

Tank top return-line filter

Pi 530

Nominal size 35 and 50

1. Features

Efficient filters for modern hydraulic systems

- Modular design
- Compact design
- Minimal pressure loss
- Optical/electrical/electronic contamination control
- PA 6-housing with hose connection
- Optional AI-filterhead with threaded port
- Replaceable air breather element

Quality filters, easy to service

- Equipped with metal-free, waste disposable free Mic-elements or highly efficient Smx filter elements
- β -valued elements per ISO 4572
- Large dirt holding capacity and high differential pressure stability providing optimal element service life

Worldwide distribution



2. Filter performance data

measured according to ISO 16 889 (multipass test)

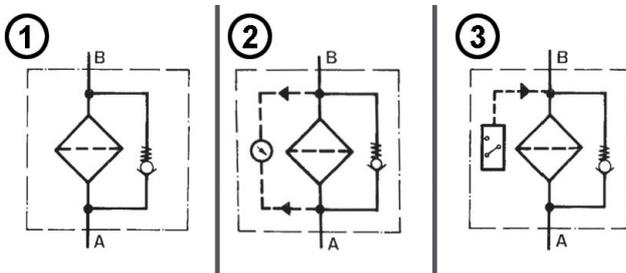
Sm-x-elements

with Δp 10 bar

Sm-x	3	$\beta_{5(C)}$	≥ 200
Sm-x	10	$\beta_{10(C)}$	≥ 200
Sm-x	25	$\beta_{20(C)}$	≥ 200

up to 5 bar final differential pressure

3. Symbols



4. Order numbers

Example for ordering filters:

1. Housing design	2. Filter element
Housing NG 35 with hose connection, with bypass valve, breather, pressure gauge Type number: Pi 53003/1-141	Mic 10 Type number: 852 939 Mic 10

4.1 Housing design							
Nominal size NG	Type	Execution filterhead	① with bypass valve 1.5 bar	with breather element (Mic)	② with pressure gauge	③ with pressure switch normally closed	③ with pressure switch normally open
35	Pi 53003/1-009	filterhead PA 6 with hose-connection DN 20					
	Pi 53003/1-020						
	Pi 53003/1-144						
	Pi 53003/1-145						
	Pi 53003/1-146						
	Pi 53003/1-141						
	Pi 53003/1-142						
	Pi 53003/1-143						
	Pi 53003/2-009		AI-filterhead G ½				
	Pi 53003/2-020						
50	Pi 53005/1-009	filterhead PA 6 with hose-connection DN 20					
	Pi 53005/1-020						
	Pi 53005/1-044						
	Pi 53005/1-145						
	Pi 53005/1-146						
	Pi 53005/1-141						
	Pi 53005/1-142						
	Pi 53005/1-143						
	Pi 53005/2-009		AI-filterhead G ½				
	Pi 53005/2-020						

* further elements on request.

4.2 Filter elements					
Nominal size NG	Order number	Type	Filter material	Collapse pressure [bar]	Filter surface [cm²]
35	78309387	852939	Mic 10	5	920
	79312117	852588	Sm-x 3	10	650
	79312125	852588	Sm-x 10		
	79312133	852588	Sm-x 25		
50	78309395	852940	Mic 10	5	1135
	79312158	852945	Sm-x 3	10	810
	79312166	852945	Sm-x 10		
	79312174	852945	Sm-x 25		

4.3 Breather element (only for filterhead PA 6)				
Nominal size NG	Order number	Type	Filter material	Filter surface [cm²]
35 50	78206831	852937	Mic	40

5. Specifications

Design:	tank mounting filter
Nominal pressure:	6 bar
Test pressure:	9 bar
Temperature range:	- 30 °C to + 80 °C (other temperature ranges on request)
Bypass opening pressure:	Δp 1.5 bar
Filter head material:	plastic-PA 6/Al
Filter bowl material:	plastic PA6
Filter cover material:	plastic PA6
Indication range of pressure gauge:	0 to 4 bar
Activating pressure of pressure switch:	1.2 bar
Electrical specification of pressure switch:	
Maximum voltage:	42 V
Maximum current on contact:	2 A
Maximum contact load:	100 VA
Type of protection:	IP 65 - with protection cap
Contact type:	bistable
Electrical connection:	AMP 6,3 DIN 46248 connector according to DIN 46247, connectin method 2-pole

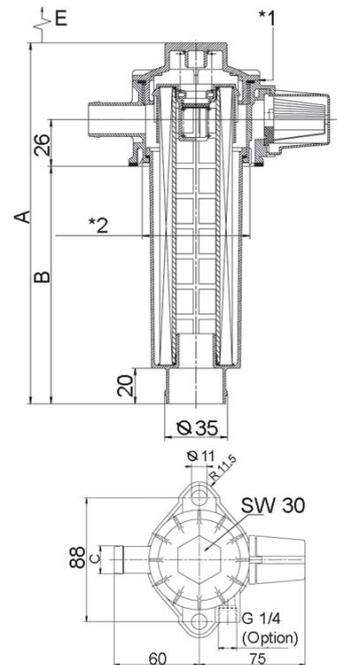
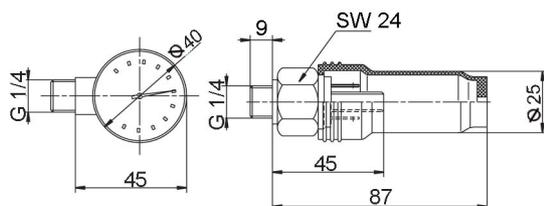
For further information please see our leaflet contamination indicators!

