

# MAHLE

*Driven by performance*

Mobile Filter Unit

Pi 8210

Flow rate 15 l/min

## 1. Features

**High performance filter unit for modern hydraulic and lubrication systems**

- Simple filling and cleaning of hydraulic and lubrication systems
- Sturdy and stable, flexible handling thanks to a frame with wheels and folding carrying handle, even stairs present no obstacle (like a case trolley)
- Folding down the handle allows the unit to be carried in one hand
- Low-noise internal gear pump with drive shaft mounted in double bearings and integrated pressure relief valve
- Complete with intake and delivery hose, suction lance with coarse screen
- Integrated oil drip pan
- Minimum power loss thanks to high efficiency and optimum flow design of the components
- Maintenance indicator (pressure gauge)
- Equipped with highly efficient MAHLE Sm-x spin-on cartridges
- Beta rated elements according to ISO 16889 multipass test
- Elements with high dirt holding capacity thanks to large filter surface
- Achievement of defined purity classes
- Easy to service
- Worldwide distribution

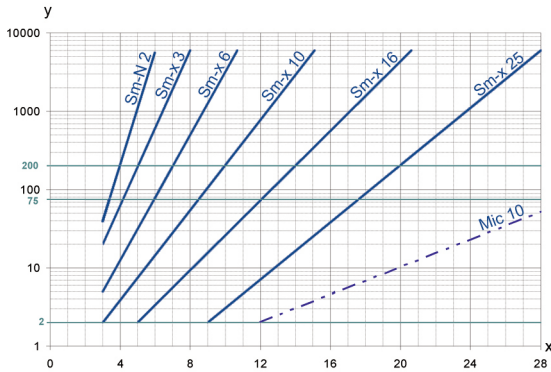


## 2. Mode of operation

The self-priming internal gear wheel pump draws in the medium from the extraction point via the lance in the suction hose and delivers it via the spin-on cartridge and the pressure hose with lance to the delivery point. A significant improvement in the oil quality is thus achieved during filling and refilling oil tanks. MAHLE PX Series spin-on cartridges are available as filters.

In bypass mode, outstanding oil cleanliness classes to ISO 4406/1999 can be achieved with this unit and the MAHLE Sm-x spin-on cartridges. A gauge with red/green field is installed to monitor the filter cartridges. The filter unit is suitable for all mineral oil-based hydraulic and lubricating oils.

## 3. Separation grade characteristics



y = beta-value

x = particle size [µm]

determined by multi-pass measurements (ISO 16889)

calibration according to ISO 11171 (NIST)

## 4. Filter performance data

tested according to ISO 16889 (multipass test)

Sm-N 2  $\beta_{4(C)} \geq 200$

Sm-x 3  $\beta_{5(C)} \geq 200$

Sm-x 6  $\beta_{7(C)} \geq 200$

Sm-x 10  $\beta_{10(C)} \geq 200$

Sm-x 25  $\beta_{20(C)} \geq 200$

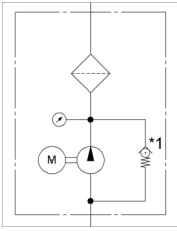
up to 10 bar differential pressure

## 5. Quality assurance

MAHLE filter and filter elements are produced and tested according to the following international standards:

Standard	Title
DIN ISO 2941	Hydraulic fluid power filter elements; verification of collapse/burst resistance
DIN ISO 2942	Hydraulic fluid power filter elements; verification of fabrication integrity
DIN ISO 2943	Hydraulic fluid power filter elements; verification of material compatibility with fluids
DIN ISO 3723	Hydraulic fluid power filter elements; method for end load test
DIN 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 10771.1	Fatigue pressure testing of metal containing envelopes in hydraulic fluid applications
ISO 16889	Hydraulic fluid power filters-multipass method for evaluation filtration performance of a filter element

## 6. Symbols



\*1 pressure relief valve 4 bar ± 0.5 %

## 7. Order numbers

Ordering example for filter:

1. Filter unit	2. Replacement spin-on cartridge
V = 15 l/min with gauge and Sm-x 3 spin-on cartridge Type designation: Pi 82101-063/PX33-13-2 Sm-x3 Order number: 70551659	Sm-x 3 Type designation: PX33-13-2 Sm-x3 Order number: 70541521

### 7.1 Filter unit

Nominal size NG [l/min]	Order number	Type designation	with gauge
15	70573194	Pi 82101-063/PX33-13-2 Sm-N2	
	70551659	Pi 82101-063/PX33-13-2 Sm-x3	
	70573195	Pi 82101-063/PX33-13-2 Sm-x6	
	70573196	Pi 82101-063/PX33-13-2 Sm-x10	
	70573197	Pi 82101-063/PX33-13-2 Sm-x25	
	70573198	Pi 82101-063/PX33-13-2 Mic10	
	70573199	Pi 82101-063/PX33-13-2 Mic25	

### 7.2 Spin-on cartridges

Nominal size NG [l/min]	Order number	Type designation	Filter material	max. Δ p [bar]	Filter surface [cm <sup>2</sup> ]
100	70548477	PX33-13-2 Sm-N2	Sm-N 2	5	3400
	70541521	PX33-13-2 Sm-x3	Sm-x 3		3400
	70541522	PX33-13-2 Sm-x6	Sm-x 6		3400
	70541523	PX33-13-2 Sm-x10	Sm-x 10		3400
	70541524	PX33-13-2 Sm-x25	Sm-x 25		3400
	70541525	PX33-13-2 Mic10	Mic 10		7000
	70541527	PX33-13-2 Mic25	Mic 25		7000

