.296	51,93	4,1	1.944	118,5	6,15	2.592	193,2	8,2
RAAG020100	200	1.000	0,200	0,098	1.440	51,93	4,1	2.160	118,5	6,15	2.880	193,2	8,2
RAAG020110	200	1.100	0,220	0,107	1.584	51,93	4,1	2.376	118,5	6,15	3.168	193,2	8,2
RAAG020120	200	1.200	0,240	0,117	1.728	51,93	4,1	2.592	118,5	6,15	3.456	193,2	8,2
RAAG020130	200	1.300	0,260	0,127	1.872	51,93	4,1	2.808	118,5	6,15	3.744	193,2	8,2
RAAG020140	200	1.400	0,280	0,137	2.016	51,93	4,1	3.024	118,5	6,15	4.032	193,2	8,2
RAAG020150	200	1.500	0,300	0,146	2.160	51,93	4,1	3.240	118,5	6,15	4.320	193,2	8,2
RAAG025020	250	200	0,050	0,024	360	51,93	4,1	540	118,5	6,15	720	193,2	8,2
RAAG025030	250	300	0,075	0,037	540	51,93	4,1	810	118,5	6,15	1.080	193,2	8,2
RAAG025040	250	400	0,100	0,049	720	51,93	4,1	1.080	118,5	6,15	1.440	193,2	8,2
RAAG025050	250	500	0,125	0,061	900	51,93	4,1	1.350	118,5	6,15	1.800	193,2	8,2
RAAG025060	250	600	0,150	0,073	1.080	51,93	4,1	1.620	118,5	6,15	2.160	193,2	8,2
RAAG025070	250	700	0,175	0,085	1.260	51,93	4,1	1.890	118,5	6,15	2.520	193,2	8,2

