



Compact filter unit with manual Roto-cleaning. Suitable for filtration of air from dust and chip making processes with short operation intervals, e.g. in connection with grinding machines and smaller blast cabinets.

Is available with mounted fan type VT 500 (for FR 3) or VL 750 (for FR 5) on top of unit.

**FR:** Air volume: Up to 560m<sup>3</sup>/h  
Vacuum: Up to 5,000Pa

**FR-V:** Air volume: Up to 560m<sup>3</sup>/h  
Vacuum: Up to 40,000Pa

**Filter area:** 3.00 - 3.75m<sup>2</sup>

### Description

- Polluted air enters by inlet on the left unit side into pre-separator chamber, where larger dust particles / chips are separated to dust container below in unit.
- Air is led up and filtrated by vertical-placed filter cartridge.
- Manual filter cleaning by Gram Roto-cleaning. When outside handle is turned, filter pleatings are touched from the inside, and dust and chips are thus shaken free. Filter cleaning may only be operated/activated at operation stop.
- Clean air is led out through top unit outlet.
- Dust and chips are collected in dust container below in unit. Dust container is mounted by Quicklock-adjustable dust container system and equipped with 4 pcs. external wheels ø50mm.

### A simple solution for smaller filtration tasks

For tasks of shorter duration and with smaller material volume the FR-unit is an advantageous solution that easily does the job.



#### Easy filter cleaning

After use the filter is easily cleaned by turning the external handle 5 - 10 times.



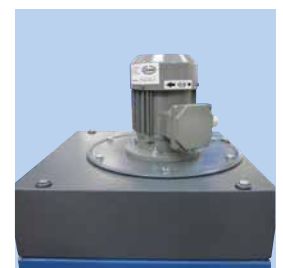
#### Easy emptying of dust container

Quicklock-adjustable dust container on 4 wheels ensures user-friendly dust container service.



#### Easy filter replacement from unit top

Top plate with integrated outlet is dismantled and filter can be replaced.

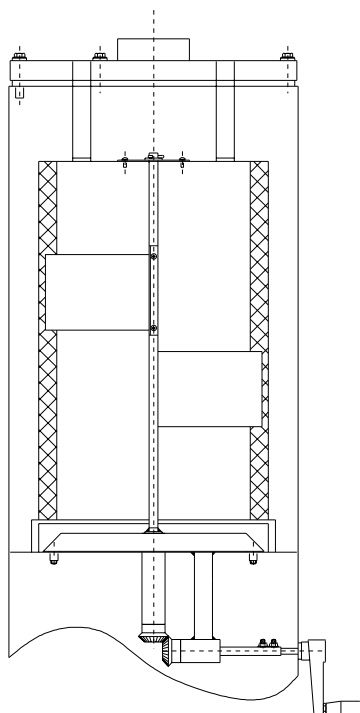


#### FR-unit with top-mounted fan

With fixed-mounted Gram fan on top a very compact and space-saving unit is obtained (not possible on the version type FR-V).

**Filters:** Filter cartridge type Staubmaster  $\varnothing$ 320 or  $\varnothing$ 400mm, length: 500mm

**Filter control:** Filter cartridge is cleaned manually after stopped use by activating Gram Roto-cleaning, which operates by rotating plastic strips cleaning the filter on the inside - also between the pleatings. Is activated by turning outside handle 5 -10 times, when fan has stopped.



