



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

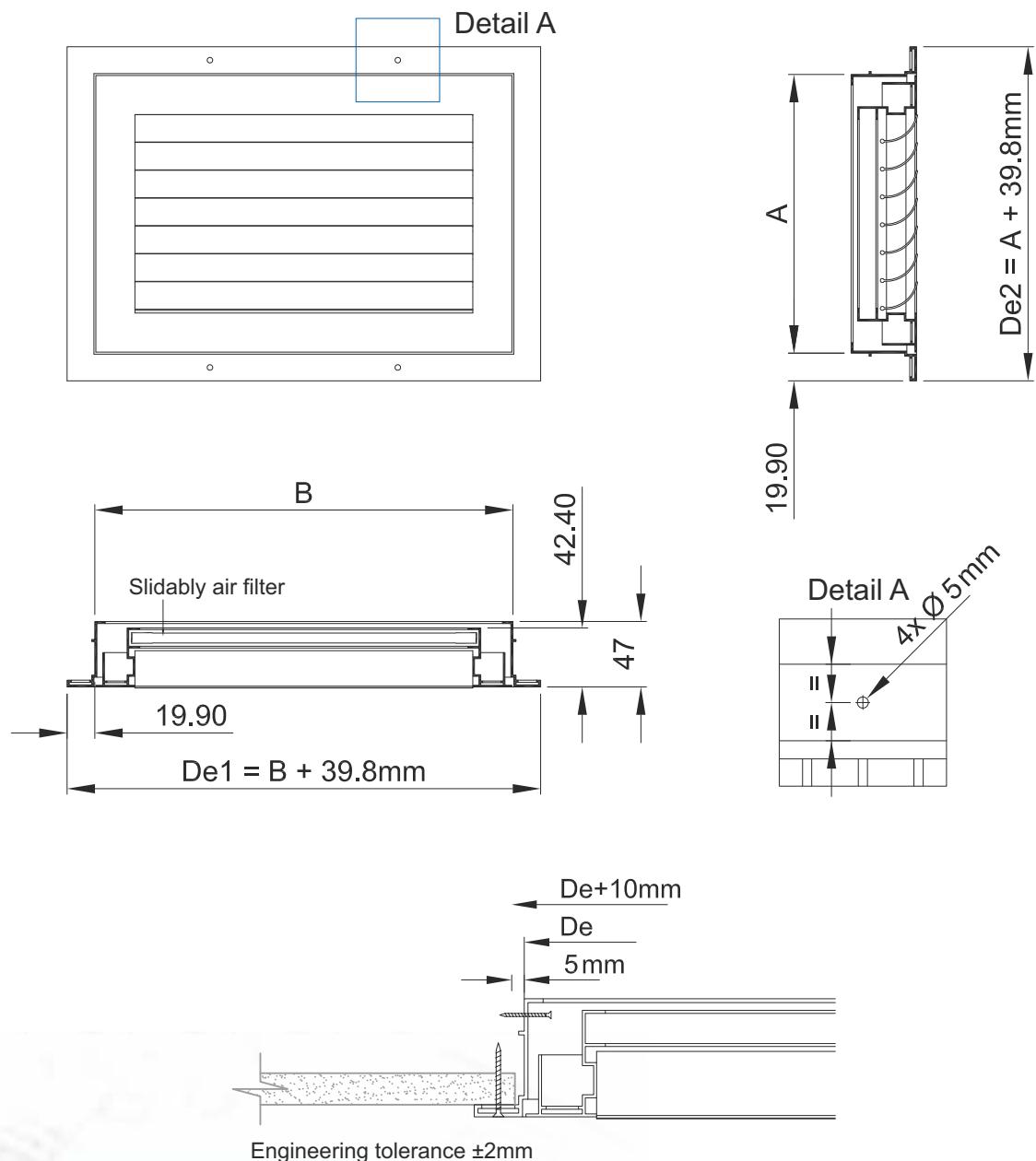
Performance table

| 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

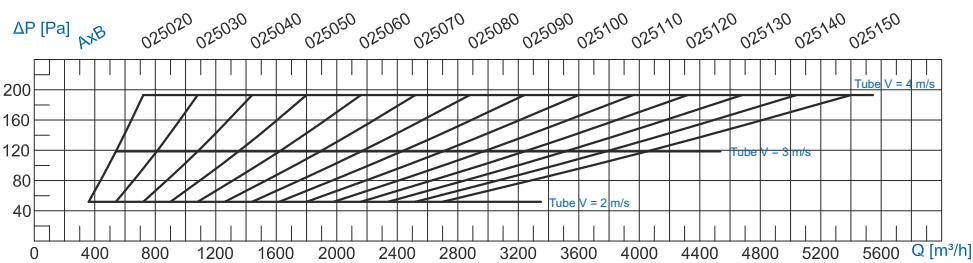
