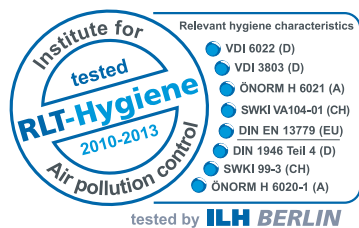


Protect your air – worldwide



Product catalogue

Filters for air conditioning technology
Filters for painting and drying technology



Air conditioning technology



Painting & drying technology



Portrait VOLZ Luftfilter GmbH & Co. KG

Facts and figures:

2009

Volume of sales:	approx. 45 Mio. Euro
Employees:	500 employees
Production area:	60,000 m ²
Variety of products:	more than 8,500 different products

VOLZ Luftfilter GmbH & Co. KG is developing, manufacturing and selling filter media and filter products for air conditioning and ventilation, painting and drying applications as well as turbomachinery. With this range, VOLZ Filters is one of the leading manufacturers and is internationally known for innovative products. From small to large quantities – there are many possibilities to fulfil our customers requirements. Quality control of our complete production with internal filter test equipment and modern quality management tools ensure high product quality. We supply all filter classes from G2 to H14 for every application.

Beside a range of high quality filter products, VOLZ Filters also offers a variety of different services, e.g.: technical consulting, training courses, filter management and particle measurement on site.

Our production in Horb is one of the most modern filter manufacturing plants in the world.

All production stages from manufacturing of nonwoven materials to assembly of final filters are carried out on site, which creates a fully transparent process.

From fibres to the final filters – perfect.



The management: Rainer Volz, Manfred Volz and Thomas Erath

VOLZ Luftfilter GmbH & Co. KG

Plant II - VII
Gesslerstraße 3
D-72160 Horb am Neckar

Phone: +49 7451 5516-0
Fax: +49 7451 5516-120

www.volzfilters.com
info@volzfilters.com

Teams & Locations of VOLZ Lufffilter

The sales teams at VOLZ Lufffilter

Competent teams who will give you advice according to your requirements and help you with specific queries are at your disposal to support you as a customer. Thanks to this you may rest assured that your individual questions will be answered quickly and in a professional manner. Simply contact your team of consultants.

Export "North" Sales International	Export "South"/ Automotive Germany Sales International	VOLZ Filters UK Ltd. Sales United Kingdom	VOLZ Filters SK s.r.o. Sales Slovakia
Contact: Phone: +49 7451 5516-919 Fax: +49 7451 5516-900 export-north@volzfilters.com	Contact: Phone: +49 7451 5516-909 Fax: +49 7451 5516-140 export-south@volzfilters.com	Contact: Phone: +44 161 743-4190 Fax: +44 161 743-1390 sales@volzfilters.co.uk	Contact: sales@volzfilters.sk

The VOLZ locations and plants

We will continue to place great importance on a high quality of our products and ensure this with our main plants in Germany. With our branch in England we unite our down-to-earth-attitude with the flexibility of a worldwide operating company with mid-sized structure.



The VOLZ Plants II-VII (production and logistics) in Horb-Heiligenfeld



The VOLZ Plant I (sales) in Horb-Bildechingen



The VOLZ-Plant UK (production and sales) in Manchester

The VOLZ Sales Network

We operate on a worldwide scale with our sales network in Europe

Beside quality and speed we offer to our clients the additional value of a medium-sized company with individual service and worldwide orientation. Our experienced sales representatives advise and support our clients in all questions regarding air filter technology with competence and commitment.



VOLZ Filters UK Ltd. United Kingdom

Agecroft Commerce Park
Unit 1 Canary Way, Swinton
Manchester M27 8AW

Contact:

Phone: +44 161 743-4190
sales@volzfilters.co.uk

VOLZ Luftfilter GmbH & Co. KG Germany

Heiligenfeld Commerce Park
Gesslerstraße 3
72160 Horb am Neckar

Contact:

Phone: +49 7451 5516-0
info@volzfilters.com

VOLZ Filters SK s.r.o. Slovakia

Robotnícka 1
03601 Martin

Contact:

sales@volzfilters.sk

Company Profile VOLZ Filters

„Whatever we do, we have to do it properly!“

In order to continue surviving the ever growing competition and to continue growing we have to improve a bit each day. Only if each employee breathes life into these ideas again and again each day, together we can successfully create our future! Our company profile reflects our aims that we plan to reach within the next few years and shows the way how we can achieve this with common effort.

Vision: *Where we want to go.*



Within the next few years, Volz Filters as a family-run, financially independent company will develop into the most innovative producer and supplier of air filter products and services for air conditioning and ventilating systems, painting and drying systems as well as gas turbine and compressor systems, while, at the same time, successfully managing to venture into new business fields.

▶ **Family-run**

VOLZ Lufffilter is a family-run company and this will remain so even in the future.

▶ **Focused on the market and the customer**

The customer focus is an essential key success factor of our corporate philosophy. With our broad vertical range of production we guarantee a perfect coordination with the individual customer requirements in order to achieve an ideal support based on partnership.

▶ **Committed to quality**

We place a high priority on both product and process quality and they are continuously optimised within the scope of the continuous improvement process (CIP).

▶ **Focused on success and professional**

Our success factors are:

- **Speed**
- **Flexibility**
- **Excellent price/performance ratio**
- **Motivated and qualified employees**

Values: *What is important to us.*



The values in our company are significantly responsible for performance, motivation, cooperation and for the success of our company. Both the principles as also the attitudes and acceptance of the employees play an important role here.

Aims: *What we want to achieve.*



Clearly defined objectives are the key for the corporate success today and in the future. The company VOLZ Filters pays particular attention to the continuation and the expansion of its successful concepts that have given strength to the company already the past.

▶ **Financial independence**

This means growth and investment from own resources

▶ **Profitable growth**

The basic principle is: Yield before turnover

▶ **Consolidation of innovative strength**

Competitive advantages thanks to unique selling propositions

▶ **Venture into new business fields**

Sophisticated market segments safeguard our market position

▶ **Internationalisation of the sales activities**

The market share is to be increased - especially regarding exports

VOLZ Quality Features

Quality requirements of VOLZ products

VOLZ produces air filter products with process-optimized production processes, internal test benches for filters and modern quality management tools. All this with the rating - Quality made by VOLZ.



- We are DIN EN ISO 9001:2008 certified and ensure an ideal design of our corporate processes to our customers



- Quality filters „Made by VOLZ“ from G2 to H14 in accordance with DIN EN 779 and DIN EN 1822
- Filter media and all components are from own production



- Öko-Tex Standard 100 - our media is kind to the skin and tested for harmful substances - a good feeling
- External confirmation that VOLZ products fulfil the requirements of Annex XVII of REACH



- Kind to the environment and disposal-friendly - VOLZ synthetic media is completely ashable



- Speed and flexibility - short delivery times and an ideal customer focus
- Flexible production - from small batches to large batch sizes
- Quick delivery response and flexibility within 24 - 48h*



- Innovative and internal research & development department
- Quality assurance of running production with internal test benches for filters and modern quality management tools

Furthermore we offer:

- A product portfolio with more than 8,500 products for different applications, like air conditioning and ventilation systems, painting and drying systems as well as gas turbine and compressor systems
- One of the most modern machine parks and latest robot technology for highest quality
- One of the most modern glass fibre extrusion systems in the world
- Customized labelling and packaging
- Services like e.g. particle measurement, paint damage analysis, analysis of the painting process, rating of spraying booths and much more

* Against surcharge and only for standard filters and components and dependent on batch size

Advantages that you can trust in

The VOLZ fine dust filter are certified in accordance with the hygiene compliance test

Especially for the sensible areas of the air conditioning technology, the VOLZ fine dust filter CompaPleat, Compact Filter and Pocket Filter undergo a special hygiene compliance test by the "Institut für Lufthygiene Berlin" (Institute of Air Hygiene). Our air filters are therefore safe for the requirements of general ventilation and air conditioning technology and in the hospital sector. VOLZ air filters can be used with a good conscience.



The VOLZ fine dust filters are tested in accordance with the following hygiene-related requirements:

General air conditioning and ventilation technology:

- VDI 6022, sheet 1 (04/2006)
- SWKI VA104-01 (04/2006)
- VDI 3803 (02/2010)
- ÖNORM H 6021 (09/2003)
- DIN EN 13779 (09/2007)

Hospital sector:

- DIN 1946-4 (12/2008)
- SWKI 99-3 (03/2004)
- ÖNORM H 6020 (02/2007)

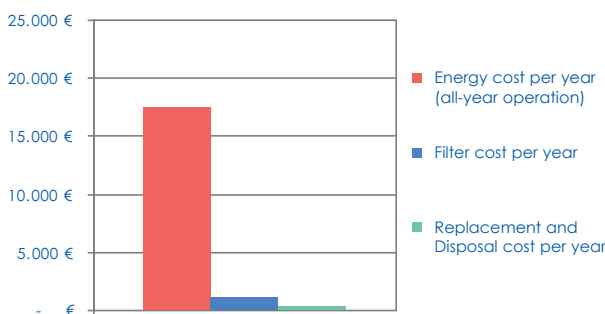
The economical aspect of products from VOLZ Filters

Today energy saving is a subject that is becoming more and more important. Filter cost, replacement and disposal cost are only a fraction of the total cost that accrue in a filter system. The energy cost per year (for all-round operation) represents 70-80% of the total cost.

Your advantages at VOLZ Filters: Long service life, high dust holding capacity, low pressure drops and completely ashable products. This results in low disposal cost, low energy cost and low overall cost. The saved energy cost by using VOLZ Pocket Filters amount up to 30% compared to products of the competition.

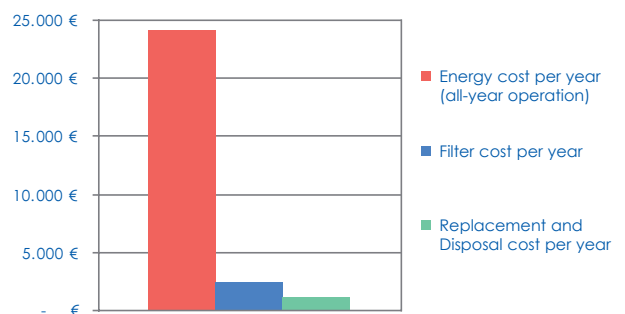
VOLZ Standard F7 Pocket filter*

Initial pressure	96 Pa
Average pressure drop	138 Pa
Dust holding capacity	406 g



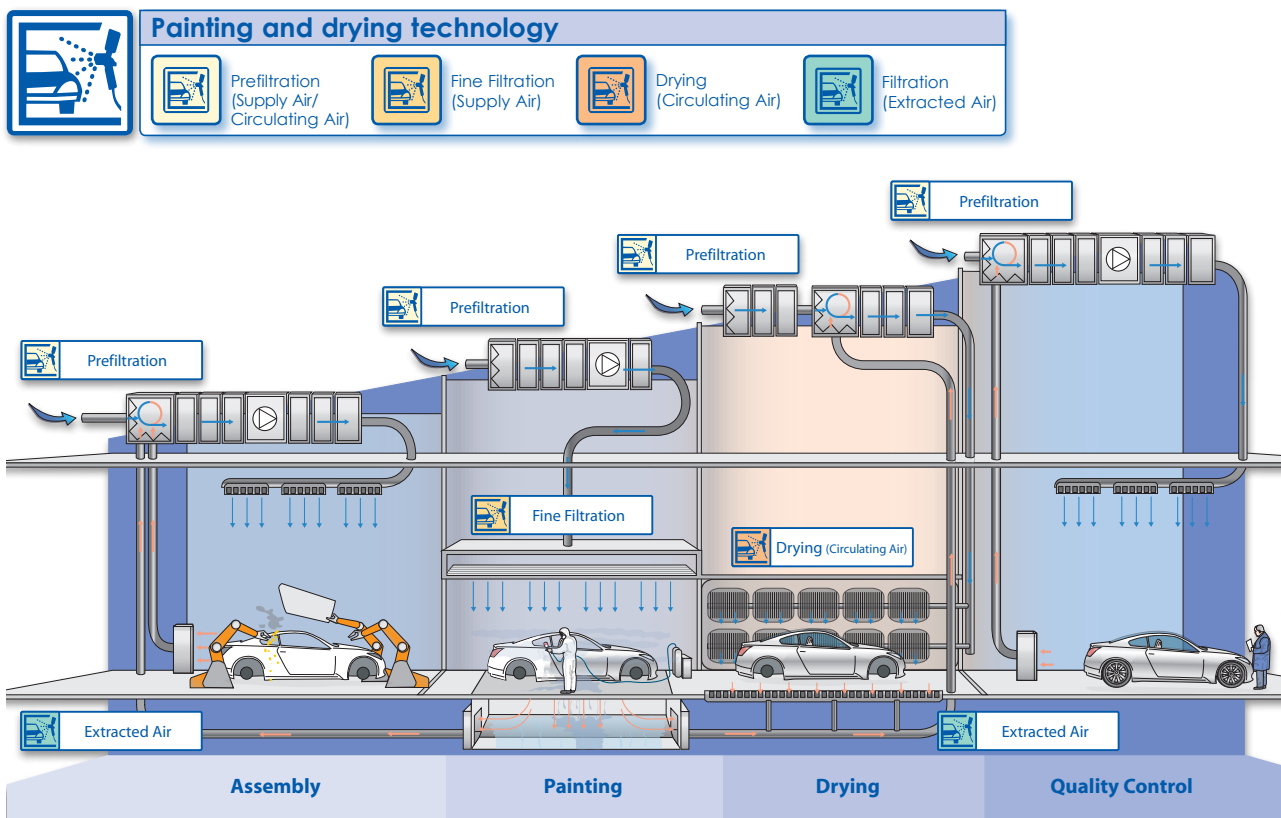
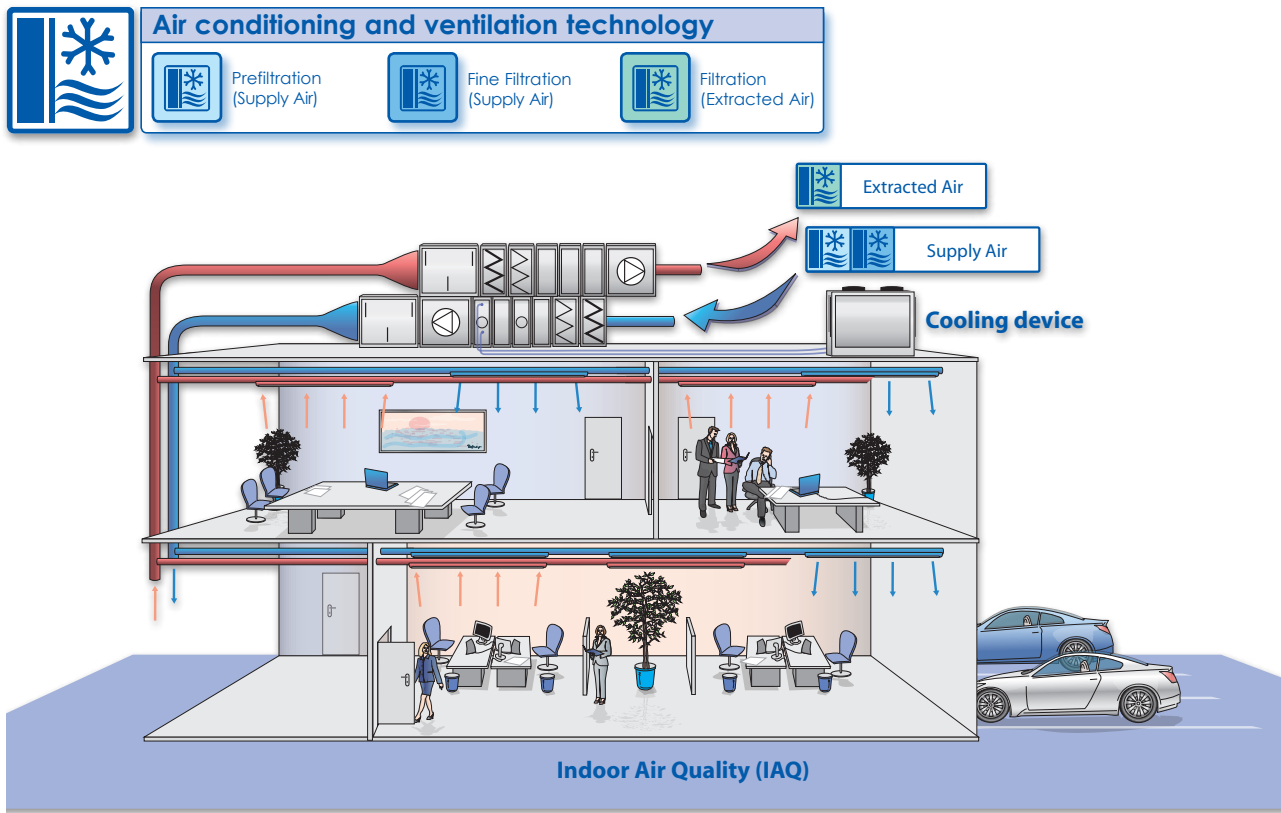
Competitor Standard F7 Pocket filter*

Initial pressure	92 Pa
Average pressure drop	191 Pa
Dust holding capacity	134 g



Sample system: Filter wall with 63 filters all-year operation and current energy cost. * Filter dimensions: 592 x 592 x 600 mm 8 pockets

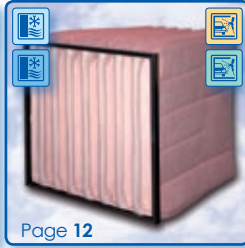
Fields of application





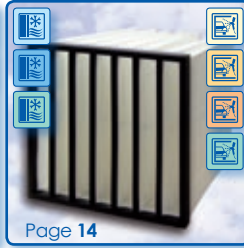
Page 10

Pocket filter pre filtration



Page 12

Pocket filter fine filtration



Page 14

Pocket filter V-series



Page 16

Pocket filter Ex-Protect



Page 18

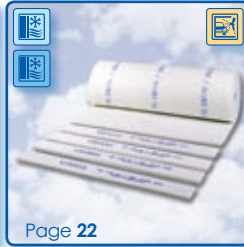
Pocket filter Biostat

Pocket filters



Page 20

Pre filtration mats



Page 22

Fine filtration mats



Page 24

Glass fibre mats



Page 26

HT-glass fibre mats

Filtration mats



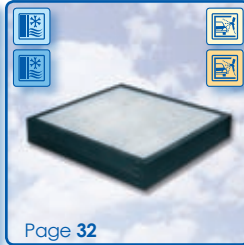
Page 28

Filterpacks



Page 30

Frame filter



Page 32

CompaPleat



Page 34

Compact filter



Page 36

HT-filter

Pleat filters (cassettes)



