



## Tank accessories

## Tank accessories



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## Cleaning covers

### Product description

- For a safe closure of inspection openings
- Mounting via flange or central assembling
- Types RD 250-4 and RD 250 / 235 for steel oil tanks of low size
- Types RD 350 and RD 475 acc. to DIN 24339
- Test pressure for all RD types max. 0.5 bar
- O-ring and form gasket available in perbunan (NBR standard), viton (FPM) and EPDM
- Material: aluminium
- All cleaning covers with flange assembling also available in steel or VA
- Version „W“ with sight glass made of polycarbonate
- All aluminium cleaning covers also available with customised company logo



Order code cleaning covers							
Type	Size	Material		Version**			
RD	350-V324-6	-		W			
	250 / 235	-	=>	Alu (standard)	-	=>	standard
	250-4	ST	=>	S235JR	W	=>	sight glass
	320-6	V2A	=>	1.4301			
	350-V324-4	V4A	=>	1.4571			
	350-V324-6						
	475-V449-6						
	595-V570-8						
	235-200*						
	345-300*						

\* central assembling

\*\* available in sizes 350 and 475



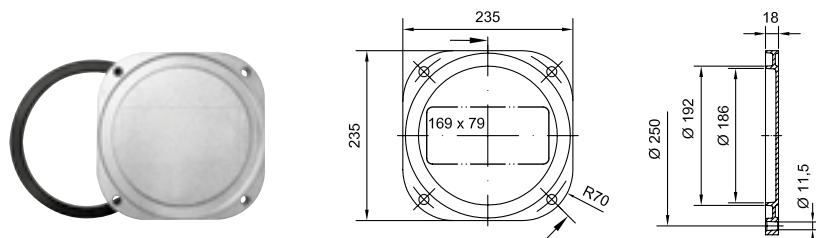
Order code gasket		
Type	Size	Material
D	268	NBR
		NBR
		FKM (Viton®)
		EPDM



## Cleaning covers

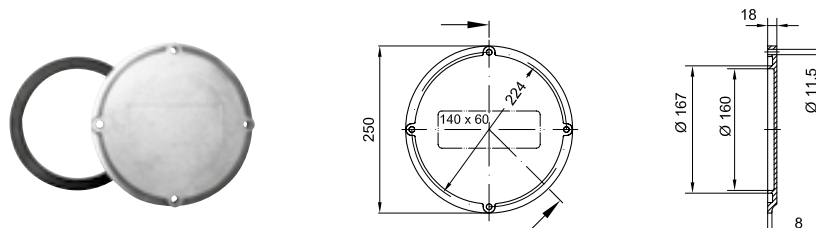
### Dimensions

#### Version flange assembling



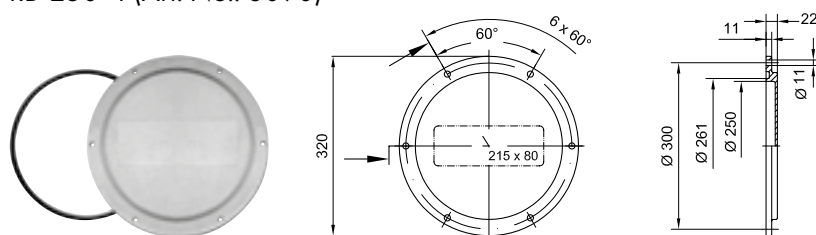
RD 250/235 (Art. No.: 3081)

Form gasket 16 x 18	
Art. No.	Type
3079	D193 NBR
3086	D193 FKM



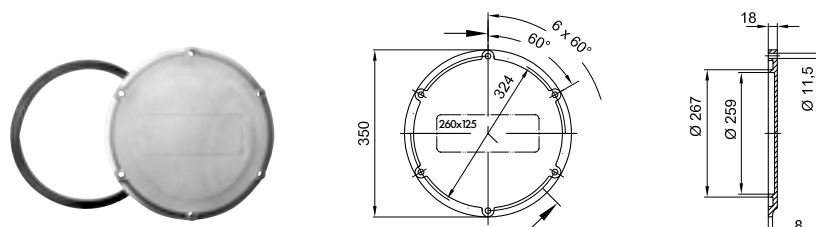
RD 250-4 (Art. No.: 3090)

Form gasket 16 x 18	
Art. No.	Type
3091	D168 NBR
3092	D168 FKM



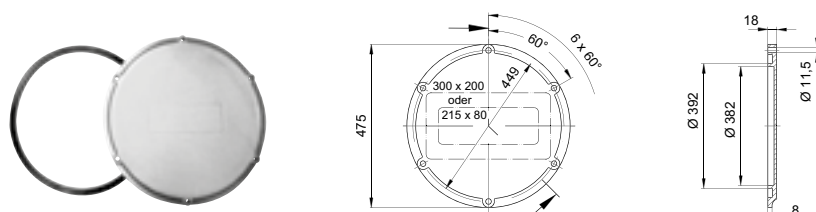
RD 320-6 (Art. No.: 3000)

