

# SONCO

Filter technologies



# SONCO – the clean side!

New generation filter chambers, - devices and – skids made of plastics; either PP or PVDF



One of our fundamental principles is to think a step ahead. So we have not just developed a new, filter system but closely analysed each part and component in order to further improve it for the benefit of our clients. This resulted in the new SONCO filters.

SONCO filters are required whenever perfect fit and leakproof reliability are of utmost importance. So they are ideally suited to handling highly aggressive acids and bases, degreasing fluids, chemicals, highly corrosive liquids and fluids tending to crystallize.

Top quality and innovative design assure maximum efficiency and flexibility of our products in process. In combination with SONDERMANN's comprehensive after-sales service, you can always rely on the permanent and fail-safe running of your plant.

Benefit from more than 50 years of experience, specialist know-how and customer-oriented service in person. Whether you are in plant engineering, surface finishing, the chemical industry, production of solar systems and circuit boards or electroplating, we will find the optimum filter system fitting your specific situation.

## Overview of new SONCO products

### FKX universal filter chambers for use with several different filter inserts.



FKX	Size	Filtration Performance *	Connection
Type 1	1/10"	1000 l/h	G 1 ¼"
	1/20"	2000 l/h	
	1/30"	3000 l/h	
Type 3	3/10"	3000 l/h	G1 ½"
	3/20"	6000 l/h	
	3/30"	9000 l/h	
	3/40"	12000 l/h	
Type 7	7/10"	7000 l/h	G2 ¼"
	7/20"	14000 l/h	
	7/30"	21000 l/h	
	7/40"	28000 l/h	
Type 12	12/10"	12000 l/h	G2 ¾"
	12/20"	24000 l/h	
	12/30"	36000 l/h	
	12/40"	48000 l/h	
Type 15	15/20"	30000 l/h	G2 ¾"
	15/30"	45000 l/h	
	15/40"	60000 l/h	

\* Guideline value. Depending on the dirt load and the characteristics of the medium to be filtered, filter performance can vary within a range of 500-1200 l/h and per 10" filter element.

### FKB filter chambers for bag filter



FKB	Bag size D x H (mm)	Connection suction side	Connection discharge side
Type 04	Size 04 : 100 x 350		G1 ½"
Type 1	Size 1 : 180 x 400		
Type 2	Size 2 : 180 x 800		G2 ¼"

### Inserts for universal filter chamber FKX

Insert for activated carbon



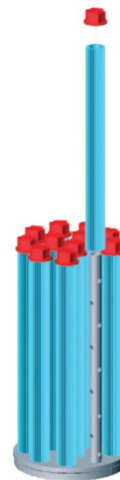
Insert for plate filter



Insert for oil absorbents



Insert for cartridge filter



### FKB

Filter bags for FKB



# SONCO-FILTERCHAMBER

In solid PP or PVDF plastics

SONCO-filter chambers are available in two different designs. Filter chamber type FKX is a universal filter chamber, with a choice of different filter inserts. So it is easy to adjust filtration needs between cartridge, plate filter, activated carbon or oil absorbents. Only the filter insert needs to be changed. Filter chamber and all other accessories remain unchanged. A huge advantage!

Filter chamber type FKB is only used with bag filters as the flow direction is different to all others.

## FKX – Universal Filter Chambers

Using the example of a cartridge filter, a filter chamber size 7 is shown here! The chamber remains the same; the filter inserts are replaced. No change to pipework, connections or other accessories required.

This simplifies conversion or adaption of the filter system for different applications.



Chamber with closed lid

## FKB Bag Filter Chambers

These filter chambers are only suitable for filter bags.

The medium to be filtered flows through channels incorporated in the lid, then downwards through the bag. This design ensures optimal flow with the benefit of low overall weight.

The lid is hinged and easy to open or close with large thumbscrews. The filter bag can be removed directly with the lid open.



Open chamber with bag insert shown

# Advantages in detail

## Complete splash guard

All SONCO filter chambers (size 3 and above) are equipped with a complete splash guard which reliably protects the cover screws. Thus, the operator is protected in the event that liquid exits if the lid screws are accidentally not tightened properly.



Splash guard closed

Lid opened

splash guard opened



## Filter closure with hinged lid

The filter cover is closed by T- screws with slip-proof handles. The opened lid is retained on the filter chamber and does not have to be raised separately.

## Hydraulically optimized design

Internal fluid routing is optimized for minimal pressure loss. Inflow into the filter elements has a homogeneous flow rate to evenly load the filter elements.



## Pressure gauge and drain valve in series

All filter chambers from size 3 upwards are equipped as standard with pressure gauge and drain valve (optional for size 1).

## Solid design in PP / PVDF

Solid welded construction without glass fiber components in metal-free wetted materials ensure the best possible chemical resistance.

# SONCO-FILTER INSERT

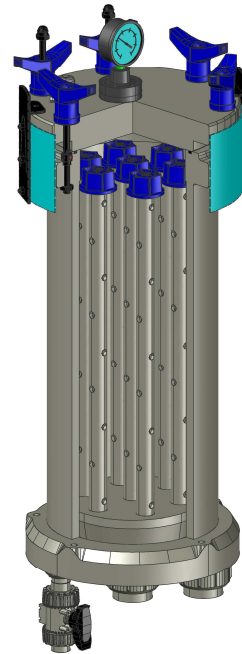
In solid PP or PVDF plastics

SONCO-filter inserts are available in different designs to suit a range of applications.

## Cartridge Filter

Insert for filter cartridges with an outer diameter of 63 mm. Particularly easy handling by cartridge tie rod with large, grippy clamping screws.

- Versatile depth filter
- Filtration direction from outside to inside
- Easy handling, quick cartridge change
- High dirt capacity for long service life
- Suitable for the universal filter chamber FKX



## Plate Filter

Plate filter insert with filter paper for surface filtration.

- Filter cake builds on the paper discs between the filter plates
- Average dirt capacity
- Low waste volume
- Inexpensive consumables
- Suitable for the universal filter chamber FKX
- Easy removal of the insert by means of a pull-out handle:



## Activated Carbon

Activated carbon is a highly porous, pure carbon with a high surface area (up to 300 m<sup>2</sup> per gram). Activated carbon is used to absorb organic substances, odors and flavors.

- easy and clean charcoal treatment possible thanks to canister insert
- Long contact time due to low flow rates in the canister increases efficiency
- Filter cartridge as a retaining element prevents the activated carbon from washing out
- Suitable for the universal filter chamber FKX



## Oil absorbens

For absorption of oils and fats e.g. from degreasing baths. Reduces the use of surfactants and extends bath life. As a filter medium special fibres are introduced into the canister.

- Canister insert with extractor makes it clean and easy to change the filter
- Suitable for the universal filter chamber FKX



## Bag Filter

Filter bags are surface filters. As an absolute filter, 100% of all particles larger than the nominal filter fineness are retained. Filter finenesses from 1 - 500µ.

- Filter cake stays in the bag and does not fall back into the bath
- Filtration direction from top to bottom
- Easy to use
- The filter cloth is easy to wash off
- The filter bag can be used several times depending on the nature of the contamination
- Suitable for FKB bag filter chamber



# Choice of materials / Type codes

## Choice of materials

The following table lists materials of construction and seal types available. Please ask us to help you find the appropriate materials for the fluid to be delivered.

Component	Symbol	Material
Components in contact with fluid	PP	Polypropylene
	PVDF	Polyvinylidenfluoride
Seals	EPDM	Ethylene-propylene-diene rubber
	FKM	Fluorinated rubber

## Type codes

The part no. of your SONCO filter comprises the material code and the features of the specific components. It consists of seven groups (see example below):

- Standard
- possible configuration
- not available

	Scope of supply				Filter type					Size	Height *	Casing		Casing-O-Ring			Type of closure		
	Filter insert	Filter chamber	Filter devices	Filter skid	Cartridge Filter	Bag Filter	Plate Filter	Activated Carbon	Oil absorbens			PP	PVDF	FKM	EPDM	FKM FEP-covered	Special execution (i.e. FFKM)	Screw cap closure	Toggle clusure
Bag-filter	●	●	●	●	–	●	–	–	–	BG04	Height of the used filter chamber in Inch	●	●	●	●	○	○	–	●
	●	●	●	●	–	●	–	–	–	BG1		●	●	●	●	○	○	–	●
	●	●	●	●	–	●	–	–	–	BG2		●	●	●	●	○	○	–	●
Others	●	●	●	●	●	–	●	●	●	BG1		●	●	●	●	○	○	●	●
	●	●	●	●	●	–	●	●	●	BG3		●	●	●	●	○	○	–	●
	●	●	●	●	●	–	●	●	●	BG7		●	●	●	●	○	○	–	●
	●	●	●	●	●	–	●	●	●	BG12		●	●	●	●	○	○	–	●
	●	●	●	●	●	–	●	●	●	BG15		●	●	●	●	○	○	–	●
Code	E	K	G	A	K	B	P	A	O			PP	PV	F	E	P	X	S	K

Example

F K K - BG7 / 20 - PP - E - K

# SONCO and MAGSON - a perfect combination!

Perfectly matched. That's what you can expect.

