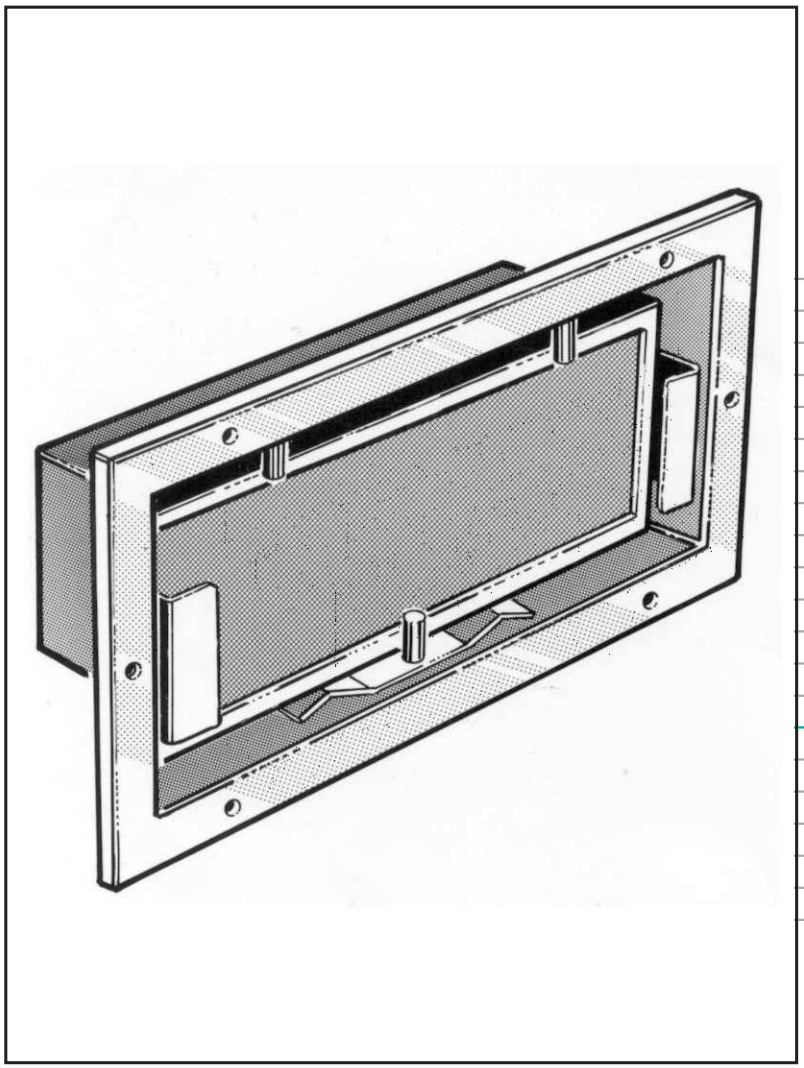
Technical Selection



Fibre filter F....

KOMPONENTEN ®

Applied system solutions

DS 4078 E 02.2002

Fibre filter

Preliminary remarks

The fibre filter from KRANTZ KOMPONENTEN removes textile fibres from exhaust air in clean rooms, especially operating theatres or ancillary operating rooms. The textile fibres are removed directly at the collection point. The fibre filter is built into the wall of the clean room or the exhaust air duct.