Page 40

HEPA filters

HEPA filters



Page 42

SepaPaint



Page 44

Activated coal cartridges



Page 46

Basket filter



Page 48

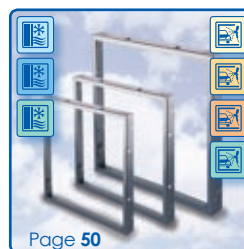
Roller tape filter



Page 49

Extra-/special filters

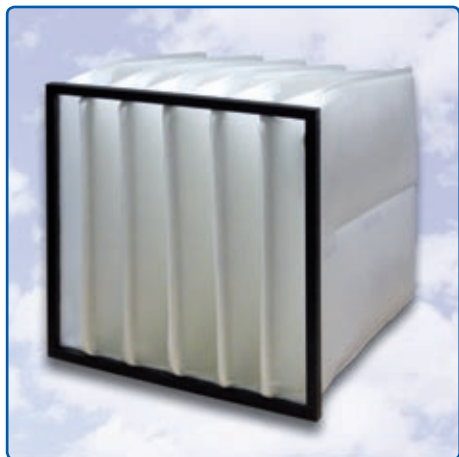
Extra-/special filters



Page 50

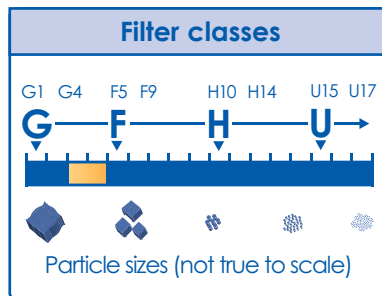
Holding frame

Accessories



CONFIDENCE IN TEXTILES
 Geprüft auf Schadstoffe
 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein

Pocket filter pre filtration



Applications

- For pre filtration in aerial engineering devices of all kinds
- Air conditioning in offices, schools, laboratories
- Prefiltration for fine filters
- Prefiltration for paint shops

Classification acc. to EN 779

- Filter class **G3**
- Filter class **G4**

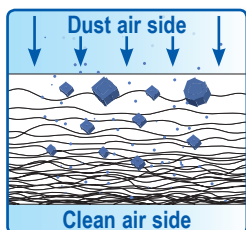
Versions

- Standard sizes welded
- Special sizes on request
- Frame types:
Plastic frame (25mm),
Metal frame (20 or 25mm)
- Filters with plastic frame are fully incinerable
- Optional with foamed hygiene-gasket

Material characteristics

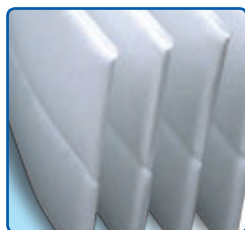
- Tested according to EN 779
- Shatter-proof synthetic fibres, environmentally safe
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to 80°C depending on type of frame
- Lacquer compatibility according to IPA-control
- High self-rigidity of the pockets

Benefits of VOLZ Filters



Progressive structure

- The filter media is compressed towards clean air side and takes full depth of fibrous web for dust absorption



Higher density

- Higher density and pressure load due to endless pockets and their edge welding



Hygiene-gasket (optional)

- Hygiene-gasket on pocket filter frame available on the clean air side or on the dust air side
- Abrasion-resistant, silicone-free, closed porous



- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

Standard versions for pocket filter G3 - G4							
Width x Height	Depth	Number of pockets	Filter area	Width x Height	Depth	Number of pockets	Filter surface
	mm		m ²		mm		m ²
592 x 592 mm *1	200	6	1.6	592 x 490 mm *2	200	6	1.5
	300	6	2.4		300	6	2.1
	360	6	2.7		360	6	2.5
	500	6	3.9		500	6	3.4
	600	6	4.5		600	6	4.0
490 x 592 mm *1	200	5	1.3	592 x 287 mm *1	200	6	0.9
	300	5	1.9		300	6	1.2
	360	5	2.3		360	6	1.4
	500	5	3.2		500	6	2.0
	600	5	3.8		600	6	2.2
287 x 592 mm *1	200	3	0.8	287 x 287 mm *1	200	3	0.4
	300	3	1.2		300	3	0.5
	360	3	1.4		360	3	0.7
	500	3	1.9		500	3	1.0
	600	3	2.3		600	3	1.1

- Plastic frame (25mm), metal frame (20 or 25mm)
- Optional with foamed hygiene-gasket
- Pocket filters with plastic frame must be used holohedral incumbent
- Special sizes and special depths available on request

*1 Standard sizes welded

*2 Special sizes stitched

Specification pocket filter

Please order in the following sequence: Width x Height x Depth

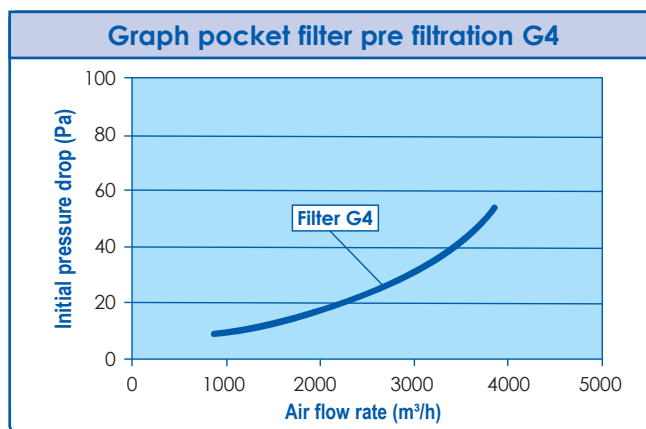
Assembly instruction for correct installation

Correct Installation!
Pockets stand vertically

Incorrect Installation!
Pockets lie horizontally! Pockets below running risk of absorbing condensed water

Pocket filter pre filtration; G4 592 x 592 x 600; 6 pockets

Initial pressure drop (Pa)	40	Average arresntance (%)	≥ 90
Recommended final pressure drop (Pa)	250		
Nominal air flow rate (m ³ /h)	3400	Filter area (m ²)	4.5



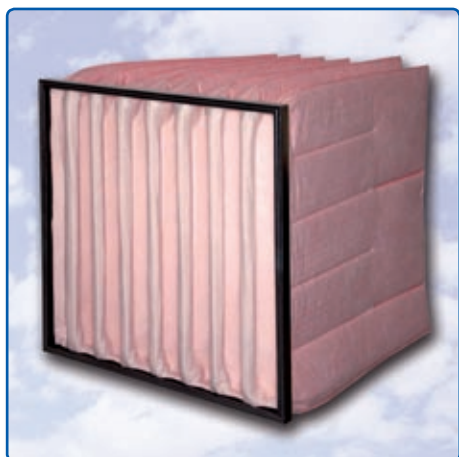
VOLZ Luftfilter GmbH & Co. KG

Robert-Bosch-Straße 25
D-72160 Horb am Neckar

Phone: +49 7451 5516-0
Fax: +49 7451 5516-120

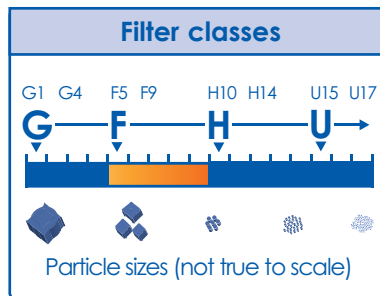
info@volzfilters.com
www.volzfilters.com

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Pocket filter fine filtration

CONFIDENCE IN TEXTILES
 Geprüft auf Schadstoffe
 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein



Applications

For fine filtration in heat ventilation and air conditioning devices and plants of all kinds

- Offices, hospitals, computing centres
- Pharmaceuticals, fine-mechanical and food industry
- Prefiltration e.g. for HEPA filters

Classification acc. to EN 779

- Filter class **F5** - brown version (white*)
- Filter class **F6** - green version
- Filter class **F7** - pink version
- Filter class **F8** - yellow version
- Filter class **F9** - white version

*Polyester version without Pocket-Fitting, no 3-layer medium

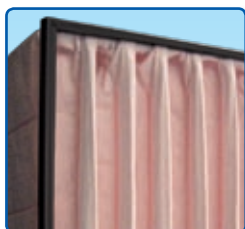
Versions

- Standard sizes welded and with "Pocket-Fitting"
- Special sizes on request
- Frame types:
Plastic frame (25mm),
Metal frame (20 or 25mm)
- Filters with plastic frame are fully incinerable
- Optional with foamed hygiene-gasket

Material characteristics

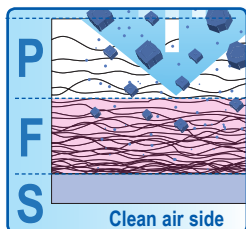
- Tested according to EN 779
- Tested and certified by ILH Berlin
- Shatter-proof synthetic fibres, environmentally safe
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of frame
- Lacquer compatibility according to IPA-control
- Higher density and pressure load due to endless pockets and their edge welding

Benefits of VOLZ Filters



Pocket-Fitting

- Form stability of the single pockets
- Optimal distribution of incoming flow
- Effective use of the filter area
- Optimal pocket opening



3-layer filter medium

- P: Pre filter grade
- F: Fine filter grade
- S: Synthetic layer on clean air side for stabilization
- Best arrestance
- Low pressure loss
- High dust retention capacity



Hygiene-gasket (optional)

- Hygiene-gasket on pocket filter frame available on the clean air side or on the dust air side
- Abrasion-resistant, silicone-free, closed porous



- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

Standard versions F5 - F9

Width x Height		Depth	Number of pockets	Filter area	Pocket-Fitting ^{*3}	Width x Height		Depth	Number of pockets	Filter area	Pocket-Fitting ^{*3}	Width x Height		Depth	Number of pockets	Filter area	Pocket-Fitting ^{*3}
mm				m ²		mm				m ²		mm				m ²	
F5 (Polyester)																	
592 x 592 mm ^{*1}	360	6	2.7	-	592 x 490 mm ^{*2}	360	6	2.5	-	592 x 287 mm ^{*2}	360	6	1.4	-			
	500	6	3.9	-		500	6	3.4	-		500	6	2.0	-			
	600	6	4.5	-		600	6	4.0	-		600	6	2.2	-			
490 x 592 mm ^{*1}	360	5	2.3	-	287 x 592 mm ^{*1}	360	3	1.4	-	287 x 287 mm ^{*2}	360	3	0.7	-			
	500	5	3.2	-		500	3	1.9	-		500	3	1.0	-			
	600	5	3.8	-		600	3	2.3	-		600	3	1.1	-			
F5 - F9 (Progressive microfiber)																	
592 x 592 mm ^{*1}	360	6	2.9	x	592 x 490 mm ^{*2}	360	6	2.5	-	592 x 287 mm ^{*2}	360	6	1.5	-			
		8	3.9	x			8	3.2	-			8	2.0	-			
		10	4.8	x			10	4.2	-			10	2.1	-			
	380	12	5.7	x		12	5.0	-	12		2.5	-					
		6	4.1	x		500	6	3.4	-		500	6	2.1	-			
		8	5.4	x		8	4.4	-	8		2.7	-					
	500	10	6.5	x		535	10	5.8	-		535	10	3.4	-			
		12	7.8	x		12	6.9	-	12		4.1	-					
		6	4.8	x		600	6	4.0	-		600	6	2.5	-			
	600	8	6.5	x		8	5.2	-	8		3.2	-					
		10	7.6	x		10	6.8	-	10		3.4	-					
		12	9.1	x		12	8.1	-	12		4.1	-					
490 x 592 mm ^{*1}	360	5	2.5	x	287 x 592 mm ^{*1}	360	3	1.5	x	287 x 287 mm ^{*2}	360	3	0.8	-			
		6	2.9	x			4	2.0	x			4	1.0	-			
		8	3.8	x			5	2.4	x			5	1.3	-			
	380	10	4.8	x		6	2.9	x	6		1.5	-					
		5	3.4	x		3	2.0	x	3		1.0	-					
		6	4.1	x		4	2.7	x	4		1.3	-					
	500	8	5.2	x		535	5	3.2	x		535	5	1.7	-			
		10	6.5	x		6	3.9	x	6		2.1	-					
		5	4.0	x		3	2.4	x	3		1.2	-					
	600	6	4.8	x		600	4	3.2	x		600	4	1.6	-			
		8	6.1	x		5	3.8	x	5		2.0	-					
		10	7.6	x		6	4.6	x	6		2.4	-					

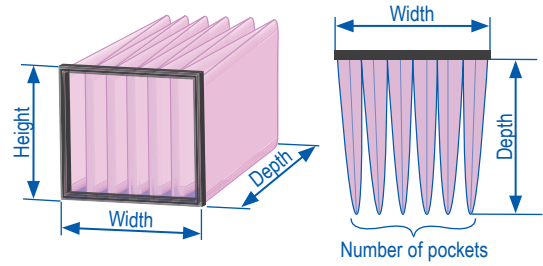
- Pocket filters with plastic frame must be used holohedral incumbent
- Special sizes and special depths available on request

^{*1} Standard sizes welded

^{*2} Special sizes stitched

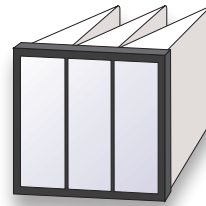
^{*3} Optional with cover sticks against surcharge

Specification pocket filter fine filtration F7

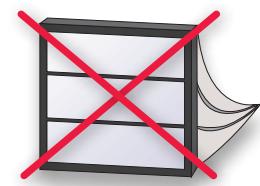


Please order in the following sequence: Width x Height x Depth

Assembly instruction for correct installation



Correct Installation!
Pockets stand vertically

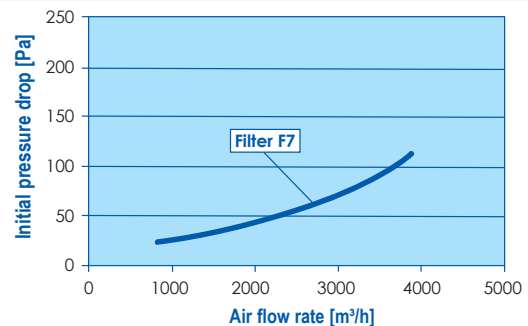


Incorrect Installation!
Pockets lie horizontally! Pockets below running risk of absorbing condensed water

Pocket filter fine filtration F7
592 x 592 x 600; 8 pockets

Initial pressure drop (Pa)	95	Average arrestance (%)	-
Recommended final pressure drop (Pa)	450	Average efficiency (0.4µm)	80 - 90
Nominal air flow rate (m ³ /h)	3400	Filter area (m ²)	6.5

Graph pocket filter fine filtration F7



VOLZ Luftfilter GmbH & Co. KG

Robert-Bosch-Straße 25
D-72160 Horb am Neckar

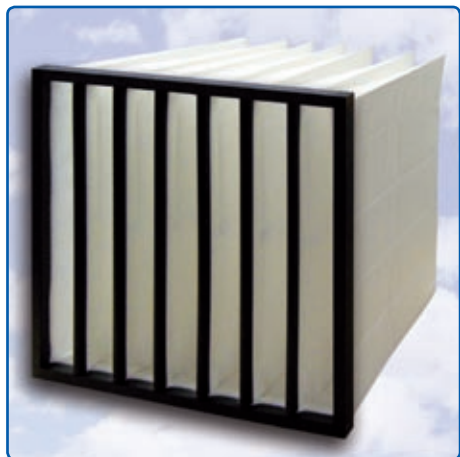
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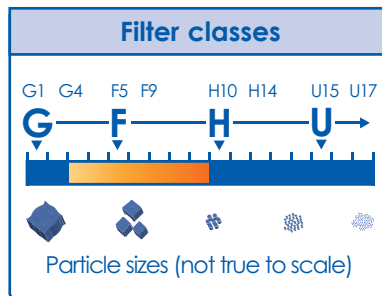
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Pocket filter V-series



CONFIDENCE IN TEXTILES
 Geprüft auf Schadstoffe
 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein



Applications

- For high requirements in the air conditioning technology, e.g. offices, hospitals, laboratories, computing center, etc.
- For industrial applications with challenging operating conditions, e.g. paint-spray lines in automotive industry, pharmaceutical industry and food industry
- Prefiltration e.g. for HEPA filters

Classification acc. to EN 779

Polyester:

- V30 **G3** - version
- V40 **G4** - version
- V55 **F5** - version
- V65 **F6** - version

Progressive microfiber:

- V50 **F5** - version
- V60 **F6** - version
- V70 **F7** - version
- V80 **F8** - version
- V90 **F9** - version

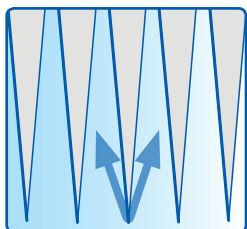
Versions

- Standard sizes welded, with "Pocket-Fitting" and cover sticks
- Frame types:
Plastic frame (25mm),
Metal frame (25mm)
- Filters with plastic frame are fully incinerable
- Optional with foamed hygiene-gasket

Material characteristics

- Tested according to EN 779
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of frame
- Lacquer compatibility according to IPA-control
- Higher density and pressure load due to endless pockets and their edge welding as well as specific material characteristics

Benefits of VOLZ Filters



V-shape

- High self-rigidity
- Optimal pocket opening
- Better air-flow
- Optimal and complete dust embedding of pockets



Characteristics

- High dust holding capacity
- High durability
- High pressure load (3500 Pa)
- V55 / V65 specifically suitable for air-circulation mode through reinforcing textile on clean air side



Hygiene-gasket (optional)

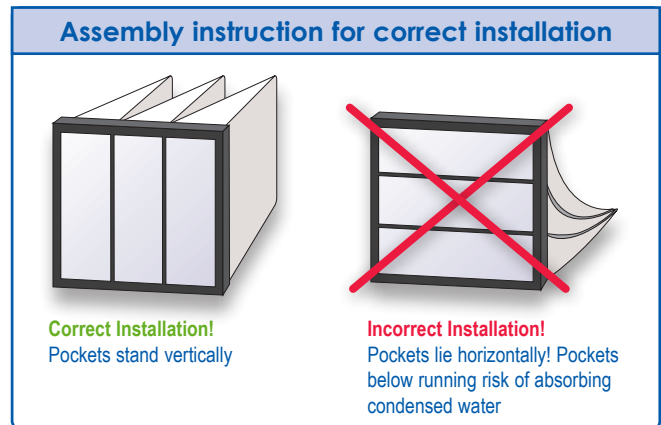
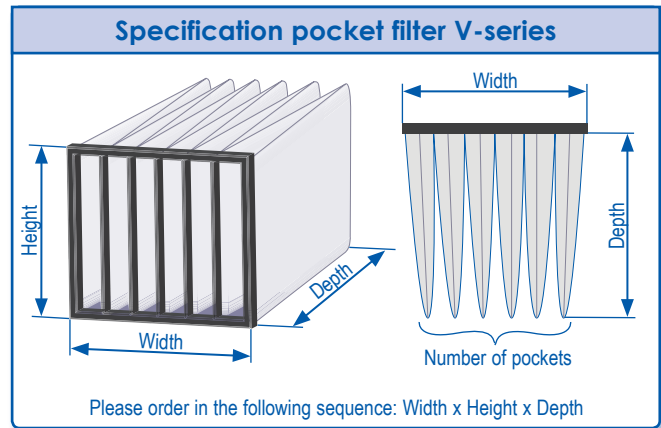
- Hygiene-gasket on pocket filter frame available on the clean air side or on the dust air side
- Abrasion-resistant, silicone-free, closed porous



- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

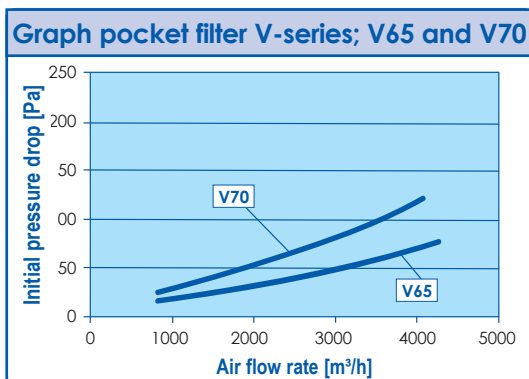
Standard versions V-series G3 - F9									
Width	Height	Depth	Number of pockets	Filter area	Width	Height	Depth	Number of pockets	Filter area
mm	mm	mm		m ²	mm	mm	mm		m ²
V30 G3					V65 F6				
592	592	600	7	5.9	592	592	600	7	5.9
490	592	600	6	5.1	490	592	600	6	5.1
287	592	600	4	3.4	287	592	600	4	3.4
V40 G4					V70 F7				
592	592	600	7	5.9	592	592	600	8	6.8
490	592	600	6	5.1	490	592	600	6	5.1
287	592	600	4	3.4	287	592	600	4	3.4
V50 F5					V80 F8				
592	592	600	8	6.8	592	592	600	8	6.8
490	592	600	6	5.1	490	592	600	6	5.1
287	592	600	4	3.4	287	592	600	4	3.4
V55 F5					V90 F9				
592	592	600	7	5.9	592	592	600	8	6.8
490	592	600	6	5.1	490	592	600	6	5.1
287	592	600	4	3.4	287	592	600	4	3.4
V60 F6									
592	592	600	8	6.8					
490	592	600	6	5.1					
287	592	600	4	3.4					

- Plastic frame (25mm), metal frame (25mm)
- Pocket filters with plastic frame must be used holohedral incumbent
- Optional with foamed hygiene-gasket



Pocket filter V-series V65; F6 592 x 592 x 600; 7 pockets

Initial pressure drop (Pa)	60	Average arresstance (%)	-
Recommended final pressure drop (Pa)	450	Average efficiency (0.4µm)	60 - 80
Nominal air flow rate (m ³ /h)	3400	Filter area (m ²)	5.9



Pocket filter V-series V70; F7 592 x 592 x 600; 8 pockets

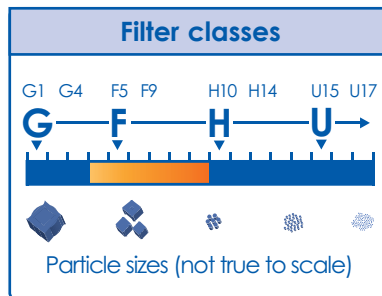
Initial pressure drop (Pa)	100	Average arresstance (%)	-
Recommended final pressure drop (Pa)	450	Average efficiency (0.4µm)	80 - 90
Nominal air flow rate (m ³ /h)	3400	Filter area (m ²)	6.8

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Pocket filter Ex-Protect



Applications

For the air filtration in aerial engineering plants with dangerous, combustible atmospheres (mixtures from air and burnable gases or steams)

- Application for Gas-Ex-Protection Ⓢ II 2 GD (X)
- Application for zones 1 and 2 also 21 or 22
- The Ex-Protect-Filter was tested according to following norms: EN 1127-1, BGR 132/CENELEC Report R 044-001, EN 13463-1 und EN 15198

Classification acc. to EN 779

- Filter class **G4** - white* version
- Filter class **F5** - brown version (white*)
- Filter class **F6** - green version
- Filter class **F7** - pink version
- Filter class **F8** - yellow version
- Filter class **F9** - white version



*Polyester version - no 3-layer media

Versions

- Synthetic fibres with metal-clutch
- Standard sizes stitched
- With galvanized metalframe (inner and outer frame)
- Available in three earthing versions:
 - with grounding flag
 - with grounding pin
 - without earthing

Material characteristics

- Tested according to EN 779
- Shatter-proof synthetic fibres
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of frame
- Technical filter check conducted by TÜV Industrie Service GmbH acc. to Guideline 94/9/EG

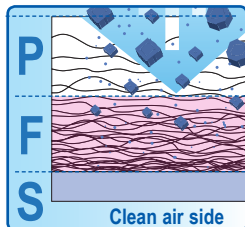


Benefits of VOLZ Filters



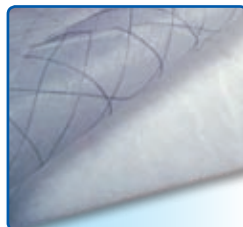
Conform to ATEX-guideline

- No filter charging
- Declaration of manufacturer is delivered with each filter



3-layer filter media

- P: Pre filter grade
- F: Fine filter grade
- S: Synthetic layer on clean air side for stabilization
- Best arrestance
- Low pressure loss
- High dust retention capacity



Special texture

- Electroconductive media with integrated metal-clutch



- Utility pattern protection
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Standard versions Ex-Protect G4 - F9																	
Width x Height			Number of pockets			Filter area			Width x Height			Number of pockets			Filter area		
Width	Height	Depth	Number of pockets	Filter area	Width	Height	Depth	Number of pockets	Filter area	Width	Height	Depth	Number of pockets	Filter area			
		mm	m ²				mm	m ²				mm	m ²				
G4 - F5 (Polyester)																	
287 x 592 mm	360	2	1.0	490 x 592 mm	360	4	2.0	592 x 592 mm	360	4	2.1						
		4	1.9			5	2.3			6	2.7						
	380	2	1.1		380	4	2.1		380	4	2.2						
		4	2.0			5	2.6			6	3.1						
	500	2	1.4		500	4	2.7		500	4	2.8						
		4	2.6			5	3.2			6	3.9						
	535	2	1.5		535	4	2.9		535	4	3.0						
		4	2.8			5	3.6			6	4.3						
	600	2	1.7		600	4	3.2		600	4	3.3						
		4	3.1			5	3.8			6	4.5						
	635	2	1.7		635	4	3.4		635	4	3.5						
		4	3.3			5	4.2			6	5.1						
F5 - F9 (Progressive microfiber)																	
287 x 592 mm	360	3	1.5	490 x 592 mm	360	5	2.5	592 x 592 mm	360	6	2.9						
		4	2.0			6	2.9			8	3.9						
	380	5	2.4		380	8	3.8		380	10	4.8						
		6	2.9			10	4.8			12	5.7						
	500	3	2.0		500	5	3.4		500	6	4.1						
		4	2.7			6	4.1			8	5.4						
	535	5	3.2		535	8	5.2		535	10	6.5						
		6	3.9			10	6.5			12	7.8						
	600	3	2.4		600	5	4.0		600	6	4.8						
		4	3.2			6	4.8			8	6.5						
	635	5	3.8		635	8	6.1		635	10	7.6						
		6	4.6			10	7.6			12	9.1						

- Special sizes on request
- Optional with foamed hygiene-gasket
- Detailed technical report of a conformity procedure according to guideline 94/9/EG on request

Pocket filter Ex-Protect; F7 592 x 592 x 600; 8 pockets			
Initial pressure drop (Pa)	110	Average arrestance (%)	-
Recommended final pressure drop (Pa)	450	Average efficiency (0,4µm) (%)	80 - 90
Nominal air flow rate (m³/h)	3400	Filter area (m²)	6.5

Specification and earthing versions

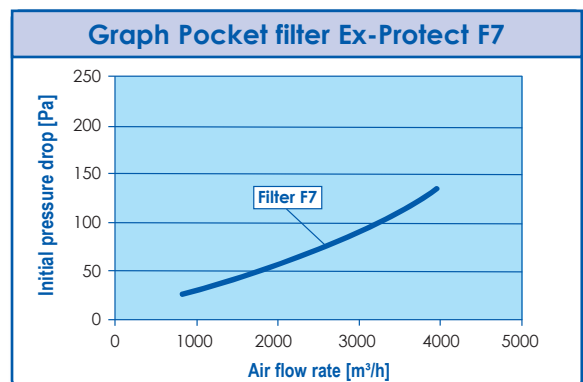
Please order in the following sequence: Width x Height x Depth

- Available in three earthing versions:
 - with grounding flag
 - with grounding pin
 - without earthing

Assembly instruction for correct installation

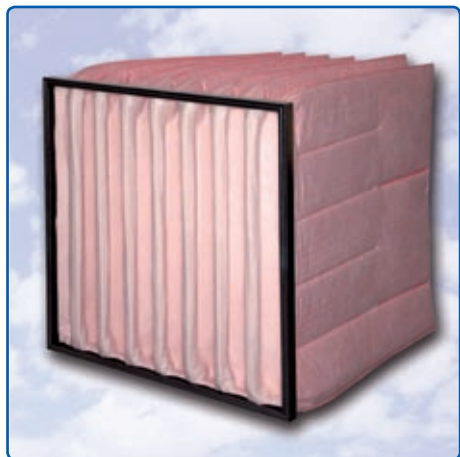
Correct Installation!
Pockets stand vertically

Incorrect Installation!
Pockets lie horizontally! Pockets below running risk of absorbing condensed water



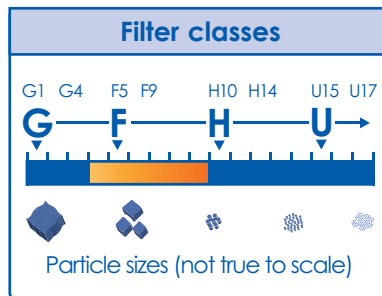
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 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein

Pocket filter Biostat



Applications

- For the supply air and circulating air filtration in air conditioning plants like offices and production plants
- Requirements with high hygienic demands
- Requirements to fulfil VDI 6022
- For high humidity and demanding environmental requirements

Classification acc. to EN 779

- Filter class F5 - brown version (white*)
- Filter class F6 - green version
- Filter class F7 - pink version
- Filter class F8 - yellow version
- Filter class F9 - white version

*Polyester version without Pocket-Fitting, no 3-layer media

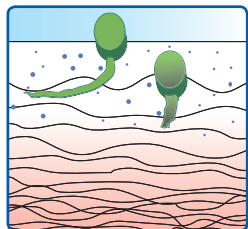
Versions

- Standard sizes welded
- Special sizes on request
- Frame types:
Plastic frame (25mm),
Metal frame (20 or 25mm)
- Filters with plastic frame are fully incinerable
- Optional with foamed hygiene-gasket
- "Pocket-Fitting" for filter class F5-F9 (not F5 Polyester white)

Material characteristics

- Tested according to EN 779
- Shatter-proof synthetic fibres, environmentally safe
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of frame
- Higher density and pressure load due to endless pockets and their edge welding

Benefits of VOLZ Filters



Biostatic equipment

- The active ingredient is located within synthetic fibres and is no biocide
- The active ingredient prevents growth of bacteria during complete product life of the filter
- The active ingredient is safe for appliance and is not released by the filters



Efficiency- and sustainability certificate

- Efficiency tested during a 12 months testing period
- Certificate shows biostatic efficiency and sustainability according to DAB
- Certification through ATW-IVENSYS GmbH and SAS Hagmann GmbH



No growth of bacteria

- Bacteria, mildew, barm and fungus are prevented from growing and spreading - risk of filter being a source of contamination is reduced



- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances

Standard versions Biostat F5 - F9														
Width x Height		Depth	Number of pockets	Filter area	Pocket-Fitting ^{*3}	Width x Height		Depth	Number of pockets	Filter area	Pocket-Fitting ^{*3}			
		mm		m ²				mm		m ²				
F5 (Polyester)														
592 x 592 mm *1	360	6	2.7	-	592 x 490 mm *2	360	6	2.5	-	592 x 287 mm *2	360	6	1.4	-
	500	6	3.9	-		500	6	3.4	-		500	6	2.0	-
	600	6	4.5	-		600	6	4.0	-		600	6	2.2	-
490 x 592 mm *1	360	5	2.3	-	287 x 592 mm *1	360	3	1.4	-	287 x 287 mm *2	360	3	0.7	-
	500	5	3.2	-		500	3	1.9	-		500	3	1.0	-
	600	5	3.8	-		600	3	2.3	-		600	3	1.1	-
F5 - F9 (Progressive microfiber)														
592 x 592 mm *1	360	6	2.9	x	592 x 490 mm *2	360	6	2.5	-	592 x 287 mm *2	360	6	1.5	-
		8	3.9	x			8	3.2	-			8	2.0	-
	380	10	4.8	x		380	10	4.2	-		380	8	2.1	-
		12	5.7	x			12	5.0	-			10	2.5	-
	500	6	4.1	x		500	6	3.4	-		500	6	2.1	-
		8	5.4	x			8	4.4	-			8	2.7	-
	535	10	6.5	x		535	10	5.8	-		535	10	3.4	-
		12	7.8	x			12	6.9	-			12	4.1	-
	600	6	4.8	x		600	6	4.0	-		600	6	2.5	-
		8	6.5	x			8	5.2	-			8	3.2	-
	635	10	7.6	x		635	10	6.8	-		635	8	3.4	-
		12	9.1	x			12	8.1	-			10	4.1	-
490 x 592 mm *1	360	5	2.5	x	287 x 592 mm *1	360	3	1.5	x	287 x 287 mm *2	360	3	0.8	-
		6	2.9	x			4	2.0	x			4	1.0	-
	380	8	3.8	x		380	5	2.4	x		380	5	1.3	-
		10	4.8	x			6	2.9	x			6	1.5	-
	500	5	3.4	x		500	3	2.0	x		500	3	1.0	-
		6	4.1	x			4	2.7	x			4	1.3	-
	535	8	5.2	x		535	5	3.2	x		535	5	1.7	-
		10	6.5	x			6	3.9	x			6	2.1	-
	600	5	4.0	x		600	3	2.4	x		600	3	1.2	-
		6	4.8	x			4	3.2	x			4	1.6	-
	635	8	6.1	x		635	5	3.8	x		635	5	2.0	-
		10	7.6	x			6	4.6	x			6	2.4	-

- Pocket filters with plastic frame must be used holohedral incumbent
- Special sizes and special depths available on request

*1 Standard sizes welded

*2 Special sizes stitched

*3 Optional with cover sticks against surcharge

Specification pocket filter Biostat

Please order in the following sequence: Width x Height x Depth

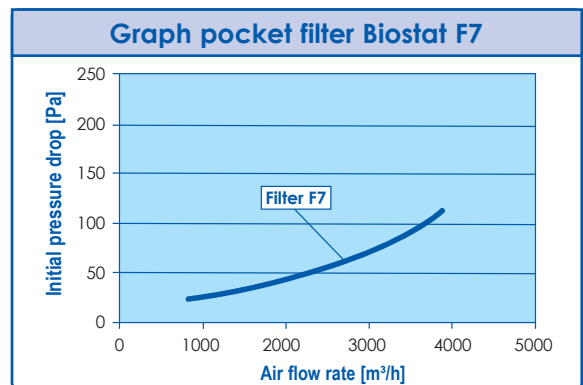
Assembly instruction for correct installation

Correct Installation!
Pockets stand vertically

Incorrect Installation!
Pockets lie horizontally! Pockets below running risk of absorbing condensed water

Pocket filter Biostat; F7 592 x 592 x 600; 8 pockets

Initial pressure drop (Pa)	95	Average arrestance (%)	-
Recommended final pressure drop (Pa)	450	Average efficiency (0.4µm)	80 - 90
Nominal air flow rate (m³/h)	3400	Filter area (m²)	6.5



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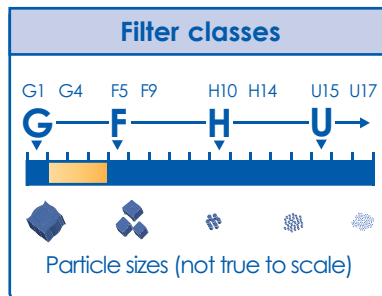
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Pre filtration mats



Applications

- For pre filtration in aerial engineering devices of all kinds
- Heat ventilation and air conditioning devices
- Prefiltration in air-conditioning systems
- Prefiltration for painting and drying plants

Classification acc. to EN 779

- Filter class **G2**
- Filter class **G3**
- Filter class **G4**

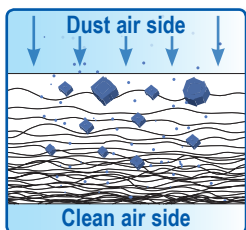
Versions

- Standard mats 20 x 2m and 40 x 2m (depending on type)
- Precuts for finished dimensions
- Stamp pieces in various dimensions available
- Also available as filter tube or filter bag

Material characteristics

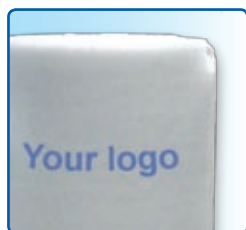
- Tested according to EN 779
- Shatter-proof synthetic fibres
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C
- Contains no silicone or other lacquer harming substances

Benefits of VOLZ Filters



Progressive structure

- The filter media is compressed towards clean air side and takes full depth of fibrous web for dust absorption



Special prints

- Special prints are possible depending on certain quantities



Special precuts

- Special sizes are available for rolls and precuts depending on purchase quantity

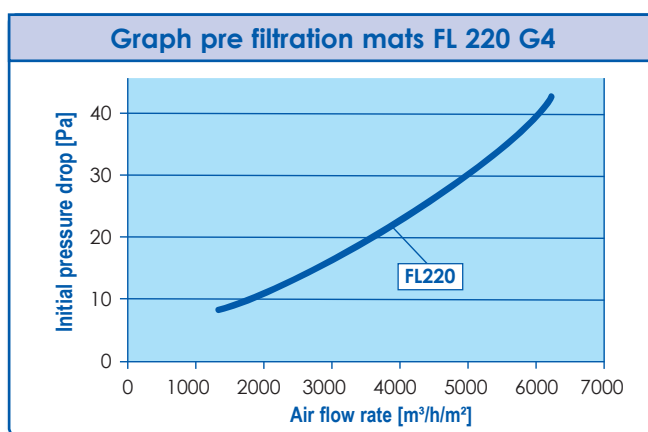


- Filter media is produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

Versions pre filtration mats G2 - G4

Product	Filter classes	Material thickness approx.	Surface weight approx.	Initial pressure drop*	Recommended final pressure drop	Air velocity	Average arrestance
		mm	g / m ²	Pa	Pa	m / s	%
FL100	G2	5	100	20	250	1.5	65 - 80
FL150	G2	10	150	25	250	1.5	65 - 80
FL200	G3	20	200	35	250	1.5	80 - 90
FL220	G4	22	220	35	250	1.5	≥ 90
V15/350	G4	18	280	50	250	1.5	≥ 90
V15/400	G4	22	350	60	250	1.5	≥ 90
EA30	G4	30	350	60	250	1.5	≥ 90
EA40	G4	40	400	60	250	1.5	≥ 90
EA50	G4	50	450	65	250	1.5	≥ 90

