

HEPA filter cells

HEPA filters: F770, F771

Filter classes: E11, H13

- » High-efficiency filters for very high demands
- » Can be used in ducted HEPA filter units or duct casings



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HEPA filter cell

» Application

HEPA filters: Main or final filters used for the most critical requirements of air purity and sterility in areas such as industry, research, medicine, pharmaceuticals, and nuclear engineering.

Separation of suspended particles or aerosols, toxic dusts, viruses, bacteria etc. from the supply or extract air in ventilation systems with large volume flow rates and long filter life.

» Filter types

- Type F770 (E11)
- Type F771 (H13)

» Material

- Filter pack is made of high-quality, moisture-resistant glass-fibre paper which is folded into closely spaced shallow pleats.
- Spacers are made of profiled aluminium foil and provide a uniform spacing of the pleats.
- Joint sealing compound made of permanently elastic two-component polyurethane adhesive.

» Construction

W= Frame made of MDF
(depth 150 mm and 292 mm)

M= Frame made of galvanised sheet steel
(depth 150 mm and 292 mm)

E = Frame made of stainless sheet steel
(depth 150 mm and 292 mm)

» Equipment

Seal: Equipped with a peripheral flat section seal on the upstream side.

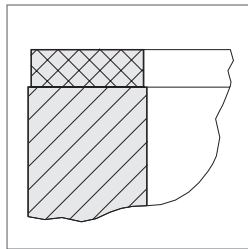
As a variant, HEPA filter cells can be provided with a continuous foam seal or test groove seal (filter types F771) on the upstream side.

» Associated filter units

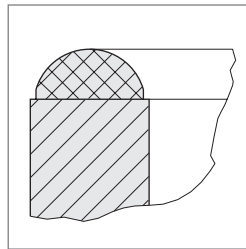
- Ducted HEPA filter units for highly sensitive area; available in various sizes as individual units or as filter unit systems (F3/3/./..).
- Duct casings for HEPA filter elements and activated carbon filter elements, available in various housing widths and heights (F3/4/./..).

Seal

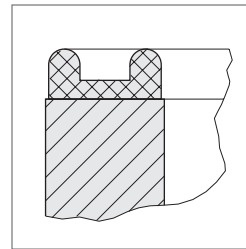
For further information regarding seals, see "Equipment".



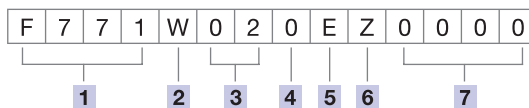
Detail drawing 1:
Flat section seal
(standard design)



Detail drawing 2:
Continuous seal



Detail drawing 3:
Seal with test groove

Order code F770,
F771

1	Filter type: Type F770 (E11) Type F771 (H13)	5	Test: 0 = Standard E = Scan test for F771 (for a surcharge)
2	Construction: W = Frame made of MDF M = Frame made of galvanized sheet steel E = Frame made of stainless sheet steel (for F771)	6	Seal: 0 = Flat section seal (standard) X = Continuous seal Z = Test groove seal (for F771)
3	Code number: Size of the HEPA filter cell See the code numbers in Tables 2 - 8	7	Zeros
4	Zero		

Example of HEPA filter cells

- » Filter type: **F771**
- » Construction for frame made of MDF: **W**
- » Filter size 610 x 610 x 150 mm: **02**
- » Scan test: **E**
- » Test groove seal: **Z**

F	7	7	1	W	0	2	0	E	Z	0	0	0	0
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Technical data

Filter type		F770	F771
Filter class according to EN 1822		E11	H13
Efficiency (MPPS) according to EN 1822	in %	> 95	> 99.95
Initial differential pressure at nominal volume flow rate	in Pa	125	250
Recommended final differential pressure	in Pa	300	600
Max. operating temperature	in °C	100	100
Max. relative humidity	in %	100	100

Table 1: Technical data for filter types F770, F771

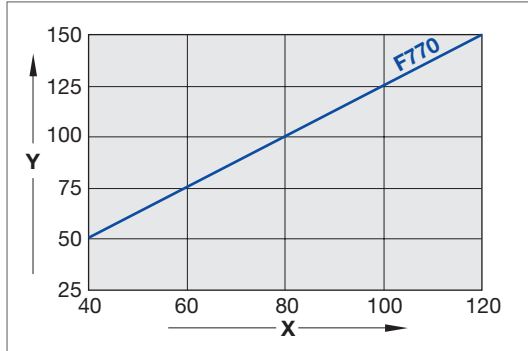


Diagram 1: HEPA filter cells F770

X = Volume flow rate in % of nominal volume flow rate
Y = Initial differential pressure in Pa

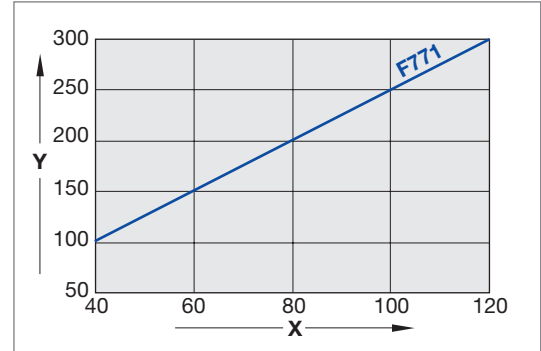


Diagram 2: HEPA filter cells F771

X = Volume flow rate in % of nominal volume flow rate
Y = Initial differential pressure in Pa

Test

» Testing particulate filters

EN 1822: High efficiency air filters (EPA, HEPA and ULPA).

