



Photo:
Filter unit type FRS/AUT 20 with 150L-
dust container

Compact filter unit with manual or automatic Roto-cleaning (FRS MAN or FRS AUT). Suitable for use at educational institutions and in smaller workshops and the like, where both must be extracted from machines and use tap for cleaning. Available as single cabinet with 10 to 20m² filter area and as double cabinet with 40m² filter area.

FRS: Air volume: Up to 6,000m³/h
Vacuum: Up to 10,000Pa
Filter area: 10 - 40m²

Gram fans type M7 as well as VPH or RVH can be built on top of FRS 10 to 20 (single cabinet).

Description

- Polluted air is led by 90° inlet (vertical connection) on the left filter unit side into preseparator chamber, where larger dust particles/chips are separated to dust container below in unit. Inlet can alternatively be placed on the right side.
- Air is led up and filtrated by vertical-placed filter cartridge.
- Manual or automatic filter cleaning by Gram Roto-cleaning that works by touching the filter pleatings inside with rotating plastic strips, whereby dust and chips are shaken free. Manually it happens by turning the outside handle, alternatively a gear motor is engaged to Roto-cleaning is activated automatically. Filter cleaning may only be activated/operated at operation stop.
- Clean air is led out through top unit outlet.
- Dust and chips fall down into container (72/150L) or 240/380L sack suspended in sack cabinet below in unit.
- Built-in ø76mm flap valve for cleaning around unit after dust container emptying or other service.

Simple filter unit with several application possibilities

With a FRS-filter unit you obtain a simple filter solution that with its compact design easily can be adapted to the production area and connected to several different chip and dust making machine types in both the wood as well as the metal industry and at the same time be used for cleaning purposes. Requires no compressed-air connection, but cleans easily by Gram Roto-cleaning.



Manual or automatic filter cleaning

Roto-cleaning is activated by turning the outside handle 5 - 10 times or by gear motor and control automatic.



Dust container

Quicklock-adjustable dust container (72/150L) on 4 turnable wheels ensures user-friendly dust container service.



Easy filter change through front door

Filter change can be made easily and seamlessly by loosening filter clamp, which can be accessed by bolt-suspended front door.



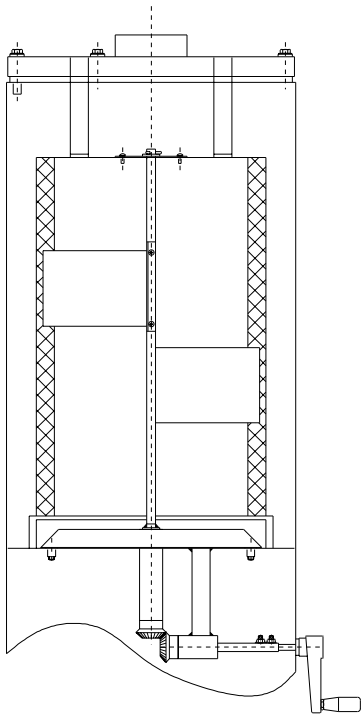
Cleaning tap

Built-in flap valve ø76mm on inlet valve for cleaning around unit after service and dust container emptying.



Filter: Cartridge filter type Staubmaster ø600mm. Length: 500 / 750 / 1000mm

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 or by connecting gear motor and control automatic that ensure uniform filter cleaning after each application. Roto-cleaning may only be acitivated, when fan has stopped.



Filter material:

Standard	Material	Use for
G101	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2µm 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



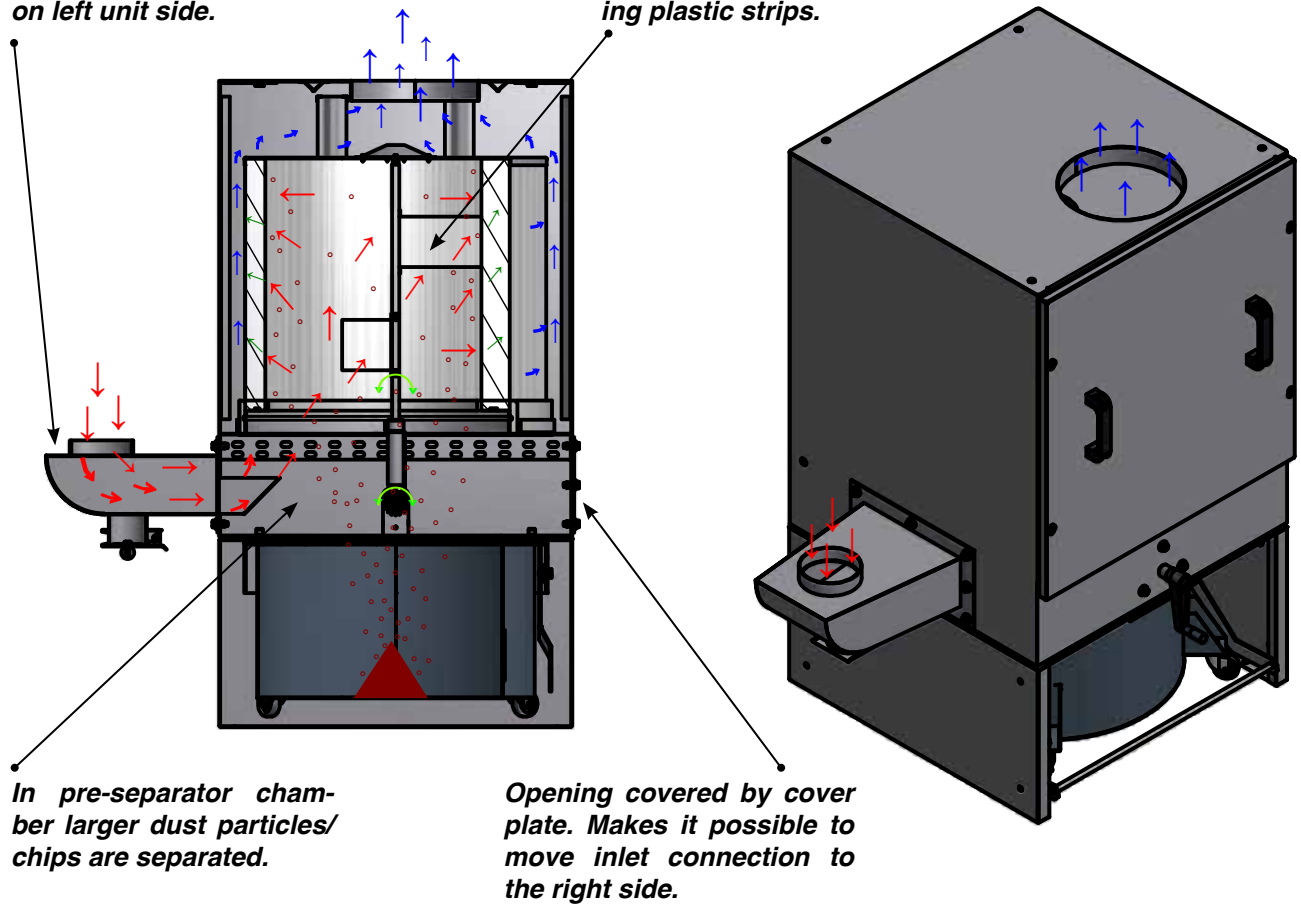
The filters meet demands for extraction degree for dust class M according to DIN EN 60335-2-69 Appendix AA (extraction degree > 99.9%).

