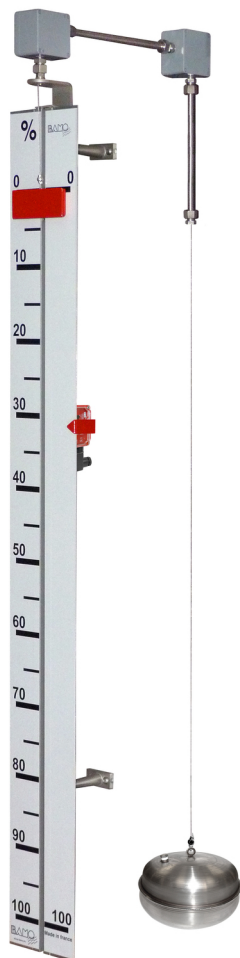


Level gauge JAR

COMMISSIONING



RECOMMENDATIONS

- The installation, commissioning and maintenance must be performed by qualified technicians.
- Operation of the device must be in accordance with and be strictly limited to the applications, as mentioned below and on data-sheet.

APPLICATIONS

- Level measurement on large tanks (water, non aggressive liquids, in safe area)

DESCRIPTION

The JAR level gauge is designed for large tanks installed outdoors in non hazardous area. JAR is custom made and delivered in several parts to facilitate its transport and its installation on site. The graduated scale is subject to the approval of a manufacturing drawing we submit in case of order. The level indicator JAR consists of a float and a pointer connected together by a cable on pulleys. The pointer which acts as a magnetic counterweight is guided along a metallic graduated ruler and follows the movement of the float inside the tank. The ruler is fixed to the tank with adjustable and sliding fittings (tees) and accepts level switches (option). The system is designed for non-pressurized tanks up to 15 m high with ambient temperature of 0 to 80 °C.

Note: This is a cable and pulleys system, so the indication is the reverse image of the level in the tank (upside down, max. level is read on the bottom of the ruler).

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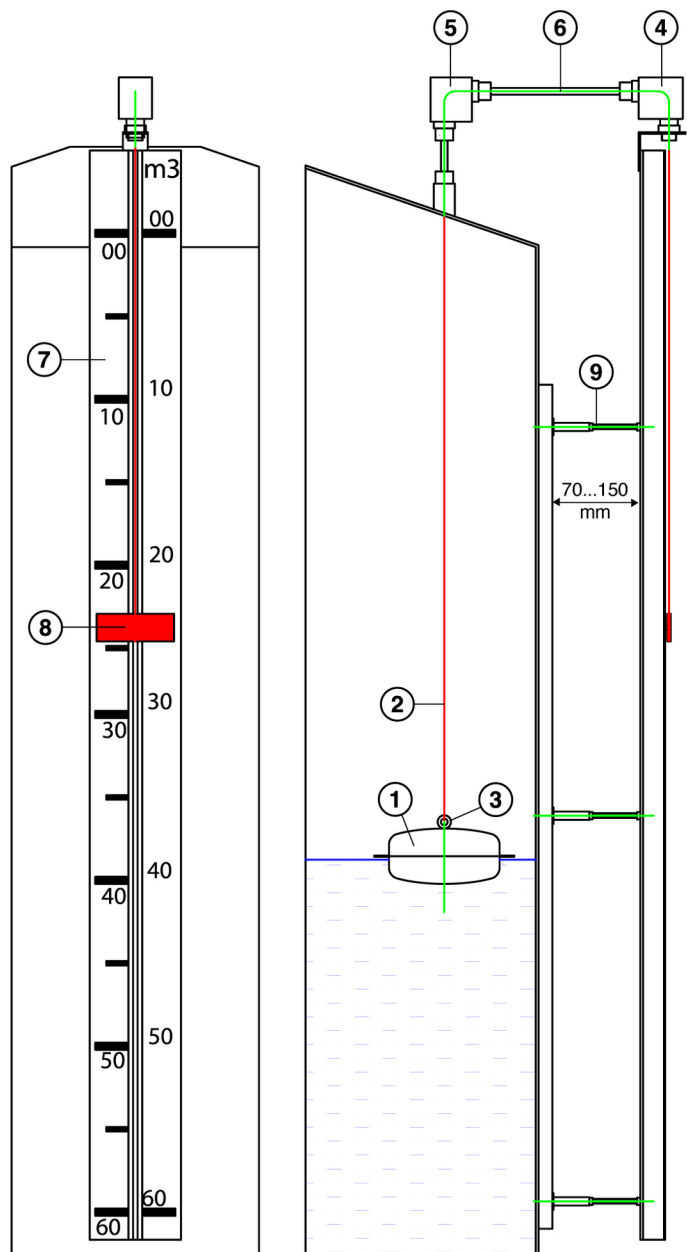
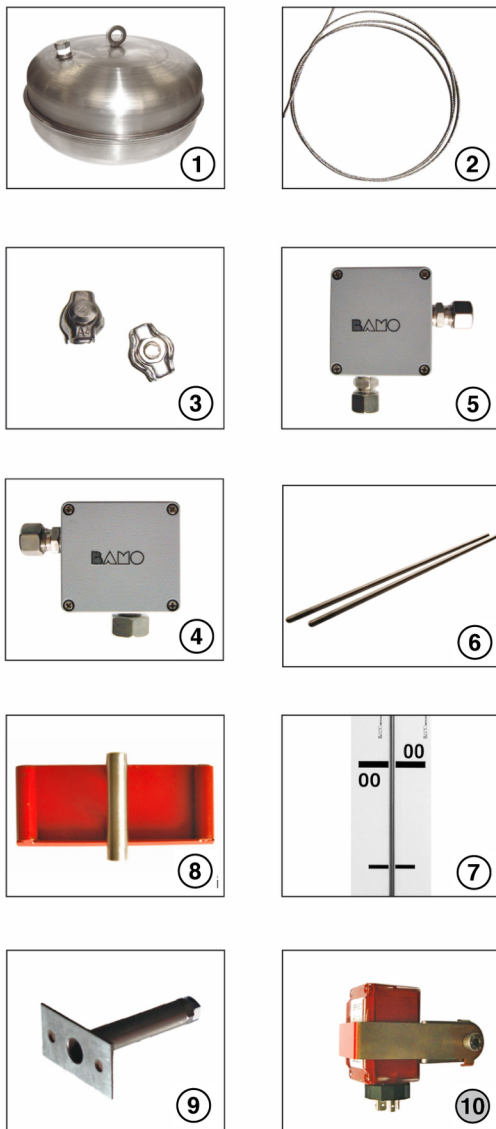
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CONTENT OF THE EQUIPMENT (Standard)

