

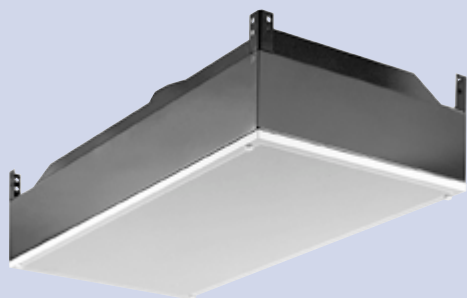
High Efficiency Terminal Filters Ceiling mounted Wall mounted



TROX[®] **TECHNIK**

Contents · Product Types

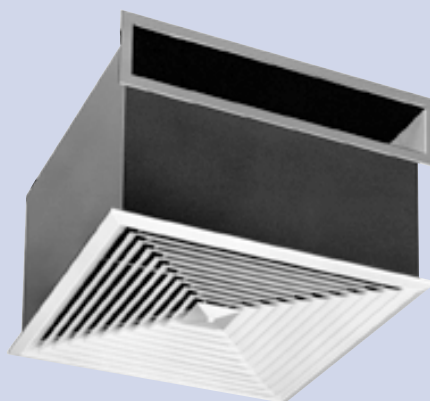
Product types _____	2/3	High Efficiency Terminal Filter F655 with air-tight circular shut-off damper and pneumatic actuator _____	8/9
High Efficiency Terminal Filter F631 with circular top air entry spigot _____	4	High Efficiency Terminal Filter F656 with air tight circular shut-off damper and electric actuator _____	8/9
High Efficiency Terminal Filter F 650 with side entry rectangular duct connection _____	5	High Efficiency Terminal Filter F670 wall-mounted	10
High Efficiency Terminal Filter F640 with side entry circular duct connection _____	6	Technical Data _____	11
High Efficiency Terminal Filter F660 with circular top air entry spigot _____	7	Filter Data _____	11
		Specification Text _____	12



High Efficiency Terminal Filter F631



High Efficiency Terminal Filter F640
(shown with diffuser type VDW 676 x 54)



High Efficiency Terminal Filter F650
(shown with diffuser type ADLQ-A)



High Efficiency Terminal Filter F660
(shown with diffuser type FD)



High Efficiency Terminal Filter F655/F656
with air-tight shut-off damper
(shown with diffuser type VDW 676 x 24)



High Efficiency Terminal Filter F670
(shown with grille type ASL-A)

High Efficiency Terminal Filter F631

ceiling mounted

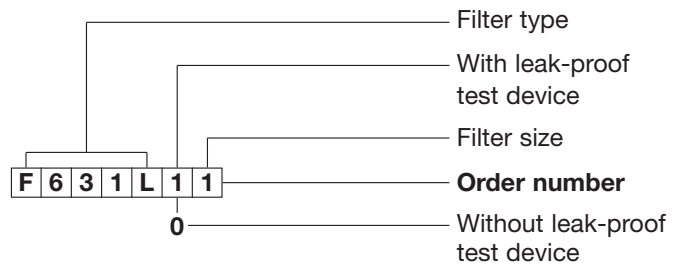
Filter module for the very high standards of air purity in clean room technology.

Available in various dimensions and constructions. The dimensions conform to standard ceiling grid sizes and can be combined to form complete ceiling panels of any size. Welded filter housing made of sheet steel with powder coating (RAL 9005), with circular top air entry spigot; other layouts and positioning of the spigot available on request. Filter housing with clamping device for the Minipleat Filter Panels, with or without leak-proof test device and measuring points for monitoring the operational pressure differential. Diffuser from sheet steel with powder coating (RAL 9010).

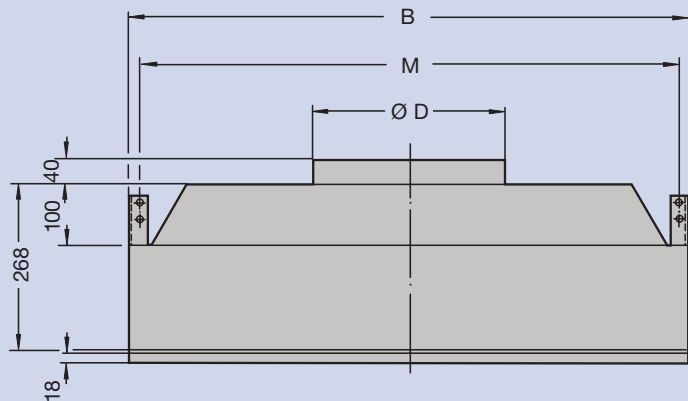
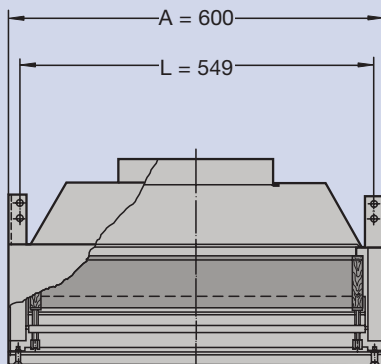
Supplied without filter cell. Filter type F781 available with either flat profile gasket or fluid seal. For filter data and order codes see Page 11.