Rev. 10.15
Data is subject to alterations

Principle sketch for flow through type FRS:

Inlet connection as standard mounted on left unit side.

Filter cleaning by Gram Roto-cleaning with rotating plastic strips.



Construction/surface:

Filter unit type FRS is constructed according to:

- Machine directive 2006/42/EU
- EMC-directive 2004/108/EU
- Directive 97/23/EU about pressure equipment
- Low voltage directive 2006/95/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:

- Version in hot-galvanized, enamelled steel plates for outdoor mounting
- Sack and sack holder for 72L dust container (150L is always delivered with sack and sack holder)
- FRS 10 - 20: 380L-sack standing behind door in cabinet bottom, locked in top by suspension flange with Quick-sack band. For double cabinet FRS 40 2 pcs. 240L-sack
- Automatik-box for Gram Roto-cleaning with gear motor (FRS/AUT)
- Built-on fans type VPH or RVH either in or without sound enclosure (only FRS 10 - 20)
- M7-built-on fans (type VL, VF or VE) either in or without sound enclosure type VBA (outlet by top module) or VBU with HEPA/H13 (outlet in top by grid)
- Reductions to inlet and outlet
- Connection to transfer pipe
- Connection to JKF-edge
- Fill-level sensor type OEM-K (monitors dust container filling)
- Filter guard (pressostat) for differential pressure measurement above filter
- Signal device with constant or blitz light (yellow)
- Construction for application in connection with ATEX-zones in the wood industry (see ATEX data sheet)



Filter unit type FRS 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.

Filter unit type FRS:

Type	Order no. Manual Roto- cleaning (MAN)	Order no. Automatic Roto- cleaning (AUT)	Δ P start/end ⁴⁾ [Pa]	Number filter cartridge	Filter area [m ²]	Dust container/ sack rack [L]	Weight ⁶⁾ [kg]
FRS 10/72	04 850 000	04 855 000	200/2000	1 ¹⁾	10	1 x 72	118
FRS 15/72	04 860 000	04 865 000	200/2000	1 ²⁾	15	1 x 72	134
FRS 20/72	04 870 000	04 875 000	200/2000	1 ³⁾	20	1 x 72	150
FRS 10/150 ⁵⁾	04 851 000	04 856 000	200/2000	1 ¹⁾	10	1 x 150	137
FRS 15/150 ⁵⁾	04 861 000	04 866 000	200/2000	1 ²⁾	15	1 x 150	153
FRS 20/150 ⁵⁾	04 871 000	04 876 000	200/2000	1 ³⁾	20	1 x 150	169
FRS 10/380 ⁵⁾	04 852 000	04 857 000	200/2000	1 ¹⁾	10	1 x 380	160
FRS 15/380 ⁵⁾	04 862 000	04 867 000	200/2000	1 ²⁾	15	1 x 380	176
FRS 20/380 ⁵⁾	04 872 000	04 877 000	200/2000	1 ³⁾	20	1 x 380	192
FRS 40/72	04 880 000	04 885 000	200/2000	2 ³⁾	40	2 x 72	267
FRS 40/150 ⁵⁾	04 881 000	04 886 000	200/2000	2 ³⁾	40	2 x 150	305
FRS 40/240 ⁵⁾	04 882 000	04 887 000	200/2000	2 ³⁾	40	2 x 240	295

¹⁾ Staubmaster ø600 x 500mm, 10m², G101 (08 124 000)

²⁾ Staubmaster ø600 x 750mm, 15m², G101 (08 136 000)

³⁾ Staubmaster ø600 x 1000mm, 20m², G101 (08 137 000)

⁴⁾ Pressure drop stated over filter cartridge.

⁵⁾ Delivered incl. sack.

⁶⁾ Weight specifications for MAN-versions. +4kg per gear motor at AUT-versions.