

Low Pressure Filter

Pi 1941

Operating pressure 10 (25) bar, Nominal size up to 63

1. Features

Efficient filters for modern hydraulic systems

- Modular design
- Minimal pressure loss
- Compact design
- Optical contamination indication
- Threaded ports

Quality filters, easy to service

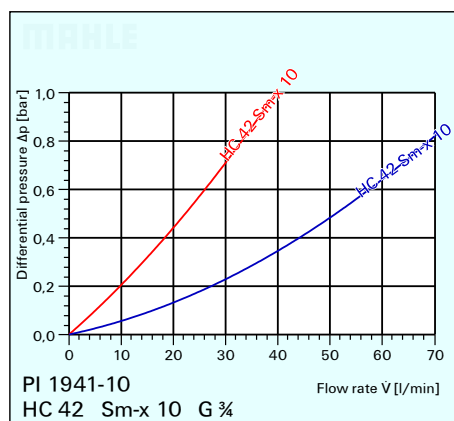
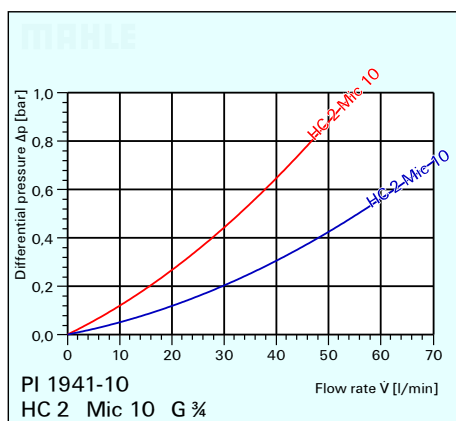
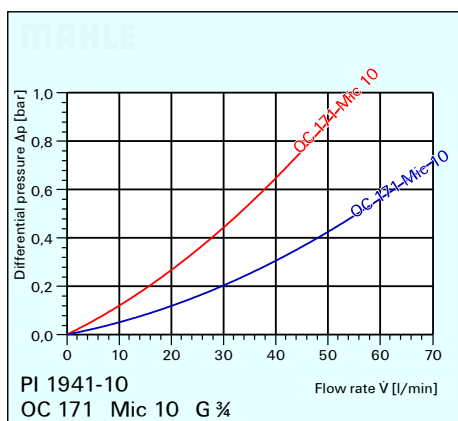
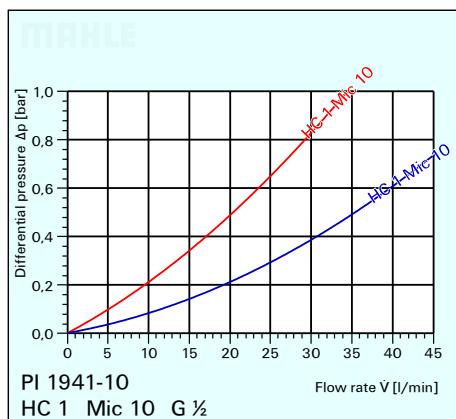