**Filter material:**

<b>Standard</b>	<b>Material</b>	<b>Use for</b>
G101	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 $\mu$ m plaster and wood

**Alternative**

G113	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G116A	Polyester flake with with teflon membrane, antistatic	Finer static-loaded dust sorts



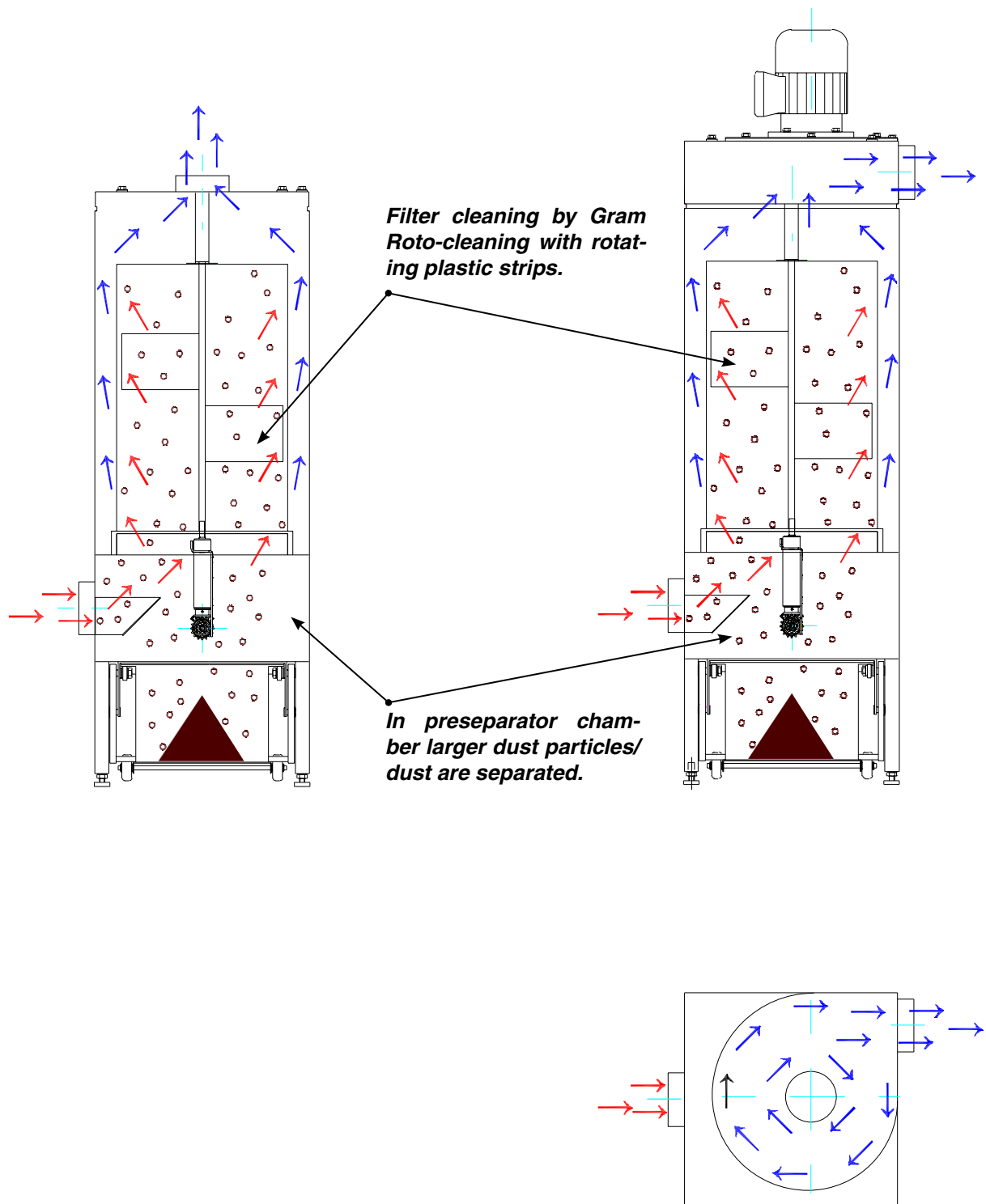
The filters meet demands for extraction degree for dust class M according to DIN EN 60335-2-69 Appendix AA (extraction degree > 99.9%).

Data is subject to alterations.

