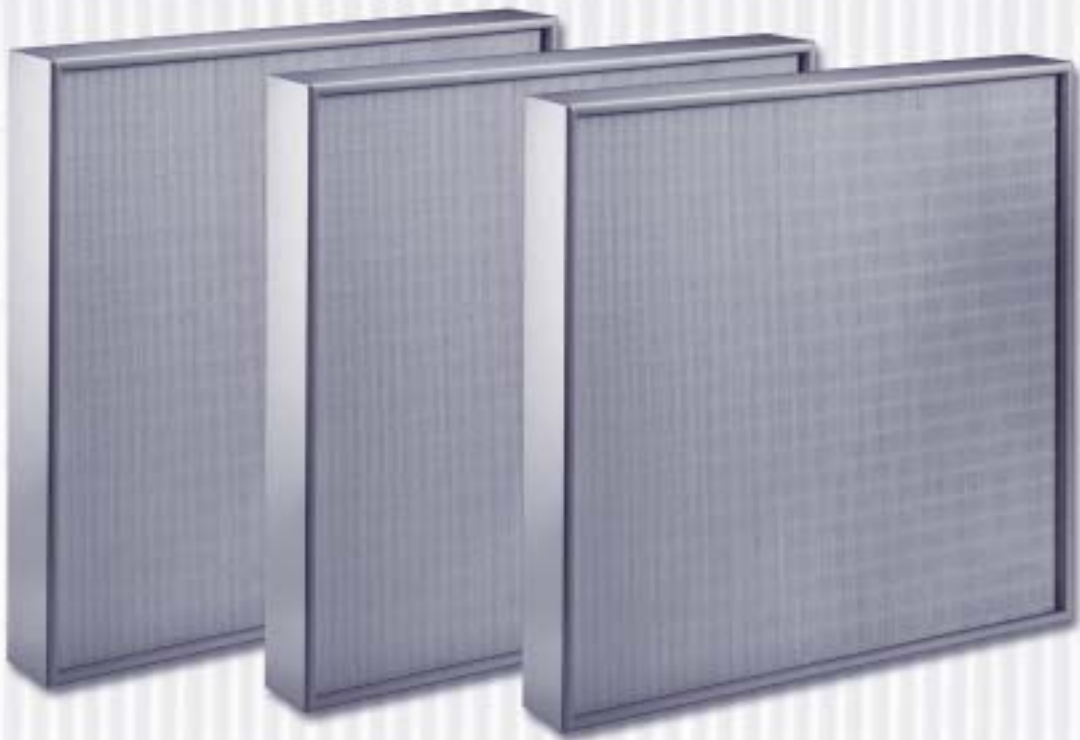


Minipleat filter panels for clean room technology

Particulate filters: F782, F783, F784

Filter classes: H14, U15, U16

- » For very demanding requirements of indoor air purity
- » Reduction of energy costs due to a low initial differential pressure with a high efficiency performance



Content overview

General information	2	Constructions B and C	5
Order code	3	Construction G	6
Special information	4	Specification text	7

Detail



Minipleat filter panels for clean room technology

» Application

Particulate 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 dust, viruses, bacteria, and micro-organisms from supply or extract air in clean room plants with controlled air purity and air flow.

» Filter types

- Type F782 (H14)
- Type F783 (U15)
- Type F784 (U16)

» Material

Filter pack is made of high-quality, moisture-resistant glass-fibre paper which is folded into closely spaced shallow pleats.

Spacers made of thermoplastic hot-melt adhesive provide a uniform spacing of the pleats.

Joint sealing compound made of permanently elastic two-component polyurethane adhesive.

» Construction

B = Frame made of anodised extruded aluminium profile (depth 69 mm)

C = Frame made of anodised extruded aluminium profile (depth 78 mm)

G = Frame made of anodised extruded aluminium profile (depth 90 mm)

» Equipment

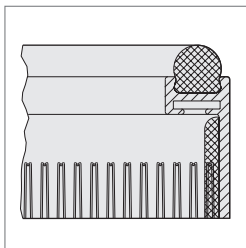
- Seal: Equipped with a continuous seal on the upstream side in the construction. Alternatively, minipleat filter panels can also be provided with a seal on the downstream side, with seals on both sides, or with no seals.
- Protection grid: Design variant with an expanded metal grille as a protection grid. It can be fitted on the downstream side, the upstream side, or both sides.

» Characteristics

- Optimum pleat geometry of the filter pack.
- Low initial differential pressure at higher filtration performance.
- Uniform air discharge on downstream side.