Order Example

Filter Module
with circular top air entry spigot
and perforated plate diffuser _____ Filter type: **F631L**
With leak-proof test device _____ Code number: **1**
for filter cell 535 x 535 x 78 mm _____ Filter size: **1**



Dimensions



Filter size	Maximum volume flow in l/s (m ³ /h)	Dimensions of Minipleat filter panel W x H x D in mm	Dimensions of filter housing in mm				
			A	B	Ø D	L	M
1	170 (600)	535 x 535 x 78	600	600	248	549	549
2	255 (900)	835 x 535 x 78	600	900	313	549	849
3	340 (1200)	1135 x 535 x 78	600	1200	348	549	1149

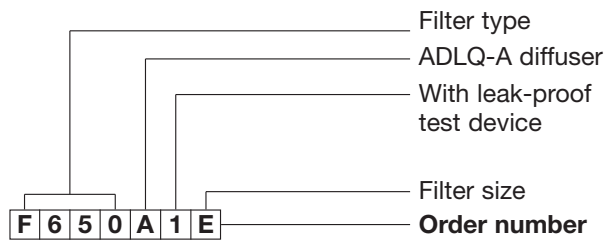
High Efficiency Terminal Filter F650

ceiling mounted

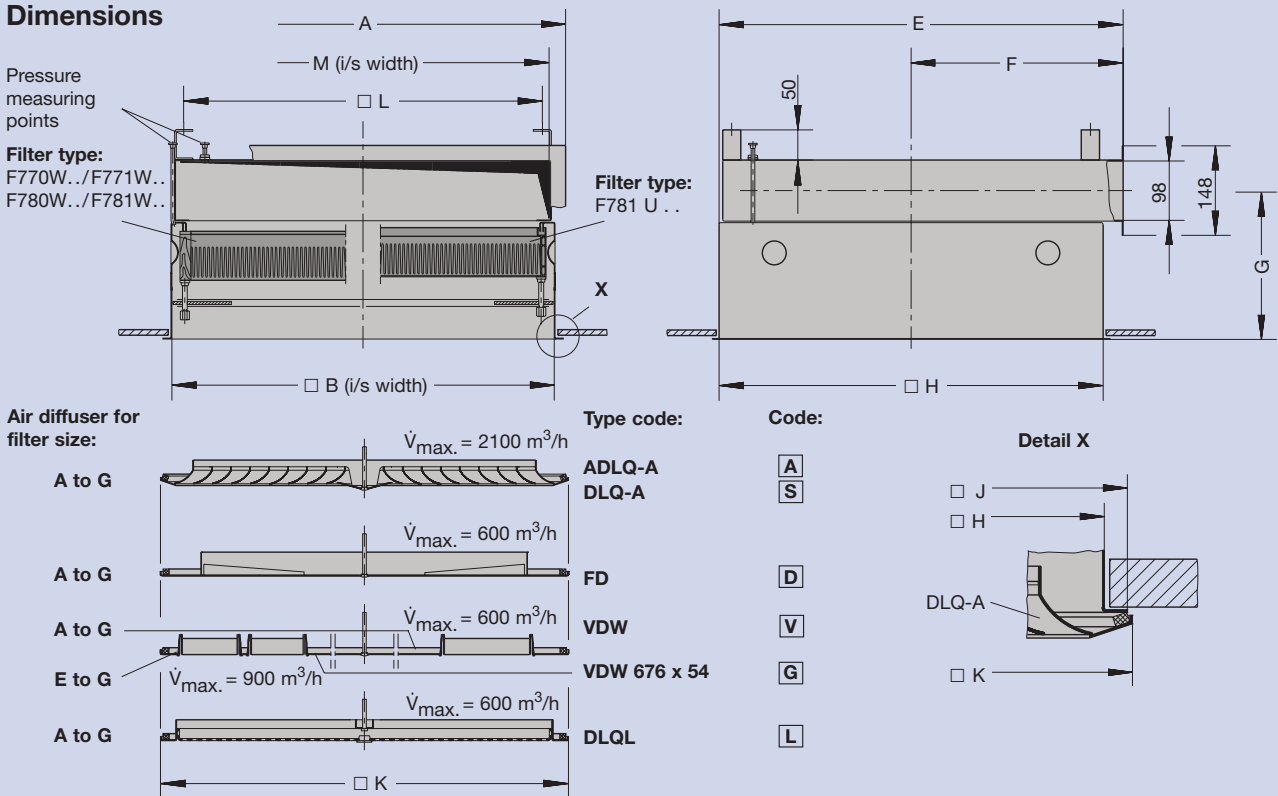
High Efficiency Terminal Filter for the highest standards of air purity and aseptic conditions in medicine, biology, pharmacy and many sensitive areas of technology. Available in various constructions and dimensions. Welded filter housing made of sheet steel with powder coating (RAL 9005), with side entry rectangular duct connection. Filter housing with clamping device for the particulate filter cell, with leak-proof test device and measuring points for monitoring operational pressure differential. Optional smoke aerosol test point. Diffuser from anodised aluminium profile or sheet steel with powder coating (RAL 9010); central fixing for uniform clamping pressure and easy removal for filter servicing and decontamination. Supplied without filter cell. For filter sizes A to E Minipleat Filter Panels are available with either flat profile gasket or fluid seal. For filter data and order codes see Page 11. For air diffuser technical data (ADLQ, DLQ, FD, VDW and DLQL) see information on Page 11.

