

## Air Breather Filter Pi 0101 - Pi 0185

### 1. Features

The Pi 0101 through Pi 0126 breather filters have housings made of non-corrosive material.

The air intake is located in the upper section, this prevents surface dust to be drawn in from the tank top. The cover is designed to prevent entry of splash-water. The disposable, pleated elements can be replaced in a matter of seconds.

The Pi 0140 through Pi 0185 breather filters have a housing made of galvanized sheet metal. The built-in o-ring provides accurate sealing at the tank connection. With the choice of Mic or Sm-L elements the CETOP RP 98 H requirements are fulfilled. These specify the same filtration degree for the breather filter as the system filter utilizes.

Mol-elements prevent oil mist from emerging the tank. The oil mist coagulate, forming drops within the pleated coalescer layer, which are returned to the tank.

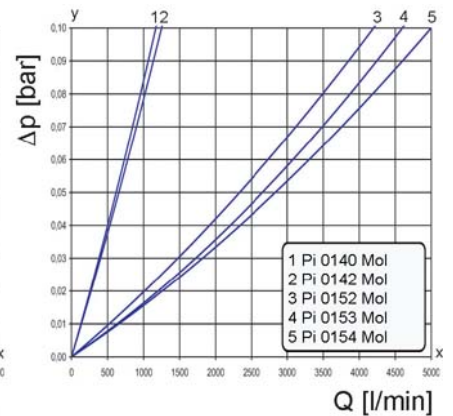
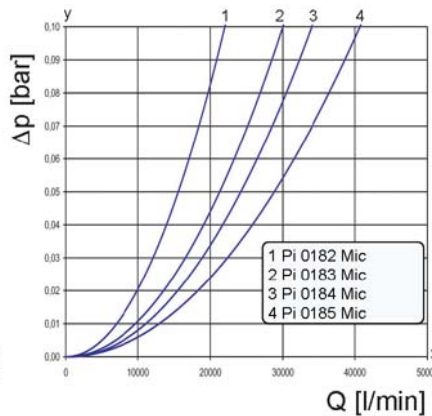
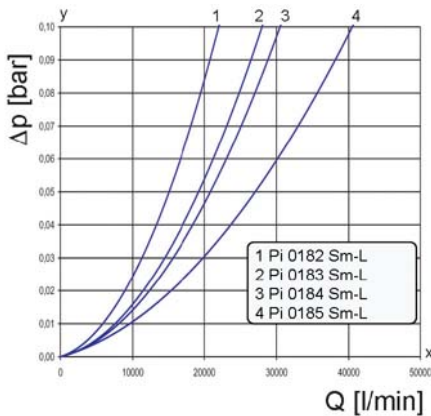
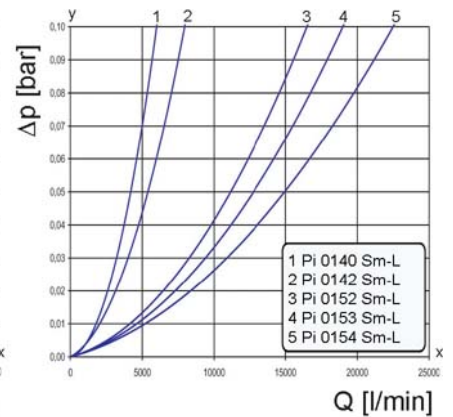
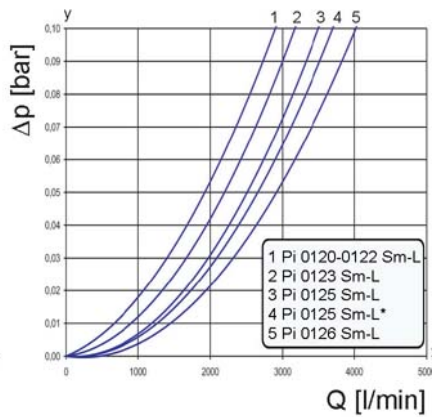
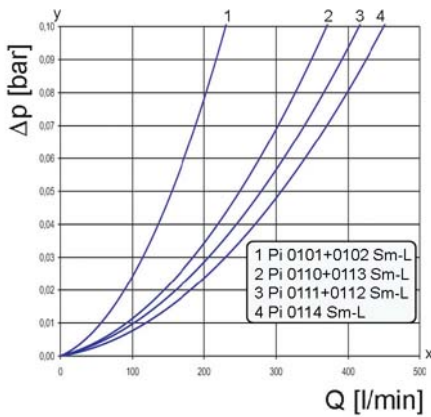
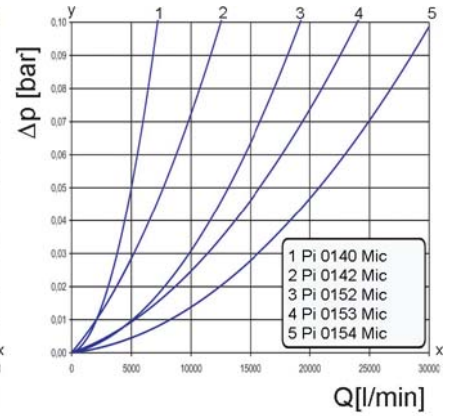
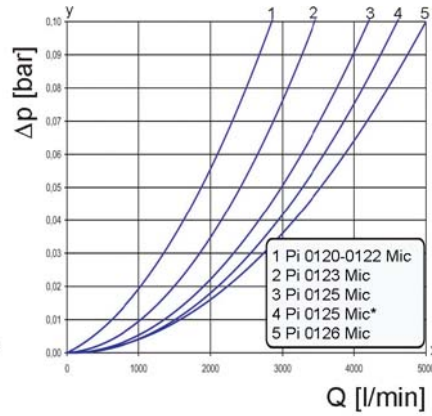
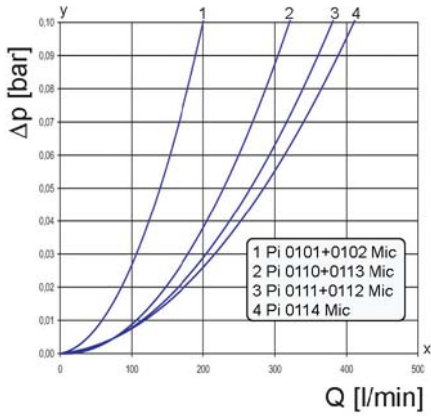
Filters are fixed by threads, clamps or flanges.