SONCO filters and MAGSON pumps are an unbeatable combination when it comes to filtering, circulating and transferring your media. The following table outlines which pumps are best suited to which filter.

FKX	SONCO-Filter		Fitting MAGSON-Pump		
	Sizes	Filter performance *	Type	Flow rate	Diff. head
Type 1	1/10"	1.000 l/h	MAGSON BG2 MAGSON BG3	up to 4.800 l/h up to 7.200 l/h	up to 8 mWC up to 15 mWC
	1/20"	2.000 l/h			
	1/30"	3.000 l/h			
Type 3	3/10"	3.000 l/h	MAGSON BG3 MAGSON BG4 MAGSON BG5	up to 7.200 l/h up to 13.200 l/h up to 19.200 l/h	up to 15 mWC up to 14 mWC up to 18 mWC
	3/20"	6.000 l/h			
	3/30"	9.000 l/h			
Type 7	7/10"	7.000 l/h	MAGSON BG4 MAGSON BG5 MAGSON BG6	up to 13.200 l/h up to 19.200 l/h up to 30.600 l/h	up to 14 mWC up to 18 mWC up to 30 mWC
	7/20"	14.000 l/h			
	7/30"	21.000 l/h			
Type 12	12/10"	12.000 l/h	MAGSON BG6 MAGSON BG7	up to 30.600 l/h up to 57.000 l/h	up to 30 mWC up to 42 mWC
	12/20"	24.000 l/h			
	12/30"	36.000 l/h			
Type 15	15/20"	30.000 l/h	MAGSON BG6 MAGSON BG7	up to 30.600 l/h up to 57.000 l/h	up to 30 mWC up to 42 mWC
	15/30"	45.000 l/h			
	15/40"	60.000 l/h			

\* Guideline value. Depending on the dirt load and the characteristics of the medium to be filtered, filter performance can vary within a range of 500-1200 l/h and per 10" filter element.

FKB	SONCO-Filter		Fitting MAGSON-Pump		
	Size		Type	Flow rate	Diff. head
Type 04	10/40		MAGSON BG3 MAGSON BG4	up to 7.200 l/h up to 13.200 l/h	up to 15 mWC up to 14 mWC
Type 1	18/40		MAGSON BG4 MAGSON BG5	up to 13.200 l/h up to 19.200 l/h	up to 14 mWC up to 18 mWC
Type 2	18/80		MAGSON BG5 MAGSON BG6	up to 19.200 l/h up to 30.600 l/h	up to 18 mWC up to 30 mWC



# SONCO-FILTER UNITS

## Pre-assembled filter packages

SONCO-filter packages consist of the following components:

- Console made of plastic PP enclosing all components
- Filter chamber with filter insert and filter media
- Connecting pipework and fittings
- MAGSON Pump

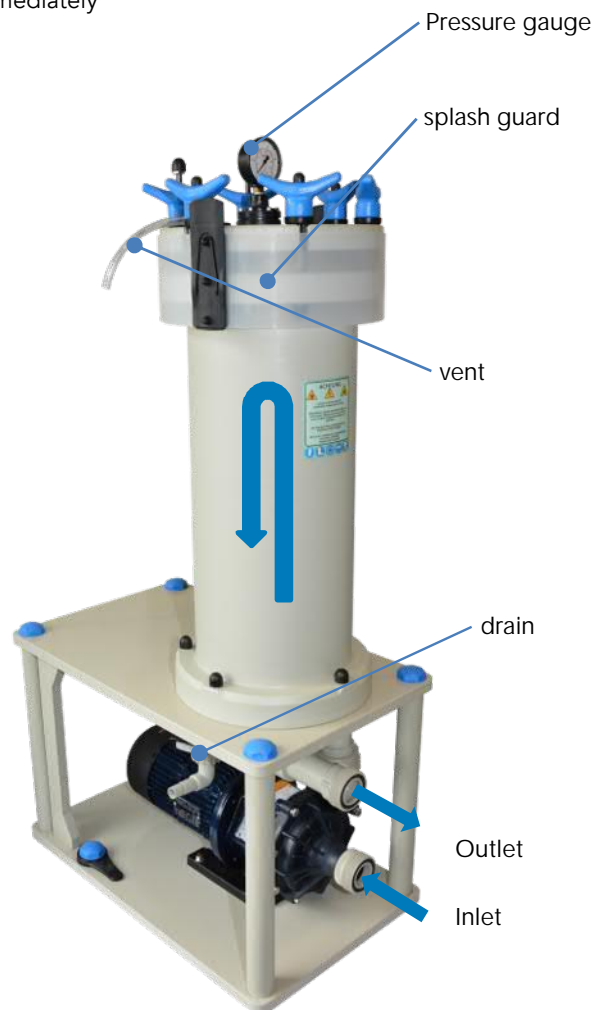
These filter devices are available at short notice and can be used immediately

- Depending on the size of the filter, the console is welded together from several parts (BG1), assembled from individual standard parts (all other sizes) or specially assembled for you. The illustration shows a typical package.
- The filter chamber and appropriate filter insert suitable for the fluid to be filtered - as well as the filter medium itself – are pre-assembled.
- Pipework is assembled and securely mounted with drain cock and the manometer (from BG3 or for all sizes with bag filter).
- Correctly sized MAGSON pump, is bolted in position and connected to the filter chamber via the piping.

And if you ever need something different, we can design and assemble custom solutions quickly thanks to our modular system.

Everything to get you started right away.

**Try it!**



# SONCO-Filter accessories

- ON-OFF switch wired to motor and mounted on console
- Mounted connecting cable (three-phase 5 m) with CEE plug 5 × 16 A
- Frequency inverter, protection class IP 65, mounted on motor or prepared for wall mounting
- Electronic monitoring systems to optimize system control
- Cartridge wrench for disassembling cartridge inserts



## Filter media

We also offer suitable filter media for our filter devices and filter chambers. Our SONCO filter cartridges, plates or bags ensure a long service life for long replacement intervals. In addition to filter media for particle filtration, we also offer activated carbon granules for the absorption of organic substances. Our granulated activated carbon is much cleaner in comparison to activated carbon powder.

## Hose connections

3-piece, with union nut and grommet

Connection	Grommet	for suction port	for discharge port
G 1 ½"	1"	MA BG2 / 3 + BG4H-6H, MAS BG4	MA BG2 / 3 + BG4H-6H, MAS BG4
	1 ¼"		
	1 ½"		
G 2 ¼"	1 ½"	MA BG4 / 5, MAS BG5	MA BG4 / 5 / 6
	2"		

In addition, we offer connection seals, shut-off valves, check-valves, etc. for every SONCO filter.