O-ring gasket	
Art. No.	Type
3003	260 x 10 NBR
3004	260 x 10 FKM



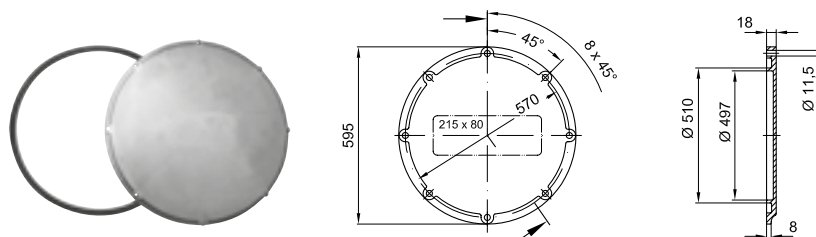
RD 350-V 324-6 DIN 24339 (Art. No.: 3299)

Form gasket 16 x 18	
Art. No.	Type
3151	D268 NBR
3152	D268 FKM
3153	D268 EPDM



RD 475-V 449-6 DIN 24339 (Art. No.: 3450)

Form gasket 16 x 18	
Art. No.	Type
3451	D393 NBR
3452	D393 FKM
3453	D393 EPDM



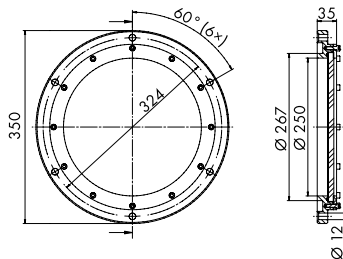
RD 595-V 570-8 (Art. No.: 3652)

Form gasket 16 x 18	
Art. No.	Type
3651	D512 NBR
3661	D512 FKM

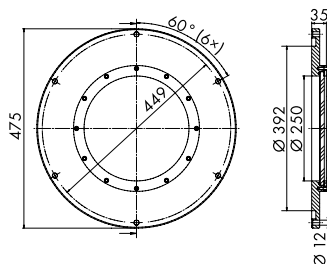
The recommended **screw torque** of the cap nuts is **10 Nm** for all sizes.

## Dimensions

### Version with sight glass



RD 350-V 324-6-W (Art. No.: 3440)



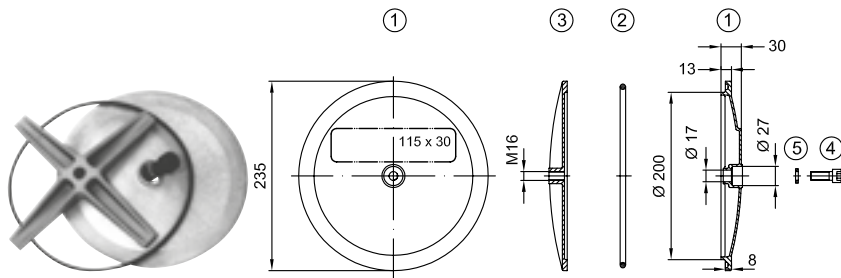
RD 475-V 449-6-W (Art. No.: 3545)

Form gasket 16 x 18	
Art. No.	Type
3151	D268 NBR
3152	D268 FKM
3153	D268 EPDM

Form gasket 16 x 18	
Art. No.	Type
3451	D393 NBR
3452	D393 FKM
3453	D393 EPDM

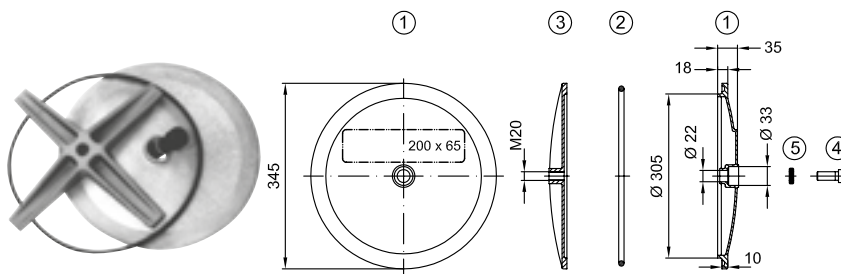
The recommended **screw torque** of the cap nuts is **10 Nm** for all sizes.

### Version central assembling



RD 235-200 (Art. No.: 3550)

RD 235-200		
Code No.	Art. No.	Type
1	3550	Lid
2	3551/ 3562	O-ring gasket 214 x 5 NBR / FPM
3	3552	Cross GGG
4	3553	Gasket Usit 22 x 16
5	3554	Screw M16 x 40



RD 345-300 (Art. No.: 3600)

RD 345-300		
Code No.	Art. No.	Type
1	3600	Lid
2	3601/ 3607	O-ring gasket 315 x 10 NBR / FPM
3	3602	Cross GGG
4	3603	Gasket Usit 22.7 x 30
5	3604	Screw M20 x 60

The recommended **screw torque** of the cap nuts is **40 Nm** for both sizes.

