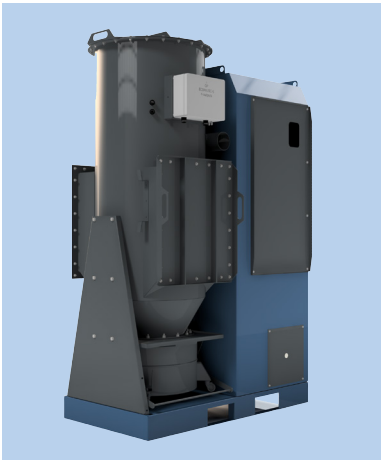
# HIGH VACUUM UNIT TYPE HFU-A



Compact high-vacuum unit that is used as central vacuum-cleaner for cleaning or connection to hand tools. Compressed-air cleaned filter unit with differential pressure control built together with side channel blower in sound-enclosed cabinet and mounted on strong transport platform.

Unit constructed for use at ATEX-zones 21-22 and standard equipped with explosion membrane, intended for burst at an explosion, whereby unit is relieved and explosions controlled.

| Variant | 1 |
|---|---|
| Inlet and raw air chamber: | Zone 21 |
| Clean air chamber and outlet: | Zone 22 |
| Surroundings: | Zone 22 |

Unit is standard dimentioned for KST 300bar m/sec. and Pmax 10bar (similar to ST2).

**HFU-A:** Air volume: Up to 1,025m³/h
Vacuum: Up to 27,500Pa
Filter area: 13m²

**Description filter unit type CJF**

- 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.
- Differential pressure controlled filter cleaning by integrated compressed-air system with 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. Quicklock-adjustable dust container system suspended in ø400mm/16-ystem flange.
- Membrane is placed on the back.

**Description side channel blower type KMS-MOR-ATEX**

- 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.
- Side channel blower may not be frequency-regulated due to ATEX

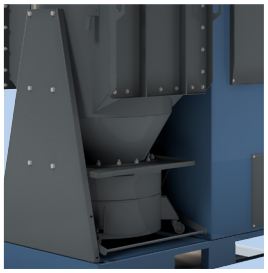
**Optimized moveable vacuum cleaner solution with long operation times**

Side channel blower as vacuum pump and automatic filter cleaning by compressed-air enables continually operation. The compact construction on strong transport platform ensures that the vacuum cleaner unit is easy to move and do not occupy much space.

**Moveable unit**
Built on a strong transport platform. Easy to move by hand pallet truck or fork lift by fork pockets.

**Easy to connect**
230V-power cable with plug and ø8mm-compressed-air hose are located on unit front.

**Explosion membrane**
At inlet the relief membrane is placed. Be aware of pressure wave and spread of flames through it at bursting at a possible dust explosion.



**All maintenance done through front door**
Maintenance incl. dust container emptying is done from unit front. Quicklock-adjustable dust container on 4 wheels ensures user-friendly dust container service.



*Rev. 03.23*

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**Filters:**
- Cartridge filter ø325mm. Length: 660mm

**Filterstyring:**
- Differential pressure control type ECO-S with automatic after-cleaning. 230V AC (constant)
- Compressed-air: 5.5 - 6.0 bar dry compressed-air. Unit equipped with ø8mm pneumatic hose (Compressed-air quality according to ISO 8473-1 2.4.1.)
- Differential pressure can be read in integrated manometer
- 1”-jet valve connected to central compressed-air tank in clean air chamber

**Filter change:** Standard from clean air chamber top

**Filter material:**

| Standard | Material | Used for |
|---|---|---|
| G113 | Polyester flake with PFPT-coating, antistatic | Static-loaded or hygroscopic particles |
| **Alternative** | | |
| G116A | 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%).