Order Example

High Efficiency Terminal Filter
 with side entry
 rectangular duct connection _____ Filter type **F650**
 with air diffuser ADLQ-A _____ Code **A**
 With leak-proof test device
 (standard) _____ Code number **1**
 For filter cell 610 x 610 x 78 mm _ Filter size **E**



Dimensions



Filter size	Maximum volume flow in l/s (m³/h)	Dimensions of filter cell W x H x D in mm	Dimensions of filter housing in mm									
			A	□ B	E	F	G	□ H	□ J	□ K	□ L	M
A	70 (250)	305 x 305 x 78	367	328	361	196	245	331	356	359	290	317
B	170 (600)	457 x 457 x 78	519	480	513	272	245	483	510	518	442	469
C	240 (850)	535 x 535 x 78	597	558	591	311	245	561	588	598	520	547
D	270 (970)	575 x 575 x 78	637	598	631	331	245	601	620	623	560	587
E	310 (1100)	610 x 610 x 78	672	633	666	348	245	636	663	676	595	622
F	320 (1150)	610 x 610 x 150	672	633	666	348	317	636	663	676	595	622
G	580 (2100)	610 x 610 x 292	672	633	666	348	459	636	663	676	595	622

High Efficiency Terminal Filter F640

ceiling mounted

High Efficiency Terminal Filter for applications similar to type F650. Available in various constructions and dimensions. Welded filter housing made of sheet steel with powder coating (RAL 9005), with side entry circular duct connection. Filter housing with clamping device for the particulate filter cell, with leak-proof test device and measuring points for monitoring operational pressure differential. Optional smoke aerosol test point.

Diffuser from anodised aluminium profile or sheet steel with powder coating (RAL 9010), central fixing for uniform clamping pressure and easy removal for filter servicing or decontamination.

Supplied without filter cells. For filter sizes A to E Minipleat Filter Panels with flat profile gasket or fluid seal are available. For filter data and order codes see Page 11.

For air diffuser technical data see information on Page 11.

Order Example

High Efficiency Terminal Filter with side entry _____ Filter type: **F640**

circular duct connection with air diffuser ADLQ-A _____ Code: **A**

With leak-proof test device (standard) _____ Code number: **1**

For filter cell 610 x 610 x 78 mm _____ Filter size: **E**

Filter type
ADLQ-A diffuser
With leak-proof test device standard
Filter size
Order number

F 6 4 . A 1 E

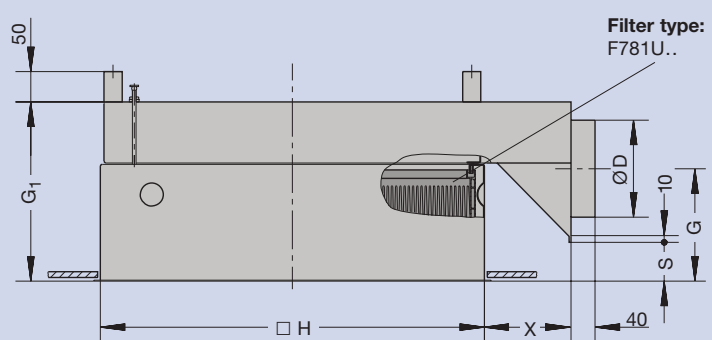
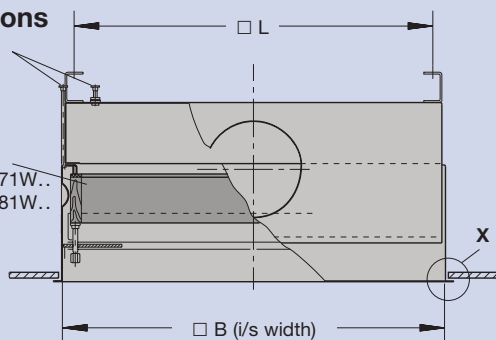
Code No.	1	3	4	6	8	9
Spigot diameter D in mm	123	148	158	198	248	298

Select spigot diameter according to filter size

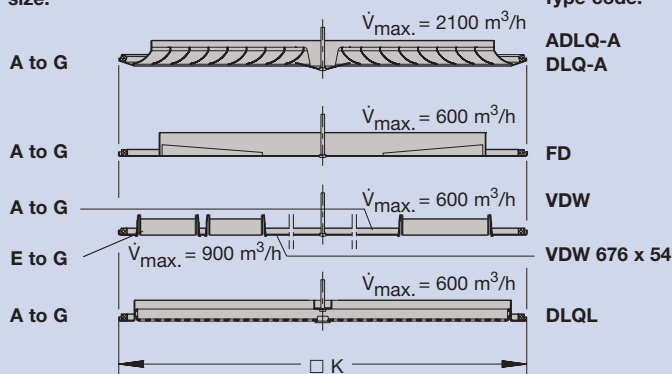
Dimensions

Pressure measuring points

Filter type:
F770W../F771W..
F780W../F781W..