Mark	Description	Quantity	Code
(1)	Float, Ø 200 mm, AISI 316	1	583 300
-	Option: AISI 316 float, Ø 200 mm, with guiding ear rings		583 302
(2)	Cable Ø 1 mm, AISI 316 (length according tank height)	1	583 500
(3)	Cable clamps, AISI 316	2	583 550
(4)	AISI 316 pulley above tank, with no-jump system, aluminum case	1	582 041
(5)	AISI 316 pulley above ruler, with no-jump system, aluminum case	1	582 040
(6)	Set of 2 transfer tubes, Ø 12 mm, AISI 316, 1 m long each	1	582 045
(7)	Graduated ruler in aluminum, delivery in parts (according the tank height)	1	-
(8)	Red pointer with built-in magnet, painted AISI 316	1	582 050
(9)	Sliding Tee AISI 316 - adjustable 7 to 15 cm *(Quantity according the tank height)	(*)	582 055

(10) *OPTION: Level switch, bistable, changeover - Reference BSM501/J - Code 585 010*



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MOUNTING

For any JAR with a length shorter than 4.5 metres, assemble the two or three sections may easily be done on the ground, taking care not to damage the graduated scale. For a JAR with a height over 4.5 metres, it would be better to follow the procedure as following herein after.

FITTING THE GRADUATED RULER

a) Preparing the bottom section

(Fig. K)

Fit the tees

- Insert the screw-head in the centred rail of the ruler back.
- Screw on the counter nut; gently block the screw (still not the final position)
- Screw on the tee on the fixing screw

(Fig. L)

Mount the blocking plate on the lower part of the ruler

- Fix it firmly with its own screw

(Fig. M)

Fit the bottom section on the tank

- Mount it vertically on the tank
- Adjust the sliding tee and then, firmly block it with the counter nut (The tee slides all along the ruler, adjustment of its length is from 70 to 150 mm)
- Fix the tee on the tank (two tees for the first section)

(Fig. N)

Installation of the magnetic pointer in the central groove

- Insert the pointer in the front rail (cable attachment up)

b) Addition of ruler sections

Proceed in the same way as above for the preparation of the intermediate sections (fitting the fasteners)

(Fig. O)

Fit the bonds to join the ruler sections together

- Insert the bonds in the sided rails without blocking them

Installation of the section above the previous one fixed on the tank

- Proceed to assemble the sections together with the bonds
- Check up the alignment of all sections after blocking the bonds
- Adjust the Tee on the ruler and block it
- Fix the tee on the tank

c) mount the top section

Proceed in the same way as above for to prepare the upper section (fitting the fasteners)

Installation of the bonds

- Insert the bonds in the lateral grooves without blocking them

Install the top section on the section in place on the tank

- Assemble the top section on the existing section with the bonds
- Check up the alignment after blocking the bonds
- Adjust the Tee on the ruler and block it
- Fix the tee on the tank

(Fig. P)