## Level oil gauges

### Scale plate version

- Optical / thermal monitoring of the liquid level in the tanks
- 4 sizes from 76 mm up to 254 mm
- Suitable for hydraulic fluids HL and HLP
- Gaskets made of perbunan (NBR standard) or Viton® (FKM)
- Steel housing - powder coated
- Plug & sight glass made of PA
- Scale plate made of PVC
- Optional version with thermometer



ÖS ...

ÖS ... TH

Order code		
Type	Size	Option
ÖS	76	TH
	76	
	127	
	176	
	254	

### Float switch version

- Optical / electrical monitoring of the liquid level in the tanks
- 2 sizes from 127 mm up to 254 mm
- Suitable for hydraulic fluids HL and HLP
- Optional use with probe thermometer
- Optionally available as break contact or make contact
- Contact box acc. to DIN EN 175301-803-B/ ISO6952
- Gaskets made of Viton® (FKM)
- Aluminium housing - powder coated
- Plug, sight glass and float switch made of PA

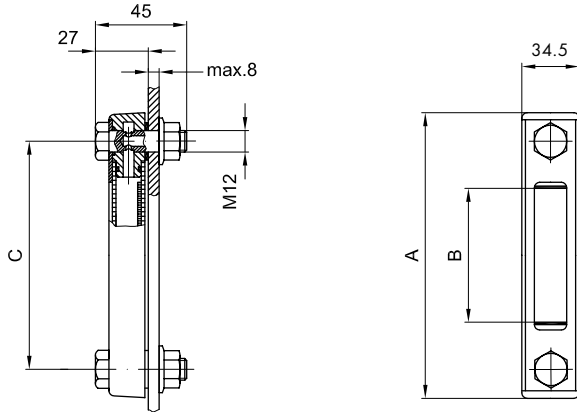


ÖS-EK...

Order code							
Type	Size	Gasket	Electrical function	Probe thermometer	Fixing	Electrical switch*	
ÖS-EK	127	FKM	C	-	M12	R / L	
	127		C	Make contact closes at min. level	-	without	
	254		O	Break contact opens at min. level	T	probe thermometer 200 mm	
					TS	temperature switch 70°C	
						R	Right
						L	Left

\*When connecting the electrical contacts, the direction of the contact box (right / left) for the types C and O can be determined by the user.

## Dimensions scale plate version



Art. No.	Type	Dimensions [mm]		
		A	B	C
2340	ÖS 76	108	31	76
2341	ÖS 76 TH*			
2350	ÖS 127	159	76	127
2351	ÖS 127 TH*			
2352	ÖS 176	208	124	176
2355	ÖS 176 TH*			
2360	ÖS 254	285	192	254
2361	ÖS 254 TH*			

\*Version with thermometer

## Technical data

**Application range:**  $-20^{\circ}\text{C} \dots +80^{\circ}\text{C}$

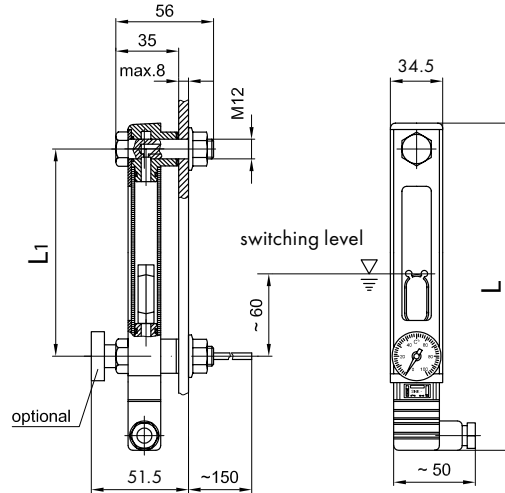
**Indication range thermometer:**

ÖS 76:  $+20^{\circ}\text{C} \dots +80^{\circ}\text{C}$

ÖS 127/176/254:  $-10^{\circ}\text{C} \dots +80^{\circ}\text{C}$

**Screw torque:** max. 8 Nm

## Dimensions float switch version



Art. No.	Type	Dimensions [mm]	
		L	L1
2366	ÖS-EK-127-FPM-C/M12 R/L	159	127
2367	ÖS-EK-127-FPM-O/M12 R/L	159	127
2377	ÖS-EK-127-FPM-C/T/M12 R/L	159	127
2378	ÖS-EK-127-FPM-O/T/M12 R/L	159	127
2381	ÖS-EK-127-FPM-C/TS70/M12 R/L	159	127
2379	ÖS-EK-127-FPM-O/TS70/M12 R/L	159	127
2387	ÖS-EK-254-FPM-C/M12 R/L	285	254
2382	ÖS-EK-254-FPM-O/M12 R/L	285	254
2383	ÖS-EK-254-FPM-C/T/M12 R/L	285	254
2386	ÖS-EK-254-FPM-O/T/M12 R/L	285	254
2374	ÖS-EK-254-FPM-C/TS70/M12 R/L	285	254
2375	ÖS-EK-254-FPM-O/TS70/M12 R/L	285	254

