



Return air grilles **RAG**



Return air grilles

RAG

Applications:

Return air grilles, with or without filters, are the terminal elements of a manifold HVAC system, providing evacuation or recirculation of room air. They may be installed on walls or ceilings.

Description:

Return air grilles are 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.

If specified in order, grilles may be provided with detachable filter, with frame - MFF. For quick dismantle and easy access for inspection or routine maintenance, they may be ordered with additional frame. The latter shall remain fixed to the installation spot, allowing only the actual grille to be dismantled. **On request, this additional frame may be provided with magnetic support elements.** In both cases, the rated sizes (specified in order) shall be the frame sizes. For an improved adjustment of the air flowrate, the use of OBD dampers is recommended.

Material:

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 for recessed-head anchor screw, painted in grille's color.

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 grille, made of extruded aluminum and painted with electrostatic coating. Blades are fastened to a silicon rubber gasket to prevent vibration-induced noises;

Sizes: mm X.....mm;

Accessories: Damper; insulated / non-insulated plenum box; Detachable air filter; Additional frame, standard / with magnetic support;

Type: RITECH RAG #####.



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]
RAG 010020	100	200	0,020	0,012	144	6,00	3,41	216	14,00	5,12	288	28,00	6,82
RAG 010030	100	300	0,030	0,018	216	6,00	3,41	324	14,00	5,12	432	28,00	6,82
RAG 010040	100	400	0,040	0,023	288	6,00	3,41	432	14,00	5,12	576	28,00	6,82
RAG 010050	100	500	0,050	0,029	360	6,00	3,41	540	14,00	5,12	720	28,00	6,82
RAG 010060	100	600	0,060	0,035	432	6,00	3,41	648	14,00	5,12	864	28,00	6,82
RAG 010070	100	700	0,070	0,041	504	6,00	3,41	756	14,00	5,12	1008	28,00	6,82
RAG 010080	100	800	0,080	0,047	576	6,00	3,41	864	14,00	5,12	1152	28,00	6,82
RAG 010090	100	900	0,090	0,053	648	6,00	3,41	972	14,00	5,12	1296	28,00	6,82
RAG 010100	100	1.000	0,100	0,059	720	6,00	3,41	1080	14,00	5,12	1440	28,00	6,82
RAG 010110	100	1.100	0,110	0,065	792	6,00	3,41	1188	14,00	5,12	1584	28,00	6,82
RAG 010120	100	1.200	0,120	0,070	864	6,00	3,41	1296	14,00	5,12	1728	28,00	6,82
RAG 010130	100	1.300	0,130	0,076	936	6,00	3,41	1404	14,00	5,12	1872	28,00	6,82
RAG 010140	100	1.400	0,140	0,082	1008	6,00	3,41	1512	14,00	5,12	2016	28,00	6,82
RAG 010150	100	1.500	0,150	0,088	1080	6,00	3,41	1620	14,00	5,12	2160	28,00	6,82