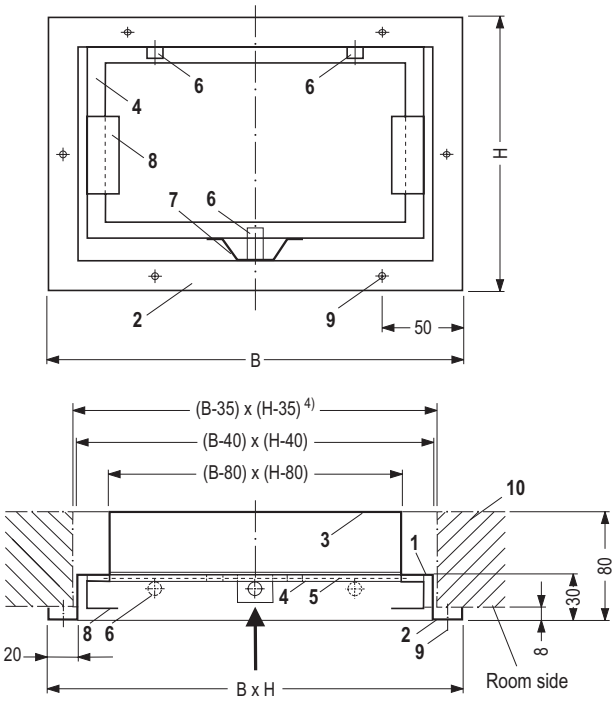
Construction design

The fibre filter's main components are: the housing **1** with frontal frame **2**, connection spigot **3** and removable filter frame **4** with wire mesh **5**.

The fibres are separated at the wire mesh.

The filter frame is inserted and locked into the housing. It can be removed without tools by hand for cleaning and disinfection by releasing a clamp mechanism with pins **6** and chuck spring **7**. The filter frame is fitted with handles **8** on both sides for easy handling.

The filter frame is located inside the housing at the back. There are no protruding components. This ensures ideal protection of personnel and material.



Key:

1 Housing
2 Frontal frame
3 Connection spigot
4 Filter frame
5 Wire mesh
6 Pin
7 Chuck spring
8 Handle
9 Bore for countersunk bolt
10 Wall including lining

The fibre filter is available in many combinable dimensions in standard design with the customary grid dimensions (Table 1) or specially designed for tiling [1] i.e. suitable for installation in a tiled wall (Table 2). This makes for easy replacement of exhaust air grilles or retrofitting of fibre filters in HVAC plant.

The housing and filter frame are made of 1.5 mm thick stainless steel - Material No. 1.4302. All visible surfaces are ground. The stainless steel wire mesh meets DIN-ISO 4783 requirements.

Table 1: Standard dimensions [2]

Nominal volume flow rate [3] V̇ in l/s and weight G in kg								
H mm / B mm		225	325	425	525	625	725	825
225	V̇	65	105	150	195	235	280	325
	G	1.4	1.8	2.2	2.7	3.1	3.5	4
325	V̇	105	170	255	330	400	475	550
	G	1.8	2.3	2.7	3.2	3.6	4.1	4.6
425	V̇	150	255	360	460	565	670	775
	G	2.2	2.7	3.2	3.7	4.2	4.6	5.1
525	V̇	195	330	460	600	730	860	1000
	G	2.7	3.2	3.7	4.2	4.7	5.2	5.7
625	V̇	235	400	565	730	900	1060	1220
	G	3.1	3.6	4.2	4.7	5.2	5.7	6.3
725	V̇	280	475	670	860	1060	1250	1450
	G	3.5	4.1	4.6	5.2	5.7	6.3	6.8
825	V̇	325	550	775	1000	1220	1450	1670
	G	4	4.6	5.1	5.7	6.3	6.8	7.5

Table 2: Dimensions for tiling [1]

Nominal volume flow rate [3] V̇ in l/s and weight G in kg							
H mm / B mm		150	303	456	609	762	915
303	V̇	50	150	250	355	455	560
	G	1.4	2.1	2.8	3.5	4.1	4.8
456	V̇	80	250	425	600	770	950
	G	2	2.8	3.5	4.3	5	5.8
609	V̇	110	355	600	850	1090	1330
	G	2.7	3.5	4.3	5.1	5.9	6.7
762	V̇	145	455	770	1090	1400	1700
	G	3.3	4.1	5	5.9	6.7	7.6
915	V̇	175	560	950	1330	1700	2100
	G	3.9	4.8	5.8	6.7	7.6	8.5

1) Tile size 150 mm x 150 mm
2) Other dimensions on request
3) For discharge air velocity of about 3 m/s, related to (B – 80) x (H – 80)
4) Installation opening