RAAG - Return air access grilles

Performance table

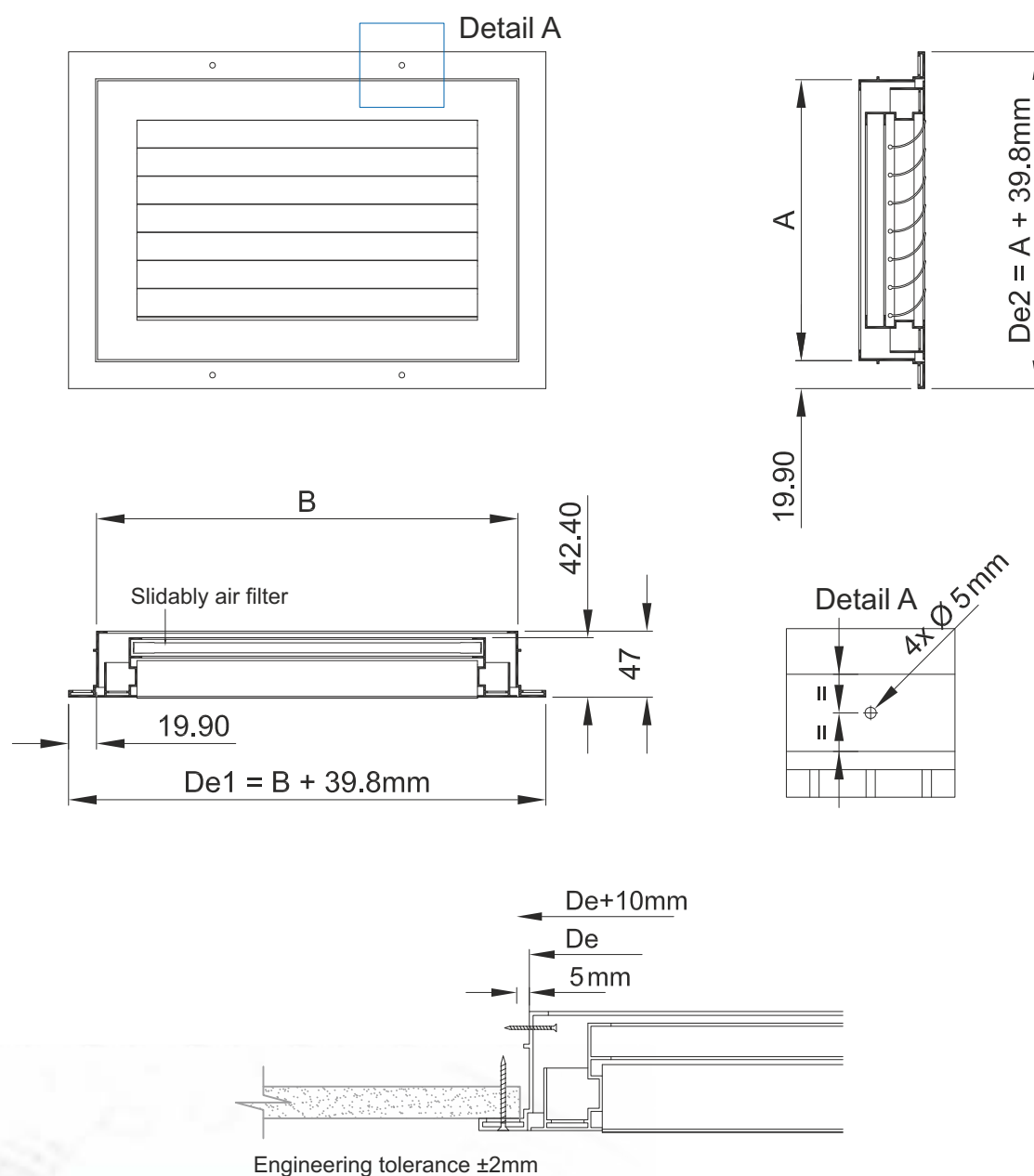
Product code	A	B	Con- nection area	Free area	Tube V = 2 [m/s]			Tube V = 3 [m/s]			Tube V = 4 [m/s]		
	[mm]	[mm]	[m ²]	[m ²]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]	Q [m ³ /h]	ΔP [Pa]	Grille V [m/s]
RAAG025080	250	800	0,200	0,098	1.440	51,93	4,1	2.160	118,5	6,15	2.880	193,2	8,2
RAAG025090	250	900	0,225	0,110	1.620	51,93	4,1	2.430	118,5	6,15	3.240	193,2	8,2
RAAG025100	250	1.000	0,250	0,122	1.800	51,93	4,1	2.700	118,5	6,15	3.600	193,2	8,2
RAAG025110	250	1.100	0,275	0,134	1.980	51,93	4,1	2.970	118,5	6,15	3.960	193,2	8,2
RAAG025120	250	1.200	0,300	0,146	2.160	51,93	4,1	3.240	118,5	6,15	4.320	193,2	8,2
RAAG025130	250	1.300	0,325	0,159	2.340	51,93	4,1	3.510	118,5	6,15	4.680	193,2	8,2
RAAG025140	250	1.400	0,350	0,171	2.520	51,93	4,1	3.780	118,5	6,15	5.040	193,2	8,2
RAAG025150	250	1.500	0,375	0,183	2.700	51,93	4,1	4.050	118,5	6,15	5.400	193,2	8,2
RAAG030030	300	300	0,090	0,044	648	51,93	4,1	972	118,5	6,15	1.296	193,2	8,2
RAAG030040	300	400	0,120	0,059	864	51,93	4,1	1.296	118,5	6,15	1.728	193,2	8,2
RAAG030050	300	500	0,150	0,073	1.080	51,93	4,1	1.620	118,5	6,15	2.160	193,2	8,2
RAAG030060	300	600	0,180	0,088	1.296	51,93	4,1	1.944	118,5	6,15	2.592	193,2	8,2
RAAG030070	300	700	0,210	0,102	1.512	51,93	4,1	2.268	118,5	6,15	3.024	193,2	8,2
RAAG030080	300	800	0,240	0,117	1.728	51,93	4,1	2.592	118,5	6,15	3.456	193,2	8,2
RAAG030090	300	900	0,270	0,132	1.944	51,93	4,1	2.916	118,5	6,15	3.888	193,2	8,2
