

## DIAL LEVEL INDICATOR – TLQ SERIES

The dial level indicator has been designed for the level measurement of liquids in small and high tanks.

Its operation is based on a clock gears movement of highest precision that assure a local indication with high accuracy and repeatability.

Two mechanisms have been planned in order to have two reading scale with single or double pointer.

The instrument doesn't need any electrical supply.

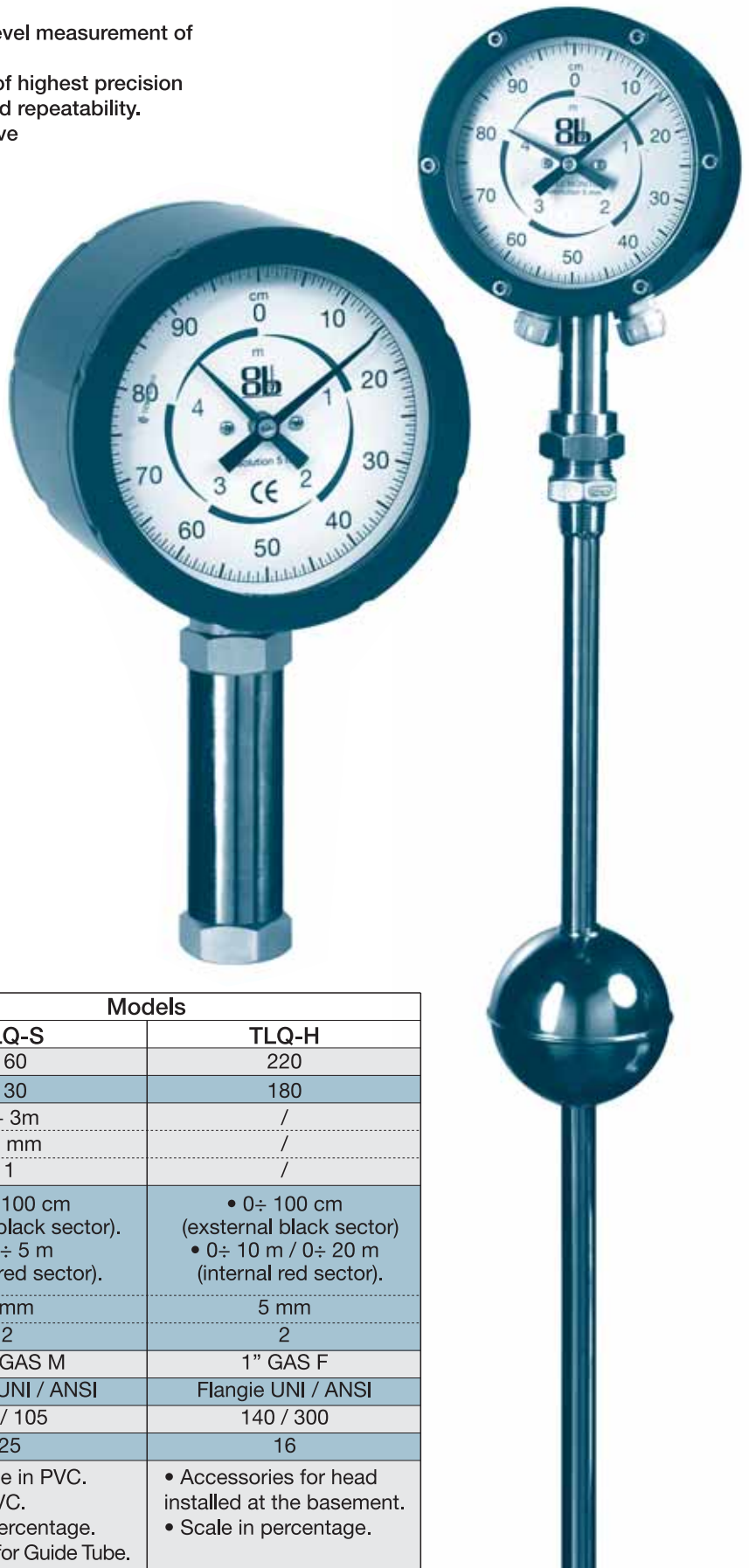
The main characteristics are the reliability and the strength.