*flat sheet tested



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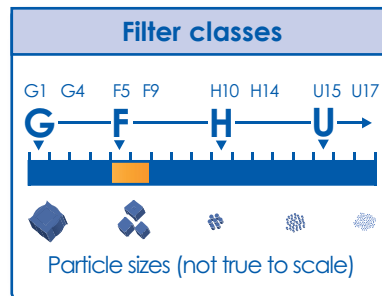
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Fine filtration mats



Applications

- For general industrial paintings (V300S, V400S)
- For final filtration of supply air in painting and paint-spraying units (V500S, V560G, V600G, V5micron)

Classification acc. to EN 779

- Filter class F5
- Filter class F6

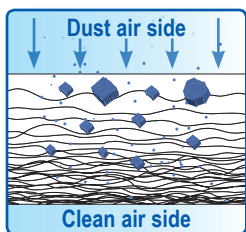
Versions

- Standard rolls 20 x 2m
- Precuts for finished dimension
- Precuts are packed under clean room conditions

Material characteristics

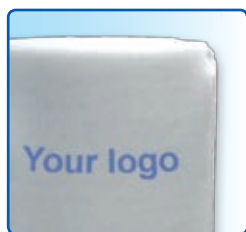
- Tested according to EN 779
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to 80°C
- Contains no silicone or other lacquer harming substances

Benefits of VOLZ Filters



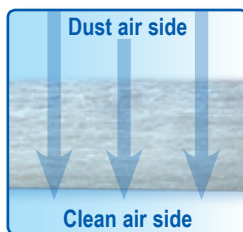
Progressive structure

- The filter media is compressed towards clean air side and takes the full depth of fibrous web for dust absorption



Special prints

- Special prints are possible depending on certain quantities



High performance media

- V500S, V560G, V600G and V5micron are additionally impregnated with dust adhesive
- Polyester-textile on clean air side gives V560, V600G and V5micron a higher stability



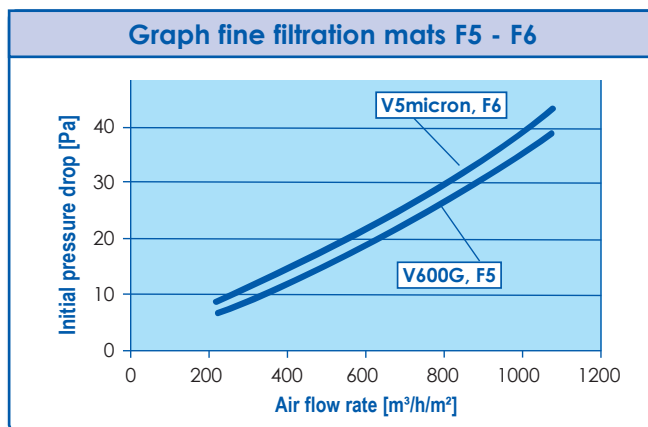
- Filter media is produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Environment-friendly and easily disposable

Versions fine filtration mats F5 - F6

Product	Filter class	Material thickness approx.	Surface weight approx.	Initial pressure drop *	Recommended final pressure drop	Nominal air flow rate	Air velocity	Average arrestance on 0,4 µm
		mm	g / m ²	Pa / m ²	Pa / m ²	m ³ / h / m ²	m / s	%
V300S	F5	15	300	15	450	900	0.25	40 - 60
V400S	F5	20	400	20	450	900	0.25	40 - 60
V500S	F5	25	550	25	450	900	0.25	40 - 60
V560G	F5	19	500	25	450	900	0.25	40 - 60
V600G	F5	25	650	30	450	900	0.25	40 - 60
V5micron	F6	25	750	35	450	900	0.25	60 - 80

*flat sheet tested

Graph fine filtration mats F5 - F6



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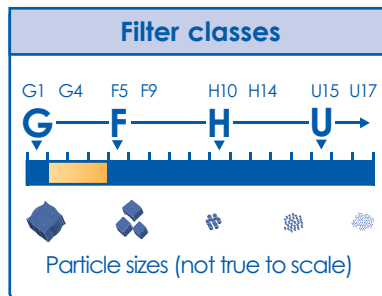


Glass fibre mats



Dust-Stop (yellow)

Paint-Stop (green)



Applications

Paint-Stop (green):

For use in separation of ink mist in paint shops and colour spraying cabins

- In automotive industry
- Manufacturing plants for furniture, windows, machines, etc.

Dust-Stop (yellow):

For separation of dry dust types

- In carpenters' workshops, metal working industry, etc.

Classification

Paint-Stop (green) ■

2" \triangle 94% Arrestance*

3" \triangle 96% Arrestance*

4" \triangle 98% Arrestance*

*Paint mist Arrestance

Dust-Stop (yellow) ■

1" \triangle Filter class G2*

2" \triangle Filter class G3*

4" \triangle Filter class G4*

*According to EN 779

Versions

- Standard rolls e.g. 20 x 1m and 20 x 2m
- Special sizes on request
- Precuts for finished dimensions

Information concerning disposal:

The disposal is subject to local restrictions. Depending on separated substances, used filter-media has to be dried and disposed

Material characteristics

Paint-Stop (green):

- Temperature resistant up to max. 180°C
- Contains no silicone or other lacquer harming substances
- Fire prevention requirements according to DIN 53438 (F3)

Dust-Stop (yellow):

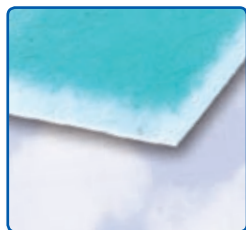
- Temperature resistant up to max. 80°C
- Additionally impregnated with antibacterial dust adhesive
- Contains no silicone
- Fire prevention requirements according to DIN 53438 (F3)

Benefits of VOLZ Filters



Shape elastic fibre structure

- The low compressibility of inordinately bedded glass fibres prevents the used media from becoming compressed and enhances a higher separation



Paint-Stop (green)

- Separates paint mist from exhausted air. Thereby, exhaust air channels, fans and motors are protected from paint deposits. For identification reasons, dust air side is coloured green



Dust-Stop (yellow)

- Media is additionally impregnated with an antibacterial dust adhesive. For identification reasons, dust air side is coloured yellow



- Glass fibre mats are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Standard versions glass fibre mats

Product	Filter class	Arrestance	Material thickness approx.	Roll length*	Roll width*
			mm	m	m
Paint-Stop (green) 2"	-	94%	50	20 / 25 / 80 / 91	2.0 / 1.0 / 0.7 / 0.5
Paint-Stop (green) 3"	-	96%	70	20 / 25 / 80 / 91	2.0 / 1.0 / 0.7 / 0.5
Paint-Stop (green) 4"	-	98%	100	20 / 25	2.0 / 1.0 / 0.7 / 0.5
Dust-Stop (yellow) 1"	G2	-	25	20	2.0 / 1.0 / 0.7 / 0.5
Dust-Stop (yellow) 2"	G3	-	50	20	2.0 / 1.0 / 0.7 / 0.5
Dust-Stop (yellow) 4"	G4	-	100	20	2.0 / 1.0 / 0.7 / 0.5

* Further dimensions on request

Glass fibre mat G3

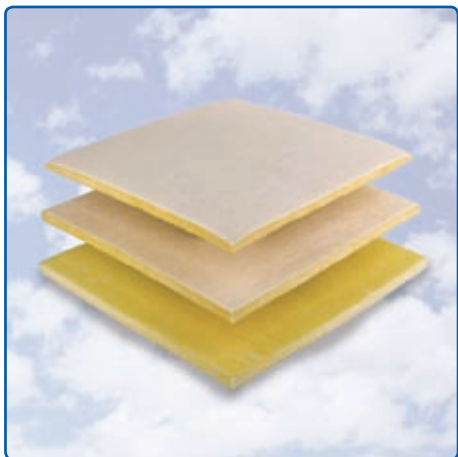
Product	Material thickness approx.	Initial pressure drop	Recommended final pressure drop	Nominal air flow rate	Lacquer separation arrestance*
	mm	Pa	Pa	m ³ / h / m ²	%
Paint-Stop (green) 3"	70	4 - 10	80	2500 - 6300	95

The measured data relates to 1m² filter-surface
 * The lacquer separation arrestance depends on the kind of lacquer, ink mist or environmental conditions like temperature or pressure in paint cabin

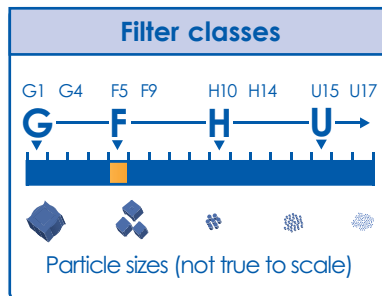
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HT-glass fibre mats



Applications

- Especially for final filtration of supply air in painting- and drying units

Classification acc. to EN 779

- Filter class F5 - yellow version 

Versions

- Precuts on request
- Also available as filterpack

Material characteristics

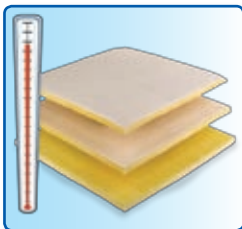
- Tested according to EN 779
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 200°C
- Contains no silicone or other lacquer harming substances

Benefits of VOLZ Filters



Backing

- GV180K
clean air side is enforced with synthetic fibre fleece
- GV180G
clean air side is enforced with glass fibre fleece
- DB200/0
clean air side with glass supporting tissue



Temperature resistance

- GV180K - up to max. 150°C
- GV180G - up to max. 200°C
- DB200/0 - up to max. 200°C

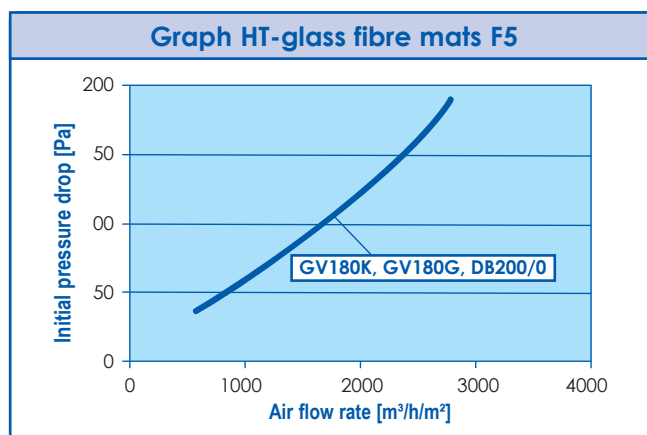


- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Versions HT-glass fibre mats F5

Product	Filter class	Material thickness approx.	Initial pressure drop	Recommended final pressure drop	Nominal air flow rate	Air velocity	Average efficiency (0,4µm)	Temperature resistance
		mm	Pa	Pa	m ³ / h / m ²	m / s	%	°C
GV180K	F5	19	150	600	2300	0.63	40 - 60	150
GV180G	F5	19	150	600	2300	0.63	40 - 60	200
DB200/0	F5	19	150	600	2300	0.63	40 - 60	200

Graph HT-glass fibre mats F5



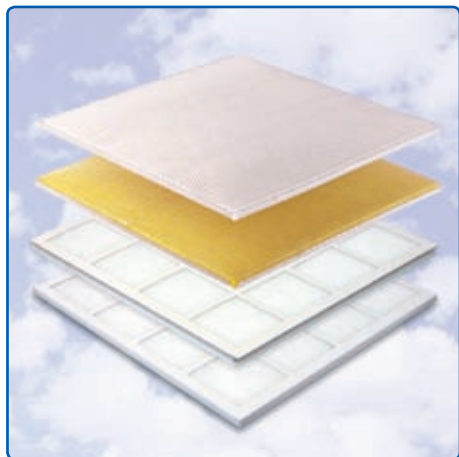
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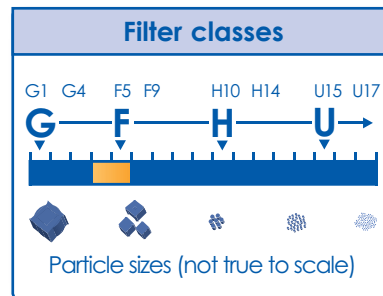
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Filterpacks



Applications

- AL200 and UG300 as HT-ceiling filter cassettes in painting- and drying units
- SK100 and ZH120 for the final filtration in painting units with cassette-clamping systems

Classification acc. to EN 779

- UG300 - filter class **G4** - white version
- AL200 - filter class **F5** - yellow version
- ZH120 - filter class **F5** - white version
- SK100 - filter class **F5** - white version

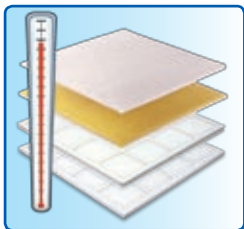
Versions

- UG300 dimension 480 x 480 x 14 mm with double-sided aluminium expanded mesh
- AL200 dimension 480 x 480 x 14 mm with double-sided aluminium expanded mesh
- ZH120 dimension 480 x 480 x 20 mm (standard gauge)
- SK100 dimension 480 x 480 x 14 mm
- SK100/ZH120 dimension 480 x 480 x 14 mm with rigid cardboard framework on the clean air side and fiberglass on the dust air side
- Other dimensions see next page

Material characteristics

- Tested according to EN 779
- Humidity resistant up to 100% r. h.
- SK100 / ZH120 synthetic media
- AL200 / UG300 glass fibre media
- Contains no silicone

Benefits of VOLZ Filters



Temperaturbeständigkeit

- SK100 - up to max. 100°C
- ZH120 - up to max. 120°C
- AL200 - up to max. 200°C
- UG300 - up to max. 300°C



- Filter products are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

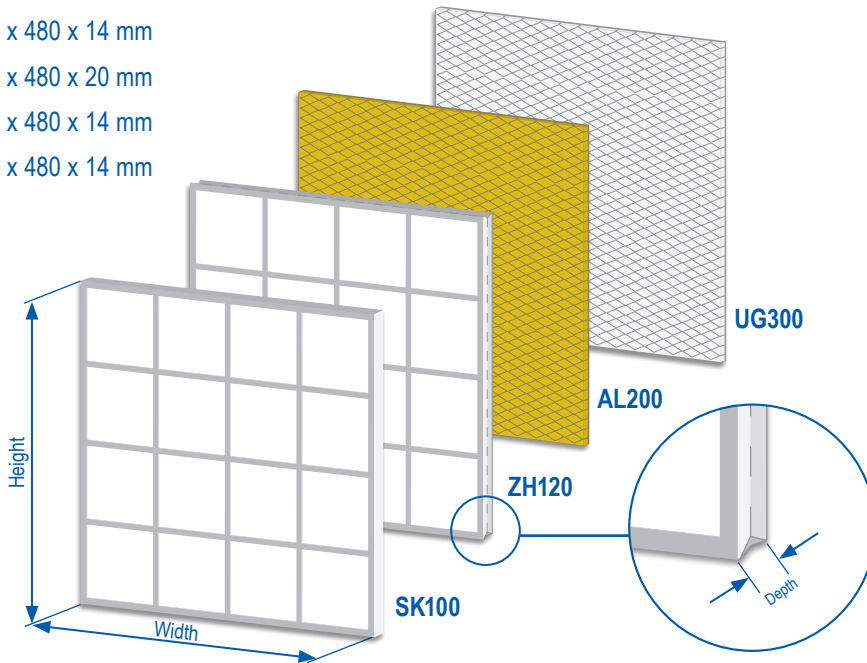
Standard versions filterpacks G4 - F5

- **SK100:** dimension 480 x 480 x 14 mm
- **ZH120:** dimension 480 x 480 x 20 mm
- **AL200:** dimension 480 x 480 x 14 mm
- **UG300:** dimension 480 x 480 x 14 mm

• **Special dimensions**

UG300:

- 610 x 610 x 14 mm
- 595 x 595 x 14 mm
- 472 x 472 x 14 mm
- 240 x 480 x 14 mm



Please order in the following sequence: Width x Height x Depth

Details for dimension 480 x 480 mm

Product	Filter class	Depth	Initial pressure drop	Recommended final pressure drop	Nominal air flow rate	Average arrestance	Average efficiency (0,4µm)
		mm	Pa	Pa	m ³ / h	%	%
UG300	G4	14	70	250	1000	≥ 90	-
SK100	F5	14	50	250	350	-	40 - 60
ZH120	F5	20	60	250	350	-	40 - 60
AL200	F5	14	65	250	350	-	40 - 60

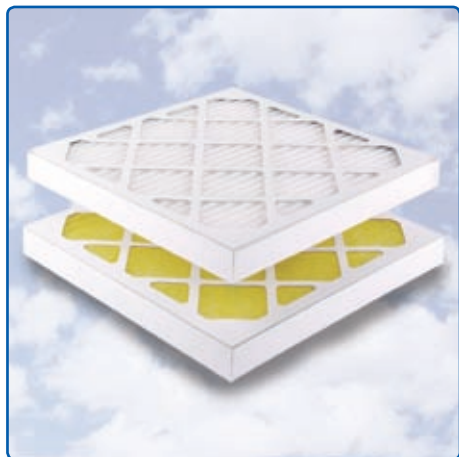
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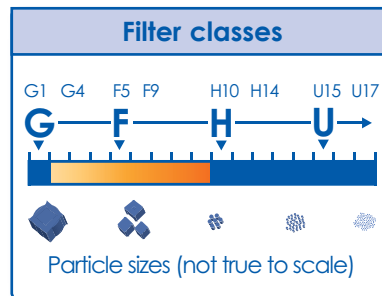
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Frame filter



Applications

- For pre- and fine dust filtration in
 - Aerial engineering plants and devices of all kinds
 - Air conditioning and paint shops

Classification acc. to EN 779

- Panel filter **G2**
- Panel filter **G3**
- Panel filter **G4**
- Panel filter **F5**
- Z-Line **G4**
- Z-Line **F5**
- Z-Line **F6**
- Z-Line **F7**
- Z-Line **F8**
- Z-Line **F9**

Versions

- Standard sizes with stamped cardboard frame (G4 only)
- Special sizes on request
- Frame types: cardboard frame, galvanized metal frame, aluminium frame, plastic frame
- Panel filters also available as "Dust-Stop" version
- Optional with gasket
- Z-Line special sizes or with fine filtration media are additionally equipped with metal expanded mesh on clean air side

Material characteristics

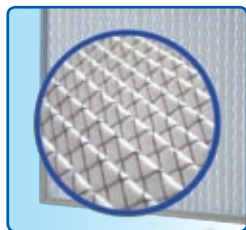
- Tested according to EN 779
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of frame

Benefits of VOLZ Filters



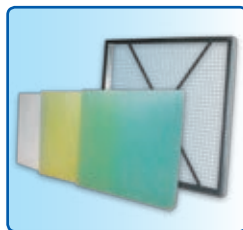
Z-line characteristics

- Big filter area in small required space



Z-line Ex-Protect

- Z-line is also available as Ex-Protect version for aerial engineering plants of Ex-Schutz zones 1 and 2 (only metal frame)
- With metal expanded mesh on both sides
- Electroconductive medium



