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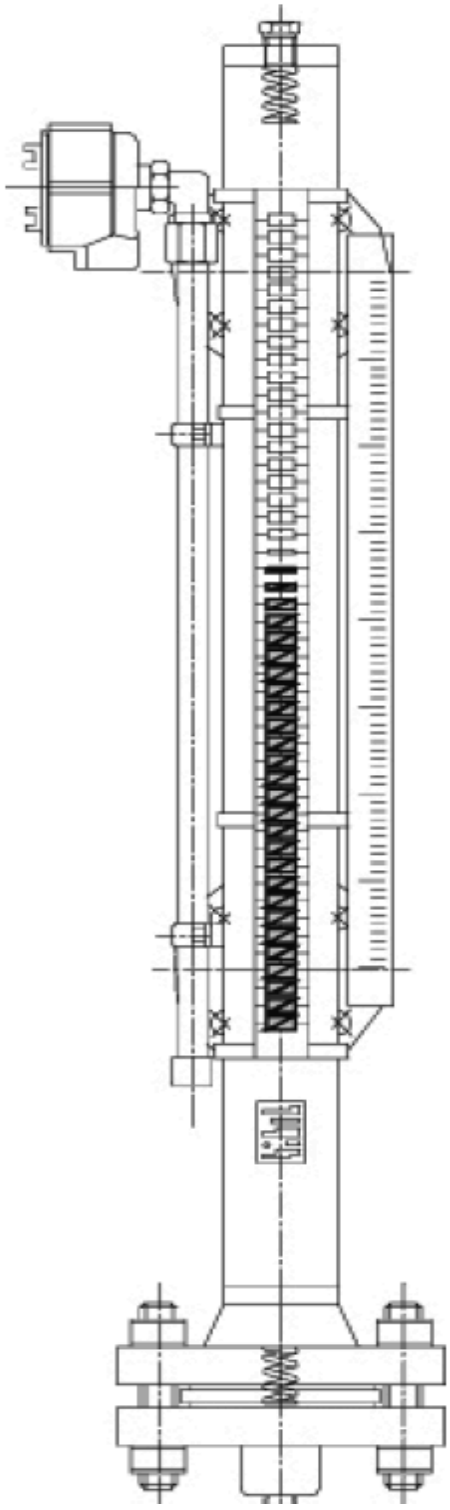
Processteknik GH AB

Nivå och Flödesutrustning

(Magnetically Controlled Liquid Level Indicator ITA)

Magnetically controlled liquid level indicators type ITA are used for the following level measurement tasks:

- Indication of the liquid level for corrosive, toxic or flammable media with separation between measurement and display compartments.
- Magnetic transmission of the liquid level from the vessel to the gauge is continuous and resistant to vibration.
- Can be used to measure level both in atmospheric and pressurized vessels.
- Perfect readability of the display elements even at greater distance and after several years, since there is no clouding by product contamination resulting from exposure to ultraviolet light.
- Simple, unbreakable and maintenance-free design
- Great reliability even at high temperatures and pressures
- Alarm contacts can be attached at any point along the gauge.
- Measuring scale of the display can be set at customer's request on volume or height.
- Floats without gas pre-load as of a minimum density of 0,35 kg/dm³
- Maximum process pressure for sealed floats: 320 bar; at higher pressures the float is provided with pressure relief (not to be used with condensing media)
- Separation of the measurement from the display compartment eliminates the hazards associated with glass tube breakage.
- The float principle minimizes the influences of changes in density on measurement accuracy.
- Display of fill level
- Monitoring the extreme fill level by alarm contacts (also as Ex-Version)
- Transfer of the fill level using transmitters (4…20 mA Hart / Profibus PA) to electrical indicator units (also as Ex-Version)
- Interface level measurement.