### GENERAL TECHNICAL FEATURES

- Head in Aluminium epoxy coated
- Protection Degree: IP65
- Head process connection: 70 mm std.
- Head extension: on request
- Electric connection: M16 / M20 / 1/2" NPT
- Guide Tube: in AISI316L
- Float in AISI316L
- Accuracy:  $\pm 5$  mm on the complete range
- Repeatability:  $\pm 2,5$  mm
- ATEX Certificate II 1/2 GDC T6

### WORKING CONDITIONS

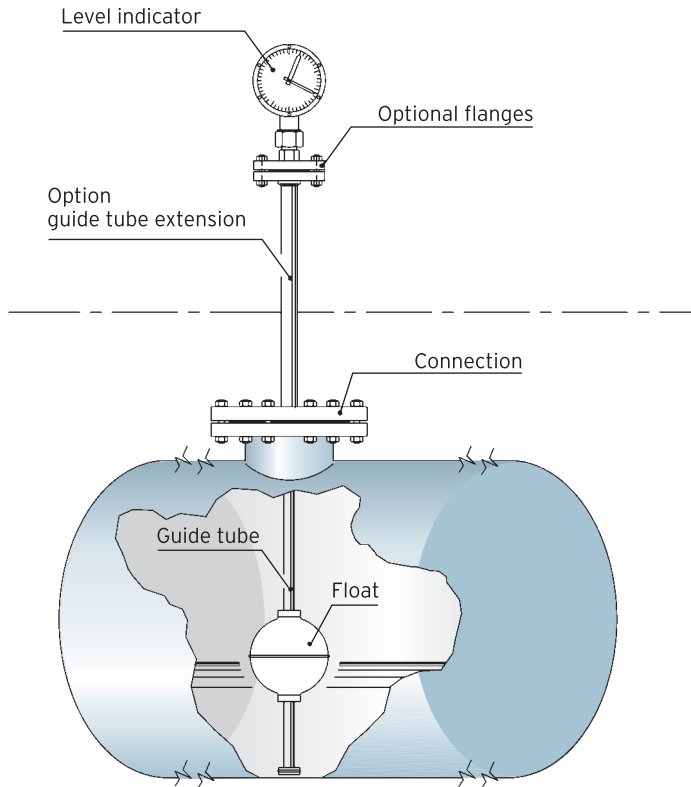
- Specific gravity:  $\geq 0,60$  Kg/dm<sup>3</sup>
- Viscosity 100 CP max
- Std. Temp.:  $-20^{\circ}\text{C} \div +85^{\circ}\text{C}$
- Max Temp.:  $+ 300^{\circ}\text{C}$   
(High temperature version, with only indication)



Characteristics	Models	
	TLQ-S	TLQ-H
Head diameter (mm)	160	220
Reading Dial diameter (mm)	130	180
• Single scale - Range	0 ÷ 3m	/
• Resolution	10 mm	/
• Nr. pointers	1	/
• Double scale - Ranges	<ul style="list-style-type: none"> <li>• 0 ÷ 100 cm (external black sector).</li> <li>• 0 ÷ 5 m (internal red sector).</li> </ul>	<ul style="list-style-type: none"> <li>• 0 ÷ 100 cm (external black sector)</li> <li>• 0 ÷ 10 m / 0 ÷ 20 m (internal red sector).</li> </ul>
• Resolution	5 mm	5 mm
• Nr. pointers	2	2
Standard process connection	3/4" GAS M	1" GAS F
Process connections on request	Flangie UNI / ANSI	Flangie UNI / ANSI
Float diameter (mm)	85 / 105	140 / 300
Design Pressure (barg)	25	16
Options	<ul style="list-style-type: none"> <li>• Guide Tube in PVC.</li> <li>• Float in PVC.</li> <li>• Scale in percentage.</li> <li>• Extension for Guide Tube.</li> </ul>	<ul style="list-style-type: none"> <li>• Accessories for head installed at the basement.</li> <li>• Scale in percentage.</li> </ul>

