Tankmate Contents Gauge Head

Specification

Gauge Head:
- Flange: 196mm dia.
- Bezel: 160mm dia
- Depth: 59mm
- Range: 0.6 - 10m W.G. at S.G 1.00
- Materials: Case, Bezel & Back Plate: Type 304 Stainless Steel (Bezel Polished).
- Accuracy: Gauge ± 2% of full scale.
- Zero Adjust: Approximately 10% of F.S.D.
- Calibration: Marks: Major max.10 , Minor max.30.
- Protection: IP65 (BS5490/IEC529).
- Position: Vertical Mounting.
- Fixing: 3 holes 5.8mm dia. equispaced on 178mm pcd.

TG Internal Transmitter:
- Diameter: 178mm
- Height: 140mm
- Housing: Mild or Stainless Steel

AG External Transmitter:
- Diameter: 178mm
- Height: 100mm
- Housing: Mild or Stainless Steel

Components:
- Zero Adjustment Screw
- 1/8"BSP Connection for 4mm o.d Copper Tube
- 3/8" or 1" BSP Connection to Tank
- 1/2"BSP Connection for 4mm o.d Nylon Tube
- 1/2"BSP Tank Adaptor for use with TG Internal Tank Transmitter

Lifting Cable
Air Bag

TG Internal Tank Transmitter

AG External Tank Transmitter
Questionnaire for Tankmate Gauges

Name: ___________________________ Contact: ___________________________
Addr: ___________________________ Date: ___________________________
Ref: ___________________________

Tank Dimensions

Rectangular Tank
Length: ___________________________ m
Width: ___________________________ m
Height: ___________________________ m

Horizontal Cylindrical Tank
Diameter: ___________________________ m
Straight Length: ___________________________ m
Dished End Depth: ___________________________ m
Spherical Radius: ___________________________ m
Knuckle Radius: ___________________________ mm

Vertical Cylindrical Tank
Diameter: ___________________________ m
Straight Height: ___________________________ m
Dish Depth: ___________________________ m
Spherical Radius: ___________________________ m
Knuckle Radius: ___________________________ mm

‘An accurate gauge depends on accurate information’

Tank Slope: ___________________________ mm or degrees

Contents: ___________________________

Specific Gravity: ___________________________ kg/l

Gauge Scale

Gauge Scale in:
- litres
- percent
- tonnes
- gallons
- metres
- m³
- other (may incur extra charge)

Dial Marking: ___________________________

Gauge Selection

TankMate 2
(Nylon Tube)
Tube Length: ___________________________ m

TankMate 160
(Copper or Stainless Tube)
Copper Tube Length:
- 10m
- 15m
- 20m
- 30m
- 50m
- 100m
Stainless Tube (3m minimum length - then in 6m increments)

Dial Diameter
- 100mm
- 160mm

TG Internal Transmitter
Mild Steel:
Stainless Steel:

AG External Transmitter
Connection Size
- ¾” BSP
- 1” BSP

Transmitter Connection Height: ___________________________ mm

Additional Information

Full Mark @ 90% ___________ or ___________ %
Refill Mark @ 30% ___________ or ___________ %
Empty Mark @ 10% ___________ or ___________ %
Installation Schematic
Tankmate Gauge with TG Internal Transmitter

- **Brass Cap Nut**
  - Part No. 1542 4501
  - For 4mm o.d Copper Tube

- **4mm o.d Copper Tube**
  - Part No. 9542 01
    - 10m: 9542 03
    - 15m: 9542 04
    - 20m: 9542 05
    - 30m: 9542 06
    - 50m: 9542 07
    - 100m: 9542 08

- **Rubber Compression Washer**
  - Part No. 9231 4001

- **Brass Solder Nipple**
  - Part No. 1541 4501

- **Soft solder to tube**
  - 10mm

- **Soft Solder Joint Connection**
  - Push-on fitting
  - 1/8" BSP Taper
  - Part No. 963709