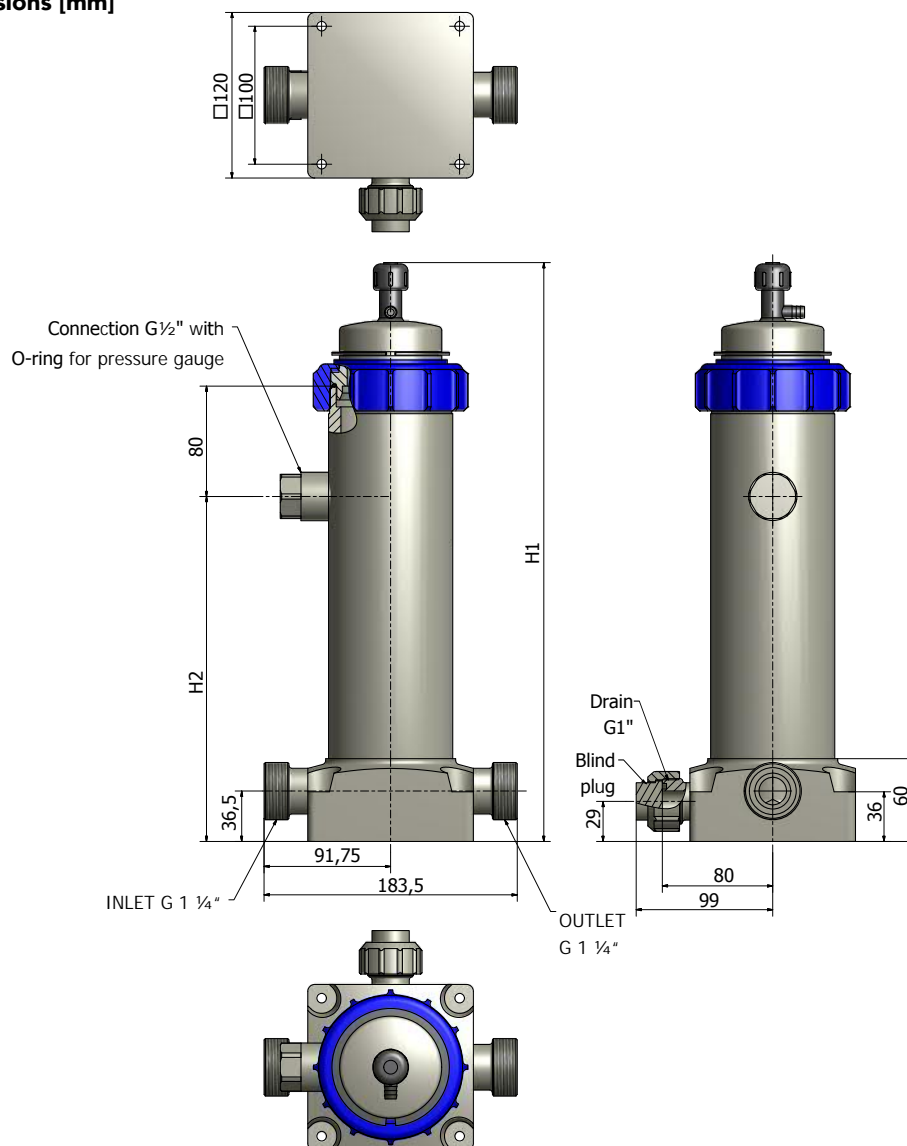
Please get in contact to us – we are pleased to support you!

# Filter chamber FKK BG1

## Technical data filter chamber BG1 with screw cap closure

Size	1/10"	1/20"	1/30"
Materials	PP		
Quantity of cartridges	1 x 10"	1 x 20"	1 x 30"
Max. Temperature [°C]	60		
Max. System pressure at 20°C [bar]	2		
Lid clip	Central screw cap closure		
Drain cock	optional		
Pressure gauge	optional		
Max. filter performance [l/h]	~1000	~2000	~3000
Value H1 [mm]	419,5	673,5	927,5
Value H2 [mm]	250	504	758

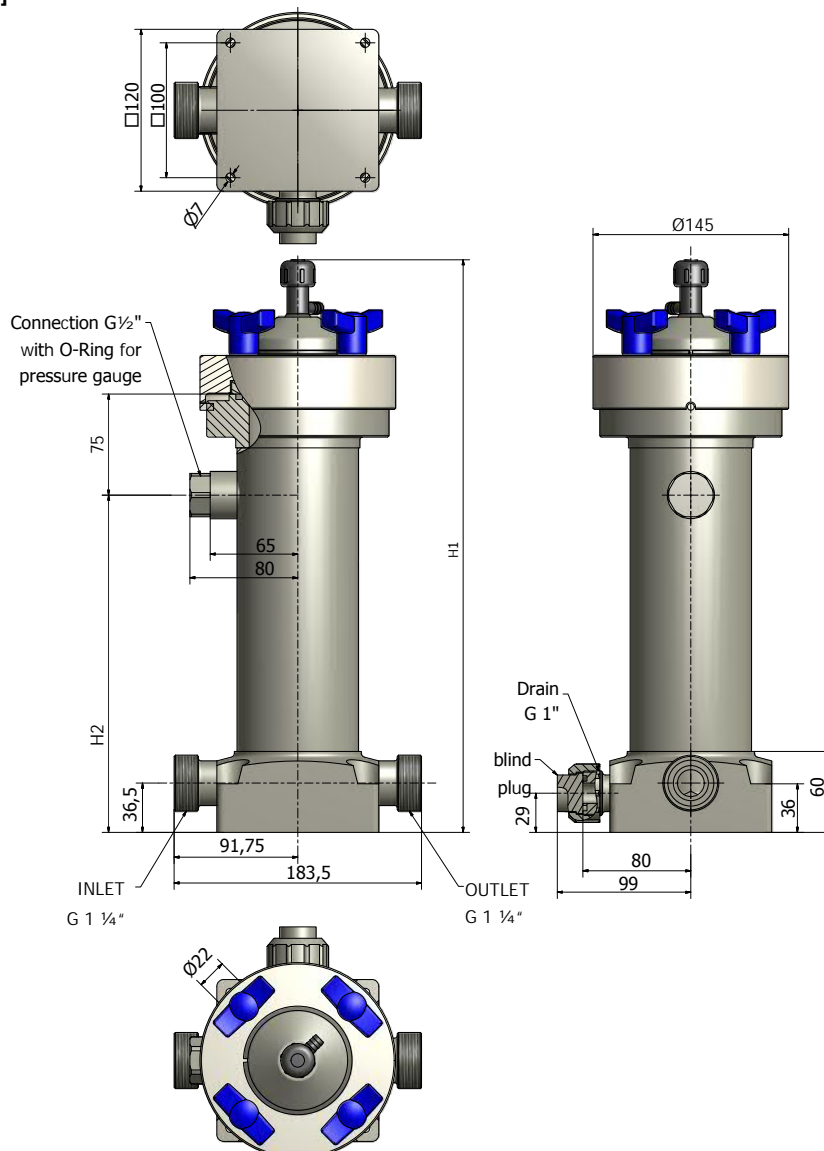
## Dimensions [mm]



### Technical data filter chamber BG1 with toggle closure

Size	1/10"	1/20"	1/30"
Materials	PP / PVDF		
Quantity of cartridges	1 x 10"	1 x 20"	1 x 30"
Max. Temperature [°C]	80 / 95		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	optional		
Pressure gauge	optional		
Max. filter performance [l/h]	~1000	~2000	~3000
Value H1 [mm]	424,5	678,5	932,5
Value H2 [mm]	250	504	758