RAG 015020	150	200	0,030	0,018	216	6,00	3,41	324	14,00	5,12	432	28,00	6,82
RAG 015030	150	300	0,045	0,026	324	6,00	3,41	486	14,00	5,12	648	28,00	6,82
RAG 015040	150	400	0,060	0,035	432	6,00	3,41	648	14,00	5,12	864	28,00	6,82
RAG 015050	150	500	0,075	0,044	540	6,00	3,41	810	14,00	5,12	1080	28,00	6,82
RAG 015060	150	600	0,090	0,053	648	6,00	3,41	972	14,00	5,12	1296	28,00	6,82
RAG 015070	150	700	0,105	0,062	756	6,00	3,41	1134	14,00	5,12	1512	28,00	6,82
RAG 015080	150	800	0,120	0,070	864	6,00	3,41	1296	14,00	5,12	1728	28,00	6,82
RAG 015090	150	900	0,135	0,079	972	6,00	3,41	1458	14,00	5,12	1944	28,00	6,82
RAG 015100	150	1.000	0,150	0,088	1080	6,00	3,41	1620	14,00	5,12	2160	28,00	6,82
RAG 015110	150	1.100	0,165	0,097	1188	6,00	3,41	1782	14,00	5,12	2376	28,00	6,82
RAG 015120	150	1.200	0,180	0,106	1296	6,00	3,41	1944	14,00	5,12	2592	28,00	6,82
RAG 015130	150	1.300	0,195	0,114	1404	6,00	3,41	2106	14,00	5,12	2808	28,00	6,82
RAG 015140	150	1.400	0,210	0,123	1512	6,00	3,41	2268	14,00	5,12	3024	28,00	6,82
RAG 015150	150	1.500	0,225	0,132	1620	6,00	3,41	2430	14,00	5,12	3240	28,00	6,82
RAG 020020	200	200	0,040	0,023	288	6,00	3,41	432	14,00	5,12	576	28,00	6,82
RAG 020030	200	300	0,060	0,035	432	6,00	3,41	648	14,00	5,12	864	28,00	6,82
RAG 020040	200	400	0,080	0,047	576	6,00	3,41	864	14,00	5,12	1152	28,00	6,82
RAG 020050	200	500	0,100	0,059	720	6,00	3,41	1080	14,00	5,12	1440	28,00	6,82
RAG 020060	200	600	0,120	0,070	864	6,00	3,41	1296	14,00	5,12	1728	28,00	6,82
RAG 020070	200	700	0,140	0,082	1008	6,00	3,41	1512	14,00	5,12	2016	28,00	6,82
RAG 020080	200	800	0,160	0,094	1152	6,00	3,41	1728	14,00	5,12	2304	28,00	6,82
RAG 020090	200	900	0,180	0,106	1296	6,00	3,41	1944	14,00	5,12	2592	28,00	6,82
RAG 020100	200	1.000	0,200	0,117	1440	6,00	3,41	2160	14,00	5,12	2880	28,00	6,82
RAG 020110	200	1.100	0,220	0,129	1584	6,00	3,41	2376	14,00	5,12	3168	28,00	6,82
RAG 020120	200	1.200	0,240	0,141	1728	6,00	3,41	2592	14,00	5,12	3456	28,00	6,82
RAG 020130	200	1.300	0,260	0,152	1872	6,00	3,41	2808	14,00	5,12	3744	28,00	6,82
RAG 020140	200	1.400	0,280	0,164	2016	6,00	3,41	3024	14,00	5,12	4032	28,00	6,82
RAG 020150	200	1.500	0,300	0,176	2160	6,00	3,41	3240	14,00	5,12	4320	28,00	6,82
RAG 025020	250	200	0,050	0,029	360	6,00	3,41	540	14,00	5,12	720	28,00	6,82
RAG 025030	250	300	0,075	0,044	540	6,00	3,41	810	14,00	5,12	1080	28,00	6,82
RAG 025040	250	400	0,100	0,059	720	6,00	3,41	1080	14,00	5,12	1440	28,00	6,82
RAG 025050	250	500	0,125	0,073	900	6,00	3,41	1350	14,00	5,12	1800	28,00	6,82
RAG 025060	250	600	0,150	0,088	1080	6,00	3,41	1620	14,00	5,12	2160	28,00	6,82
RAG 025070	250	700	0,175	0,103	1260	6,00	3,41	1890	14,00	5,12	2520	28,00	6,82

