Filters

Baghouse filters

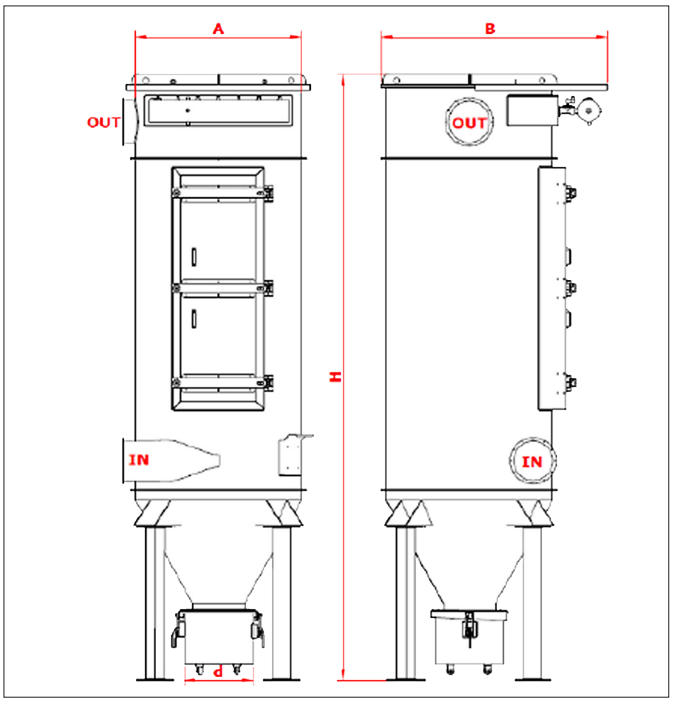
Cartridge filters

Oil mist filters

Wet filters

BECA - Bag cyclo-filters





BECA - Bag cyclo-filters
BECA cyclo-filters are the circular series of bag filters with automatic compressed air reverse jet cleaning system.

These filters are studied to support strong vacuum thanks to their circular shape which allows to have a homogeneous resistance to pressure over the entire surface.

The automatic compressed air reverse jet cleaning system ensures a long life of the filters.

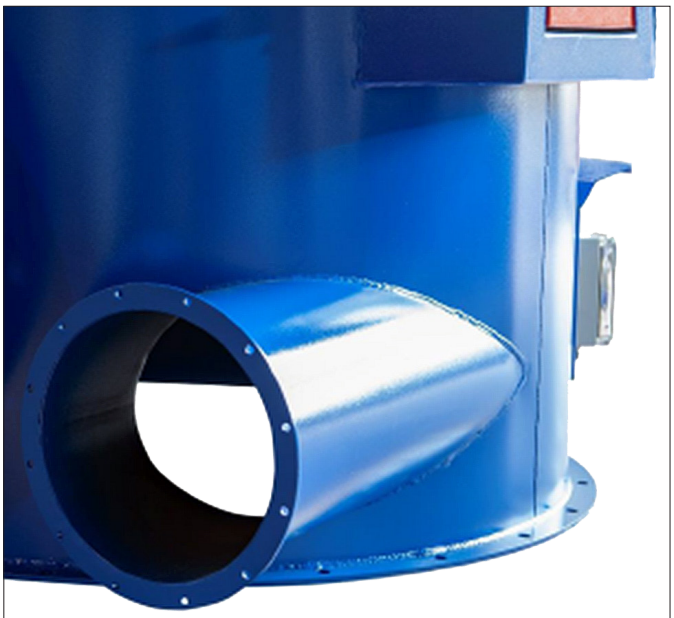
BECA cyclo-filters are also available ATEX certified for zone 22 3D.

Materials and finish :
- Painted
- Galvanized metal sheet (option)
- Stainless steel (option)

Standard version :
- Filtering surface from 7 to 89 m^2
- Reverse jet cleaning with differential pressure gauge
- Maximum vacuum 5000 Pa
- Maximum temperature 80°C

Model	Airflow (m^3/h)	Pressure loss (Pa)	# bags	H bags	Filter area (m^2)	Dimensions (A x B x H)			Dust bucket
BECA 14 120 1500	1255	1000	14	1500	7.84	900	1360	4063	Ø 525 - 100 L
BECA 18 120 1500	1700	1000	18	1500	10.08	1100	1460	4180	Ø 525 - 100 L
BECA 23 120 1500	2060	1000	23	1500	12.88	1100	1530	4180	Ø 525 - 100 L
BECA 36 120 1500	3225	1000	36	1500	20.16	1430	1730	4432	Ø 525 - 100 L
BECA 43 120 1500	4032	1000	43	1500	24.08	1430	1890	4432	Ø 525 - 100 L
BECA 65 120 1500	5824	1000	65	1500	36.40	1800	2160	4632	Ø 525 - 100 L
BECA 70 120 1500	6272	1000	70	1500	39.20	1800	3760	4632	Ø 525 - 100 L
BECA 91 120 1500	8153	1000	91	1500	50.96	2000	2460	4732	Ø 525 - 100 L
BECA 14 120 2000	1680	1000	14	2000	10.50	900	1360	4563	Ø 525 - 100 L
BECA 18 120 2000	2280	1000	18	2000	13.50	1100	1460	4680	Ø 525 - 100 L
BECA 23 120 2000	2760	1000	23	2000	17.25	1100	1530	4680	Ø 525 - 100 L
BECA 36 120 2000	4320	1000	36	2000	27.00	1430	1730	4932	Ø 525 - 100 L
BECA 43 120 2000	5400	1000	43	2000	32.25	1430	1890	4932	Ø 525 - 100 L
BECA 65 120 2000	7800	1000	65	2000	48.75	1800	2160	5132	Ø 525 - 100 L
BECA 70 120 2000	8400	1000	70	2000	52.50	1800	3760	5132	Ø 525 - 100 L
BECA 91 120 2000	10920	1000	91	2000	68.25	2000	2460	5232	Ø 525 - 100 L
BECA 14 120 2500	2195	1000	14	2500	13.72	900	1360	5043	Ø 525 - 100 L
BECA 18 120 2500	2979	1000	18	2500	17.64	1100	1460	5163	Ø 525 - 100 L
BECA 23 120 2500	3606	1000	23	2500	22.54	1100	1530	5163	Ø 525 - 100 L
BECA 36 120 2500	5645	1000	36	2500	35.28	1430	1730	5412	Ø 525 - 100 L
BECA 43 120 2500	7056	1000	43	2500	42.14	1430	1890	5412	Ø 525 - 100 L
BECA 65 120 2500	10192	1000	65	2500	63.70	1800	2160	5612	Ø 525 - 100 L
BECA 70 120 2500	10976	1000	70	2500	68.60	1800	3760	5612	Ø 525 - 100 L
BECA 91 120 2500	14270	1000	91	2500	89.18	2000	2460	5712	Ø 525 - 100 L

BECA - Bag cyclo-filters



Cyclonic inlet module



Easy maintenance



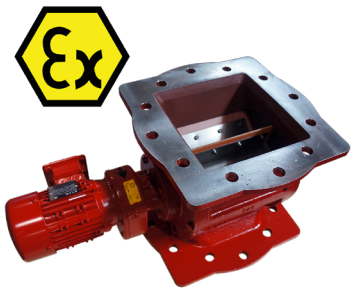
Delta P monitoring



Dust bucket



Options : ATEX version zone 22 3D



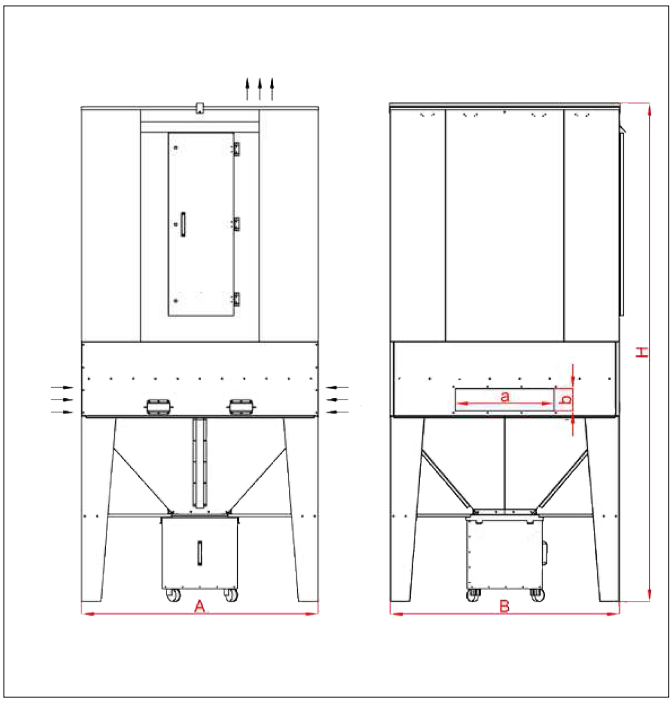
Options : rotary valve

Applications :
- Wood
- Plastic
- Stone
- Food
- Chemical

Accessories :
- Different bag fabrics
- Extraction fan
- Control panel with/or inverter
- Rotary valve
- Available with Atex components zone 22 3D
- Fire protection stystem

BFEMD - Rectangular baghouse filters with shaking cleaning





BFEMD - Vertical baghouse filter with shaking cleaning
BFEMP are the baghouse filters with shaking cleaning cleaning system, studied for large dusdt volumes and big chips.

The inlet is located in the lower part of the filter unit for a first dust separation and insure a longer life cycle of the filter bags.

The cleaning shaking mechanism insures a good cleaning efficiency while keeping energy costs at the lowest.

Thanks to their compact structure and lifting hooks, the BFEMD filters are easy to transport and install.

BFEMD rectangular baghouse filters are also available for ATEX zone 22 3D.

Applications :
- Wood
- Plastic
- Stone
- Food
- Chemical

Materials and finish :
- Galvanized metal sheet
- Stainless steel AISI 304 (option)
- Painted (option)

Standard version :
- Filtering surface from 30 to 158 m^2
- Dust bucket 210 L
- Maximum vacuum 4000 Pa
- Maximum temperature 80°C

Accessories :
- Different bag fabrics
- Integrated fan on top of filter
- Control panel or/with inverter
- Dust bucket balance
- Screw conveyor, rotary valve and big bag
- ATEX components zone 22 3D
- Fire protection stystem

Model	Pressure drop (Pa)	# bags	Filter area (m^2)	Dimensions (A x B x H)	Dust bucket
BFEMD 24	1100	24 x H = 1900 mm	29	1540 x 1180 x 4000	1 x 210 L
BFEMD 30	1100	30 x H = 1900 mm	38	1710 x 1360 x 4110	1 x 210 L
BFEMD 42	1100	42 x H = 1900 mm	53	1890 x 1540 x 4240	1 x 210 L
BFEMD 48	1100	48 x H = 1900 mm	60	2070 x 1540 x 4370	1 x 210 L
BFEMD 56	1100	56 x H = 1900 mm	70	2070 x 1890 x 4370	1 x 210 L
BFEMD 63	1100	63 x H = 1900 mm	79	2250 x 1810 x 4470	1 x 210 L
BFEMD 96	1100	96 x H = 1900 mm	120	2890 x 1890 x 4240	2 x 210 L
BFEMD 112	1100	112 x H = 1900 mm	140	3350 x 1890 x 4300	2 x 210 L
BFEMD 126	1100	126 x H = 1900 mm	158	3790 x 2250 x 4520	2 x 210 L

BFEMD - Rectangular baghouse filters with shaking cleaning



With integrated fan (option)



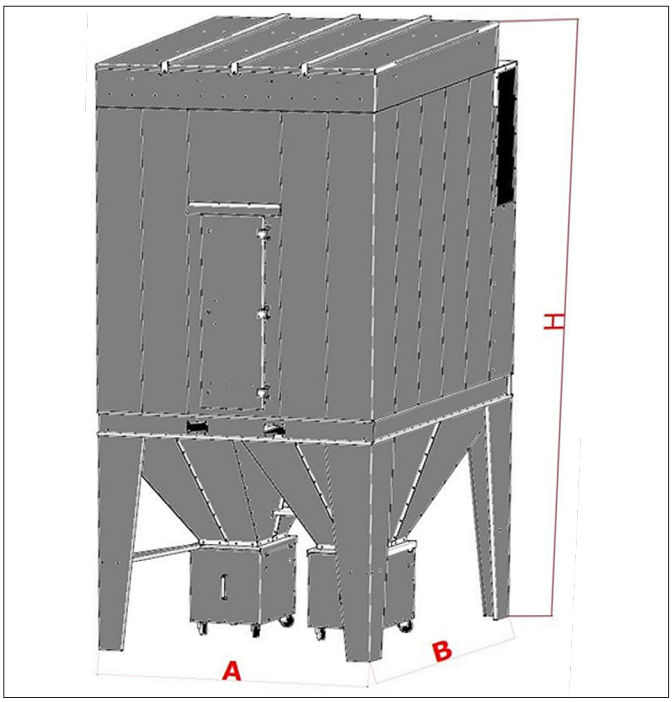
Options : ATEX zone 22 3D
explosion panel



Option : Dust bucket bag balancing

BFEMP - Rectangular baghouse filters





BFEMP - Vertical baghouse filter
BFEMP are the baghouse filters with automatic compressed air cleaning system, studied for medium air flows.

These filters are studied to support strong vacuum and are provided with a plenum chamber allowing a first dust separation of heavier dust to grant a better filtration efficiency in the bags.

The automatic compressed air cleaning system ensures a long life of the filters.

Thanks to their compact structure BFEMP are easy to transport and install.

BFEMP rectangular baghouse filters are also available ATEX certified for zone 22 3D.

Applications :
- Wood
- Plastic
- Stone
- Food
- Chemical

Materials and finish :
- Galvanized metal sheet
- Stainless steel AISI 304 (option)
- Painted (option)
- Insulation (option)

Standard version :
- Filtering surface from 19 to 116 m^2
- Reverse jet cleaning with differential pressure gauge
- Dust bucket 200 L
- Maximum vacuum 3000 Pa
- Maximum temperature 80°C

Accessories :
- Different bag fabrics
- Extraction fan
- Control panel or/with inverter
- Dust bucket balance
- Screw conveyor, rotary valve and big bag
- Access ladder and safety railing
- ATEX components zone 22 3D
- Fire protection stystem

Model	Pressure (Pa)	# bags	Filter area (m^2)	# valves	Dimensions (A x B x H)	Dust bucket
BFEMP 24 120 2500 1T	120	24 x H = 2000 mm	19	4	960 x 1350 x 3750	1 x 60 L
BFEMP 36 120 2500 1T	130	36 x H = 2500 mm	34	6	1350 x 1410 x 4730	1 x 200 L
BFEMP 50 120 2500 1T	120	50 x H = 2500 mm	49	5	2000 x 1350 x 4730	1 x 200 L
BFEMP 60 120 2500 1T	130	60 x H = 2500 mm	58	6	2000 x 1450 x 4730	1 x 200 L
BFEMP 80 120 2500 1T	130	80 x H = 2500 mm	78	8	2000 x 1850 x 4730	1 x 200 L
BFEMP 100 120 2500 1T	120	100 x H = 2500 mm	97	10	2000 x 2250 x 4730	1 x 200 L
BFEMP 120 120 2500 2T	130	120 x H = 2500 mm	116	12	2390 x 2250 x 4730	2 x 200 L

BFEMP - Rectangular baghouse filters



BFEMP with endless screw and rotary valve



BFEMP baghouse filter composition :

1 - Inlet
2 - Hopper
3 - Bag module
4 - Cleaning module
5 - Outlet
6 - lifting hooks



Standard : Delta P sequencer



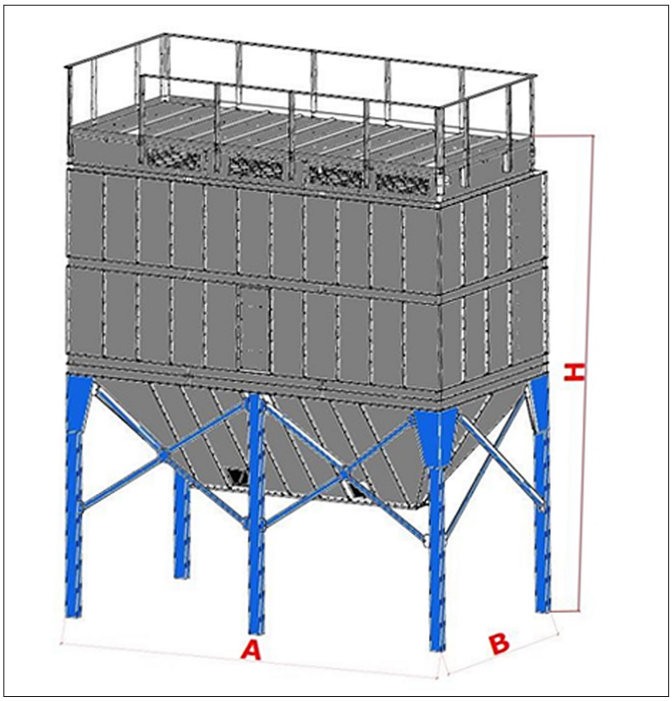
Options : ATEX zone 22 3D explosion panel



Option : Dust bucket bag balancing

BERF - Rectangular baghouse filters





BERF - Rectangular baghouse filter
BERF are the "heavy duty series" of the baghouse filters with automatic compressed air reverse jet cleaning system

These filters are provided with a plenum chamber allowing a first dust separation of heavier dust to grant a better filtration efficiency in the bags.

The automatic compressed air reverse jet cleaning system ensures a long life of the filters

These filters are studied to cover a big range of filtering surface, up to 598 m^2.

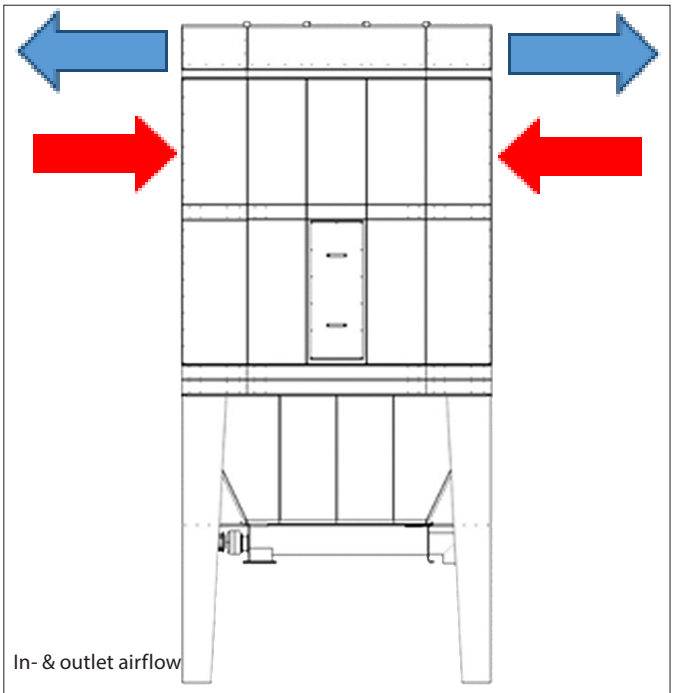
BERF rectangular baghouse filters are also available ATEX certified for zone 22 3D.

Materials and finish :
- Galvanized metal sheet
- Stainless steel (option)
- Painted (option)
- Insulation (option)

Standard version :
- Filtering surface from 109 to 598 m^2
- Reverse jet cleaning with differential pressure gauge
- with dust bucket
- Maximum vacuum 5000 Pa
- Maximum temperature 80°C

Model	# of valves	Pressure loss (Pa)	# bags	H bags (mm)	Filter area (m^2)	Dimensions (A x B x H)			Dust bucket (# x L)
BERF 9 120 2500 1T	9	1250	113	2500	109	1910	2400	5476	1 x 210 L
BERF 12 120 2500 1T	12	1250	152	2500	147	2510	2400	5476	1 x 210 L
BERF 15 120 2500 2T	15	1250	191	2500	184	3110	2400	5476	2 x 210 L
BERF 18 120 2500 2T	18	1250	230	2500	222	3710	2400	5476	2 x 210 L
BERF 21 120 2500 2T	21	1250	269	2500	260	4310	2400	5476	2 x 210 L
BERF 24 120 2500 2T	24	1250	308	2500	297	4910	2400	5476	2 x 210 L
BERF 27 120 2500 3T	27	1250	347	2500	335	5510	2400	5476	3 x 210 L
BERF 30 120 2500 3T	30	1250	386	2500	372	6110	2400	5476	3 x 210 L
BERF 33 120 2500 3T	33	1250	425	2500	410	6710	2400	5476	3 x 210 L
BERF 36 120 2500 3T	36	1250	464	2500	448	7310	2400	5476	3 x 210 L
BERF 39 120 2500 3T	39	1250	503	2500	485	7910	2400	5476	3 x 210 L
BERF 42 120 2500 4T	42	1250	542	2500	523	8510	2400	5476	4 x 210 L
BERF 45 120 2500 4T	45	1250	581	2500	561	9110	2400	5476	4 x 210 L
BERF 48 120 2500 4T	48	1250	620	2500	598	9710	2400	5476	4 x 210 L

BERF - Rectangular bag filters



In- & outlet airflow



BERF 42 120 2500 1 T with screw and extraction fan in acoustic booth

Applications :
- Wood
- Plastic
- Stone
- Food
- Chemical

Accessories :
- Different bag fabrics
- High temperature version
- Extraction fan
- Control panel with/or inverter
- Rotary valve or big bag connections
- Access ladder and safety railing
- Atex components zone 22 3D
- Fire protection stystem



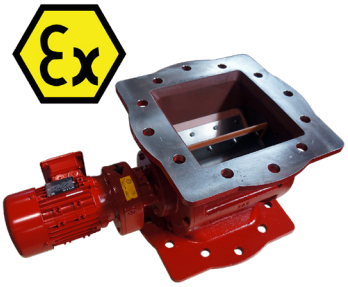
Options : ATEX zone 22 3D explosion panel



Standard : Delta P sequencer



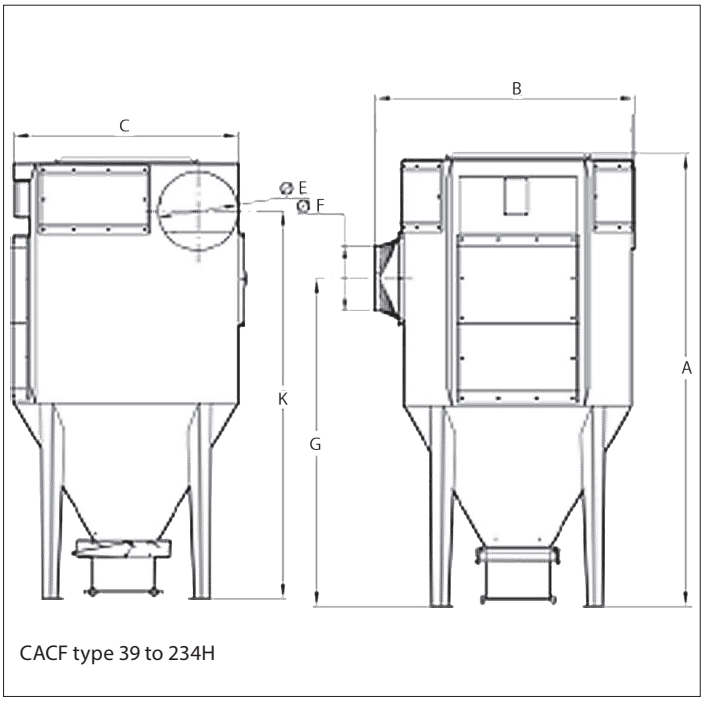
Option : extraction fan



Option : rotary valve

CACF cartridge cyclo-filters





CACF type 39 to 234H

Description CACF cartridge cyclo-filter :
The CACF cyclofilters range offer optimal and economical solutions to most industrial applications for fine dusts from welding smoke, grinding dusts, cutting smoke and dusty air containing metal, rocks, plastics, or various powder mixes.

Air volume :	2000 up to 40000 m^3/h
Vacuum :	Up to 40000 Pa
Filter area :	39 to 756 m^2

Advantages :
- Integrated conception with complete equipment.
  Air tank, jet valves and controller are integrated in the filter with no exterior prominence
- Low operation costs and longer operating time with fewer shutdowns

Available in ATEX versions for zone 21 or 22 with certificates

Details :
- High efficiency cyclone filter
- Differential pressure controlled compressed air cleaning
- Compressed air connection situated outside at the front
- Digital differential pressure display with delta P
- Pressure tank with manometer built into cabinet
- Filter media: polyester, cellulose, antistatic or not, with or without PTFE coating. To be determined in function of dust to be treated
- High performance cyclonic pre-separator increases filter life
- Easy service access by front doors
- Dust container with quick-lock system or rotary valve version.

Options:
- Adaptation for rotary valve
- Leg extension for bulk bags (Big-Bag)
- Fan built-on.

Supply :
Controller : 230 V AC
Compressed air : 6 bar dry – unit equipped with Cejn hose nipples Ø10 mm.



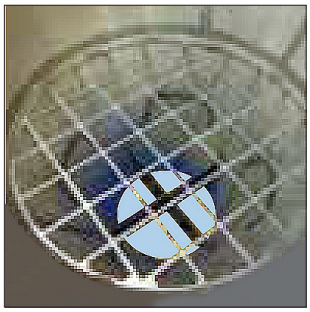
Service
The air tank and controls are embedded in the unit top (with no exterior prominence).



Access door
Easy visual inspection of filter cartridges and cyclonic chamber through the inspection door.

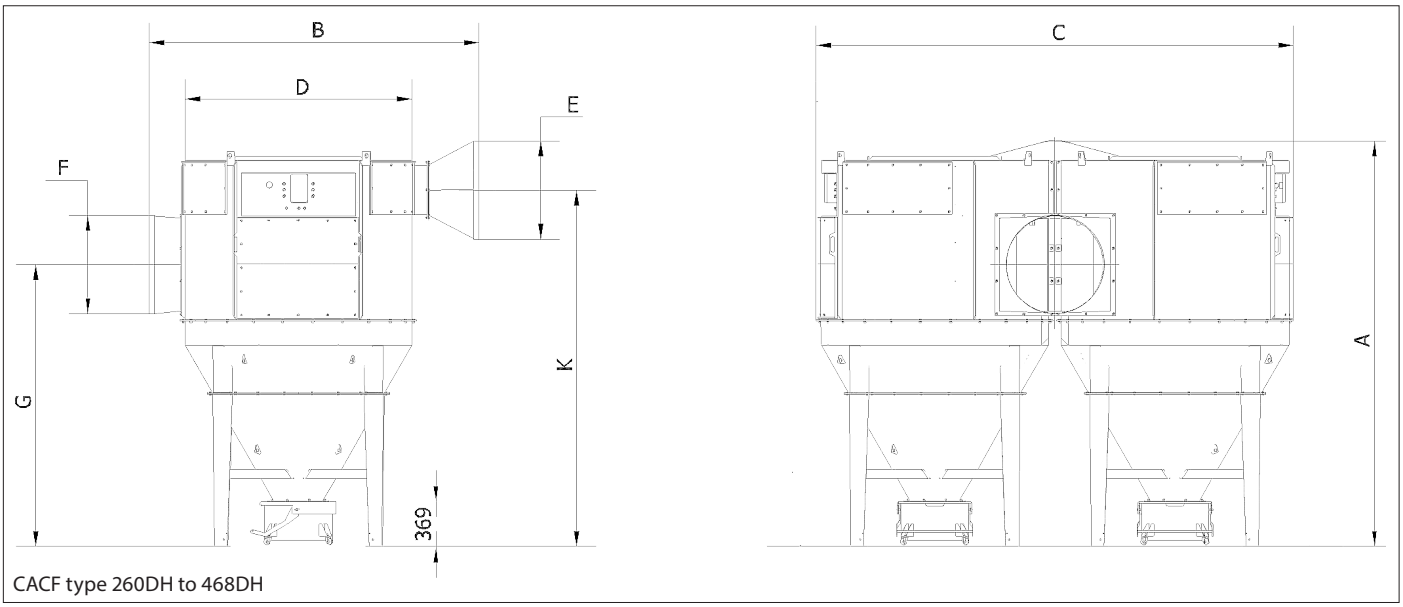


Dust bucket
Dust bucket on wheels in metal with quick-lock system for easy use. The dust container can be equipped with a plastic bag.



Service bar grating
As of model CACF-78H, a bar grating is welded in hopper as tread plate (can be delivered without bar grating and wind deflector upon request).

