

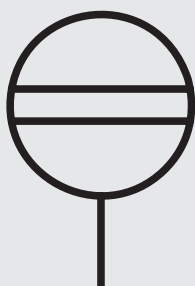
Fluid level gauge

Riser tube made of glass

FSA

SYMBOL

Size 0076 - 0381



DESCRIPTION

The FSA is a high-quality, robust fluid level gauge for continuous level control in hydraulic tanks.

The fluid enters the unit via the lower connection bore and is clearly visible in the tube. This means that the fluid level can be easily seen on the outside of the housing. This is also possible from the side, if a frame with a side sight glass is used.

Six sizes, customisable contrast panes, various floaters or hollow balls and numerous additional thermal functions complete the high functionality of the FSA.

PRODUCT FEATURES

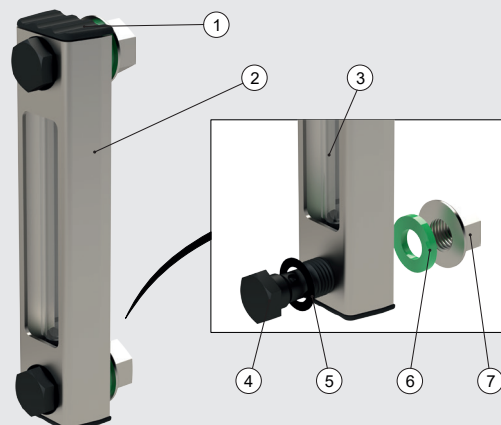
- Nom. size 76–381 mm
- Round riser tube made of glass
- Connectors made of PA or aluminium
- Housing made of aluminium or stainless steel
- Optimised sealing volume thanks to larger O-ring cord size
- Improved seal between tank and FSA thanks to geometrically optimised connector
- The additional washer prevents the housing from being scratched by spanners

CUSTOMER BENEFITS

- Robust design
- Increased hydraulic fluid temperature, media compatibility and UV-resistance
- Reduced risk of damage to the O-ring for the bolt resulting from incorrect installation at the tank
- Improved torque reliability
- Can also be used with fluids containing glycol

Item	Description
(1)	Connector (2x)
(2)	Housing frame
(3)	Riser tube
(4)	Banjo bolt (2x)
(5)	Washer (2x)
(6)	Seal (2x)
(7)	Mounting nut (2x)

DESIGN



Model code

(also order example)

FSA - 0127 - 0 . 11000 / H - / M12 . 000

Designation

FSA = fluid level gauge

Nominal size (≅ centre distance of bolts in mm)

0076, 0127, 0176, 0254, 0305, 0381

Material of seal

0 = NBR (Perbunan)

2 = FKM (Viton)

Tube geometry / materials

Tube geometry

1 = round tube Ø19

Material – tube

1 = glass

Material – connectors

0 = PA (seal = sealing washer)

1 = aluminium (seal = sealing washer)

2 = aluminium (seal = quad ring)

3 = aluminium (seal = O-ring)

Material – frame

00 = aluminium

03 = stainless steel

06 = aluminium, cut-out on right

07 = aluminium, cut-out on left

Options

Contrast pane

H = contrast pane HYDAC

N = contrast pane neutral

O = no contrast pane

O1 = no contrast pane, hollow ball blue Ø8

O2 = no contrast pane, hollow ball green Ø10

Additional thermal function

- = no additional function (standard)

T = thermometer in display tube (only in conjunction with contrast pane H) -10 °C to +80 °C

FF = preparation for sensor thermometer

FT100 = sensor thermometer 100 mm

FT200 = sensor thermometer 200 mm

FT300 = sensor 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 probe -40 °C to +125 °C

TFP1000 = temperature probe -40 °C to +125 °C

Notice: The combination temperature switch TS and sensor thermometer FT is not possible.

Type of connection

M12 = M12 (standard)

M10 = M10 (not for TS or TFP)

Connection elements

Material of bolts/nuts

0 = bolt and poss. nut steel (surface protection galvanised, chromium(VI)-free)

2 = bolt and poss. nut stainless steel (M12 only)

Seal

0 = with seal

1 = no seal

Mounting nuts

0 = with mounting nuts

1 = without mounting nuts

NOTICE:

As regards the relevant operating and environmental conditions (temperature, dynamics, cleaning), the suitability of the product must be verified by the vehicle/system manufacturer or owner.

If you have any questions, please get in touch with your contact in Technical Sales.

