



MAHLE
Industriefilter

Tank top return-line filter Pi 530

Nominal size 35 and 50

1. Features

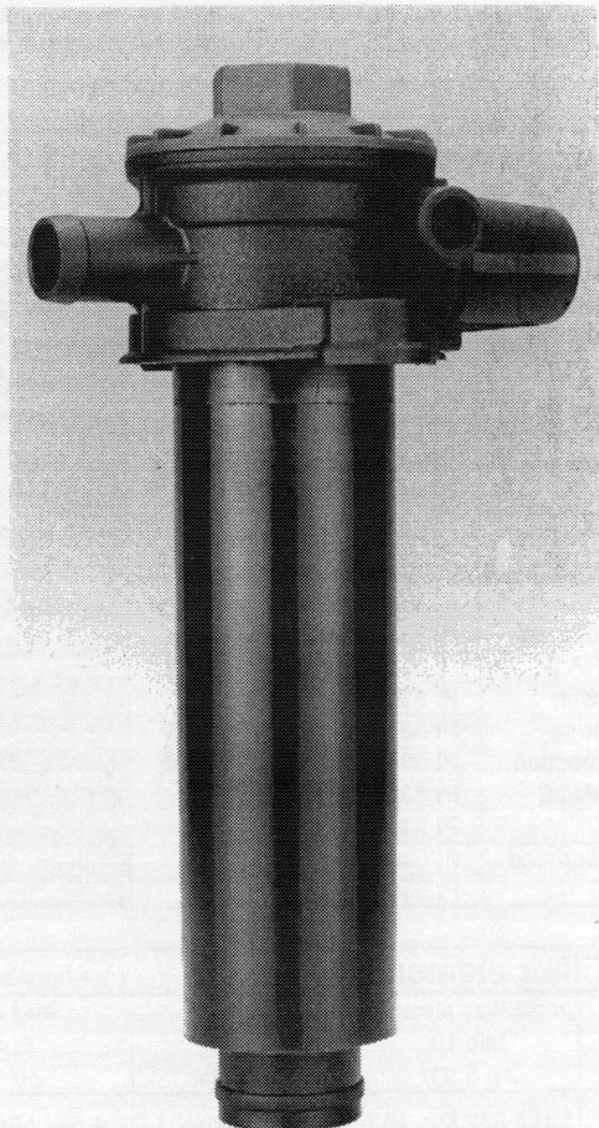
Efficient filters for modern
hydraulic systems

- Modular design
- Compact design
- Minimal pressure loss
- visual / 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 -rated elements per ISO 4572
- Large dirt holding capacity and high differential pressure stability providing optimal element service life

World-wide sales



2. Filter performance data

tested according to ISO 4572 (multi-pass-test)

Sm-x elements with Δp 10 bar

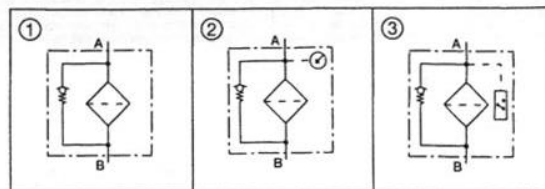
Sm-x 3 $\beta_3 \geq 75$

Sm-x 10 $\beta_{10} \geq 75$

Sm-x 25 $\beta_{25} \geq 75$

at 5 bar final differential pressure

3. Symbols



Example for ordering filters:

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

4. Order numbers

4.1 Housing design

Execution filterhead	Type-Number	Nominal size NG	with ^① bypass-valve 1,5 bar	with breather element (Mic)	with ^② pressure gauge	with ^③ pressure switch Normally closed	with ^③ pressure switch Normally open
filterhead PA 6 with hose-connection DN 20	Pi 53003/1-009	35					
	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						
Al-filterhead G 1/2	Pi 53003/2-009						
	Pi 53003/2-020						
filterhead PA 6 with hose-connection DN 20	Pi 53005/1-009	50					
	Pi 53005/1-020						
	Pi 53005/1-144						
	Pi 53005/1-145						
	Pi 53005/1-146						
	Pi 53005/1-141						
	Pi 53005/1-142						
	Pi 53005/1-143						
Al-filterhead G 1/2	Pi 53005/2-009						
	Pi 53005/2-020						

4.2 Filter elements *

() = filter surface area [] = Type-number

4.3 breather element

(only for filter-head PA 6)

for NG	metal-free element Mic 10 Δp 5 bar	Sm-x 3 Δp 10 bar	Sm-x elements Sm-x 10 Δp 10 bar	Sm-x 25 Δp 10 bar	
35	[852 939 Mic 10] 830.938.7 (920 cm ²)	[852 588 Sm-x 3] 931.211.7 (650 cm ²)	[852 588 Sm-x 10] 931.212.5 (650 cm ²)	[852 588 Sm-x 25] 931.213.3 (650 cm ²)	[852 937 Mic]
50	[852 940 Mic 10] 830.939.5 (1135 cm ²)	[852 945 Sm-x 3] 931.215.8 (810 cm ²)	[852 945 Sm-x 10] 931.216.6 (810 cm ²)	[852 945 Sm-x 25] 931.217.4 (810 cm ²)	820.683.1 (40 cm ²)