### Dimensions [mm]

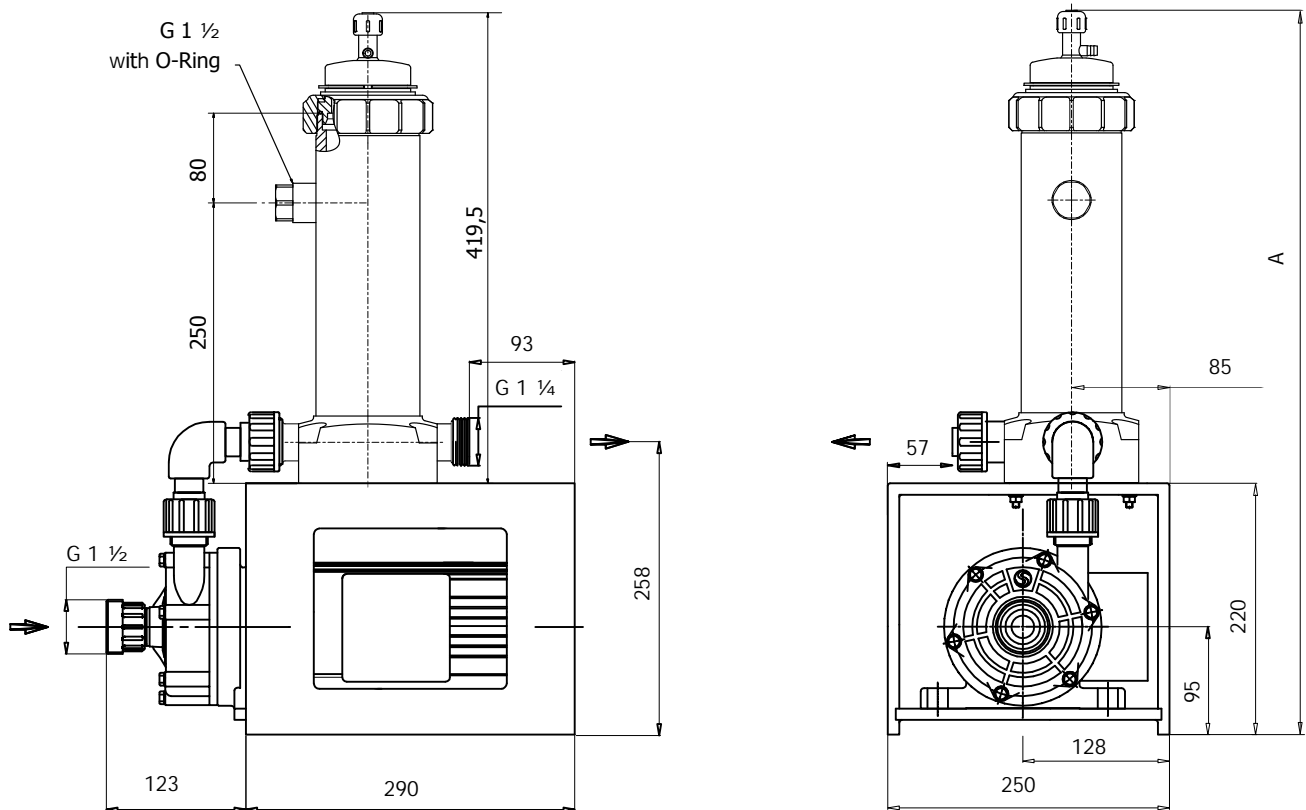


# Filter unit FGK BG1

## Technical data filter unit BG1 – S with screw cap closure

Size	1/10"	1/20"	1/30"
Materials	PP		
Quantity of cartridges	1 x 10"	1 x 20"	1 x 30"
Max. Temperature [°C]	60		
Max. System pressure at 20°C [bar]	2		
Lid clip	Central screw cap closure		
Drain cock	optional		
Pressure gauge	optional		
Max. filter performance [l/h]	~1000	~2000	~3000
Value A [mm]	639,5	893,5	1147,5

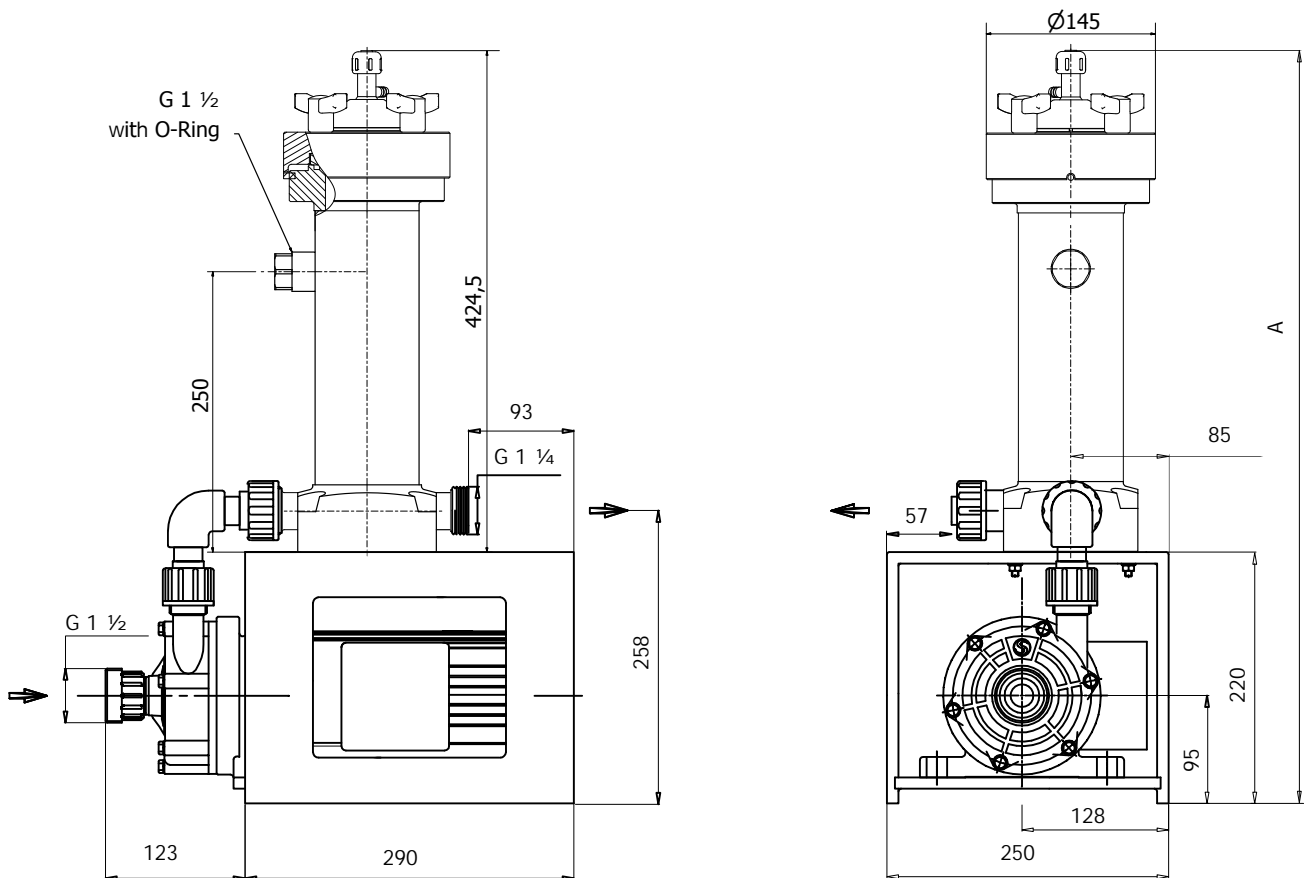
## Dimensions with MAGSON MA [mm]



**Technical data filter unit BG1 - K  
with toggle closure**

Size	1/10"	1/20"	1/30"
Materials	PP / PVDF		
Quantity of cartridges	1 x 10"	1 x 20"	1 x 30"
Max. Temperature [°C]	70 / 80		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	optional		
Pressure gauge	optional		
Max. filter performance [l/h]	~1000	~2000	~3000
Value A [mm]	644,5	898,5	1152,5

**Dimensions with MAGSON MA [mm]**



# Filter unit FGx BG3

## Technical data universal filter unit BG3

Size	3/10"	3/20"	3/30"	3/40"
Materials	PP / PVDF			
Quantity of cartridges	3 x 10"	3 x 20"	3 x 30"	3 x 40"
Plate dimensions and amount [filter surface]	Ø130x35 0,4m <sup>2</sup>	Ø130x66 0,8m <sup>2</sup>	-	-
Volume activated carbon [l]	-	5	-	-
Volume oil absorbens [l]	-	5	-	-
Max. Filter performance [l/h]	~3000	~6000	~9000	~12.000
Max. Temperature [°C]	70 / 80			
Max. System pressure at 20°C [bar]	4			
Lid clip	toggle closure			
Drain cock	included			
Pressure gauge	included			