Combination possible

- Changing frame (only metal frame) can be used with several filter mats



- Filter media is produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Standard versions frame filter G2 - F9			
Width x Height	Depth	Filter area panel filter	Filter area Z-line
	mm	m ²	m ²
290 x 594 mm	24**	0.17	*
	48	0.17	0.6
	96	0.17	1.0
393 x 495 mm	24**	0.19	*
	48	0.19	0.7
	96	0.19	1.3
393 x 622 mm	24**	0.24	*
	48	0.24	0.9
	96	0.24	1.3
495 x 495 mm	24**	0.25	*
	48	0.25	0.9
	96	0.25	1.7
495 x 622 mm	24**	0.31	*
	48	0.31	1.1
	96	0.31	1.7
594 x 594 mm	24**	0.36	*
	48	0.36	1.3
	96	0.36	2.0

- Panel filter: G2 - F5
- Z-Line: G4 - F9

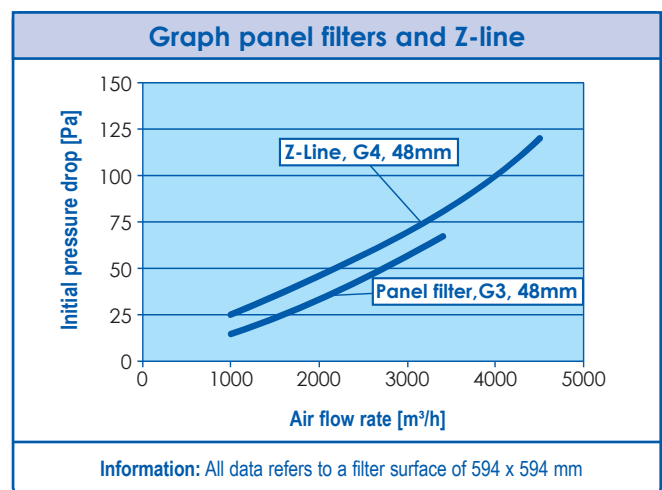
* Special sizes on request

** Cardboard frames with 24 mm
Other frame types with 25 mm

Specification panel filters and Z-line

Please order in the following sequence: Width x Height x Depth

Panel filter Dust-Stop 594 x 594 x 48mm; G3		Z-line - filter 594 x 594 x 48mm; G4	
Initial pressure drop (Pa)	35	Initial pressure drop (Pa)	85
Recommended final pressure drop (Pa)	250	Recommended final pressure drop (Pa)	250
Nominal air flow rate (m ³ /h)	2000	Nominal air flow rate (m ³ /h)	3400
Average arrestance (%)	80 - 90	Average arrestance (%)	≥ 90



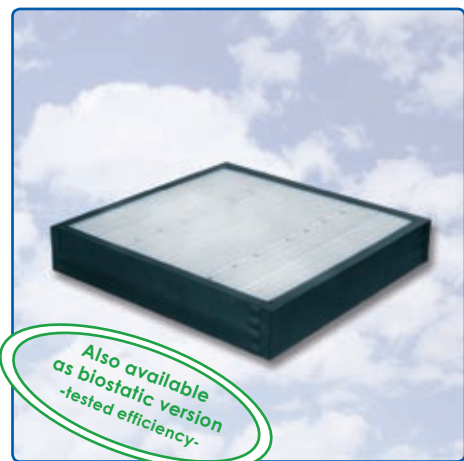
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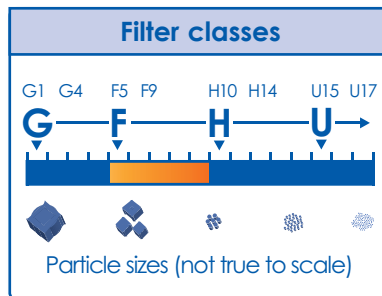
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CONFIDENCE IN TEXTILES
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 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein



CompaPleat



Applications

- For filtration in aerial engineering plants of all kinds
- Offices, hospitals, computer centers
- Pharmaceutical industry, fine mechanics and food industry
- Prefiltration, e.g. for HEPA filters
- High air flow rates, small heights, applicable in limited spaces especially for compact devices

Classification acc. to EN 779

- Filter class F5
- Filter class F6
- Filter class F7
- Filter class F8
- Filter class F9

Versions

- Frame types: plastic frame, plastic frame with header, cardboard frame, galvanized steel frame
- Other frame types on demand
- Plastic and cardboard frames are fully incinerable
- Optional with foamed hygiene-gasket
- Optional in biostatic version
- Standard sizes see next page
- Special sizes on request

Material characteristics

- Tested and certified by ILH Berlin
- Tested according to EN 779
- Shatter-proof synthetic fibres
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to 80°C depending on type of frame
- Lacquer compatibility according to IPA-control

Benefits of VOLZ Filters

Characteristics

- Big filter area in small required space
- High dust holding capacity
- Long durability

Combined filter

- Two filter classes can be combined in one holding frame
- Saves costs and space
- Easy to use

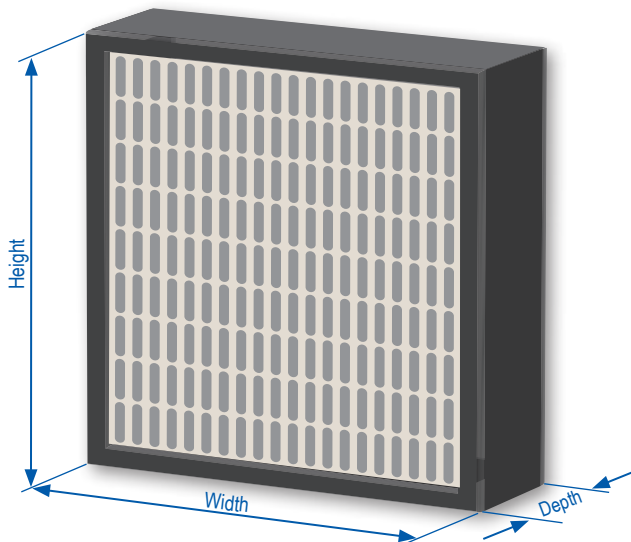
Hygiene-gasket (optional)

- Hygiene-gasket on CompaPleat frame available on clean air side or on dust air side
- Abrasion-resistant, contains no silicone, closed porous

- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

Standard versions CompaPleat F5 - F9

Width	Height	Depth	Filter area	Nominal air flow rate
mm	mm	mm	m ²	m ³ /h
592	592	48	5.5	2500
490	592	48	4.5	2075
287	592	48	2.75	1250
592	592	96	7.5	3350
490	592	96	6.0	2775
287	592	96	3.5	1675

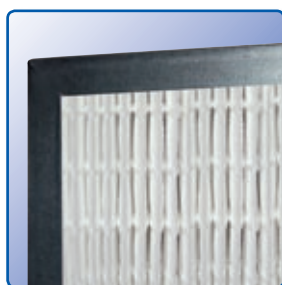


Information: Width dimension and height dimension are interchangeable. All values according to DIN EN 779

Please order in the following sequence: Width x Height x Depth

Frame example CompaPleat

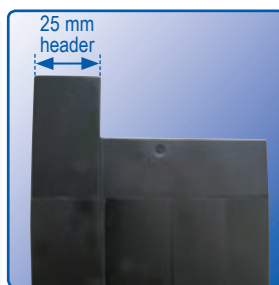
Depending on application or usage, it is possible to choose the frame model depending on individual requirements



version with metal frame



version with plastic frame



version with plastic frame and header (only in 96mm)



special version with aluminium frame

Information: For "CompaPleat with header" version, description "header at clean air side" or "header at dust air side" is necessary

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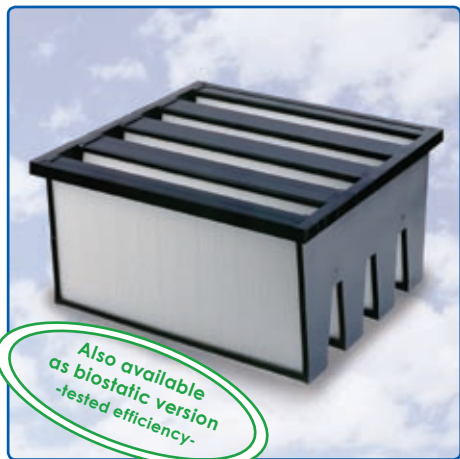
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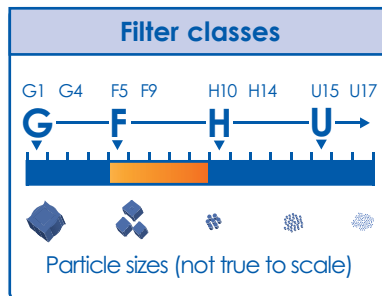
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Compact filter



CONFIDENCE IN TEXTILES
 Geprüft auf Schadstoffe
 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein



Applications

- For filtration in aerial engineering plants of all kinds
- Offices, hospitals, computer centers
- Pharmaceutical industry, fine mechanics and food industry
- Prefiltration, e.g. for HEPA filters
- For high air flow rates and a long durability

Classification acc. to EN 779

- Filter class F5
- Filter class F6
- Filter class F7
- Filter class F8
- Filter class F9

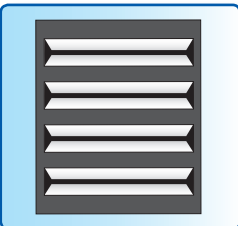


Versions

- All frame components are made from plastic
- Optional in biostatic version
- Optional with gasket
- Fully incinerable version

Material characteristics

- Tested and certified by ILH Berlin
- Tested according to EN 779
- Secure installation through shatter-proof synthetic fibres
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to 60°C
- Lacquer compatibility according to IPA-control

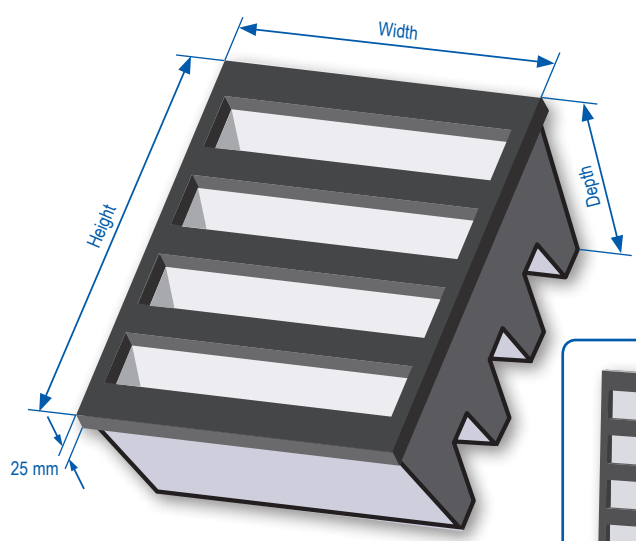
Benefits of VOLZ Filters

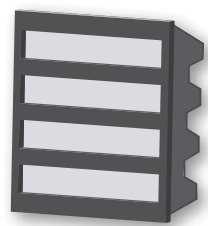
 <p>Form stability</p> <ul style="list-style-type: none"> Extremely stable welded casing 	 <p>Filter package</p> <ul style="list-style-type: none"> Big filter area in small required space High dust holding capacity Long durability High performance fleece High pressure load (3500 Pa) 	 <ul style="list-style-type: none"> Filter media is produced in-house Quality control of the complete production with internal filter test equipment and modern quality-management-tools Öko-Tex Standard 100 - tested for harmful substances Environment-friendly and easily disposable
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Compact filter

Standard versions compact filter F5 - F9

Width	Height	Depth	Filter surface
mm	mm	mm	m ²
592	592	292	19
490	592	292	15
287	592	292	9.5



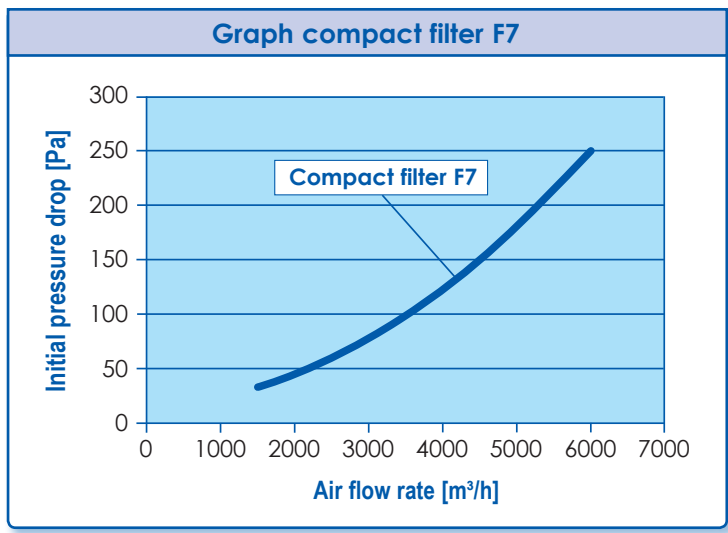


Recommended installation for 592 x 592 x 292 mm
(With temperatures up to 60 C)

Please order in the following sequence: Width x Height x Depth

**Compact filter; F7
592 x 592 x 292 mm; 8 filter packs**

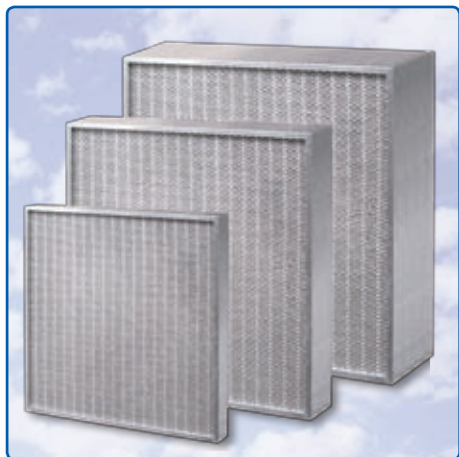
Nominal air flow rate (m ³ /h)	3400	5000
Initial pressure drop (Pa)	95	180
Recommended final pressure drop (Pa)	650	
Average efficiency (0.4µm) (%)	80 - 90	
Filter area (m ²)	19	
Information: The recommended final pressure drop for compact filters is 650 Pa (filter classes F5 - F9)		



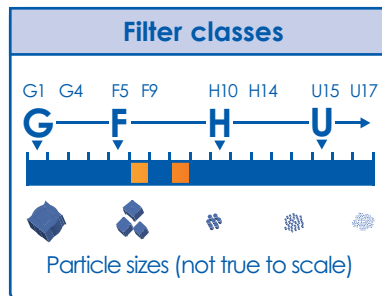
VOLZ Luftfilter GmbH & Co. KG

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High temperature filter (HT-filter)



Applications

- Filtration of supply air in drying units in paint and surface technology
- Hot air filtration and for difficult operating conditions in industrial ventilation systems
- Filtration of supply air in drying ovens and ovens in pharmaceutical and food industry as well as in microelectronic industry
- High air flow rates in small heights and limited space

Classification acc. to EN 779

- Filter class F6
- Filter class F8

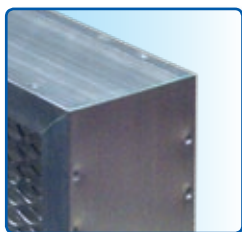
Versions

- Commercial standard sizes for frame depths of 22 mm, 40 mm, 55 mm, 78 mm and 150 mm
- Clean air side and dust air side with protection against handling (Clean air side no possibility of nitrate deposit)
 - **Variant 1** - Standard protection grid:
Protection grid clean air = Steel (aluminized)
Protection grid dust air = Steel (galvanized)
 - **Variant 2** - Premium protection grid:
Protection grid clean air = Stainless steel
Protection grid dust air = Aluminium

Material characteristics

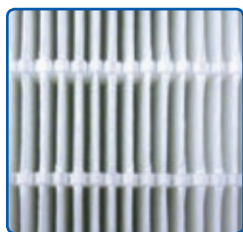
- Tested according to EN 779
- Glass fibre media
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 230°C
- Spacer (separators): Glass fibre paper
- Contains no silicone or other lacquer harming substances

Benefits of VOLZ Filters



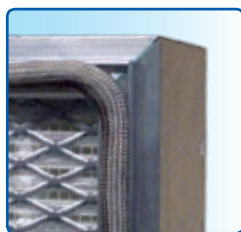
Form closed connection

- Warp resistant frame by positive fitted grouting under pressure
- Mitered Gasket between frame parts



Minipleat Technology

- Free from glue
- Minipleat technology displacing aluminium separators
- High safety against break through



Form-fitted fixed glass fibre gasket

- No disarrangement of gasket through form-fitted fixation

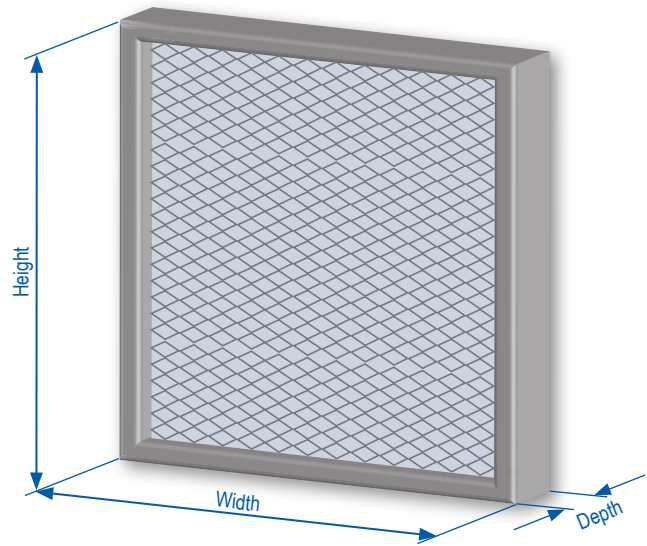


- Filter is produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Standard versions high temperature filter (HT-filter) F6 and F8

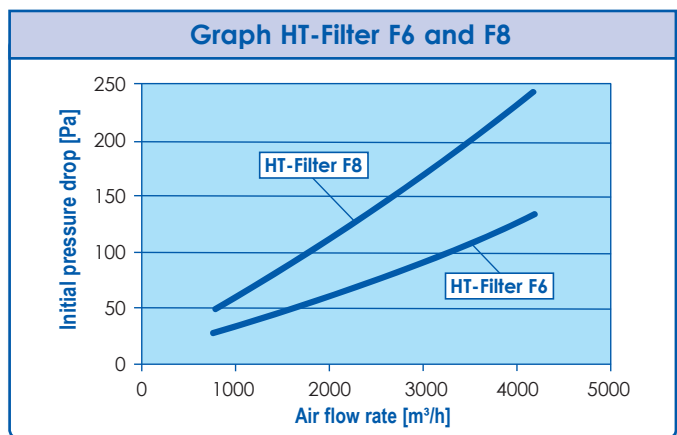
Dimensions	Filter class	Filter area (frame type*)	
		m ²	
		S*	A*
480mm x 480mm x 55mm	F6 or F8	2.51	4.03
490mm x 490mm x 55mm		2.61	4.20
592mm x 592mm x 55mm		3.82	6.14
305mm x 610mm x 55mm		2.03	3.26
610mm x 610mm x 55mm		4.06	6.52
915mm x 457mm x 55mm		4.55	7.31
<hr/>			
480mm x 480mm x 78mm	F6 or F8	3.04	4.48
490mm x 490mm x 78mm		3.17	4.67
592mm x 592mm x 78mm		4.64	6.82
305mm x 610mm x 78mm		2.46	3.62
610mm x 610mm x 78mm		4.93	7.25
915mm x 457mm x 78mm		5.52	8.12
<hr/>			
305mm x 610mm x 150mm	F6 or F8	2.46	4.71
610mm x 610mm x 150mm		4.93	9.42
915mm x 457mm x 150mm		5.52	10.55