RAG - Return air 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]
RAG 025080	250	800	0,200	0,117	1.440	6	3,41	2.160	14	5,12	2.880	28	6,82
RAG 025090	250	900	0,225	0,132	1.620	6	3,41	2.430	14	5,12	3.240	28	6,82
RAG 025100	250	1.000	0,250	0,147	1.800	6	3,41	2.700	14	5,12	3.600	28	6,82
RAG 025110	250	1.100	0,275	0,161	1.980	6	3,41	2.970	14	5,12	3.960	28	6,82
RAG 025120	250	1.200	0,300	0,176	2.160	6	3,41	3.240	14	5,12	4.320	28	6,82
RAG 025130	250	1.300	0,325	0,191	2.340	6	3,41	3.510	14	5,12	4.680	28	6,82
RAG 025140	250	1.400	0,350	0,205	2.520	6	3,41	3.780	14	5,12	5.040	28	6,82
RAG 025150	250	1.500	0,375	0,220	2.700	6	3,41	4.050	14	5,12	5.400	28	6,82
RAG 030030	300	300	0,090	0,053	648	6	3,41	972	14	5,12	1.296	28	6,82
RAG 030040	300	400	0,120	0,070	864	6	3,41	1.296	14	5,12	1.728	28	6,82
RAG 030050	300	500	0,150	0,088	1.080	6	3,41	1.620	14	5,12	2.160	28	6,82
RAG 030060	300	600	0,180	0,106	1.296	6	3,41	1.944	14	5,12	2.592	28	6,82
RAG 030070	300	700	0,210	0,123	1.512	6	3,41	2.268	14	5,12	3.024	28	6,82
RAG 030080	300	800	0,240	0,141	1.728	6	3,41	2.592	14	5,12	3.456	28	6,82
RAG 030090	300	900	0,270	0,158	1.944	6	3,41	2.916	14	5,12	3.888	28	6,82
RAG 030100	300	1.000	0,300	0,176	2.160	6	3,41	3.240	14	5,12	4.320	28	6,82
RAG 030110	300	1.100	0,330	0,194	2.376	6	3,41	3.564	14	5,12	4.752	28	6,82
RAG 030120	300	1.200	0,360	0,211	2.592	6	3,41	3.888	14	5,12	5.184	28	6,82
RAG 030130	300	1.300	0,390	0,229	2.808	6	3,41	4.212	14	5,12	5.616	28	6,82
RAG 030140	300	1.400	0,420	0,246	3.024	6	3,41	4.536	14	5,12	6.048	28	6,82
RAG 030150	300	1.500	0,450	0,264	3.240	6	3,41	4.860	14	5,12	6.480	28	6,82
RAG 040040	400	400	0,160	0,094	1.152	6	3,41	1.728	14	5,12	2.304	28	6,82
RAG 040050	400	500	0,200	0,117	1.440	6	3,41	2.160	14	5,12	2.880	28	6,82
RAG 040060	400	600	0,240	0,141	1.728	6	3,41	2.592	14	5,12	3.456	28	6,82
RAG 040070	400	700	0,280	0,164	2.016	6	3,41	3.024	14	5,12	4.032	28	6,82
RAG 040080	400	800	0,320	0,188	2.304	6	3,41	3.456	14	5,12	4.608	28	6,82
RAG 040090	400	900	0,360	0,211	2.592	6	3,41	3.888	14	5,12	5.184	28	6,82
RAG 040100	400	1.000	0,400	0,235	2.880	6	3,41	4.320	14	5,12	5.760	28	6,82
RAG 040110	400	1.100	0,440	0,258	3.168	6	3,41	4.752	14	5,12	6.336	28	6,82
RAG 040120	400	1.200	0,480	0,282	3.456	6	3,41	5.184	14	5,12	6.912	28	6,82
RAG 040130	400	1.300	0,520	0,305	3.744	6	3,41	5.616	14	5,12	7.488	28	6,82
RAG 040140	400	1.400	0,560	0,328	4.032	6	3,41	6.048	14	5,12	8.064	28	6,82
RAG 040150	400	1.500	0,600	0,352	4.320	6	3,41	6.480	14	5,12	8.640	28	6,82
RAG 050050	500	500	0,250	0,147	1.800	6	3,41	2.700	14	5,12	3.600	28	6,82
RAG 054054	540	540	0,292	0,171	2.100	6	3,41	3.149	14	5,11	4.199	28	6,82