### Dimensions with MAGSON MA BG3+4 [mm]

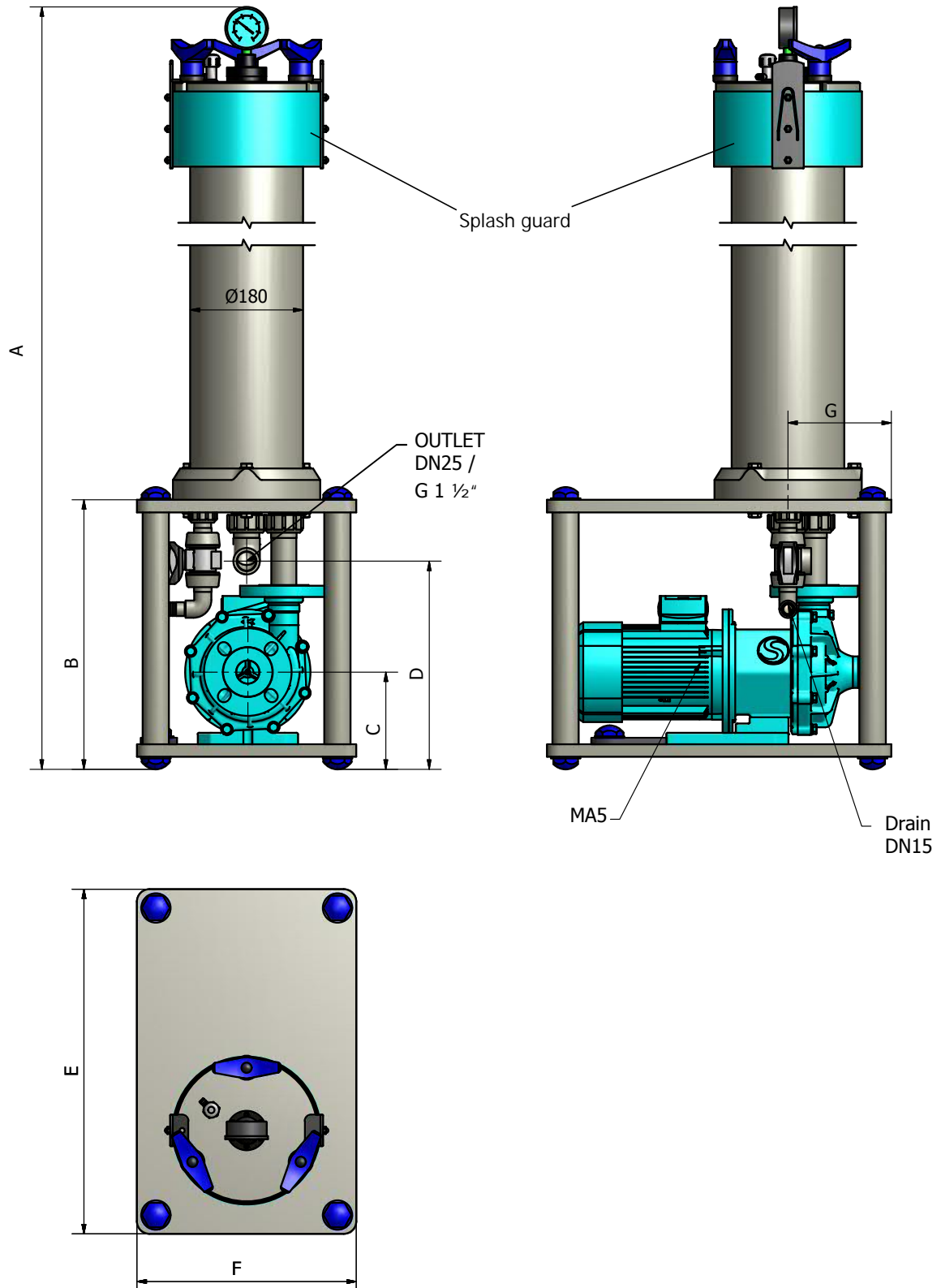
Value A	944	1198	1452	1706
Value B	390			
Value C	135			
Value D	292			
Value E	480			
Value F	320			
Value G	165			

### Dimensions with MAGSON MA BG5 [mm]

Value A	984	1238	1492	1746
Value B	430			
Value C	155			
Value D	332			
Value E	550			
Value F	350			
Value G	165			



**Dimensions filter units BG3 with MAGSON MA BG4 or BG5 [mm]**



# Filter unit FGx BG7

## Technical data universal filter unit BG7

Size	7/10"	7/20"	7/30"
Materials	PP / PVDF		
Quantity of cartridges	7 x 10"	7 x 20"	7 x 30"
Plate dimensions and amount [filter surface]	Ø200x35 [1m <sup>2</sup> ]	Ø200x66 [2m <sup>2</sup> ]	-
Volume activated carbon [l]	-	15	-
Volume oil absorbens [l]	-	15	-
Max. Filter performance [l/h]	~7000	~14.000	~21.000
Max. Temperature [°C]	70 / 80		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	included		
Pressure gauge	included		

### Dimensions with MAGSON MA BG4 [mm]

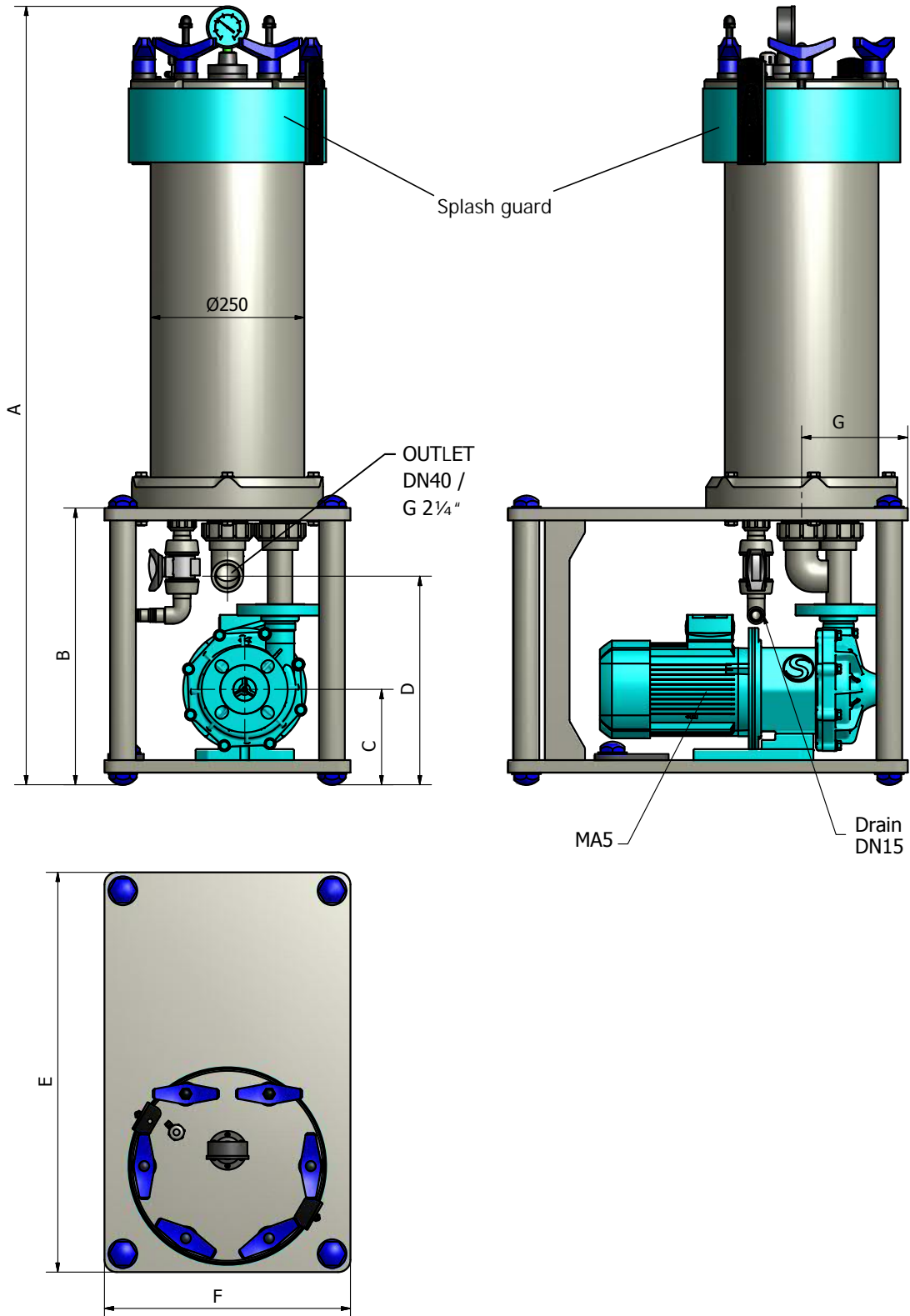
Value A	992	1246	1500
Value B		430	
Value C		135	
Value D		319	
Value E		480	
Value F		350	
Value G		172,5	

### Dimensions with MAGSON MA BG5+6 [mm]

Value A	1008	1262	1516
Value B		450	
Value C		155	
Value D		339	
Value E		650	
Value F		400	
Value G		172,5	



Dimensions filter unit BG7 with MAGSON MA BG4 or BG5 [mm]



