

## Mobile Filter Units

### Pi 8100

Flow rates 27 and 55 l / min

#### 1. Features

##### High performance multi-purpose filtration unit

- Mobile partial flow filtration for hydraulic and lubricating systems.
- System and container filling.
- Pumping out and filtering of old oil.
- Transfer pumping of container contents.
- Reduces dirt loading of system filters on start-up and following repairs.
- Achievement of specified cleanliness classes using Mahle Sm-x filter elements.
- Excellent contamination absorption performance using Mahle Sm-N2 partial flow filter elements.

##### High quality construction Ease of handling

- Mahle Pi 150 partial flow filter housing with quick-release cover for fast element replacement.
- Oil collection tank/automatic venting.
- Automatic pump cut-off.
- Low operating noise.
- Robust delivery pump with helical gearing and integral pressure relief valve.
- Suitable for mineral oils, HFC and biodegradable oils.
- Good suction performance, also suitable for high viscosity products.

##### World-wide sales



## 2. Flow rate / pressure drop curve compl. filter

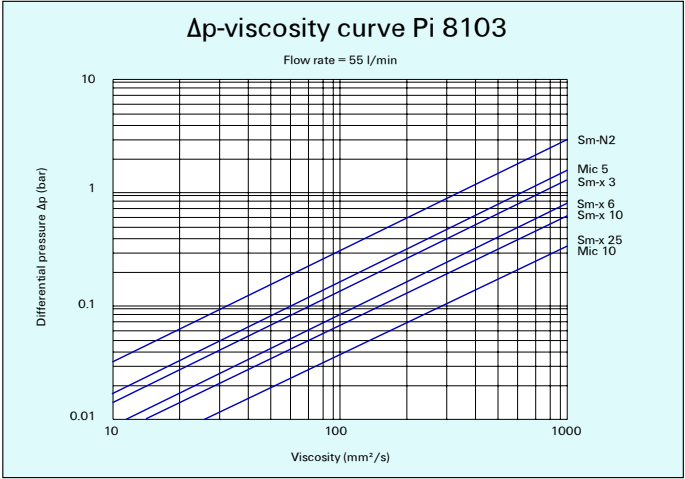
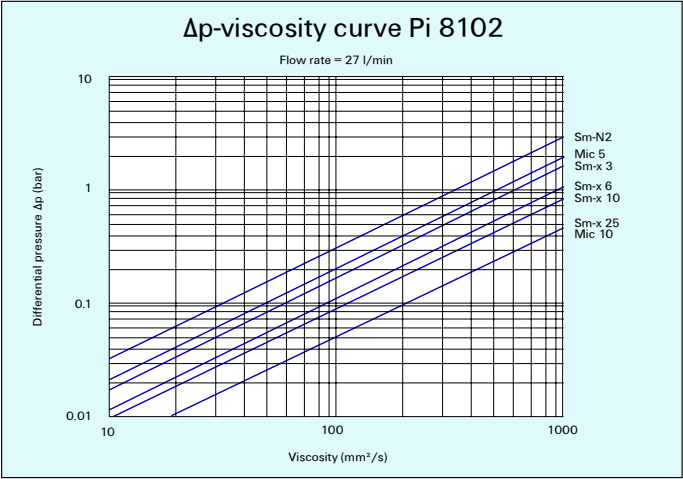
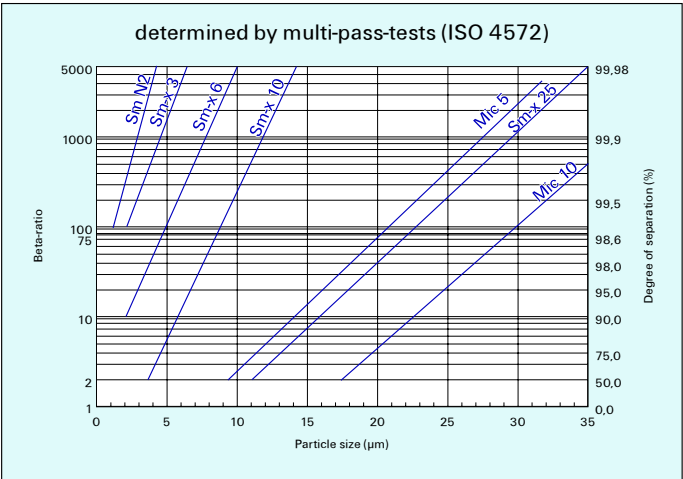