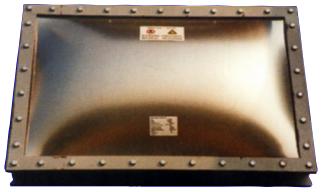
**Explosion membrane:**

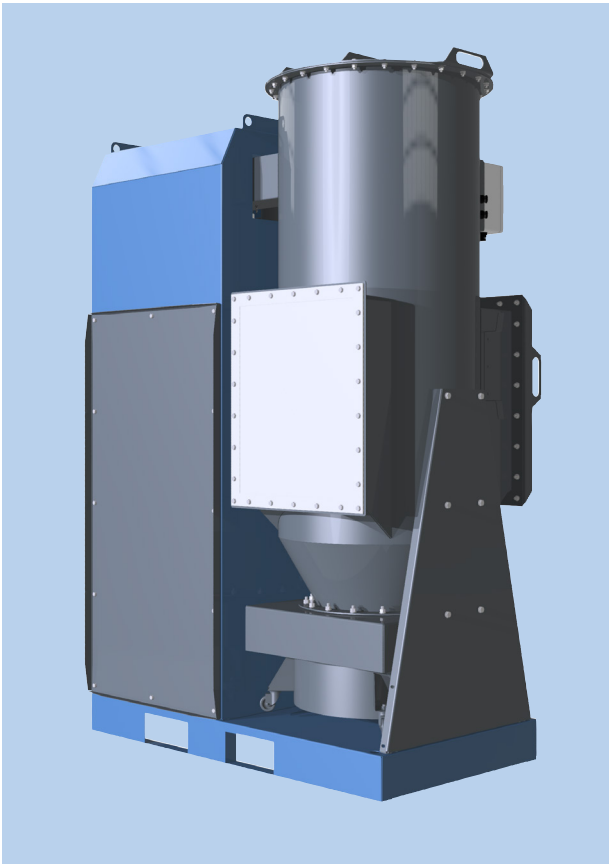
**Material:**
Membrane: AISI 304

**Relief pressure: +0.2bar**
Relief area is calculated for the individual unit for Kst = 300bar m/sec and Pmax = 10bar

Relief membrane is designed as a single unit, which provides a light construction and thus fast opening. The membrane is especially developed for dust explosion relief and gives a reliable ensurance, since it relieves at an early stage, already in the start of an explosion.

**NOTE**
At installation of units with relief membrane you must be aware of the heavy pressure wave and the flame spread that will occur in areas outside of the relief membrane and mount the unit so that the explosion is led away from people and building components.