TECHNICAL DATA

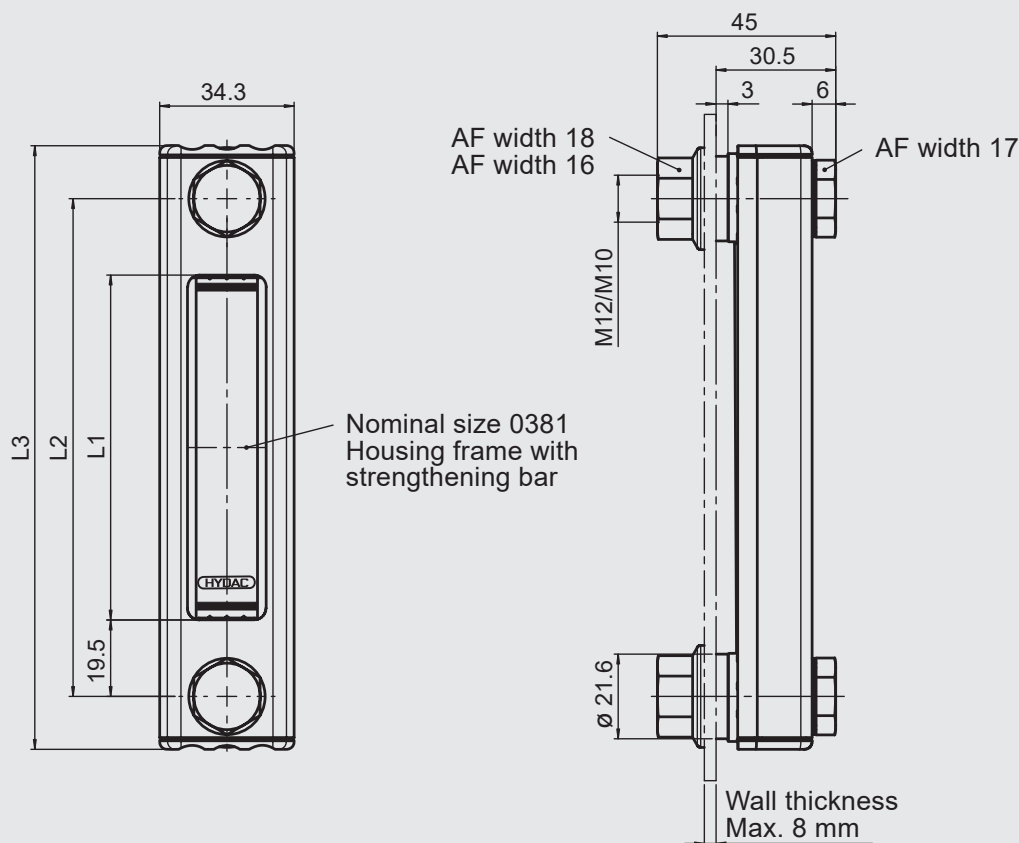
Connection		Banjo bolt M12x45 or M10x45					
Type of connection		Threaded hole (M12 or M10) or through-bore (Ø13 or Ø11)					
Mounting position		vertically on the tank wall					
Weight		Size 0076	Size 0127	Size 0176	Size 0254	Size 0305	Size 0381
		0.18 kg	0.21 kg	0.23 kg	0.25 kg	0.26 kg	0.31 kg
Design of riser tube		Round tube Ø19					
Media		Mineral oil in acc. with DIN 51524 Part 1 and 2, water, oil, emulsions, synthetic fluids, glycol and fluids containing glycol					
Viscosity of fluid		Max. 2000 mm²/s					
Max. operating pressure		0.5 bar (higher pressures on request)					
Flow direction		no orientation restrictions					
Ambient temperature		-20 °C to +95 °C					
Temperature of operating fluid		-20 °C to +95 °C (with thermometer -10 °C to +80 °C) (others on request)					
Material:	Connectors:	PA or aluminium					
	Riser tube:	Glass					
	Housing frame:	Aluminium or stainless steel (steel on request)					
	Seal:	FKM or NBR (EPDM on request)					
	Bolts, nuts:	Steel galvanised or stainless steel					
	Contrast pane:	Aluminium					
Accessories		Shut-off elements (ABV, ABK, ABS), protective cover					

NOTICE:

To ensure correct functioning, pressure, viscosity and temperature specifications must be observed. For perfect function at high temperatures, it must be ensured that the tightening torques of the bolts are not changed after the initial installation.