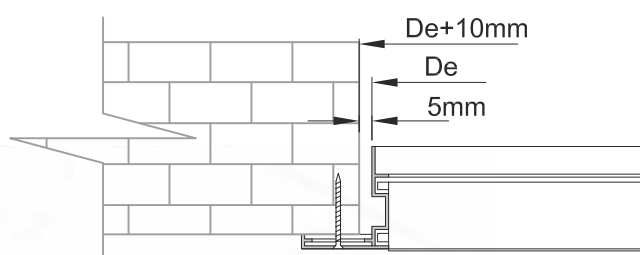
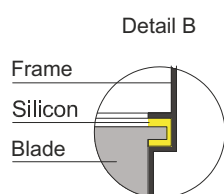
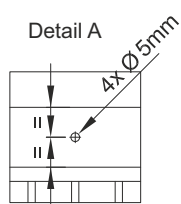
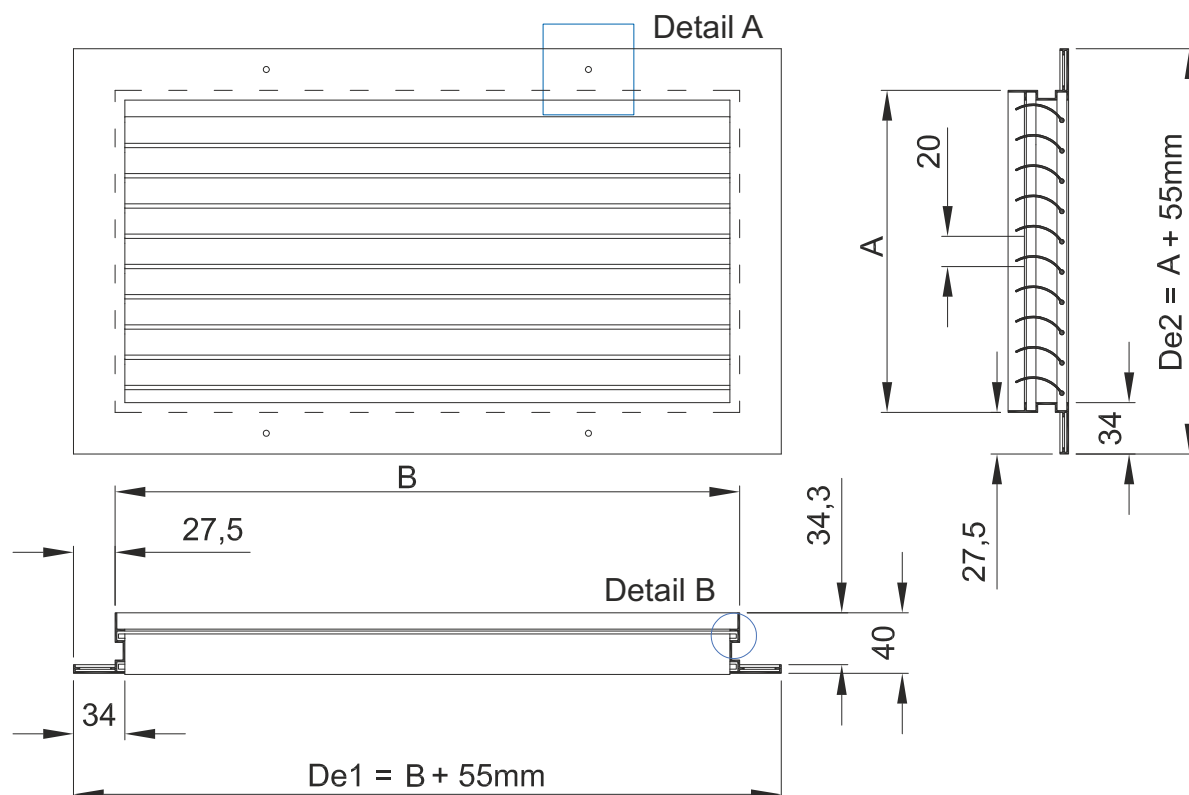
Legend:

Symbol	Description	M.U.
RAG	Return air 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]



Design your environment

Sizes



Engineering tolerance $\pm 2\text{mm}$

Example: Code RAG020040 represents:

Return air grille with $A = 200\text{ mm}$; $B = 400\text{ mm}$

Accessories: OBD020040 damper

Plenum box: MAG 020040

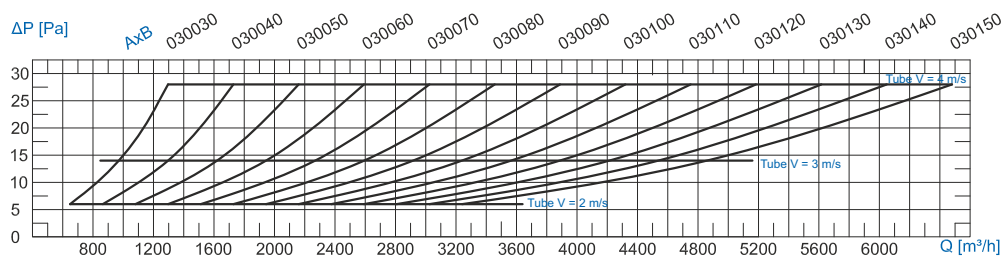
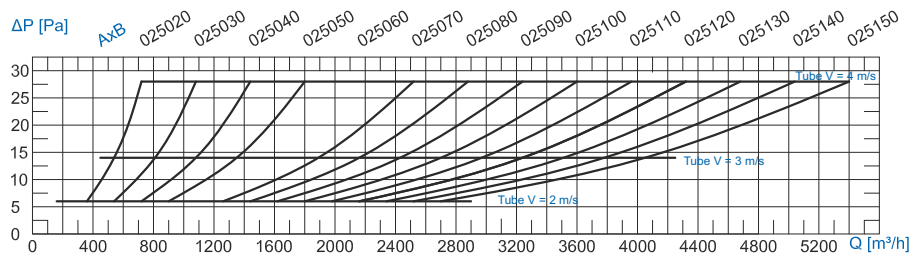
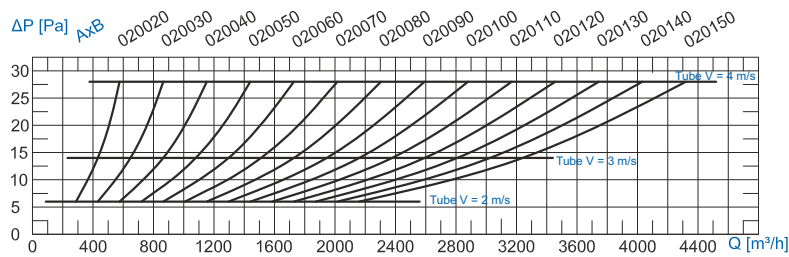
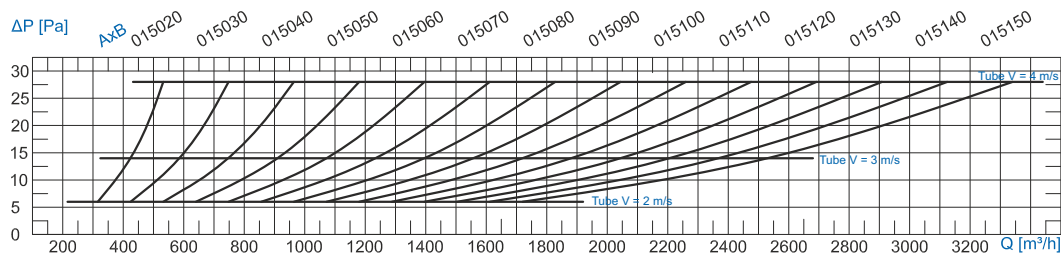
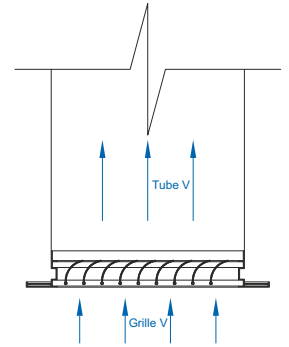
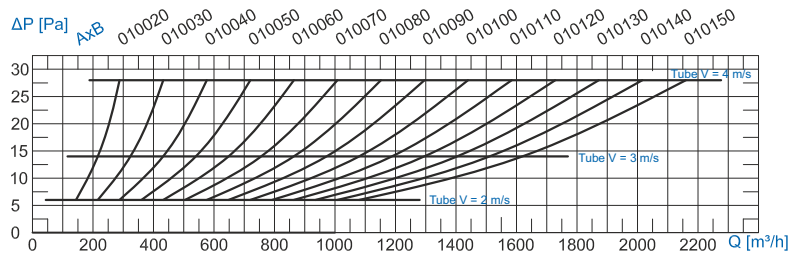
Detachable air filter: MFF