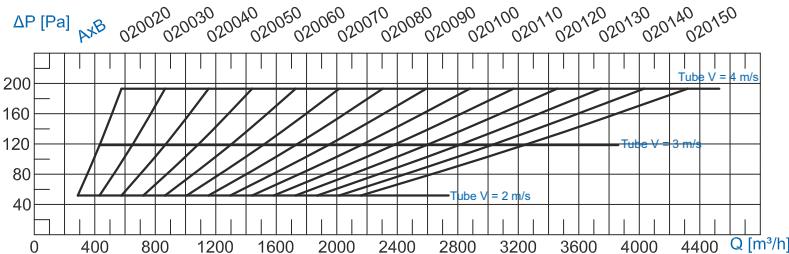
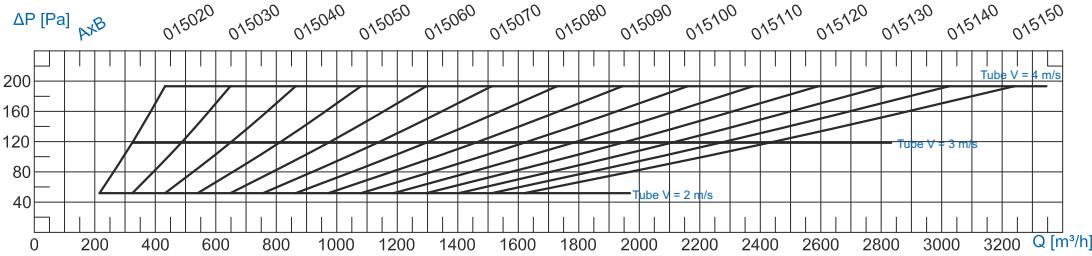
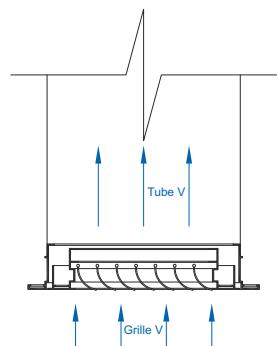
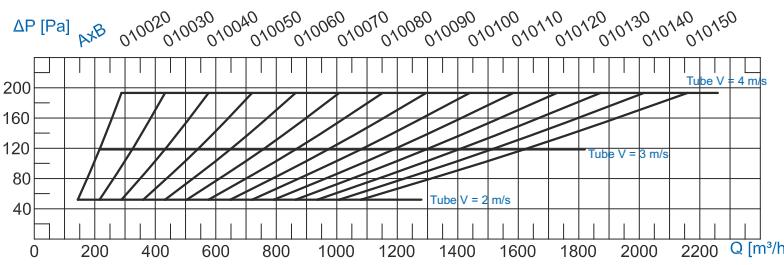
Fixed protection filter