Filters compatible with standard mineral oils.

Please contact us in case of using other media.

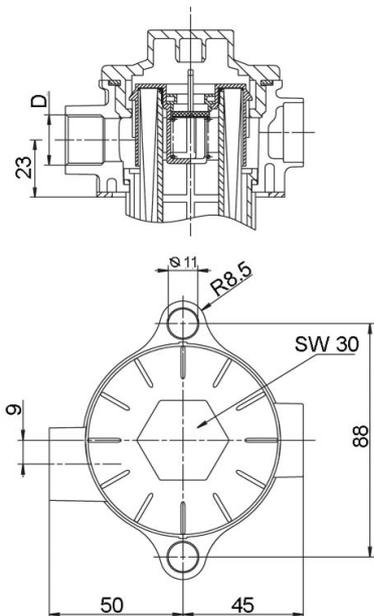
6. Dimensions

Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
Pi 53003/1	203	133.5	DN 20	--	130
Pi 53003/2	203	135	--	G ½	130
Pi 53005/1	241	171.5	DN 20	--	180
Pi 53005/2	241	173	--	G ½	180



*1 Execution with filterhead PA 6

*2 Mounting hole \varnothing 60



Execution with filterhead Al

7. Installation, operating and maintenance instructions

7.1 Filter installation

When installing the filter make sure that :

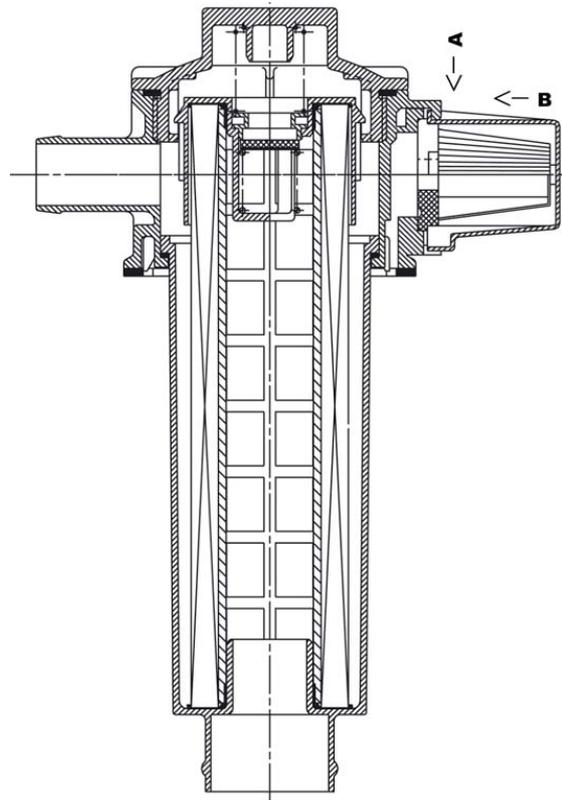
- a) Sufficient space is available to remove filter element and filter bowl,
 - b) The mounting hole in the tank top is not excessively large, to ensure proper sealing,
 - c) The filter is free of tension after installation, max. torque 7 Nm.
- Preferably the filter should be installed with the filter bowl pointing downwards.

7.2 Connecting the electrical pressure switch

The electrical pressure switch is connected via connectors according to DIN 46247.

7.3 When must the filter be replaced?

1. Filters equipped with pressure gage:
When the dynamic pressure reaches 1.2 bar (red/green indication), the filter element must be replaced.
2. Filters equipped with pressure switch:
During cold starts, the pressure switch may give a signal. If the electrical signal has not switched off after reaching operating temperature, the filter element must be replaced after the end of the shift.
3. Filters without indicator:
The filter element should be replaced after trial run or flushing of the system.
Afterwards follow instructions of manufacturer.
4. Please, always ensure that you have original MAHLE replacement elements in stock, disposable elements (M1c, Sm-x) cannot be cleaned.



7.4 Element replacement

1. Stop system and relieve filter from pressure.
2. Unscrew cover, turning counter-clockwise.
3. Remove filter bowl and filter element by pulling upwards.
4. Remove filter element with a side-to-side motion.
5. Clean the filter bowl with a suitable medium.
6. Check o-rings on filter cover and filter bowl for damage.
Replace, if necessary.
7. Make sure that the part number on the spare element corresponds with the part number on the filter name-plate.
8. Remove filter element from plastic bag and reassemble in reverse order (items 1 to 4).
9. Contaminated metal-free elements can be reduced to ashes. Filter elements with metal parts must be disposed in another way.

7.5 Replacement of air breather filter element (plastic filterhead only)

1. Push slightly on the lid and air breather element downwards (lid A).
2. Remove lid and element from the lower hook.
3. Pull out element from the lid.
4. Install new element in the lid.
5. Installation in reverse order.
6. Check correct position of the lid.

Note: Filter element and air breather element should be always replaced at the same time.

Subject to technical alteration without prior notice!

MAHLE

Industrial Filtration

MAHLE Filtersysteme GmbH
Industriefiltration
Schleifbachweg 45
D-74613 Öhringen
Phone +49 (0) 7941/67-0
Fax +49 (0) 7941/67-23429
industriefiltration@mahle.com
www.mahle-industriefiltration.com
70329496.11/2006