CACF cartridge cyclo-filters



CACF type 260DH to 468DH

Technical data CACF (max. 5000 Pa) :

Type	Max. volume (m^3/h)	# of cartridges	Cartridge size	# of valves	Filter area G102 (m^2)	Filter area G105 (m^2)	Comp. air (l/min.)	# dust bucket	Weight (kg)
CACF 39	3120	3	325 x 660	3	39	63	30	1 x 70 L	332
CACF 52	4160	4	325 x 660	4	52	84	30	1 x 70 L	352
CACF 52H	5200	2	325 x 1320	2	52	84	30	1 x 70 L	308
CACF 78H	6240	3	325 x 1320	3	78	126	30	1 x 70 L	400
CACF 104H	8320	4	325 x 1320	4	104	168	30	1 x 70 L	474
CACF 130H	10400	5	325 x 1320	5	130	210	30	1 x 70 L	561
CACF 182H	14560	7	325 x 1320	7	182	294	30	1 x 70 L	746
CACF 234H	18720	9	325 x 1320	9	234	378	30	1 x 70 L	859
CACF 260DH	20800	10	325 x 1320	10	260	420	60	2 x 70 L	1150
CACF 364DH	29120	14	325 x 1320	14	364	588	60	2 x 70 L	1498
CACF 468DH	37440	18	325 x 1320	18	468	756	60	2 x 70 L	1720

Dimensions CACF :

Type	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	K (mm)
CACF 39	2270	1158	1200	1251	200	200	1622	2052
CACF 52	2449	1454	1400	1441	250	250	1776	2156
CACF 52H	2551	1158	1100	1143	315	315	1845	2275
CACF 78H	2632	1258	1200	1253	400	400	1888	2318
CACF 104H	2813	1583	1400	1479	500	500	2010	2441
CACF 130H	2941	1768	1550	1690	500	500	2090	2475
CACF 182H	3217	2560	1850	2006	630	630	2294	2902
CACF 234H	3352	2635	2000	2156	630	630	2429	3037
CACF 260DH	2974	2231	3280	1550	800	630	2090	2574
CACF 364DH	3300	2681	3885	1850	800	800	2294	2900
CACF 468DH	3535	2762	4184	2000	1000	800	2429	3035

Dimensions CACF-V (with dust bucket 67 L) :

Type	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	K (mm)
CACF V 52H	2552	1158	1100	1157	250	250	1845	2275
CACF V 78H	2632	1258	1200	1269	400	400	1882	2312
CACF V 104H	2813	1585	1400	1513	500	400	2010	2441
CACF V 130H	2947	2947	1550	1723	500	500	2090	2574

CACF cartridge cyclo-filters

Accessories :
- Large volume dust container (150 L)
- ½" water separator with manometer and pressure reducing valve
- Fan built-on
- Galvanized version, powder coated version
- Rotary valve version
- Leg extension for bulk bags
- Special filter medias
- Pre-coating system
- Precoat 11.5 kg in bag

Construction :
Filter unit type CACF 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

Available versions :
CACF with standard side mounted inlet and outlet
Air volume : Up to 40000 m^3/h
Vacuum : Up to 5000 Pa
Filter area : 39 - 756 m^2

CACF-T with side mounted inlet and outlet in top (for built-on fan)
Air volume : Up to 40000 m^3/h
Vacuum : Up to 5000 Pa
Filter area : 39 - 756 m^2

CACF-V for high vacuum application
Air volume : Up to 20000 m^3/h
Vacuum : Up to 40000 Pa
Filter area : 39 - 210 m^2

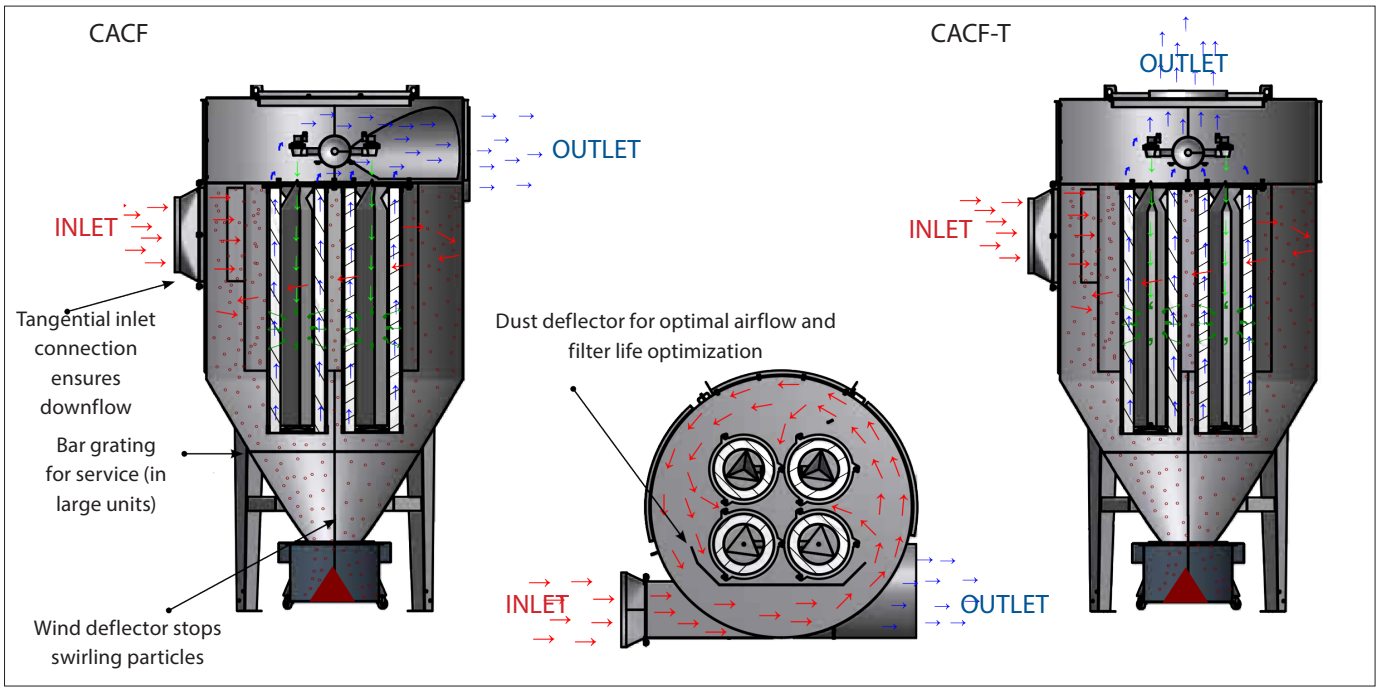
Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Filter media :
Standard filter cartridge ø325 mm. Length 660/1320 mm.

Model	Type	Material	Application
G102	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G105	Optional	Cellulose/Polyester	Welding/soldering
G107	Optional	Cellulose/Polyester nano	Smoke and soot particles
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G115A	Optional	Polyester flake with teflon membrane	Finer dust sorts, e.g. cutting smoke from plasma, flame and laser cutting
G116A	Optional	Polyester flake with teflon membrane, antistatic	Finer static-loaded dust sorts

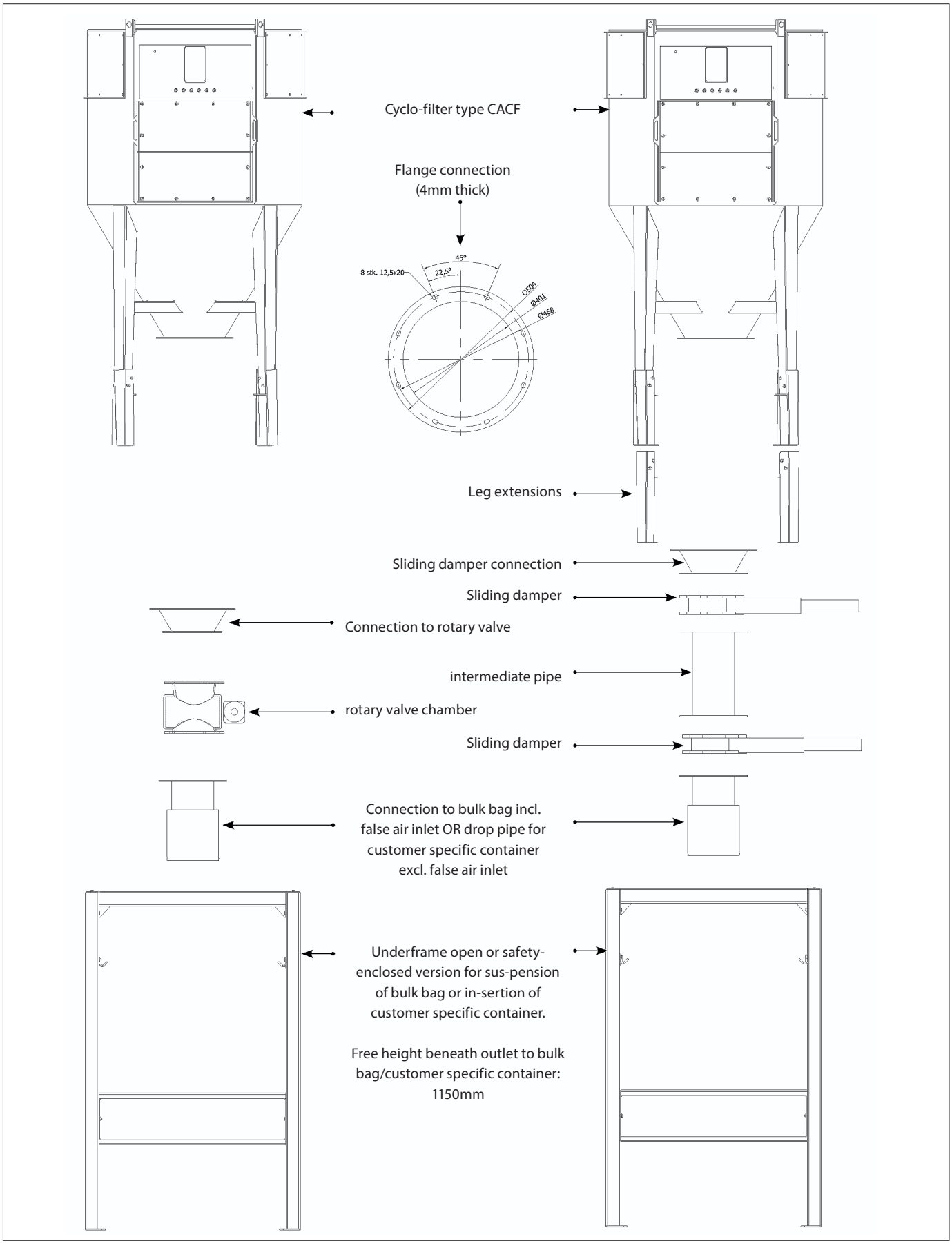
The filters meet demands for extraction degree for dust class M according to DIN EN 60335-2-69 Appendix AA (extraction degree > 99.9%).

Working principle of CACF and CACF-T units :

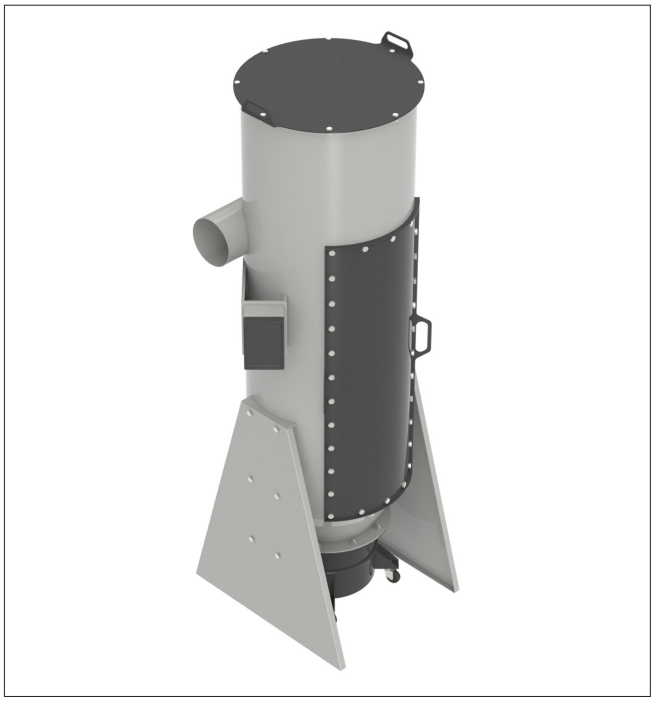


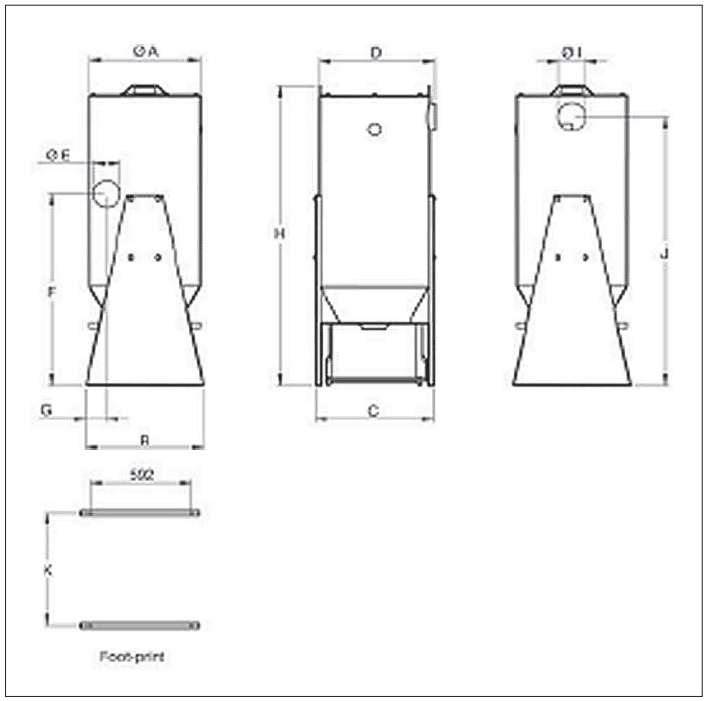
CACF cartridge cyclo-filters

Overview of accessories for cyclone filter type CACF / CACF-T / CACF-V:



CCJF Compact cartridge cyclo-filters





CCJF Compact cartridge cyclo-filters :
Compact compressed-air cleaned filter unit with ECO-S control for filtration of welding smoke, grinding dust, cutting smoke and dusty air containing metal, rock, plastic etc. or from handling various powder mixes.

Advantages :
- Efficient cleaning for the price
  Complete and simple unit with differential pressure- control. Inlet with downflow, preseparation by cyclone effect as well as optimized filter cleaning ensure lower differential pressure above the filter cartridge. Hereby longer operating times with fewer shutdowns are obtained.
- Simple mounting, connection and operation
  Filter unit is delivered fully assembled, is raised and connected. Drawn cable with plug and compressed-air supply hose make installation and connection easy. Filters are easily replaced from unit top. Quicklock-adjustable dust container on 4 turnable wheels ensures user-friendly dust container service.

Available in ATEX versions for zone 21 or 22 with certificates

Description :
- Polluted air is led into unit through tangential inlet in loaded air chamber top. Ensuring downflow and pre-separation by cyclonic effect, contributing to load reduction on the filter media itself.
- Air is filtered through vertical filter cartridge with internal filter core, which optimizes cleaning effect.
- Differential pressure-controlled filter cleaning by integrated compressed-air system with pressure tank and jet valve.
- Clean air is led out through connection above in unit side.
- Dust is collected in dust container in unit bottom. Quick-lock adjustable dust container system suspended in ø400 mm system flange.

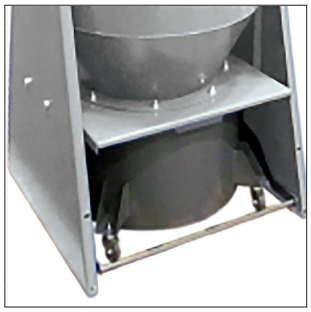
Construction :
Filter unit type CCJF is constructed according to :
- Machine directive 2006/42/EU
- EMC-directive 2014/30/EU
- Directive 2014/68/EU about pressure equipment
- Low voltage directive 2014/35/EU
- Harmonized standards :
  EN 13854, EN 4414, EN 12100, EN 60204-1, EN ISO 13857
- Further standards: ISO 3746



Control
The filter cleaning is done by integrated controller with Delta P in the middle of the unit.



Access door
Easy visual inspection of filter and cartidge repalcement through the inspection door.



Dust bucket
Dust bucket on wheels in metal with quick-lock system for easy use. The dust container can be equipped with a plastic bag.



High-vacuum models
Reinforced construction CCJF-V & CCJF-HV for high vacuum installations (option).

CCJF Compact cartridge cyclo-filters

Technical data :

Type	FIlter area (m^2)	# of cartridges	Cartridge size	Comp. air (l/min.)*	Delta start/stop (Pa)	# dust bucket	weight (kg)
CCJF 13	13	1	325 x 660	3	200/2000	1 x 70 L	120
CCJF 26	26	1	325 x 1320	3	200/2000	1 x 70 L	150

* with integrated Delta P control at 5.5 Bar

Dimensions :

Type	ØA (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	ØI (mm)	ØJ (mm)	ØK (mm)
CCJF 13	650	718	696	731	160	1118	103	1793	160	1573	662
CCJF 26	650	714	696	741	200	1778	123	2453	200	2213	662

Filter media :
Standard filter cartridge ø325 mm. Length 660/1320 mm.

Model	Type	Material	Application
G102	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G105	Optional	Cellulose/Polyester	Welding/soldering
G107	Optional	Cellulose/Polyester nano	Smoke and soot particles
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G115A	Optional	Polyester flake with teflon membrane	Finer dust sorts, e.g. cutting smoke from plasma, flame and laser cutting
G116A	Optional	Polyester flake 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%).

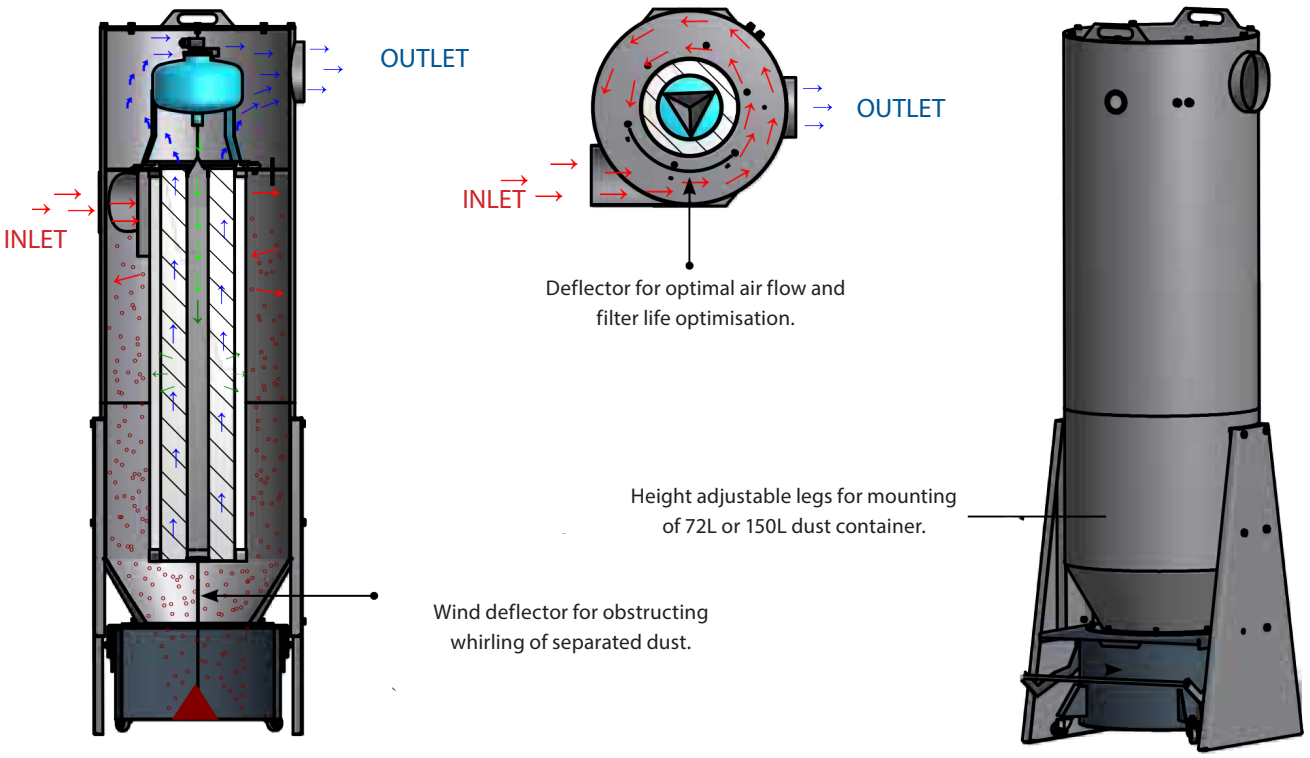


High pressure fan
The filter can be operated by side channel blower or high pressure fan.

The workload of the filter is established in function of the air volume, type of dust and the volume of waste to be treated and should be approved by Formula Air.

CCJF Compact cartridge cyclo-filters

Working principle of CJF / CJF-V / CJF-HV units :



Options:

- Hot-galvanized, enamelled steel plates for outdoor mounting
- Mirrored connections on inlet/outlet
- Backdraft damper type KTR for piping placement
- Sack holder for 70/67L dust container
- 145/148L dust container with sack holder (height increased by 330 mm)
- Underframe and connections for bulk bag and drop pipe for customer specific containers
- ½"-water separator with manometer and pressure reducing valve
- Temperature sensor type RT101 as well as alarm device
- Precoat unit type PCA
- Precoat 11.5 kg in sack
- High vacuum (CCJF-V) and very high vacuum (CCJF-HV) executions available with flanged connections
- Explosion-protected/-reliefed version for installation in ATEX-zones

Supply :

- Differential pressure control type ECO-S with automatic after-cleaning 230V AC (constant).
- Compressed-air: 5.5 - 6.0 bar dry compressed-air by cejn-coupling with 10 mm hose nipple.
- Differential pressure displayed in digital display.
- 1"-jet valve connected to central compressed-air tank in clean air chamber.

Available versions :

CCJF with standard side mounted inlet and outlet

Air volume :	Up to 4400 m^3/h
Vacuum :	Up to 5000 Pa
Filter area :	13 to 42 m^2

CCJF-V for high vacuum application

Air volume :	Up to 4400 m^3/h
Vacuum :	Up to 40000 Pa
Filter area :	13 to 42 m^2

CCJF-HV for very high vacuum application

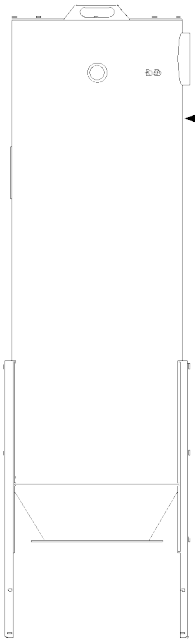
Air volume :	Up to 4400 m^3/h
Vacuum :	Up to 80000 Pa
Filter area :	13 to 42 m^2

Surface :

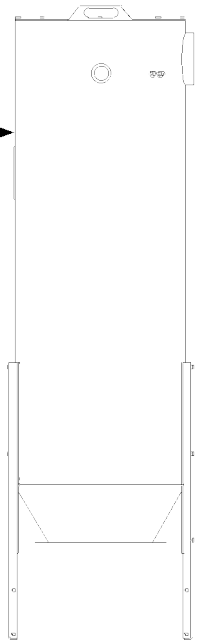
The filter cabinet is made in 2mm black steel plate.
Surface powder enamelled RAL 5007/7011.

CCJF Compact cartridge cyclo-filters

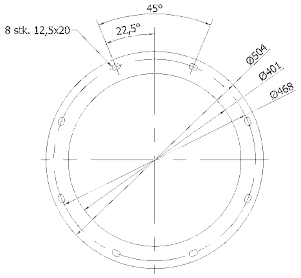
Overview of accessories for compact cyclo-filter type CCJF / CCJF-V :



Cyclo-filter type CCJF



Flange connection
(4mm thick)



Sliding damper connection



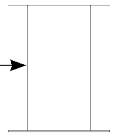
Sliding damper



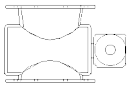
Connection to rotary valve



intermediate pipe

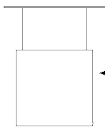


rotary valve chamber

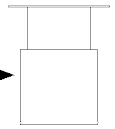


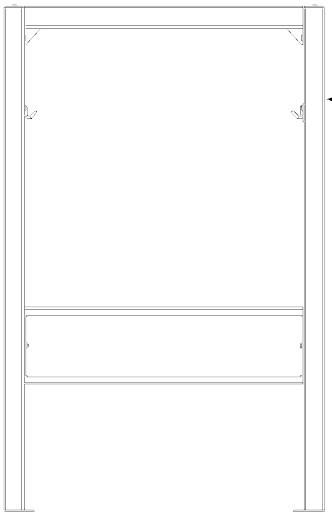
Sliding damper





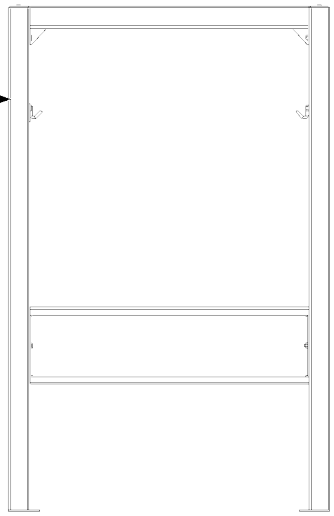
Connection to bulk bag
incl. false air inlet OR drop
pipe for customer specific
container excl. false air inlet





Underframe open or
safety-enclosed version for
suspension of bulk bag or
insertion of customer specific
container.

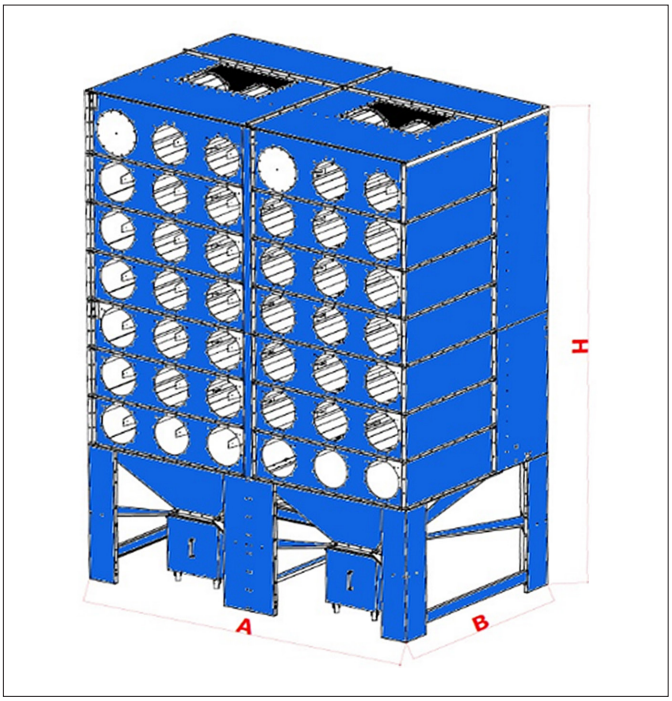
Free height beneath outlet to
bulk bag/customer specific
container:
1150mm



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CERH - Rectangular filters with horizontal cartridges





CERH - Rectangular fitlers with horizontal cartridges

CERH are horizontal cartridges filters, designed for small as well as big quantities of dust.

This type of filter has made the history of industrial filtration.
This series works with the DOWNFLOW system.

Thanks to their compact structure, these filters have a large filtering surface but small dimensions in the plant.

The reverse jet automatic cleaning with compressed air ensures a long life of filtering media.

In the case of explosive powders, explosion-proof panels can be installed on the roof.

