



Bypass Level Indicator



measuring
•
monitoring
•
analysing

SZM



- Measuring length: 370 ... 3080 mm
- p_{\max} : 10 bar; t_{\max} : 100 °C
- Viscosity: max. 50 mm²/s
- Connection:
DIN flange DN 15 ... 50,
ANSI flange 1/2" ... 2", union nut G 1/2"
- Material:
Stainless steel 1.4301/1.4404/
Polypropylene
- Local indication without
auxiliary power
- Limit contacts



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Description

The SZM type glass tube level indicator is applicable for the indication of liquid level in small and middle-sized, standing or lying round containers used in food, pharmaceutical and chemical industries.

The loads occurring at the installation are absorbed by the outer armature, thus the glass tube is protected against breaking. The outer armature also protects the glass tube against the mechanical impacts that may occur following the installation.

It is recommended that the normal design level indicators be fitted on vessels containing pure liquids, while the indicators mounted with cleaning stubs (a bottom, or bottom-top stub) be fitted on containers filled with contaminated liquid.

Installation length means the distance between the horizontal centre lines of the two flanges, that is minimum 370 mm, and maximum 3080 mm.

The glass tubes longer than 1500 mm are welded. The bottom, and top sealing of the glass tube is by two O-rings each, the material of which is to be chosen to be chemically compatible with the liquid measured. Standard sealing material is FPM, whereas EPDM or NBR are available on request.

The level indicator may be furnished with capacitive level sensors - max. 3 pieces over 100 mm - as requested (NAMUR design), which monitor the minimum and/or maximum level or any level along the scale. Anodised aluminium rule with indication of level or volume may be mounted optionally on side of the outer armature.

The scale can be engraved on the aluminium rule or the glass tube, or can be printed on a foil and to be attached to the glass tube or aluminium rule.

Areas of Application:

- Pharmaceutical
- Chemical
- Food
- Water Treatment
- Oil
- Milk
- Storage tanks for liquids

Technical Details

| | |
|---------------------|--|
| Measuring length: | 370 ... 1000 mm (SZM-P) 370 ... 3080 mm (SZM-K/SZM-S) |
| Material: | stainless steel/Polypropylene |
| Gasket: | FPM (standard) EPDM, NBR on request |
| Process connection: | DIN flange DN 15 ... 50, ANSI flange ½" ... 2" or union nut G ½" |
| Scale resolution: | engraved, 1 cm printed on foil, 2 mm |
| Max. pressure: | 10 bar |
| Max. temperature: | 65 °C (SZM-P) 100 °C (SZM-K, -S) |
| Density: | any (no float used) |
| Max. viscosity: | 50 mm ² /s |

Limit contacts

| | |
|-----------------------------------|--|
| Type: | capacitive sensor |
| Voltage: | 8.2V _{DC} |
| Non-actuated current consumption: | ≤1.2 mA |
| Actuated current consumption: | ≥2.1 mA |
| Adjustment: | fine adjustment via potentiometer |
| Output function: | 2-wire, according to DIN EN 60947-5-6 (NAMUR) |
| Electrical connection: | cables |
| Cable quality: | Ø5.2, LIFYY, PVC, 2 m |
| Cable cross section: | 2 x 0.34 mm ² |
| Display switch state: | LED yellow |
| Material: | plastic, PA12-GF30 |
| Protection: | IP67 |

Bypass Level Indicator Model SZM



Materials

| Ordering Code | Measuring tube | Connection | Flange (not wetted part) | Sealing |
|---------------|----------------|---------------|--------------------------|---------|
| SZM-P | glass | polypropylene | PVC | FPM |
| SZM-K | glass | 1.4301 | 1.4301 | FPM |
| SZM-S | glass | 1.4404 | 1.4404 | FPM |

Order Details SZM-P..., K..., S... (Example: SZM-P00 F4 G10)