Mount the right angle bracket

- Fit the bracket on the top section and block it



Fig. K

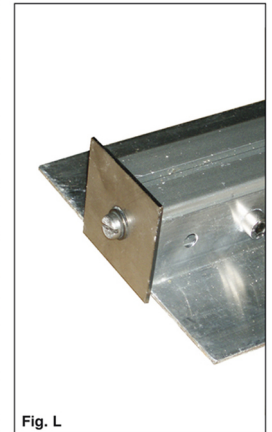


Fig. L

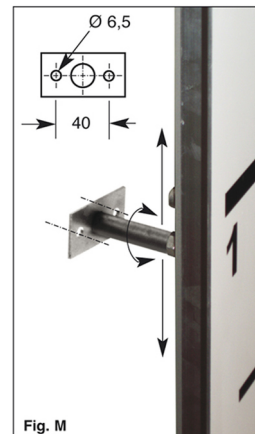


Fig. M



Fig. N

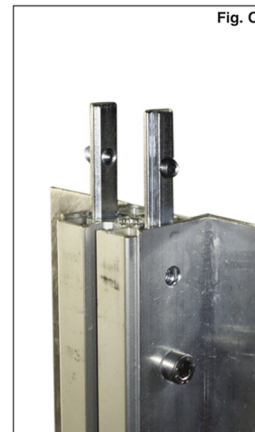


Fig. O

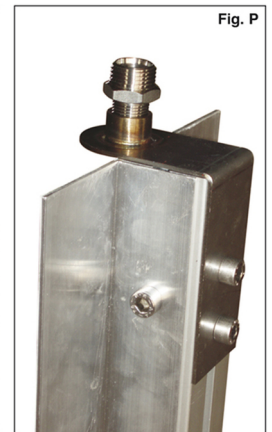


Fig. P

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MOUNTING THE MOBILE EQUIPMENT

d) Mount the cable and pulleys system

(Fig. Q)

Adjust the lengths of transfer tubes

- Check up the correct lengths according to your tank

(Fig. R)

Fit the pulleys and transfer tubes on the ruler

- Assemble and block the tubes on the pulleys
- Fit the assembly on the tank and the ruler
- Screw tightly the connections, on the tank (1) and on the ruler (2)
- If necessary, help by supporting the transfer tubes

(Fig.S & Fig. T)

Cable length adjustment

- Pass the cable through the ring of the float according to the detail in Fig. T.
- Take care to respect the way of making the loop (Fig. T); It will prevent the cable from shearing on the ring.
- Block the cable clamp by tightening the loop on its ring as shown in Fig. S.
- Insert the float inside the tank
- Install the cable through the mobile equipment and fix it to the pointer with cable clamp

REMINDER: When the tank is empty, the pointer is on the upper position.

IMPORTANT: To check the alignment of the sections, carry out a test of the pointer sliding properly

The pointer must be able to move freely over the entire length of the ruler without hard point or blockage.

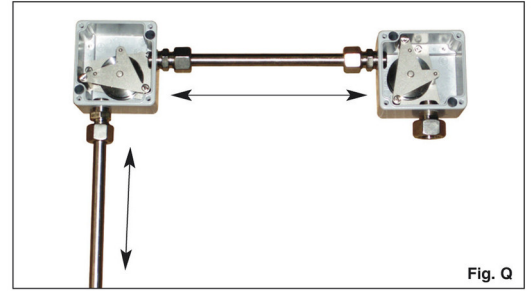


Fig. Q

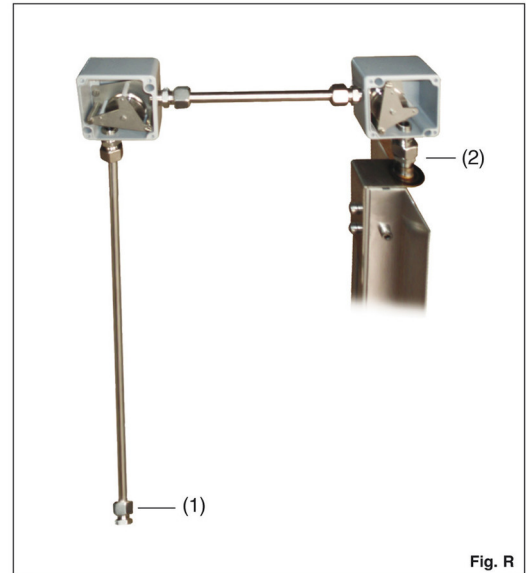


Fig. R

INSTALL LEVEL SWITCHES

Mount the level switches

- Insert the squared nut in the rail according to the desired trigger point
- Fit the level switch and tightly screw it
- Connect the measuring loop cable

FINAL CONTROL OF THE J.A.R.

- Carefully fit each section to the other one without loosing space with a perfect alignment of rails
- Fix each ruler section with at least one tee (1 tee is a minimum)
- The mounting Tees must be well fixed and tight.
- Attach the ruler to the tank in a perfectly vertical position.
- Check the compatibility of switching power of level switches with the connected monitor

MAINTENANCE

- Check up regularly the dirtiness of centred rail. Clean it up when it is necessary to live the pointer to slide freely
- Check up regularly the dirtiness of pulleys and transfer tubes. Clean them up when it is necessary to live the cable to move freely

Never use solvents or abrasive products to clean the ruler !



Fig. S



Fig. T

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