Seal

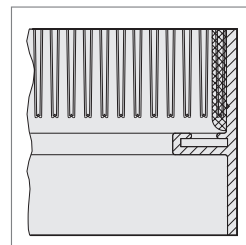
For further information regarding seals, see "Equipment".



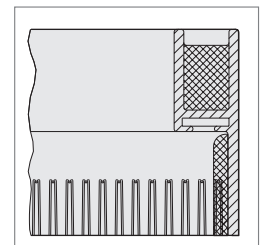
Detail drawing 1:
Continuous seal
(standard)

Special constructions

- » In addition to the constructions, minipleat filter panels are also available as follows: filter frame in other depths, filter frame with knife edge profile, filter frame with U-profile, filled with a gel as a fluid seal.



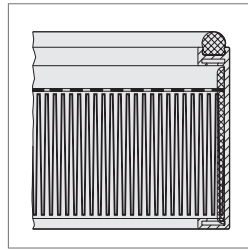
Detail drawing 2:
Knife-edge seal



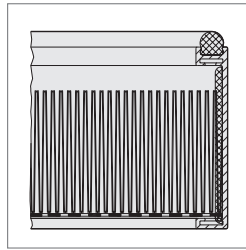
Detail drawing 3:
U-profile seal

Protection grid

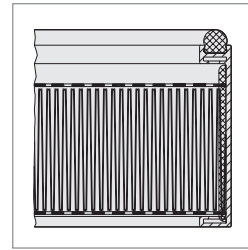
For further information regarding protection grids, see “Equipment”, page 2.



Detail drawing 4:
Protection grid,
upstream side

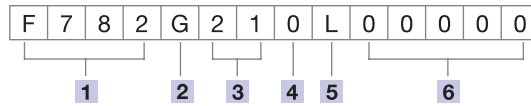


Detail drawing 5:
Protection grid,
downstream side



Detail drawing 6:
Protection grid on
both sides

Order code



<p>1 Filter type: Type F782 (H14) Type F783 (U15) Type F784 (U16)</p>	<p>4 Seal: 0 = Continuous seal on the upstream side (standard) E = Continuous seal on the downstream side F = Continuous seal on both sides G = Without continuous seal</p>
<p>2 Construction: B = Frame made of extruded aluminium profile (depth 69 mm) C = Frame made of extruded aluminium profile (depth 78 mm) G = Frame made of extruded aluminium profile (depth 90 mm)</p>	<p>5 Protection grid: 0 = Without protection grid (standard) L = Protection grid on the upstream side N = Protection grid on the downstream side P = Protection grid on both sides</p>
<p>3 Code number: Size of the minipleat filter panel See the code numbers in Tables 2 - 4</p>	<p>6 Zeros</p>

Example for minipleat filter panel

- » Filter type: **F782**
- » Construction of frame made of extruded aluminium profile: **G**
- » Filter size 762 x 762 x 90 mm: **21**
- » Continuous seal on the upstream side: **0**
- » Protection grid on the upstream side: **L**



Technical data

Filter type		F782	F783	F784
Filter class according to EN 1822		H14	U15	U16
Efficiency (MPPS) according to EN 1822	in %	> 99.995	> 99.9995	> 99.99995
Nominal upstream velocity	in m/s	0.45	0.45	0.45
Initial differential pressure at nominal volume flow rate: construction B	in Pa	110	130	-
Initial differential pressure at nominal volume flow rate: construction C	in Pa	95	115	140
Initial differential pressure at nominal volume flow rate: construction G	in Pa	85	100	120
Max. operating temperature	in °C	80	80	80
Max. relative humidity	in %	100	100	100