| Model | Version | Valves | Connection | Scale | Switches |
|--|---|---|---|--|--|
| <p>SZM-P = Polypropylene SZM-K = 1.4301 SZM-S = 1.4404</p> | <p>0 = top: closed, bottom: outlet screw 1* = top: cleaning hole, bottom: outlet screw 2* = top: closed, bottom: cleaning hole 3* = top and bottom: cleaning hole 4* = top closed, bottom: drain valve 5* = top: cleaning hole, bottom: drain valve</p> | <p>0 = without 1* = 2 x shut-off valves</p> | <p>G4* = G 1/2 union nut F4 = loose flange DIN 2526, C DN15; PN16 F5 = loose flange DIN 2526, C DN20; PN16 F6 = loose flange DIN 2526, C DN25; PN16 F7 = loose flange DIN 2526, C DN32; PN16 F8* = loose flange DIN 2526, C DN40; PN16 F9* = loose flange DIN 2526, C DN50; PN16 A4 = loose flange ANSI B 16.5 1/2"; 150 lbs A5 = loose flange ANSI B 16.5 3/4"; 150 lbs A6 = loose flange ANSI B16.5 1"; 150 lbs A7 = loose flange ANSI B 16.5 1 ¼"; 150 lbs A8* = loose flange ANSI B 16.5 1 ½"; 150 lbs A9* = loose flange ANSI B 16.5 2"; 150 lbs B4 = loose flange ANSI B 16.5 1/2"; 300 lbs B5 = loose flange ANSI B 16.5 3/4"; 300 lbs B6 = loose flange ANSI B 16.5 1"; 300 lbs B7 = loose flange ANSI B 16.5 1 ¼"; 300 lbs B8* = loose flange ANSI B 16.5 1 ½"; 300 lbs B9* = loose flange ANSI B 16.5 2"; 300 lbs</p> | <p>00 = without G1** = plastic foil on measuring tube (2 mm division) G2** = engraved measuring tube (1 cm-division) S1*** = sidewise Alu-scale (with plastic-foil, 2 mm-division) S2*** = sidewise engraved Alu-scale (1 cm-division)</p> | <p>0 = without 1 = 1 capacitive sensor 2 = 2 capacitive sensors X = X no. of contacts (please specify in clear text)</p> |

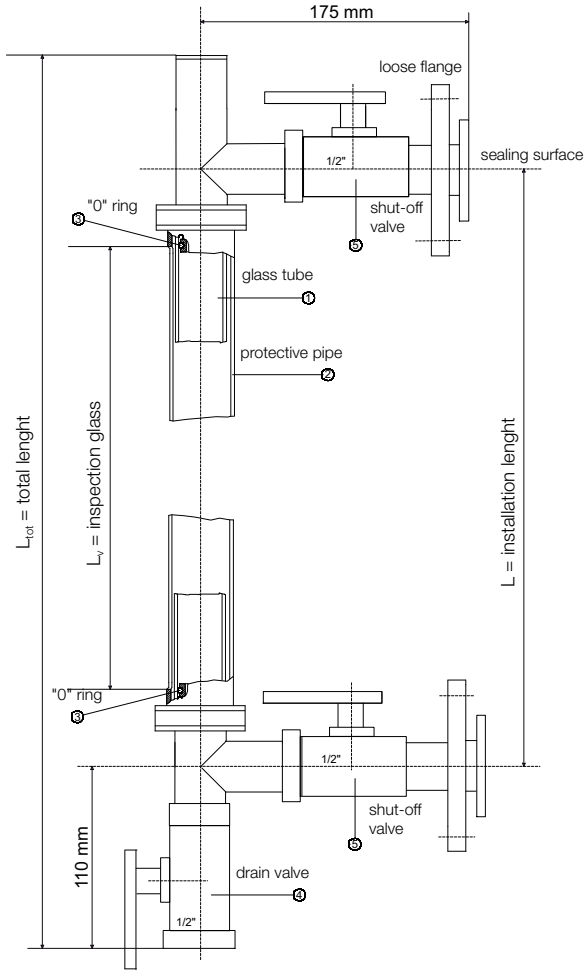
* not available for SZM-P

** scale length = Installation length - 120 mm

*** scale length = Installation length - 100 mm

Note: Please specify the installation length "L" in clear text, while ordering.

Dimensions



Total length (L_{tot}) according to the inspection glass (L_v)

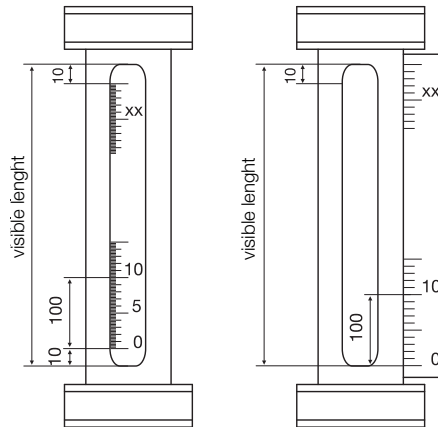
All dimensions in mm.

| Model | Total length (L_{tot}) | Inspection glass (L_v) |
|---------|----------------------------|----------------------------|
| SZM-x 0 | $L + 80$ | $L - 100$ |
| SZM-x 1 | $L + 115$ | $L - 100$ |
| SZM-x 2 | $L + 115$ | $L - 100$ |
| SZM-x 3 | $L + 150$ | $L - 100$ |
| SZM-x 4 | $L + 150$ | $L - 100$ |
| SZM-x 5 | $L + 185$ | $L - 100$ |

Measuring scale

foil on glass tube

aluminium scale



Design of the Ends