Applications :
- Welding
- Grinding of metals, plastic and stone
- Sanding of metal, plastic and stone
- Plasma and laser cutting
- Food
- Chemical

Materials and finish :
- Galvanized metal sheet
- Stainless steel (option)
- Painted (option)

Standard version :
- 325 x 1320 cartridges, filtering surface from 80 to 840 m^2
  (The 325 x 1320 cartridges are composed of two cartridges 325 x 660 one behind the other)
- Reverse jet cleaning with differential pressure gauge
- Dust bucket 210 L
- Maximum vacuum 4000 Pa
- Maximum temperature 80°C

Accessories :
- Cartridges material for specific dust
- Suitable extraction fan
- Control panel with/or inverter
- Bin balanced system
- ATEX components zone 22 3D
- Screw conveyor and rotary valve
- Fire protection stystem

Model	Pressure loss (Pa)	# Cartridges	Filter area (m^2)	Filter area UW [1] (m^2)	Dimensions (A x B x H)	Inlet (mm)	Outlet (mm)	Dust bucket
CERH 4 2x2 325 1320 1T	1000	4	80	168	1275x2100x2650	700x500	Ø 450	1 x 210 L
CERH 6 2x3 325 1320 1T	1000	6	120	252	1275x2100x3150	700x500	Ø 450	1 x 210 L
CERH 8 2x4 325 1320 1T	1100	8	160	336	1275x2100x3650	700x500	Ø 450	1 x 210 L
CERH 9 3x3 325 1320 1T	1100	9	180	378	1900x2100x3370	1000x500	Ø 500	1 x 210 L
CERH 12 3x4 325 1320 1T	1100	12	240	504	1900x2100x3870	1000x500	Ø 500	1 x 210 L
CERH 15 3x5 325 1320 1T	1100	15	300	630	1900x2100x4370	1000x500	Ø 500	1 x 210 L
CERH 18 3x6 325 1320 1T	1100	18	360	757	1900x2100x4870	1000x500	Ø 500	1 x 210 L
CERH 21 3x7 325 1320 1T	1200	21	420	882	1900x2100x5370	1000x500	Ø 500	1 x 210 L
CERH 24 6x4 325 1320 2T	1200	24	480	1008	3800x2100x3870	2x1000x500	2 x Ø500	2 x 210 L
CERH 30 6x5 325 1320 2T	1200	30	600	1260	3800x2100x4370	2x1000x500	2 x Ø500	2 x 210 L
CERH 36 6x6 325 1320 2T	1200	36	720	1512	3800x2100x4870	2x1000x500	2 x Ø500	2 x 210 L
CERH 42 6x7 325 1320 2T	1200	42	840	1764	3800x2100x5370	2x1000x500	2 x Ø500	2 x 210 L

[1] UW = UltraWeb cartridges

CERH - Rectangular filters with horizontal cartridges



Stainless steel version



Certified ATEX zone 22 3D

Outlet position
(Side view)

Inlet position
(Side view)





Option : Fire protection system version



Standard : Delta P sequencer



Options : ATEX zone 22 3D explosion panel

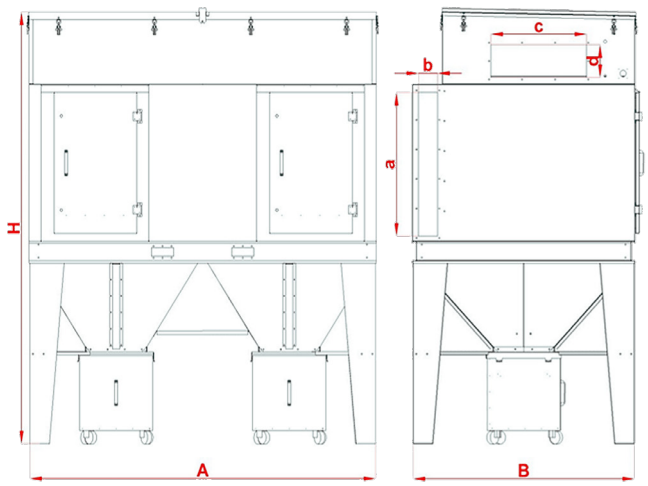


Option : Dust bucket bag balancing

CERV - Rectangular filters with vertical cartridges



CERV filter with integrated fan



CERV filter without integrated fan

CERV - Rectangular filters with vertical cartridges
CERV are the vertical cartridges filters, designed for several types of industries and applications.

CERV filters are provided with a plenum chamber, creating an inertial dust separation for heavier particles allowing longer life of the cartridge filters.

Reverse jet cleaning by differential pressure gauge ensures a long life of filtering media.

CERV NV series is complete with extraction fan in soundproofed box.

The filters are designed for handling with a forklift and equipped with lifting hooks, for a quick and easy installation.

Applications :
- Food
- Paper
- Woodworking machining
- Surface treatment
- Inerts
- Welding and cutting

Materials and finish :
- Galvanized metal sheet
- Stainless steel (option)
- Painted (option)

Standard version :
- 325 x 1200 cartridges, filtering surface from 80 to 1200 m^2
- Reverse jet cleaning with differential pressure gauge
- Dust bucket 210 L
- Maximum vacuum 3800 Pa
- Maximum temperature 80°C

Accessories :
- Cartridges material for specific dust
- Control panel or/with inverter
- Dust bucket bag balancing system
- ATEX components zone 22 3D
- Screw conveyor and rotary valve
- Fire protection stystem
- Extraction fan from 3 to 11 kW

CERV - Vertical cartridge filter without fan

Model w/o fan	Max. airflow (m^3/h)	Press. loss (Pa)	# Cart.	Filter area (m^2)	Filter eff. (%)	Dimensions (A x B x H)	Inlet (ax b)	Outlet (c x d)	Dust bucket
CERV 4 2x2 325 1200 1T	5700	1000	4	80	> 99 %	900 x 1350 x 2770	450x160	350x250	1x67 L
CERV 6 2x3 325 1200 1T	8600	1000	6	120	> 99 %	1350 x 1350 x 3020	600x160	600x250	1x210 L
CERV 8 2x4 325 1200 1T	11500	1000	8	160	> 99 %	1800 x 1350 x 3020	750x160	750x250	1x210 L
CERV 10 2x5 325 1200 2T	14400	1100	10	200	> 99 %	2200 x 1350 x 3220	900x160	700x250	2x210 L
CERV 12 3x4 325 1200 2T	17200	1100	12	240	> 99 %	2900 x 1350 x 3220	1100x160	700x350	2x210 L
CERV 15 3x5 325 1200 2T	21600	1100	15	300	> 99 %	2200 x 1860 x 3350	650x800	1100x350	2x210 L
CERV 18 3x6 325 1200 2T	25900	1100	18	360	> 99 %	2900 x 1860 x 3350	700x900	1100x350	2x210 L
CERV 24 4x6 325 1200 2T	34600	1100	24	480	> 99 %	3000 x 1860 x 3750	2 (650x800)	2 (800x350)	2x210 L
CERV 32 4x8 325 1200 2T	46200	1100	32	640	> 99 %	3450 x 2370 x 3750	2 (650x800)	2 (1100x350)	2x210 L
CERV 40 5x8 325 1200 2T	75200	1100	42	840	> 99 %	4320 x 2370 x 3750	3 (550x700)	2 (1400x350)	2x210 L
CERV 48 6x8 325 1200 3T	83800	1100	48	960	> 99 %	5200 x 2370 x 3750	3 (650x800)	3 (1100x350)	3x210 L
CERV 60 6x10 325 1200 3T	101000	1100	30	1200	> 99 %	6540 x 2370 x 3750	3 (700x900)	3 (1400x350)	3x210 L

CERV - Rectangular filters with vertical cartridges



Version with high pressure fan



Certified ATEX zone 22 3D

CERV NV - Vertical cartridge filter with integrated fan

Model w. fan	Power (kW)	Max. airflow (m^3/h)	Available pressure (Pa) *	# Cart.	Filter area (m^2)	Filter eff. (%)	Dimensions (A x B x H)	Inlet (ax b)	Outlet (c x d)	Dust bucket
CERV 4 NV	3.0	4000	1100	4	80	> 99 %	900 x 1350 x 3800	450 x 160	350 x 250	1 x 130 L
CERV 6 NV	5.5	6000	1200	6	120	> 99 %	1350 x 1350 x 4030	450 x 160	350 x 250	1 x 130 L
CERV 8 NV	7.5	8000	1400	8	160	> 99 %	1800 x 1350 x 4230	600 x 160	450 x 250	1 x 130 L
CERV 10 NV	7.5	10000	1200	10	200	> 99 %	2200 x 1350 x 4230	750 x 160	600 x 250	2 x 130 L
CERV 12 NV	11.0	12000	900	12	240	> 99 %	2900 x 1350 x 4230	900 x 160	700 x 250	2 x 130 L

* Data for mefium flow, low pressure



Option : Fire protection system version



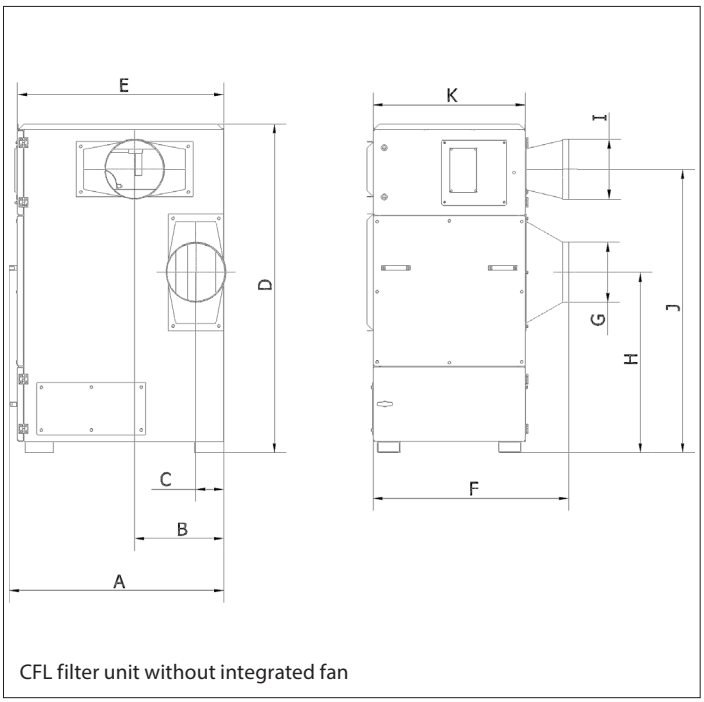
Options : ATEX zone 22 3D explosion panel



Standard : Delta P sequencer

CFL Plug & Play cartridge filters





CFL filter unit without integrated fan

Complete and space-saving "Plug & Play" compressed-air cleaned filter unit with or without integrated fan to be used for air filtration from processes that form limited dust volumes (welding, cutting, grinding and similar).

Air volume :	Up to 8200 m^3/h
Vacuum :	Up to 5000 Pa
Filter surface :	26 to 168 m^2

Description fan :
Unit can be equipped with a fan type VE or RVH, 3x400 VAC, 50 Hz, 2800 rpm. Both fans are equipped with closed impeller with backward-curved straight self-cleaning blades, static/dynamic balanced according to ISO 14694 (BV3 G 6.3). Fan delivers air in fan enclosure, where air noise is dampen by sound absorbing material, before it is led out through bolted-on connection.

Unit delivered ready for use. Equipped with fork pockets and crane lifting points for easy transport and installation. Integrated motor starter and CEE-plug on front make connection quick and easy. Unit is also available for operation with external frequency converter. In this case motor is delivered with built-in PTC sensor. Compressed-air supply is connected on unit by Cejn-coupling incl. ø10mm hose nipple. Easily accessible differential pressure reading in digital display of filter control placed countersunk on unit front. Quick-lock-adjustable dust container on 4 wheels ensures user-friendly dust container service.

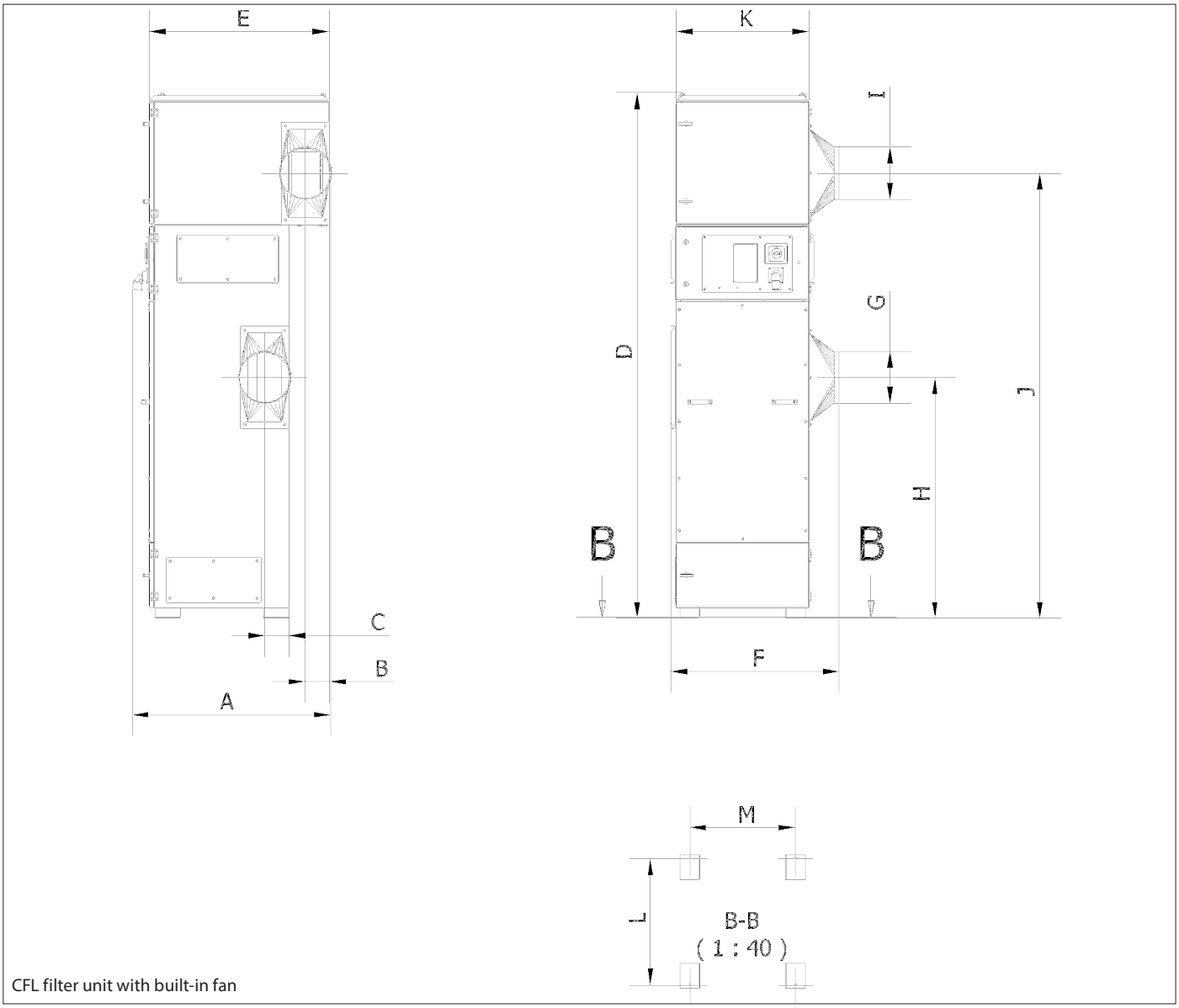
For cleaning of slightly polluted room air containing e.g. welding smoke Filterline CFL 52 and CFL 104 can be delivered with mounted air distribution modules that effects extraction of polluted air in top and returning clean filtered air at floor level (recirculation). Filter units with/ without selected Airtower modules (CPFL) are available with which are W3-conform (without certificate).

Functioning :
- Polluted air is led in through the lowest connection on unit side, wherein preseparator is integrated.
- Air is filtered through vertical-placed filter cartridge with internal filter core, which optimizes cleaning effect.
- Differential pressure controlled cleaning of filter cartridges through integrated compressed-air system incl. automatic after-cleaning for optimized regeneration of filter cartridges.
- Clean air is led out through connection in unit side.
- Dust is collected in dust container in unit bottom. Dust container mounted in Quicklock-adjustable dust container suspension.

Filter control :
- Differential pressure control type ECO-S with auftomatic after-cleaning. 230V AC (constant)
- Compressed-air: 5.5 - 6.0 bar dry compressed-air by cejn-coupling incl. ø10mm hose nipple.
- Differential pressure can be seen in digital display, placed countersunk on front.
- 1"-jet valves connected to central compressed-air tank in clean air chamber.

Filter change :
Cartridge replacement made easily and dust-reduced by filter bayonet suspension that is loosened from clean air chamber and inserted into sack. Access by front door.

CFL Plug & Play cartridge filters



CFL filter unit with built-in fan

Dimensions :

Type	ØA (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Ø G (mm)	H (mm)	Ø I (mm)	J (mm)	K (mm)	L (mm)	M (mm)
CFL 26	884	369	147	1728	842	981	250	948	315	1489	800	-	-
CFL 26/VE2200	945	159	147	2494	842	1014	250	948	315	2010	800	762	636
CFL 26-VE3000	945	159	147	2494	842	1014	250	948	315	2010	800	762	636
CFL 26/RVH35	1199	145	147	2493	1084	1013	250	948	315	2010	800	762	636
CFL 52H	845	367	145	2398	840	1012	315	1480	315	2159	800	-	-
CFL 52	1128	469	147	1728	1084	1026	315	948	315	1489	800	-	-
CFL 52/VE4000	1194	145	147	3159	1082	1012	315	1488	315	2676	800	762	636
CFL 52/VE5500	1194	145	147	3159	1084	1012	315	1448	315	2676	800	762	636
CFL 52/RVH45	1202	145	147	3279	1085	1013	315	1448	315	2798	800	762	636
CFL 52/VE4000	1197	145	147	2489	1084	1012	315	948	315	2006	800	1004	620
CFL 52/VE5500	1197	145	147	2489	1084	1012	315	948	315	2006	800	1004	620
CFL 52/RVH45	1201	147	145	2611	1085	1012	315	948	315	2130	800	1004	636
CFL 104	1128	482	292	2389	1084	1133	500	1263	500	1985	800	-	-
CFL 104/VE5500	1187	287	282	3270	1085	1195	500	1264	500	2787	800	1004	616
CFL 104/VE7500	1187	287	284	3270	1187	1195	500	1264	500	2787	800	1004	616
CFL 104/RVH45	1190	287	282	3270	1085	1195	500	1264	500	2787	800	1004	616
CFL 104/RVH50	1189	287	282	3270	1085	1195	500	1264	500	2787	800	1004	616

CFL Plug & Play cartridge filters

Technical data of CFL unit without built-in fan :

Type	FIlter area G102 (m^2)	FIlter area G105 (m^2)	# of cartridges	# of valves	Comp. air (l/min.)	Delta start/ stop [3] (Pa)	Dust bucket (L)	weight (kg)
CFL 26	26	42	2 [1]	2	30	200/2000	35	260
CFL 52H	52	84	2 [2]	2	30	200/2000	57	300
CFL 52	52	84	4 [1]	4	30	200/2000	57	350
CFL 104	104	168	4 [2]	4	30	200/2000	57	420

Technical data of CFL unit with built-in fan :

Type	FIlter area G102 (m^2)	FIlter area G105 (m^2)	# of cartridges	# of valves	Comp. air (l/min.)	Delta start/ stop [3] (Pa)	Dust bucket (L)	weight (kg)
CFL 26/VE2200 [4] [6]	26	42	2 [1]	2	30	200/2000	35	385
CFL 26-VE3000 [4] [6]	26	42	2 [1]	2	30	200/2000	35	395
CFL 26/RVH35/2S [4] [6]	26	42	2 [1]	2	30	200/2000	35	430
CFL 52/VE4000 [5] [6]	52	84	4 [1]	4	30	200/2000	57	480
CFL 52/VE5500 [5] [6]	52	84	4 [1]	4	30	200/2000	57	490
CFL 52/RVH45 [5] [7]	52	84	4 [1]	4	30	200/2000	57	500
CFL 52H/VE4000 [5] [6]	52	84	2 [2]	2	30	200/2000	35	420
CFL 52H/VE5500 [5] [6]	52	84	2 [2]	2	30	200/2000	35	430
CFL 52/RVH45 [5] [7]	52	84	2 [2]	2	30	200/2000	57	566
CFL 104/VE5500 [5] [6]	104	168	4 [2]	4	30	200/2000	57	540
CFL 104/VE7500 [5] [7]	104	168	4 [2]	4	30	200/2000	57	550
CFL 104/RVH45 [5] [7]	104	168	4 [2]	4	30	200/2000	57	560
CFL 104/RVH50 [5]	104	168	4 [2]	4	30	200/2000	57	566

[1] Filter cartridge ø325 x 660 mm/ø13.5 mm, 13 m^2 , G102

[2] Filter cartridge ø325 x 1320 mm/ø13.5 mm, 26 m^2, G102

[3] Pressure drop stated over filter cartridge

[4] Supply plug 16A

[5] Supply plug 32A

[6] Delivered with hand-operated motor protection

[7] Delivered with star-delta-starter

[8] Increased efficiency

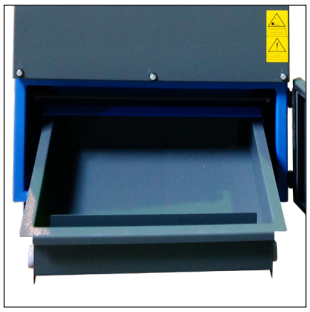
Technical data of integrated fan on CFL units :

Fan type *	Volt (V)	Speed (rpm)	Power (kW)	Max. Amp.	Start current [I_L/I_N]
VE2200	3 x 400	2800	2.2	4.7	34.3
VE3000	3 x 400	2800	3.0	6.2	51.5
VE4000	3 x 400	2800	4.0	7.7	65.5
VE5500	3 x 400	2800	5.5	10.1	88.9
VE7500	3 x 400	2800	7.5	13.2	112.2
RVH35	3 x 400	2910	5.5 [8]	10.3	93.8
RVH45	3 x 400	2800	7.5	13.2	112.2
RVH50	3 x 400	2930	11.0 [8]	19.5	156.0

* None of fans are subject to ERP 2013/2015 according to EU327/2011. Motor data > 0.75 kW, 3x400 V, according to IE2-motorrs.



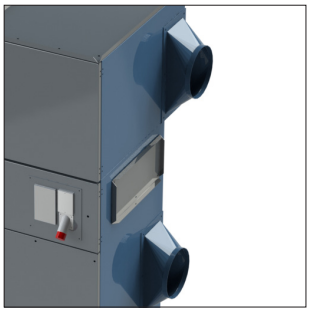
Automatic compressed air filter and motor control with CEE-plug on front. 5.5-6.0 bar dry com-pressed-air connected by Cejn-coupling ø10mm hose nipple.



Dust container Quicklock with 35 L or 57 L dust bucket is placed behind bottom front door for easy disposal.



Easy filter replacement performed by bayonet suspension, which is loosened from clean air chamber with limited dust generation and inserted into sack.



Connections
Air is sucked in by lower connection and leaves unit by upper connection. Inlet connection can be mounted right or left.

CFL Plug & Play cartridge filters

Options:
- Hot-galvanized, enamelled steel plates for outdoor mounting
- Backdraft damper type KTR for piping placement
- ½"-water separator with manometer and pressure reducing valve
- Remote start/stop by magnetic operated motor protection 230VAC-coil voltage
- Channel silencer for noise damping in outlet air
- Leak detector type DTC/TC 30
- Precoat unit type PCA
- Precoat 11.5 kg in sack
- Unit with mounted Airtower air distribution modules (only CFL 52/VE 5500 and CFL 104/VE 7500)

Construction :
Filter unit type CFL 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

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Filter media :
Standard filter cartridge ø325 mm. Length 660/1320 mm.

Model	Type	Material	Application
G102	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G105	Optional	Cellulose/Polyester	Welding/soldering
G107	Optional	Cellulose/Polyester nano	Smoke and soot particles
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G115A	Optional	Polyester flake with teflon membrane	Finer dust sorts, e.g. cutting smoke from plasma, flame and laser cutting
G116A	Optional	Polyester flake with teflon membrane, antistatic	Finer static-loaded dust sorts

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



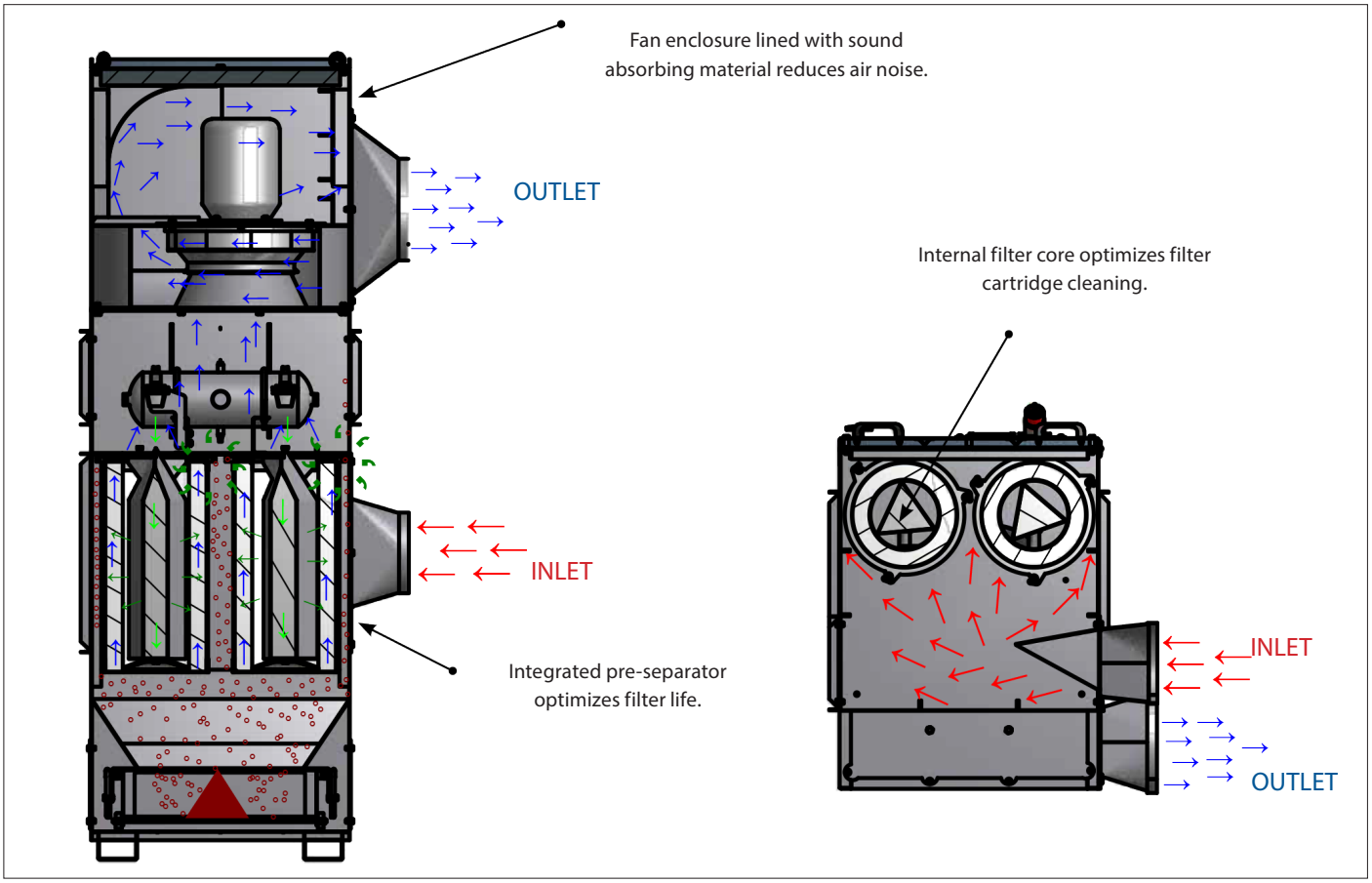
CFL 26/VE3000 with channel silencer



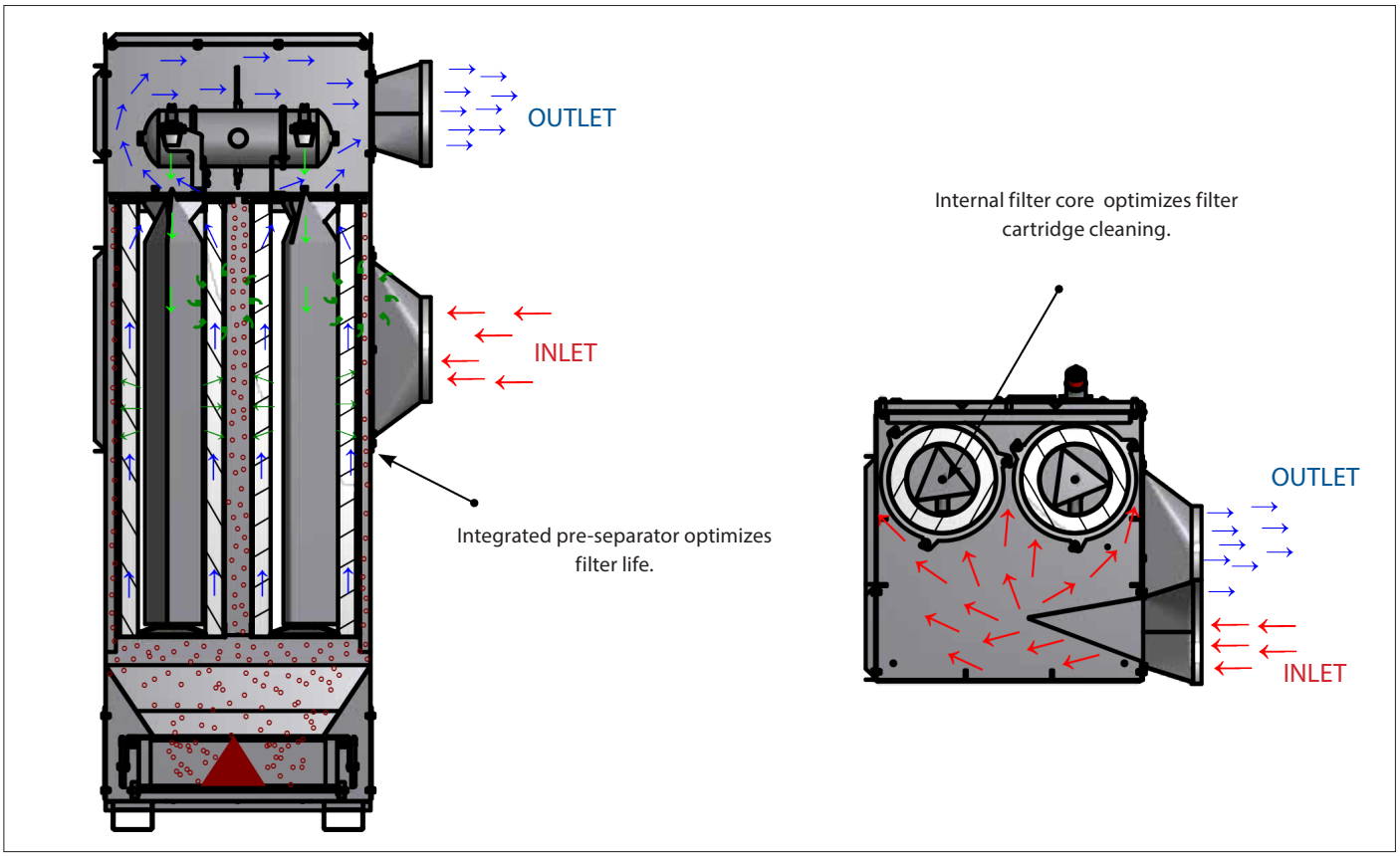
Airtower type CPFL 52/VE5500

CFL Plug & Play cartridge filters

Working principle of fow through Filter type CFL with built-in fan :