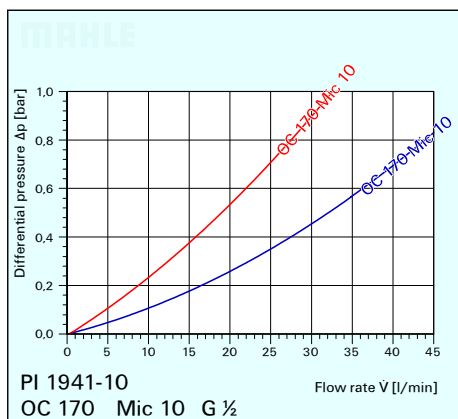
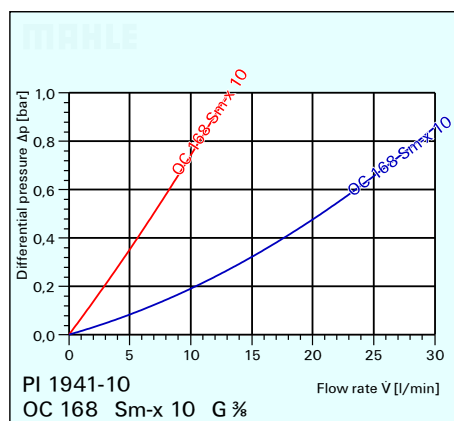
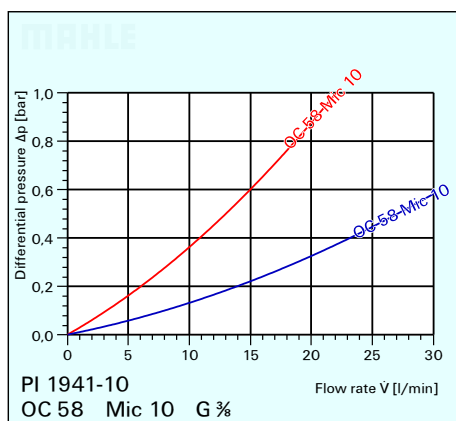
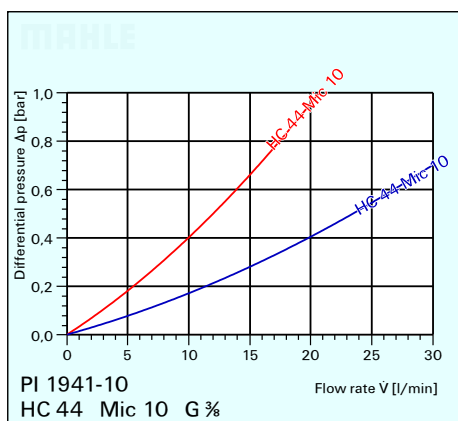
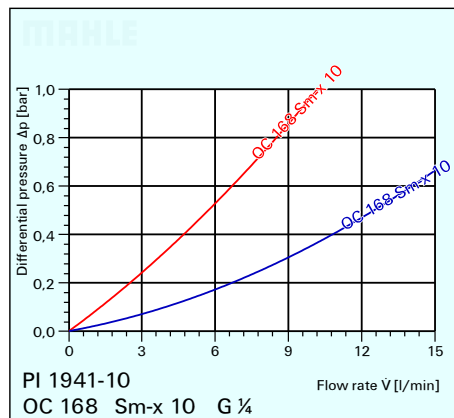
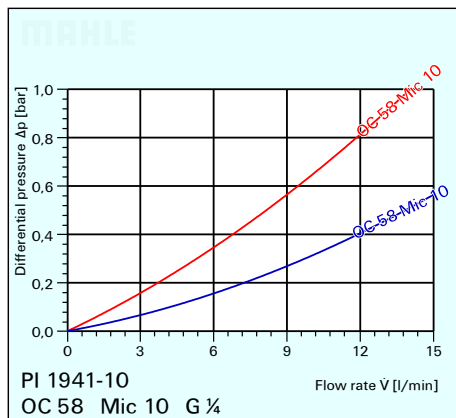
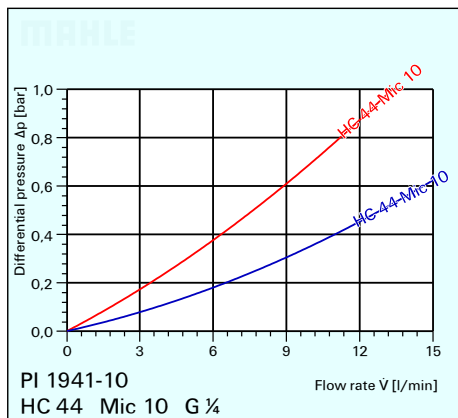
- Highly efficient Mic- or Sm-x-filter elements
- β -rated elements per ISO 4572
- Large dirt holding capacity and high differential pressure stability providing optimal element service life