Air diffuser for filter size:



Type code:

Code:

A
S

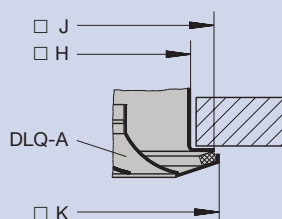
D

V

G

L

Detail X



Filter size	Dimensions of filter housing in mm (other sizes see table page 7)				
	Ø D	G ₁	G	S	X
A	123; 148	296	211	116	90
	158; 198	296	186	66	140
B	148	296	211	116	90
	158; 198	296	186	66	140
C	198	296	186	66	140
	248	346	211	66	140
	298	396	236	66	140
D	198	296	186	66	140
	248	346	211	66	140
	298	396	236	66	140
E	198	296	186	66	140
	248	346	211	66	140
	298	396	236	66	140
F	198	368	258	138	140
	248	368	233	88	190
	298	418	258	88	190
G	298	510	350	180	240

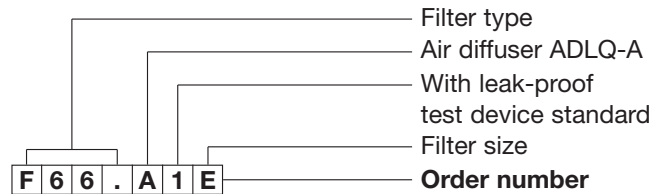
High Efficiency Terminal Filter F660

ceiling mounted

High Efficiency Terminal Filter for applications similar to filter type F650. Available in various constructions and dimensions. Welded filter housing made of sheet steel with powder coating (RAL 9005), with circular top air-entry spigot. Alternative spigot connections on request. Filter housing with clamping device for the particulate filter cells, with leak-proof test device and measuring points for monitoring operational pressure differential. Optional smoke aerosol test point. Diffuser from anodised aluminium profile or powder coated sheet steel (RAL 9010); central fixing for uniform clamping pressure and easy removal for filter servicing or decontamination. Supplied without filter cells. For filter sizes A to E Minipleat Filter Panels are available with flat profile gasket or fluid seal. For filter data and order codes see Page 11. For air diffuser technical data (ADLQ, DLQ, FD, VDW and DLQL) see information on Page 11.

Order Example

High Efficiency Terminal Filter
with circular top
air entry spigot _____ Filter type: **F660**
with air diffuser ADLQ-A _____ Code: **A**
With leak-proof test device
(standard) _____ Code number: **1**
For filter cell 610 x 610 x 78 mm _ Filter size: **E**



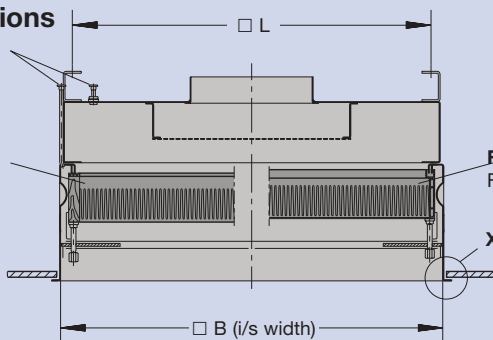
Code No.	1	3	4	6	8	9
Spigot diameter D in mm	123	148	158	198	248	298

Select spigot diameter according to filter size

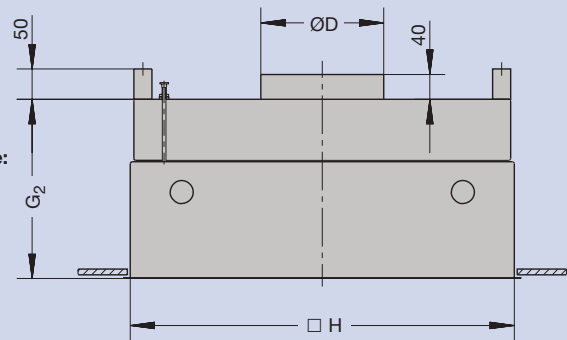
Dimensions

Pressure measuring points

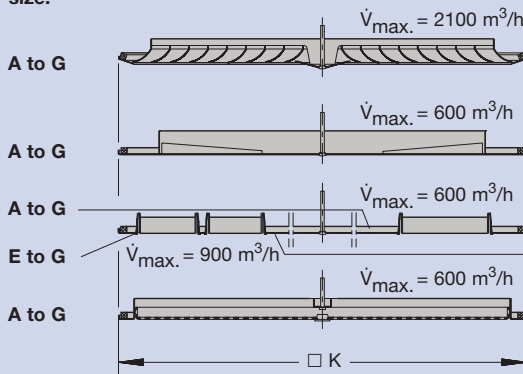
Filter type:
F770W../
F771W../
F780W../
F781W../



Filter type:
F781 U ..