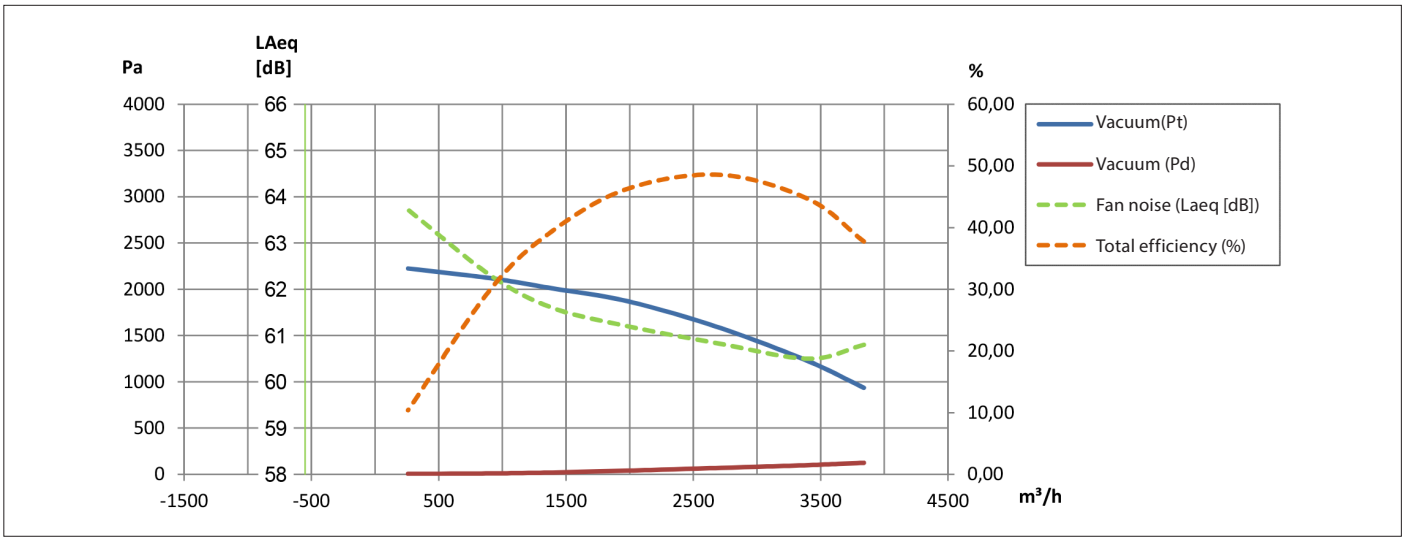


Working principle of fow through Filter type CFL without built-in fan :

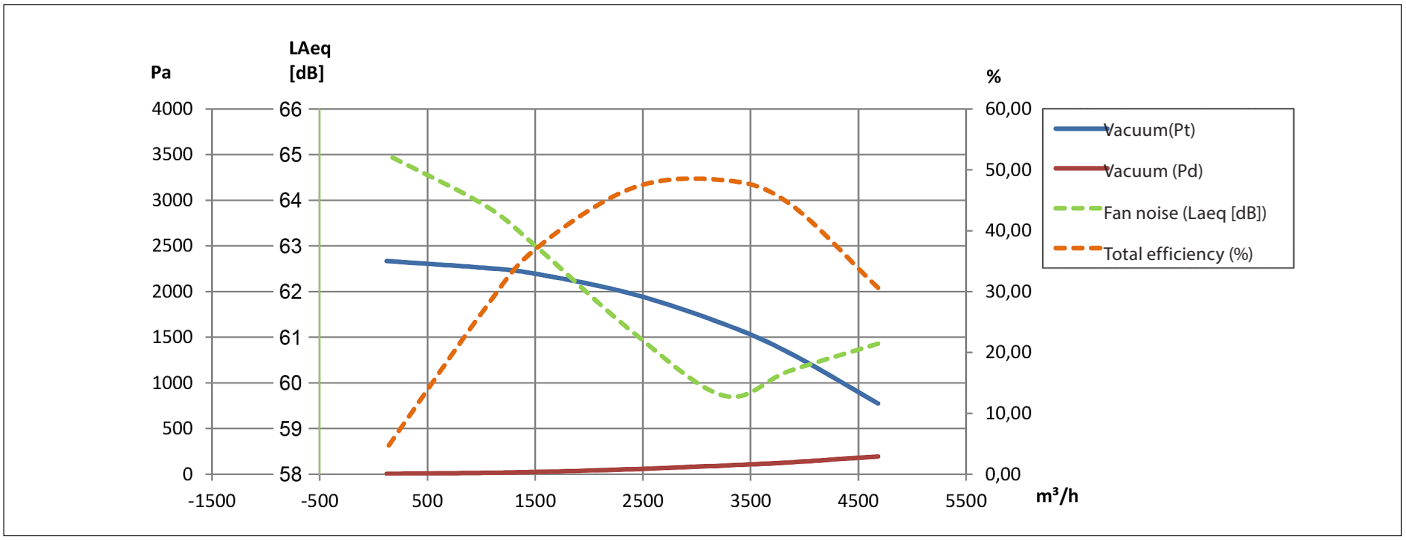


CFL Plug & Play cartridge filters

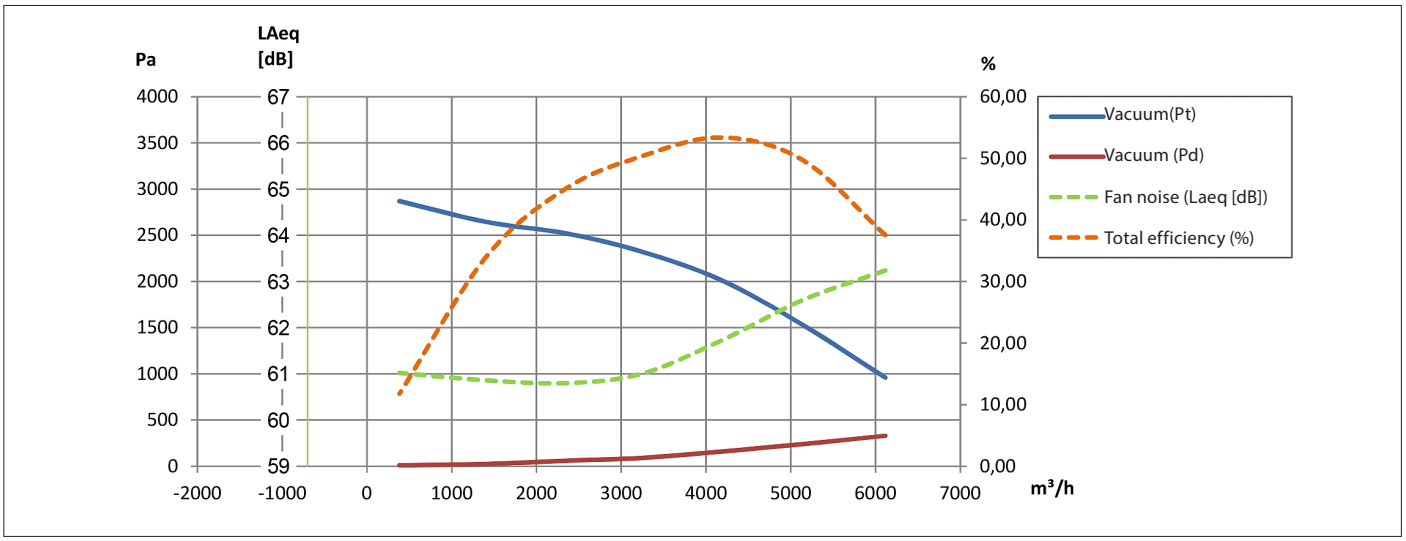
Fan type VE2200 functioning curves at 2800 rpm



Fan type VE3000 functioning curves at 2800 rpm

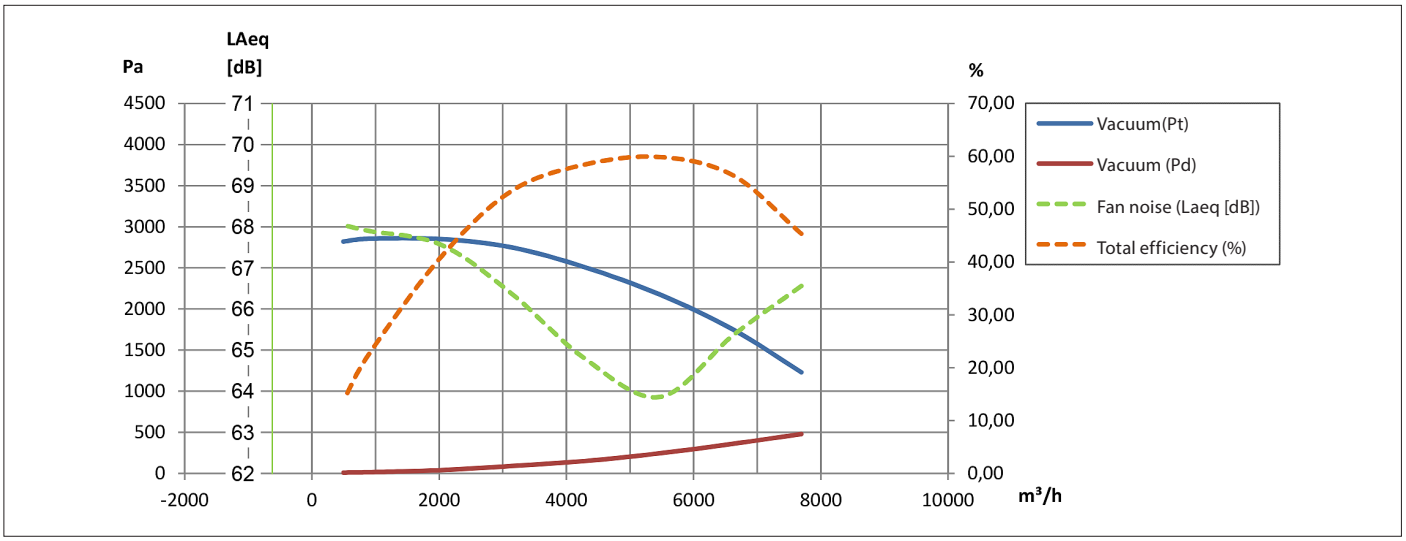


Fan type VE4000 functioning curves at 2800 rpm

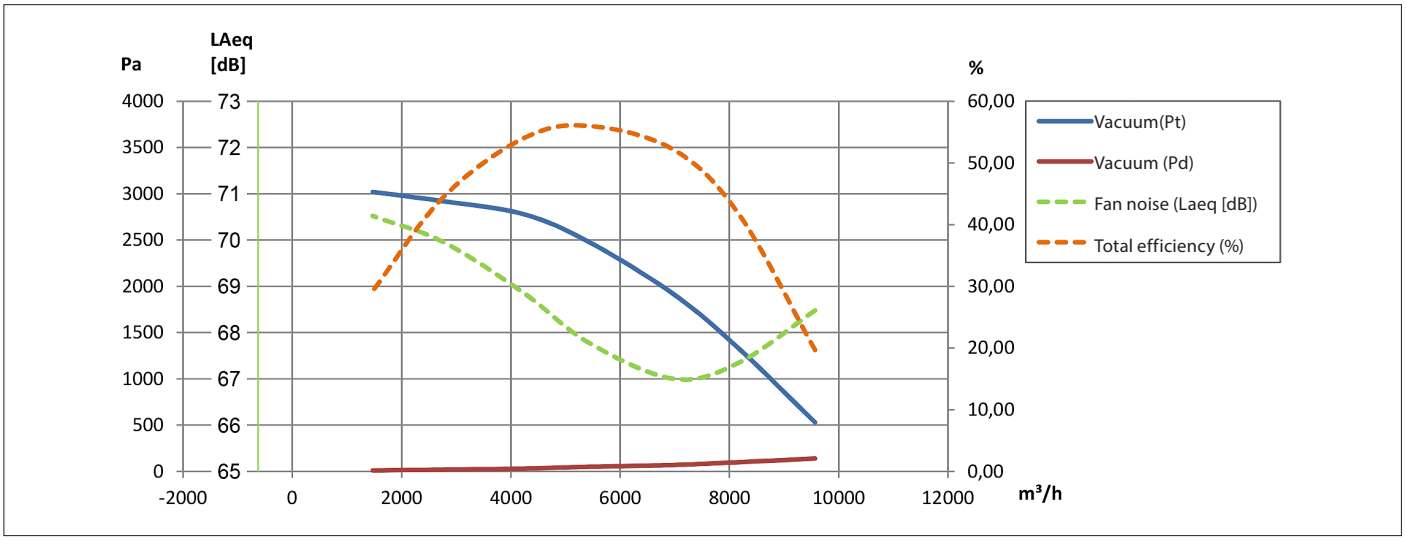


CFL Plug & Play cartridge filters

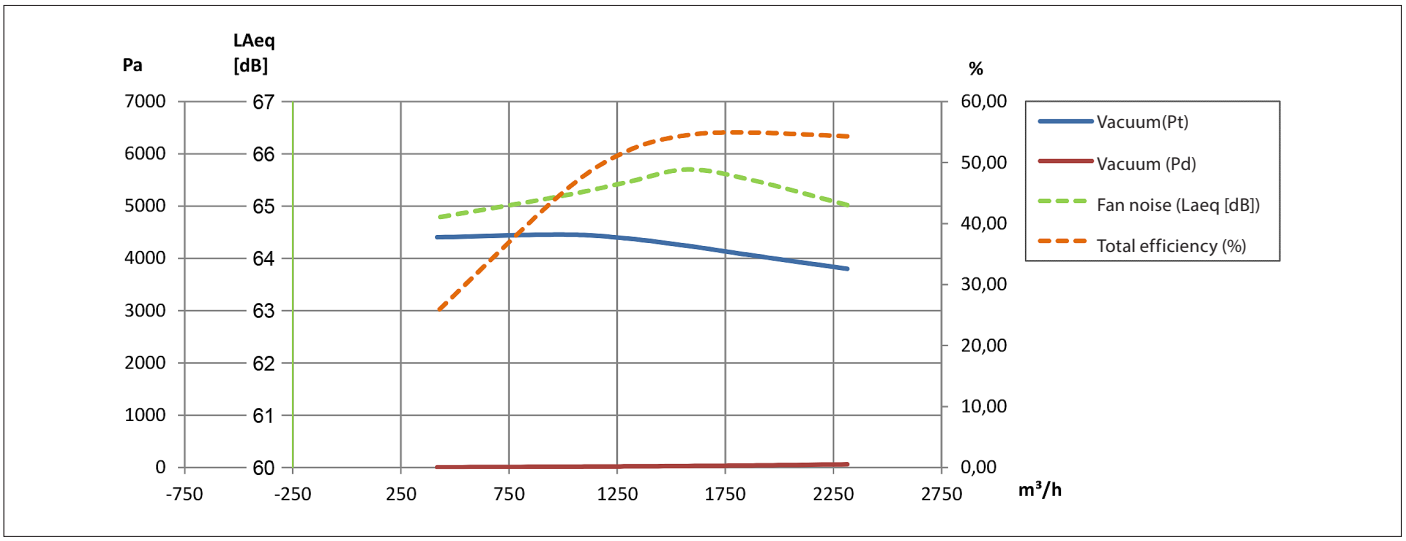
Fan type VE5500 functioning curves at 2800 rpm



Fan type VE7500 functioning curves at 2800 rpm

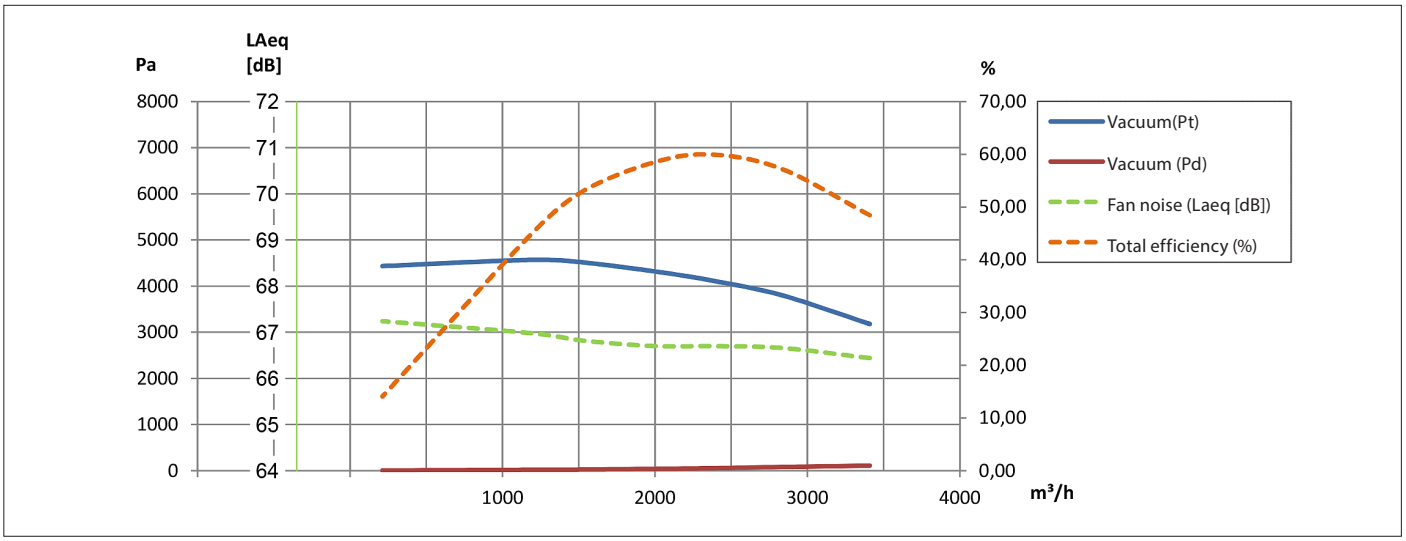


Fan type RVH35/2 functioning curves at 2800 rpm

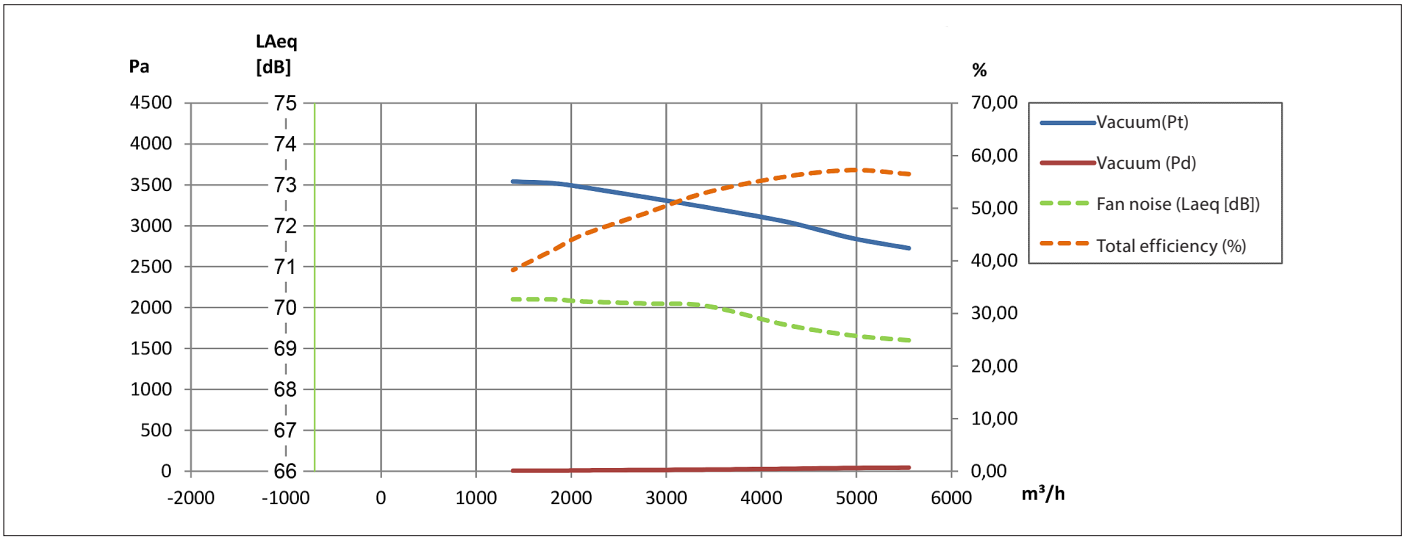


CFL Plug & Play cartridge filters

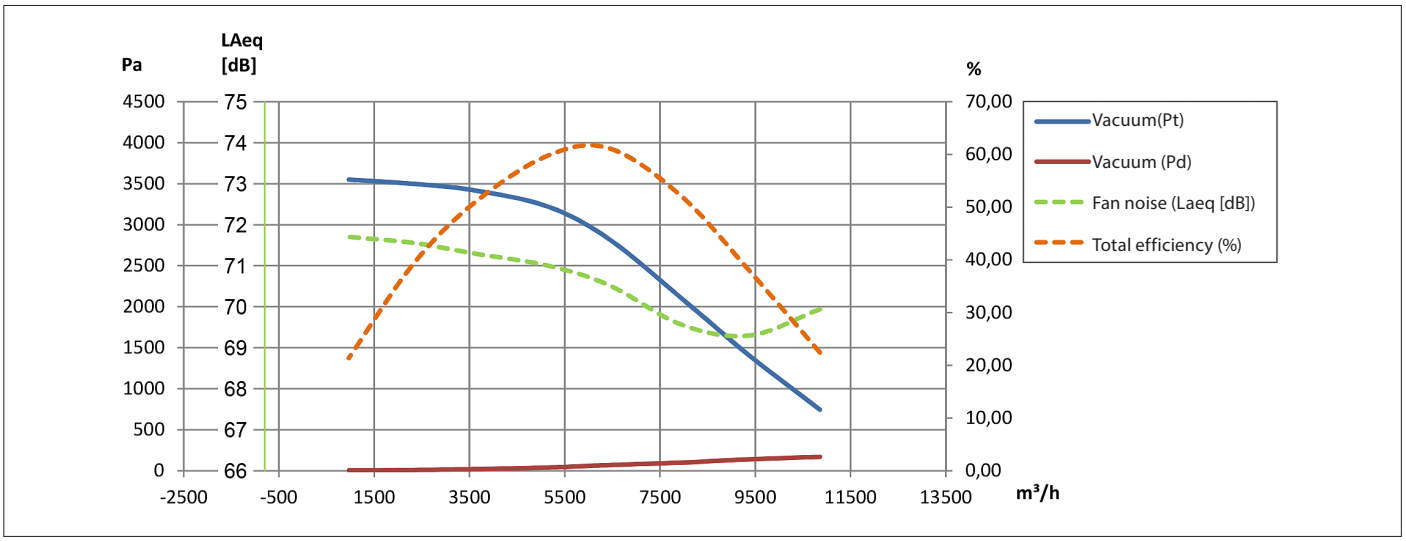
Fan type RVH35/3 functioning curves at 2800 rpm



Fan type RVH45 functioning curves at 2800 rpm

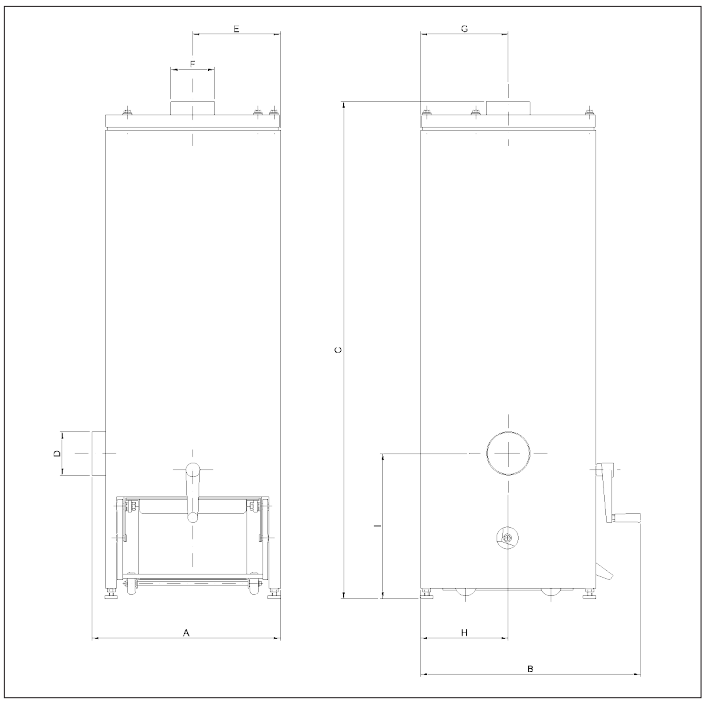


Fan type RVH50 functioning curves at 2800 rpm



CFR Compact cartridge Roto-filters





Compact filter unit with manual Roto-cleaning for tasks of shorter duration and with smaller material volume . 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, it is an anvantageous solution that easily does the job.

Is available with mounted fan, type CFR03/VT500 or CFR05/ VL750 on top of unit.

CFR

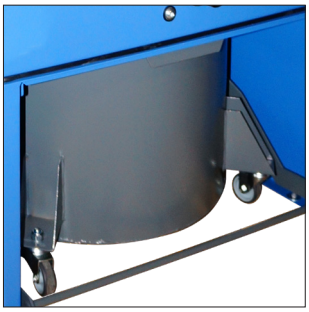
Air volume :	Up to 560 m^3/h
Vacuum :	Up to 5000 Pa
Filter surface :	3 to 3.75 m^2

Functioning :

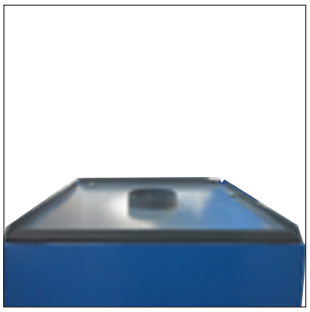
- Polluted air is led by inlet on the left unit side into pre-separator chamber, where larger dust particles / chips are separated to dust container below in unit.
- Air is led up and filtrated by vertical-placed filter cartridge.
- Manual filter cleaning by Roto-cleaning. When outside handle is turned, 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-adjust-able dust container system and equipped with 4 pcs. external wheels ø50 mm.



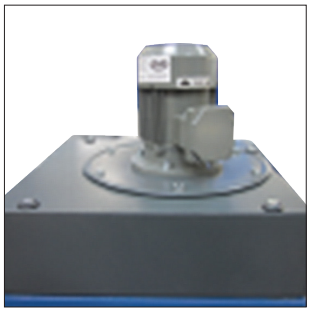
Easy filter cleaning
After use the filter is easily cleaned by turning the external handle 5 - 10 times.



Easy emptying of dust bucket
Quick-lock-adjustable dust bucket on 4 wheels ensures user-friendly handling.



Easy filter replacement from unit top
Top plate with integrated outlet is dismounted and cartridge can be replaced.

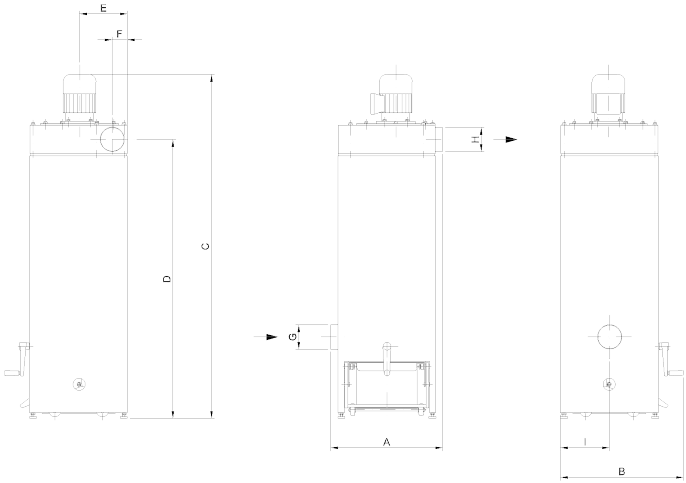


CFR-unit fan top mounting which makes it a very compact and space-saving unit.