**Air breather filter Pi 0101 - 0185 are offering the following features**

- Corrosion resistant
- Compact design
- Equipped with Mic, Sm-L and Mol elements
- High dirt holding capacity
- Versatile mounting option: screwed, clamped or flanged
- Versatile combination possibilities
- Wide range of accessories
- Worldwide distribution



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



y = differential pressure  $\Delta p$  [bar]

x = air flow rate Q [l/min]

\* without grid

3.1 Filter complete							3.2 Filter elements		
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service integrator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77575830	Pi 0101 Mic	■					77687692	852 514 Mic	3
77575848	Pi 0101 Sm-L		■				77643562	852 514 Sm-L	3
77575806	Pi 0102 Mic	■					77687692	852 514 Mic	3
77575814	Pi 0102 Sm-L		■				77643562	852 514 Sm-L	3
77734700	Pi 0110 Mic	■					77687643	852 507 Mic	3
77734718	Pi 0110 Sm-L		■				77643547	852 507 Sm-L	3
77734734	Pi 0111 Mic	■					77687643	852 507 Mic	3
77734742	Pi 0111 Sm-L		■				77643547	852 507 Sm-L	3
77734767	Pi 0112 Mic	■					77687643	852 507 Mic	3
77734775	Pi 0112 Sm-L		■				77643547	852 507 Sm-L	3
77734791	Pi 0113 Mic	■					77687643	852 507 Mic	3
77734809	Pi 0113 Sm-L		■				77643547	852 507 Sm-L	3
77734825	Pi 0114 Mic	■					77687643	852 507 Mic	3
77734833	Pi 0114 Sm-L		■				77643547	852 507 Sm-L	3
77575681	Pi 0120 Mic	■					77687767	852 519 Mic	3
77575699	Pi 0120 Sm-L		■				77643554	852 519 Sm-L	3
70343778	Pi 0120 Mic- UM	■			■		77687767	852 519 Mic	3
70343781	Pi 0120 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77575657	Pi 0121 Mic	■					77687767	852 519 Mic	3
77575665	Pi 0121 Sm-L		■				77643554	852 519 Sm-L	3
79335928	Pi 0121 Mic/UM	■			■		77687767	852 519 Mic	3
79337494	Pi 0121 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77575624	Pi 0122 Mic	■					77687767	852 519 Mic	3
77575632	Pi 0122 Sm-L		■				77643554	852 519 Sm-L	3
70344281	Pi 0122 Mic/UM	■			■		77687767	852 519 Mic	3
70344282	Pi 0122 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77575590	Pi 0123 Mic	■					77687767	852 519 Mic	3
77575608	Pi 0123 Sm-L		■				77643554	852 519 Sm-L	3
79337486	Pi 0123 Mic/UM	■			■		77687767	852 519 Mic	3
76317812	Pi 0123 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77728223	Pi 0125 Mic	■					77687767	852 519 Mic	3
77728231	Pi 0125 Sm-L		■				77643554	852 519 Sm-L	3
79311853	Pi 0125 Mic/UM	■			■		77687767	852 519 Mic	3
79364241	Pi 0125 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77728165	Pi 0126 Mic	■					77687767	852 519 Mic	3
77728173	Pi 0126 Sm-L		■				77643554	852 519 Sm-L	3
79343260	Pi 0126 Mic/UM	■			■		77687767	852 519 Mic	3
79326695	Pi 0126 Sm-L/UM		■		■		77643554	852 519 Sm-L	3
77749732	Pi 0140 Mic	■					77687999	852 621 Mic	3
77749740	Pi 0140 Sm-L		■				77645625	852 621 Sm-L	3
77765498	Pi 0140 Mol			■			77789365	852 621 Mol	3
77749765	Pi 0140 Mic/VA	■				■	77687999	852 621 Mic	3
77749773	Pi 0140 Sm-L/VA		■			■	77645625	852 621 Sm-L	3
77765506	Pi 0140 Mol/VA			■		■	77789365	852 621 Mol	3
77730724	Pi 0142 Mic	■					77687999	852 621 Mic	3
77730732	Pi 0142 Sm-L		■				77645625	852 621 Sm-L	3
77765514	Pi 0142 Mol			■			77789365	852 621 Mol	3
77728272	Pi 0142 Mic/VA	■				■	77687999	852 621 Mic	3