# Filter unit FGx BG12

Technical data universal filter unit BG12			
Size	12/10"	12/20"	12/30"
Materials	PP / PVDF		
Quantity of cartridges	12 x 10"	12 x 20"	12 x 30"
Plate dimensions and amount [filter surface]	Ø250x33 [1,5m <sup>2</sup> ]	Ø250x66 [3m <sup>2</sup> ]	Ø250x100 [4,5m <sup>2</sup> ]
Volume activated carbon [l]	-	20	-
Volume oil absorbens [l]	-	20	-
Max. Filter performance [l/h]	~12.000	~24.000	~36.000
Max. Temperature [°C]	70 / 80		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	included		
Pressure gauge	included		

### Dimensions with MAGSON MA BG6 [mm]

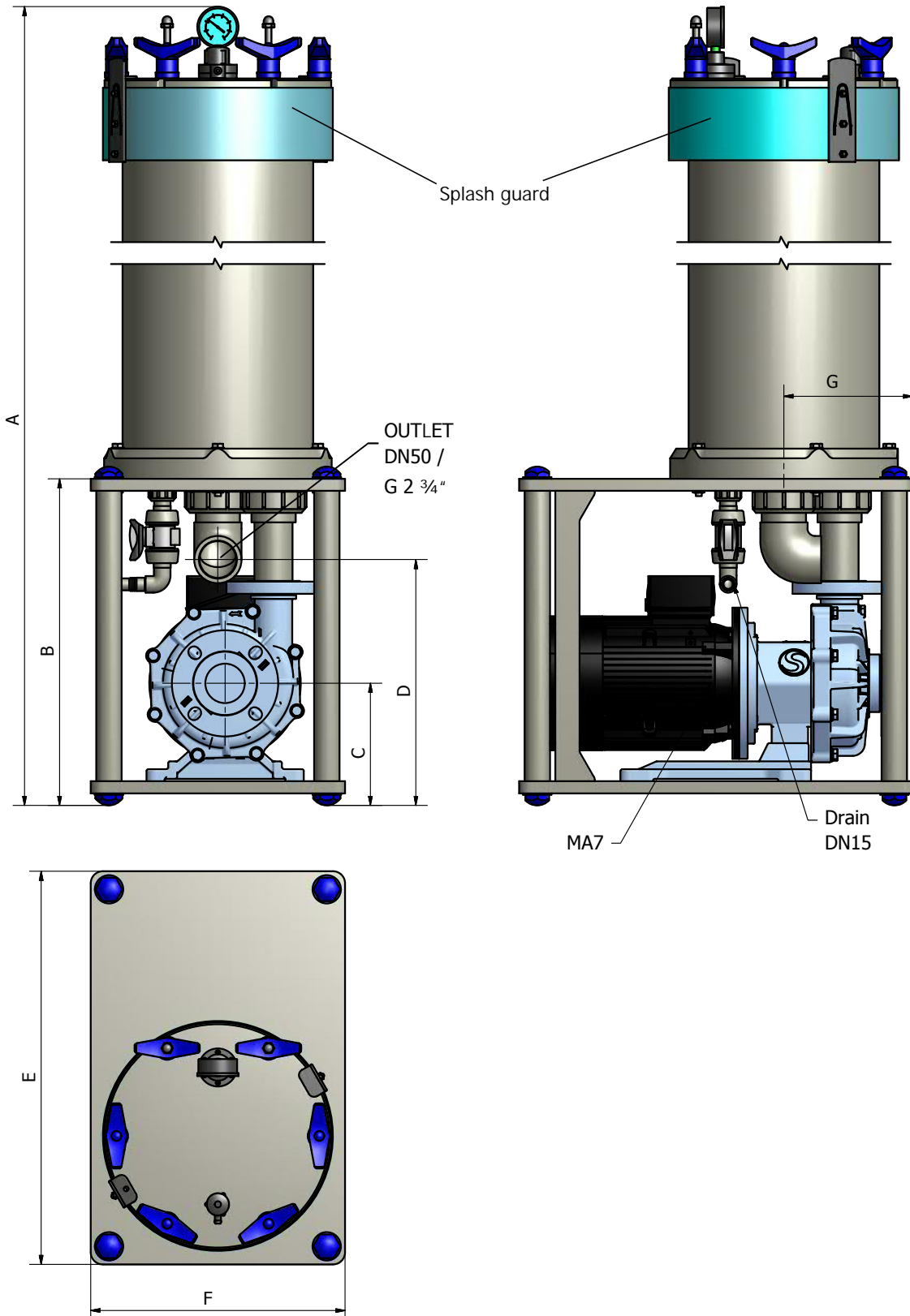
Value A	1048	1302	1556
Value B		490	
Value C		175	
Value D		380	
Value E		650	
Value F		420	
Value G		212,5	

### Dimensions with MAGSON MA BG7 [mm]

Value A	1098	1352	1606
Value B		540	
Value C		202	
Value D		407	
Value E		650	
Value F		420	
Value G		212,5	



Dimensions filter unit BG12 with MAGSON MA BG6 or BG7 [mm]



# Filter unit FGx BG15

## Technical data universal filter unit BG15

Size	15/10"	15/20"	15/30"
Materials	PP / PVDF		
Quantity of cartridges	15 x 10"	15 x 20"	15 x 30"
Plate dimensions and amount [filter surface]	Ø290x33 [2,2m <sup>2</sup> ]	Ø290x66 [4,4m <sup>2</sup> ]	Ø290x100 [6,6m <sup>2</sup> ]
Volume activated carbon [l]	-	30	-
Volume oil absorbens [l]	-	30	-
Max. Filter performance [l/h]	~15.000	~30.000	~45.000
Max. Temperature [°C]	70 / 80		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	included		
Pressure gauge	included		

### Dimensions with MAGSON MA BG6 [mm]

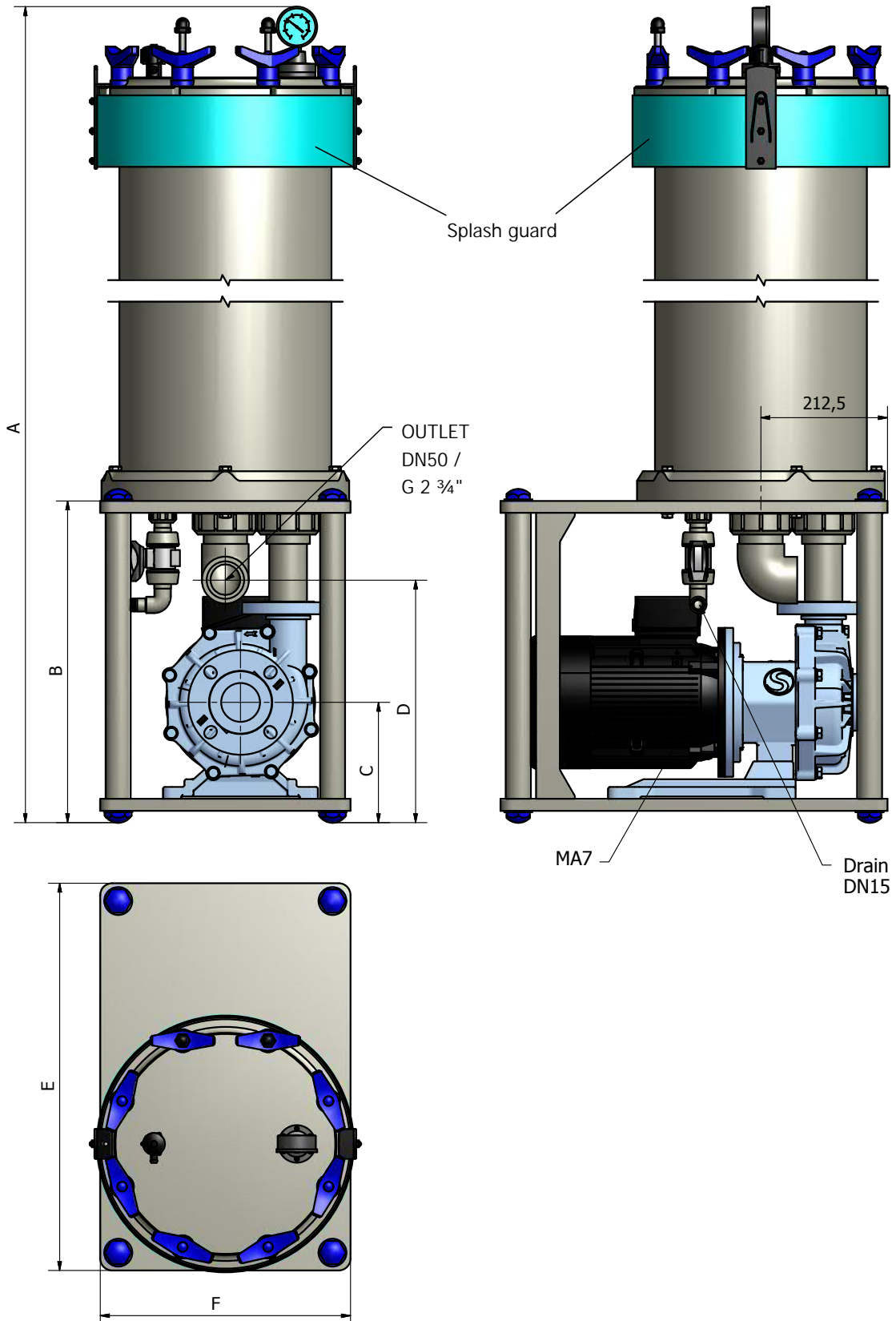
Value A	1057	1311	1565
Value B		490	
Value C		175	
Value D		380	
Value E		650	
Value F		420	
Value G		212,5	