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Principle sketch for flow through filter unit FR/FR-V:

Principle sketch for flow through filter unit type FR with topmounted fan:



## Construction/surface

Filter unit type FR/FR-V is constructed according to:

- Machine directive 2006/42/EU
- EMC-directive 2014/30/EU
- Directive 2014/68/EU about pressure equipment
- Low voltage directive 2014/35/EU
- Harmonized standards: EN 349, EN 4414, EN 12100, EN 60204-1, EN ISO 13857
- Further standards: ISO 3746

Filter cabinet is made in 2mm black steel plate

Surface powder enamelled RAL 5007/7011 structure

## Further is available:

- Reductions for inlet and outlet
- Outlet sound enclosure (for FR-unit with fan)
- Filter guard (pressure sensitive switch) for measuring differential pressure above filter



Photo:  
Filter unit type FR 5/VL 750 with mounted outlet sound enclosure

Filter unit type FR/FR-V is available in the sizes as stated in the forms below.

Please, contact us for assistance in selecting the optimal unit taking into consideration air volume, dust type and volume, operation times etc.

- **FR-V** is for high-vacuum application

## Filter unit type FR (max. 5,000Pa):

Type	Item no.	$\Delta P$ start/end <sup>1)</sup> [Pa]	Filter area [m <sup>2</sup> ]	Dust container [L]	Weight [kg]
FR 3	04 601 000	300/2000	3.00 <sup>2)</sup>	13	30
FR 5	04 603 000	300/2000	3.75 <sup>3)</sup>	21	50

<sup>1)</sup> Pressure drop stated over filter cartridge

<sup>2)</sup> Staubmaster  $\phi 320 \times 500 \text{mm}$ , 3.00m<sup>3</sup>, G101 (08 113 000)

<sup>3)</sup> Staubmaster  $\phi 400 \times 500 \text{mm}$ , 3.75m<sup>3</sup>, G101 (08 114 000)

## Filter unit type FR with top-mounted fan (max. 5,000Pa):

Type	Item no.	Motor <sup>4)</sup> [kW]	$\Delta P$ start/end <sup>1)</sup> [Pa]	Filter area [m <sup>2</sup> ]	Dust container [L]	Weight [kg]
FR 3/VT 500	04 220 000	0,37	300/2000	3.00 <sup>2)</sup>	13	55
FR 5/VL 750	04 221 000	0,75	300/2000	3.75 <sup>3)</sup>	21	85

<sup>1)</sup> Pressure drop stated over filter cartridge

<sup>2)</sup> Staubmaster  $\phi 320 \times 500 \text{mm}$ , 3.00m<sup>3</sup>, G101 (08 113 000)

<sup>3)</sup> Staubmaster  $\phi 400 \times 500 \text{mm}$ , 3.75m<sup>3</sup>, G101 (08 114 000)

<sup>4)</sup> 3x400V, 2-pole.

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## Filter unit type FR-V (max. 40.000Pa):

Type	Item no.	$\Delta P$ start/end <sup>1)</sup> [Pa]	Filter area [m <sup>2</sup> ]	Dust container [L]	Weight [kg]
FR-V 3	04 610 000	300/2000	3.00 <sup>2)</sup>	13	30
FR-V 5	04 610 200	300/2000	3.75 <sup>3)</sup>	21	50