Illustration shows starting  $\Delta p$  of complete filter (housing incl. element) of the mobile filter units.  
Recommended starting  $\Delta p$ : max 0,5 bar at bypass filtration  
max. 0,8 bar for filling or transfer by pump

## 3. Seperation characteristics



## 4. Filter performance data

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

Sm-N/Sm-x elements where  $\Delta p$  is 10 bar

Sm-N 2  $\beta_2 \geq 75$   
Sm-x 3  $\beta_3 \geq 75$   
Sm-x 6  $\beta_6 \geq 75$   
Sm-x 10  $\beta_{10} \geq 75$   
Sm-x 25  $\beta_{25} \geq 75$   
at 5 bar differential pressure

### Ordering example:

- 55 l/min. Filter unit and Sm-N2 filter element:  
Pi 8103 - 069 / 852 761 Sm-N2
- Replacement element for 1:  
852 761 Sm-N 2, order no. 837.586.7

## 5. Order numbers

### 5.1 Equipment design

Type number	Delivery flow [l/min]	Design	
Pi 8102-069	27	With mechanical/electrical contamination indicator and pump cut-off*	
Pi 8103-069	55		

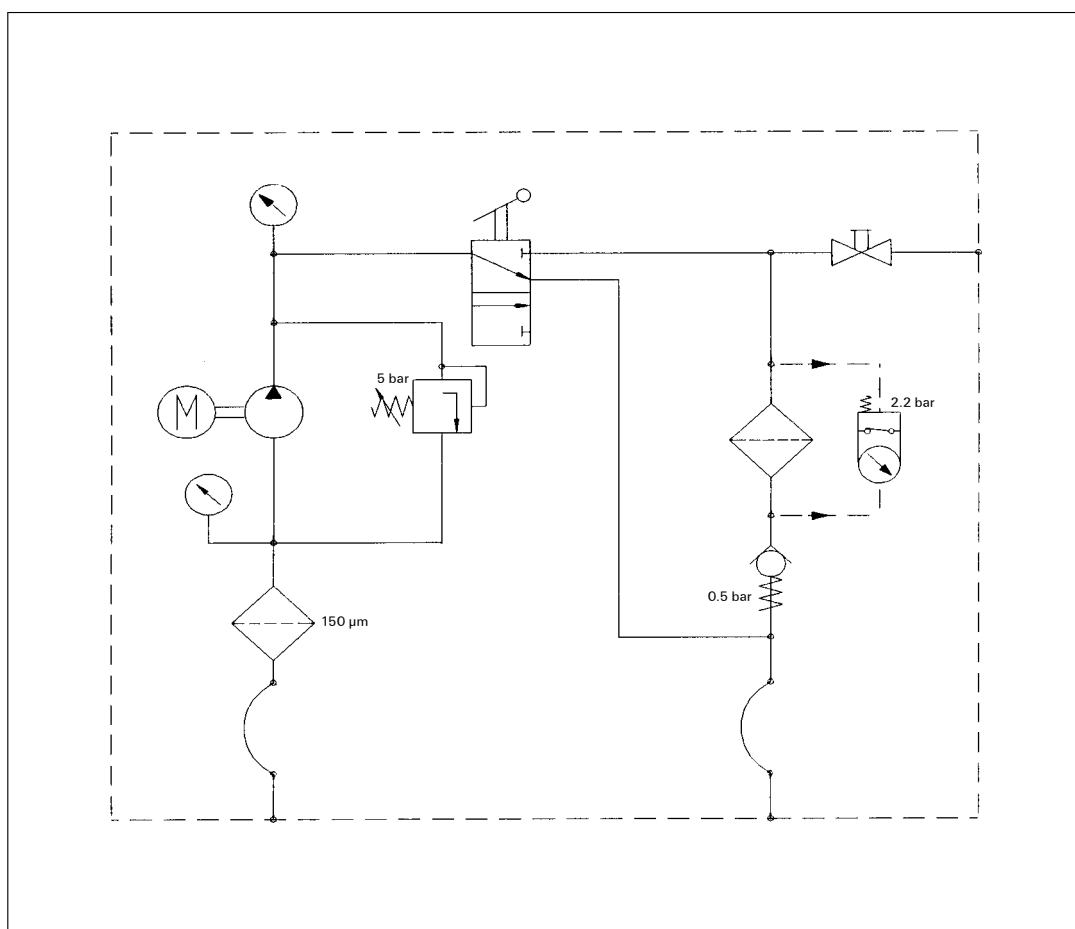
\* other designs on request

## 6. Test regulations

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

Norm	Designation
ISO 2941	Hydraulic-fluid power-Filter elements-Verification of collapse / burst resistance
ISO 2942	Hydraulic-fluid power-Filter elements-Verification of fabrication integrity and determination of the first bubble point
ISO 2943	Hydraulic-fluid power-Filter elements-Verification of material compatibility with fluids
ISO 3723	Hydraulic fluid power-Filter elements-Method for end load test