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Magnetically Controlled Liquid Level Indicator ITA

Overview standard designs:
Liquid level indicators for low and medium pressures, Series: ITA-3/6/7

- Wetted components made of corrosion-resistant stainless steel 316L as a standard.
- Pressure ranges: PN16, PN40, PN64/ANSI 150#, 300#, 400#, 600#)
- DIN- or ANSI-connection flanges
- Float design exactly adapted to the operation conditions
- Versions up to 12 m length (two sections)
- Special materials for special application parameters:
  Titanium, Hastelloy C4, Inconel 625, TP317 LN, Monel
  PTFE-lining (only PN16)
- Accessories: Drain- and vent-flanges, valves, reducers etc...
- types ITA-3.0/6.0/7.0 with CS-flanges.

Liquid level indicators made of plastics
Series ITA-8

- It is hardly impossible to think of pipe and vessel engineering without the use of modern plastics.
- In utility and waste water applications and when handling corrosive media, liquid level gauges made of plastics replace costly solutions like metal tube linings or ceramic or glass tubes
- materials: PVC (Polyvinylchloride), PP (Polypropylene), PVDF (Polyvinyldenefluorid)
- Connection flange DN15/PN6 to DN32/PN6

Liquid level indicators – Power plant technology
Series ITA-10/11/12/13

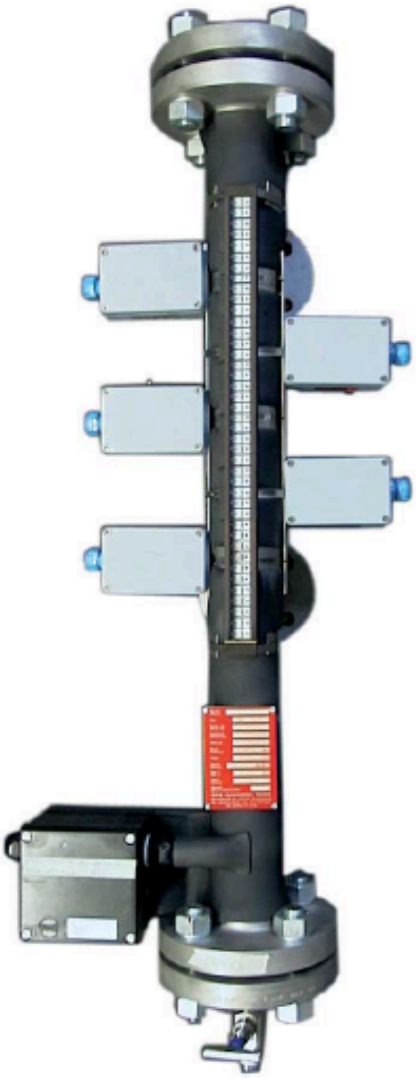
- Applications in the chemical, industrial processes and offshore industry
- sealed floats up to 320 bar (4641 psi)
- Minimum operating density 0,42 kg/dm³
- Special materials for special conditions: Titanium, Hastelloy C4, Inconel 625, 1.4539
- pressure ranges: PN100, PN160, PN250, PN320
- DIN- or ANSI-connection flanges
- Accessories: Drain- and vent-flanges, valves, reducers etc...

Indication rails:

- Aluminium and stainless steel indication rails for media up to 752°F
- Makrolon indication rails for media up to 248°F

Switches and alarm contacts:

- Attached with a pipe clamp for positioning at any desired height
- Connection via 3-wire cable or terminals in the housing
- SPDP contact can be wired for either NC or NO function
- Ex-Version (EEx i / EEx d)
- various types; changeover contact, proximity switch
- up to +752°C fluid temperature



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Magnetically Controlled Liquid Level Indicator ITA

Special designs:

- Two-part-design, on client's request or at measuring length more than 6000 mm
- Steam jacket with threaded or flanged connectors to heat the indicator with steam, e.g. when handling viscous media
- Liquid level indicator with Armaflex insulation. Reliable insulation in a range from -328 to +221°F, can be used in refrigeration plants, for ammonia.
- PTFE-lining for use with corrosive media
- Bureau Veritas, German Lloyd, DNV, Lloyds Register
- Overfill monitor for containers e.g. used to store flammable and non-flammable, water polluting liquids
- ITA-Cryo-design for refrigerants
- Special versions to fulfil requirements of client's operations.