*Frame types: S=Galvanized Steel A=Aluminium
Both frame types are available in Variant 1 and Variant 2



Please order in the following sequence: Width x Height x Depth

HT-Filter F6 (Aluminium frame) 610 x 610 x 55 mm		HT-Filter F8 (Aluminium frame) 610 x 610 x 78 mm	
Initial pressure drop (Pa)	110	Initial pressure drop (Pa)	200
Recommended final pressure drop (Pa)	450	Recommended final pressure drop (Pa)	450
Nominal air flow rate (m ³ /h)	3400	Nominal air flow rate (m ³ /h)	3400
Average efficiency (0.4µm) (%)	60 - 80	Average efficiency (0.4µm) (%)	90 - 95
Filter area (m ²)	6,52	Filter area (m ²)	7,25



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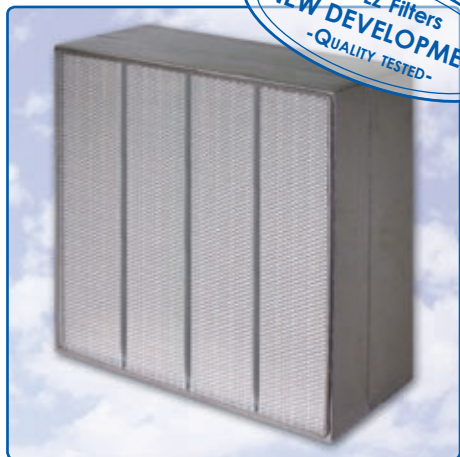
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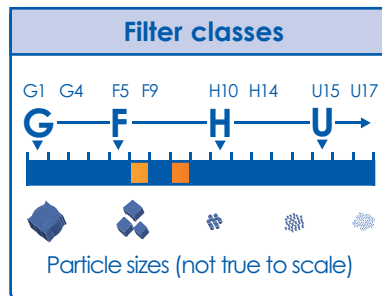
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VOLZ Filters
NEW DEVELOPMENT
-QUALITY TESTED-



High temperature filter (HT-filter) for 292 mm installation depths



Applications

- Filtration of supply air in drying units in paint and surface technology
- Hot air filtration and for difficult operating conditions in industrial ventilation systems
- Filtration of supply air in drying ovens and ovens in pharmaceutical and food industry as well as in microelectronic industry
- High air flow rates in small heights (HT-292 in the basis frame) and limited space

Classification acc. to EN 779

- Filter class F6
- Filter class F8

Versions





- Frame depths 292 mm (HT-292)
- Frame material with galvanized steel
- Clean air side and dust air side with protection against handling (Clean air side no possibility of nitrate deposit)
 - **Variant 1** - Standard protection grid:
Protection grid clean air = Steel (aluminized)
Protection grid dust air = Steel (galvanized)
 - **Variant 2** - Premium protection grid:
Protection grid clean air = Stainless steel
Protection grid dust air = Aluminium

Material characteristics

- Tested according to EN 779
- Glass fibre media
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 230°C (380°C*)
- Spacer (separators): Glass fibre paper
- Contains no silicone or other lacquer harming substances

* Please not the instruction of temperatures. These is separately available.

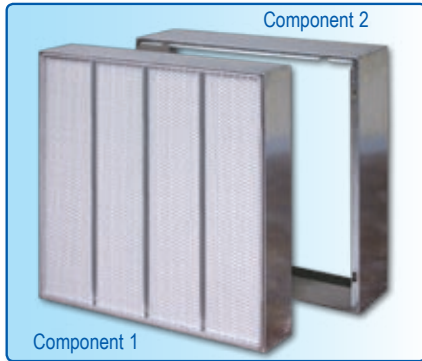
Benefits of VOLZ Filters

 <p>Balancing frame</p> <ul style="list-style-type: none"> ▪ The optional balancing frame can be reused and is protecting the environment 	 <p>Strengthening frame</p> <ul style="list-style-type: none"> ▪ Strengthening frame with angle bracket profiles preventing the deflecting of filter in high air flow rates 	 <p>Form-fitted fixed glass fibre gasket</p> <ul style="list-style-type: none"> ▪ No disarrangement of gasket through form-fitted fixation 	 <ul style="list-style-type: none"> ▪ Filter is produced in-house ▪ Quality control of the complete production with internal filter test equipment and modern quality-management-tool
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HT-filter - for 292 mm installation depths

Application example HT-292

Both components of the HT-292 filter (standard version) will be delivered and assembled complete with the first order. With the second delivery it is only necessary to order component 1. The following pictures showing how to assemble the components.



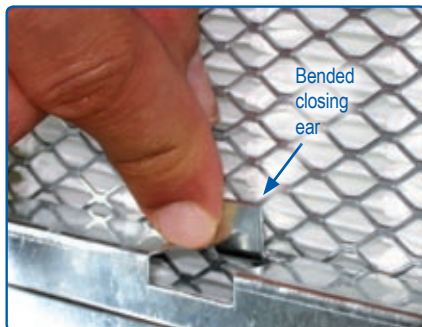
Component 1: HT-Filter with basis frame
Component 2: Balancing frame



The frames are fitted together

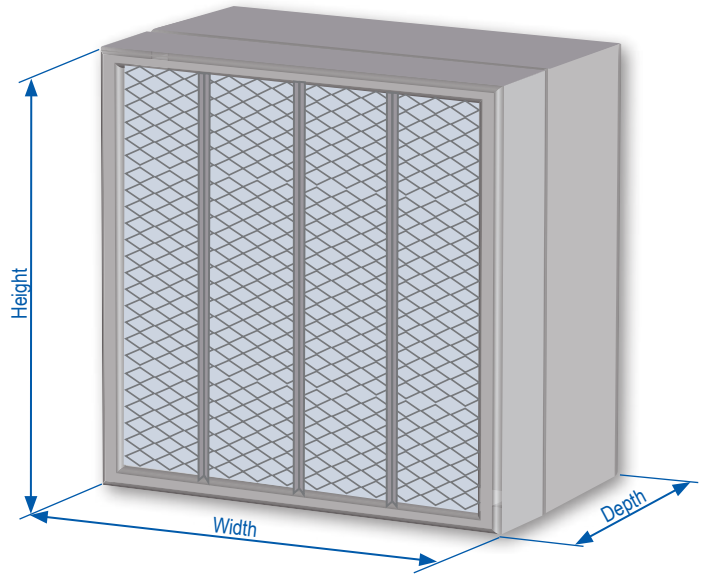


Putting the frames with pushing into position



Form-fitted combination and fixation with bending of the closing ear

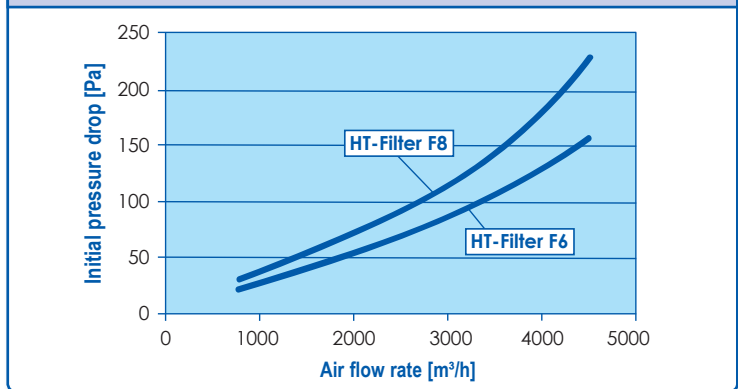
HT-292 – Version F6 and F8



Width	Height	Depth	Filter area
610 mm	610 mm	292 mm	12.9 m ²
305 mm	610 mm	292 mm	6.45 m ²

HT-Filter F6 610 x 610 x 292 mm		HT-Filter F8 610 x 610 x 292 mm	
Initial pressure drop (Pa)	110	Initial pressure drop (Pa)	140
Recommended final pressure drop (Pa)	450	Recommended final pressure drop (Pa)	450
Nominal air flow rate (m ³ /h)	3400	Nominal air flow rate (m ³ /h)	3400
Average efficiency (0.4µm) (%)	60 - 80	Average efficiency (0.4µm) (%)	90 - 95
Filter area (m ²)	12.9	Filter area (m ²)	12.9

Graph HT-Filter F6 and F8



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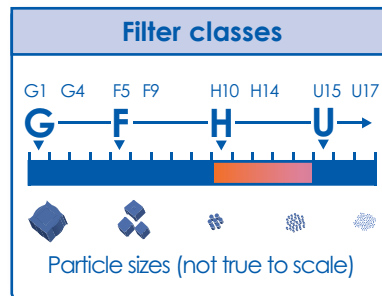
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HEPA filter



Applications

In clean rooms for:

- Research
- Medicine
- Pharmacy
- Electrotechnology
- Microtechnology

Classification acc. to EN 1822

- Filter class H10
- Filter class H11
- Filter class H12
- Filter class H13
- Filter class H14

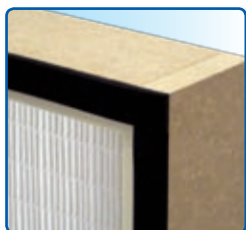
Versions

- Frame types:
MDF frame, extruded aluminium frame, plastic frame, steel plate with powder coating, galvanized steel frame
- Standard depths: 78 mm, 150 mm, 292 mm
- Special sizes on request
- Gaskets: several versions
- Filter media is cast in frame
- On demand with scan-test-protocol

Material characteristics

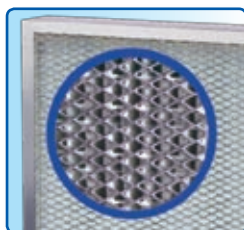
- Tested according to EN 1822
- Humidity resistant up to 100% r. h. (depending on version)
- Temperature resistant up to max. 70°C
- Contains no silicone

Benefits of VOLZ Filters



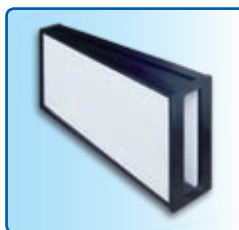
Gaskets for every application

- Standard: with flat section gasket
- On demand with test groove gasket, fluid gasket or foamed continuous gasket available



Handle protection

- Handle protection for secure installation on one side/ both sides on demand (avoids damage of glass fibre media)



Wedge-shaped filter



Compact cassette filter

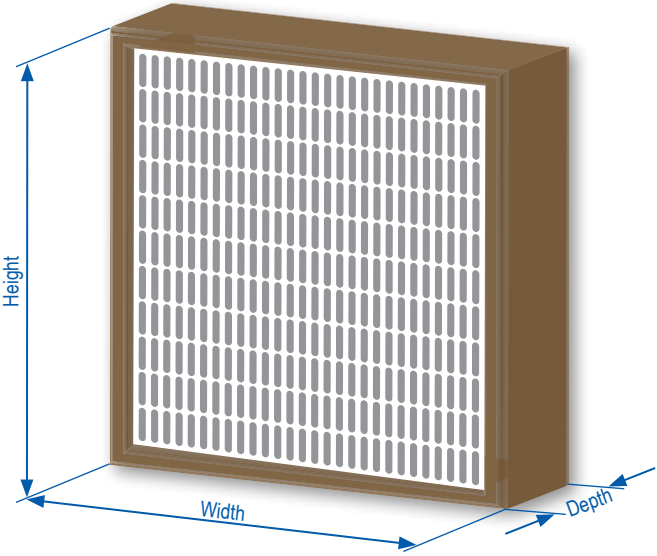


- Available in several versions and dimensions



Filter box

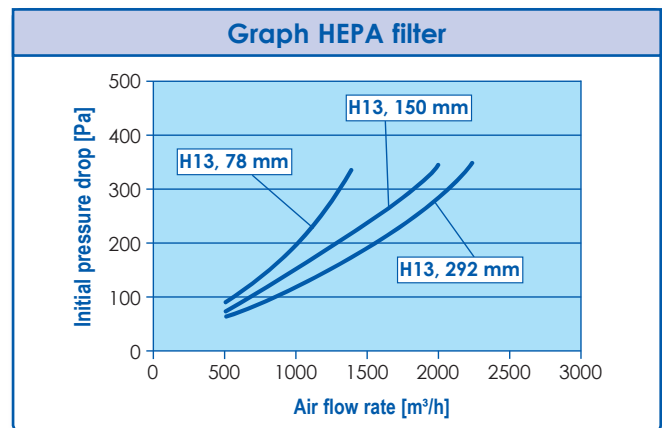
Standard versions HEPA filter H10 - H14				
Width	Height	Depth	Filter area*	Nominal air flow rate*
mm	mm	mm	m ²	m ³ /h
305	305	78	2.7	270
305	610	78	5.7	560
610	610	78	12	1200
305	305	150	3.2	330
305	610	150	6.8	670
610	610	150	14.5	1450
305	305	292	4.4	460
305	610	292	9.2	940
610	610	292	20	2000



Please order in the following sequence: Width x Height x Depth

Information: Width and height dimension are changeable
*Version with MDF-frame

HEPA filter H10 - H14	610 x 610 mm depth: 78 mm	610 x 610 mm depth: 150 mm	610 x 610 mm depth: 292 mm
Initial pressure drop (Pa)	250	215	280
Recommended final pressure drop (Pa)	600	600	600
Nominal Air flow rate (m ³ /h)	1200	1450	2000
Arrestance for MPPS (%)	≥ 99.95	≥ 99.95	≥ 99.95
Filter area (m ²)	12	14,5	20



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SepaPaint

SepaPaint



Applications

- For use in separation of ink mist in paint shops and colour spraying cabins
- For use in metal industry, furniture industry, plastic industry, automotive and food industry
- Prefiltration for "Paint-Stop" filter mats for extended durability
- For products like primer, primer surfacer, 2 component lacquer, polyester, wax, tar, glue, adhesive, teflon, polyurethane, silicone, chocolate

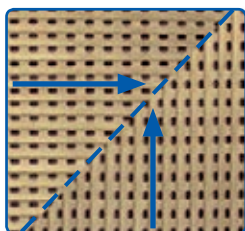
Material characteristics

- Self-rigid due to special pleating geometry and high-quality cardboard
- Humidity resistant up to 100% r. h.
- Temperature resistant up to 100°C
- Arrestance up to 98% (depending on used lacquer)

Versions

- Heights: 750 mm, 900 mm, 1000 mm
- Special sizes on request
- Optional: flame-retardant according to DIN 53438 (F1/K1)
- Optional: water-repellent

Vorteile bei VOLZ Luftfilter



Ways of installation

- Vertical and horizontal installation possible
- Can be combined with "Paint-stop"



Cost saving

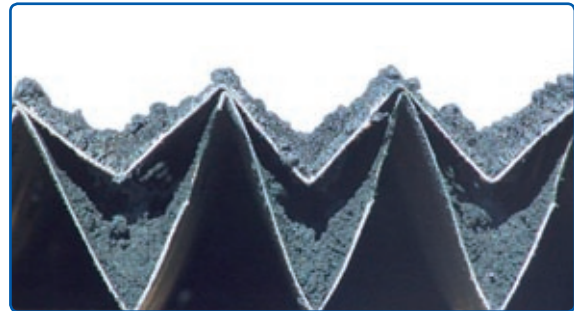
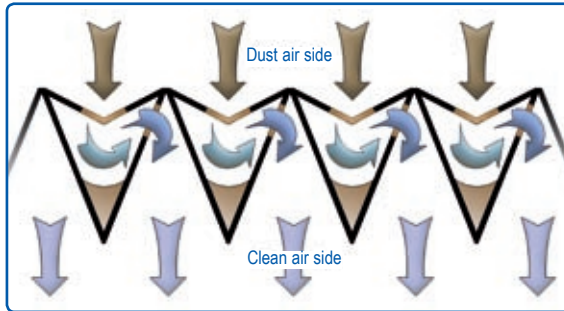
- In contrast to deflectors there is no extensive maintenance necessary while perceiving a better arrestance
- Washout systems cause considerably higher costs for investment, operation, maintenance and disposal compared to SepaPaint



- Quality control with internal filter test equipment and modern quality-management-tools
- Environment-friendly and easily disposable

The functional principle of „SepaPaint“

Particle-loaded air flow must change its direction several times due to filter construction. Particles heavier than air stick to the walls of “SepaPaint” filter due to centrifugal forces, while cleaned air flow moves through outlets. Pleated construction offers minimum air resistance with a maximum capacity to store overspray



Standard versions SepaPaint

approx. length	Height	Filter area (approx.)	Initial pressure drop at 0.5 m/s	Initial pressure drop at 0.75 m/s	Initial pressure drop at 1.0 m/s	Recommended final pressure drop	Paint mist separation arrestance at 0.75 m/s ¹
m	mm	m ²	Pa	Pa	Pa	Pa	%
13	750	9.75	20	40	70	130	91 - 98
11	900	9.9	20	40	70	130	91 - 98
10	1000	10	20	40	70	130	91 - 98

Information:

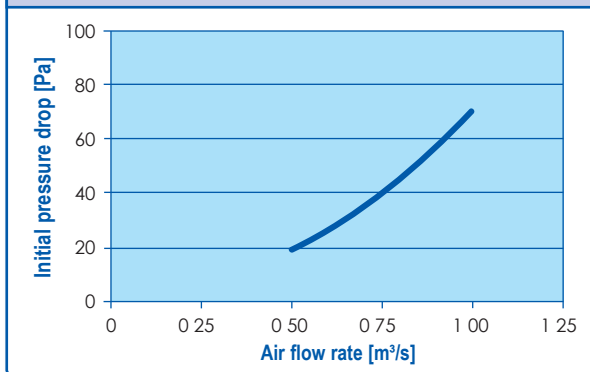
Technical data is identical for standard-, water resistant-, and flame retardant versions

¹Arrestance of overspray depends on paint consistency, concentration, temperature and type of ink mist

Application example SepaPaint



Graph SepaPaint



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Activated coal cartridges and equipment

Activated coal cartridges

Applications

For purification of supply air-, exhaust air- and circulating air streams from harmful gases, steams and bad smells in

- Canteen kitchens, museums
- Hospitals, laboratories, computer areas
- Chemical industry, paintshops, airports, petrol stations, parking garages

Cartridge structure

- Layer thickness: 26 mm
- Outer diameter: 145 mm
- Smoke-active extruded carbon mould block
- Stick length: 4 - 10 mm