## 8. Technical specifications

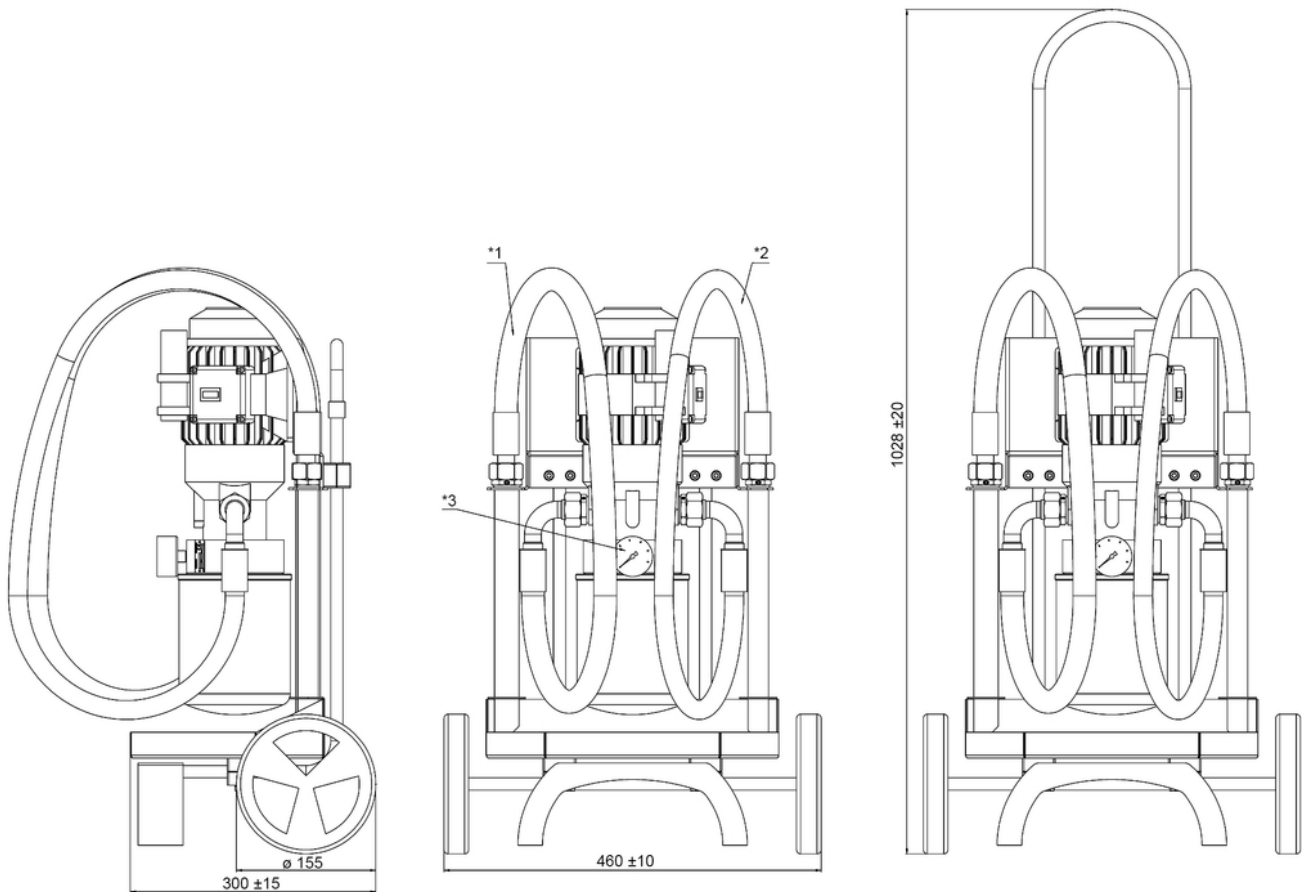
Delivery volume:	15 l/min
Nominal pressure:	10 bar/14 psi
Test pressure:	13 bar/180 psi
Perm. temperature:	-10 to +80 °C
Opening pressure pressure relief valve:	4 bar
Green/red gauge border line:	2.2 bar
Motor output:	0.25 kW
Revolutions:	1400 1/min
Voltage:	230 V AC/50 Hz
Rated current:	1.9 A
Protection class:	IP54
Viscosity range:	10 – 400 mm <sup>2</sup> /s
Length of hoses:	2.5 m
Weight:	18 kg

We draw attention to the fact that all values indicated are average values. Our products are continually being further developed. Values, dimensions and weights can change as a result of this. Our specialised department will be pleased to help you.

Please contact us before using our filters in areas governed by EU Directive 94/9/EC (ATEX 95). The standard version can be used for liquids based on mineral oil (corresponding to the fluids in Group 2 of Directive 97/23 EC Article 9). If you consider to use other fluids please contact us for additional support.

Subject to technical alteration without prior notice.

## 9. Dimensions



- \*1 = Suction hose DN19
- \*2 = Pressure hose DN16
- \*3 = Gauge

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