



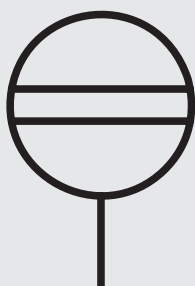
## Fluid level gauge

### Riser tube made of plastic

### 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

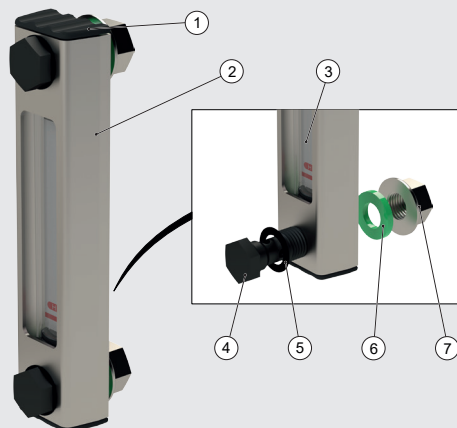
- Nominal size 76–381 mm
- Elliptical riser tube made of high-quality plastic
- Connectors made of PA
- Housing made of aluminium or stainless steel
- Optimised sealing volume thanks to larger O-ring cord size
- Improved seal between tank and FSA thanks to geometrically optimised connector
- The additional 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

Item	Description
(1)	Connector (2x)
(2)	Housing frame
(3)	Elliptical riser tube
(4)	Banjo bolt (2x)
(5)	Washer (2x)
(6)	Sealing washer (2x)
(7)	Mounting nut (2x)

#### DESIGN



## Model code

(also order example)

FSA - 0076 - 0 . 00000 / H - / M12 . 000

## Designation

FSA = fluid level gauge

## Nominal size ( $\cong$ 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

0 = elliptical tube

### Material – tube

0 = plastic

### Material – connectors

0 = PA

### 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)

### Sealing washer

0 = with sealing washer

1 = no sealing washer

### 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

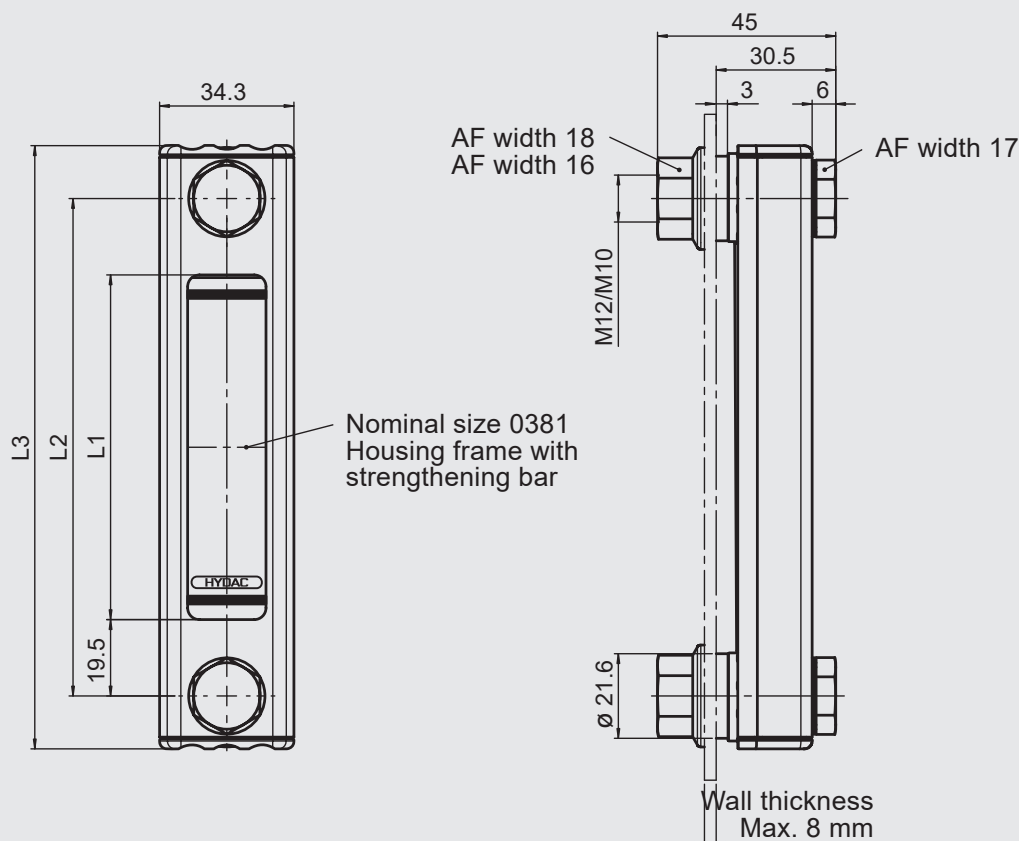
<b>Connection</b>	Banjo bolt M12x45 or M10x45					
<b>Type of connection</b>	Threaded hole (M12 or M10) or through-bore (Ø13 or Ø11)					
<b>Mounting position</b>	vertically on the tank wall					
<b>Weight</b>	Size 0076	Size 0127	Size 0176	Size 0254	Size 0305	Size 0381
	0.17 kg	0.19 kg	0.21 kg	0.24 kg	0.25 kg	0.29 kg
<b>Design of riser tube</b>	Elliptical tube					
<b>Media</b>	Mineral oil to DIN 51524 Part 1 and 2, water, oil, emulsions (other fluids on request)					
<b>Viscosity of fluid</b>	Max. 2000 mm²/s					
<b>Max. operating pressure</b>	0.5 bar (higher pressures on request)					
<b>Flow direction</b>	no orientation restrictions					
<b>Ambient temperature</b>	-20 °C to +95 °C					
<b>Temperature of operating fluid</b>	-20 °C to +95 °C (with thermometer -10 °C to +80 °C)					
<b>Material:</b>						
Connectors:	PA					
Riser tube:	High-quality plastic					
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:	Plastic					
<b>Accessories</b>	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