Air diffuser for filter size:



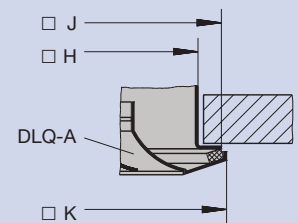
Type code:

A
S

Code:

A
S

Detail X



Filter size	Maximum volume flow in l/s (m³/h)	Dimensions of filter cell W x H x D in mm	Dimensions of filter housing in mm						
			□ B	Ø D	G ₂	□ H	□ J	□ K	□ L
A	70 (250)	305 x 305 x 78	328	123 ... 198	296	331	356	359	290
B	170 (600)	457 x 457 x 78	480	148 ... 298	296	483	510	518	442
C	240 (850)	535 x 535 x 78	558	198 ... 298	296	561	588	598	520
D	270 (970)	575 x 575 x 78	598	198 ... 298	296	601	620	623	560
E	310 (1100)	610 x 610 x 78	633	198 ... 298	296	636	663	676	595
F	320 (1150)	610 x 610 x 150	633	198 ... 298	368	636	663	676	595
G	580 (2100)	610 x 610 x 292	633	298	510	636	663	676	595

High Efficiency Terminal Filter F655/656

ceiling mounted

High Efficiency Terminal Filter with air-tight shut-off damper conforming to DIN 1946 Part 4 for installation in air-conditioning plant where high standards of hygiene are required. Construction is the same as type F640 but with an additional shut-off damper conforming to DIN 1946 and test connections for the oil mist test. The integrated shut-off damper offers considerable advantages for project planning, plant operation and maintenance:

- An automatic, air-tight shut-off damper is positioned immediately before the final filter stage to guarantee the required isolation of the space served if main or emergency power fails.
- Regular decontamination of the dirty side of the system can easily be carried out with the installed filter cell isolated.
- Oil mist testing of the filter cell.

- Filter cell changing or other servicing can be carried out without interrupting plant operation.
- The installation and its components can be easily serviced with access to the actuator through the inside of the casing
- no additional ceiling access required

High Efficiency Terminal Filter with shut-off damper:

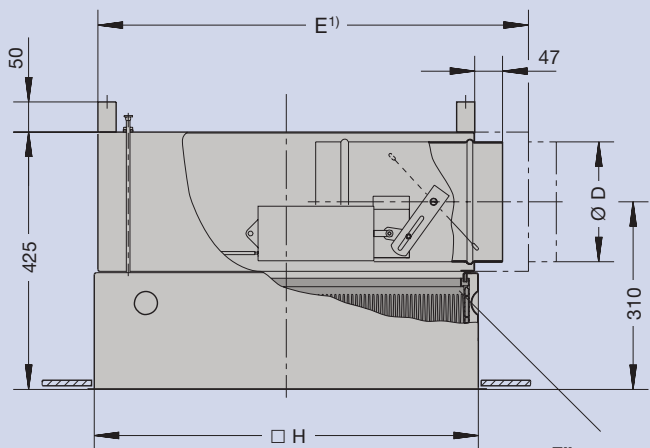
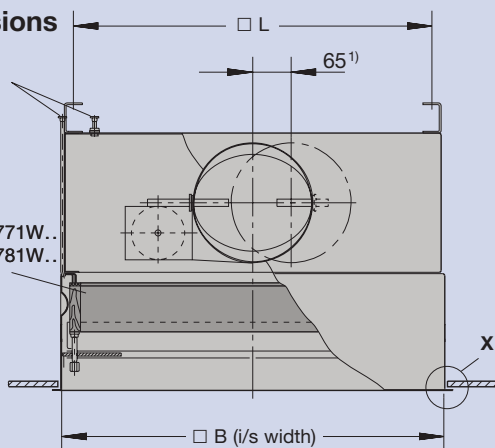
F655 with pneumatic actuator (standard construction, closed with zero control pressure), but can also be supplied on request open with zero control pressure.

F656 with electric actuator (closed without power).

Dimensions

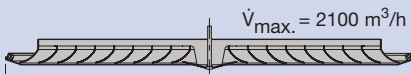
Pressure measuring points

Filter type:
F770W.../F771W...
F780W.../F781W...



Air diffuser for filter size:

A to E



Type code:

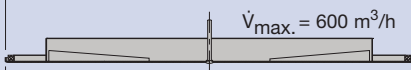
ADLQ-A
DLQ-A

Code:

A
S

Detail X

A to E



FD

D

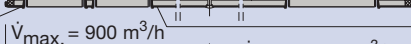
A to E



VDW

V

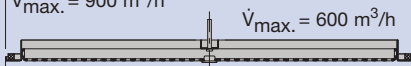
E



VDW 676 x 54

G

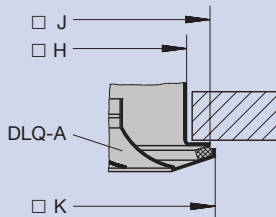
A to E



DLQL

L

¹⁾ Measurement for filter size A only; Connection piece is represented by the pattern.



Filter size	Maximum volume flow in l/s (m³/h)	Dimensions of filter cell W x H x D in mm	Dimensions of filter housing in mm						
			B	Ø D	E	H	J	K	L
A	70 (250)	305 x 305 x 78	328	123	414	331	356	359	290
B	170 (600)	457 x 457 x 78	480	158	-	483	510	518	442
C	240 (850)	535 x 535 x 78	558	198	-	561	588	598	520
D	270 (970)	575 x 575 x 78	598	198	-	601	620	623	560
E	310 (1100)	610 x 610 x 78	633	198	-	636	663	676	595