ISO 3724	Hydraulic fluid power-Filter elements-Verification of flow fatigue characteristics
ISO 3968	Hydraulic fluid power-Filters-Evaluation of pressure drop versus flow characteristics
ISO 10 771.1	Fatigue pressure testing of metal containig envelopes in hydraulic fluid applications.
ISO 16 889	Hydraulic Fluidpower filters-Multi-pass method for evaluation filtration performance of a filterelement

## 7. Wiring Diagram



### 5.2 Filter elements\*\*

( ) = Filter surface area  
Order number

[ ] = Type number

	<b>Mic 5</b> Δp 5 bar	<b>Mic 10</b> Δp 5 bar	<b>Sm-N 2</b> Δp 10 bar	<b>Sm-x 3</b> Δp 10 bar	<b>Sm-x 6</b> Δp 10 bar	<b>Sm-x 10</b> Δp 10 bar	<b>Sm-x 25</b> Δp 10 bar
	(23800 cm <sup>2</sup> ) <b>777.445.8</b> [852 760 Mic 5]	(23800 cm <sup>2</sup> ) <b>777.444.1</b> [852 760 Mic 10]	(16000 cm <sup>2</sup> ) <b>795.585.9</b> [852 760 Sm-N2]	(14500 cm <sup>2</sup> ) <b>777.443.3</b> [852 760 Sm-x3]	(14500 cm <sup>2</sup> ) <b>829.904.2</b> [852 760 Sm-x6]	(14500 cm <sup>2</sup> ) <b>777.442.5</b> [852 760 Sm-x10]	(14500 cm <sup>2</sup> ) <b>780.656.5</b> [852 760 Sm-x25]
	(47600 cm <sup>2</sup> ) <b>777.441.7</b> [852 761 Mic 5]	(47600 cm <sup>2</sup> ) <b>777.440.9</b> [852 761 Mic 10]	(32000 cm <sup>2</sup> ) <b>837.586.7</b> [852 761 Sm-N2]	(29000 cm <sup>2</sup> ) <b>777.439.1</b> [852 761 Sm-x3]	(29000 cm <sup>2</sup> ) <b>822.589.8</b> [852 761 Sm-x6]	(29000 cm <sup>2</sup> ) <b>777.438.3</b> [852 761 Sm-x10]	(29000 cm <sup>2</sup> ) <b>780.657.3</b> [852 761 Sm-x25]