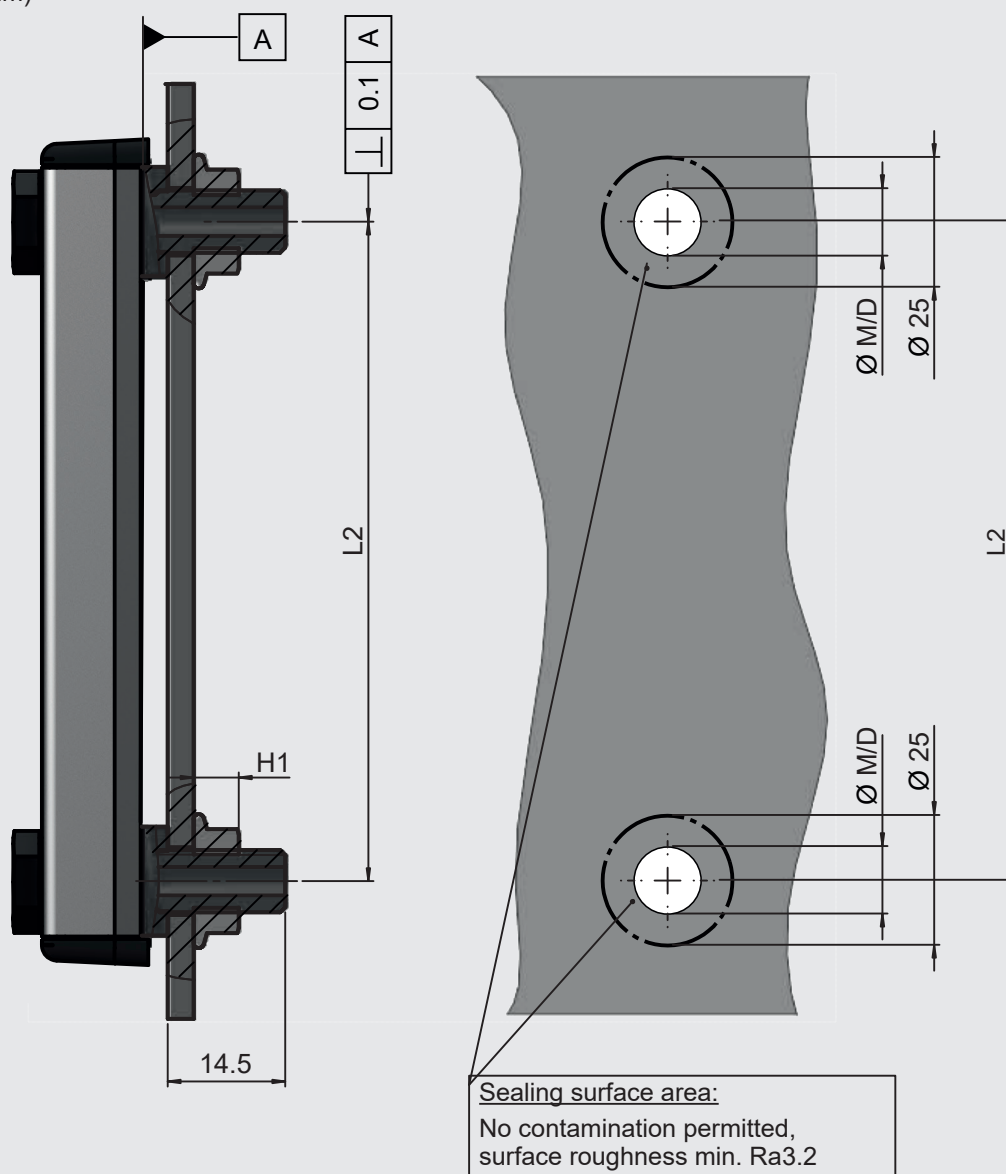
(dimensions in mm)



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
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

## INSTALLATION INFORMATION

(dimensions in mm)



Bolt	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 <sub>-0.5</sub> Nm / 6 <sup>+0.5</sup> Nm
M10, SW17	M10, SW16	M10 – min. 5 mm deep	11 mm	10 mm	8 <sub>-0.5</sub> Nm / 6 <sup>+0.5</sup> Nm

## SPARE PARTS

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

Nom. size	Size	Material	Order no. = part no.
0076 - 0381	M12	NBR	4566427
0076 - 0381	M12	FKM	4566428
0076 - 0381	M10	NBR	4566429
0076 - 0381	M10	FKM	4566430

## 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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