Shut-off Damper Technical Data

Order Example

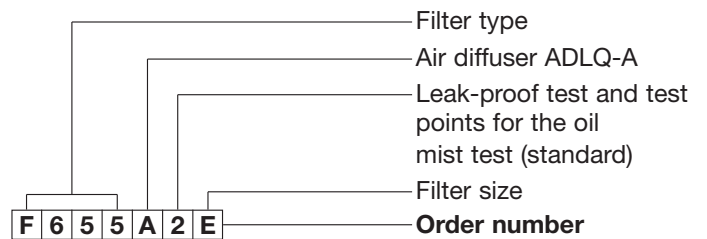
High Efficiency Terminal Filter
with side entry circular
duct connection and
shut-off damper

with pneumatic actuator _____ Filter type: **F655**

with diffuser ADLQ-A _____ Code: **A**

with leak-proof test device
(standard) _____ Code: **2**

for filter cell 610 x 610 x 78 mm __ Filter size: **E**



Actuator

Connection data:

- pneumatic actuator, maintenance-free
 - Control pressure compressed air: 0.6 to 1.0 bar max.
 - connection: Detachable fitting for polypropylene hose 6 x 1 mm
- Electric actuator maintenance-free
 - Mains supply: 230 V, 50 Hz
 - Power input: approx. 10 VA
 - Connecting wiring: 2 x 0.75 mm²

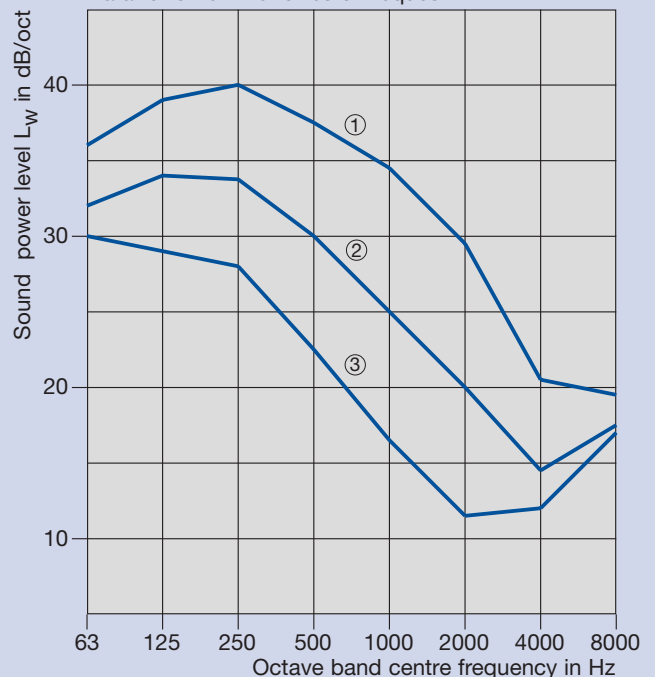
Air regenerated noise

Sound power level of air regenerated noise for the shut-off damper (fully open)

L_W in dB/oct: Octave band sound power level of air generated noise related to $W_0 = 10^{-12}$ W

L_{pA} in dB (A): A-weighted sound pressure level including 8 dB room attenuation

Diagram applies to filter size C
Data for other filter sizes on request



- ① Volume flow = 240 l/s (850 m³/h) $L_{pA} = 31$ dB(A)
- ② Volume flow = 180 l/s (650 m³/h) $L_{pA} = 24$ dB(A)
- ③ Volume flow = 140 l/s (500 m³/h) $L_{pA} = 17$ dB(A)

High Efficiency Terminal Filter F670

wall mounted

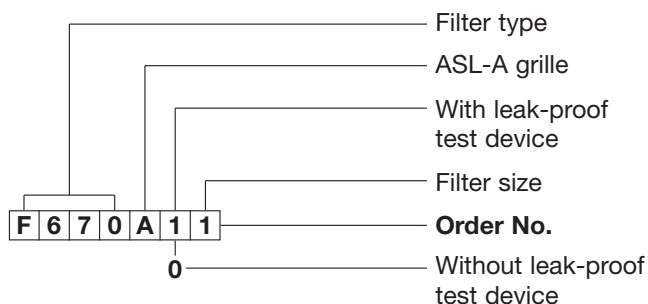
High Efficiency Terminal Filter for the highest standards of air purity and aseptic conditions in medicine, biology, pharmacy and in many sensitive areas of technology. Available in housings of three different depths. Welded filter housing made of sheet steel with powder coating (RAL 9005), with clamping device for the particulate filter cell, with optional leak-proof test device and measuring points for monitoring the operational pressure differential. Diffuser and filter cell options are available on request. Diffuser from anodised aluminium profile or sheet steel with powder coating (RAL 9010), and can be easily removed for filter servicing or decontamination.

Supplied without filter cells. For filter data and order codes see Page 11.

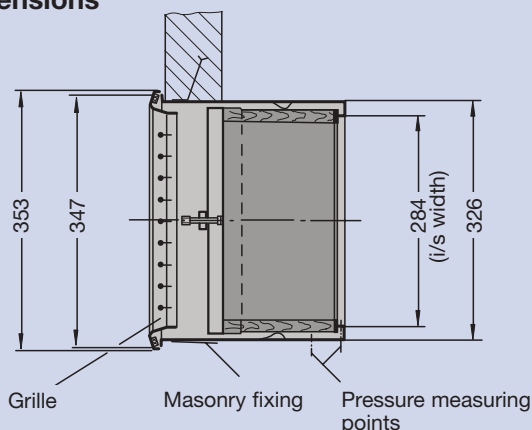
For diffuser technical data (ASL-A and SL-A) see information on page 11.