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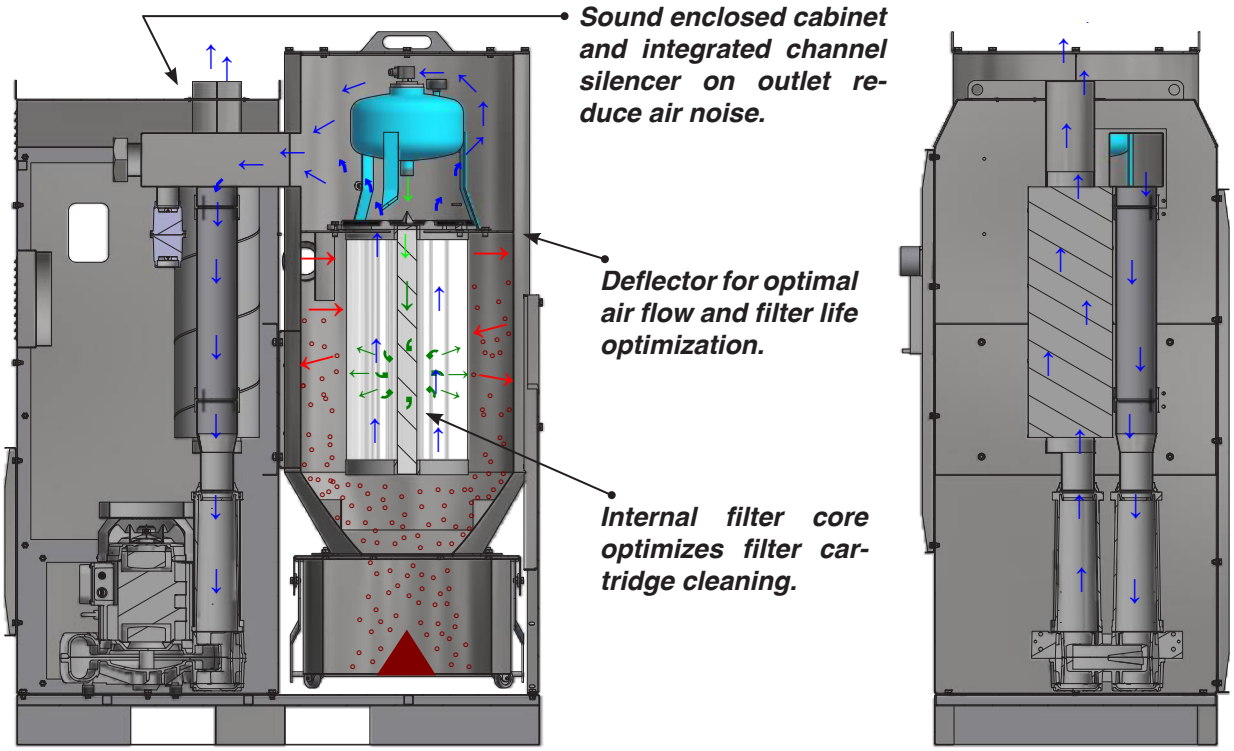
**Principle sketch for flow through high vacuum unit type HFU-A:**



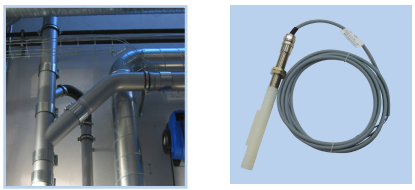

**Construction/surface:**
High vacuum unit type HFU-A is constructed according to:

- Machine directive 2006/42/EU
- ATEX-directive 2014/34/EU
- EMC-directive 2014/30/EU
- Directive 2014/68/EU about pressure equipment
- Low voltage directive 2014/35/EU
- Harmonized standards: EN 18354, EN 4414, EN 12100, EN 60204-1, EN ISO 13857
- Further standards: ISO 3746

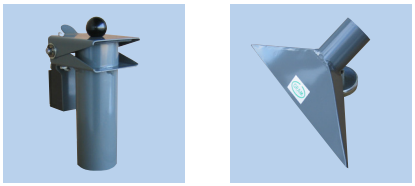
Filter cabinet is made in 2mm black steel plate
Surface powder enamelled RAL 5007/7011 structure

**Desuden kan leveres:**

- Version in hot-galvanized, enamelled steel plates for outdoor mounting
- Filter replacement from unit side
- Sack holder for 70L dust container
- ½"-pressure regulator 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
- Rupture sensor type SAFEVENT GMG12000K



*Various high-vacuum components and rupture sensor are available.*



*Flap valve type KV (left) and slot nozzle type VSPL with magnet - see product group 6.*

High vacuum unit type HFU-A is available in the sizes as stated in the forms below.