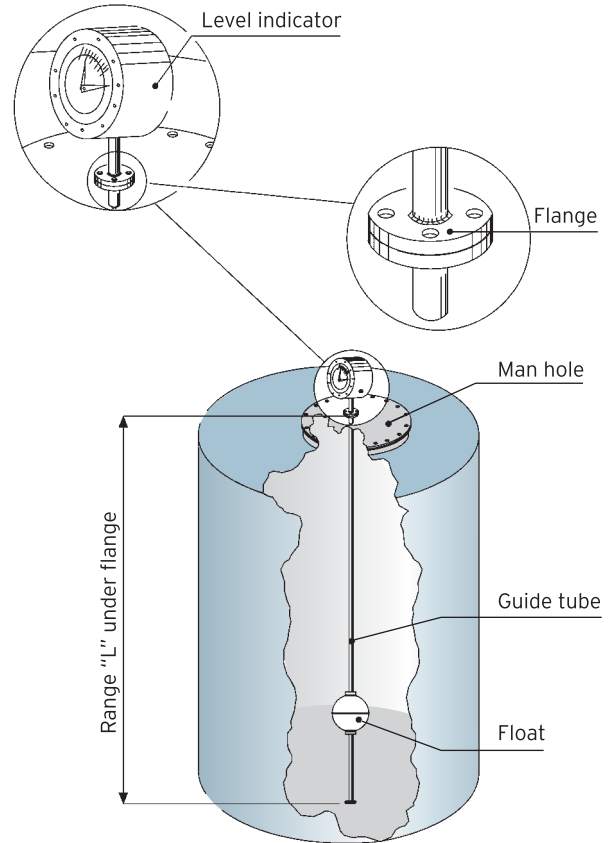
## LEVEL INDICATOR MOD. TLQ-S

Typical installation



## LEVEL INDICATOR MOD. TLQ-H

Typical installation



### FLOATS CHARACTERISTICS

Type	Dimensions / mm	P. max / bar	S.G. min/ Kg/dm <sup>3</sup>
Cylindrical	ø 85x110	25	0,7
Spherical	ø 105	25	0,8
Spherical	ø 140	16	0,7
Spherical	ø 300	16	0,6

### ACCESSORIES FOR MODELS TLQ-S AND TLQ-H

#### 4/20 mA Transmitter (two wires):

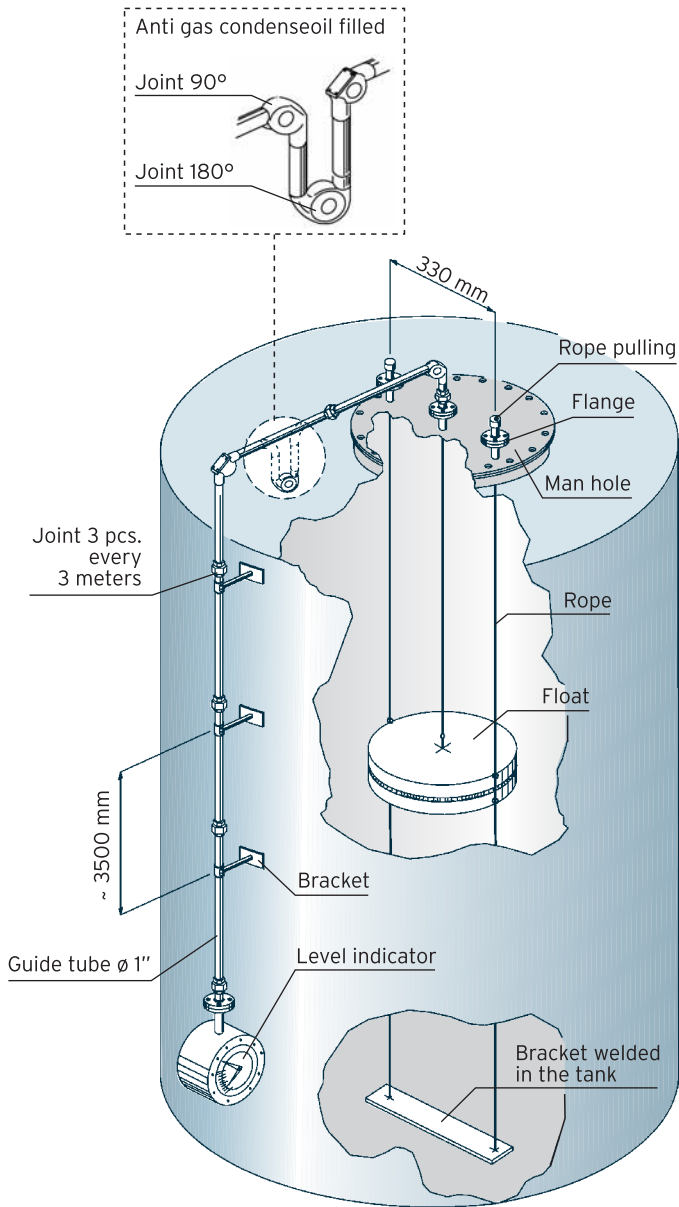
- Standard employment version
- Intrinsically Safe (ATEX Exia IIC T6) version
- SMART / HART protocol version
- SMART / HART protocol and Intrinsically Safe (ATEX Exia IIC T6) version