CFR Compact cartridge Roto-filters



CFR 5/VL750 with mounted outlet sound enclosure



Dimensions :

Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)
CFR 3	435	505	1110	Ø100	202	Ø100	202	202	328
CFR 5	535	605	1180	Ø125	252	Ø125	252	252	392
CFR 3/VT500	465	505	1385	Ø100	1385	Ø100	198	202	202
CFR 5/VL750	565	605	1500	Ø125	1500	Ø125	275	252	252

Filter unit CFR (max. 5000Pa):

Type	Delta P [1] Start/stop	Filter area (m^2)	Dust bucket (L)	Weight (kg)
CFR 3	300/2000	3.00 [2]	13.0	30.0
CFR 5	300/2000	3.75 [3]	21.0	50.0

[1] Pressure drop stated over filter cartridge
[2] Staubmaster ø320x500 mm, 3.00 m^3, G101
[3] Staubmaster ø400x500 mm, 3.75 m^3, G101

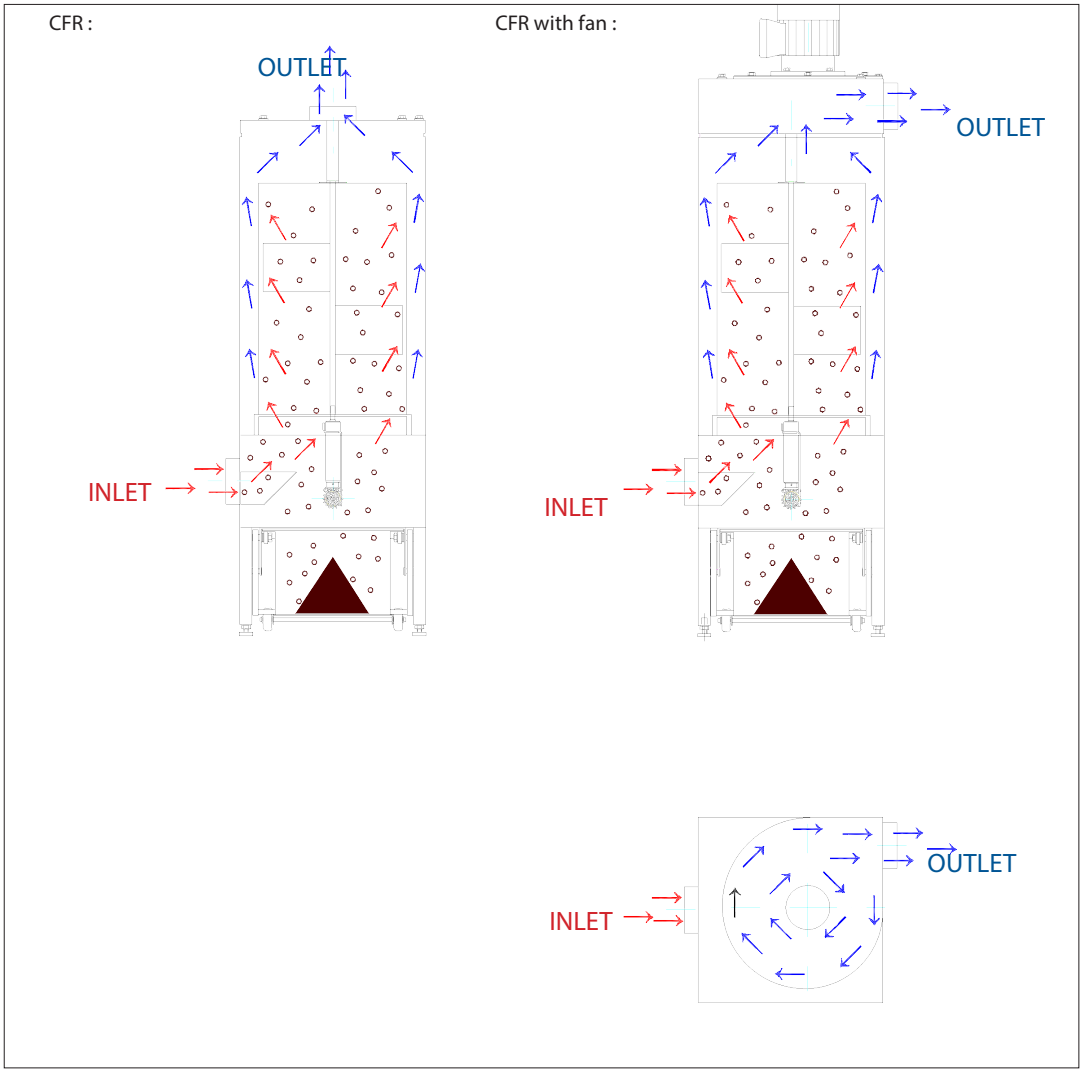
Filter unit CFR with top-mounted fan (max. 5000Pa) :

Type	Motor power [4] (kW)	Delta P [1] Start/stop	Filter area (m^2)	Dust bucket (L)	Weight (kg)
CFR 3/VT500	0.37	300/2000	3.00 [2]	13	55.0
CFR 5/VL750	0.75	300/2000	3.75 [3]	21	85.0

[1] Pressure drop stated over filter cartridge
[2] Staubmaster ø320x500 0mm, 3.00 m^3, G101
[3] Staubmaster ø400x500 mm, 3.75 m^3, G101
[4] 3x400 V, 2800 rpm

CFR Compact cartridge Roto-filters

Working principle of flow through filter unit CFR and CFR with fan :



Filter media :
Filter cartridge type Staubmaster ø320 or ø400 mm, length: 500 mm

Model	Type	Material	Application
G101	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G116A	Optional	Polyester flake with teflon membrane, antistatic	Finer static-loaded dust sorts

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

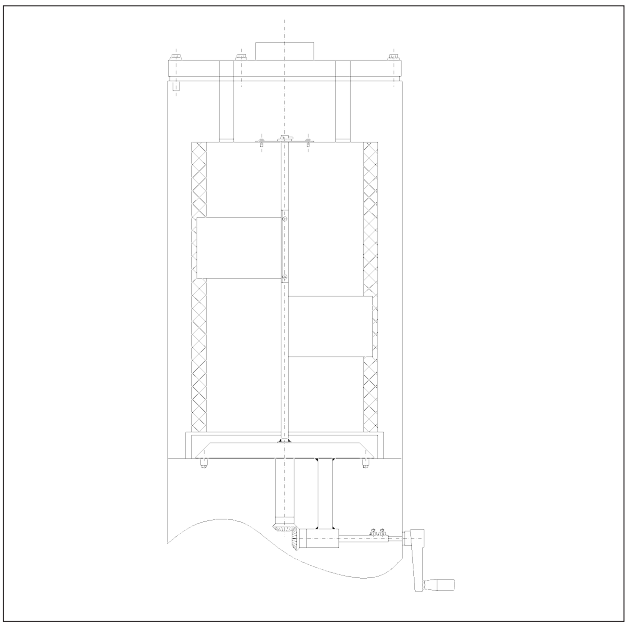
Options:
- Hot-galvanized, enamelled steel plates for outdoor mounting
- Reductions for inlet and outlet
- Outlet sound enclosure (for CFR-unit with fan)
- Filter guard (pressure sensitive switch) for measuring differential pressure above filter

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

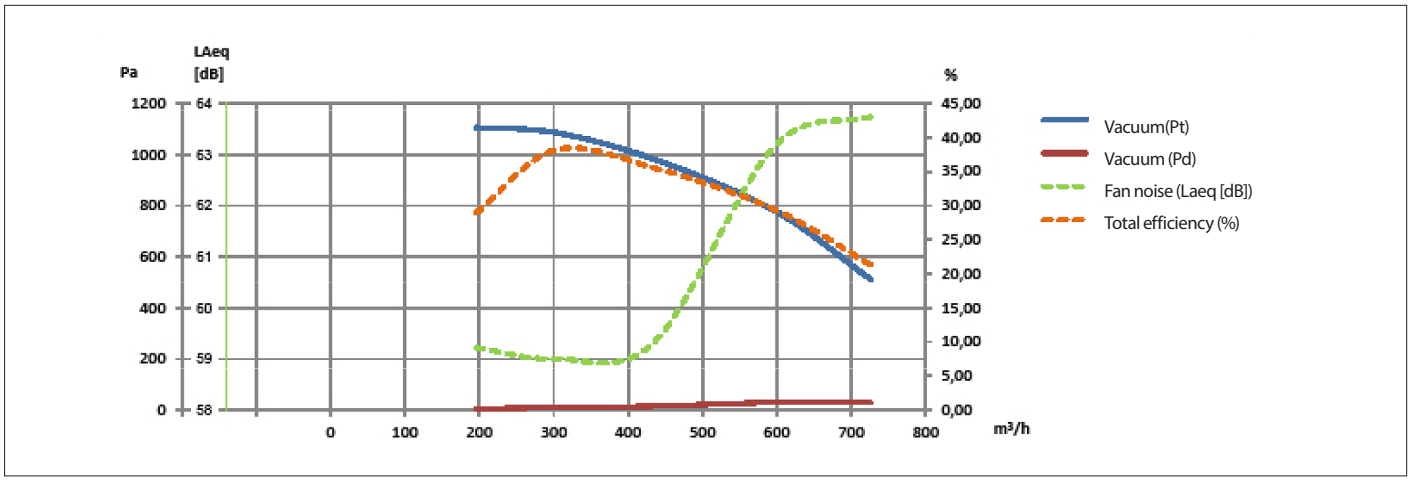
Construction :
Filter unit type CFR is constructed according to :
- Machine directive 2006/42/EU
- EMC-directive 2014/30/EU
- Directive 2014/68/EU about pressure equipment
- Low voltage directive 2014/35/EU
- Harmonized standards :
  EN 349, EN 4414, EN 12100, EN 60204-1, EN ISO 13857
- Further standards: ISO 3746

CFR Compact cartridge Roto-filters

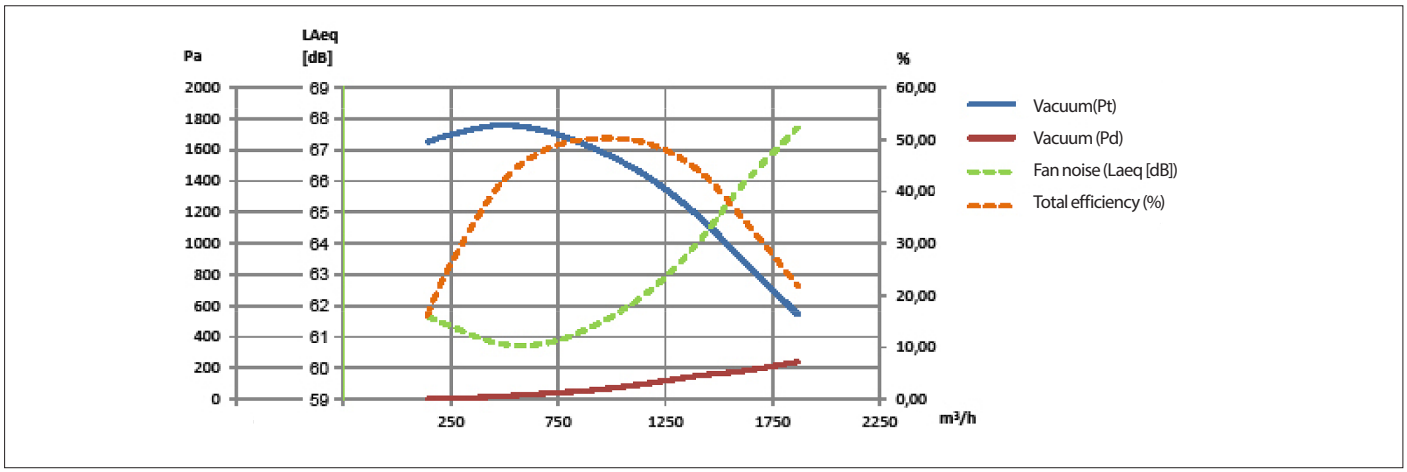
Filter cleaning :
Filter cartridge is cleaned manually after stopped use by activating Roto-cleaning, which operates by rotating plastic strips cleaning the filter on the inside - also between the pleatings. Is activated by turning outside handle 5 -10 times, when fan has stopped.



Fan type VT500 functioning curves at 2800 rpm

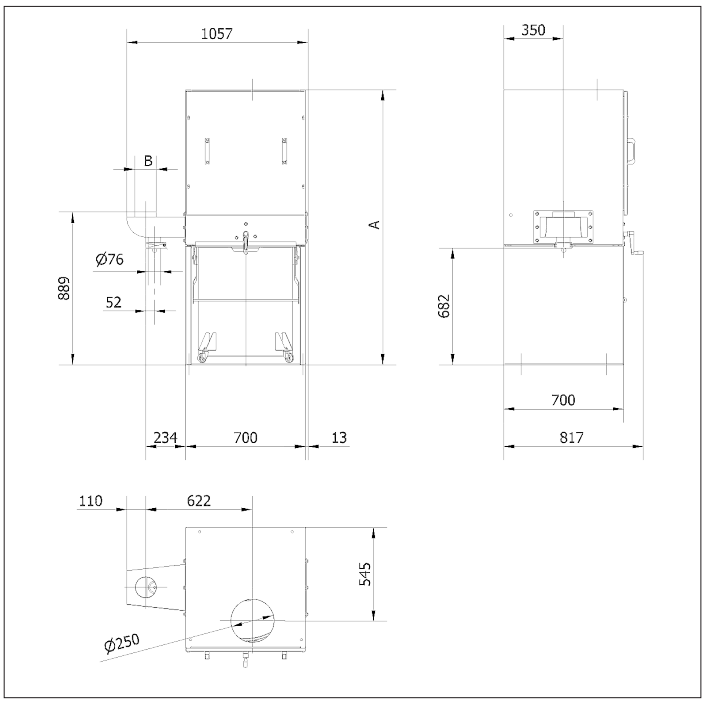


Fan type VL750 functioning curves at 2800 rpm



CFRS cartridge Roto-filters





Filter unit with manual or automatic Roto-cleaning (CFRS-MAN or CFRS-AUT). Suitable for use in schools and in smaller workshops, where the filter can be used to extract from machines and use tap for cleaning. Available as single cabinet with 10 to 20 m^2 filter surface or as double cabinet with 40 m^2 filter surface.

Air volume : Up to 6000 m^3/h
Vacuum : Up to 10000 Pa
Filter surface: 10 to 40 m^2

Fans type VL, VE as well as VPH or RVH can be built on top of CFRS 10 to 20 (single cabinet).

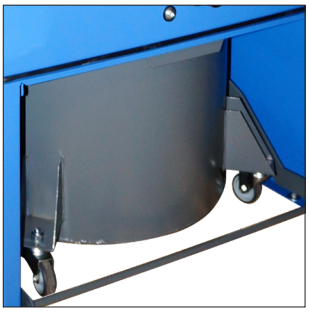
Simple filter unit with several application possibilities
With a CFRS filter unit you obtain a simple filter solution that with its compact design easily can be adapted to the production area and connected to several different chip and dust making machine types in both the wood as well as the metal industry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

Functioning :

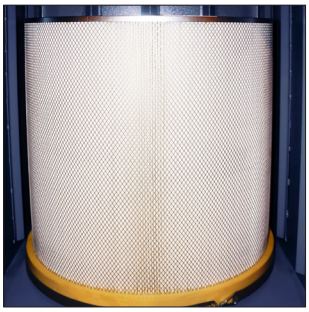
- Loaded air is led by 90° inlet (vertical connection) on the left filter unit side into preseparator chamber, where larger dust particles/ chips are separated to dust container below in unit. Inlet can alternatively be place on the right side.
- Air is led up and filtrated by vertical-placed filter cartridge.
- Manual or automatic filter cleaning by 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 (72/150 L) or 240/380 L sack suspended in sack cabinet below in unit.
- Built-in ø76mm flap valve for cleaning around unit after dust container emptying or other service.



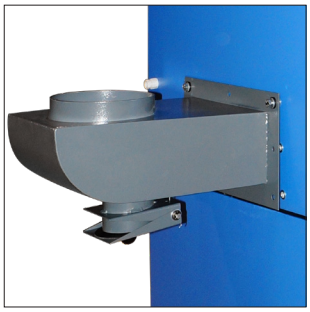
Easy filter cleaning
After use the filter is easily cleaned by turning the external handle 5 - 10 times.



Easy emptying of dust bucket
Quick-lock adjustable dust bucket on 4 wheels ensures user-friendly handling.



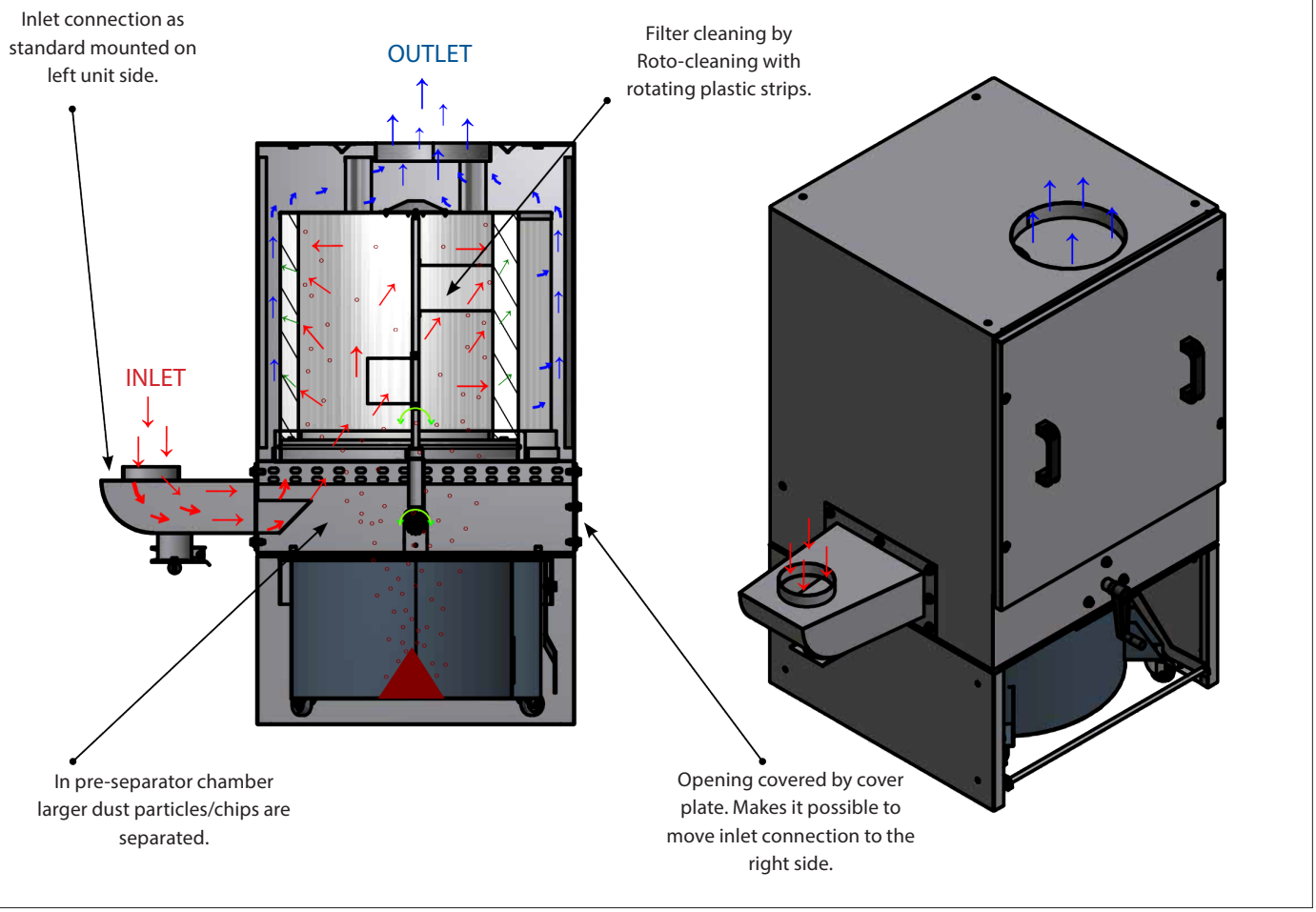
Easy filter replacement from unit front
Front plate with integrated handles is dismounted and cartridge can be replaced.



Cleaning tap
Built-in flap valve ø76 mm on inlet connection for cleaning around unit af-ter service and dust con-tainer emptying.

CFRS cartridge Roto-filters

Working principle of flow through CFRS filter unit:



Filter unit CFRS :

Type	Delta P [4] Start/stop	# of cartridges	Filter area (m^2)	Dust bucket (L)	A (mm)	Ø B (mm)	Weight [6] (kg)
CFRS 10/072	200/2000	1 [1]	10	1 x 72	1275	125	118
CFRS 15/072	200/2000	1 [2]	15	1 x 72	1525	160	134
CFRS 20/072	200/2000	1 [3]	20	1 x 72	1775	200	150
CFRS 40/072	200/2000	2 [3]	40	2 x 72	1870	250	267
CFRS 10/150 [5]	200/2000	1 [1]	10	1 x 150	1603	125	137
CFRS 15/150 [5]	200/2000	1 [2]	15	1 x 150	1853	160	153
CFRS 20/150 [5]	200/2000	1 [3]	20	1 x 150	2103	200	169
CFRS 40/150 [5]	200/2000	2 [3]	40	2 x 150	2198	250	305
CFRS 10/380 [5]	200/2000	1 [1]	10	1 x 380 [7]	2100	125	160
CFRS 15/380 [5]	200/2000	1 [2]	15	1 x 380 [7]	2650	160	176
CFRS 20/380 [5]	200/2000	1 [3]	20	1 x 380 [7]	2600	200	192
CFRS 40/240 [5]	200/2000	2 [3]	40	2 x 240 [7]	2319	250	295

[1] Staubmaster ø600 x 500 mm, 10 m^2, G101
[2] Staubmaster ø600 x 750 mm, 15 m^2, G101
[3] Staubmaster ø600 x 1000 mm, 20 m^2, G101
[4] Pressure drop stated over filter cartridge
[5] Delivered incl. sack
[6] Weight specifications for MAN-versions. +4kg per gear motor at AUT-versions
[7] No dust bucket, only a sack rack with sack

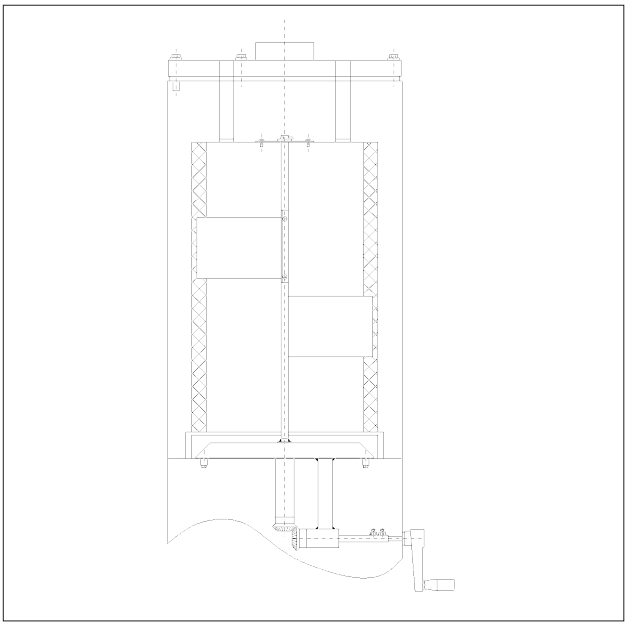
CFRS cartridge Roto-filters

Options:
- Hot-dipped galvanized version, enamelled steel plates for outdoor mounting
- Sack and sack holder for 72 L dust bucket (150 L standard with sack and sack holder)
- CFRS 10 - 20: 380 L bag hanging behind door in cabinet bottom, held by suspenstion flange with Quick-lock band. CFRS 40 with 2 x 240 L bags
- Automatic-box for Roto-cleaning with gear motor (CFRS/AUT)
- Built-on fans type VPH or RVH in VBS sound enclosure (only CFRS 10 - 20)
- M7-built-on fans (type VL, VE, VPH or RVH) in VBS sound enclosure (only CFRS 10 - 20)
- Tapers on inlet and outlet
- Connection to transfer pipe
- Connection to FA-edge
- Fill-level sensor type OEM-K (monitors dust bucket filling)
- Filter guard (pressostat) for differential pressure measurement above filter
- Signal device with constant or blitz light (yellow)

Construction :
Filter unit type CFRS & CFRS-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

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Filter cleaning :
Filter cartridge is cleaned manually after stopped use by activating 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.



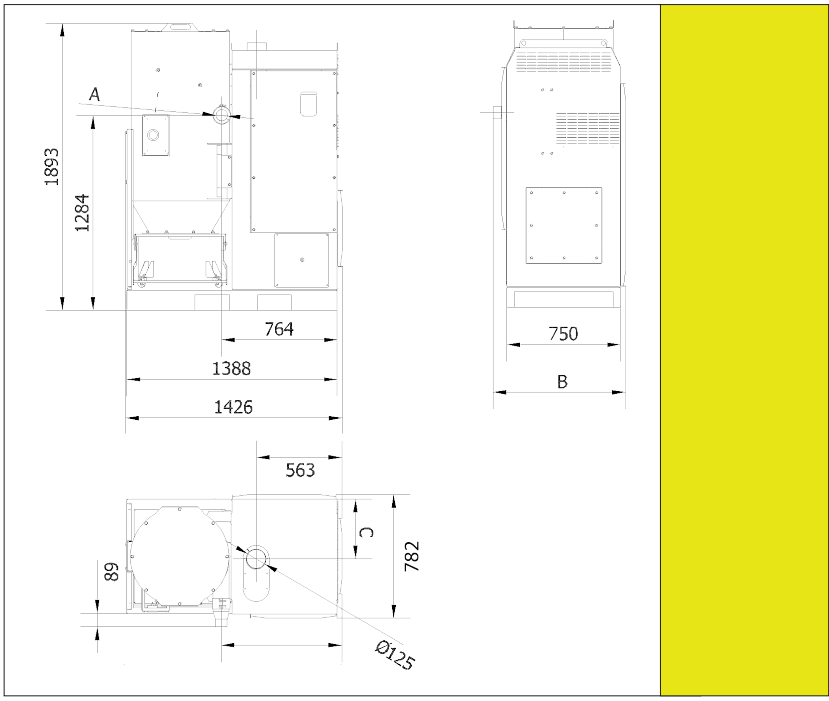
Filter media :
Cartridge filter type Staubmaster ø600 mm. Length: 500 / 750 / 1000 mm

Model	Type	Material	Application
G101	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G116A	Optional	Polyester flake with teflon membrane, antistatic	Finer static-loaded dust sorts

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

CHFU Compact HV cyclo-filters with cartridge





Compact high vacuum unit that can be used as central vacuum cleaner for cleaning or hand tool connection. Compressed-air cleaned filter unit with Delta-P economizer control built together with side channel blower in sound enclosed cabinet and mounted on strong transport platform.

Optimized movable vacuum cleaner solution with long operation times. Side channel blower as vacuum pump and automatic filter cleaning by compressed-air enable continually operation. The compact construction on strong transport platform ensures that the vacuum cleaning unit can be moved from one production place to another and do not occupy much space.

Plug & Play model CHFU-F is with built-in frequency converter and motor with PTC sensor.

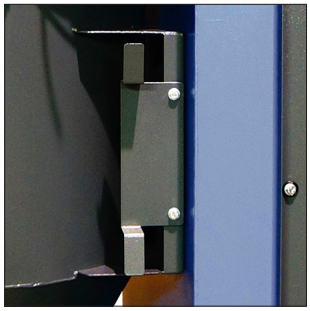
Air volume :	Up to 1275 m^3/h
Vacuum :	Up to 38000 Pa
Filter surface:	13 m^2

Functioning :

- Polluted air is led into unit through tangential inlet in raw air chamber top. Hereby downflow and pre-separation by cyclone effect are ensured, which contributes to load reduction on the filter media itself.
- Air is filtered through vertical-placed filter cartridge with internal filter core, which optimizes cleaning effect.
- ECO-S economizer controlled filter cleaning by integrated compressed-air system with pressure tank and jet valve.
- The clean air is led out through ø125mm connection (muff measurement) in cabinet top. Sound is damped by channel silencers on outlet integrated in unit.
- Dust is collected in dust container in unit bottom. Quick-lock adjustable dust container system suspended in ø400mm system flange.

Description side channel blower type KMS

- Side channel blower is placed on vibration absorbers in sound enclosed cabinet.
- Vacuum limiter mounted on inlet.
- Guided cooling air by cooling ribs in cabinet.



Moveable unit
Built on a strong transport platform to move easily by hand pallet truck or fork lifts.



Easy connection
230V-electrical cable with plug and ø8mm compressed-air hose located on unit front.



Plug & Play-unit CHFU-F
CEE-plug & start/stop switch for side channel operation by frequency converter are placed on unit front (except CHFU-F 20000).



Easy emptying of dust bucket
Quick-lock adjustable dust bucket on 4 wheels ensures user-friendly handling.

CHFU Compact HV cyclo-filters with cartridge

Dimensions :

Type	Ø A (mm)	B (mm)	C (mm)	Weight (kg)
CHFU 5500	76	821	385	360
CHFU 7500	76	821	584	370
CHFU 9000	108	666	427	375
CHFU 13000	108	666	427	380
CHFU 20000	108	666	427	395
CHFU-F 5500	76	821	385	380
CHFU-F 7500	76	821	584	390
CHFU-F 9000	108	666	427	395
CHFU-F 13000	108	666	427	400
CHFU-F 20000	108	666	427	415

Standard filter cartridge change from clean air chamber top

Filter media :
Filter cartridge ø325 mm. Length: 660 mm

Model	Type	Material	Application
G102	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G105	Optional	Cellulose/Polyester	Welding/soldering
G107	Optional	Cellulose/Polyester nano	Smoke and soot particles
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G115A	Optional	Polyester flake with teflon membrane	Finer dust sorts, e.g. cutting smoke from plasma, flame and laser cutting
G116A	Optional	Polyester flake 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%).