World-wide sales

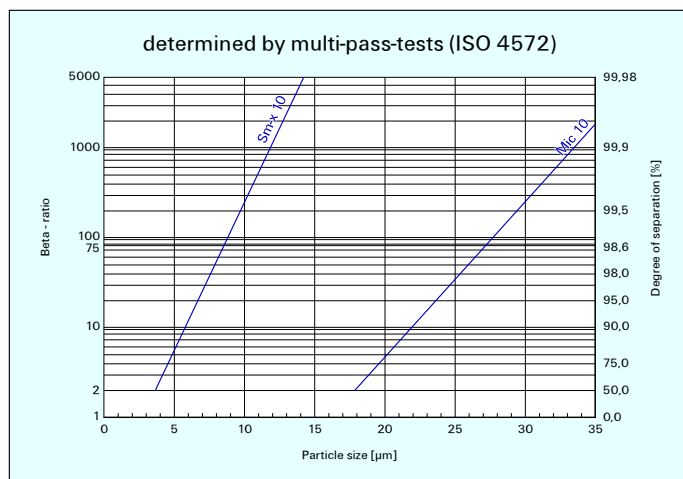


2. Flow rate/pressure drop curve compl. filter

■ 190 mm²/s (25 ° E)
■ 33 mm²/s (4,5 ° E)

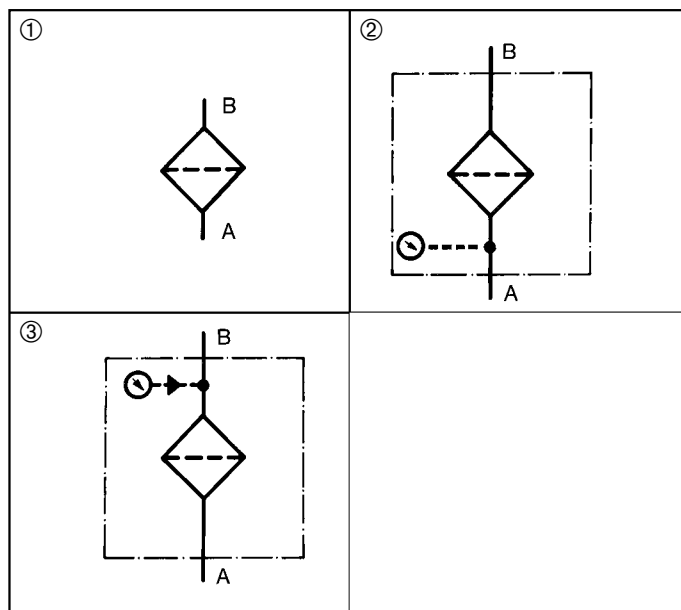


3. Separation characteristics



Spin-on cartridges of the Mic and Sm-x design are resistant to mineral oils. Please contact us in case of using other media.

4. Symbols



5. Test regulations

MAHLE filter elements are manufactured respectively, tested in accordance with the following international standards:

No.	Designation
ISO 2941	Hydraulic filter elements: Verification of burst resistance
ISO 2942	Hydraulic filter elements: Determination of fabrication integrity
ISO 2943	Hydraulic filter elements: Verification of material compatibility with hydraulic fluids
ISO 3723	Hydraulic filter elements: Method for testing end-cap load
ISO 3724	Hydraulic filter elements: Verification of flow fatigue characteristics
ISO 3968.2	Hydraulic filter elements: Evaluation of pressure drop versus flow
ISO 4572	Hydraulic filter elements: Testing of filter performance (Multi-Pass-Test)

Filter order example:
(pressure side)

$\dot{V}$ = 63 l/min rated flow with
pressure manometer + spin-on cartridge Mic 10
Type number **Pi 1941 / 10 / G ¾ / DM + HC 2**
Order number **780.781.1 + 201.324.1**