Additional frame

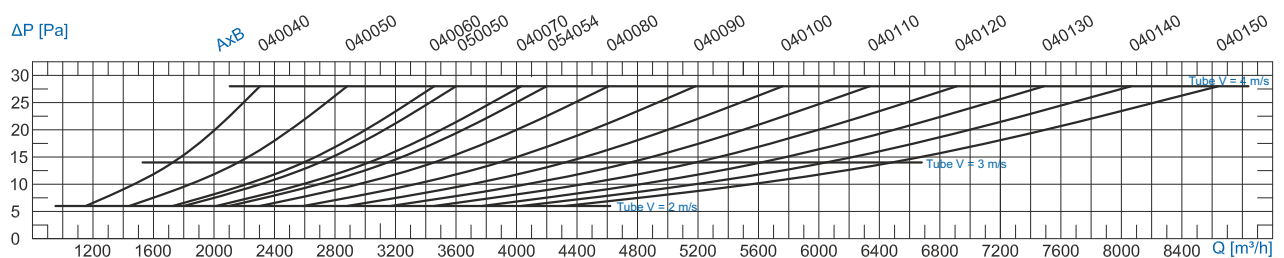
NOTE: Products may be ordered in customized sizes and configurations (colors, number and position of holes, fastening method, blade display, execution of hybrid product, special plenum box etc.)

