HYDAC INTERNATIONAL

Fluid level sensor

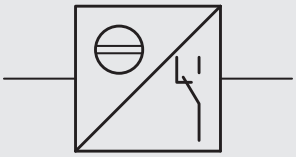
Fixed switch points, long model

FSKF

SYMBOL

Size 0500-1000

Type W – changeover contact



Item	Description
(1)	Connection pieces (2x)
(2)	Housing frame
(3)	Riser tube
(4)	Connector
(5)	Floater
(6)	Banjo bolt (2x)
(7)	Washer (2x)
(8)	Seal (2x)
(9)	Nut (2x)

Notice
Part may differ from illustration.

DESCRIPTION

HYDAC fluid level sensors monitor the fluid level in a hydraulic tank. The FSKF uses an electrical signal to communicate both the minimum and the maximum fluid level. The switching signal can be used as a warning to regulate the liquid level or used directly in a PLC control.

The fluid enters the device through the lower connection bore and lifts up a floater inside a riser tube. The floater is then positioned at the same level as the fluid in the tank. When it reaches a predefined critical level, it actuates a switch.

Visual display of the fluid level is also provided in all versions.

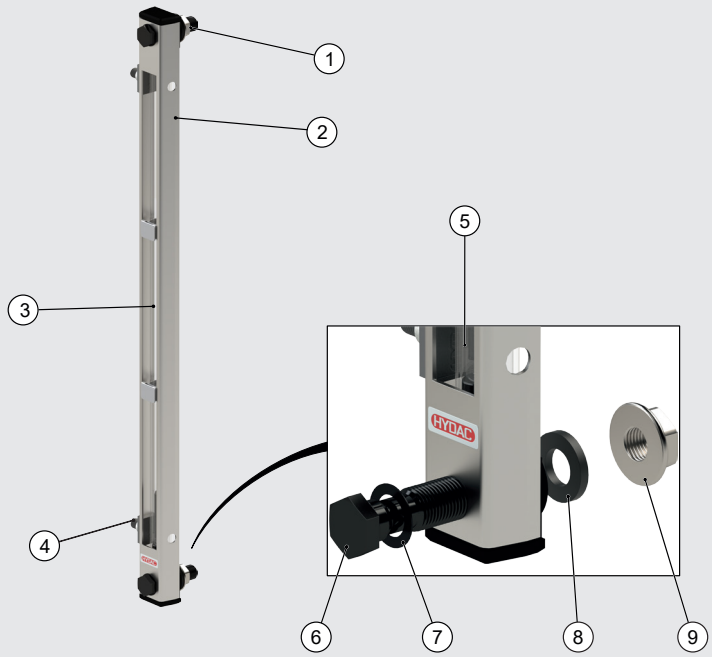
PRODUCT FEATURES

- Nominal size: 0500 - 1000 mm
- Round riser tube made of plastic
- Aluminium connection pieces
- Stainless steel frame
- Switching contact as changeover contact
- 2 switching points (1x minimum, 1x maximum)

CUSTOMER BENEFITS

- Robust design
- Simple standardised installation conditions

DESIGN



Model code
(also order example)

FSKF - 0500 - 0 . 1W - 10403 / O- / M12 . 000 2SP

Designation
FSKF = fluid level sensor with fixed switch points

Size NG (≅ centre distance of bolts in mm)
0500, 0600, 0700, 0800, 0900, 1000

Sealing material
0 = NBR (Perbunan)

Plug connector form
0 = round plug connector M8x1, 3-pin, male; DIN EN 61076-2-104; connection on frame side
1 = round plug connector M12x1, 4-pin, male; DIN EN 61076-2-101; A-coded; connection on frame side

Switching function
W = changeover contact — opens and closes at switching level

Tube geometry, materials
Tube geometry
1 = round tube Ø19

Material of tube
0 = plastic
1 = glass

Material of connection pieces
4 = aluminium (seal = seal disc)
5 = aluminium (seal = quad ring)
6 = aluminium (seal = O-ring)

Material of frame
03 = stainless steel

Options
Contrast disc
O = without contrast disc

Additional thermal function
- = no additional function
FF = preparation for a probe thermometer
FT100 = probe thermometer 100 mm
FT200 = probe thermometer 200 mm
FT300 = probe thermometer 300 mm
TS60-O = temperature switch NC, nominal temperature 60 °C
TS70-O = temperature switch NC, nominal temperature 70 °C
TS80-O = temperature switch NC, nominal temperature 80 °C
TFP100 = temperature sensor -40 °C to +125 °C
TFP1000 = temperature sensor -40 °C to +125 °C
Notice: It is not possible to combine temperature switch TS with probe thermometer FT.