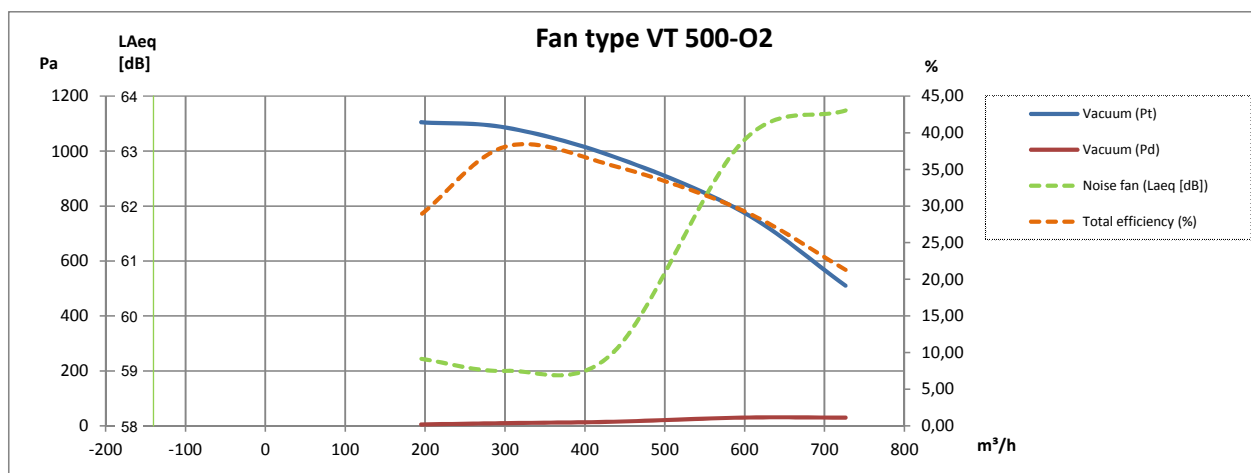
<sup>1)</sup> Pressure drop stated over filter cartridge

<sup>2)</sup> Staubmaster  $\varnothing 320 \times 500 \text{mm}$ , 3.00m<sup>3</sup>, G101 (08 113 000)

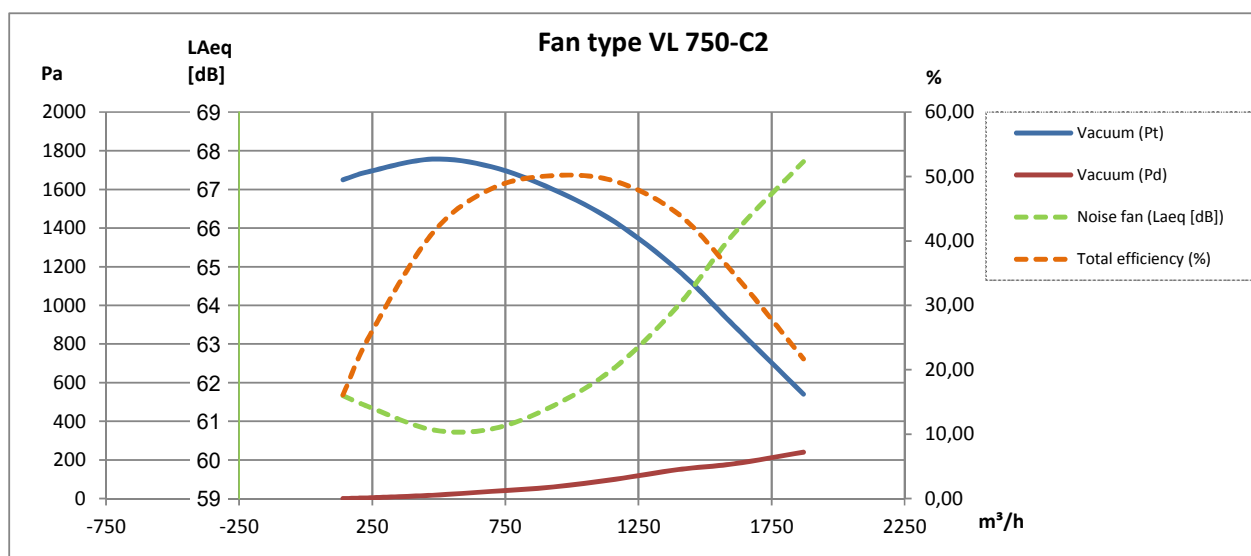
<sup>3)</sup> Staubmaster  $\varnothing 400 \times 500 \text{mm}$ , 3.75m<sup>3</sup>, G101 (08 114 000)

## Mount fan:

## 2-pole:



## 2-pole:



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