Supply :
- Type ECO-S control Delta P with automatic after-cleaning. 230V AC. Should be connected with delayed disconnection in relation to fan stop to obtain after-cleaning.
- Compressed-air: 5.5 - 6.0 bar dry compressed-air. Unit equipped with ø8 mm pneumatic hose.
- 1"-jet valve connected to central compressed-air tank in clean air chamber.

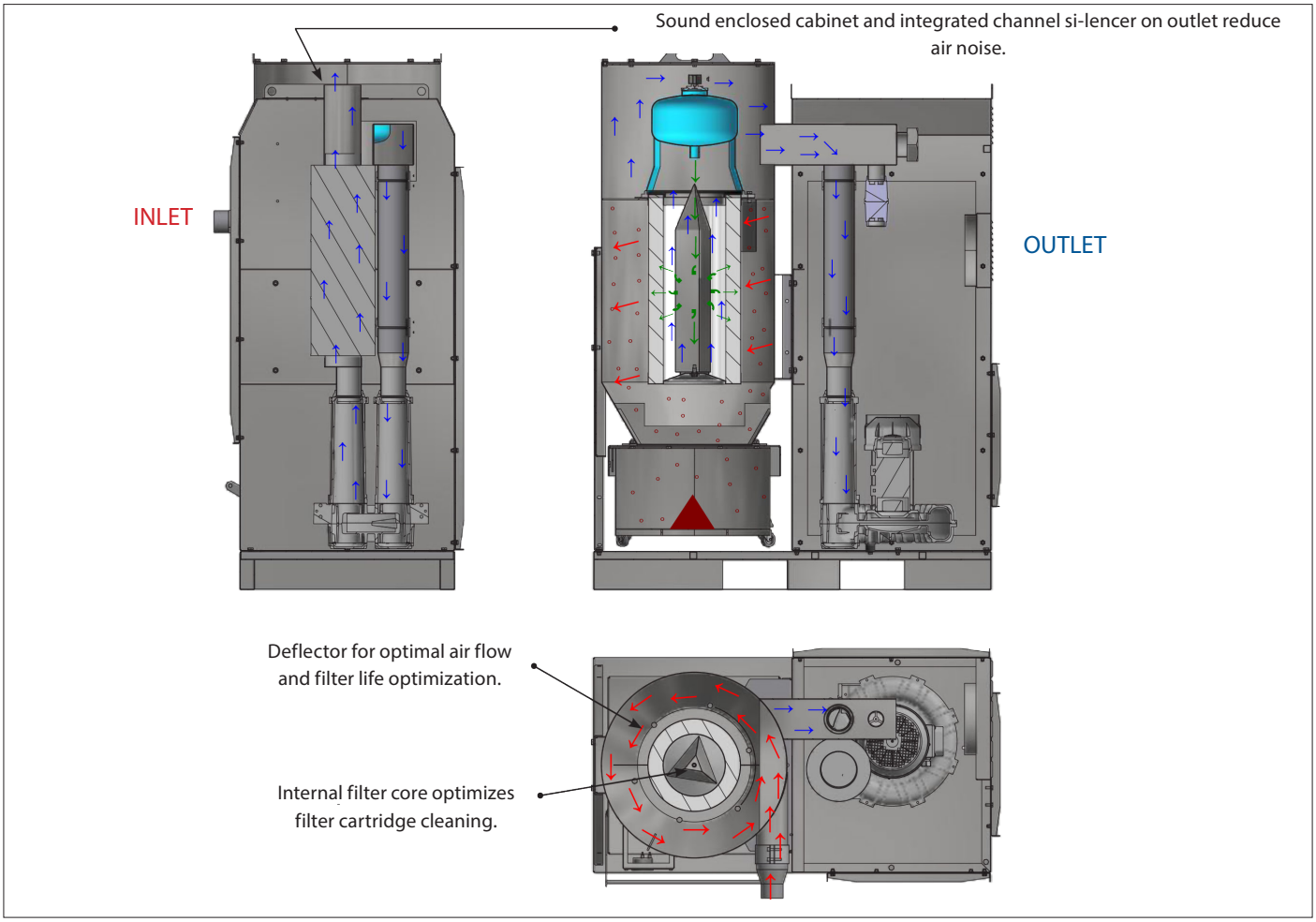
Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Construction :
Filter unit type CHFU 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

Options:
- Hot-galvanized, enamelled steel plates for outdoor mounting
- Filter replacement from unit side
- Sack holder for 67 L dust container
- ½"-water separator with manometer and pressure reducing valve
- Various high-pressure piping, fittings and coupling for fixed unit assembly
- Various sliding dampers and flap valves that possibly can be equipped with micro-switch for extraction start
- Various controls and system surveillances
- Various pin-point extractions, hoods, slot nozzles, plastic adapters for valves, hoses and cleaning equipment
- Explosion-protected/-reliefed version for installation in ATEX-zones

CHFU Compact HV cyclo-filters with cartridge

Working principle of flow through CHFU / CHFU-F filter unit:



Filter unit CHFU :

Type	Delta P [2] Start/stop	Power at 50 Hz (kW/Amp) [3]	# of cartridges	G102 Filter area (m^2)	G105 Filter area (m^2)	Comp. air volume (l/min.)*	Dust bucket (L)
CHFU 5500	200/2000	5.5/11.1	1 [1]	13	21	3	1 x 67
CHFU 7500	200/2000	7.5/15.7	1 [1]	13	21	3	1 x 67
CHFU 9000	200/2000	9.2/17.8	1 [1]	13	21	3	1 x 67
CHFU 13000	200/2000	11.0/21.7	1 [1]	13	21	3	1 x 67
CHFU 20000	200/2000	18.5/35.9	1 [1]	13	21	3	1 x 67

* with integrated ECO-S control at 5.5 Bar

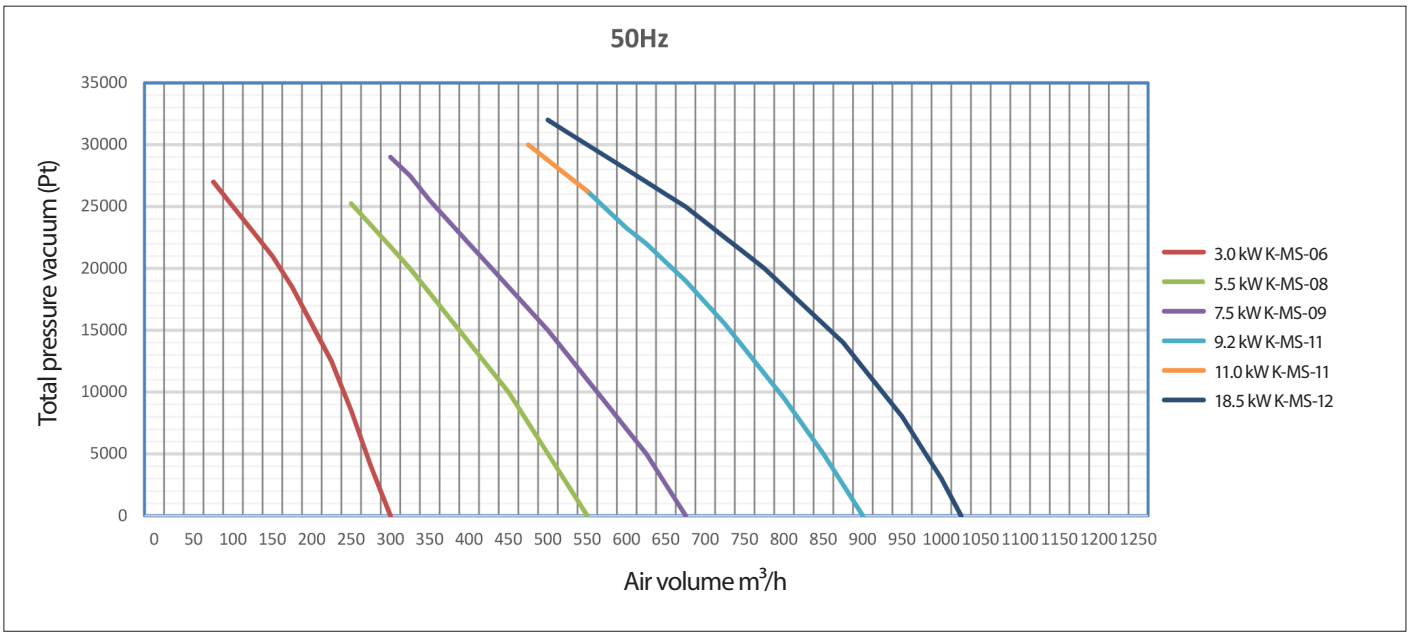
Filter unit CHFU-F :

Type	Delta P [2] Start/stop	Power at 60 Hz (kW/Amp) [3]	freq. inv. (kW)	# of cartr.	G102 Filter area (m^2)	G105 Filter area (m^2)	Comp. air volume (l/min.)	Dust bucket (L)
CHFU-F 5500	200/2000	5.5/11.1	7.5	1 [1]	13	21	30	1 x 67
CHFU-F 7500	200/2000	7.5/15.7	11.0	1 [1]	13	21	30	1 x 67
CHFU-F 9000	200/2000	9.2/17.8	11.0	1 [1]	13	21	30	1 x 67
CHFU-F 13000	200/2000	11.0/21.7	15.0	1 [1]	13	21	30	1 x 67
CHFU-F 20000	200/2000	18.5/35.9	22.0	1 [1]	13	21	30	1 x 67

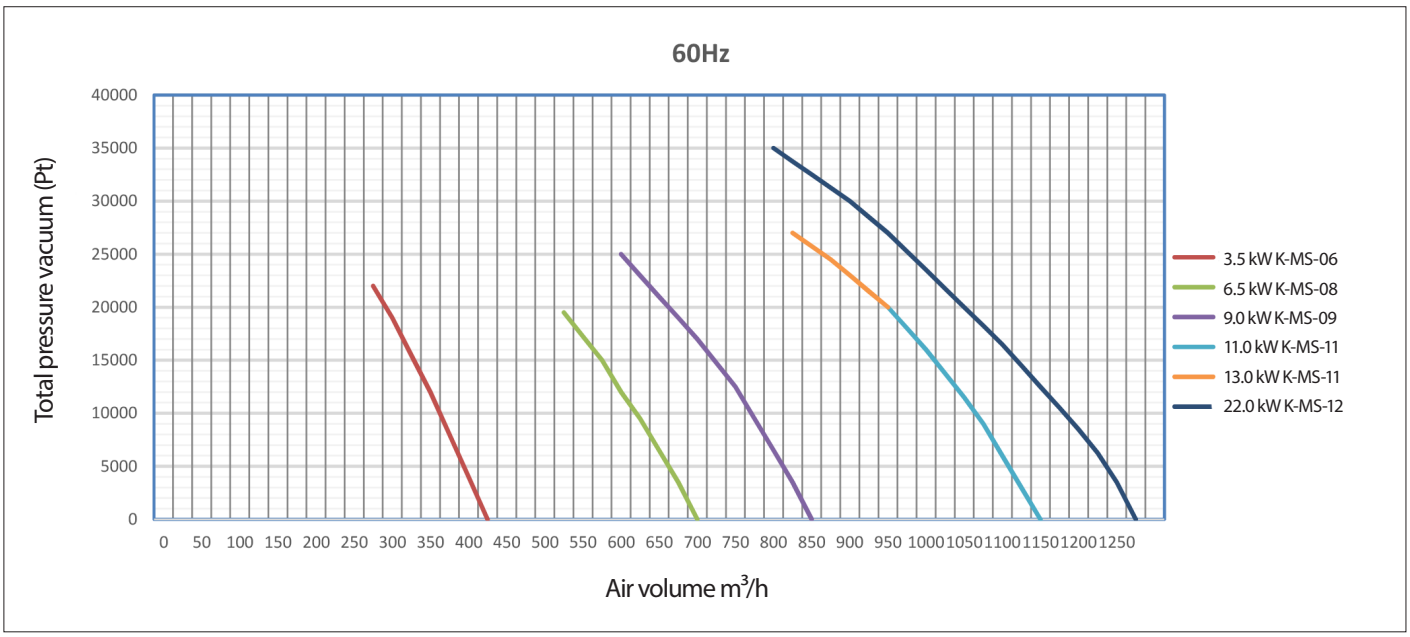
[1] Filter cartridge ø325 x 660mm/ø13.5mm, 13m^2, G102 [2] Pressure drop stated over filter cartridge [3] Motor voltage: 3 x 400/690V

CHFU Compact HV cyclo-filters with cartridge

Side channel blower for high vacuum unit type CHFU (50Hz):



Side channel blower for high vacuum unit type CHFU-F (60Hz):





Accessories : Various high-vacuum components



Accessories : ABB-frequency converters



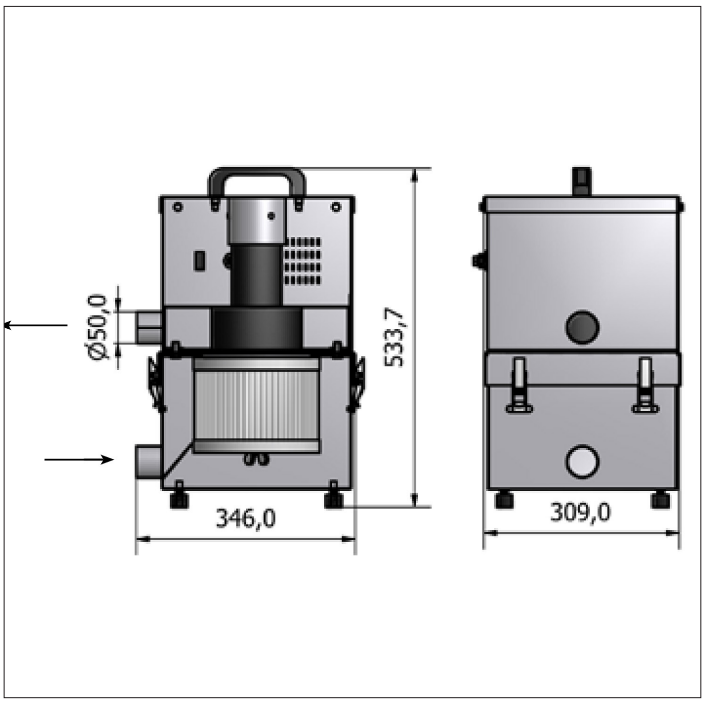
Accessories : Flap valve



Accessories : slot nozzle type VSPL with magnet

CHS 14 portable cartridge filters





CHS 14 Portable cartridge filters
Autonomous station, compact and mobile high depression filter for the suction of fumes, deburring, sanding dust, cleaning of work station of shorter duration.

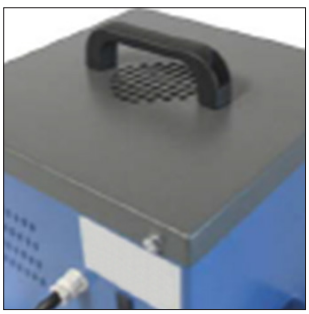
Also used for plasma cutting, laser cutting and welding fumes.

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Advantages :
- Light weight
- Delivered with cable and plug
- Cellulose/polyester cartridge resistant to fire (G105 model dust class M)
- Easy cartridge replacement
- Forced motor cooling from the exterior.

Options
- Plastic connector (for flexible connection)
- Flexible hose
- Suction hood
- Interchangeable filter

CHS14 details	Value
Motor power	1200 Watt
Max. output	209 m^3/h
Max. under pressure	24500 Pa
Weight	18.7 kg
Cartridge	2 m^2
Max. T°	35°C



Cooling air intake with filter



On/OFF switch



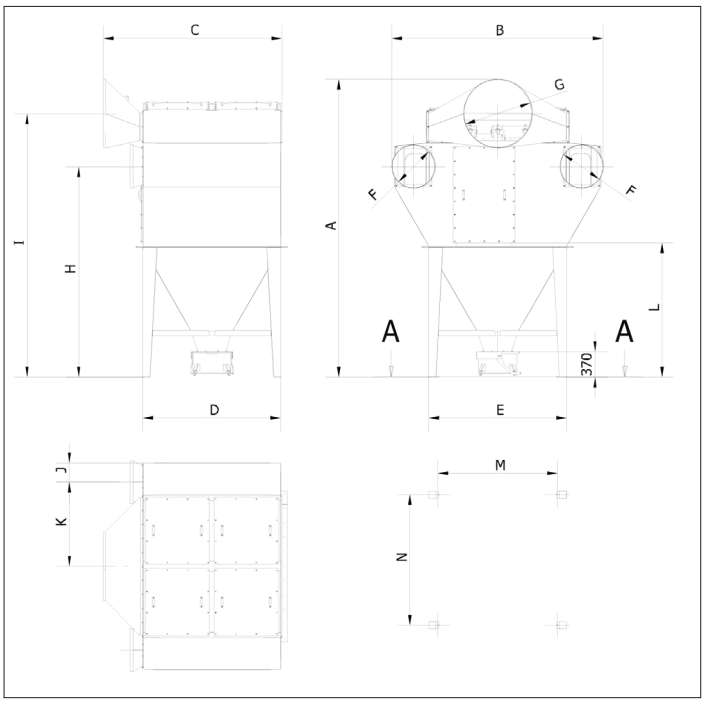
Quick opening of unit to access cartridge and bucket



Smooth Ø 50 mm inlet

CQFG cartridge filters





CQFG cartridge filters
Energy efficient unit for larger filtration tasks. Suitable for filtration of welding fumes, grinding dust, cutting fumes and dusty air containing metal, rock, plastic etc. or from handling various powder mixes.

Air volume : Up to 45000 m^3/h
Vacuum : Up to 5000 Pa
Filter surface: 312 to 840 m^2

Lower operating costs
Inlet with downflow and pre-separation as well as optimized filter cleaning ensure lower differential pressure above the filter cartridge ensure longer operation times with less shutdowns as well as lower operating costs. Only one hopper which minimizes unit costs in connection with waste management.

Functioning :
- a loaded air enters filter unit by raw air chamber. Hereby downflow and pre-separation is ensured, which contributes to load reduction on the filter media itself.
- Air is filtered through vertical-placed filter cartridge with internal filter core, which optimizes cleaning effect.
- Differential pressure controlled cleaning of filter cartridges through integrated compressed-air system incl. automatic after-cleaning for optimized regeneration of filter cartridges.
- The clean air is led out through connection in unit top.
- Dust is collected in dust bucket in unit bottom. Quick-lock-adjustable dust bucket system suspended in ø400 mm system flange for quick release.

Simple mounting, connection and operation
Filter unit is delivered in two modules that are assembled on site by external flanges. Filter cartridges and control are delivered mounted with easy compressed-air connection on unit front. Easily accessible reading of differential pressure on display of filter control placed on unit service side. Cartridges are replaced through front door in unit side. Quicklock-adjustable dust container on 4 turnable wheels ensures user-friendly dust container service.



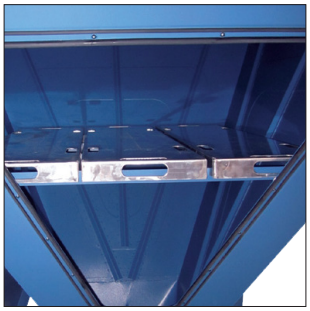
Unit is delivered with cejn-coupling for easy compressed-air connection.



Cone bottom is finished with ø400 mm system flange. Standard 72 L dust bucket with 4 turnable wheels.



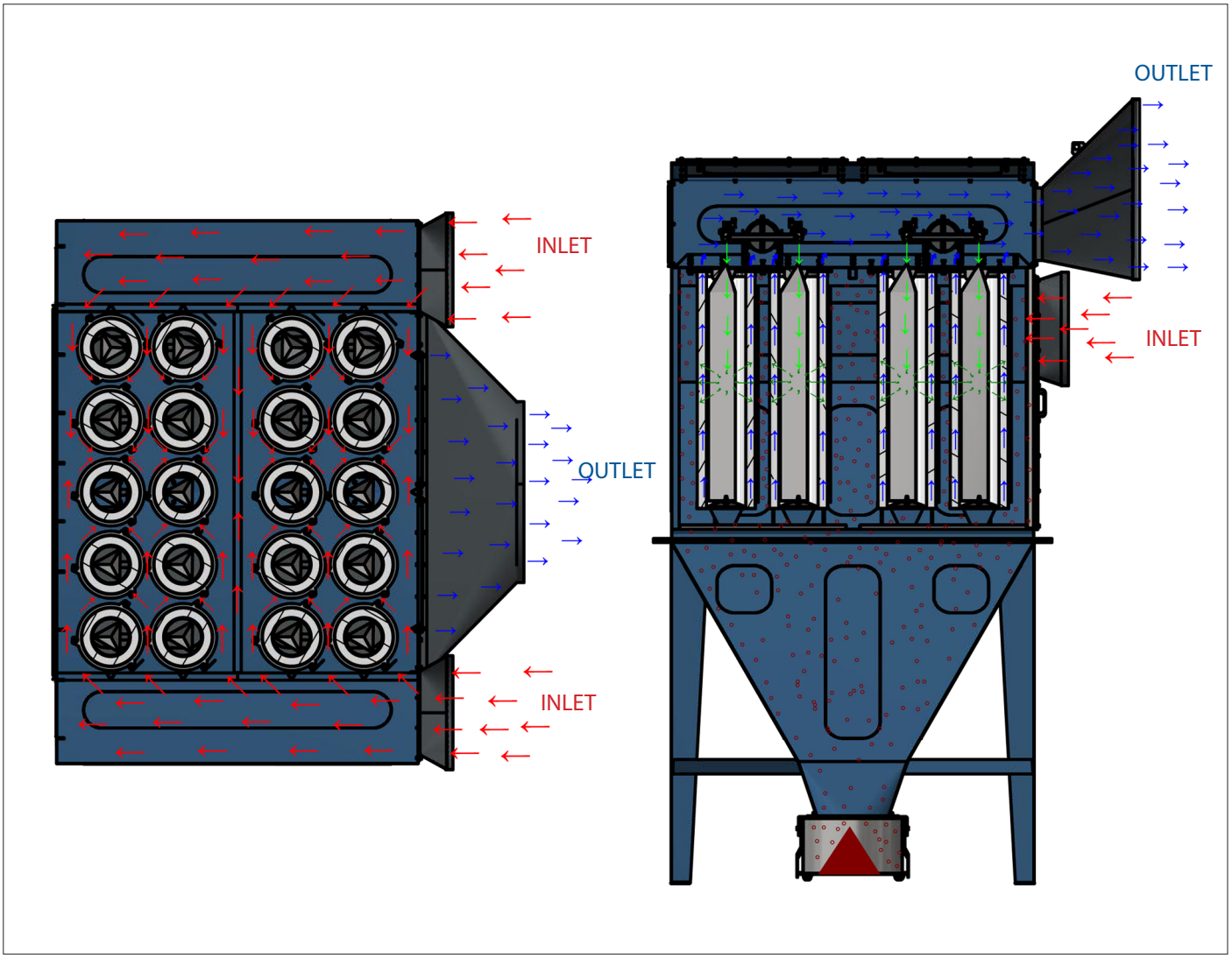
Easy filter replacement performed by bayonet suspension, which is loosened from clean air chamber with limited dust generation and inserted into sack.



Dust-repellent fixtures for insertion of step grate for use at filter replacement.

CQFG cartridge filters

Working principle of flow through CQFG filter unit:



Filter unit CQFG (max. 5000 Pa) :

Type	Delta P [2] Start/stop	# of cartridges [1]	Cartridge size	Filter area G102 (m^2)	Filter area G105 (m^2)	Dust bucket (L)	Weight (kg)
CQFG 312	200/2000	12	325 x 1320	312	504	1 x 70 L	1211
CQFG 416	200/2000	16	325 x 1320	416	672	1 x 70 L	1490
CQFG 520	200/2000	20	325 x 1320	520	840	1 x 70 L	1659

[1] Filter cartridge ø325 x 1320 mm/ø13,5 mm, 26 m^2, G102

[2] Pressure drop stated over filter cartridge

Dimensions :

Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Ø F (mm)	Ø G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)
CQFG 312	3962	2280	2607	2010	1209	1x 630	710	3068	3647	272	430	1957	940	1904
CQFG 416	3962	2680	2607	2010	1609	2x 500	800	3068	3647	272	830	1957	1340	1904
CQFG 520	4340	3080	2607	2010	2009	2x 360	1000	3068	3840	272	1230	1957	1740	1904

CQFG cartridge filters

Filter media :
Filter cartridge ø325 mm. Length: 1320 mm

Model	Type	Material	Application
G102	Standard	Polyester flake	Dry not-static loaded or hygroscopic dust particles > 0.2 µm
G105	Optional	Cellulose/Polyester	Welding/soldering
G107	Optional	Cellulose/Polyester nano	Smoke and soot particles
G113	Optional	Polyester flake with PFPT-coating, antistatic	Static-loaded or hygroscopic particles
G115A	Optional	Polyester flake with teflon membrane	Finer dust sorts, e.g. cutting smoke from plasma, flame and laser cutting
G116A	Optional	Polyester flake 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%).

Supply :
- Differential pressure control type ECO-S with automatic after-cleaning. 230V AC.
- Compressed-air: 5.5 - 6.0 bar dry compressed-air by cejn-coupling incl. ø10 mm hose nipple.
- Differential pressure is visible in digital display, placed on unit at service height.
- 1"-jet valves connected to central compressed-air tank in clean air chamber.

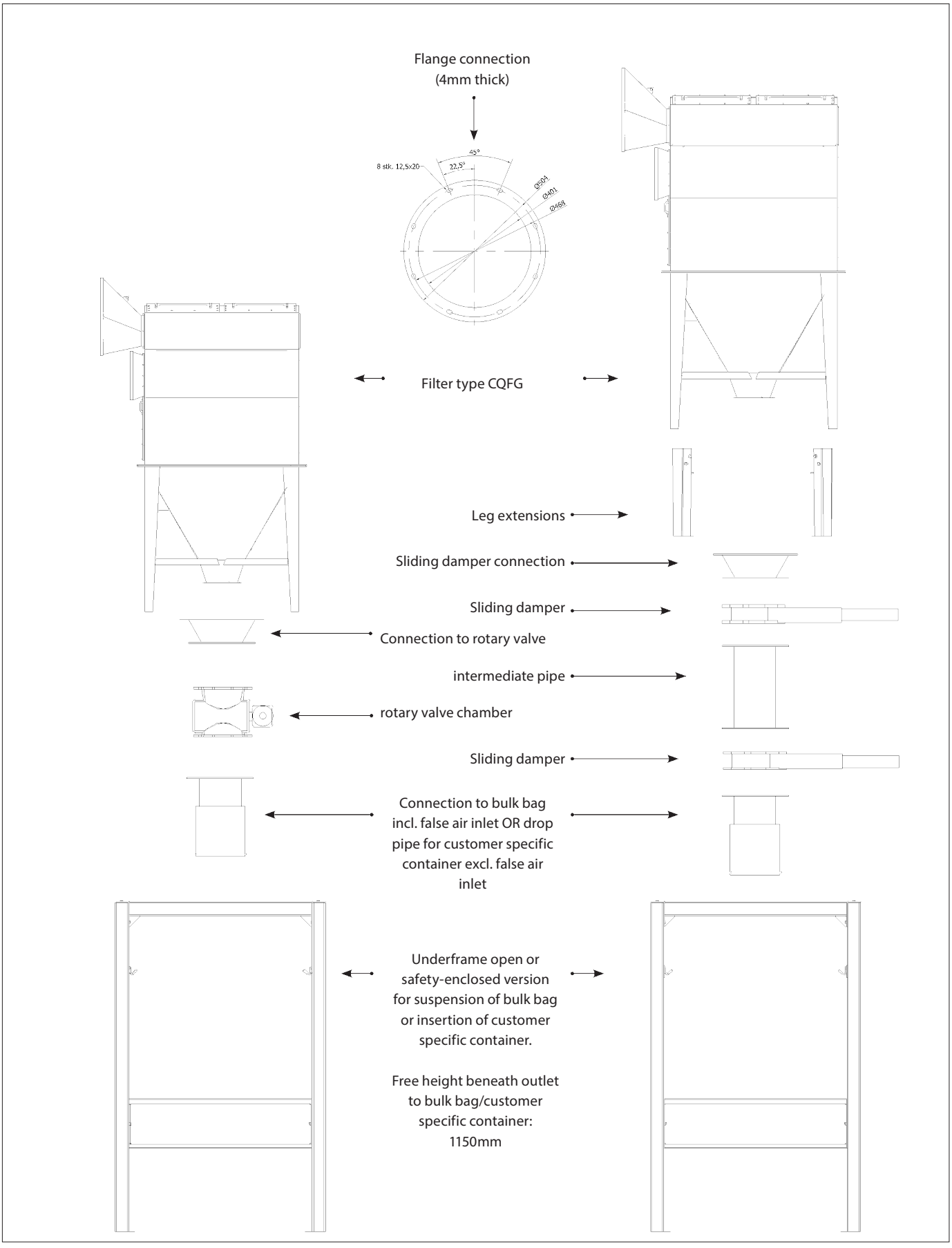
Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Construction :
Filter unit type CQFG 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

Options:
- Hot-galvanized, enamelled steel plates for outdoor mounting
- Backdraft damper type KTR for piping placement
- 150 L dust container with sack holder (H increased by 330 mm)
- Underframe and connections for bulk bag and drop pipe for customer specific containers
- ½"-water separator with manometer and pressure reducing valve
- Temperature sensor type RT101 as well as alarm devices
- Leak detector type DTC/TC 30
- Precoat unit type PCA
- Precoat 11.5 kg in sack

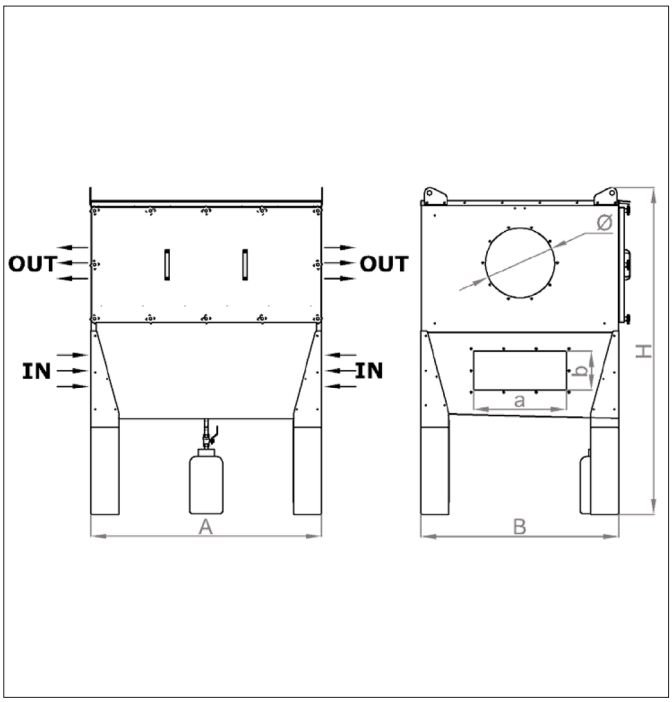
CQFG cartridge filters

Overview of accessories for cyclone filter type CQFG :



HGOF - Oil mist filters





HGOF - Oil mist filters
At the end of the work process the agglomerated particles head into the collection bin keeping the pocket filter clean.
HGOF filters are designed with the loaded air inlet on the lower part of the fitler in order to have a first rough separation to ensure more filtration efficiency from pocket filter.