## Technical data

**Temperature range of medium:**  $-20^{\circ}\text{C} \dots +80^{\circ}\text{C}$

**Indication range probe thermometer:**

$0^{\circ}\text{C}$  up to  $+100^{\circ}\text{C}$

**Tank pressure:** max. 1 bar

**Screw torque:** max. 8 Nm

## Electrical connections / functions

**Contact load:**

max. 10 W (type C)

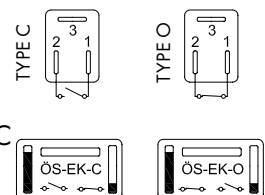
max. 5 W (type O)

**Switching voltage:** 50 VAC / DC

**Switching current:** 0.25 A

**Electrical switch with PG9:**

Protection class IP 65, connection 3 not in use



## Level switches

### Product description

- Electrical level monitoring
- Suitable for mineral oils, diesel, petrol and water
- Electrical circuit for level min. / max.
- Standard version level max. = contact open
- Contact pipe: brass
- Float switch: nylon
- Max. temperature: 80°C
- Protection class: IP 65
- Hysteresis: 2 – 3 mm
- Max. voltage: 250 V AC
- Max. switch current: level 1 A
- Power AC/DC: level 80 W/VA
- ATEX version available on request.

### Version with 1 switch contact

- Optional with additional temperature monitoring:  
1 switch contact level / 1 switch contact temperature
- Electrical circuit  
for temperature < 70°C = contact closed
- Power AC/DC: temperature 10 W/VA

Order code		
Type	Length	Option
NS1-NO	200	TE70° NC

### Version with 2 switch contacts

- Electrical level monitoring with 2 float switches

Order code		
Type	Length	Distance
NS2-NO	300	105

### Version with variable switch contacts

- Adjustable length by cutting the contact pipe to the required length
- Contact pipe: Inox AISI 304
- Float switch: NBR
- Contact type: Reed
- Power AC/DC: level 50 W/VA

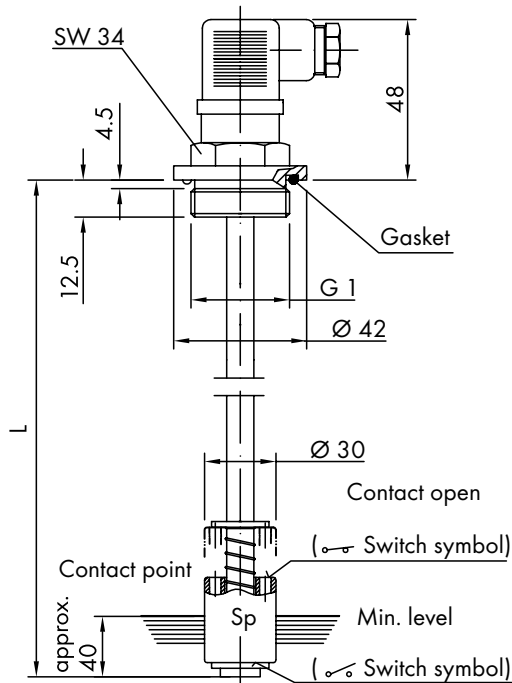
Order code	
Type	Length
NS1	VR





## Dimensions

### Version 1 switch contact

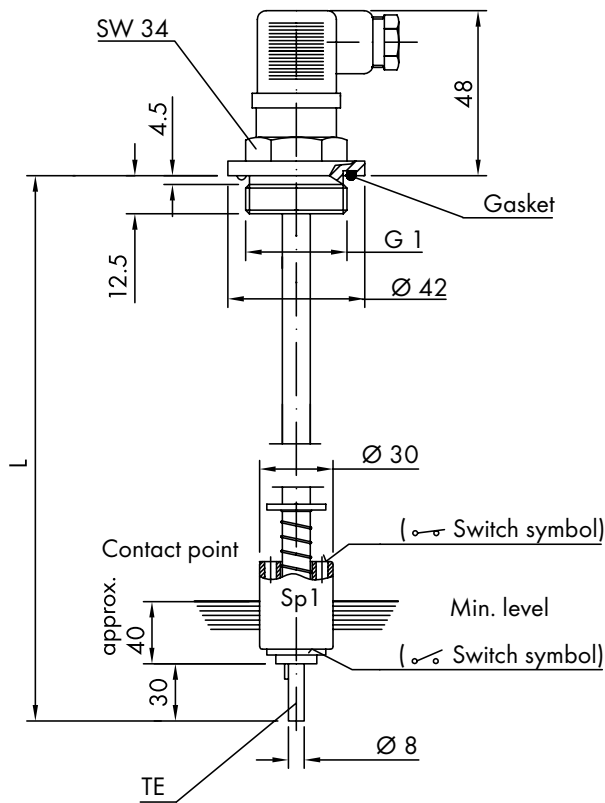


Art. No.	Type	Dimensions [mm]
		L
<b>1420</b>	NS 1-NO / 100	100
<b>1422</b>	NS 1-NO / 150	150
<b>1424</b>	NS 1-NO / 200	200
<b>1426</b>	NS 1-NO / 250	250
<b>1428</b>	NS 1-NO / 300	300
<b>1430</b>	NS 1-NO / 350	350
<b>1432</b>	NS 1-NO / 400	400
<b>1434</b>	NS 1-NO / 500	500
<b>1435</b>	NS 1-NO / 600	600
<b>1437</b>	NS 1-NO / 700	700