6. Order numbers for Pressure-Side Installation

7. Order numbers for Suction-Side Installation

6.1 Housing design									6.2 Spin-on cartridges with bypass and check valve					6.3 Spin-on cartridges			7.1 Housing design				
Order number	Type number	Nominal flow rate NG [l/min]	① Standard*	② with pressure manometer		Mic 10 Δp 5 bar	Mic 10 Δp 5 bar	Sm-x 10 Δp 5 bar		③ with vacuum gauge	① Standard*	Nominal flow rate NG [l/min]	Type number	Order number							
		10			}	(1700 cm²)	(1700 cm²)	(1200 cm²)	{			4									
766.436.0	Pi 1941/10/G ¼					750.034.1	778.598.3	750.018.4					Pi 1941/10/G ¼	766.436.0							
781.222.5	Pi 1941/10/G ¼/DM						778.598.3						Pi 1941/10/G ¼/UM	789.403.3							
						[HC 44]	[OC 58]	[OC 168]													
		25			}	(1700 cm²)	(1700 cm²)	(1200 cm²)	{			6									
766.438.6	Pi 1941/10/G ½					750.034.1	778.598.3	750.018.4					Pi 1941/10/G ½	766.438.6							
781.550.9	Pi 1941/10/G ½/DM						778.598.3						Pi 1941/10/G ½/UM	789.404.1							
						[HC 44]	[OC 58]	[OC 168]													
		40			}	(3200 cm²)	(3200 cm²)		{			10									
766.439.4	Pi 1941/10/G ½					784.478.0	764.089.9						Pi 1941/10/G ½	766.439.4							
766.440.2	Pi 1941/10/G ½/DM						764.089.9						Pi 1941/10/G ½/UM	789.405.8							
						[OC 170]	[HC 1]														
		63			}	(5100 cm²)	(5100 cm²)	(3300 cm²)	{			16									
766.437.8	Pi 1941/10/G ¾					201.302.7	201.324.1	750.137.2					Pi 1941/10/G ¾	766.437.8							
780.781.1	Pi 1941/10/G ¾/DM						201.324.1						Pi 1941/10/G ¾/UM	765.896.6							
						[OC 171]	[HC 2]	[HC 42]													

*When filters are used without any accessories it must be ascertained that Δp 5 bars is not exceeded.

8. Specifications

Design:	line mounting filter
Nominal pressure:	10 bar*
Test pressure:	13 bar
Temperature range:	-10 °C bis +120 °C
Bypass opening pressure in the Spin-on cartridge:	
pressure side:	Δp 2,2 bar ± 10 %
Opening pressure check valve:	≤ 0,12 bar
Filter head material:	GDAL
Spin-on-cartridge material:	St
Material of seals:	NBR
Installation position:	preferably vertical
Indicating range: Pressure manometer:	0 bar to 10 bar
Vacuum gauge:	-1 bar to 0 bar

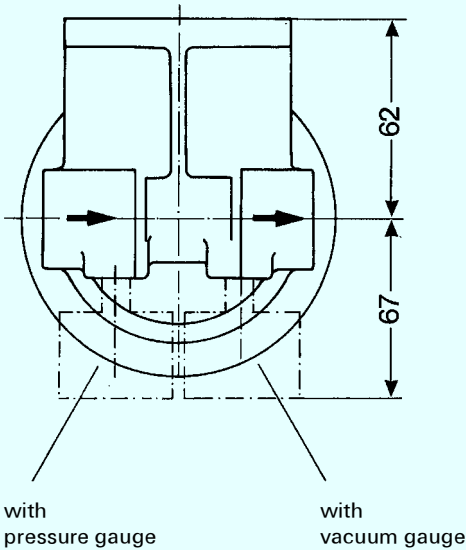
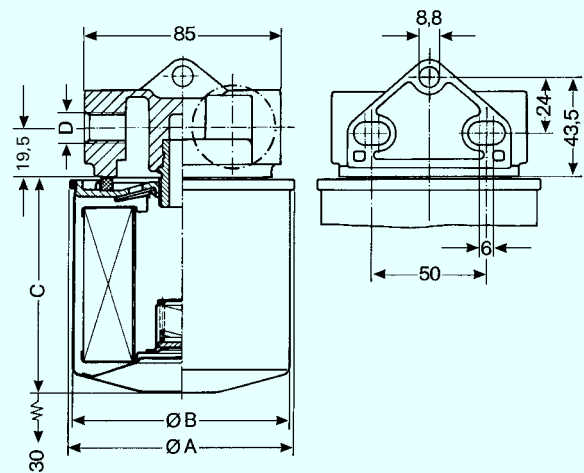
*For the combination of the housing designs as per 6.1 with medium-pressure Spin-on cartridges at 25 bar pressure refer to leaflet “Spin-On Cartridges” for dimensions and specifications.