Detachable air filter: MFF

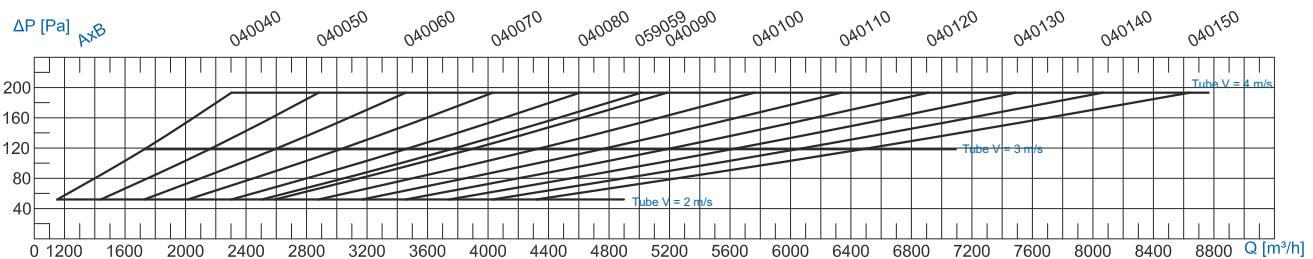
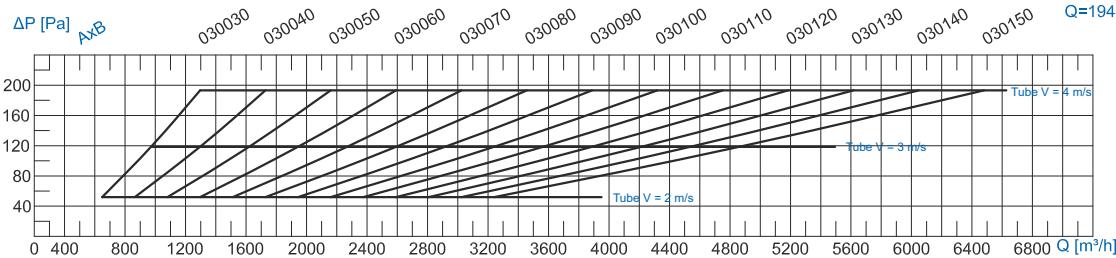
NOTE: Products may be ordered in customized sizes and configurations (colors, number and position of holes, fastening method, blade display, execution of hybrid product, special plenum box etc.)