Table 1: Technical data for filter types F782, F783, and F784

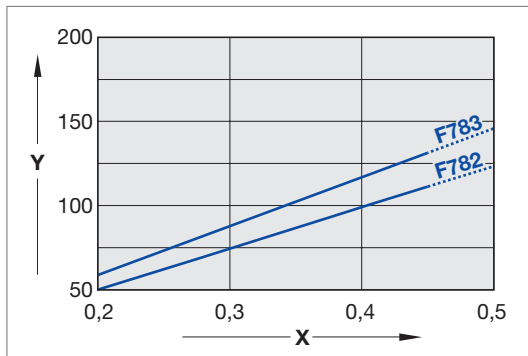


Diagram 1: Minipleat filter panels F782, F783, construction B

X = Upstream velocity in m/s
Y = Initial differential pressure in Pa

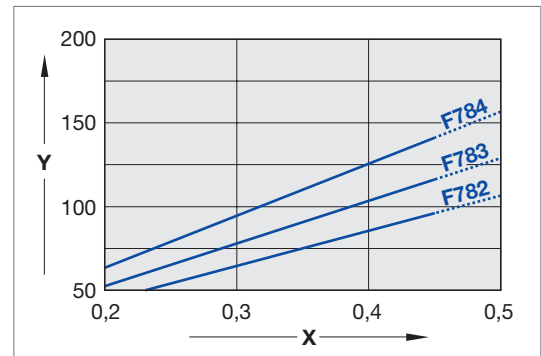


Diagram 2: Minipleat filter panels F782, F783, F784, construction C

X = Upstream velocity in m/s
Y = Initial differential pressure in Pa

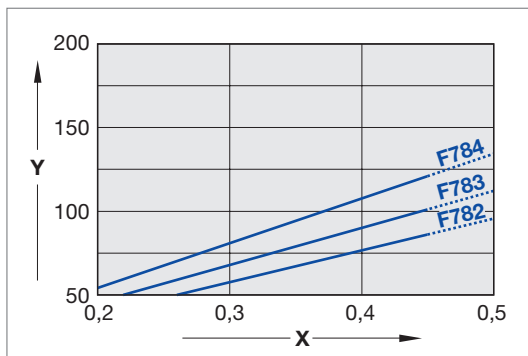


Diagram 3: Minipleat filter panels F782, F783, F784, construction G

X = Upstream velocity in m/s
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/...).

» Filter scan test

As standard, TROX provides the following guarantees for filter types F782 to F784: a filter scan test as proof of the leak-free state and as a guarantee for the compliance with the efficiency and pressure drop.

Constructions B and C

Frame depth: 69 mm and 78 mm

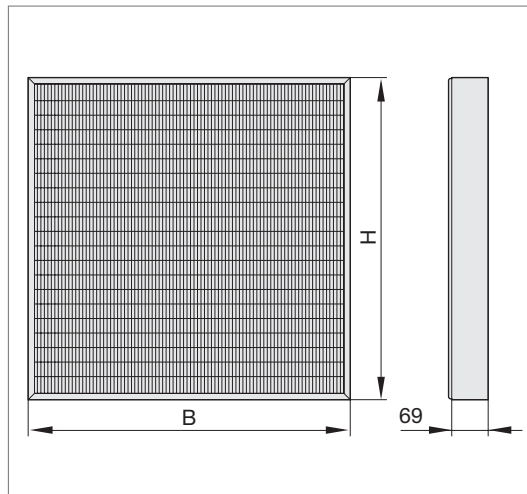
Detail

2 B = Frame made of anodised extruded aluminium profile with continuous seal

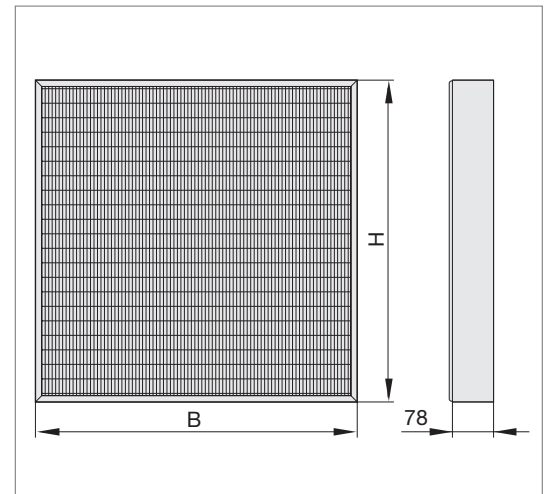
2 C = Frame made of anodised extruded aluminium profile with continuous seal

Technical data

Dimensional tolerance:
+ 0 mm
- 1 mm



Detail drawing 7: Minipleat filter panels F782, F783, construction B, frame depth 69 mm



Detail drawing 8: Minipleat filter panels F782, F783, F784, construction C, frame depth 78 mm

F782, F783: Frame depth 69 mm

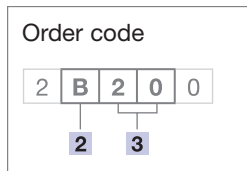
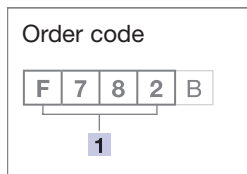
Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m³/h		
305	305	69	40	150	1.4	33
457	457	69	95	340	2.3	13
305	610	69	85	300	2.3	01
610	610	69	170	605	3.5	02
762	610	69	210	755	4.0	05
915	610	69	250	905	4.7	06
1220	610	69	335	1205	5.9	07
1525	610	69	420	1505	7.8	08
1830	610	69	500	1810	9.0	09
762	762	69	260	940	4.8	21
915	762	69	315	1130	5.4	20
1220	762	69	420	1505	6.8	30
1525	762	69	520	1880	9.1	26
1830	762	69	630	2260	10.4	27
915	915	69	375	1355	6.2	22
1220	915	69	500	1805	7.8	25
1525	915	69	630	2260	10.4	28
1830	915	69	755	2710	11.9	29