9. Dimensions

All dimensions (except “C”) in mm

Dimension		Ø A	Ø B	C	D	Weight (kg) Design*	
Nominal flow rate						Mic	Sm-x
10	4	80	76	120	G ¼	0,67	0,82
25	6	80	76	120	G ¾	0,67	0,82
40	10	95	93	141	G ½	0,82	1,02
63	16	95	93	210	G ¾	1,02	1,27

*Design with manometer + 0,1 kg



10. Installation, operating, and maintenance instructions

10.1 Filter installation

When installing the filter make sure that sufficient space is available to remove the spin-on cartridge. Preferably the filter should be installed with the spin-on cartridge pointing downwards.

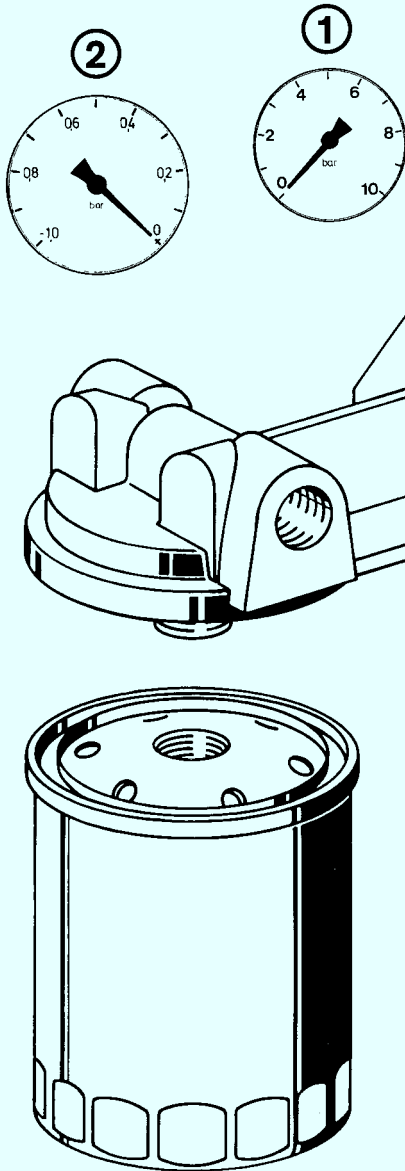
10.2 When must the spin-on cartridge be replaced?

1. Filters equipped with the vacuum gauge for suction-side installation:
During cold start the vacuum gauge may for a short period indicate $>0,2$ bar.
With increasing operating temperature the indicator needle must drop clearly below the 0,2 bar mark. Should this not be the case, the spin-on cartridge must be replaced after the end of the shift.
2. Filters without manometer: the spin-on cartridge should be replaced after the trial run or flushing of the system.
Afterwards follow instructions of the manufacturer.
3. Please always ensure that you have original MAHLE replacement cartridges in stock.

10.3 Change of spin-on cartridge

1. Stop plant and relieve filter from pressure.
2. Unscrew the spin-on cartridge with the aid of a belt spanner by turning same to the left.
3. Check if the part number on the new spin-on cartridge is identical with that of the type plate.
4. The seal of the spin-on cartridge should be lightly oiled.
5. Screw cartridge on in accordance with the printed-on instructions.

Subject to technical alteration.



11. Spare Parts List

Pos.	Type number	Order number
①	Pressure manometer [DM]	787.061.1
②	Vacuum gauge [UM 3]	761.755.8



MAHLE
Industriefilter

KNECHT Filtergruppe

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