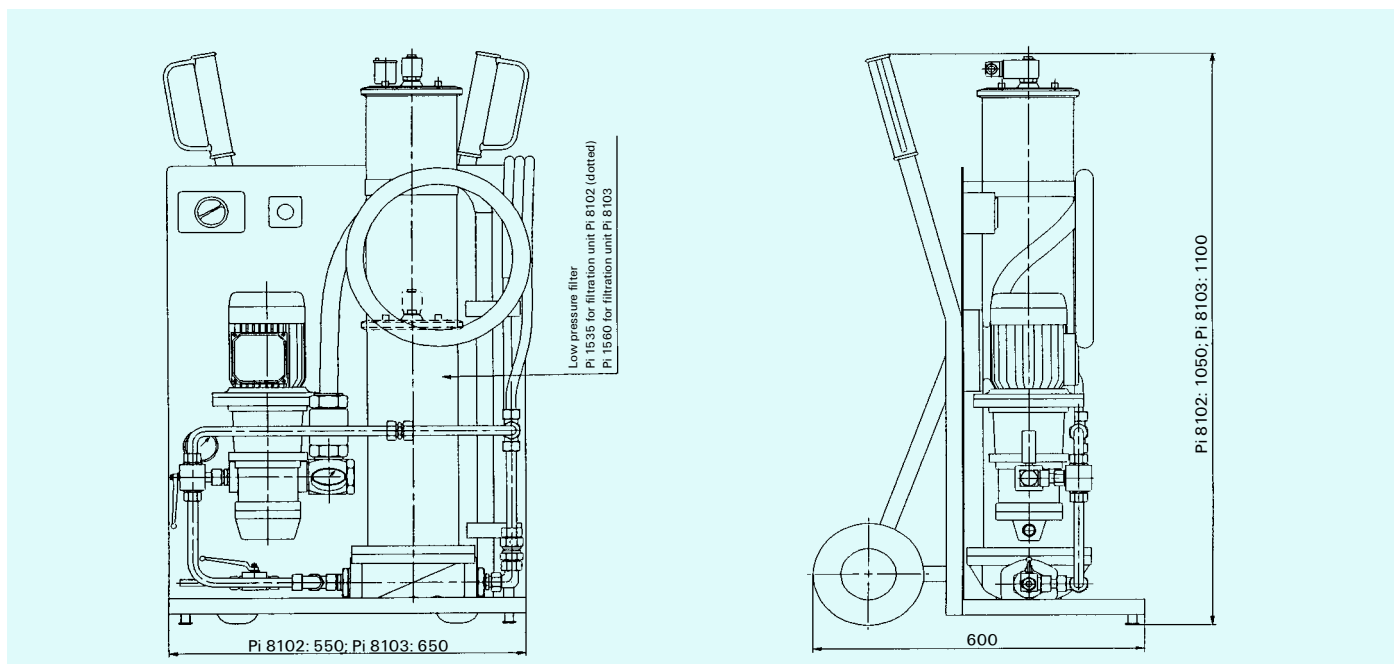
\*\* Further elements available upon request

## 8. Technical data

Filtration Unit Type	Pi 8102 - 069	Pi 8103 - 069
<b>Delivery flow</b>	<b>27 l/min</b>	<b>55 l/min</b>
Motor output	0,75 KW/1450 l/min	1,5 KW/1450 l/min
Power supply	230/400 V/50 Hz	230/400 V/50 Hz
Connection cable	7 m with EEC connector	7 m with EEC connector
Pressure limiting valve	5 bar	5 bar
<b>Pump, Type</b>	WP gear pump with outward-facing helical gear shafts	
Pump protection filter	Cleanable 150 µm wire mesh suction filter	
Minimum suction pressure	0,6 bar	0,6 bar
Maximum suction pressure	1,4 bar	1,4 bar
Pump viscosity range	7,5 - 2500 mm <sup>2</sup> /s	7,5 - 2500 mm <sup>2</sup> /s
Pump temperature range	- 20 - + 120 °C	- 20 - + 120 °C
<b>Mahle partial flow filter</b>	Pi 1535/10-069	Pi 1560/10-069
Nominal pressure	10 bar	10 bar
Filter element	see options table	
Filter area loading	0,0011 - 0,0019 l/min/cm <sup>2</sup>	0,0012 - 0,0019 l/min/cm <sup>2</sup>
Filter monitor	Optical/electrical differential pressure indicator and automatic pump cut-off	
Δp reading threshold pressure	2,2 bar	2,2 bar
<b>Unit monitor</b>	Vacuum pressure gauge at the pump and pressure gauge suction points	
Filtration unit / filter element combination	See differential pressure / viscosity curves	
operating range	Screw fittings and pipes are zinc plated and chromated	
<b>Pipes</b>		
2,5 m flexible suction pipe, transparent, with suction pipe	DN 25	DN 38
2,5 m flexible delivery pipe with pipe lance	DN 19	DN 25
Noise level	< 72 dB (A)	< 72 dB (A)
Seals	FPM (Viton)*	FPM (Viton)*
Weight	Approx. 80 kg	Approx. 108 kg

\*other seals can be supplied on request

## 9. Dimensions



Subject to technical alteration without prior notice.

# MAHLE