By turning the float switch the contact is changed to:

Max. level = contact closed

Min. level = contact open



Art. No.	Type	Dimensions [mm]
		L
<b>1502</b>	NS 1-NO / 150 TE 70° NC	150
<b>1504</b>	NS 1-NO / 200 TE 70° NC	200
<b>1505</b>	NS 1-NO / 240 TE 70° NC	240
<b>1506</b>	NS 1-NO / 250 TE 70° NC	250
<b>1508</b>	NS 1-NO / 300 TE 70° NC	300
<b>1510</b>	NS 1-NO / 350 TE 70° NC	350
<b>1512</b>	NS 1-NO / 400 TE 70° NC	400
<b>1513</b>	NS 1-NO / 450 TE 70° NC	450
<b>1514</b>	NS 1-NO / 500 TE 70° NC	500
<b>1540</b>	NS 1-NO / 600 TE 70° NC	600

By turning the float switch the contact is changed to:

Max. level = contact closed

Min. level = contact open

Contact open at max. level

Contact closed at min. level

> 70° Contact open

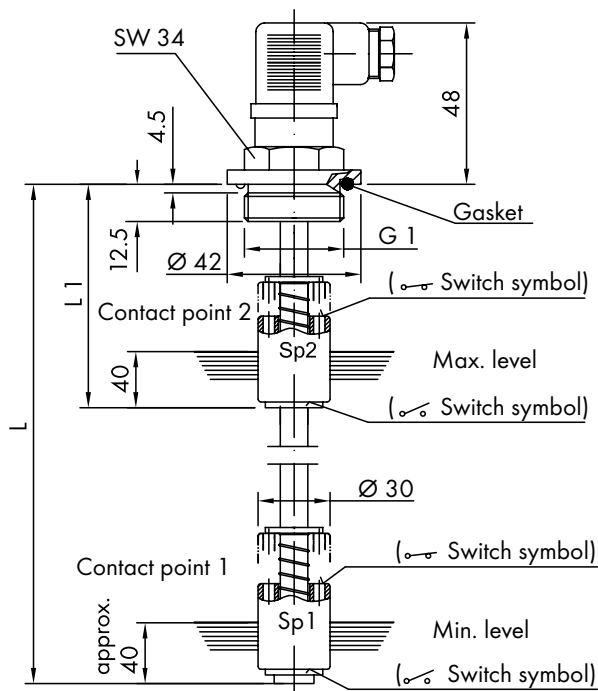
< 70° Contact closed

2 N  
1 T

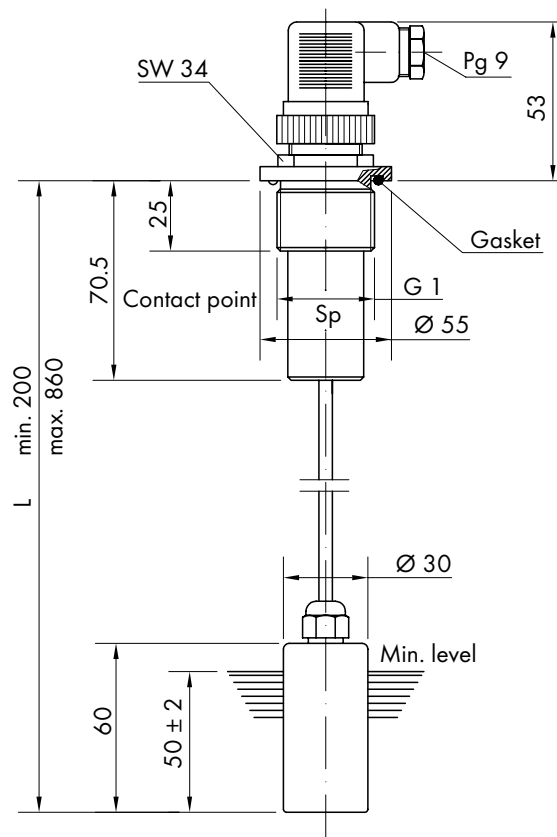
# Level switches

## Dimensions

### Version 2 switch contacts

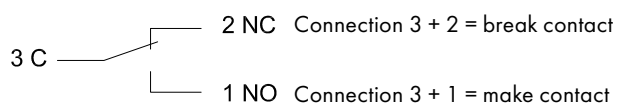


### Version variable switch contact




Art. No.	Type	Dimensions [mm]	
		L	L1
1457	NS 2-NO/250/105	250	105
1459	NS 2-NO/300/105	300	105
1461	NS 2-NO/350/115	350	115
1463	NS 2-NO/400/115	400	115
1465	NS 2-NO/500/125	500	125