### Dimensions with MAGSON MA BG7 [mm]

Value A	1107	1361	1615
Value B		540	
Value C		202	
Value D		407	
Value E		650	
Value F		420	
Value G		212,5	



Dimensions Filter unit BG15 with MAGSON MA BG6 or BG7 [mm]



# Bag Filter unit FGB

## Technical data bag filter unit BG04, 1 und 2

Size	BG04	BG1	BG2
Materials	PP / PVDF		
Max. Temperature [°C]	70 / 80		
Max. System pressure at 20°C [bar]	4		
Lid clip	Toggle closure		
Drain cock	included		
Pressure gauge	Included		
Bag size	100 x 350	180 x 400	180 x 800

### Dimensions with MAGSON MA BG4 [mm]

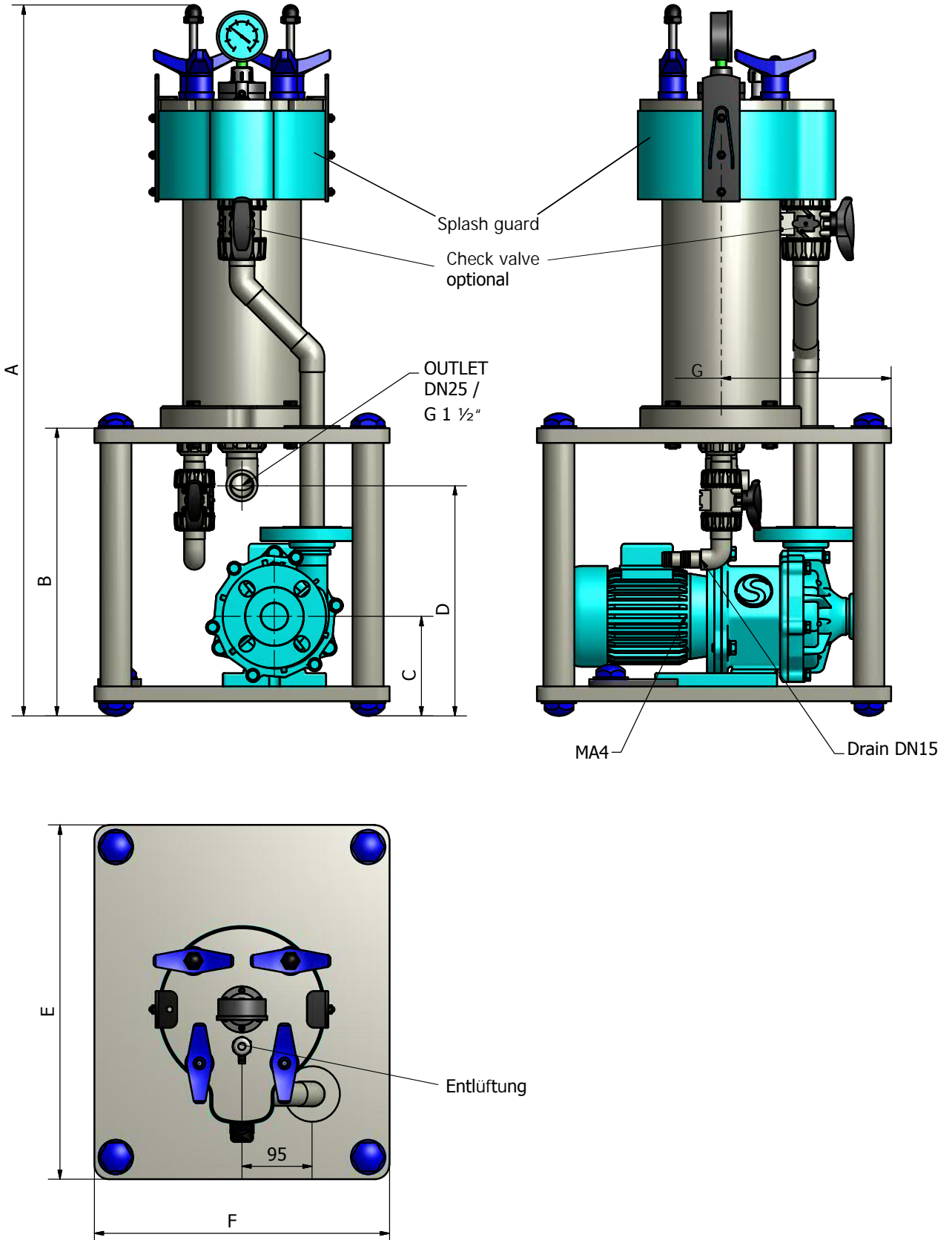
Value A	963	1107	1419
Value B	390		390
Value C	135		135
Value D	312		302
Value E	480		480
Value F	400		400
Value G	230		275

### Dimensions with MAGSON MA BG5 + 6 (up to 2,2kW) [mm]

Value A	-	1167	1479
Value B	-		450
Value C	-		155
Value D	-		342
Value E	-		650
Value F	-		400
Value G	-		275



Dimensions Filter unit BG04, 1 and 2 with MAGSON MA [mm]



# SONCO-FILTER SKIDS

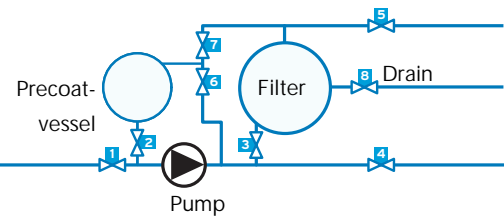
## Precoat filters

With precoat filtration, filter aids are used as a precoat to the actual filter medium. The filter medium can be a filter plate or a filter cartridge with filter fabric. The precoating filter aid forms a cake on the filter medium where the particle precipitation takes place. The cake acts as a depth filter and considerably increases the loading capacity of the actual surface filter.