RAAG030100	300	1.000	0,300	0,146	2.160	51,93	4,1	3.240	118,5	6,15	4.320	193,2	8,2
RAAG030110	300	1.100	0,330	0,161	2.376	51,93	4,1	3.564	118,5	6,15	4.752	193,2	8,2
RAAG030120	300	1.200	0,360	0,176	2.592	51,93	4,1	3.888	118,5	6,15	5.184	193,2	8,2
RAAG030130	300	1.300	0,390	0,190	2.808	51,93	4,1	4.212	118,5	6,15	5.616	193,2	8,2
RAAG030140	300	1.400	0,420	0,205	3.024	51,93	4,1	4.536	118,5	6,15	6.048	193,2	8,2
RAAG030150	300	1.500	0,450	0,220	3.240	51,93	4,1	4.860	118,5	6,15	6.480	193,2	8,2
RAAG040040	400	400	0,160	0,078	1.152	51,93	4,1	1.728	118,5	6,15	2.304	193,2	8,2
RAAG040050	400	500	0,200	0,098	1.440	51,93	4,1	2.160	118,5	6,15	2.880	193,2	8,2
RAAG040060	400	600	0,240	0,117	1.728	51,93	4,1	2.592	118,5	6,15	3.456	193,2	8,2
RAAG040070	400	700	0,280	0,137	2.016	51,93	4,1	3.024	118,5	6,15	4.032	193,2	8,2
RAAG040080	400	800	0,320	0,156	2.304	51,93	4,1	3.456	118,5	6,15	4.608	193,2	8,2
RAAG040090	400	900	0,360	0,176	2.592	51,93	4,1	3.888	118,5	6,15	5.184	193,2	8,2
RAAG040100	400	1.000	0,400	0,195	2.880	51,93	4,1	4.320	118,5	6,15	5.760	193,2	8,2
RAAG040110	400	1.100	0,440	0,215	3.168	51,93	4,1	4.752	118,5	6,15	6.336	193,2	8,2
RAAG040120	400	1.200	0,480	0,234	3.456	51,93	4,1	5.184	118,5	6,15	6.912	193,2	8,2
RAAG040130	400	1.300	0,520	0,254	3.744	51,93	4,1	5.616	118,5	6,15	7.488	193,2	8,2
RAAG040140	400	1.400	0,560	0,273	4.032	51,93	4,1	6.048	118,5	6,15	8.064	193,2	8,2
RAAG040150	400	1.500	0,600	0,293	4.320	51,93	4,1	6.480	118,5	6,15	8.640	193,2	8,2
RAAG059059	595	595	0,354	0,170	2.506	51,93	4,1	3.759	118,5	6,15	5.013	193,2	8,2