RAG - Return air grilles

Pressure loss charts

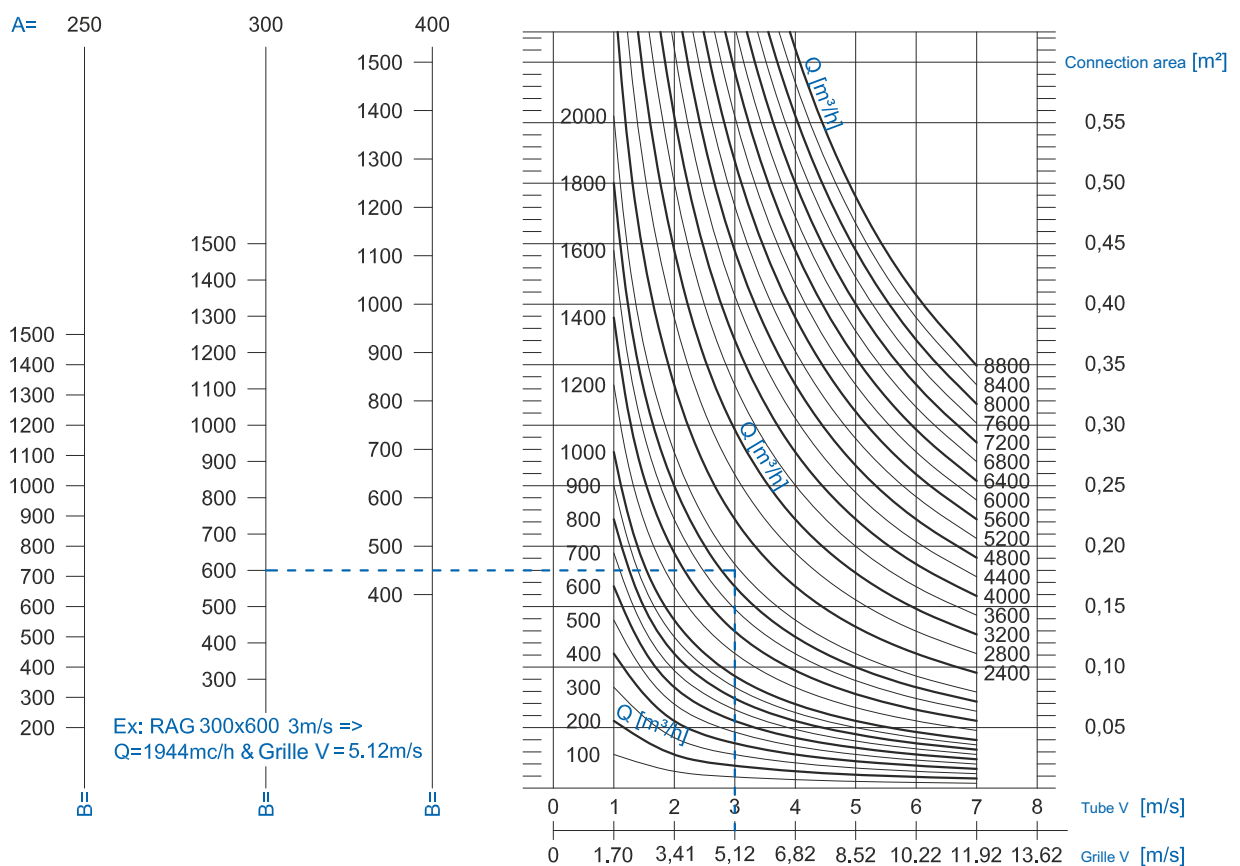
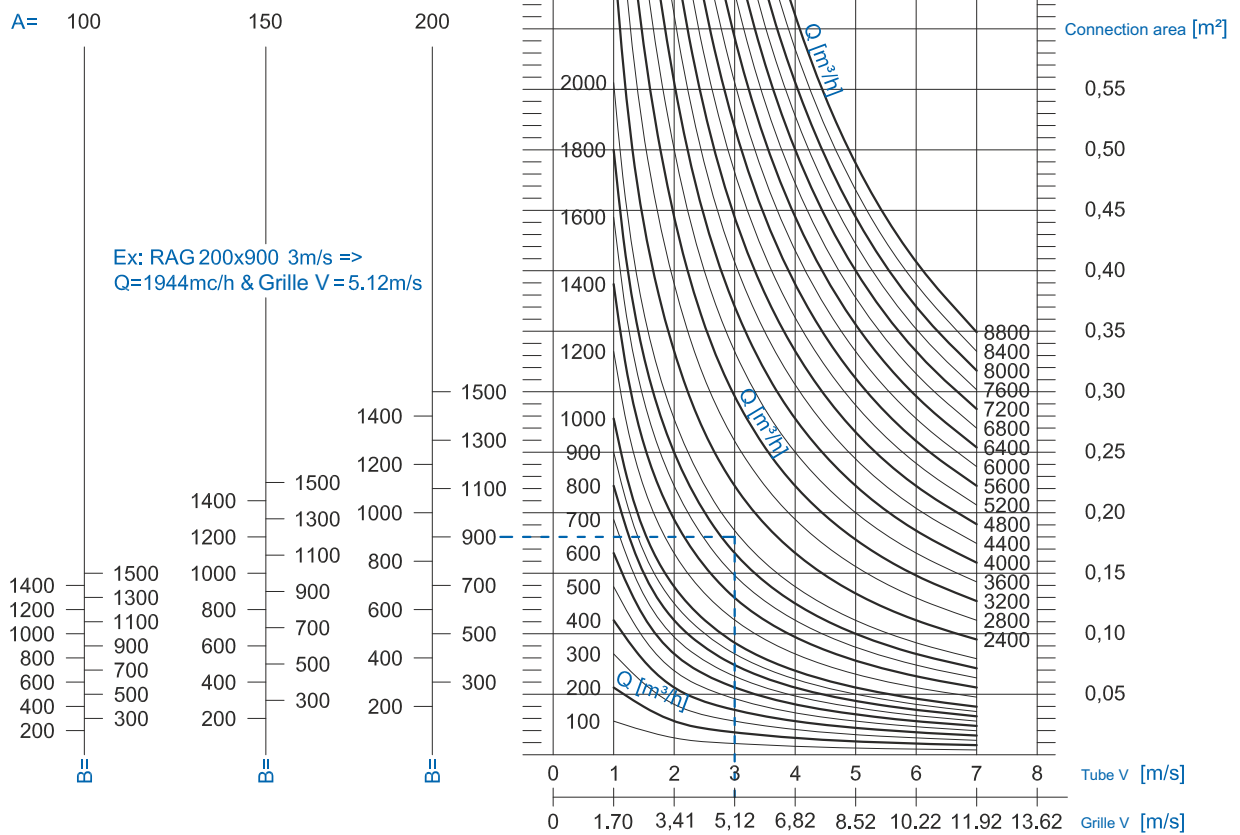


Ex: RAG300x600 Tube V=3m/s =>
Q=1944m³/h & ΔP=14Pa



Design your environment

Selection chart



RAG - Return air grilles





Design your environment