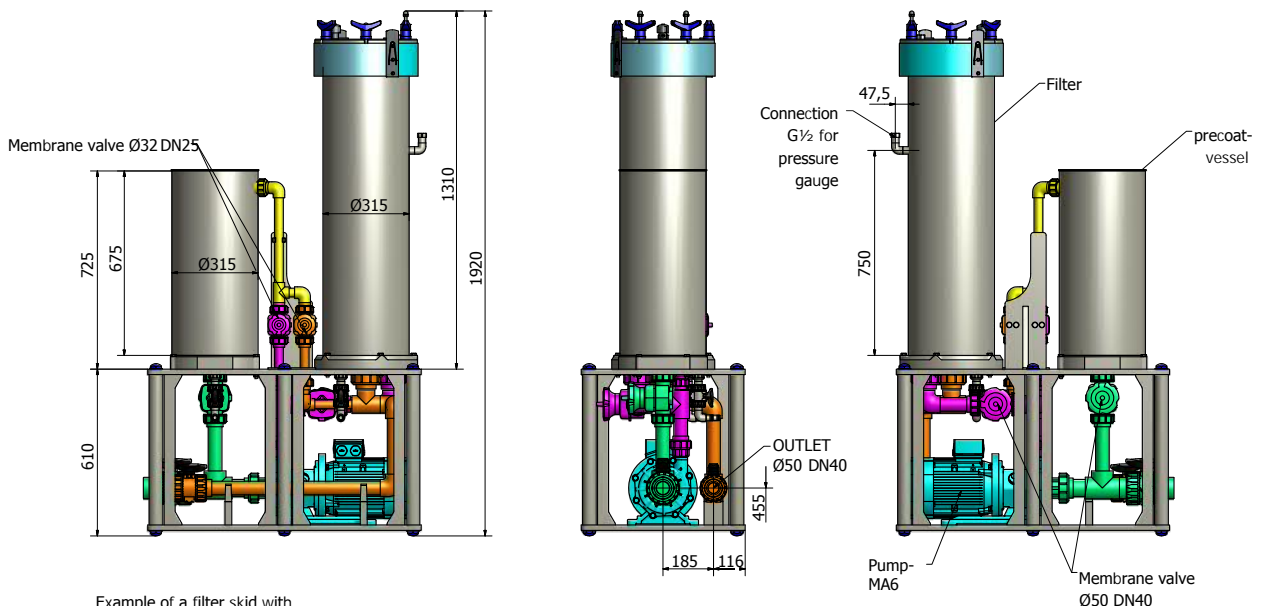
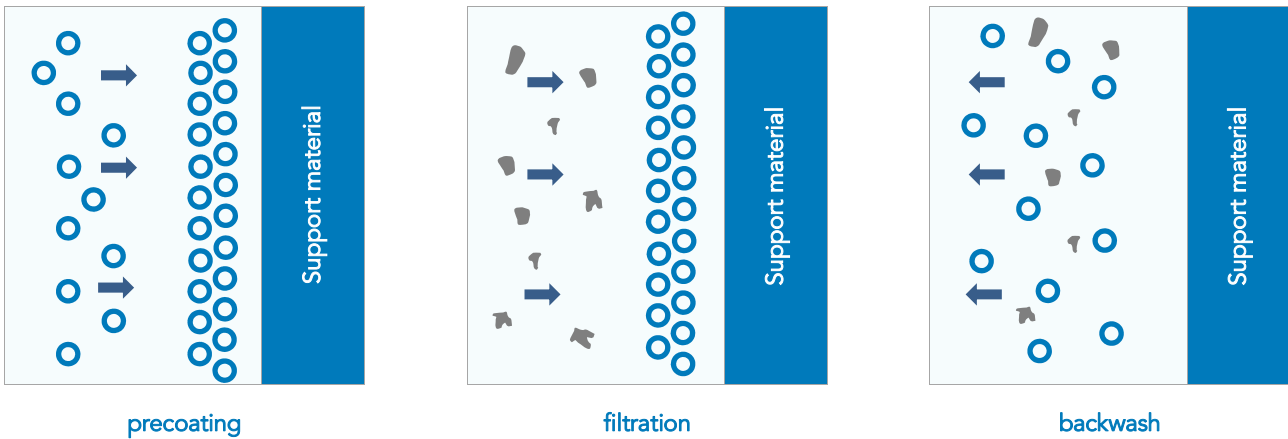
Precoat filters are also suitable for the preparation of baths or for filtration with activated carbon. The filters are specifically designed to adapt to our customers' specifications and applications.

Please contact us to discuss your requirements in detail.

## PID of filter package with precoat filter



## The filter process



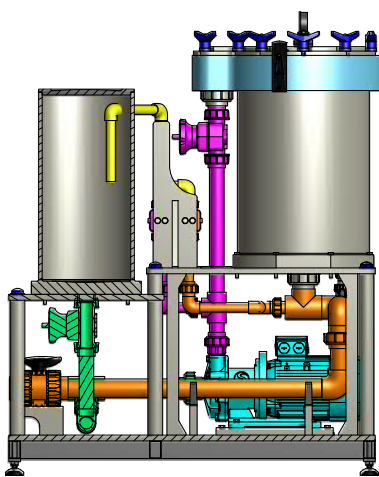
Example of a filter skid with precoat filtration FA-BG12-T50-MA6

# SONCO-FILTER SKIDS

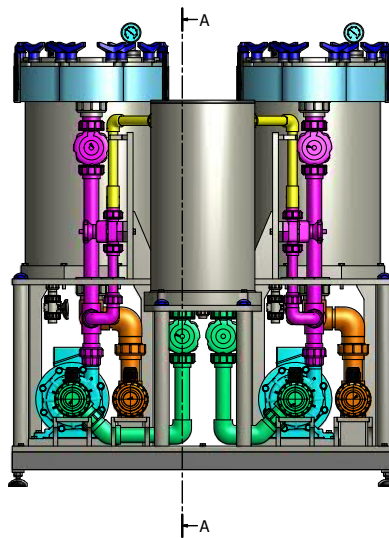
## Customized filter systems; adapted to your needs

Special tasks require special solutions. Therefore, we design, plan and build filter systems according to your individual requirements. Together with you, we discuss the task and develop an optimal solution. Surveying, planning, computer modelling, construction and assembly are single sourced - the best possible guarantee that all interfaces fit perfectly and the system is ergonomically easy to operate. Only then will your operating staff be happy to work effectively with the system. Test us - if you are satisfied, we are too.

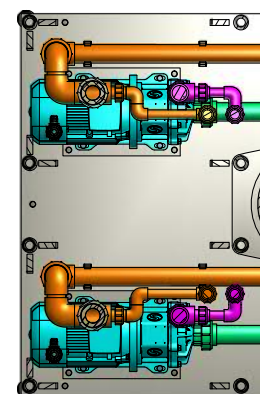
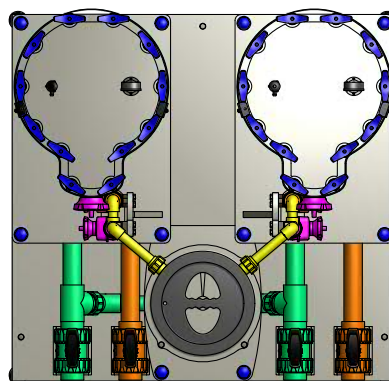
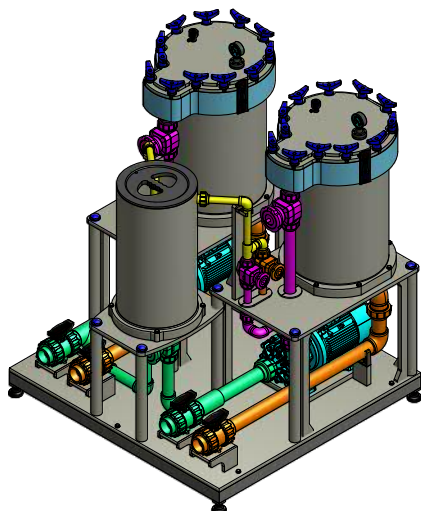
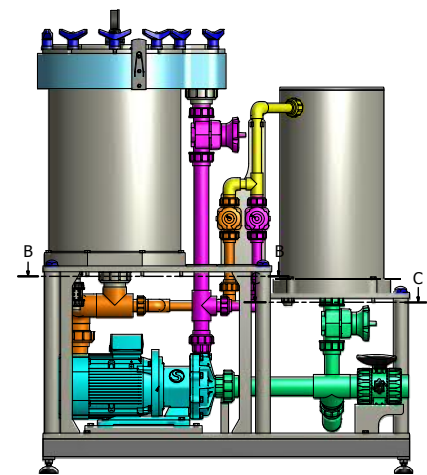
SONCO filter skids and MAGSON pumps are an unbeatable combination when it comes to filtering, circulating and transferring your media. That's why we use the MAGSON for our SONCO filters as standard. If you want another product, that is no problem for us. Customized means customized!



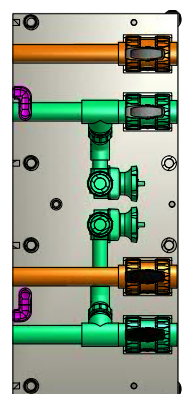
A-A (1:7)



A



B-B (1:7)



C-C (1:7)

SONDERMANN  
Pumpen + Filter GmbH & Co. KG  
August-Horch-Strasse 2 · D-51149 Cologne  
P.O. Box 920101 · D-51151 Cologne

Phone +49 2203 9394-0  
Fax +49 2203 9394-48

[info@sondermann-pumpen.de](mailto:info@sondermann-pumpen.de)  
[www.sondermann-pumpen.de](http://www.sondermann-pumpen.de)