3.1 Filter complete							3.2 Filter elements		
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service indicator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77728280	Pi 0142 Sm-L/VA						77645625	852 621 Sm-L	3
77765522	Pi 0142 Mol/VA						77789365	852 621 Mol	3
76102107	Pi 0145 Mic						76101174	852 985 Mic	2
76102123	Pi 0145 Sm-L						76101182	852 985 Sm-L	2
76102115	Pi 0145 Mic/UM						76101174	852 985 Mic	2
76102131	Pi 0145 Sm-L/UM						76101182	852 985 Sm-L	2
76102149	Pi 0146 Mic						76101174	852 985 Mic	2
76102164	Pi 0146 Sm-L						76101182	852 985 Sm-L	2
76102156	Pi 0146 Mic/UM						76101174	852 985 Mic	2
76102172	Pi 0146 Sm-L/UM						76101182	852 985 Sm-L	2
76102180	Pi 0147 Mic						76101174	852 985 Mic	2
76102206	Pi 0147 Sm-L						76101182	852 985 Sm-L	2
76102198	Pi 0147 Mic/UM						76101174	852 985 Mic	2
76102214	Pi 0147 Sm-L/UM						76101182	852 985 Sm-L	2
76102222	Pi 0148 Mic						76101174	852 985 Mic	2
76102248	Pi 0148 Sm-L						76101182	852 985 Sm-L	2
76102230	Pi 0148 Mic/UM						76101174	852 985 Mic	2
76102255	Pi 0148 Sm-L/UM						76101182	852 985 Sm-L	2
76102263	Pi 0149 Mic						76101174	852 985 Mic	2
76102289	Pi 0149 Sm-L						76101182	852 985 Sm-L	2
76102271	Pi 0149 Mic/UM						76101174	852 985 Mic	2
76102297	Pi 0149 Sm-L/UM						76101182	852 985 Sm-L	2
77749328	Pi 0152 Mic						77687726	852 516 Mic	2
77749336	Pi 0152 Sm-L						77687759	852 516 Sm-L	2
77765530	Pi 0152 Mol						77789381	852 516 Mol	2
77749351	Pi 0152 Mic/VA						77687726	852 516 Mic	2
77749369	Pi 0152 Sm-L/VA						77687759	852 516 Sm-L	2
77765548	Pi 0152 Mol/VA						77789381	852 516 Mol	2
77728306	Pi 0153 Mic						77687726	852 516 Mic	2
77728314	Pi 0153 Sm-L						77687759	852 516 Sm-L	2
77765555	Pi 0153 Mol						77789381	852 516 Mol	2
77728330	Pi 0153 Mic/VA						77687726	852 516 Mic	2
77728348	Pi 0153 Sm-L/VA						77687759	852 516 Sm-L	2
77765563	Pi 0153 Mol/VA						77789381	852 516 Mol	2
77749799	Pi 0154 Mic						77687726	852 516 Mic	2
77749807	Pi 0154 Sm-L						77687759	852 516 Sm-L	2
77765571	Pi 0154 Mol						77789381	852 516 Mol	2
77749823	Pi 0154 Mic/VA						77687726	852 516 Mic	2
77749831	Pi 0154 Sm-L/VA						77687759	852 516 Sm-L	2
77765589	Pi 0154 Mol/VA						77789381	852 516 Mol	2
77950918	Pi 0182 Mic						77950298	852 822 Mic	1
77950926	Pi 0182 Sm-L						77950348	852 822 Sm-L	1
77950934	Pi 0182 Mol						77873318	852 822 Mol	1
77950959	Pi 0182 Mic/VA						77950298	852 822 Mic	1
77950967	Pi 0182 Sm-L/VA						77950348	852 822 Sm-L	1

3.1 Filter complete							3.2 Filter elements		
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service indicator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77950975	Pi 0182 Mol/VA						77873318	852 822 Mol	1
77950538	Pi 0183 Mic						77950298	852 822 Mic	1
77950546	Pi 0183 Sm-L						77950348	852 822 Sm-L	1
77873219	Pi 0183 Mol						77873318	852 822 Mol	1
77950785	Pi 0183 Mic/VA						77950298	852 822 Mic	1
77950835	Pi 0183 Sm-L/VA						77950348	852 822 Sm-L	1
77950843	Pi 0183 Mol/VA						77873318	852 822 Mol	1
77950215	Pi 0184 Mic						77950298	852 822 Mic	1
77950223	Pi 0184 Sm-L						77950348	852 822 Sm-L	1
77950850	Pi 0184 Mol						77873318	852 822 Mol	1
77950876	Pi 0184 Mic/VA						77950298	852 822 Mic	1
77950884	Pi 0184 Sm-L/VA						77950348	852 822 Sm-L	1
77950892	Pi 0184 Mol/VA						77873318	852 822 Mol	1
77954498	Pi 0185 Mic						77950298	852 822 Mic	1
77954506	Pi 0185 Sm-L						77950348	852 822 Sm-L	1
77954514	Pi 0185 Mol						77873318	852 822 Mol	1
78224123	Pi 0185 Mic/VA						77950298	852 822 Mic	1
78224149	Pi 0185 Sm-L/VA						77950348	852 822 Sm-L	1
78224131	Pi 0185 Mol/VA						77873318	852 822 Mol	1

## 4. Technical specifications

### Separation:

Mic	10 $\mu\text{m}$
Sm-L	3 $\mu\text{m}$
Mol	oil mist

### Temperature range:

-30 °C to +100 °C  
(other temperature ranges on request)