Type of connection
M12 = M12

Connection elements
Material of bolts/nuts
0 = steel bolt and (if present) nut (galvanised surface, chromium(VI)-free)
2 = stainless steel bolt and (as applicable) nut

Seal
0 = with seal
1 = without seal

Securing nuts
0 = with securing nuts
1 = without securing nuts

Number of switching points
1SP = 1 switching point
2SP = 2 switching points (1x minimum, 1x maximum)
more switching points possible upon request

NOTICE

The vehicle/system manufacturer or the owner must check the product's suitability for the particular operating and environmental conditions (temperature, dynamics, cleaning).

If you have any questions, please consult with your Technical Sales contact.

TECHNICAL DATA

Connection	Banjo bolt (M12x55)					
Type of connection	Threaded M12 bore or through-bore Ø13					
Installation position	Vertical on housing wall					
Weight	Size 0500	Size 0600	Size 0700	Size 0800	Size 0900	Size 1000
	0.72 kg	0.83 kg	0.90 kg	0.95 kg	1.10 kg	1.13 kg
Version of riser tube	Round tube Ø19					
Media	Mineral oil to DIN 51524 Part 1 and 2, water, oil, emulsions, synthetic fluids (other media on request)					
Viscosity of medium	max. 2000 mm²/s					
Max. operating pressure	1 bar (higher pressures on request)					
Direction of flow	User-definable					
Ambient temperature	-20 °C to +95 °C					
Temperature of operating fluid	-20 °C to +95 °C					
Material: Connection pieces	Aluminium					
Riser tube	High-grade plastic or glass					
Housing frame	Stainless steel					
Seal	NBR					
Bolts, nuts	Galvanised steel or stainless steel					
Accessories	Shut-off elements (ABV, ABK, ABS)					

NOTICE

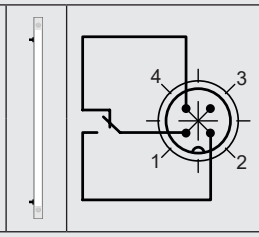
To ensure correct function, the specifications for pressure, viscosity and temperature must be observed. For perfect function at high temperatures, it must be ensured that the tightening torques of the bolts are not changed following the initial installation. In the event of inductive or capacitive loads, suitable protective circuitry must be implemented.

ELECTRICAL CHARACTERISTICS

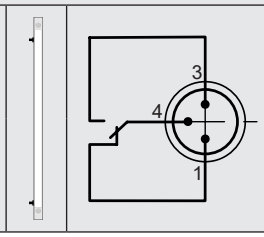
Version of plug connector	Round plug connector M8x1, 3-pin, male; DIN EN 61076-2-104 Round plug connector M12x1, 4-pin, male; DIN EN 61076-2-101, A-coded
Switching function	Type W / changeover contact (opens and closes at switching level)
Number of switch points	1 or 2 (more switching points possible upon request)
Contact load	max. 8 W
Input voltage	1 - 50 V AC/DC
Switching current	max. 0.2 A
Protection type	IP 65