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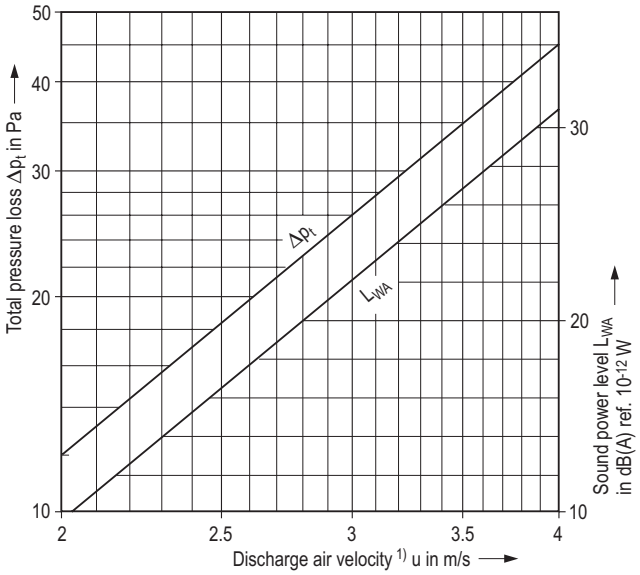
Fibre filter

Sound power level and pressure loss

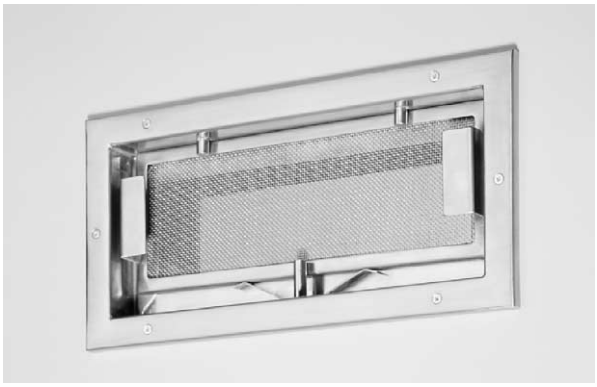


Discharge air velocity 1)	Total pressure loss	Sound power level L_W in dB ref. 10^{-12} W							
u	Δp_t	L_{WA}	Octave band centre frequency in Hz						
m/s	Pa	dB(A)	63	125	250	500	1 K	2 K	4 K
2.5	18	16	29	21	15	12	—	—	—
3	26	22	35	27	21	18	15	14	—
3.5	35	27	40	32	26	23	20	19	11
4	45	31	44	36	30	27	24	23	15

1) related to (B – 80) x (H – 80)

Features

- Filter for removal of air-borne textile fibres in clean rooms
- Fibre separation at the inner filter frame with wire mesh; easy, manual, tool-free removal of filter frame for maintenance
- Installation in smooth room walls or duct walls with dimensions of customary exhaust air grilles; dimensions also for tiling
- Available in many sizes
- Made of stainless steel, Material No. 1.4301
- Low sound power level
- Suitable for retrofitting in existing HVAC plants in clean rooms



Fibre filter installation in a smooth wall

Type code

F – ___ – ____ x ____

Fibre filter — Function / Kind — Size

Function / Kind
W = installation in smooth wall or duct
F = installation in tiling

Size
width x height in mm

Tender text

..... units

Fibre filter for filtering air-borne textile fibres from clean rooms,

For installation in a
☐ smooth room or duct wall, ☐ tiled wall,

consisting of:
rectangular housing with all-side frontal frame and built-on connection spigot for wall opening,

filter frame with wire mesh installed at back of housing and locked with clamp mechanism; easy, tool-free, manual removal for cleaning and disinfection.

Technical data:

Volume flow rate: ..... l/s
Adm. sound power level: ..... dB(A) ref. 10^{-12} W
Pressure loss: ..... Pa

Material:
Housing and wire mesh: stainless steel 1.43.01
Visible housing surface: ground

Housing dimensions:
– Width B: ..... mm
– Height H: ..... mm

Make: KRANTZ KOMPONENTEN

Type: F – __ – ____ x _____

Subject to technical alterations!

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