* further elements on request

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-PA6 / 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

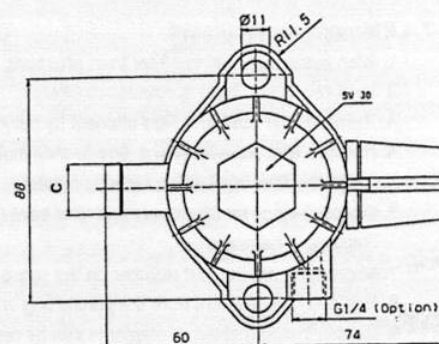
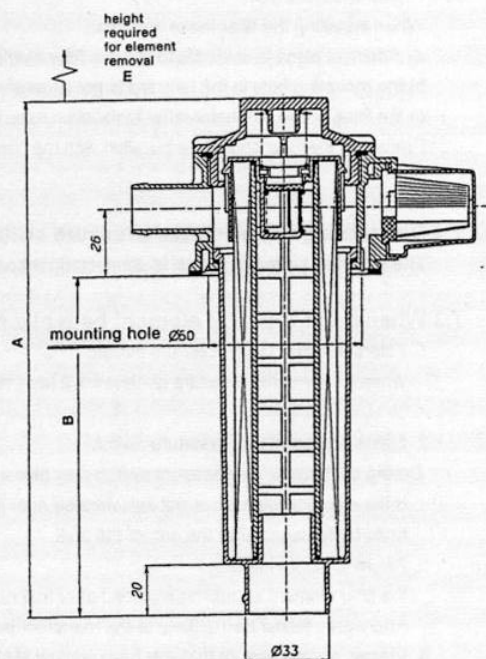
Electrical specifications of pressure switch:

Maximum voltage: 42 V
 Maximum current on contact: 2 A
 Maximum contact load: 100 VA
 Type of protection: IP 65 - with protection cap
 Contact: normally open / normally closed
 Electrical connection: AMP 6,3 DIN 46248
 connector acc. to DIN 46247,
 connection method 2-pole

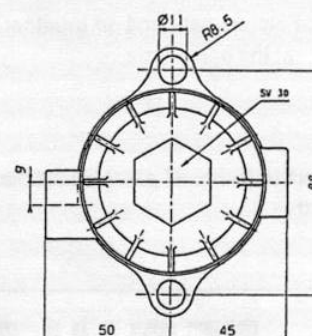
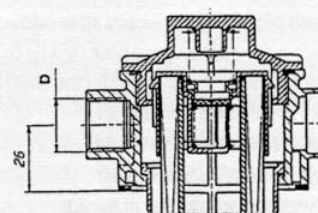
For further information please see our leaflet Contamination indicators!

Filters compatible with standard mineral oils.
 Please contact us in case of using other media.

Execution with filterhead PA 6



Execution with filterhead Al



6. Dimensions

Dim. Type	A	B	C	D	E
Pi 53003/1	203	133,5	DN 20	--	130
Pi 53003/2	203	135	--	G 1/2	130
Pi 53005/1	241	171,5	DN 20	--	180
Pi 53005/2	241	173	--	G 1/2	180

7. Installation, operating and maintenance instructions

7.1 Filter installation

When installing the filter make sure that:

- sufficient place is available to remove filter element and filter bowl,
- the mounting hole in the tank top is not excessively large, to ensure proper sealing,
- 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 acc. to DIN 46247.

7.3 When must the filter element be replaced ?

- Filters equipped with pressure gauge:

when the dynamic pressure achieves 1,2 bar (red / green indication), the filterelement must be replaced.

- 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.

- Filters without indicator:

the filter element should be replaced after trial run or flushing of the system.

Afterwards follow instructions of the manufacturer.

- Please, always ensure that you have original MAHLE replacement elements in stock, disposable elements (Mic, Smx) cannot be cleaned.

7.4 Element replacement

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

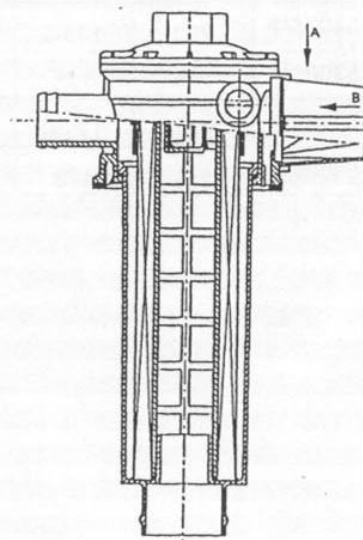
7.5 Replacement of air breather filterelement (plastic filterhead only)

- Push slightly on the lid and air breather element downwards (lid A).

Remove from the upper hook and tip to the back.

- Remove lid and element from the lower hook.
- Pull out element from the lid.
- Install new element in the lid.
- Installation in reversed order.
- Check correct position of the lid.

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



Subject to technical alteration without prior notice.

11/00



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