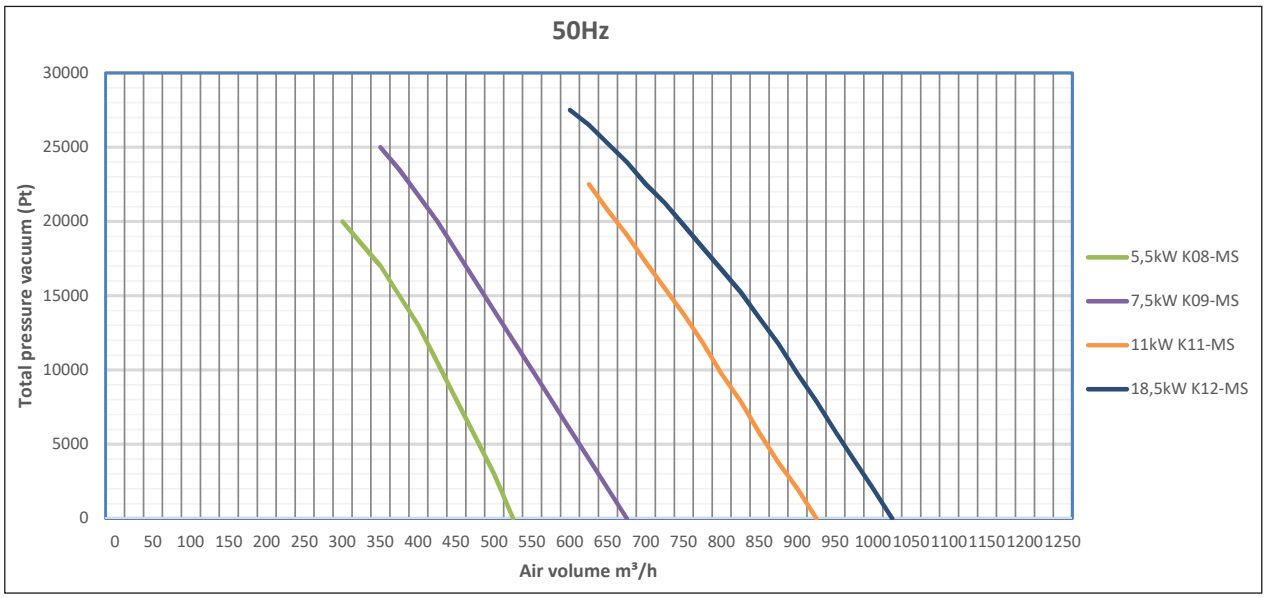
Please, contact us for assistance in selecting the optimal unit taking into consideration air volume, dust type and volume, operation times etc.

**High vacuum unit type HFU-A (max. 40,000Pa):**
**ATEX zone: 21/22**

| Type | ATEX zone 21/22 Order no. | △ P start/end [2] [Pa] | At 50Hz [kW] [3] | Number filter cartridge | G113 filter area [m²] | Compressed air [L/min.] | Dust container [L] | Weight [kg] |
|---|---|---|---|---|---|---|---|---|
| HFU-A 5500 | 10 416 000 | 200/2000 | 5.5 | 1 [1] | 13 | 30 | 1x70 | 360 |
| HFU-A 7500 | 10 416 100 | 200/2000 | 7.5 | 1 [1] | 13 | 30 | 1x70 | 370 |
| HFU-A 13000 | 10 416 200 | 200/2000 | 11.0 | 1 [1] | 13 | 30 | 1x70 | 380 |
| HFU-A 20000 | 10 416 300 | 200/2000 | 18.5 | 1 [1] | 13 | 30 | 1x70 | 395 |

*[1] Filter cartridge ø325 x 660mm/ø13.5mm, 13m², G113 (08 128 800) as well as delivered with 1 piece jet valve*
*[2] Pressure drop stated over filter cartridge*
*[3] Motor voltage: 3 x 400/690V*