Legend:

Symbol	Description	M.U.
RAAG	Return air access grille	
A	Grille connection gauge - Width	[mm]
B	Grille connection gauge - Length	[mm]
Connection area	Grille surface for connection gauges (A x B)	[m ²]
Free area	Surface available for air circulation (connection area-blade area)	[m ²]
Q	Air flow	[m ³ /h]
ΔP	Pressure loss through grille	[Pa]
Grille V	Air velocity through grille, calculated based on Flow and Free Area	[m/s]
Tube V	Air velocity in the connection section	[m/s]



Sizes



Example: Code RAAG020040 represents:

Return air access grille with $A = 200 mm$; $B = 400 mm$

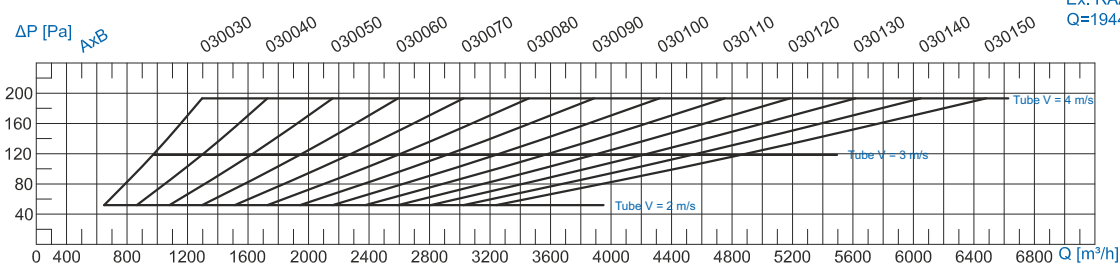
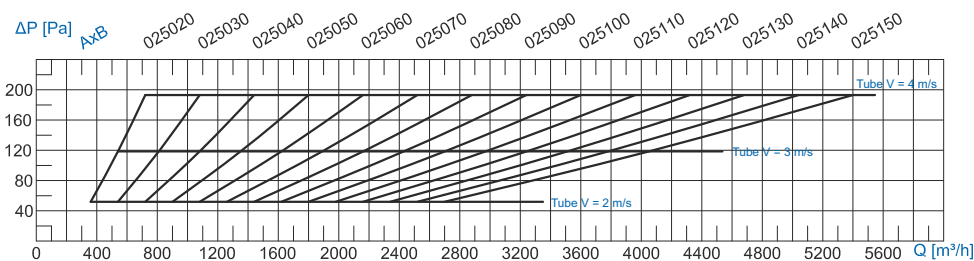
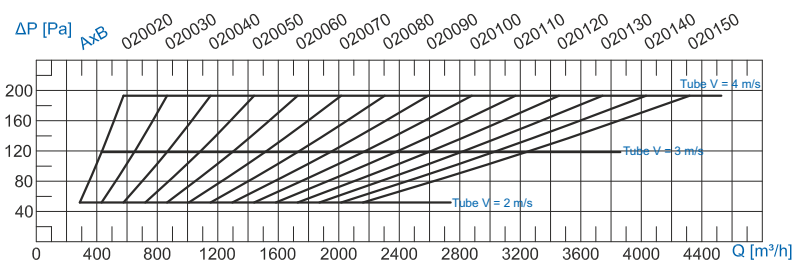
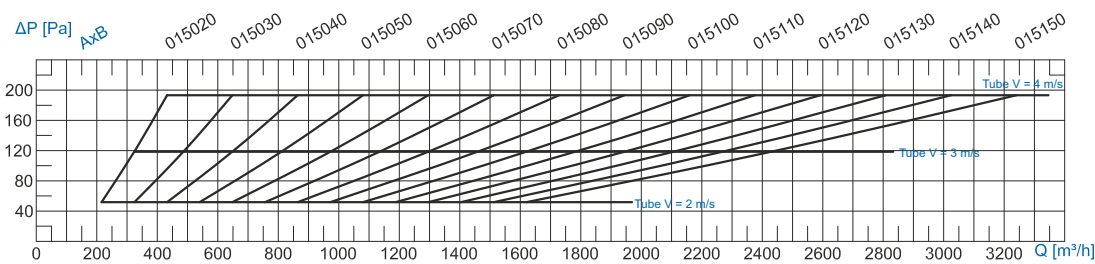
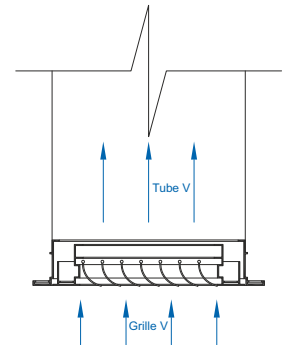
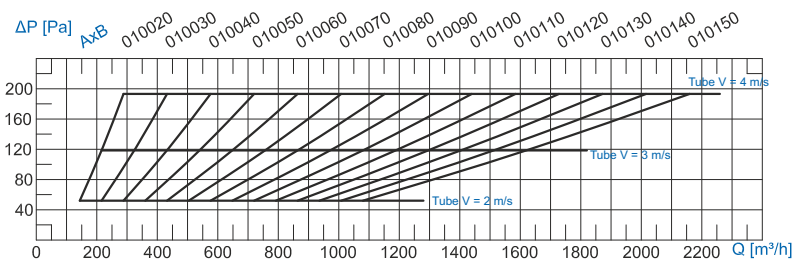
Accessories: Plenum box: MAG 020040