Order Example

High Efficiency Terminal Filter - wall mounted
with rectangular duct connection ___ Filter type: **F670**
with grille ASL-A _____ Code: **A**
with leak-proof test device _____ Code: **1**
for filter cell 305 x 610 x 78 mm ___ Filter size: **1**



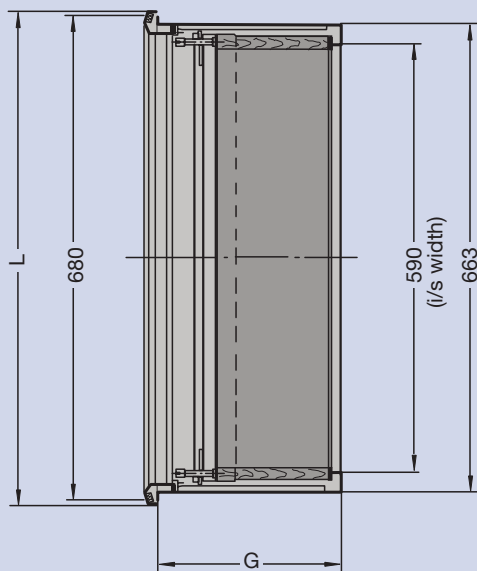
Dimensions



Filter size	Volume flow in l/s (m³/h)	Dimensions of filter cell B x H x T in mm	Dimensions in mm		
			Filter housing G	Grille ASL-A L	Grille SL-A L
1	150 (540)	305 x 610 x 78	213	690	696
2	150 (540)	305 x 610 x 150	285	690	696
3	290 (1050)	305 x 610 x 292	427	690	696

Grille 1): ASL-A SL-A
Code: **A** **S**

1) Type description with code letter for order number



Air Diffuser and Filter Technical Data

Table for determination of aerodynamic and acoustic data (for filter types F640 and F660)

Filter Size	Diffuser Dimension K in mm	Leaflet in KLIMA 1 Catalogue			
		2/11/ . / .	2/6/ . / .	2/7/ . / .	2/15/ . / .
		ADLQ-A DLQ-A	FD	VDW	DLQL
A	359 x 359	Size 400 ¹⁾	Size 300	300 x 8	Size 400 ¹⁾
B	518 x 518	Size 500	Size 500	500 x 24	Size 500
C	598 x 598	Size 600	Size 600	600 x 24	Size 600
D	623 x 623	Size 625	Size 625	625 x 24	Size 625
E, F, G	676 x 676	Size 625 ²⁾	Size 625	625 x 54	Size 625 ²⁾

¹⁾ Correction factor: $\dot{V}_{Diagr. (400)} \times 1,3$ ²⁾ Correction factor: $\dot{V}_{Diagr. (625)} \times 0,85$

Filter type F670

Filter Size	Grille in mm	Leaflet in KLIMA 1 Catalogue
		1/1/ . / . ASL-A / SL-A
1, 2, 3	693 x 353	$A_{eff.} = 0,136 \text{ m}^2$

Particulate Filter Cells/Panels

High Efficiency Particulate Filters for the extraction of suspended particles and aerosols, toxic dust, viruses, germs etc. from the supply and extract air.

Construction of Filter casings as follows:

- W Moisture resistant fibreboard with flat profile neoprene gasket.
- Z Extruded aluminium with flat profile neoprene gasket
- U Extruded aluminium with fluid seal.

The filter media consists of high quality moisture resistant glass fibre paper with aluminium separators or textile thread spacers.

Particulate filter cells/panels of other construction (including Fine Dust Filters) are available for special applications or operating conditions on request.