This European standard defines a method for testing the filtration efficiency based on a particle counting method using a liquid test aerosol and permits a uniform classification of the particulate filters according to the filtration efficiency.

The filtration efficiency is determined using a test aerosol whose particle sizes lie within the minimum filter efficiency range.

Particulate filters are classified according to the values determined for the local efficiency and the overall efficiency in EPA (filter classes E10 to E12), HEPA (filter classes H13 and H14) and ULPA (filter classes U15 to U17).
See Leaflet P/2/./..

» Leakage test

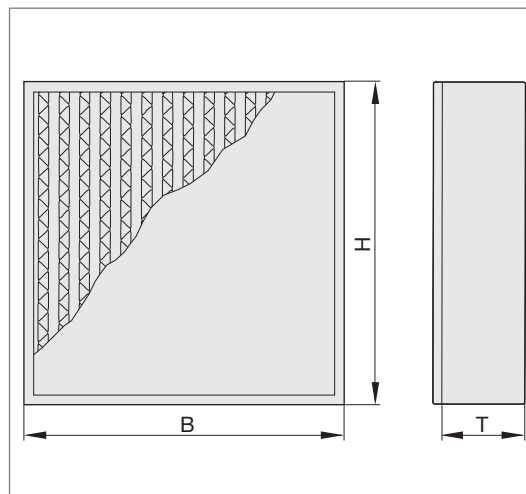
In the standard procedure, all particulate filter classes H13 and above are individually tested to prove they are leak-free.

Detail

2 W = Frame made of MDF with flat section seal

Technical data

Dimensional tolerance:
+ 0 mm
- 1 mm



Detail drawing 4: HEPA filter cells F770 and F771

F770, F771: Frame depth 150 mm

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m³/h		
305	305	150	70	250	4.0	12
287	592	150	145	525	5.0	37
592	592	150	300	1085	8.0	16
305	610	150	150	540	6.0	01
610	610	150	320	1150	10.0	02
762	610	150	400	1450	11.0	31

Table 2: HEPA filter cells F770 and F771

F770, F771: Frame depth 292 mm

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m³/h		
305	305	292	145	525	7.0	17
287	592	292	265	960	7.0	52
592	592	292	550	1980	14.0	54
305	610	292	290	1050	10.0	21
610	610	292	580	2100	18.0	03
762	610	292	730	2625	20.0	04

Table 3: HEPA filter cells F770 and F771

Order code

F	7	7	1	W
1				

Order code

1	W	0	2	0
2		3		

All weights are net, without packaging.

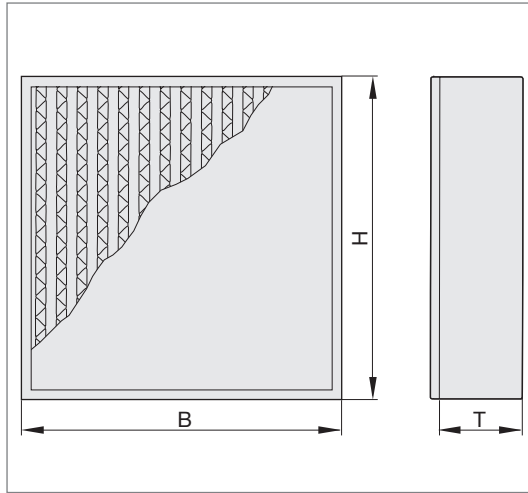
Detail

2 M = Frame made of galvanised sheet steel with flat section seal

E = Frame made of stainless sheet steel with flat section seal

Technical data

Dimensional tolerance:
+ 0 mm
- 1 mm



Detail drawing 5: HEPA filter cells F770, F771

F770, F771: Frame depth 150 mm

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m ³ /h		
305	305	150	70	250	4.0	12
287	592	150	145	525	5.0	37
592	592	150	300	1085	8.0	16
305	610	150	150	540	6.0	01
610	610	150	320	1150	10.0	02
762	610	150	400	1450	11.0	31

Table 4: HEPA filter cells F770 and F771

F770, F771: Frame depth 292 mm

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m ³ /h		
305	305	292	145	525	7.0	17
287	592	292	265	960	7.0	52
592	592	292	550	1980	14.0	54
305	610	292	290	1050	10.0	21
610	610	292	580	2100	18.0	03
762	610	292	730	2625	20.0	04

Table 5: HEPA filter cells F770 and F771

Order code

F	7	7	0	M
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1

Order code

0	M	1	0	0
---	---	---	---	---

2 3

All weights are net, without packaging.

Specification text

TROX HEPA filter cells

F770, F771:

- » Frame made of MDF, galvanised sheet steel, or stainless sheet steel.
- » Flat section seal on the upstream side.
- » Filter pack made of high-quality, moisture-resistant glass-fibre paper with spacers made of profiled aluminium foil.
- » Packed in stable carton suitable for transport.
- » Tested according to EN 1822.
- » HEPA filter cells F771 leakage-tested at the factory according to EN 1822.

Technical data:

Filter class according to EN 1822 _____
Efficiency (MPPS) according to EN 1882 _____ %
Dimensions (B x H x T) _____ mm
Nominal volume flow rate _____ l/s (m³/h)
Initial differential pressure _____ Pa
Max. operating temperature _____ °C
Max. relative humidity _____ %
Net weight _____ kg
Order number _____
Make: TROX

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Filters

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