- **Nylon tube. 4mm o.d.**
  - Part No. 963708

- **Flange: 178mm dia. x 20mm**
  - Mild Steel Part No. 15013401
  - Stainless Steel Part No. 15013402

- **Lifting Cable (St/Steel)**
  - Part No. 952513

- **Nitrile Airbag**
  - Part No. 15163001

- **Length according to tank height/diameter**
  - (Fix to tank top or manhole cover)

- **Tank Top or Manhole Cover**

- **Mounting Pillar**
  - 15mm dia x 50mm
  - Mild Steel Part No. 15014401
  - Stainless Steel Part No. 15014402

- **Spigot Assy.**
  - Part No. 152100102

- **1/4" BSP Tank Adaptor**
  - Part No. 000160001

- **Push-on fitting**
  - 1/8" BSP Taper
  - Part No. 963709

- **Rubber Compression Washer**
  - Part No. 9231 4001

- **Tankmate Gauge with TG Internal Transmitter**
Installation - Tankmate Gauge with TG Internal Transmitter

1. Check the gauge dial for correct calibration, depth and specific gravity and check whether pointer is on zero.

   If pointer is not on zero, carefully remove the front bezel from the gauge and re-set the pointer to zero via the adjustment screw on the gauge dial.

2. Mount the gauge in the required position. If mounting outdoors, the gauge should be protected from direct sunlight.

3. Remove the manhole cover from the tank and mount the tank adaptor close to the manhole or in the cover itself. Attach the lifting cable to a suitable fixing point at the top of the tank.

4. Pass the nylon tube through the tank adaptor and connect it to the TG external transmitter (if using copper tube then make connection in accordance with diagram on page 4).
   **Important: This must be a 100% airtight connection.**

5. Run the tube to the gauge ensuring that there are no sharp bends or kinks.

6. Connect the tube to the gauge (if using copper tube then make connection in accordance with diagram on page 4).
   **Important : This must be a 100% airtight connection.**

7. Lower the TG transmitter using the lifting cable (DO NOT USE THE TUBE) to the bottom of the tank. Provided that airtight connections have been made at both the transmitter and gauge ends, a correct indication will be obtained and the gauge will maintain a constant reading of the liquid level.

8. Attention: If for any reason the tube has to be disconnected, the transmitter must be first removed from the tank to prevent the airbag in the transmitter from collapsing.

   If the airbag of the transmitter collapses due to an air leak in the system, ensure that the airbag is re-inflated and assumes its normal rounded shape with the tube disconnected. (Blow down the inlet on top of the transmitter until resistance is felt).

   Reconnect the tube to both transmitter and the gauge **before** the transmitter is lowered back to the tank bottom.
Installation Schematic

Tankmate Gauge with AG External Transmitter

- Side Wall of Tank
- Stop Cock
- \(\frac{3}{4}\) or 1” BSP Spigot
- Spigot Assembly Part no. 152100102
- Nitrile Airbag Part No. 15163001

Push-on fitting \(\frac{1}{8}”\) BSP Taper Part No. 963709

Nylon tube 4mm o.d. Part No. 963708

- Alternative Solder Joint Connection
  - 4mm o.d Copper Tube Part No. 10m 9542 03, 15m 9542 04, 20m 9542 05, 30m 9542 06, 50m 9542 07, 100m 9542 08
  - Brass Cap Nut Part No. 1542 4501
  - Brass Solder Nipple Part No. 1541 4501 Soft solder to tube
  - Rubber Compression Washer Part No. 92314001

- 10mm

Litres x 1000

0 10 20 30 40 50 60 70 80 90 100 110 110 130

Full
Installation - Tankmate Gauge with AG External Transmitter

1. Check the gauge dial for correct calibration, depth and specific gravity and check whether pointer is on zero.
   If pointer is not on zero, carefully remove the front bezel from the gauge and re-set the pointer to zero via the adjustment screw on the gauge dial.

2. Mount the gauge in the required position. If mounting outdoors, the gauge should be protected from direct sunlight.

3. Ensure that the stopcock on the tank is fully closed. Connect the AG transmitter to the stopcock. Ensure that the transmitter bleed screw is positioned vertically at the top of the transmitter.