### Housing material:

Pi 0101 to Pi 0126	polyamide
Pi 0140 to Pi 0142	galvanized sheet metal
Pi 0145 to Pi 0149	polyamide
Pi 0152 to Pi 0154	galvanized sheet metal
Pi 0182 to Pi 0185	steel/Al

### Sealing material:

Pi 0126	rubberized cork
Pi 0140 to Pi 0185	NBR

### Resistance:

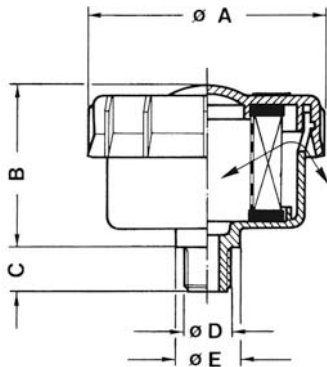
all hydraulic oils

We draw attention to the fact that all values indicated are average values which do not always occur in specific cases of application. Our products are continually being further developed. Values, dimensions and weights can change as a result of this. Our specialized department would be pleased to offer you advice.

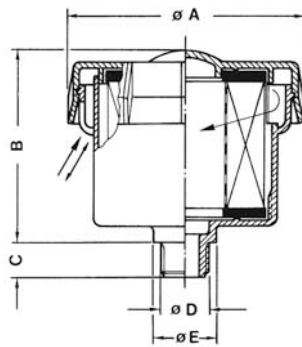
We recommend you to contact us concerning applications of our filters in areas governed by the EU Directive 94/9 EC (ATEX 95). The standard version can be used for liquids based on mineral oil (corresponding to the fluids in Group 2 of Directive 97/23 EC Article 9). If you consider to use other fluids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

Subject to technical alteration without prior notice.

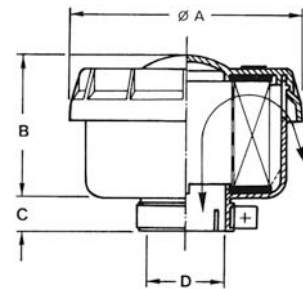
Other elements for HFA, HFC and HFD fluids on request.



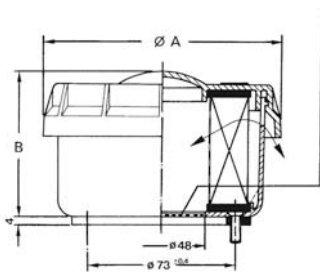
Pi 0101-0102, Pi 0120-0121, Pi 0149



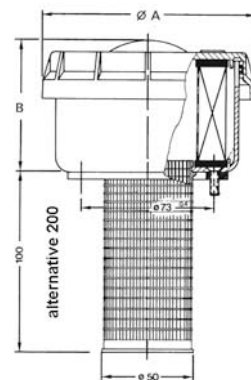
Pi 0110-0114



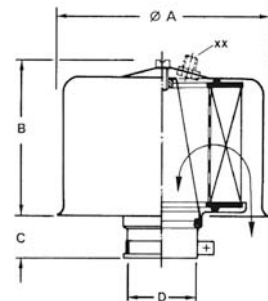
Pi 0122-0123, Pi 0147-0148



Pi 0125, Pi 0145



Pi 0126, Pi 0146



Pi 0140-0142, Pi 0152-0185

\*1 mm dia screen removable

\*2 6x screw M5x16 DIN 7500 (cross-slotted)

\*3 6x screw M5x16 DIN 7500 (cross-slotted)

\*4 optional connection for maintenance indicator (VA)