Table 2: Minipleat filter panels F782, F783

F782, F783, F784: Frame depth 78 mm

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m³/h		
305	305	78	40	150	1.6	33
457	457	78	95	340	2.6	13
305	610	78	85	300	2.6	01
610	610	78	170	605	3.9	02
762	610	78	210	755	4.6	05
915	610	78	250	905	5.3	06
1220	610	78	335	1205	6.7	07
1525	610	78	420	1505	8.8	08
1830	610	78	500	1810	10.2	09
762	762	78	260	940	5.4	21
915	762	78	315	1130	6.2	20
1220	762	78	420	1505	7.8	30
1525	762	78	520	1880	10.3	26
1830	762	78	630	2260	11.9	27
915	915	78	375	1355	7.1	22
1220	915	78	500	1805	8.8	25
1525	915	78	630	2260	11.8	28
1830	915	78	755	2710	13.5	29

Table 3: Minipleat filter panels F782, F783, F784



All weights are net, without packaging.

Construction G

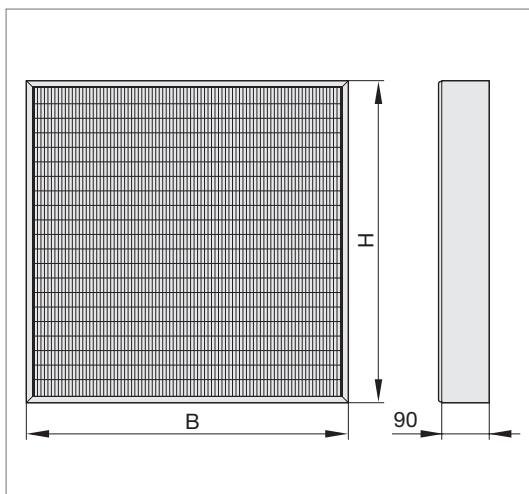
Frame depth: 90 mm

Detail

2 G = Frame made of anodised extruded aluminium profile with continuous seal

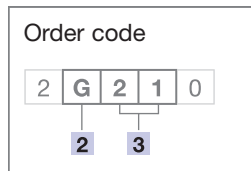
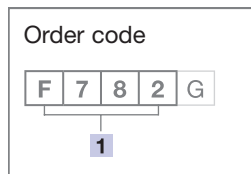
Technical data

Dimensional tolerance:
+ 0 mm
- 1 mm



Detail drawing 9: Minipleat filter panels F782, F783, F784, construction G, frame depth 90 mm

F782, F783, F784: Frame depth 90 mm



All weights are net, without packaging.

Dimensions in mm			Nominal volume flow rate		Weight Approx. kg	Code no. [3]
B	H	T	l/s	m ³ /h		
305	305	90	40	150	1.8	33
457	457	90	95	340	3.1	13
305	610	90	85	300	3.0	01
610	610	90	170	605	4.6	02
762	610	90	210	755	5.4	05
915	610	90	250	905	6.2	06
1220	610	90	335	1205	7.8	07
1525	610	90	420	1505	10.3	08
1830	610	90	500	1810	11.9	09
762	762	90	260	940	6.3	21
915	762	90	315	1130	7.2	20
1220	762	90	420	1505	9.1	30
1525	762	90	520	1880	12.0	26
1830	762	90	630	2260	13.9	27
915	915	90	375	1355	8.3	22
1220	915	90	500	1805	10.4	25
1525	915	90	630	2260	13.8	28
1830	915	90	755	2710	15.9	29

Table 4: Minipleat filter panels F782, F783, F784

Specification text

TROX minipleat filter panels for clean room technology F782, F783, and F784:

- » Frame made of extruded aluminium section.
- » Continuous seal on the upstream side.
- » Filter pack made of high-quality, moisture-resistant glass-fibre paper with spacers made of thermoplastic hot-melt adhesive.
- » Alternatively with protection grid on the downstream and/or upstream end.
- » Leakage-tested at the factory according to EN 1822.
- » Packed in stable carton suitable for transport.

Technical data:

Filter class according to EN 779 _____
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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