CONTACT ASSIGNMENT with 2 switching points

Round plug connector M12x1, 4-pin, male; DIN EN 61076-2-101, A-coded

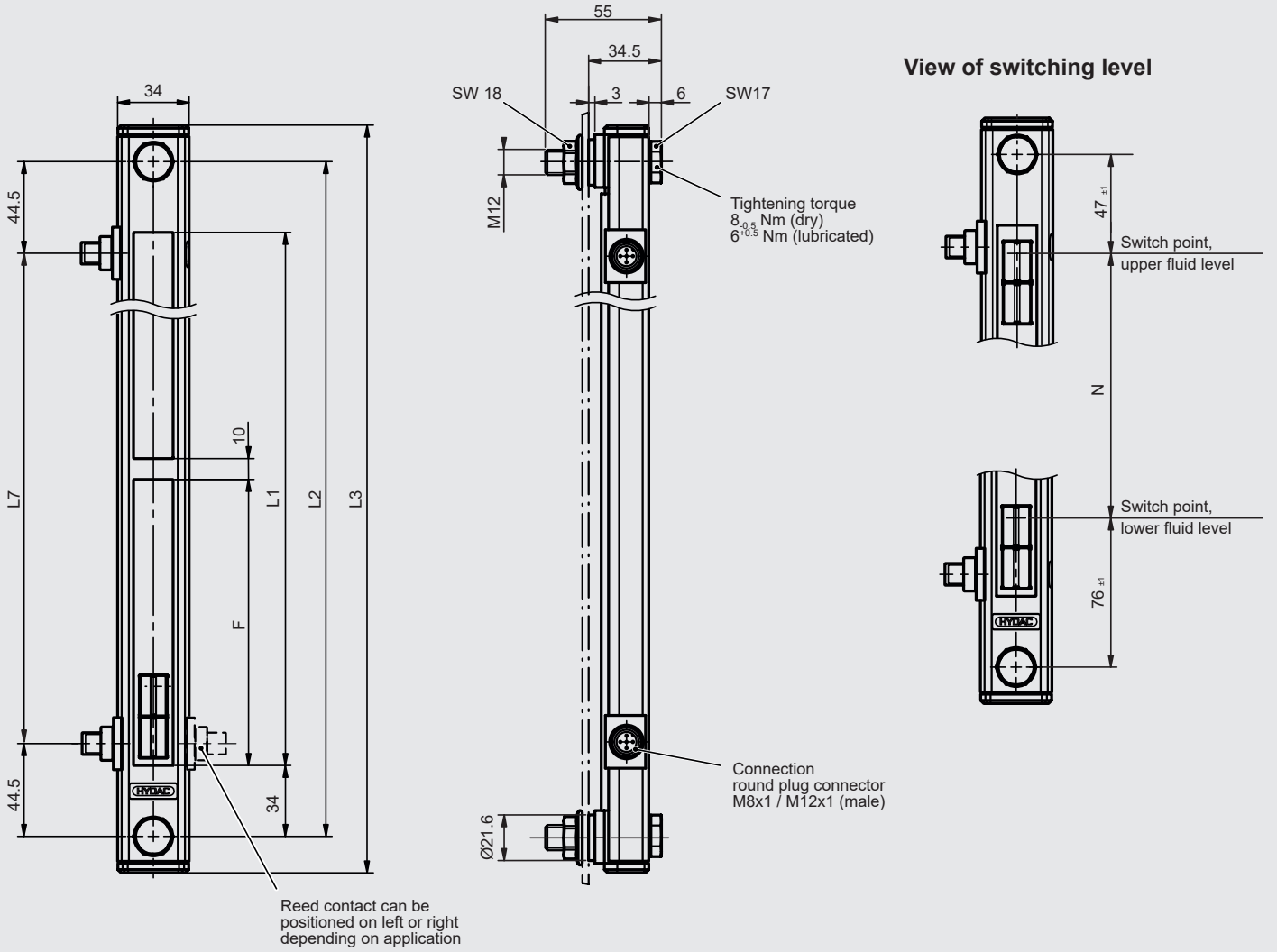
		Floater position	Contact assignment			
			Bottom		Top	
NS 0500 - 1000		Maximum	1 - 4	NC	1 - 2	NO
		Minimum	1 - 2	NO	1 - 4	NC

Round plug connector M8x1, 3-pin, male; DIN EN 61076-2-104

		Floater position	Contact assignment			
			Bottom		Top	
NS 0500 - 1000		Maximum	1 - 4	NC	3 - 4	NO
		Minimum	3 - 4	NO	1 - 4	NC