## 5. Dimensions

	Air flow rate [l/min]*			Dimensions				
				[mm/inch]	[mm]	[mm]	[mm]	[mm]
Type	Mic	Sm-L	Mol	D	A	B	C	E
Pi 0101	60	55	-	M12x1.5	62	44	12	17
Pi 0102	60	55	-	G1/4	62	44	12	17
Pi 0110	100	90	-	M16x1.5	80	67	12	21
Pi 0111	110	100	-	M22x1.5	80	67	13	27
Pi 0112	110	100	-	G1/2	80	67	13	26
Pi 0113	100	90	-	G3/8	80	67	12	22
Pi 0114	120	110	-	G3/4	80	67	15	32
Pi 0120	1000	900	-	M33x2	118	73	20	-
Pi 0121	1000	900	-	G1	118	73	19	-
Pi 0122	1000	900	-	Ø 25	118	73	16	-
Pi 0123	1450	1300	-	Ø 40	118	73	16	-
Pi 0125	750	650	-	Ø 73****	118	81	-	-
Pi 0125 (without enclosure)	1600	1400	-	Ø 73****	118	81	-	-
Pi 0126	1350	1150	-	Ø 73****	118	81	-	-
Pi 0140	2000	1700	130	Ø 40**	142	95	30	-
Pi 0142	2400	2000	140	Ø 52**	142	95	30	-
Pi 0145	2100	1800	***	Ø 73****	118	133	-	-
Pi 0146	1800	1500	***	Ø 73****	118	133	-	-
Pi 0147	2000	1700	***	Ø 40**	118	133	19	-
Pi 0148	2400	2000	***	Ø 52**	118	133	23	-
Pi 0149	1600	1300	***	G1½	118	135	17	38.5
Pi 0152	5300	4200	570	Ø 70 ****	230	117	30	-
Pi 0153	6300	4600	620	Ø 76**	230	117	30	-
Pi 0154	7700	5200	640	Ø 80**	230	117	30	-
Pi 0182	7200	5800	-	Ø 70**	230	320	30	-
Pi 0183	9600	7600	-	Ø 76**	230	320	30	-
Pi 0184	10500	8100	-	Ø 80**	230	320	30	-
Pi 0185	13000	9600	-	Ø 100**	230	320	30	-

\*) when  $\Delta p$  is 0.01 bar (air flow can be reduced by air humidifying)

\*\*) clearance H11

\*\*) in preparation

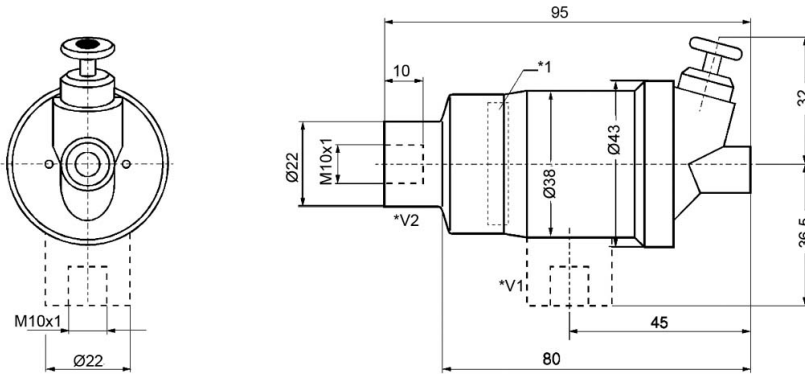
\*\*\*\*) connection according to DIN 24557 T2 (6x screw M5x16 and seal included in delivery)

## 6. Maintenance indicator

The types Pi 0101 - 0185 may be equipped with a maintenance indicator for optimal filter element exploitation. They indicate when the filter element must be serviced and thus save unnecessary costs.

### Vacuum indicator/ Air breather

Indicator setting [mbar ± 10 %]	Temperature resistance [°C]	Execution	Type	Order number	Indication
- 50	- 40 to + 110	1	TB 745	78309056	visual, self- locking
- 50		2	TB 745/1	78309064	
- 65		2	TB 746/1	78309049	



\*1 Execution 1

\*2 Execution 2

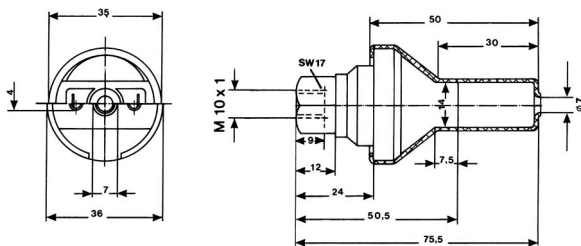
\*3 Indication: Position of display at nominal value in mbar