Fixed protection filter

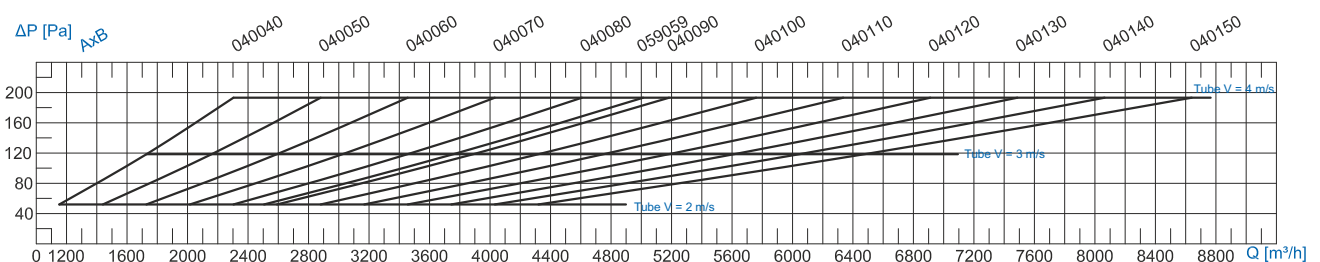
Detachable air filter: MFF

NOTE: Products may be ordered in customized sizes and configurations (colors, number and position of holes, fastening method, blade display, execution of hybrid product, special plenum box etc.)