The loaded air is then lead through two other filtration stages composed of a metal filter anf oil fitler pockets before the clean air is lead out through the upper part of the filter body.

The HGOF-V oil mist filter series has an integrated fan in a soundproof box.

Applications :
- Oil mist

Materials and finish :
- Galvanized metal sheet
- Stainless steel (option)
- Painted (option)

Standard version :
- Filtering surface from 6 to 48 m^2 with oil repellent pocket filter
- Oil-tight welded hopper
- Available with built-in extraction fan from 2.2 to 11 kW power
- Plastic oil collection container of 10 L
- Inlet and outlet on opposite sides
- Maximum vacuum of 2500 Pa
- Maximum temperature 70°C

Filter unit HGOF :

Model	Air volume (m^3/h)	# pockets	Filter surface (m^2)	Oil bucket (L)	Inlet axb (mm)	Outlet Ø (mm)	Dimensions (A x B x H)		
HGOF 2000	2500	1	6	1 x 10 L	250 x 150	200	800	685	2110
HGOF 4000	5000	2	12	1 x 10 L	250 x 250	300	1500	685	2110
HGOF 6000	7500	3	18	1 x 10 L	250 x 500	350	1500	980	2110
HGOF 8000	10000	4	24	1 x 10 L	250 x 600	400	1500	1275	2110
HGOF 12000	15000	6	36	1 x 10 L	250 x 800	400	2200	1275	2110
HGOF 16000	20000	8	48	1 x 10 L	250 x 800	750 x 400	3000	1275	2110

Filter unit HGOF-V :

Model	Installed power (kW)	Air volume (m^3/h)	Filter surface (m^2)	Available pressure (Pa)	Inlet axb (mm)	Outlet Ø (mm)	Dimensions (A x B x H)		
HGOF-V 2000	2.2	2000	6	1400	250 x 150	250	800	685	2740
HGOF-V 4000	3.0	4000	12	1200	250 x 250	350	1500	685	2990
HGOF-V 6000	4.0	6000	18	1100	250 x 500	450	1500	980	2990
HGOF-V 8000	5.5	8000	24	1100	250 x 600	500	1500	1275	2990
HGOF-V 12000	11.0	12000	36	1400	250 x 800	600	2200	1275	2990
HGOF-V 16000	15.0	16000	48	1500	250 x 800	700	3000	1275	2990

HGOF - Oil mist filters



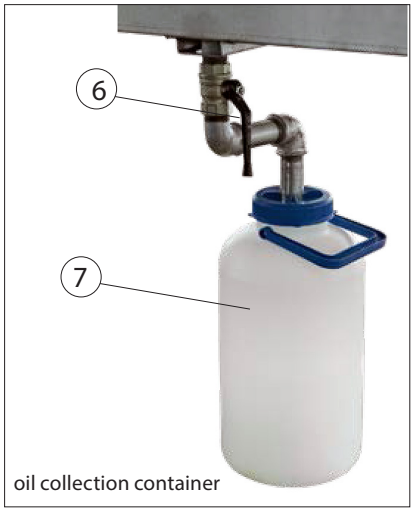
HGOF-V

HGOF & HGOF-V filter composition :

1. Extraction fan housing
2. Access doors to filtering chamber
3. Oil collection container & drain valve
4. Extraction fan outlet
5. Filter unit inlet
6. Oil drain cock
7. Plastic oil collection container

HGOF & HGOF-V options :

- Control panel with inverter
- Differential pressure gauge
- Pocket with more filter surface
- Collection tank for oil placed under the filter



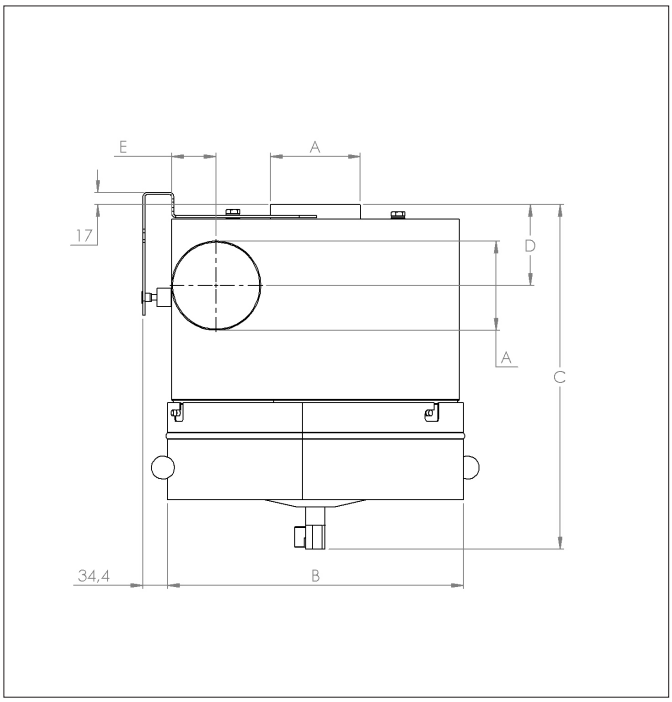
oil collection container


Soundproof fan housing


HFTO-V Lifting hooks

HOUF - Oil mist filters





HOUF - Oil mist filters
Used for oil mist pre-separation from processing machines, where cooling lubricants are used. Is mounted directly at the individual machine, so that oil mists do not reach the central piping system.

After oil mist pre-separation by HOUF the air should be filtered by a multistage oil mist filter, e.g. of the type HOUK, so oil mist emission demands are met.

Air volume : Up to 2000 m^3/h
Vacuum : Up to 2000 Pa
Filtration efficiency: Normally up to 85%

Applications :
- Oil mist

Functioning :
- Process air max. +35°C is led in through tangential inlet
- Air is filtered through washable pore filter connection, which contributes to cyclone effect
- Oil is collected in the bottom of the HOUF, from where it can either be led back to the machine or drained off through mounted drain cock. Oil pan suspended in bayonet fitting.
- Filtered air is led out through the outlet connection in top to be connected to piping.

Advantages by removing oil mist directly at the machine :
- Reduced hazardous effects on breathing and skin
- Minimize the risk of slippery floors and accidents
- Minimize fire risk and oil mist aerosols damaging electronics in the machines
- Reduced cleaning and maintenance costs
- Reduced energy consumption (reduced air speed in ventilation channels, when there are no heavy oil particles that must be kept airborn, no oil mist deposits on light sources)

Filter unit HOUF :

Model	Delta P [1] Start/stop	Air volume (m^3/h)	Efficiency (%)	Inlet Ø (mm)	Outlet Ø (mm)
HOUF 80 [2]	500 / 800	300	85	20	20
HOUF 100 [3]	500 / 800	500	85	100	100
HOUF 125 [4]	500 / 800	800	85	125	125
HOUF 160 [5]	500 / 800	1200	85	160	160
HOUF 200 [6]	500 / 800	2000	85	200	200

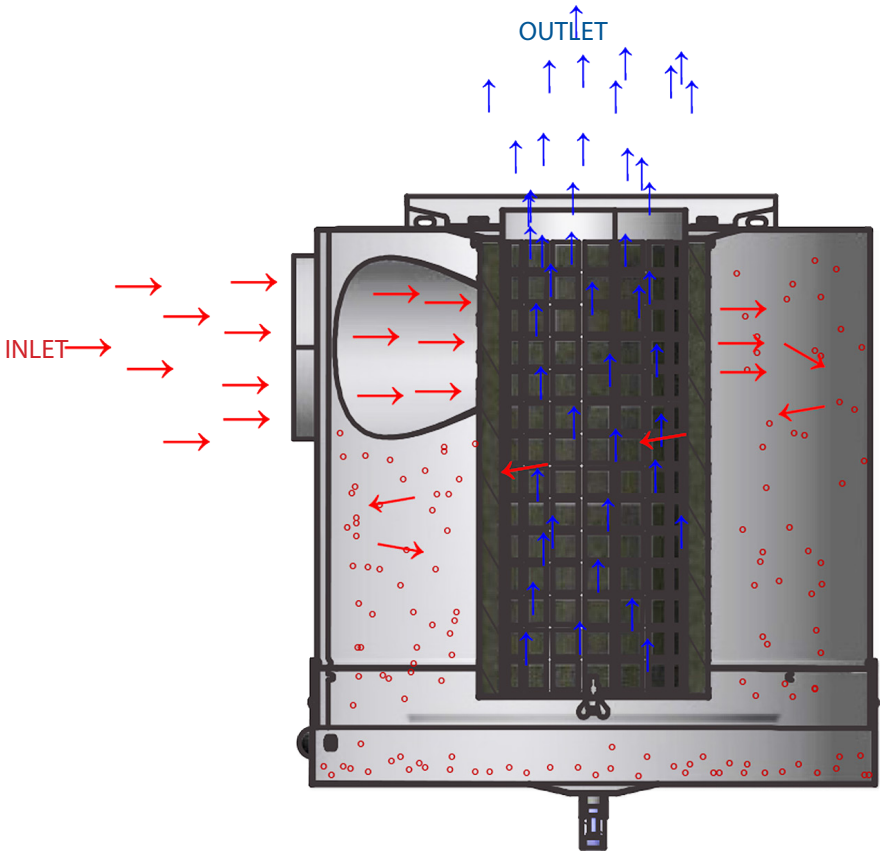
[1] Pressure drop stated over filter cartridge
[2] Pore filter 35, 370x160 mm
[3] Pore filter 35, 450x210 mm
[4] Pore filter 35, 491x280 mm
[5] Pore filter 35, 620x390 mm
[6] Pore filter 35, 755x505 mm

Dimensions :

Model	Ø A (mm)	Ø B (mm)	C (mm)	D (mm)	E (mm)
HOUF 80	80	265	354	90	35
HOUF 100	100	315	403	98	34
HOUF 125	125	412	478	113	34
HOUF 160	160	514	583	128	33
HOUF 200	200	611	689	147	35

HOUF - Oil mist filters

Working principle of flow through HOUF filter unit:



Easy connection and operation
HOUF is easily mounted on the wall with 2 bolts through top fitting (4 possible positions) and connected to the piping on inlet and outlet connections. Separated oil can either be led back to the machine or tapped by drain cock in the oil pan. Filter is replaced (or washed) in suitable intervals. Filter is dismounted (without the use of tools) by loosening oil pan suspended in bayonet fitting.

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

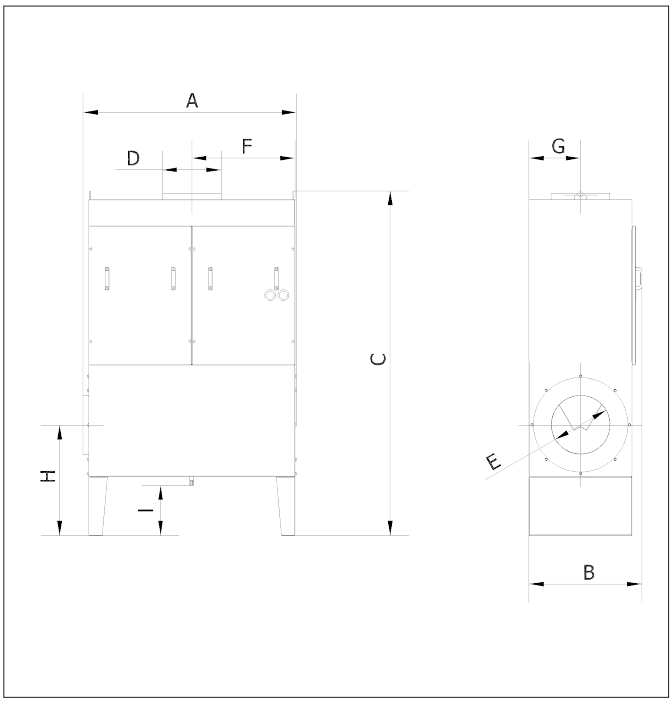
Construction :
Filter unit type HOUF is constructed according to :

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

If oil or cooling lubricant contain boric acid, the fine filter must be mounted in galvanized steel frame! Also joints and sealings must be changed.

HOUK - Oil mist filters





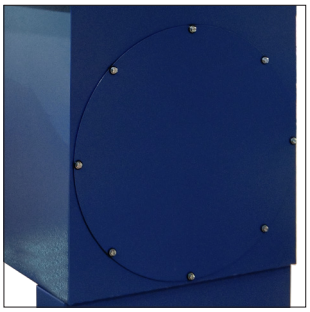
HOUK - Oil mist filters
Multistage oil mist filter for separating oil mist aerosols in process air from machines, where cooling lubricants are used. Can be used as central filter unit for several machines. On the individual machine the pre-separator type HOUF should be mounted to limit oil in piping up to HOUK.
At oil mist filtration through HOUK the emission is normally < 1mg/m^3, and emission limit values for oil mist aerosoles are thus met.

Air volume :	Up to 16000 m^3/h
Vacuum :	Up to 5000 Pa
Filtration efficiency :	F9
Filtration efficiency with HEPA :	H13

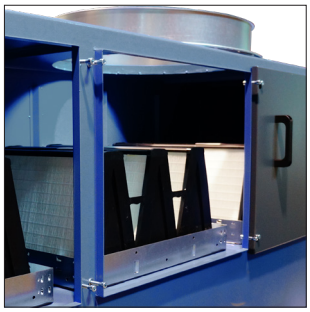
Functioning :
- Process air max. +25°C is led in through inlet connection at the buttom in side of HOUK
- Separation occurs through 3 steps :
  1. Speed reduction
  2. Pre-separation in washable grease filter (pore filter 35)
  3. Fine filtration in compact filter F9
- Option for HEPA filter (H13) - filter step 4
- Separated oil is collected in bottom of HOUK. Bottom is equipped with drain cock
- Clean air is led out through outlet connection in top

Applications :
- Oil mist

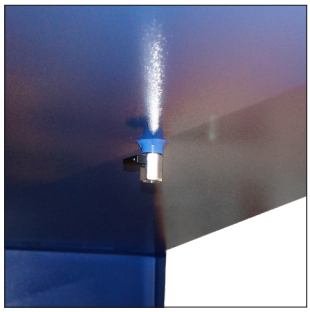
If oil or cooling lubricant contain boric acid, the fine filter must be mounted in galvanized steel frame! Also joints and sealings must be changed.



Inlet connection is standard mounted in left side, but can easily be moved to the right.



Filter replacement can be performed through front door.



Separated oil is drained by ½" drain cock.



For easy monitoring of filter soiling Minihelic differential pressure manometer can be built into front door of HOUK.

HOUK - Oil mist filters

Filter unit HOUK :

Model	Delta P [1] Start/stop	Air volume (m^3/h)	Filter area (m^2)	# of prefilters [2]	# of F9 fine filters [3]	# of H13 absolute filters [4]	# of manometers [5]	Weight (kg)
HOUK 4000 M7 [2]	900 / 1200	4000	19	2	1	-	-	86
HOUK 4000 M7 + mano [2]	900 / 1200	4000	19	2	1	-	1	86
HOUK 4000 M7, HEPA [2]	1100 / 1500	4000	19	2	1	1	-	123
HOUK 4000 M7, HEPA + 2 mano [2]	1100 / 1500	4000	19	2	1	1	2	123
HOUK 8000 + mano [2]	900 / 1200	8000	38	4	2	-	1	183
HOUK 8000, HEPA + 2 mano [2]	1100 / 1500	8000	38	4	2	2	2	280
HOUK 12000 + mano [2]	900 / 1200	12000	57	6	3	-	1	252
HOUK 12000, HEPA + 2 mano [2]	1100 / 1500	12000	57	6	3	3	2	390
HOUK 16000+ mano [2]	900 / 1200	16000	77	8	4	-	1	342
HOUK 16000, HEPA + 2 mano [2]	1100 / 1500	16000	77	8	4	4	2	500

[1] Pressure drop stated over filter cartridge
[2] Pore filter 35 in aluminium frame, 495x495x50 mm
[3] Compact filter F9 in plastic frame, 592x592x292 mm
[4] Absolute filter in metal frame, HEPA/H13, 610x610x292 mm
[5] Minihelic-differential pressure manometer 0-1 kPa

Dimensions :

Model	A (mm)	B (mm)	C (mm)	Ø D (mm)	Ø E (mm)	F (mm)	G (mm)	H (mm)	I (mm)
HOUK 4000 M7	727	771	1577	315	315	350	350	632	332
HOUK 4000 M7, HEPA	700	768	1958	315	315	350	350	632	332
HOUK 8000	1445	765	1785	400	400	700	350	750	342
HOUK 8000, HEPA	1445	766	2338	400	400	700	350	750	342
HOUK 12000	2145	765	1785	500	500	1050	350	750	342
HOUK 12000, HEPA	2145	766	2338	500	500	1050	350	750	342
HOUK 16000	2845	765	1785	630	630	1400	350	750	342
HOUK 16000, HEPA	2845	766	2338	630	630	1400	350	750	342

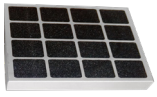
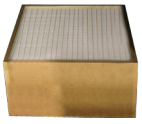
Easy connection and operation
Oil mist filter HOUK is placed on the floor with the included 400 mm bend or mounted on wall with Flex-mountings. Inlet connection is as standard placed in the left side, but can easily be moved to the right side. Separated oil/cooling lubricant is easily tapped by cock in bottom.

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 5007/7011.

Options :
- Version in hot-galvanized, enamelled steel plates for outdoor mounting
- Top with outlet grid without connection (only for HOUK 4000 HEPA)
- Unit preparation for cooling lubricants containing boric acid (changed joints and filter sealings)
- Fan module M7 for building on top of HOUK 4000
- HEPA filter (H13)
- Outlet connection on fan module (if installed)

Filter monitoring :
Continuous monitoring must be kept with pressure drop above filters for timely replace ment of these. For this Minihelic-differential pressure manometer can be mounted in front door of HOUK or filter guard type L1.

Filter media :

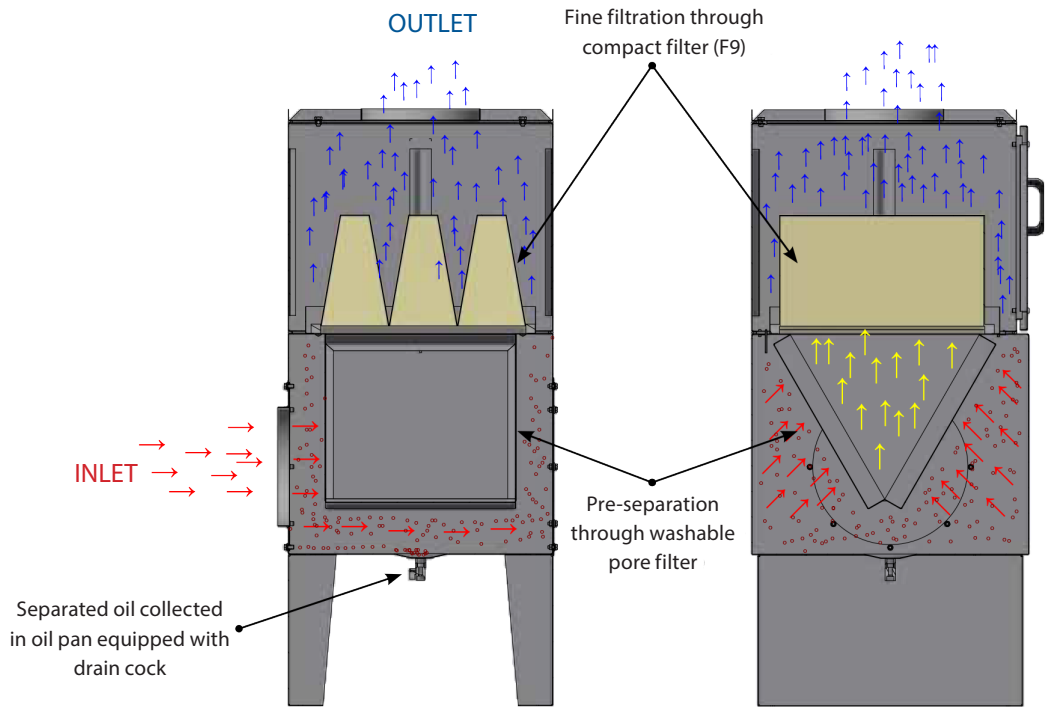
Model	Standard	Material	Filtration efficiency (%)
	Pre-separation in grease filter (filter step 2)	Pore filter 35 open-celled polyurethane foam (washable) mounted in aluminium frame 495x495x50 mm	Up to 85%
	Fine filtration in compact filter* (filter step 3)	Synthetic filter material mounted in plastic frame 592x592x290 mm	> 95% corresponding to filter class F9 according to DS EN779
	Fine filtration through HEPA-absolute filter (filter step 4)	HS-Mikro SFV High Effeciency Particular Air filter, micro-filter (glass fiber) mounted in metal frame 610x610x292 mm	> 99.95% corresponding to filter class H13 according to DS EN1822

* If oil or cooling lubricant contain boric acid, the fine filter must be mounted in galvanized steel frame! Also joints and sealings must be changed.

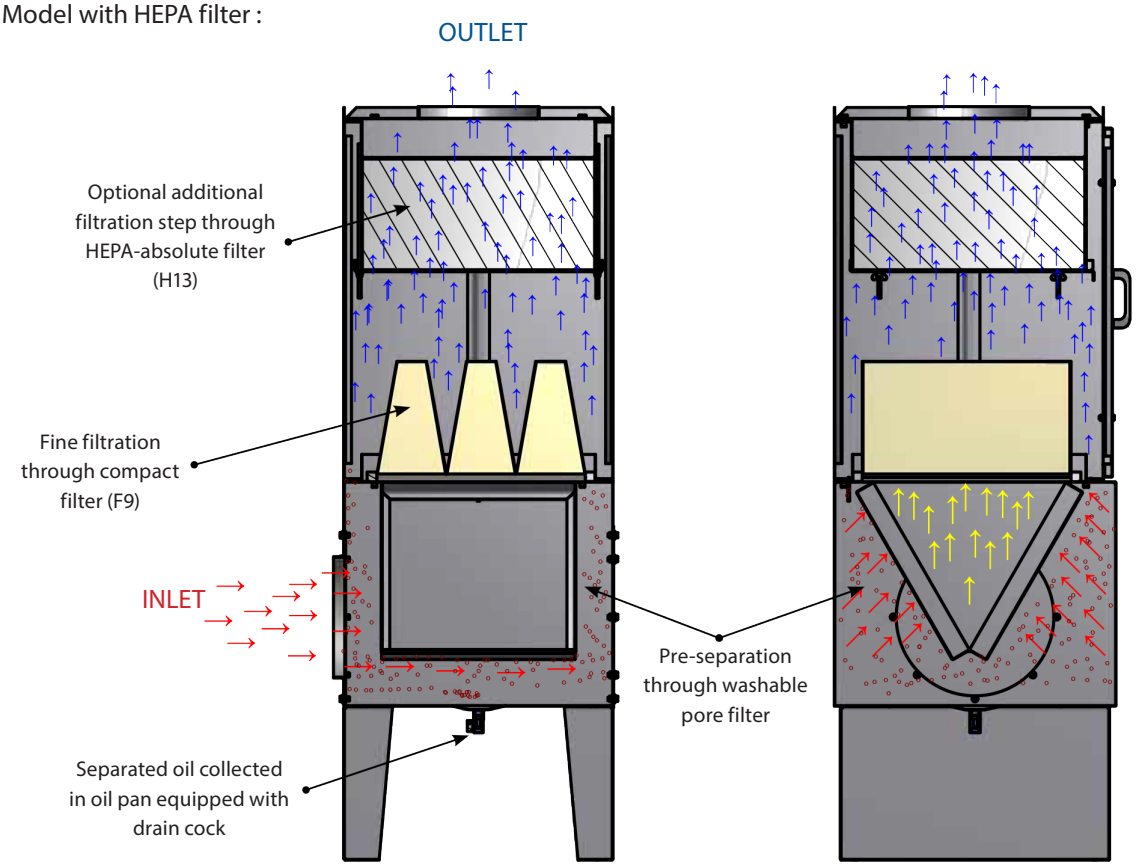
HOUK - Oil mist filters

Working principle of flow through HOUK filter unit:

Standard model :



Model with HEPA filter :



HOUPC - Oil mist filters



HOUP500 and HOUPC510



HOUP4040 with integrated fan

HOUPC - Oil mist filter
Compact multi-stage filter for cooling lubricants to mount directly on processing machines. For filtration of oil mist, emulsion mist, minimal quantity lubrication and oil smoke.

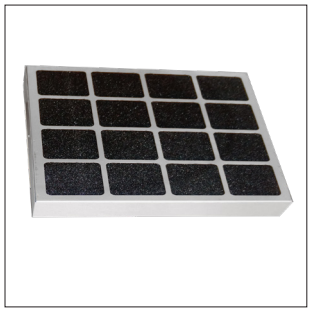
The 4-stage separator principle in HOUPC ensures the optimal filtration solution for each of the primary types of mists: oil mist, emulsion mist, minimal quantity lubrication and oil smoke.

The large surface of the washable pre-filter and self-draining filter cartridge ensure long service life and low pressure loss, which minimize costs for energy and filter replacements. The high separation degree of the third filter stage ensures very long life.

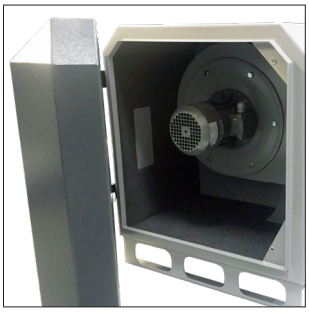
Air volume :	500 up to 4000 m^3/h
Vacuum :	Up to 5000 Pa
Filtration efficiency :	H13

Applications :
- Oil mist

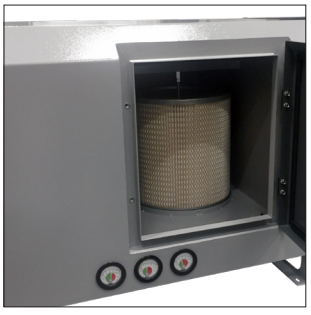
Functioning :
- The polluted air is led in at the separator end to pre-separation chamber for air distribution and densification. The accumulated particles are led on to the washable pore filter PPi35 that separates dust and accumulated liquid with up to 50% higher efficiency than alu-grease filter
- The air is fine filtered in filter cartridge type G104A with micro-glas fiber material, where the fibers allow the fluid to drain away from the filter. Filtration degree > 99% of particles above 0.1µm
- A ½"-drain cock is located below the first two filter stages in a fluid reservoir that can be connected to return to the processing flow
- Last filter stage is a HEPA-filter, filter class H13 that ensures the removal of >99.95% smoke particles down to 0,1µm, before the air is recirculated by large-meshed grid.
- The HEPA-filter is placed after the fan module and works as an efficient silencer (model 500 & 1000 series)
- Air is led to clean air outlet or fan for models 2000 & 4000 HOUPC series (delivered with outlet connection)



The pre-separation is done by a pore filter PPi35 at the entrance of the filter which ensures minimal pressure drop.