Versions

- Cartridge casing material:
 - Galvanized steel
 - Stainless steel 1.4301
 - Plastic (only 2600K)
- Cartridge filling:
 - untreated coal
- All versions with bayonet closure

Equipment

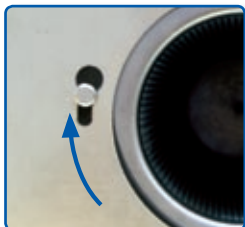
- Holding frame material:
 - Galvanized steel
 - Stainless steel 1.4301
 Compatible for cartridge types V1000, V2600 and V3500
- Optional with cartridge key

Contact time* (formula)

$$\text{Contact time } (t_k[s]) = \frac{\text{coal volume [m}^3]}{\text{air flow rate [m}^3/\text{h}]} \times 3600$$

Support: 1m³ = 1000l

Benefits of VOLZ Filters



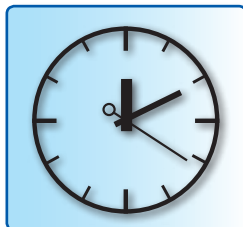
Easy to use

- All cartridges are delivered with bayonet closure. The activated coal cartridge can be changed by using the "push and turn" principle



Environment-friendly and easily disposable

- Cartridges in galvanized steel and high grade steel can be replenished
- Cartridges in plastic version are fully incinerable (unproblematic charging assumed)



Contact time*

- Contact time should be between 0.1 and 2.0 seconds
- Contact time should not be below 0.1 seconds. Therefore air volume for a filter system with 16 cartridges must not be higher than 2000 m³/h (type V2600)

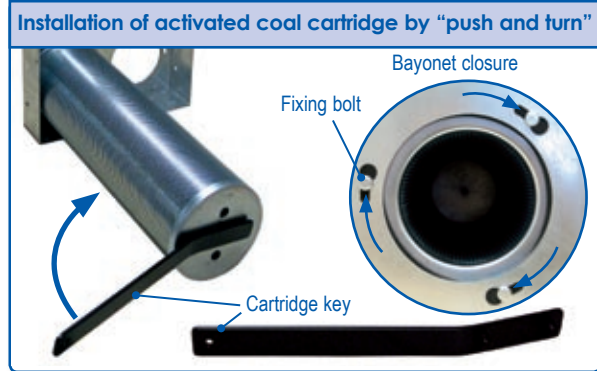
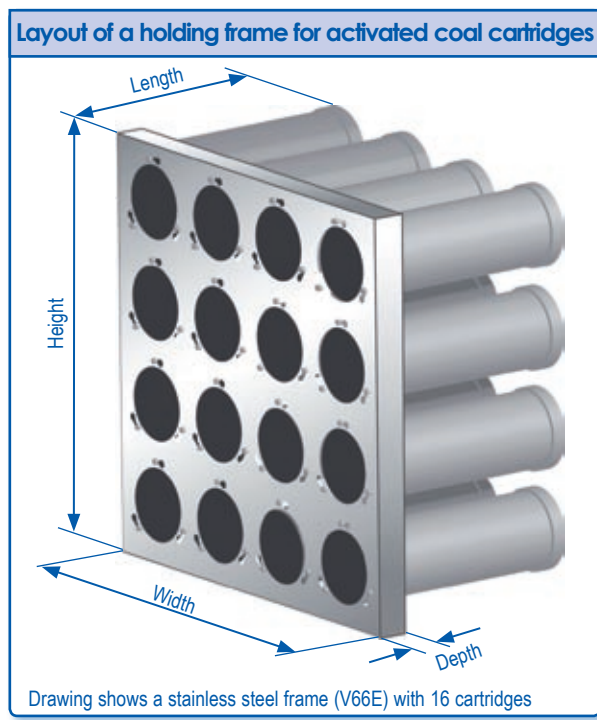
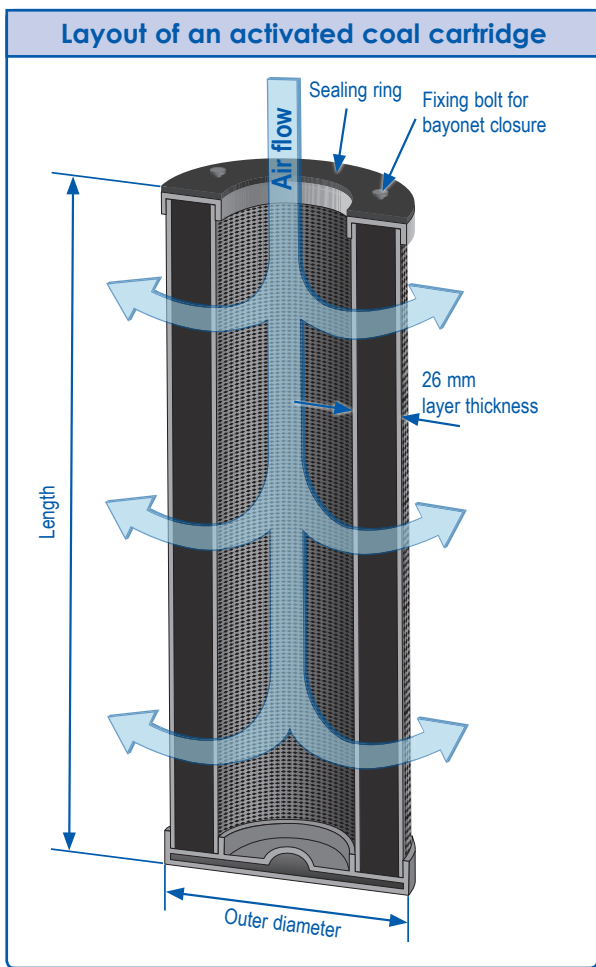


Material-characteristics:

- Filtration of gases and steams
- Humidity resistant up to 70% r. h.
- Temperature resistant up to max. 70°C

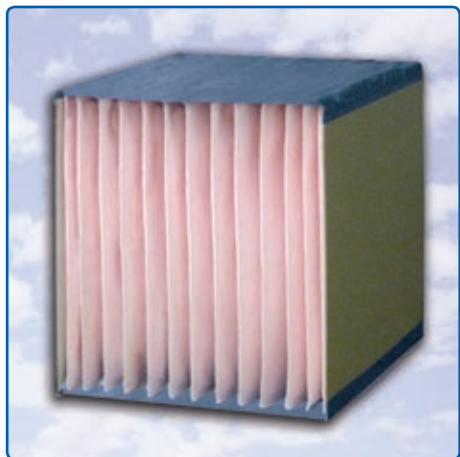
Standard versions activated coal cartridges							
Outer diameter	Length	Casing	Cartridge type	Filling volume	Filling capacity	Layer thickness	
mm	mm			litre	kg	mm	
145	250	Galvanized steel	V1000S	2.9	1,45	26	
145	250	Stainless steel 1.4301	V1000E	2.9	1,45	26	
145	457	Galvanized steel	V2600S	4.3	2,15	26	
145	457	Stainless steel 1.4301	V2600E	4.3	2,15	26	
145	457	Plastic	V2600K	4.3	2,15	26	
145	600	Galvanized steel	V3500S	5.7	2,85	26	
145	600	Stainless steel 1.4301	V3500E	5.7	2,85	26	

Standard holding frame for activated coal cartridges							
Frame width	Frame height	Frame depth	Material	Type	Compatible for cartridge type	Number of cartridges per frame	
mm	mm	mm					
610	610	75	Galvanized steel	V66VS	V1000	16	
508	610	75	Galvanized steel	V56VS		V2600	12
305	610	75	Galvanized steel	V36VS	V3500	8	
305	305	75	Galvanized steel	V33VS		4	
610	610	75	Stainless steel 1.4301	V66E	V1000	16	
508	610	75	Stainless steel 1.4301	V56E		V2600	12
305	610	75	Stainless steel 1.4301	V36E	V3500	8	
305	305	75	Stainless steel 1.4301	V33E		4	



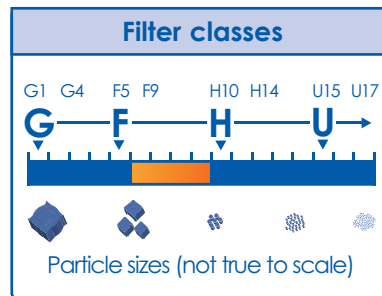
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CONFIDENCE IN TEXTILES
 Geprüft auf Schadstoffe
 Testé substances nocives
 Control de sustancias nocivas
 Tested for harmful substances
 Проверен на вредные вещества
 nach / d'après / según / according to /
 согласно Oeko-Tex® Standard 100
 06.0.44570 Hohenstein

Basket filter



Applications

For fine dust filtration in heat ventilation and air conditioning devices and plants of all kinds

- Offices, hospitals, computing centres
- Pharmaceuticals, fine-mechanical and food industry
- Prefiltration, e.g. for HEPA filters

Classification acc. to EN 779

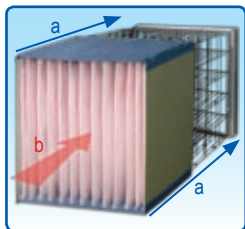
- Filter class F6 - green version
- Filter class F7 - pink version
- Filter class F8 - yellow version
- Filter class F9 - white version



Material characteristics

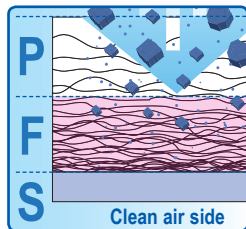
- Tested according to EN 779
- Shatter-proof synthetic fibres, environmentally safe
- Fire prevention requirements according to DIN 53438 (F1)
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C
- All versions are fully incinerable

Benefits of VOLZ Filters



Easy put over installation

- a: put over direction
- b: air flow



3-layer media

- P: Pre-filter for rough dust
- F: Fine filter grade
- S: Synthetic layer on clean air side for stabilization
- Best arrestance
- Low pressure loss



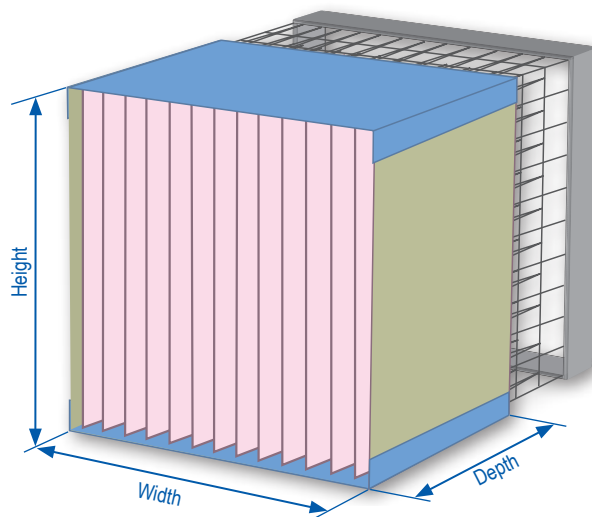
Big filter area through 13 pockets

- Optimal dust absorption of pockets through fixed adjustment on supporting frame



- Filter media and all components are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Öko-Tex Standard 100 - tested for harmful substances
- Environment-friendly and easily disposable

Standard versions basket filter F6 - F9					
Filter class	Width	Height	Depth	Filter area	Nominal air flow rate
	mm	mm	mm	m ²	m ³ /h
F6	587	587	640	9.8	3400
F7	587	587	640	9.8	3400
F8	587	587	640	9.8	3400
F9	587	587	640	9.8	3400



Please order in the following sequence: Width x Height x Depth

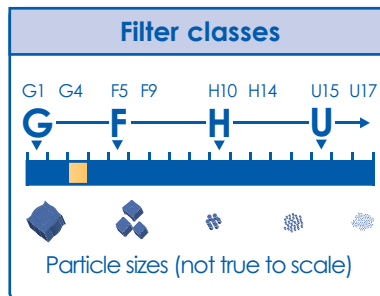
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Roller tape filter



Applications

- Deliverable Systemes:
AAF / CEAG
FARR / SHIRP
DELBAG
TROX
- Media:
- Synthetic fibre
- Glass fibre with Dust-adhesive

Material characteristics

- Tested according to EN 779
- Humidity resistant up to 100% r. h.
- Temperature resistant up to max. 80°C depending on type of media

Benefits of VOLZ Filters

Compatibility

- VOLZ roller tapes are suitable for all current roller tape systems

- Quality control of the complete production with internal filter test equipment and modern quality-management-tools
- Environment-friendly and easily disposable

Synthetic filter media are produced in-house

Classification acc. to EN 779

- Filter class **G3**

Anwendungen

- For separation of rough dust in air conditioning plants

System	Media	Filter classes	Dimension	Role length	Role width
				m	m
AAF / CEAG Metal bobbin with side-discs	Synthetic/glass	G3 (EU3)	3	20	0.836
		G3 (EU3)	4	20	1.141
		G3 (EU3)	5	20	1.446
		G3 (EU3)	6	20	1.751
		G3 (EU3)	7	20	2.056
FARR / SHIRP Cardboard bobbin	Synthetic/glass	G3 (EU3)	3	20	0.838
		G3 (EU3)	4	20	1.143
		G3 (EU3)	5	20	1.448
		G3 (EU3)	6	20	1.753
		G3 (EU3)	7	20	2.058
TROX Cassette	Synthetic/glass	G3 (EU3)	A	20	0.950
		G3 (EU3)	B	20	1.250
		G3 (EU3)	C	20	1.550
		G3 (EU3)	D	20	1.850
		G3 (EU3)	E	20	2.150
DELBAG Cardboard bobbin	Synthetic/glass	G3 (EU3)	1	20	0.810
		G3 (EU3)	2	20	1.110
		G3 (EU3)	3	20	1.410
		G3 (EU3)	4	20	1.710
		G3 (EU3)	5	20	2.010

A square pipe is separately available for DELBAG version

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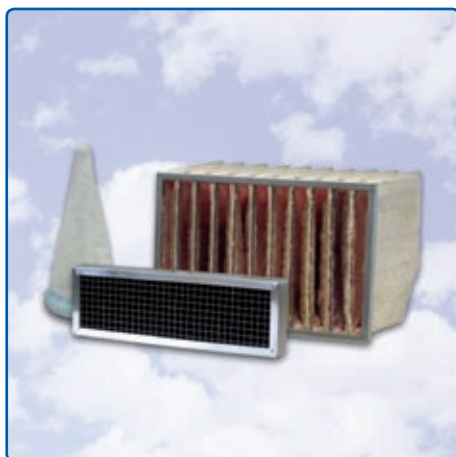
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Extra-/special filter



Applications

- Filter for different sectors of air conditioning and ventilation technology, painting and drying technology as well as filters for rotary equipment

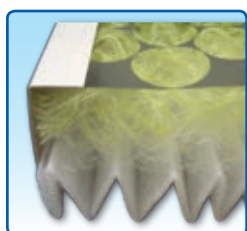
Materials

- Meltblown
- PPI
- Glass fibre
- Activated coal
- Cellulose

Versions

- Non-standard / special filters are available in different versions and dimensions on request

Benefits of VOLZ Filters



Filter combinations

- Different materials and versions can be combined



Flexible production

- Individual small series as well as large order quantities



Speed and flexibility

- Short delivery times and an optimal focusing at our customers



- From fibre to final filter - perfect fulfilment
- Optimal value for money
- Qualified consulting
- Services like:
 - filter management
 - training courses, etc.

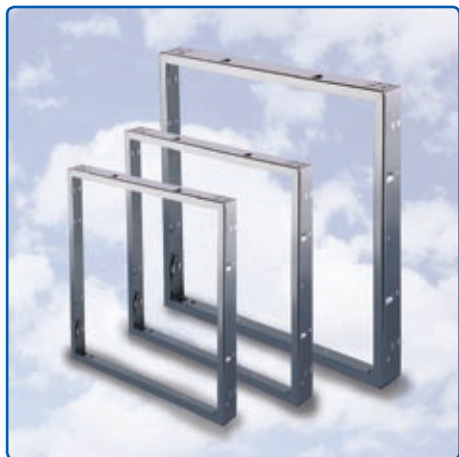
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Holding frame and equipment for filter walls

Holding frame

Applications

- Construction and reconstruction of air conditioning plants. For applications with demanding operating conditions, e.g. in automotive industry or in air conditioning and ventilation technology
- Easy and quick handling through tension spring fastener

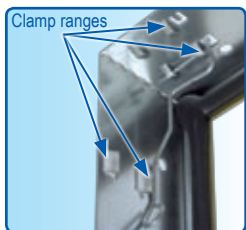
Versions

- Galvanized steel or high grade steel (V2A)
- Optional with foamed hygiene-gasket
- Optional with vacuity-gasket
- Optional with M6 x 10 screw- and screw nuts
- Optional with groove for clip-on installation
- All current standard sizes
- Special sizes on request

Material characteristics

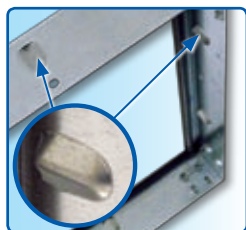
- Leak-free sealing of the filter units
- Stable and solid construction
- Free from lacquer harming substances
- Hygiene-gasket according to VDI 6022
- Lacquer compatibility according to IPA-control

Benefits of VOLZ Filters



Filter combinations

- **Several clamp ranges:**
 - 20 mm and 25 mm
 - 48 mm and 50 mm



Optimal adjustment

- Conical stampings enable an easy installation and centring of the filter. Therefore you get an optimal adjustment and sealing of the filter



Hygiene-gasket (optional)

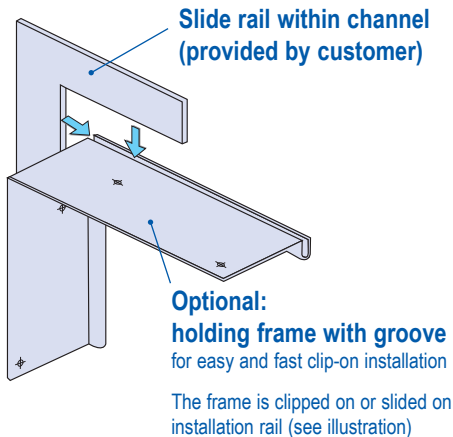
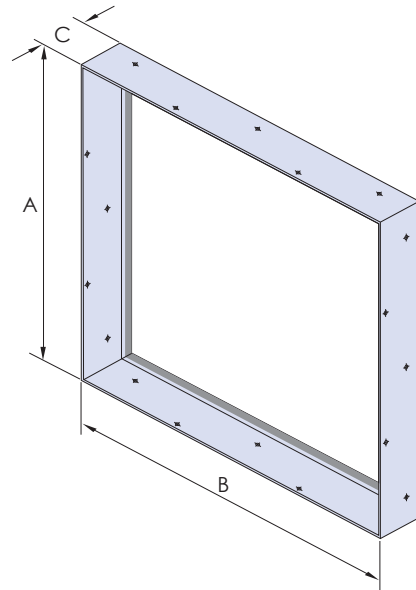
- Hygiene-gasket on holding frame
- Abrasion-resistant, silicone-free, closed porous