#### Digital Output (level alarms):

- 1 ÷ 4 Mechanical microswitches with SPDT contacts
- 1 ÷ 2 Mechanical microswitches with SPDT contacts, Explosion-Proof type (ATEX Exd IIC T6)
- 1 ÷ 4 Proximity switches PNP, NPN, NAMUR

## LEVEL INDICATOR MODEL TLQ-H WITH HEAD INSTALLED AT THE BASEMENT

Typical installation



### ACCESSORIES: WITH HEAD INSTALLED AT THE BASEMENT

- Side supports for Guide Tube: Inox / Carbon steel galvanized
- Guide Tube for the rope: DN 25 in Inox / Carbon steel galvanized
- Brackets: inside the tank's basement in Inox
- Joints: n°2 at 90° in AISI316 / Aluminium
- Springs tightening: n°2 in AISI 304
- No.2 Plaited cables in AISI 316

## HOW TO ORDER

Example: TLQ-S-03-J-TG-J-1-T0-C0-XX

### TLQ Model

- S Version for tanks up to 5 m max.
- H Version for tanks up to 20 m max.

- 03 Measuring range 0 ÷ 3 m (single scale)
- 05 Measuring range 0 ÷ 5 m (double scale)
- 10 Measuring range 0 ÷ 10 m (double scale)
- 20 Measuring range 0 ÷ 20 m (double scale)

- O Head extension in Brass
- J Head extension in AISI 316

- TG Standard process connection, threaded GAS
- TN Standard process connection, threaded NPT
- FU Process connection flanged UNI
- FA Process connection flanged ANSI
- FD Process connection flanged DIN

- A Process connection in carbon steel
- J Process connection in AISI 316

- 1 Float in AISI 316L Ø 85X110 mm
- 3 Float in AISI 316L Ø 105 mm
- 4 Float in AISI 316L Ø 140 mm
- 5 Float in AISI 316L Ø 300 mm
- 6 No-standard Float

- T0 Without transmitter
- TS Standard transmitter
- TE Transmitter Exia IIC T6
- TH Transmitter Hart
- TX Transmitter Exia IIC T6 / Hart

- C0 Without alarm
- CS 1÷4 no. 1÷4 Standard alarms
- CE 1÷2 no. 1÷2 Alarms Exd IIC T6
- CP 1÷4 no. 1÷4 Proximity alarms PNP
- CN 1÷4 no. 1÷4 Proximity alarms NPN
- CR 1÷4 no. 1÷4 Proximity alarms NAMUR

- XX Speciality to be described separately



**OFFICINE OROBICHE** S.p.A.

24010 Ponteranica (Bergamo) ITALY - via Serena, 10 - Tel. 0039.035.4530.211 - Fax 0039.035.570546

.....  
www.officineorobiche.it e-mail: info@officineorobiche.it

Informazioni soggette a variazione senza preavviso