NS = nominal size

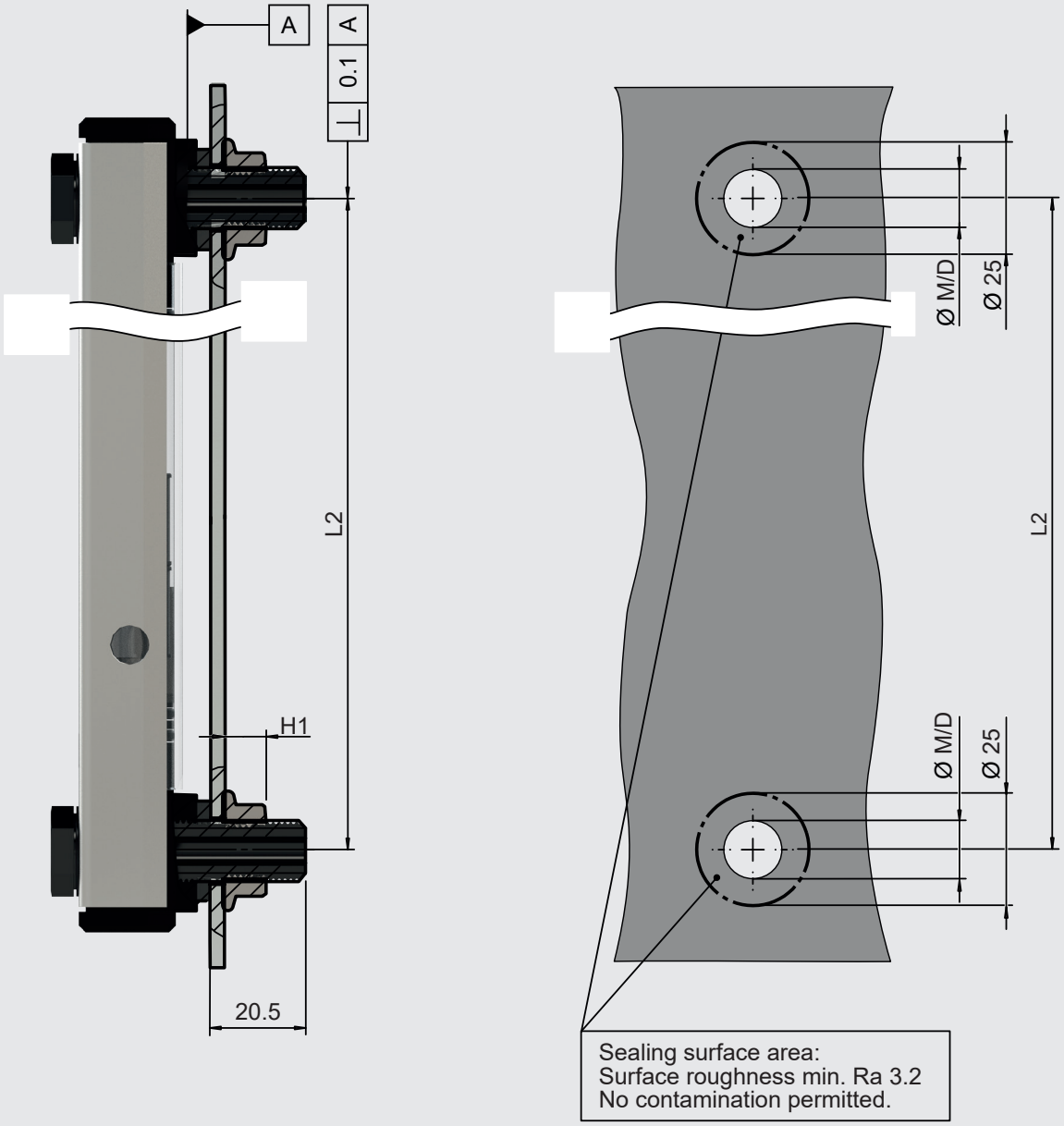
DIMENSIONS (measurements in mm)



SW = Spanner Width

Size ≅ centre distance of bolts	**L1** [mm]	**L2** [mm]	**L3** [mm]	**L7** [mm]	**N** [in]	**F** [mm]	Quantity
0500	432	500	535	411	377	137	3
0600	532	600	635	511	477	170	3
0700	632	700	735	611	577	150	4
0800	732	800	835	711	677	175	4
0900	832	900	935	811	777	158	5
1000	932	1000	1035	911	877	147	6

INSTALLATION INFORMATION (measurements in mm)



Screw	Nut	Threaded hole ØM	Through-bore ØD	H1	Tightening torque, bolt dry/lubricated
M12, SW17	M12, SW18	M12 – min. 6 mm deep	13 mm	12 mm	$8_{-0.5}$ Nm / $6^{+0.5}$ Nm

SPARE PARTS

Seal kit (6x O-ring, 2x seal disc)

Nom. size	Size	Material	Order no. = part no.
0500 - 1000	M12	NBR	4664417

COMMENT

The information in this brochure relates to the operating conditions and applications described.

For applications and/or operating conditions not described, please contact the relevant technical department.

The operator is always responsible for determining the product suitability for the specific application. Figures given for product characteristics are average values for a new product which are subject to an ageing process.

Subject to technical modifications and errors.

HYDAC ACCESSORIES GMBH
Hirschbachstr. 2
66280 Sulzbach/Saar
Germany
Phone: +49 6897 509-01
E-mail: accessories@hydac.com
Internet: www.hydac.com

EN 5.050.14.0/04.24