Standard seal material of maintenance indicator: NBR

Seal material types LES/LEO: Silicone rubber

### Vacuum switch

Permissible over- pressure max. [bar]	Temper- ature resistance [°C]	Indicator setting [mbar ± 4]	Contact type	Connection size	Type	Order number	Material lower section	Material upper section
0.1 bar	- 20 to + 80 peaks to 120	- 50	normally open	M10x1 (inside)	LES 250 I	78308918	GD-ZnAl	Polycarbonat
		- 50	normally closed		LEO 250 I	78308926	GD-ZnAl	Polycarbonat





## 6. Maintenance indicator

### Retrofit cover with integrated service indicator

Order number	Type
79343013	Retrofit cover with integrated service indicator for Pi 0120-0149/UM

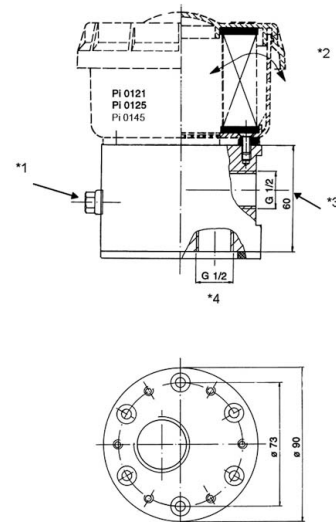
- Integrated 3-step service indicator offers optimized filter element service life
- Switching level 100 % at 50 mbar
- Indication of 50 %, 75 %, 100 % of switching level by red gauge
- Gauge self-locking, handy turning knob to lock



## 7. Filling adapter

Order number	Type
78258956	Filling adapter
78259111	Filling adapter with Walther coupling and dust cap

Tank connection: flange acc. DIN 24557 part 2  
 Material: Al anodized  
 Sealing material: cork  
 Fixing screws: 6 pcs M5x70 DIN 912 (included in delivery)



\*1 Connection for vacuum indicator (G1/8)

\*2 Parts shown as dotted lines not included in delivery

\*3 Connection for filling coupling

\*4 Connection for extension pipe

## 7. Filling adapter

### Characteristics of filling adapter MD012 and MD019:

- Robust adapter for filling with big cross-section for optimized filling
- Coupling for filling with dust cap acc. delivery specifications of the automotive industry
- Filling barrier integrated in the air breather
- Cover with visual service indicator, 3-step, gauge, valve self-locking
- Versatile connecting options

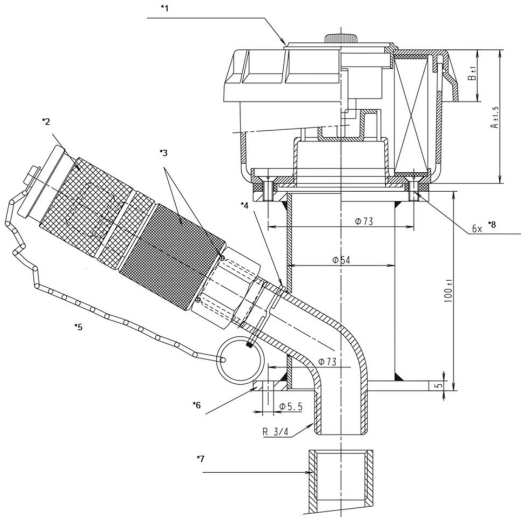


Fig. Pi 0125 - Pi 0145 UM MD012

- \*1 Maintenance switch LTB 9
- \*2 Dust cap 76319008 Walther MD-012-5-19
- \*3 Closing nipple
- \*4 Steel ring
- \*5 Walther MD-012-2WR 526
- \*6 Flange pattern DIN 24557 D 73
- \*7 Optional: Extension pipe DIN 2391;  
Length acc. to customer specification
- \*8 On circumference

Order number	Type
76318968	Pi 0125 Mic-UM/OS/MD012
76318976	Pi 0125 Sm-L-UM/OS/MD012
76318984	Pi 0145 Mic-UM/OS/MD012
76318992	Pi 0145 Sm-L-UM/OS/MD012