Filter Data/Order Codes

Filter Type	Filter Size	Filtertype	Particulate Filter Cells		Minipleat Filter Panels			
			F770	F771	F780	F781	F781 ³⁾	
		Filter class to EN 1822	H 11	H 13	H 11	H 13	H 13	
		Efficiency acc. to EN 1822 in %	> 95	> 99.95	> 95	> 99.95	> 99.95	
		Initial pressure differential at nominal volume flow in Pa	125	250	125	250	250	
		Recommended final pressure differential in Pa	300	600	300	600	600	
F631	1	Dimensions W x H x D Nominal volume flow	535 x 535 x 78 mm 240 l/s (850 m ³ /h)	-	-	F780 W46 F780 Z46	F781 W46 F781 Z46	F781 U46
	2	Dimensions W x H x D Nominal volume flow	835 x 535 x 78 mm 360 l/s (1300 m ³ /h)	-	-	F780 W47 F780 Z47	F781 W47 F781 Z47	F781 U47
	3	Dimensions W x H x D Nominal volume flow	1135 x 535 x 78 mm 500 l/s (1800 m ³ /h)	-	-	F780 W48 F780 Z48	F781 W48 F781 Z48	F781 U48
F640, F650, F655, F656 and F660	A	Dimensions W x H x D Nominal volume flow	305 x 305 x 78 mm 70 l/s (250 m ³ /h)	-	-	F780 W33 F780 Z33	F781 W33 F781 Z33	F781 U33
	B	Dimensions W x H x D Nominal volume flow	457 x 457 x 78 mm 170 l/s (600 m ³ /h)	-	-	F780 W13 F780 Z13	F781 W13 F781 Z13	F781 U13
	C	Dimensions W x H x D Nominal volume flow	535 x 535 x 78 mm 240 l/s (850 m ³ /h)	-	-	F780 W46 F780 Z46	F781 W46 F781 Z46	F781 U46
	D	Dimensions W x H x D Nominal volume flow	575 x 575 x 78 mm 270 l/s (970 m ³ /h)	-	-	F780 W49 F780 Z49	F781 W49 F781 Z49	F781 U49
	E	Dimensions W x H x D Nominal volume flow	610 x 610 x 78 mm 310 l/s (1100 m ³ /h)	-	-	F780 W02 F780 Z02	F781 W02 F781 Z02	F781 U02
	F	Dimensions W x H x D Nominal volume flow	610 x 610 x 150 mm 320 l/s (1150 m ³ /h)	F770 W02	F771 W02	-	-	-
F670	1	Dimensions W x H x D Nominal volume flow	610 x 610 x 292 mm 580 l/s (2100 m ³ /h)	F770 W03	F771 W03	-	-	-
	2	Dimensions W x H x D Nominal volume flow	305 x 610 x 78 mm 150 l/s (540 m ³ /h)	-	-	F780 W01 F780 Z01	F781 W01 F781 Z01	-
	3	Dimensions W x H x D Nominal volume flow	305 x 610 x 150 mm 150 l/s (540 m ³ /h)	F770 W01	F771 W01	-	-	-
		Dimensions W x H x D Nominal volume flow	305 x 610 x 292 mm 290 l/s (1050 m ³ /h)	F770 W21	F771 W21	-	-	-

³⁾ Filter casing from extruded aluminium with fluid seal, casing depth 91 mm.

Specification Text

F	6	5	0	A	1	E	Order Code (Example)
							Sizes available (see table for relevant terminal filters)
							Leak-proof test device (standard for types F640-F660)
							Diffuser: ADLQ-A; ASL-A in anodised aluminium
							DLQ-A; SL-A in steel, powder coated
							FD swirl diffuser, powder coated with fixed blades
							VDW swirl diffuser, powder coated with adjustable blades
							DLQL perforated sheet steel plate, powder coated
							High Efficiency Terminal Filter: F631 with circular top air entry spigot for clean room ceiling application
							F640 with side entry circular duct connection
							F650 with side entry rectangular duct connection
							F655 with side entry circular duct connection and shut off damper, pneumatic actuator
							F656 with side entry circular duct connection and shut off damper, electric actuator
							F660 with circular top air entry spigot
							High Efficiency Wall Mounted Term. Filter F670 with rectangular connecting flange

Specification Text

Item	Qty.	Description
		<p>Trox Filter Module F631, comprising: Filter housing made of sheet steel with powder coating (RAL 9005), with secure sealing and clamping device for the particulate filter cell, with or without leak-proof test device, with pressure measuring points. Perforated sheet steel diffuser, powder coated.</p> <p>Trox High Efficiency Terminal Filters F640, F650 and F660, comprising: Filter housing made of sheet steel with powder coating (RAL 9005), with secure sealing and clamping device for the particulate filter cell, with leak-proof test device, with pressure measuring points. Diffuser of powder coated sheet steel or aluminium extrusion with central fixing.</p> <p>Trox High Efficiency Terminal Filters F655 and F656, comprising: Filter housing made of sheet steel with powder coating (RAL 9005), with secure sealing and clamping device for the particulate filter cell, with leak-proof test device and shut off damper (in compliance with DIN 1946 Part 4), with pressure measuring points. Diffuser of powder coated sheet steel or anodised aluminium extrusion with central fixing.</p> <p>Trox High Efficiency Wall Mounted Terminal Filter F670, comprising: Filter housing made of sheet steel with powder coating (RAL 9005), with secure sealing and clamping device for the particulate filter cell, with or without leak-proof test device, with pressure measuring points. Grille of powder coated sheet steel or anodised aluminium extrusion.</p>
		<p>Trox Particulate Filter Cells F770W / F771W, comprising: Casing of fibre board with neoprene gasket one side. Filter media of high quality moisture resistant glass fibre paper with profiled aluminium foil spacers.</p> <p>Trox Minipleat Filter Panels F780W / F781W, comprising: Casing of moisture resistant fibre board with neoprene gasket one side. Filter media of high quality moisture resistant glass fibre paper with thermoplastic spacers.</p> <p>Trox Minipleat Filter Panels F781U, comprising: Casing of extruded aluminium with fluid seal. Filter media of high quality moisture resistant glass fibre paper with thermoplastic spacers.</p> <p>The particulate filter cells are type tested according to EN 1822 and leak tested by oil mist test. They are packed in strong damage resistant cartons.</p>
		<p>Technical Data:</p> <p>Filter size _____</p> <p>Filter housing dimensions _____ mm</p> <p>Filter cell dimensions _____ mm</p> <p>Volume flow _____ l/s (m³/h)</p> <p>Nett weight _____ kg</p> <p>Order number _____</p> <p>Manufacture: Trox</p>
		Price / Each