4. Connect the nylon tube to the AG Transmitter (if using copper tube then make connection in accordance with diagram on page 4).
   **Important**: This must be a 100% airtight connection.

5. Run the tube to the gauge ensuring that there are no sharp bends or kinks.

6. Connect the tube to the gauge (if using copper tube then make connection in accordance with diagram on page 6).
   **Important**: This must be a 100% airtight connection.

7. Loosen bleed screw located in the top of the AG Transmitter.

8. Open stopcock slowly until liquid begins to run out of the bleed hole.

9. Retighten the bleed screw.

10. Turn the stop-cock fully on.
    Provided that 100% airtight connections have been made at both the transmitter and gauge ends, a correct indication will be obtained, and the gauge will maintain a constant reading of the liquid level.

11. **Attention:**
    If the airbag of the transmitter collapses due to an air leak in the system, ensure that the airbag is re-inflated and assumes its normal rounded shape with the tube disconnected. (Turn off the stopcock, disconnect the transmitter, drain out the liquid, blow down the inlet on top of the transmitter until resistance is felt).
    Reconnect the tube to both transmitter and the gauge **before** the transmitter is lowered back to the tank bottom.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reading</td>
<td>Air Leak</td>
<td>Check that capillary tubing has been correctly fitted.</td>
</tr>
<tr>
<td>Constant reading regardless of tank contents</td>
<td>Diaphragm in transmitter has collapsed.</td>
<td>Make sure that the transmitter diaphragm has been correctly inflated (blow down inlet on top of transmitter until resistance is felt). Then release pressure and the diaphragm will assume its correct shape.</td>
</tr>
<tr>
<td>Slowly decreasing gauge reading</td>
<td>Minute air leaks.</td>
<td>Check for splits or twists in the capillary tube. Remake the capillary tube connections to the gauge and to the transmitter.</td>
</tr>
<tr>
<td>Gauge reading too low</td>
<td>Incorrect tank calibration.</td>
<td>Check calibration details against:</td>
</tr>
<tr>
<td>Gauge reading too high</td>
<td>Incorrect tank calibration.</td>
<td>Check the tank calibration as above.</td>
</tr>
<tr>
<td></td>
<td>Gauge in direct sunlight.</td>
<td>Re-mount gauge in a position where it is not exposed to direct sunlight.</td>
</tr>
</tbody>
</table>

If in any doubt about any of the above please contact us on 01293 658360. **Do not** attempt to dismantle gauge head as this is a factory adjustment only.

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### AFRISO EUROGAUGE LTD

Unit 4, Satellite Business Village
Fleming Way, Crawley
W. Sussex. RH10 9NE
Tel: +44 (0)1293 658360
Fax: +44 (0)1293 528270
www.eurogauge.co.uk
sales@eurogauge.co.uk

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### TM160

#### Capsule Range

- A=100mbar (1m)
- B=160mbar (1.6m)
- C=250mbar (2.5m)
- D=400mbar (4m)
- E=600mbar (6m)
- F=1000mbar (10m)
- G=Other

#### Transmitter Type

- A=M/Steel Internal 4mm Nylon Connection
- B=St/St Steel Internal 4mm Nylon Connection
- C=M/Steel Internal 4mm Brass Connection
- D=St/St Steel Internal 4mm St/St Connection
- E=St/St Steel External 1" BSP 4mm Nylon Connection
- F=St/St Steel External ¾" BSP 4mm Nylon Connection
- G=St/St Steel External 1" BSP 4mm Brass Connection
- H=St/St Steel External ¾" BSP 4mm Brass Connection
- X=No Transmitter Required

#### Tank Adaptor

- 0=No Tank Adaptor
- 1=¾" BSP Brass Tank Adaptor
- 2=1" BSP St/St tank Adaptor

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Part Numbers

TM160

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Note: We reserve the right to amend specifications without prior notice.