Art. No.	Type
1411	NS 1-VR (200-860 mm)

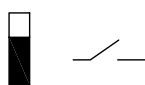


By turning the float switch the contact is changed to:

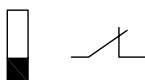
Max. level = contact closed 

Min. level = contact open 

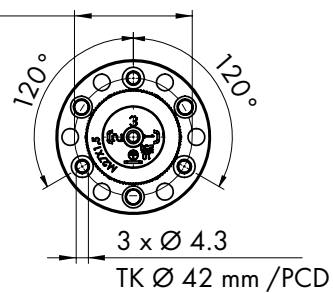
Contact open at max. level



Contact closed at min. level



Flange fixing



## Desiccant breathers

### Product description

- Tank breathing, humidity absorption and cleaning of the inflowing air in one unit
- Refillable with separately available desiccant "EG"
- Easy disposal of desiccant in the household waste
- No content of any hazardous material acc. to EG directive 99/45/EC and 2001/60/EC
- Easy capacity control of the desiccant by colour changing from red to orange
- Easy replacement of the air filter cartridge
- Reduction of oxidation inside the hydraulic system
- Service life extension of oil and machinery
- Available incl. adapter plates "A" and dust indicator "VA"

Order code			
Type	Size	Option	
LEF	93	A9	VA
	61	A9	
	93	A12	
	96		
	121		
	122		



### Accessories

#### Dust indicator "VA"

- Is being mounted on the adapter plate
- Displays the contamination level of the air filter
- After changing the air filter cartridge, the dust indicator is reusable by pressing the RESET button



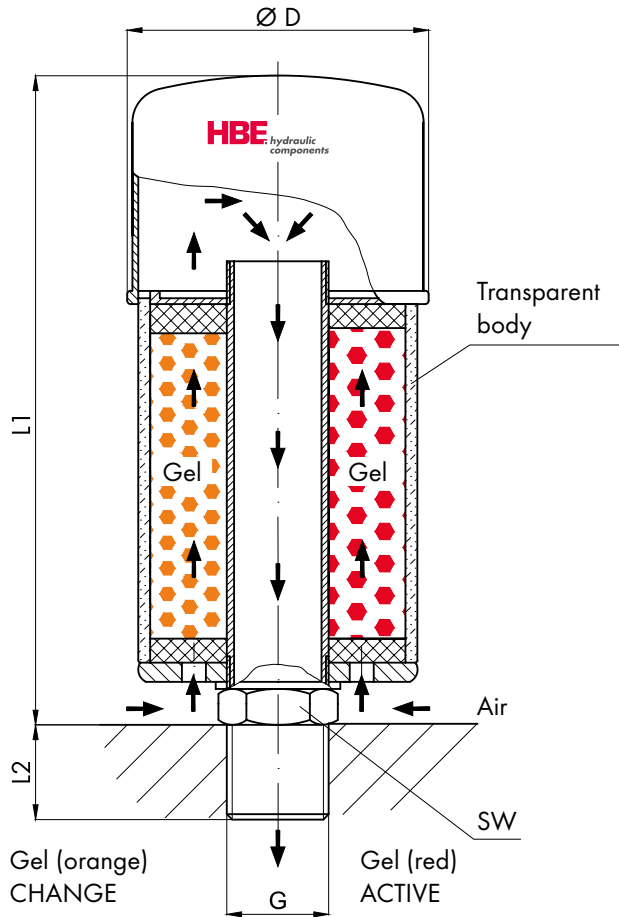
#### Adapter plate "A"

- Allows a direct mounting on existing connections
- Connection possibilities for dust indicator as well as suction and return lines
- Material: plastics
- Plug, O-ring and Allen screws are included



## Desiccant breathers

### Dimensions and technical data



### Materials

- Inner tube: stainless steel
- Body: SAN (Styrol Acrylnitril)
- Desiccant: ZR gel (3 – 6 mm)