Supplementary equipment:

- Heating tape as frost protection on outdoor applications
- Vent and drain valves, flanged or threaded
- Scales with graduations on client's request
- Ceramic tape

Approvals/Certificates:

- Material certificates 3.1 acc. DIN EN 10204
- General construction surveillance approval acc. Article 19 Water Resources Management Act (WHG) and Article 12 or the Flammable Liquids Code (VbF), Approved for Zone 0
- Approved water level controller VdTÜV / WR91-352
- German Lloyd
- X-ray test acc. DIN 54111 T1
- Dye penetrant test acc. DIN 54152
- Approvals acc. NACE, TRD, design pressure test by German TÜV
- Pressure Equipment Directive PED
- IBR-certificate available
- Ex-Version available

Guided Wave Radar (GWR)

Intra-Automation combines the principle of conventional magnet flap indicator type ITA with the guided wave radar level transmitter for redundant measurement.

Features:

- Measuring lengths up to 18 m (59,06 ft)
- Pressure ratings up to 320 bar (4641 psi)
- Temperature range up to 400 °C (752°F)
- Very high accuracy (mm)
- Installation independent from heater coils or agitators in the tank
- Insensitive against process conditions such as vibrations or extreme steam generation
- To be used in critical applications
- Redundant measuring of the actual level
- Precise visual measurement with highly exact sensor
- Hart, Profibus PA and Foundation Fieldbus available
- Digital on-site-indication available
- Ex-versions (EEx d, EEx ia) available

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Maglink Liquid Level Measurement System for Tanks

The „MAGLINK" liquid level measurement system is designed for use with pressurized tanks or those open to the atmosphere, particularly in the chemical industry, where especially difficult operating conditions could prevail in regard to corrosion, temperature and pressure. All parts which are in contact with the medium being measured are made of rust- and acid-resistant steel or special materials, which allows these devices to be used in various industries like the chemical, foods, petroleum processing and marine industries (with PTB National Physical Testing Laboratories at Braunschweig and German Lloyd underwriter's certification), to include acids, liquefied petroleum gas, etc. The magnetic link between the fl oat and the interior magnet is so stable that even rapid changes of the fluid level do not influence the accuracy of the level measurement.

Design features:

- pressure- and vacuum-tight system
- high accuracy (linear transmission)
- corrosion-resistant materials
- no calibration needed
- electr. remote monitoring available
- can be read on eye level
- easy legibility with the 10" diam. direct display scale
- dual-pointer-system (standard)
- mechanical operation (Ex-proof design/ATEX optional)
- undisturbed by foam generation
- simple to use and maintain
- interface level measurement
- mounted on top of tank; optional: display on side of the tank

Materials:

Guide tube and mounting flange:

- rust- and acid-resistant steel (standard: 316L alloy)
- PVDF, PP, PVC

Float:

- rust- and acid-resistant steel (standard: 316L alloy)
- Polypropylene PP
- PVC
- PVDF
- Monel
- Glass
- Halar-coated stainless steel (316L)

Housing:

- Die cast painted aluminium (standard)
- 316L steel alloy

Scale window:

- Glass
- Makrolon

Mounting flange:

- 2" 150# standard RF flange as per ANSI B 16.5 or DIN 2627 DN50/PN40 or on client's request

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Liquid Level Gauges

In case that the liquid level has to be monitored directly (e.g. due to directives by law), Liquid Level Gauges are to be applied.

Tubular Level Gauge
Series ITA-*-GG

- used for observing the fluid level at low temperature & low pressure

Reflex Level Gauge
Series ITA-*-RG

- used for observing the level of various liquids by using the reflection of light.
- for high pressure & high temperature
- not for steam measurements

Transparent Level Gauge
Series ITA-*-TG

- used for observing the fluid level
- for high pressure & high temperature
- applicable for steam measurements

Option: Illuminator for Liquid Level Gauge

- used for observing the fluid level in a dim place or at night
- ingression protection grade: IP66
- Explosion proof: KOSHA I Exd II B + H2 T5 & CENELEC / EExd II B + H2 T4

The different indicators are available in CS, stainless steel, stainless steel alloys and Titanium.
Other materials on request.