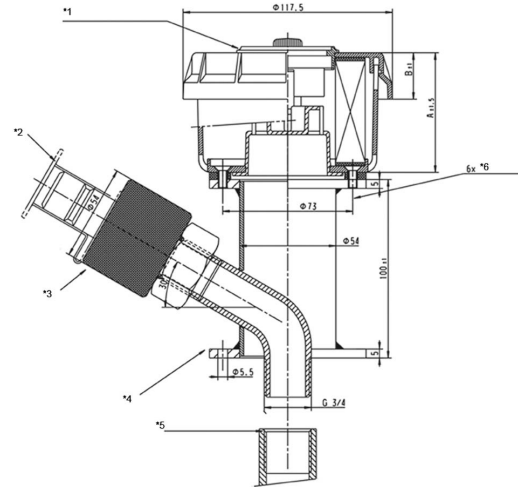


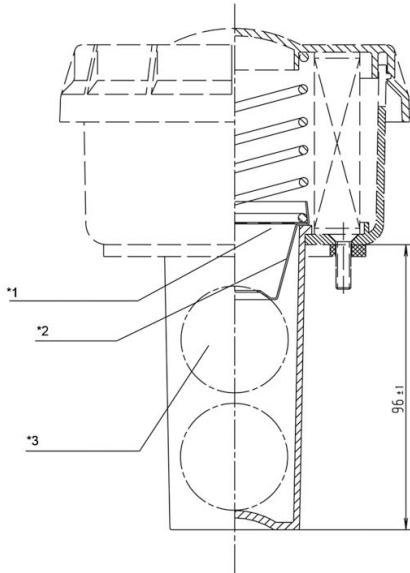
Fig. Pi 0125 - Pi 0145 UM MD019

- \*1 Maintenance switch LTB 9
- \*2 Dust cap PVC, Walther LP-019-5-74-KU
- \*3 Closing nipple, Walther MD-019-2-WR526-19-1VF
- \*4 Flange pattern DIN 24557 D 73
- \*5 Optional: Extension pipe DIN 2391;  
Length acc. to customer specification
- \*6 On circumference

Order number	Type
76101406	Pi 0125 Mic-UM/OS/MD019
76101430	Pi 0125 Sm-L-UM/OS/MD019
76101414	Pi 0145 Mic-UM/OS/MD019
76101448	Pi 0145 Sm-L-UM/OS/MD019

## 8. Accessories

Order number	Type
79343377	Expansion kit with spillage protection to combine with Pi 0125/0126 or Pi 0145/0146

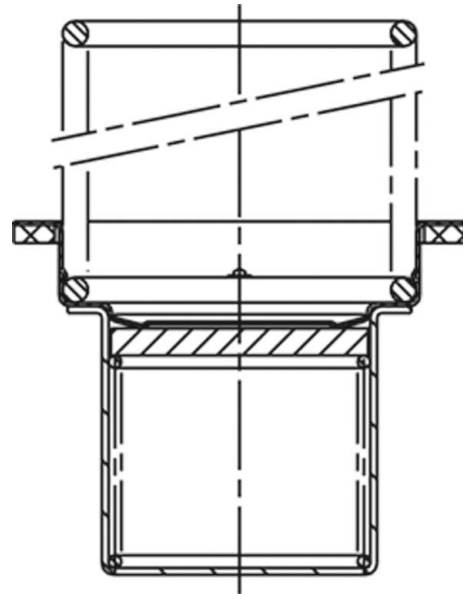


- \*1 Perforated disc
- \*2 Valve disc
- \*3 Float ball: Opening point, max. 0.15 bar

### Operating principle of spillage protection:

The float ball (\*3) is guided over the filling strainer. If the liquid level in the tank rises, the ball rises accordingly and closes the tank outlet by means of the valve disc (\*2). The valve disc is flexibly loaded to prevent the permissible pressure inside the tank from being exceeded.

Order number	Type
79735382	Retrofit kit with preloaded valve to combine with Pi 0125/0126 or Pi 0145/0146 Valve opening pressure: preload pressure 0.2 bar; suction pressure -0.05 bar



### Advantages of preloaded valve:

- Pump support due to preloaded reservoir
- Minimized air exchange with the contaminated/humid ambient
- Reduced ingress of humidity into the hydraulic system

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