### Fluid compability

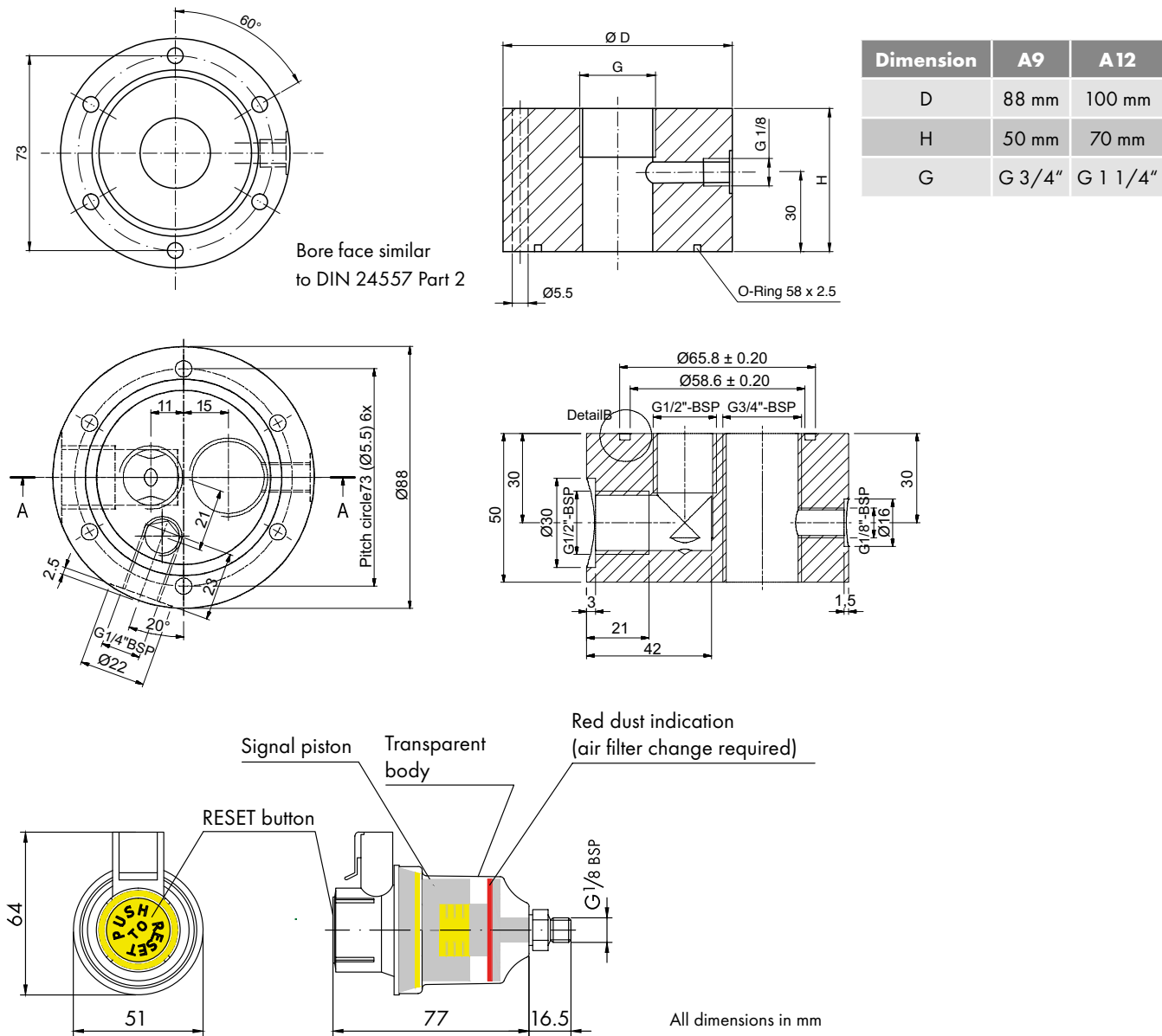
- Mineral oil: OK
- H, HL, HLP, HVLP: OK
- HEES (Synt. Ester): OK

For other fluids please contact HBE

On request all sizes with check valve  
(standard for LEF61)

Type	LEF desiccant breathers				
	LEF 61	LEF 93	LEF 96	LEF 121	LEF 122
Article No.	2700	2701	2702	2703	2704
L1	136 mm	160 mm	220 mm	256 mm	366 mm
L2	without	20 mm	20 mm	28 mm	28 mm
D	70 mm	98 mm	98 mm	130 mm	130 mm
G	3/8" (inside)	3/4"	3/4"	1 1/4"	1 1/4"
SW	without	32 mm	32 mm	50 mm	50 mm
Max. airflow	0.05 m <sup>3</sup> /min	0.7 m <sup>3</sup> /min	0.7 m <sup>3</sup> /min	1.5 m <sup>3</sup> /min	1.5 m <sup>3</sup> /min
Air filter mesh	3 µm	3 µm	3 µm	3 µm	3 µm
Max. water absorption	29 g	94 g	172 g	300 g	576 g
Recommended tank size	< 30 l	< 250 l	< 500 l	< 1250 l	> 1250 l
Operating temperature	-40°C up to +90°C	-40°C up to +90°C	-40°C up to +90°C	-40°C up to +90°C	-40°C up to +90°C
Weight	0.4 kg	1.2 kg	1.5 kg	2.7 kg	4.0 kg