**Side channel blower for high vacuum unit type HFU-A (50Hz):**





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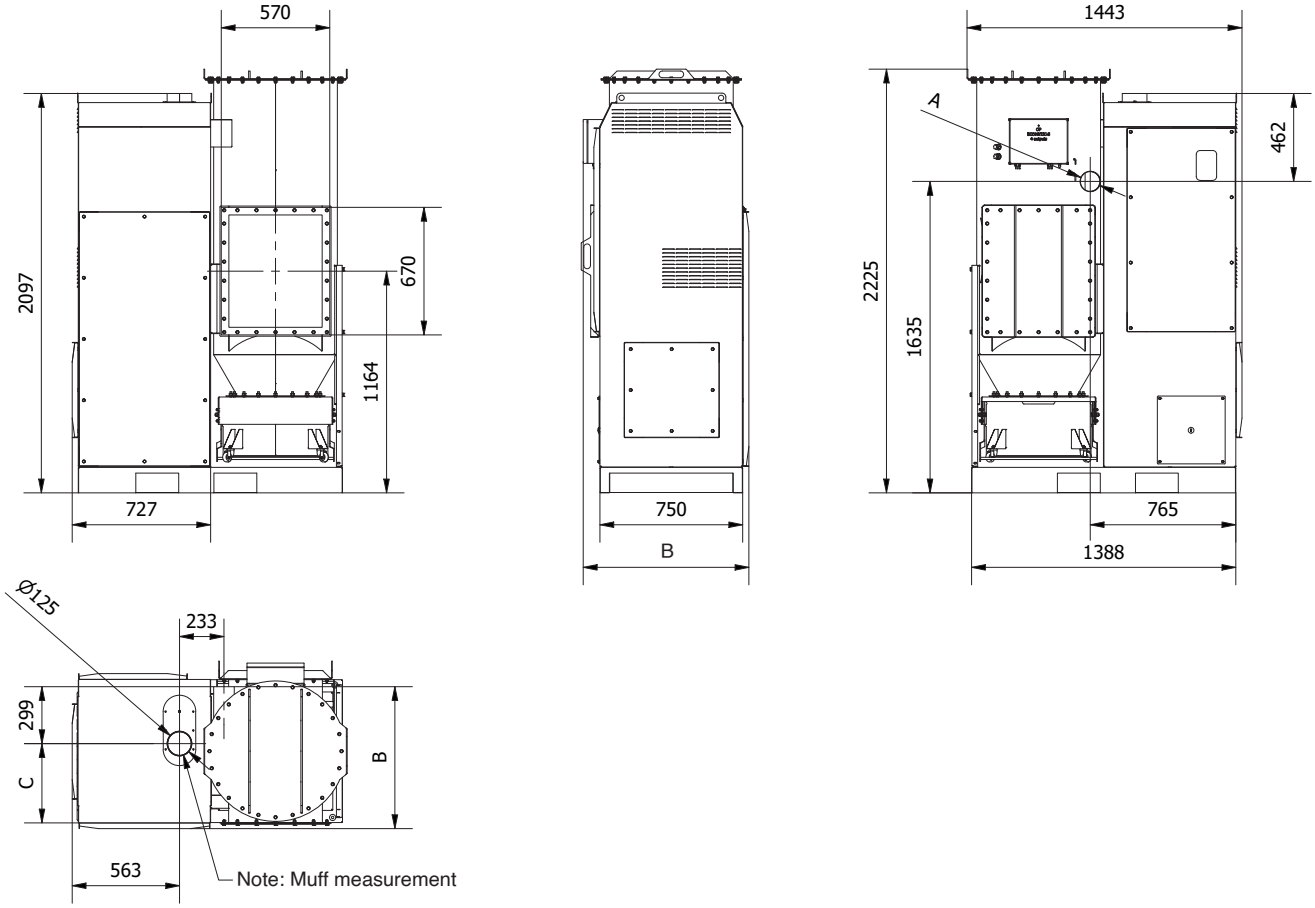
**High vacuum unit type HFU-A:**




| Type | ATEX zone 21/22 Order no. | A [mm] | B [mm] | C [mm] |
|---|---|---|---|---|
| HFU-A 5500 | 10 416 000 | ø76 | 874 | 392 |
| HFU-A 7500 | 10 416 100 | ø76 | 874 | 399 |
| HFU-A 13000 | 10 416 200 | ø108 | 869 | 417 |
| HFU-A 20000 | 10 416 300 | ø108 | 869 | 417 |



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