The extraction fans are integrated in enclosure with outlet silencer and integrated service door in fan cabinet.

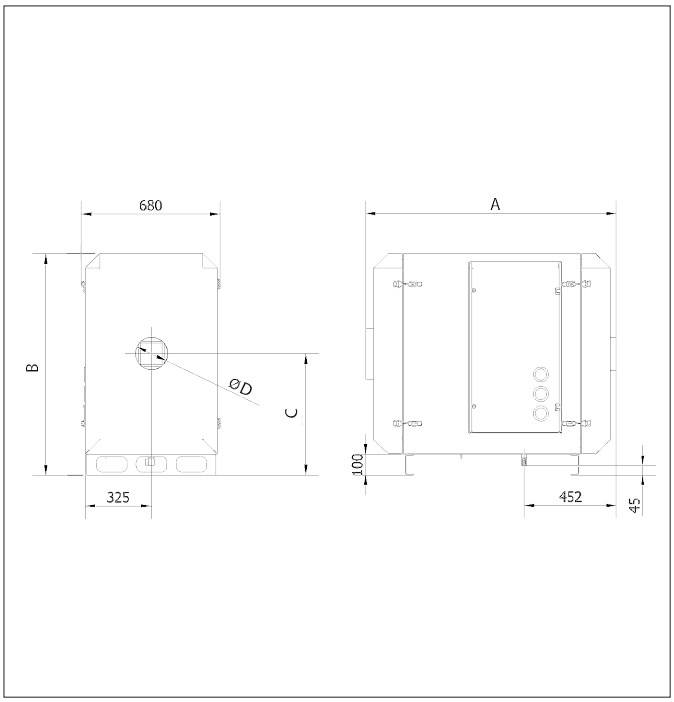


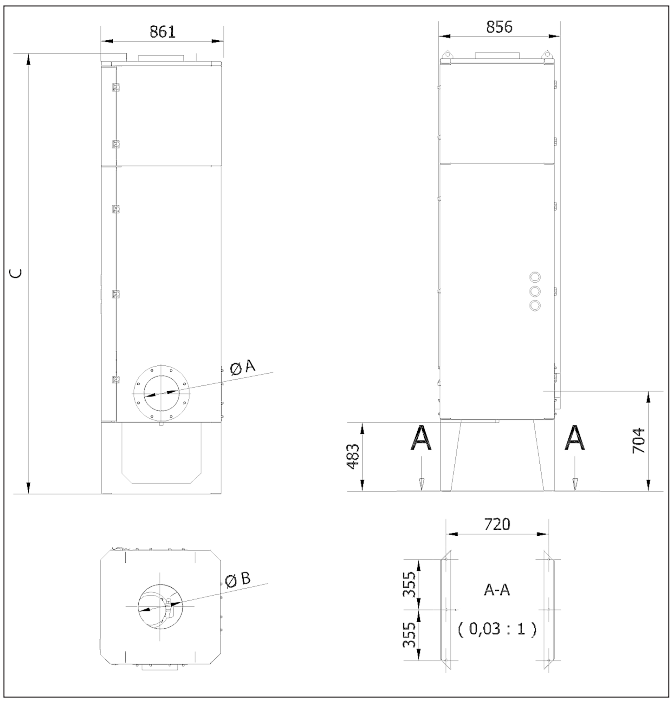
Access doors on front of units makes for easy maintenance of the different filter elements.



Each filter stage is equipped with differential pressure manometer for monitoring of the individual pressure losses for filter service optimization.

HOUPC - Oil mist filters





Filter unit HOUPC :

Model	Filter area (m^2)	Air volume (m^3/h)	Fan type	Noise level (dB[A])	# of prefilters [1]	# cartridge filters	# of H13 absolute filters	# of manometers [4]
HOUPC 500	4	500	-	-	1	1 [2]	1 [5]	3
HOUPC 510	4	500	VL750	76	1	1 [2]	1 [5]	3
HOUPC 1000	8	1000	-	-	1	1 [3]	1 [5]	3
HOUPC 1010	8	1000	VL1100	75	1	1 [3]	1 [5]	3
HOUPC 2000	16	2000	-	-	1	2 [3]	1 [6]	3
HOUPC 2020	16	2000	VR3000	74	1	2 [3]	1 [6]	3
HOUPC 4000	32	4000	-	-	1	4 [3]	1 [6]	3
HOUPC 4040	32	4000	VR5500	76	1	4 [3]	1 [6]	3

[1] Pore filter PPi35, 1x2 m
[2] DIN-cartridge ø325x330 mm, G104A
[3] DIN-cartridge ø325x660 mm, G104A
[4] 1 x Minihelic-differential pressure manometer 0-3kPa and 2 x Minihelic-differential pressure manometer 0-0.5kPa
[5] Absolute filter in MDF-frame, HEPA/H13, 610x610x78 mm
[6] Absolute filter in metal frame, HEPA/H13, 610x610x292 mm

Dimensions :

Model	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
HOUPC 500	1011	750	425	Ø 125	105
HOUPC 510	1273	750	425	Ø 125	145
HOUPC 1000	1226	1080	590	Ø 160	155
HOUPC 1010	1553	1080	590	Ø 160	200
HOUPC 2000	Ø 250	Ø 315	2390	-	240
HOUPC 2020	Ø 250	Ø 315	3096	-	395
HOUPC 4000	Ø 315	Ø 400	2390	-	240
HOUPC 4040	Ø 315	Ø 400	3096	-	400

Pressure loss over individual filter stages :

Model	Filter type	Delta P start (Pa)	Delta P end (Pa)
HOUPC 500 & 1000 - stage 1	Pore filter PPi 35	30	150
HOUPC 500 & 1000 - stage 2	Filter cartridge G104A	100	1300
HOUPC 500 & 1000 - stage 3	HEPA filter - H13	40	250
HOUPC 2000 & 4000 - stage 1	Pore filter PPi 35	30	150
HOUPC 2000 & 4000 - stage 2	Filter cartridge G104A	100	1300
HOUPC 2000 & 4000 - stage 3	HEPA filter - H13	40	250

HOUPC - Oil mist filters

Compact and space-saving solution
The construction of HOUPC 500 – 1010 provides an especially compact and space-saving filter solution for mounting directly on machining center due to height restrictions. The vertical construction of HOUPC 2000 – 4040 provides an especially compact and space-saving filter solution for floor mounting. The integrated fan reduces the need of piping which also reduce costs (where recirculation is permitted).

Advantages by removing oil mist directly at the machine :
- Reduced hazardous effects on breathing and skin
- Minimize the risk of slippery floors and accidents
- Minimize fire risk and oil mist aerosols damaging electronics in the machines
- Reduced cleaning and maintenance costs
- Reduced energy consumption (reduced air speed in ventilation channels, when there are no heavy oil particles that must be kept airborn, no oil mist deposits on light sources)

Surface :
The filter cabinet is made in 2 mm black steel plate.
Surface powder enamelled RAL 7042/7011.

Options :
- Siphon for drain cock
- Additional payment for outlet connection horizontal at the end instead of outlet grid without connection (only HOUPC 510 and 1010)

Construction :
Filter unit type HOUPC is constructed according to :
- Machine directive 2006/42/EU
- EMC-directive 2004/30/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 equipped with fans :
510 & 1010 units are equipped with VL fans, and 2020 & 4040 units are equipped with VR fans, 3x400 VAC, 50Hz, 2800 rpm.
The fan is equipped with closed fan wheel and backward-curved straight self-cleaning blades, static/dynamic balanced according to ISO 14694 (BV3 G 6,3).

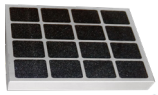
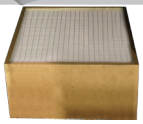
Fan consumption on filter unit HOUPC with built-in fan :

Model	Volt (V)	RPM	Power (kW)	Rated current (Amp)	Start Current (I_L/I_N)
VL 750	3 x 400	2 pole	0.75	•	•
VL 1100	3 x 400	2 pole	1.1	•	•
VR 3000	3 x 400	2 pole	3.0	•	•
VR 5500	3 x 400	2 pole	5.5	•	•

• See section "General information" conc. electro motors

Filter monitoring :
Continuous monitoring must be kept with pressure drop above filters for timely replacement of these. For this Minihelic-differential pressure manometer is mounted on front side of HOUPC.

Filter media :

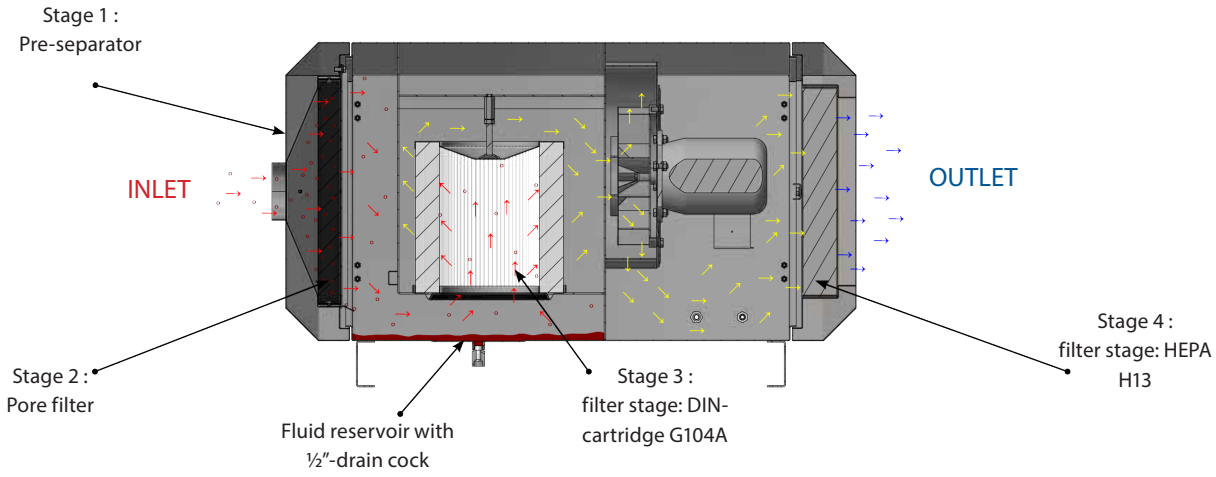
Model	Standard	Material	Filtration efficiency (%)
	Pre-separation in grease filter	Pore filter 35 open-celled polyurethane foam (washable)	Separated normally up to 30% of particles
	Fine filtration in self-draining cartridge filter	Cartridge filter ø325mm, length 330/660mm, G104A polyester/glassfiber	> 95% corresponding to filter class F9 according to DS EN779
	Fine filtration through HEPA-absolute filter	HS-Mikro SFV High Effeciency Particular Air filter, micro-filter (glass fiber) mounted in metal frame	> 99.95% corresponding to filter class H13 according to DS EN1822

If oil or cooling lubricant contain boric acid, the fine filter must be mounted in galvanized steel frame! Also joints and sealings must be changed.

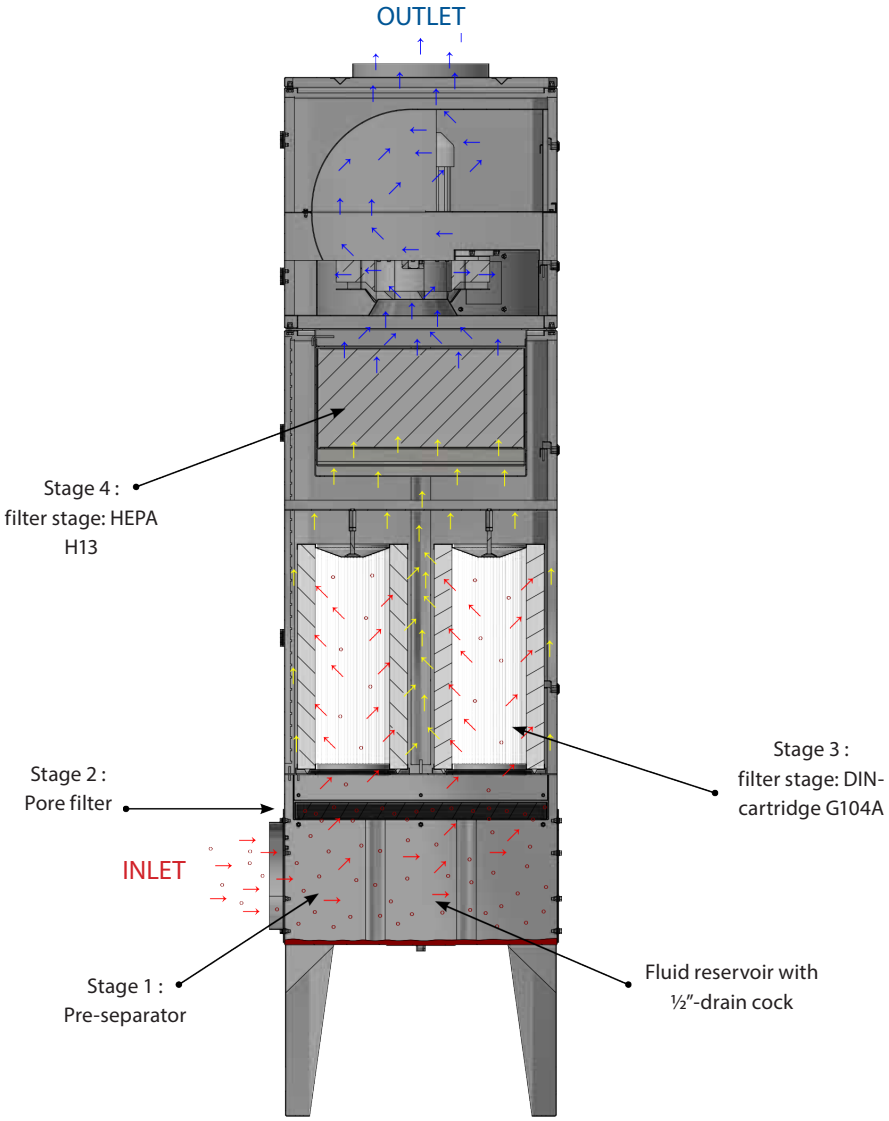
HOUPC - Oil mist filters

Working principle of flow through HOUPC filter unit:

500 & 1000 series :

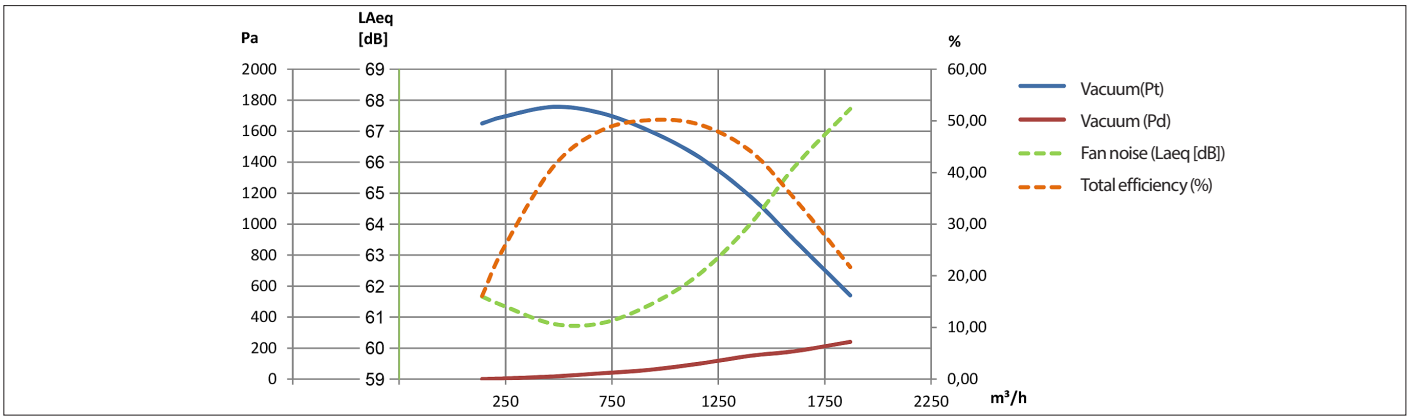


2000 & 4000 series :

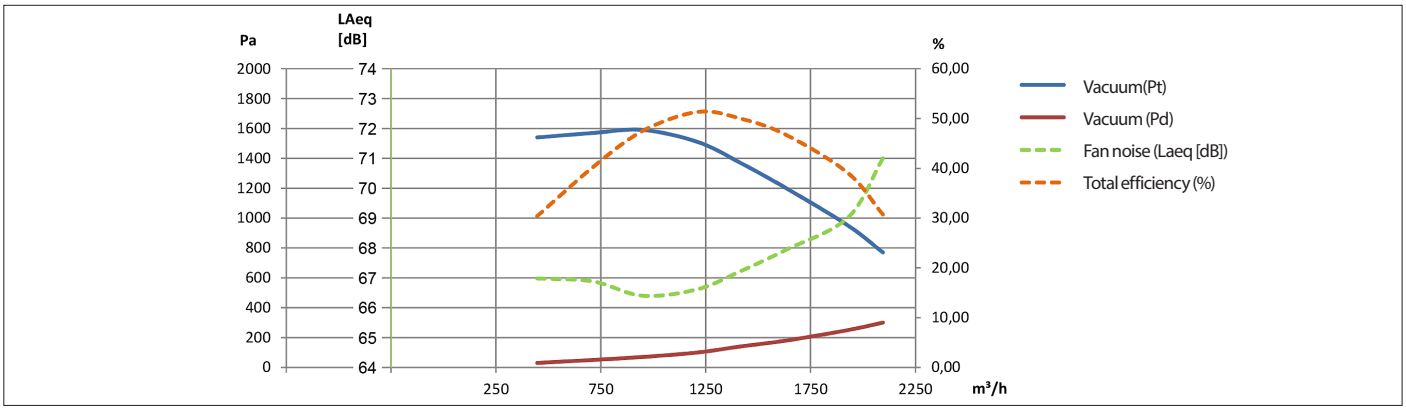


HOUPC - Oil mist filters

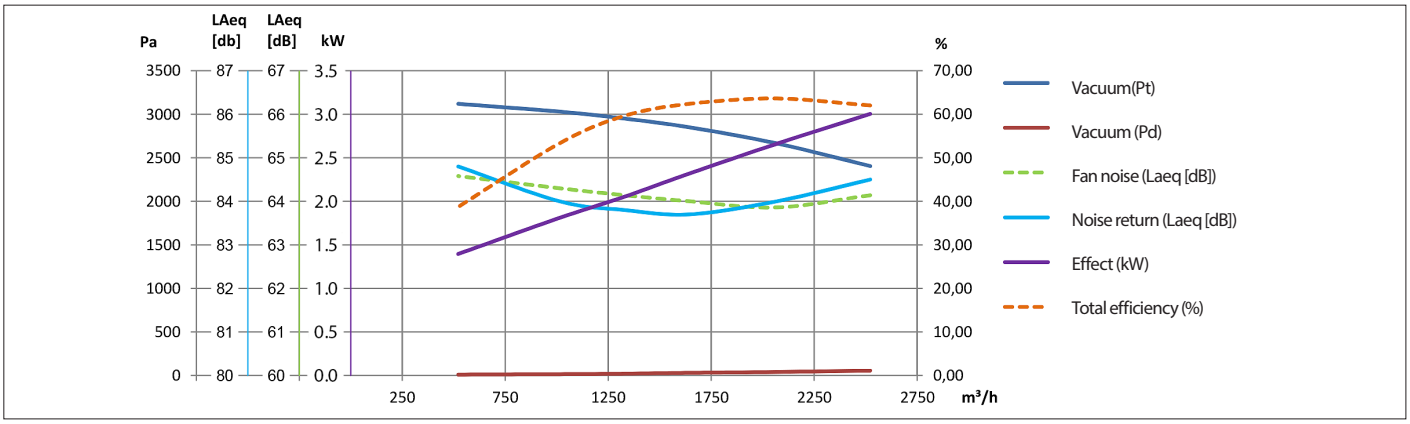
Fan type VL 750 functioning curves at 2800 rpm



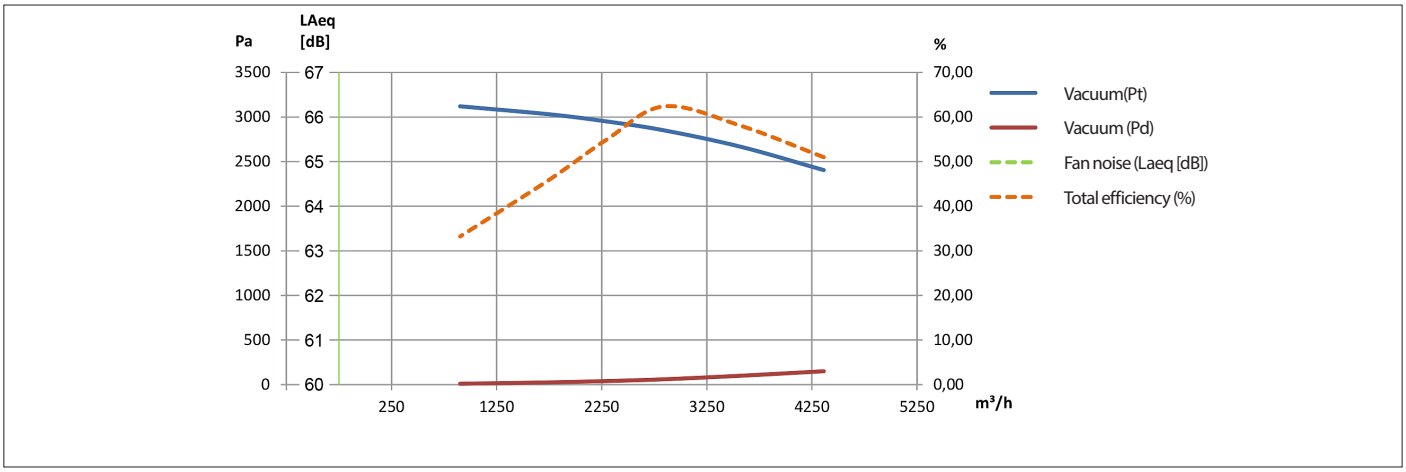
Fan type VL 1100 functioning curves at 2800 rpm



Fan type VR 3000 functioning curves at 2800 rpm

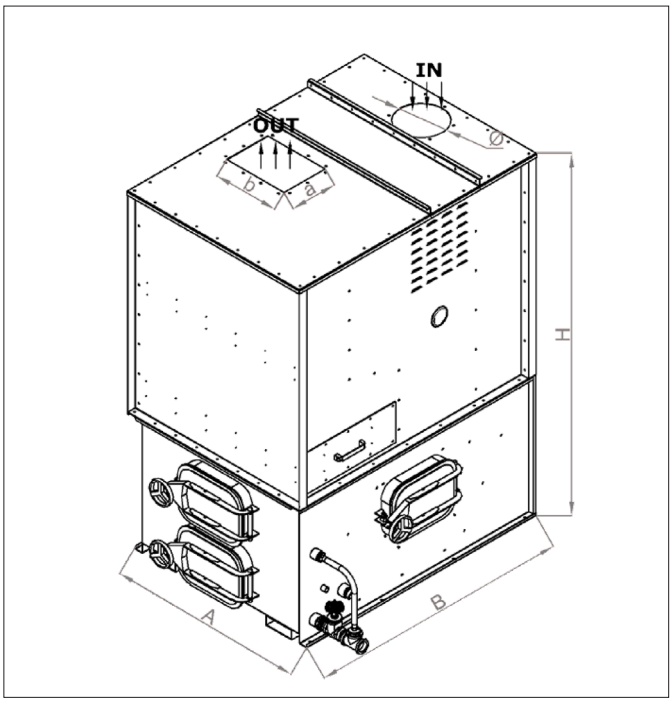


Fan type VR 5500 functioning curves at 2800 rpm



WGWF - Wet filters





WGWF - Wet filters
The WGWF wet filter range is delivered fully assembled.

The loaded air from the process is fed to the collector and is forced through a water bath which catches the majority of the pollutant. The water level is managed by a float which controls a solenoid valve that feeds water into the tank.

The WGWF series is complete with integrated fan in a soundproof casing, and control panel with inverter for an automatic management of the wet collector. It can also be delivered with a sludge dredge for reduced mantainance.

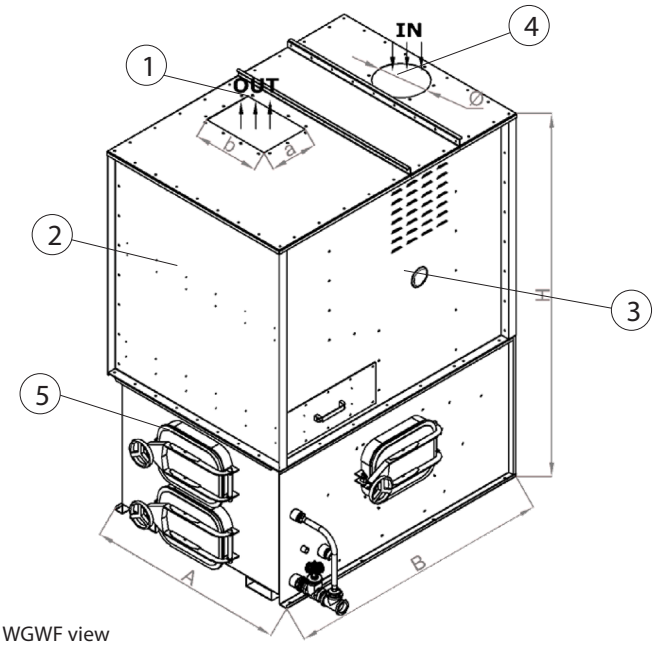
Applications :
- Mechanic shops

Materials and finish :
- Painted (standard)
- Stainless steel (option)
- Painted stainless steel (option)

Standard version :
- Airflow from 1500 to 12000 m^3/h
- Control panel with inverter
- Tap for discharging water
- "Overflow" level
- Doors for tank cleaning
- Automatic water feeding
- Signal low water level
- Maximum vacuum of 2500 Pa
- Maximum temperature 60°C

Model	Installed power (kW)	Air volume (m^3/h)	Available pressure (Pa)	Residual pressure (Pa)	Inlet (mm)	Outlet (mm)	Dimensions (A x B x H)		
WGWF 1	3.0	1500 - 2000	2730 - 2240	2230 - 1740	ø 180	185 x 131	900	1360	2250
WGWF 2	4.0	2000 - 4000	2740 - 2090	2240 - 1590	ø 250	321 x 229	900	1800	2250
WGWF 3	5.5	4000 - 6000	2690 - 2090	2190 - 1590	ø 300	361 x 256	1500	1800	2250
WGWF 4	7.5	6000 - 8000	2800 - 2280	2300 - 1780	450 x 220	453 x 322	1900	1800	2250
WGWF 5	11.0	8000 - 10000	3170 - 2540	2670 - 2040	650 x 220	404 x 288	2300	1800	2250
WGWF 6	2 x 7.5	10000 - 12000	3220 - 2650	2720 - 2150	850 x 220	2x 361 x 256	2300	1800	2250

WGWF - Wet filters



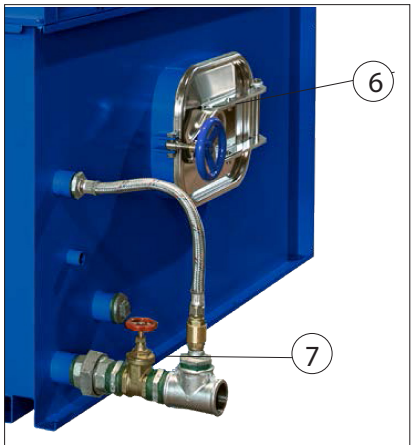
WGWF view

WGWF filter composition :

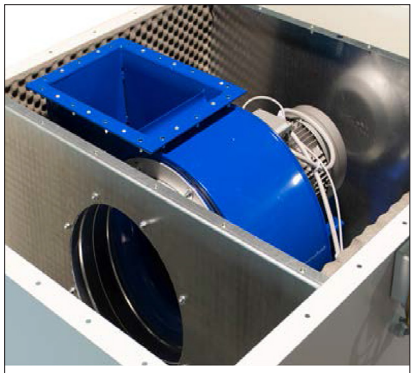
1. Filter air outlet
2. Clean air filter chamber
3. Access door and electrical connection
4. Filter air inlet
5. Filter water tank chamber
6. Inspection door
7. Overflow and water heating element

Filter options :

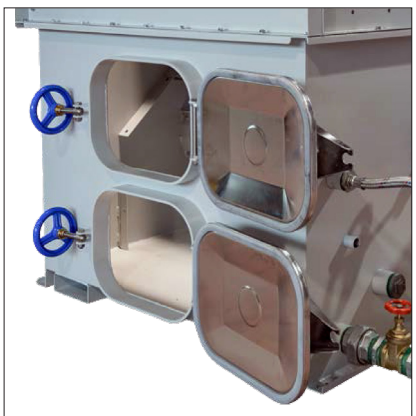
- GWF-D with Sludge dredge (4000 to 18000 m^3/h)
- Gas venting kit
- Water heating element
- ATEX components zone 22 (3D)
- HEPA modular filter system (H13 or H14)



Detail of unit



Soundproof fan housing



Easy access maintenance doors