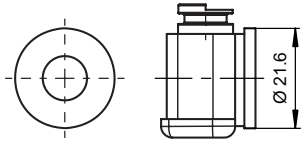
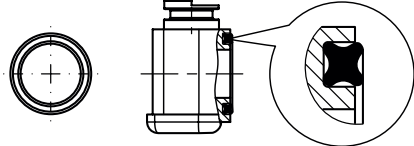
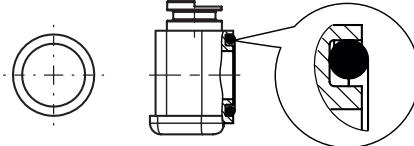
DIMENSIONS

(dimensions in mm)



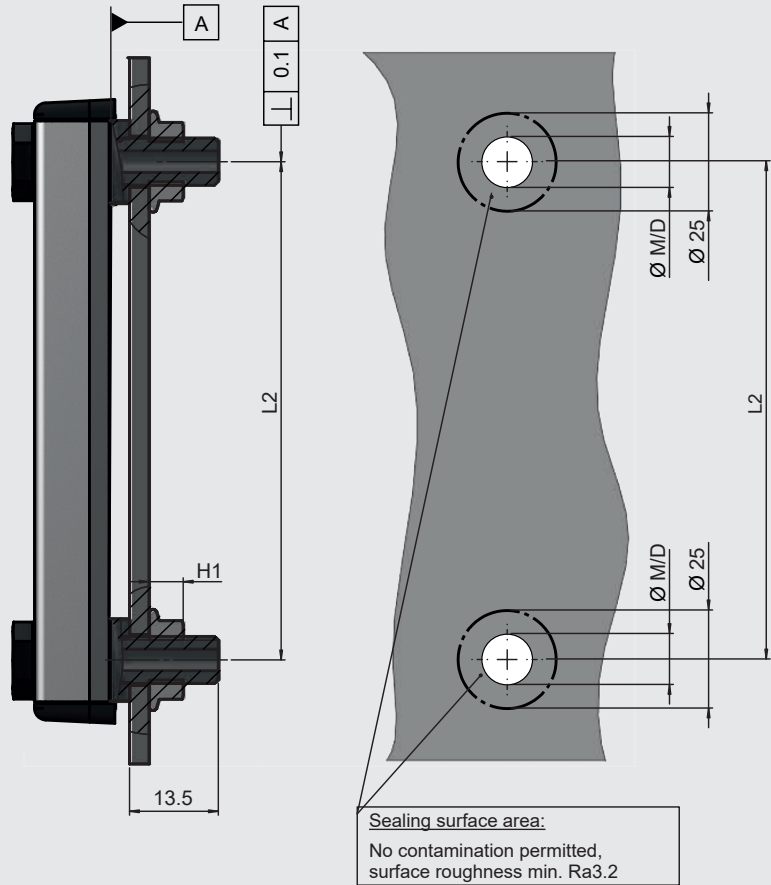
Nominal size \cong	L1		L2		L3	
Centre distance of bolts [mm]	[mm]	[in]	[mm]	[in]	[mm]	[in]
0076	37	1.5	76	3	103	4.1
0127	88	3.5	127	5	154	6.1
0176	137	5.4	176	7	203	8.0
0254	215	8.5	254	10	281	11.1
0305	266	10.5	305	12	332	13.1
0381	342	13.5	381	15	408	16.1

SEAL VARIANTS or tank connection

Sealing washer (standard)	Quad ring (only for alum. connectors)	O-ring (only for alum. connectors)
		

INSTALLATION INFORMATION

(dimensions in mm)



Screw	Nut	Threaded hole ØM	Through-bore ØD	H1	Tightening torque dry / oiled
M12, SW17	M12, SW18	M12 – min. 6 mm deep	13 mm	12 mm	8 _{-0.5} Nm / 6 ^{+0.5} Nm
M10, SW17	M10, SW16	M10 – min. 5 mm deep	11 mm	10 mm	8 _{-0.5} Nm / 6 ^{+0.5} Nm

SPARE PARTS

Seal kit, standard (4x O-ring, 2x sealing washer)

Nom. size	Size	Material	Order no. = part no.
0076 - 0381	M12	NBR	4334716
0076 - 0381	M12	FKM	4334379
0076 - 0381	M10	NBR	4664374
0076 - 0381	M10	FKM	4664416

NOTE

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. Quantified values for product characteristics are average values for a new product that undergo a time deterioration process.

Subject to technical modifications and errors.

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