Pressure loss charts

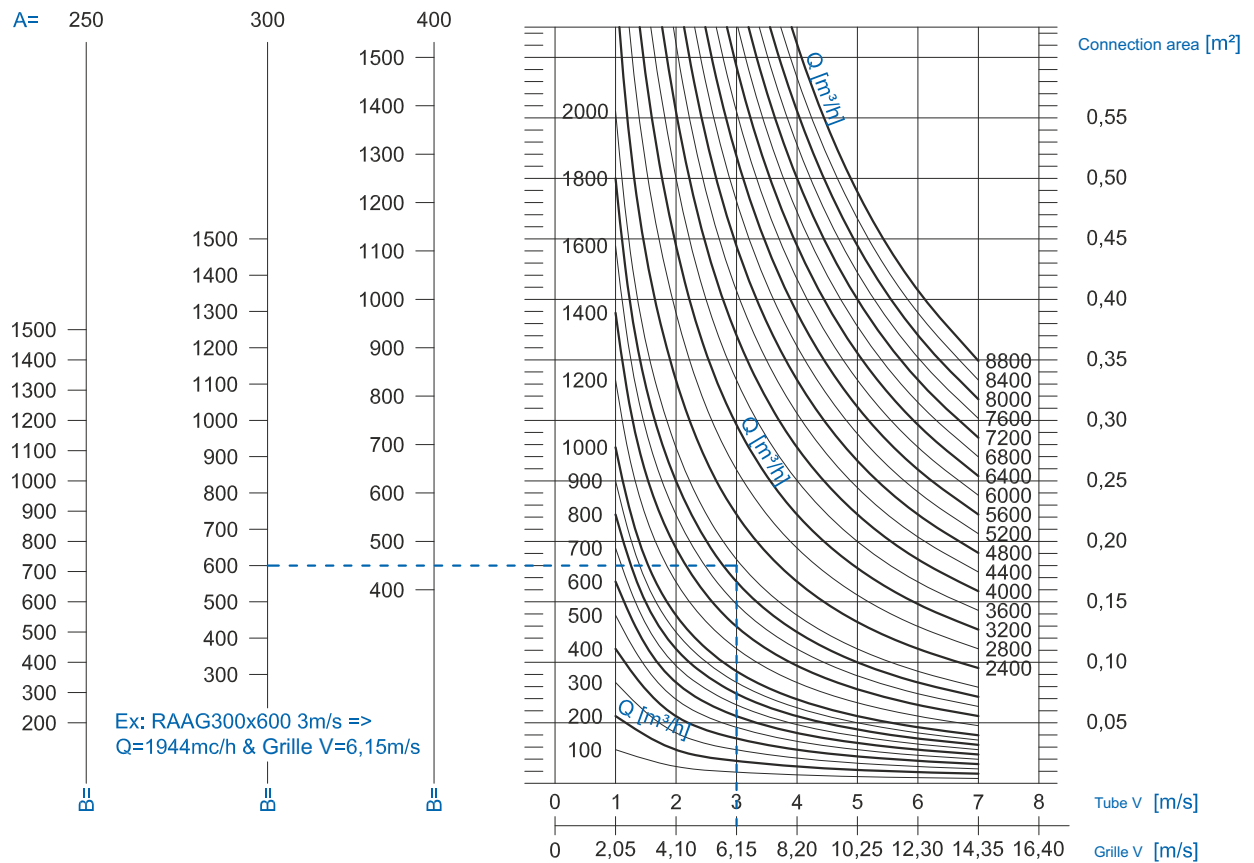
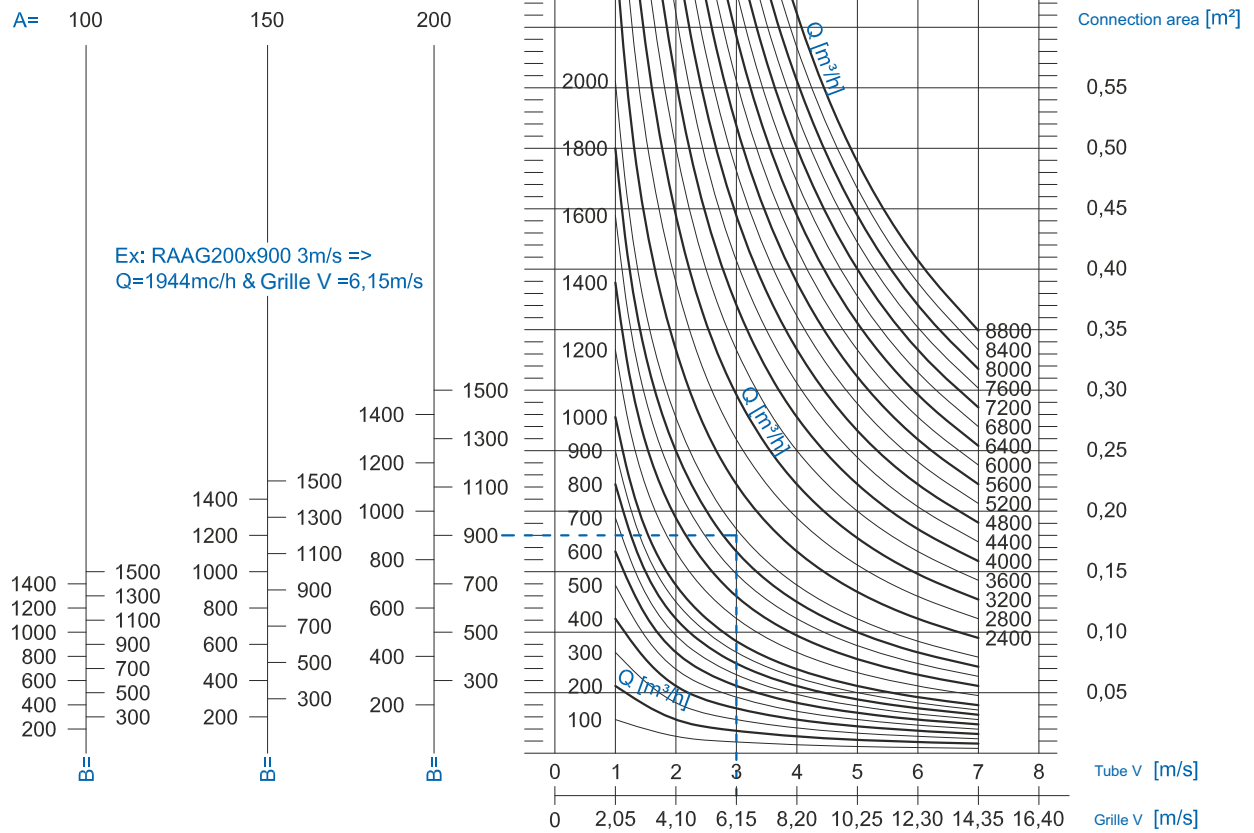


Ex: RAAG300x600 Tube V=3m/s =>
Q=1944m³/h & ΔP=118,50Pa



Design your environment

Selection chart





Design your environment