## Dimensions and technical data



## Spare parts / Accessories

Spare parts					
<b>Air filter cartridge</b>	LF 6	LF 9	LF 9	LF 12	LF 12
<b>Article No.</b>	2710	2711	2711	2713	2713
<b>Desiccant kit</b>	EG 6 + 93	EG 6 + 93	EG 96	EG 121	EG 122
<b>Article No.</b>	2721	2721	2722	2723	2724
Optional accessories					
<b>Adapter plate</b>	-	A 9	A 9	A 12	A 12
<b>Article No.</b>	-	2731	2731	2733	2733
<b>Dust indicator</b>	-	VA	VA	VA	VA
<b>Article No.</b>	-	2741	2741	2741	2741

## Filler and breather filter

### Product description

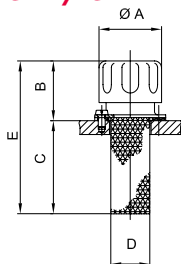
- Filling and ventilation of hydraulic tanks
- Permanent ventilation while protecting against contamination
- On request, metal version available with logo



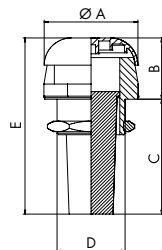
Order code	
Type	Size
SE	2

### Dimensions

#### SE1 / SE2

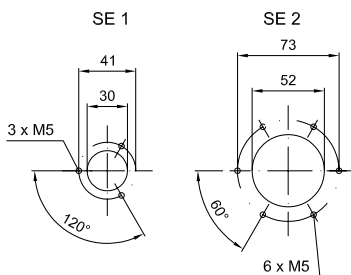


#### KE1



Type	Art. No.	Dimensions [mm]					Air filter	Material
		ø A	B	C	D	E		
KE 1	2370	62	40	76	M45 x 2	116	45 µm	Plastics
SE 1	2371	47	45	63	ø 28	110	10 µm	Metal (chromium free)
SE 2	2372	80	53	80	ø 50	133	10 µm	Metal (chromium free)

### Assembly diagram

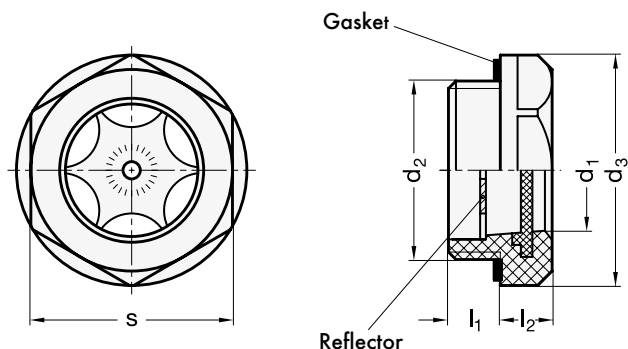


### Sight glass

Order code	
Type	Size
ÖS	G 3/4"



### Dimensions



Size	Dimensions [mm]				
	d <sub>1</sub>	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	s
G 1/2"	15	28	10	8.5	24
G 3/4"	18	35	10	8.5	32
G 1"	23	43	11	9.5	38
G 1 1/4"	30	50	11	9.0	46

## General technical information

**Table of resistance against mineral oils and flame resistant fluids**

Product	Material	Medium				
		Hydraulic oil / mineral oil base	HFA	HFB	HFC	HFD, HFD-R, HFD-S, HFD-T
Steel tanks	Steel	●	1	●	●	●
Gasket	NBR	●	●	●	●	●
Gasket	EPDM	●	●	●	●	●
AB tanks	Aluminium	●	●	●	●	●
Gasket	Paperboard	●	●	●	●	●
Gasket	Rubber cork	●	●	●	3	3
Lid SD	Steel	●	1	●	●	●
Oil level gauges						
with gasket	NBR	●	●	●	●	●
with gasket	FPM	●	●	●	●	●
Fillers	ST	●	●	●	●	●
Cleaning covers	Aluminium	●	●	●	●	●
with gasket	NBR	●	●	●	●	●
with gasket	FPM	●	●	●	●	●
with gasket	EPDM	●	●	●	●	●

● = Resistant

● = Not resistant

1 = Priming coat required

2 = If coating required, use epoxy resin

3 = Resistant to oil wetting

### Hydraulic fluids / Main components

**HFA** Oil in water emulsion, water content > 80 %

**HFB** Water in oil emulsion, water content > 40 %

**HFC** Watery polymer solution (water glycol),  
water content > 45 %

**HFD** Synthetic fluids (water free)

**HFD-R** Phosphoric acid ester

**HFD-S** Chlorinated hydrocarbon

**HFD-T** Mixture of HFD-R + HFD-S

Online catalogue



[epaper.hbe-hydraulics.com/en](http://epaper.hbe-hydraulics.com/en)

**HBE** hydraulic  
components

HBE GmbH  
Hönnestraße 47  
58809 Neuenrade / Germany  
Phone +49 (0) 23 94 / 616-0  
[info@hbe-hydraulics.com](mailto:info@hbe-hydraulics.com)  
[hbe-hydraulics.com](http://hbe-hydraulics.com)



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