RAAG - Return air access grilles

Pressure loss charts

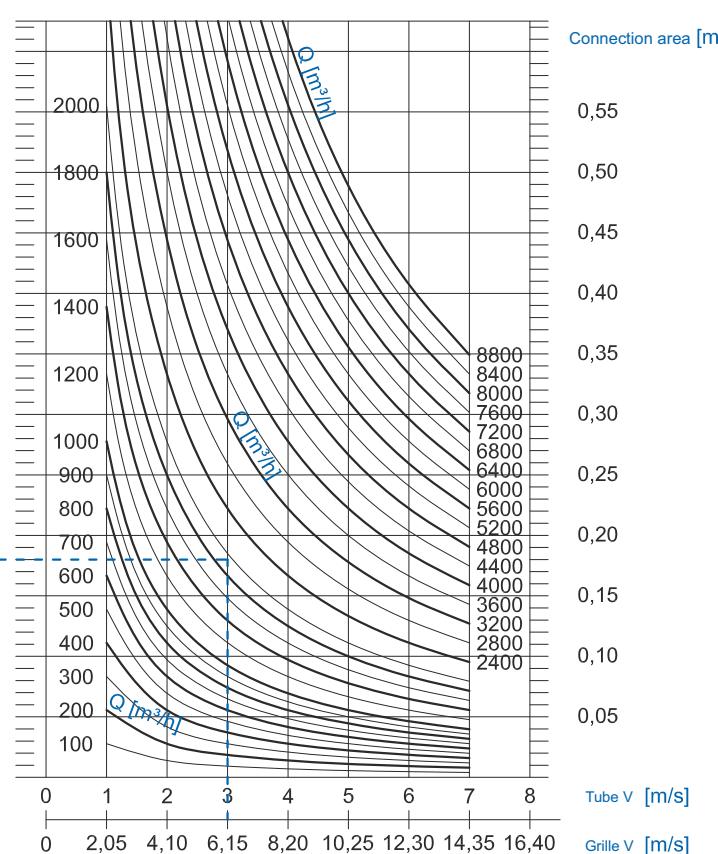
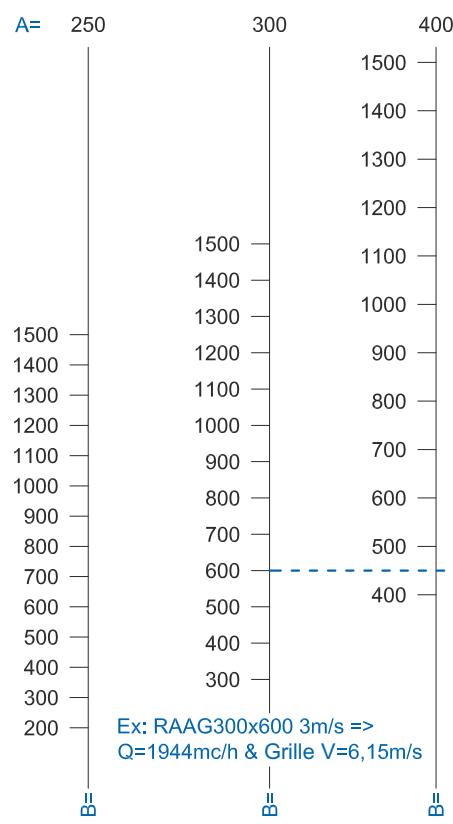
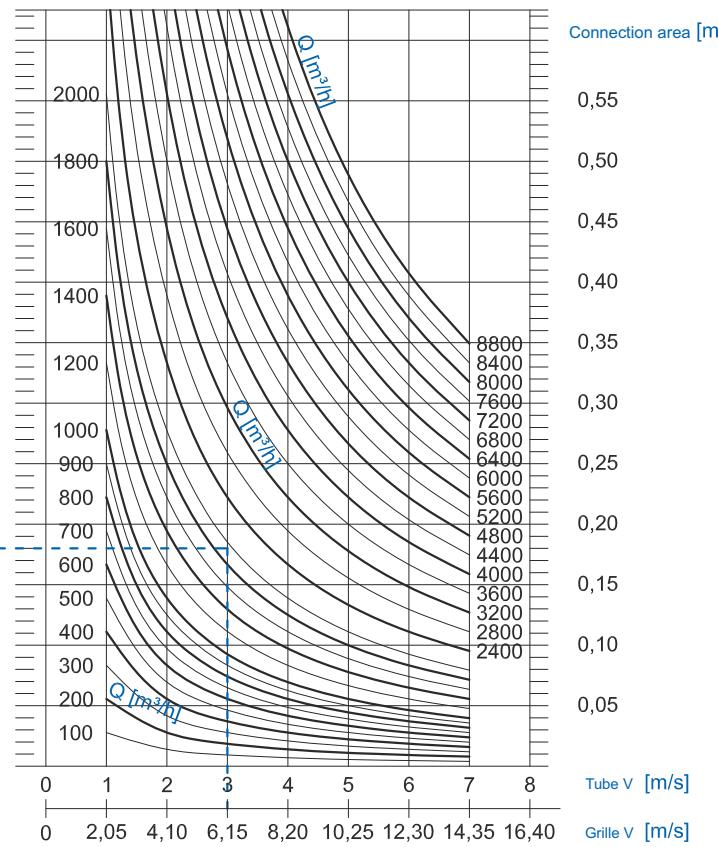
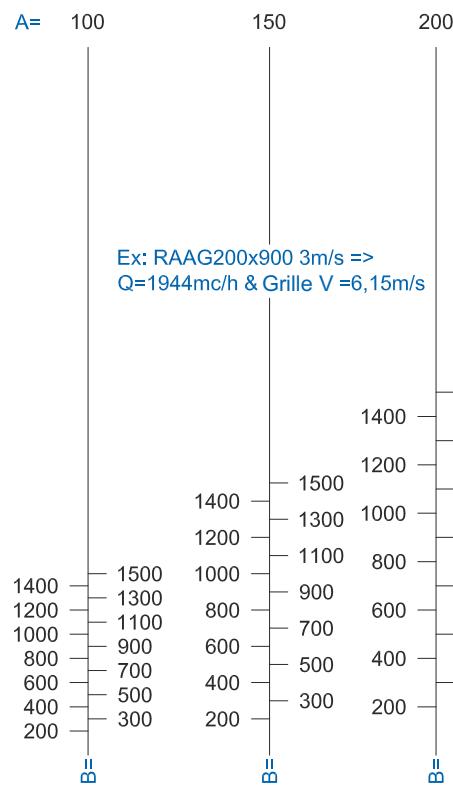


Ex: RAAG300x600 Tube V=3m/s =>
Q=1944mc/h & $\Delta P=118,50$ Pa



Design your environment

Selection chart



RAAG - Return air access grilles



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Design your environment

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