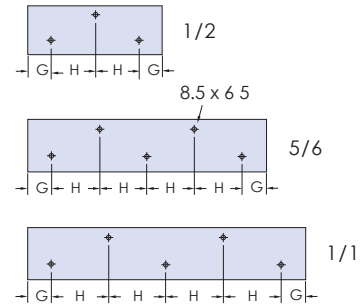
- Holding frame and equipment are produced in-house
- Quality control of the complete production with internal filter test equipment and modern quality-management-tools

Standard versions holding frame

Format	A	B	C	G	H
Dimensions in mm					
1/1	610	610	70	55	125
5/6	610	508	70	55	99.5
1/2	610	305	70	55	99.5
1/4	305	305	70	55	99.5

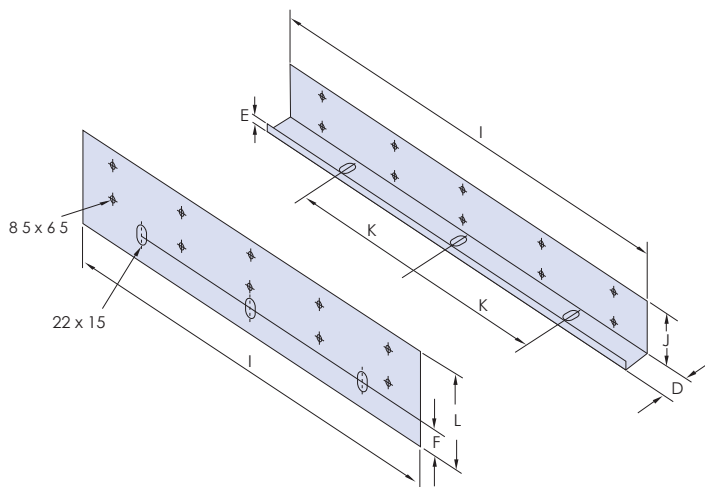


Details of hole pattern:



Modular installation system – fittings and stabilization sheets

Filter combinations	1 x 1/1	1 x 1/1	2 x 1/1	2 x 1/1	3 x 1/1	3 x 1/1	4 x 1/1	4 x 1/1	5 x 1/1
		1 x 1/2	1 x 5/6		1 x 1/2		1 x 1/2		1 x 1/2
I in mm	915	1118	1220	1525	1830	2135	2440	2745	3050



Dimensions of fittings and stabilization sheets:

- I = see table above
- J = 77 [mm] D = 40 [mm]
- K = 200 [mm] E = 2 [mm]
- L = 126 [mm] F = 29 [mm]

Hole patterns of fittings and stabilization sheets are compatible with hole patterns of holding frames

Information: Wall thickness of holding frames, fittings and stabilization sheets averages 1.25 mm in standard version in galvanized steel

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General Terms and Conditions of Business – VOLZ Luffilter GmbH & Co. KG

Applicable in respect of:

1. a person who upon contract finalization engages in his/her commercial or self-employed activities (business person);
2. a legal entity under public law or a special fund under public law.

I. General

1. All deliveries and services will be subject to the present Terms and Conditions of Business and any other separately contracted arrangements. Even after acceptance of the order, any different terms of purchase of the Customer will not become integral components of the contract. Failing specific arrangements, a contract will become finalized with the written order confirmation of the Supplier.
2. The Supplier will retain title and copyright to all samples, quotations, drawings and similar information of physical and non-physical nature, also in electronic form; these will not be rendered accessible to any third party. The Supplier undertakes only to allow third-party access to information and documents designated as classified by the Customer subject to the consent of said Customer.
3. The costs of samples and drafts produced at the request of the Customer will be refunded to the Supplier. If a delivery is based on samples, no guarantee will be given for 100% conformity therewith.
4. The description of goods in prospectuses or other documentation will not embody any guarantee as defined in Section 443 (1) BGB [German Civil Code].

II. Price and Payment

1. The prices will be subject to change and failing specific arrangement will apply ex works (ex works, Incoterms 2000) including packaging and loading at the works, yet excluding unloading. Sales tax in the respective amount required by law will be added to the prices.
2. Failing specific arrangement, payment will be immediate upon the receipt of the goods without any deduction to the account of the Supplier. The Supplier will also be entitled to deliver only in return for advance payment. Representatives of the Supplier will not be entitled to receive payments. The right is retained to accept cheques or bills. With the deposit of bills, all disbursements and interest will be charged to the Customer.
3. The Customer will only be entitled to retain or offset payment against counterclaims to the extent its counterclaims are undisputed or have been established by declaratory judgment.
4. Should the Customer default in payment, the Supplier will be entitled to call for the immediate payment of all amounts not yet due and the amounts owed. Should we be entitled by law or by contract to the payment of interest, an interest rate of 4% in excess of the respective basic banking rate of the European Central Bank will apply, subject to further claims to compensation.

III. Timeframe and Scope of Delivery

1. The delivery deadline will be specified in the agreements between the Contracting Parties. Compliance of the Supplier therewith will depend on the clarification of all commercial and technical issues between the Contracting Parties and the satisfaction of all duties for which the Customer is responsible, such as, for example, the procurement of the required official certificates or permits or the rendering of a down-payment. Failing this situation, the delivery deadline will be deferred accordingly. This will not apply if the Supplier is responsible for the delay.
2. Compliance with the delivery period will depend on accurate and timely supplies to the Supplier. The Supplier will give notification of any indication of delay as soon as possible.
3. Compliance with the delivery period will be deemed given when the item to be delivered has left the Supplier's works by the lapse of the delivery period or notification of its readiness for despatch has been made.
4. If the despatch and/or acceptance of the item to be delivered are delayed for reasons for which the Customer is responsible, the Customer will bear all costs generated by the delay starting 2 days after notification of the item's readiness for despatch or for the acceptance procedure.
5. Should failure to comply with the delivery period be attributable to force majeure, industrial strife or other incidents outside the scope of influence of the Supplier, the delivery period will be lengthened accordingly. The Supplier will inform the Customer as soon as possible of the beginning and end of such circumstances.
6. Without setting any specific period of grace, the Customer will be entitled to rescind the contract if the delivery in full becomes ultimately impossible before the transfer of risk. The Customer will also be entitled to rescind the contract if it becomes impossible to carry out one part of the delivery ordered and the Customer has a justified interest in rejecting the partial delivery. Should this not be the case, the Customer will pay the price contracted for the part of the delivery in question. The same will apply in the event of incapacity of the Supplier. In other respects Section VII.2 will apply. Should the impossibility or incapacity evolve during the course of default of acceptance or if the Customer is solely or largely responsible for these circumstances, the Customer will still be bound to render payment.
7. If the Supplier defaults so that the Customer incurs damages, the Customer will be entitled to call for an inclusive indemnity for the delay. For each full week of the delay, this will amount to 0.5% in whole, but 5% at the most of the value of the part of the entire delivery that cannot be used on time or as contracted as a result of the delay. Should after due date the Customer set the Supplier an appropriate period of grace for performance – in the light of the exceptions set down by the law – the Customer will be entitled to rescind the contract subject to the provisions of the law. Farther-reaching claims derived from the default of delivery will be exclusively subject to Section VII.2 of the present Terms and Conditions of Business.

IV. Transfer of Risk, Acceptance Procedure

1. The risk will pass to the Customer once the item to be delivered has left the works of the Supplier, even if delivery is carried out in instalments or the Supplier is providing other services, such as payment of the despatch costs or delivery and installation. Where an acceptance procedure is due, this will be determinant for the transfer of risk. This will take place immediately with the acceptance procedure or alternatively after notification from the Supplier of readiness for acceptance. The Customer will not refuse acceptance in the event an insignificant defect is established. Complaints will be lodged inside one week.
2. If despatch and/or the acceptance procedure is delayed or not carried out owing to circumstances that are not attributable to the Supplier, the risk will pass to the Customer on the day readiness for despatch or the acceptance procedure are notified. The Supplier undertakes to ensure insurance cover at the expense of the Customer, as the Customer requires.
3. Delivery in instalments and excess or short deliveries for specifically manufactured items (up to 10%; for volumes below 100 pieces per type even more) will be admissible, where it is reasonable to expect the Customer to accept them.

V. Retention of Title

1. The Supplier will retain title to the delivered item until all payments from the delivery contract have been received. Should the Customer fail to meet its contractual duties, in particular in the event of default of payment, we will be entitled to rescind the contract and to call for the surrender of the delivered item; the Customer undertakes to surrender the item. The costs of fetching the item back will be borne by the Customer.
2. The Customer will notify the Supplier immediately of any attachments or confiscation or other third-party disposals of the item.
3. Given the retention of title, the Supplier will only be able to call for the surrender of the delivered item if the Supplier has rescinded the contract.
4. The application for the instigation of insolvency proceedings will allow the Supplier to rescind the contract and to call for the immediate return of the delivered item.
5. The Customer will be entitled to resell the delivered item during the course of normal business practice. The Customer herewith now assigns to us all claims to payment to which it is entitled from the resale to a third party to the amount of our invoice value or the value of the delivered item to which we retain title. We herewith accept the assignment. After said assignment, the Customer will be entitled to collect its claims to payment. We will retain the right to collect payment ourselves the moment the Customer fails to comply with its duties to payment or fails to do so properly and defaults in payment.

6. The handling and processing of the delivered item will always be in our name and on our behalf. If the item is processed together with items not belonging to us, we will acquire co-ownership to the new item to the value of the item we delivered in proportion to the newly processed items. The same will apply if the delivered item is compounded with other items not belonging to us.

VI. Claims to Defects

In respect of material defects of the delivered item and deficiencies in title, the Supplier will guarantee as follows to the exclusion of any further claims - subject to Section VII:

Material Defects:

1. The Supplier will choose between providing remedy or a replacement delivery, free of charge, for all parts that prove to be deficient as a result of circumstances prior to the transfer of risk. The Supplier will be informed immediately in written form when such defects are established. Replaced parts will be the property of the Supplier.
2. After coordination with the Supplier, the Customer will allow the necessary time and opportunity to carry out the remedies and replacement deliveries that seem necessary to the Supplier; otherwise the Supplier will be released from any liability for the outcome. Only in cases of urgency, where operational safety is endangered or in order to avert disproportionately serious damages will the Customer be entitled to eliminate the defect itself or have it eliminated by others and to call for the refund of the necessary disbursements from the Supplier.
3. Of the costs of the remedy or replacement delivery directly incurred, the Supplier will - providing the complaint proves to be justified - bear the costs of the replaced piece including despatch. The Supplier will also bear the costs of dismantling and fitting as well as the costs of providing fitters and auxiliary personnel that might be required including their costs of travel, unless this encumbers the Supplier unreasonably.
4. Subject to the provisions of the law, the Customer will be entitled to rescind the contract if the Supplier - in the light of the exceptions specified by law - grants an appropriate period of time to provide remedy or replacement of a material defect that lapses fruitlessly. In the event the defect is insignificant, the Customer will only be entitled to a reduction of the contracted price. The right to a reduction of the contracted price will otherwise be ruled out. Further claims will be subject to Section VII.2 of the present Terms and Conditions of Business.
5. Specifically no guarantee will be granted in the following cases:
Unsuitable or unprofessional use, faulty assembly and start-up carried out by the Customer or third parties, natural wear-and-tear, faulty or negligent treatment, unprofessional maintenance work, unsuitable operating resources, chemical, electrochemical or electric influences, unless these are attributable to the Supplier.
6. If the Customer or a third party provides an unprofessional remedy, the Supplier will bear no liability for the outcome thereof. The same will apply to any amendments carried out on the delivered item without the prior consent of the Supplier.

Deficiencies in Title:

7. If the use of the delivered item culminates in a breach of industrial proprietary rights or copyrights, the Supplier will, at its own expense, procure the Customer the right to further use of the item or will so modify the delivered item in a reasonable manner for the Customer that the breach of rights no longer prevails. Should this not be possible at financially appropriate terms or within an appropriate period of time, the Customer will be entitled to rescind the contract. Under the specified conditions the Supplier will also be entitled to rescind the contract. Furthermore the Supplier will hold the Customer harmless from undisputed claims or claims that have been established by declaratory judgment asserted by the holder of the proprietary rights in question.
8. The duties of the Supplier specified in Section VI. 7 will be conclusive, subject to Section VII.2 for the breach of industrial property rights or copyrights. They will only exist if
 - the Customer informs the Supplier immediately of any asserted breaches of proprietary rights or copyrights,
 - the Customer provides an adequate amount of support to the Supplier in its defence against the claims asserted and/or enables the Supplier to carry out the modification measures defined in Section VI.7,
 - the Supplier retains the right to effect all defence measures including settlements out-of-court,
 - the deficiency in title cannot be attributed to instructions from the Customer and
 - the breach of rights was not attributable to any unauthorized changes made by the Customer to the delivered item or to use of the item in a manner that was not contracted.

VII. Liability

1. If the delivered item cannot be used as contracted by the Customer owing to the Supplier's failure or errors in carrying out the proposals and advice given before or after finalization of contract or owing to the breach of other contractual ancillary duties - in particular the instructions for use and maintenance of the delivered item - the rulings of Sections VI and VII.2 will apply correspondingly to the exclusion of any other claims asserted by the Customer.
2. The Supplier will only be liable for damages incurred not on the delivered item itself - irrespective of the legal grounds - in cases of
 - a. wilful intent,
 - b. gross negligence on the part of the owner/ management bodies or executive employees,
 - c. causing injury to life and limb,
 - d. maliciously concealed defects or defects guaranteed not to exist,
 - e. defects of the delivered item when liability will be subject to the Product Liability Act for injury to persons or damages to privately used items. In the event of a breach of major contractual duties for which the Supplier is responsible, the Supplier will also be liable in cases of gross negligence on the part of non-executive employees and slight negligence, said latter case being restricted to reasonably foreseeable damages typical for the contract. Any other claims will be ruled out.

VIII. Limitation Period

All claims of the Customer, on whatever legal grounds, will become statute-barred in 12 (twelve) months. For claims to damages as defined in Section VII.2 a - e, the periods of time stipulated by law will apply. They will also apply to defects in a construction piece or in delivered items that were used in the customary manner for a construction piece and caused the deficiency thereof.

IX. Applicable Law, Place of Jurisdiction

1. For all legal relations between the Supplier and the Customer, the laws of the Federal Republic of Germany governing legal relations between inland parties will apply exclusively to the exclusion of the laws and rulings applicable only to cross-border deliveries such as the UN Convention on Contracts for the International Sale of Goods or EKG and EAG - standardized laws governing the purchase of movables and international contracts).
2. Place of jurisdiction will be the court of law responsible at the registered seat of the Supplier. The Supplier will, however, be entitled to file action at the registered seat of the Customer.

X. Severability

Should individual provisions of the present Terms and Conditions of Business prove to be inoperative or unfeasible in whole or in part or become inoperative or unfeasible owing to amendments in the law following finalization of contract, the remaining terms and conditions and the validity of the contract as a whole will be unaffected hereby. In place of the inoperative or unfeasible provision will be an effective and feasible provision that comes as close as possible to the sense and purpose of the void provision. Should an omission transpire, the provisions will be deemed agreed upon that correspond to the sense and purpose of the contract and would have been agreed upon had they been considered.

Status: 01.03.2010

Note: This Catalogue (20100903-EN2) is replacing all previous catalogue versions.

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Customer references



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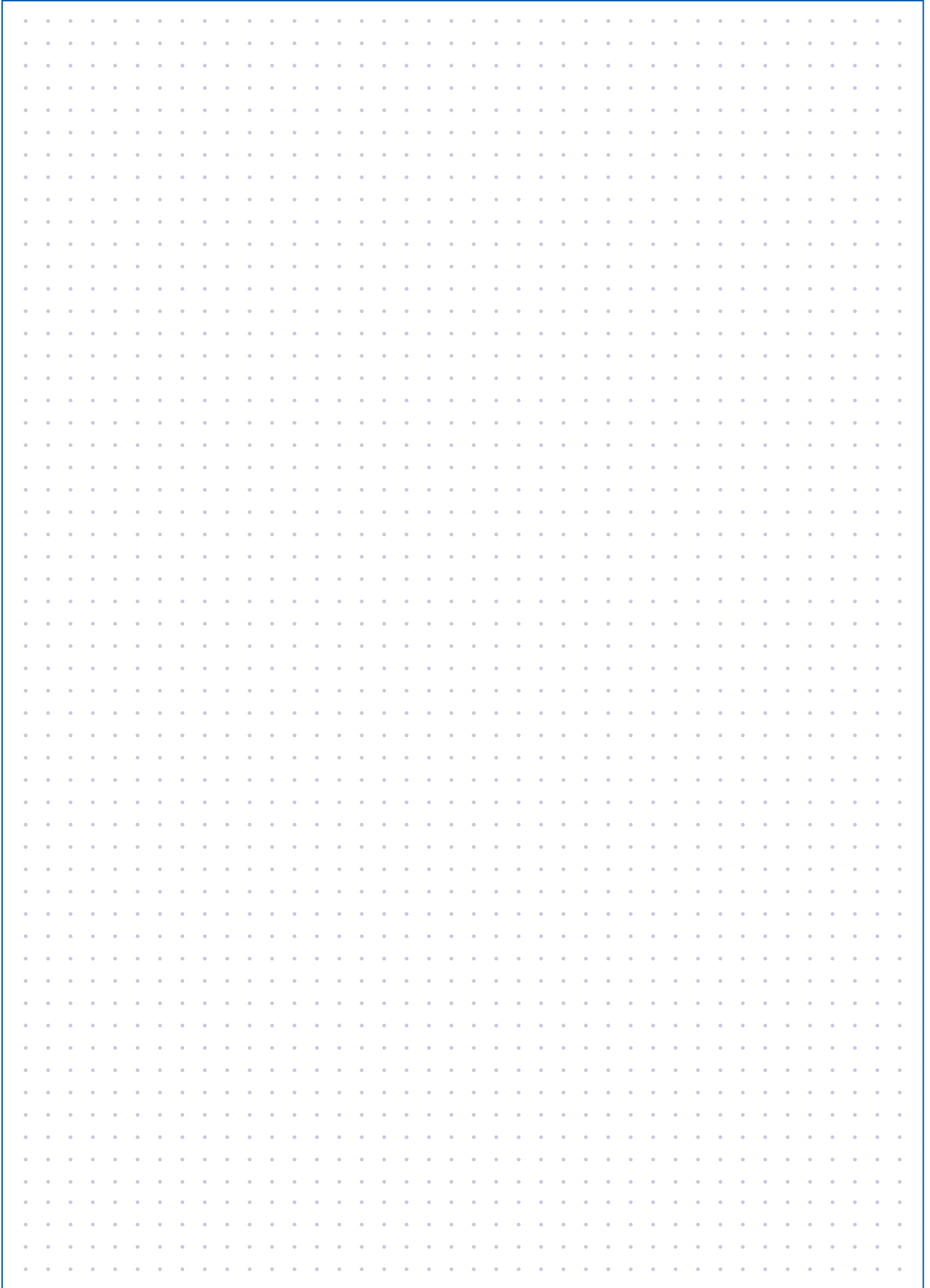
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