Welcome to the world of MID
Packaging contains, depending on the articles, one or more of the following materials: they must be recycled in accordance with current regulations in the country of use.

- cardboard
- polyethylene sack
- polystyrene paper
- wood
- nails
- plastic strap
- cellophane
- clips
- gummed paper

HELP THE NATURE
DESIGN IS AN Art
founded in 1975
the human side of Quality
STUDY, RESEARCH AND DESIGN
The real strength of a firm starts with the ability of its study and research departments to always find the most suitable solutions to address market demands.

LIFE TESTS
A sophisticated test room enables careful testing of the quality of new products before they are put on the market.

TESTING
Each digital meter is computer tested to ensure utmost quality and high precision measurement.
STORAGE OF COMPONENTS
Our vertical stores enable quick and careful preparation of the components and spare parts intended for assembly and sale.

ASSEMBLY LINES
Dedicated equipment specially designed to facilitate assembly operations, at the same time allowing an effective and automatic control of quality.

TECHNICAL ASSISTANCE
RAASM target is to give always a comprehensive answer to its customers questions and to satisfy each of their single need.
The new RAASM MID-certified digital meter is the mandatory tool required for commercial transactions involving direct sale of lubricants for public use.

In compliance with the Measuring Instruments Directive 2014/32/EU, MID MI-005 certification focuses on the continuous, dynamic quantity measurement for liquids other than water. RAASM offers solutions for the supply of oil and similar products suitable for every need, ensuring a high protection rating (IP65) and save data for 2000 dispensing operations.
Calibration is performed using only sophisticated equipment designed in-house by our R&D department. The units are sealed by applying a stainless steel wire on the screws closing the meter body.

The certified minimum that can be dispensed is half a litre of oil; the total dispensed cannot be reset, however partial dispensing - up to 2000 entries can be saved with date and time - are overwritten so that the last 2000 recordings are always available. When the digital meter is delivered, alone or mounted on a gun, we provide a detailed report containing the data for all calibration tests performed, plus the original RAASM certification.

⚠️ To use the guns with the MID-certified digital meter in RAASM dispensing kits, they must be fitted with a degasser.

How does it work?

All RAASM digital meters are calibrated 100%

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MID Digital meter
TECHNICAL features

1. SEALED BATTERY compartment assures continuous electronic contact in rugged working conditions.

2. ALUMINIUM BODY designed with a compact, shock-resistant structure.

3. THE USE OF 4 MAGNETS provides superior control and precision measurement.

4. ELECTRONIC CARD ASSEMBLED with protective cover fitted with large LCD screen.

5. THE DISPLAY is welded permanently on the electronic card.

6. DOUBLE LAYER PROTECTIVE COVER provides an air tight seal with the aluminium body.

7. RAISED BUTTONS ON THE MEMBRANE produce an improved operational feel.

8. A RIBBON WIRE CONNECTION BETWEEN THE BUTTONS and the electronic board provide superior connectivity.

9. OVAL GEARS MADE OF POM suitable for dispensing oils and similar products.

10. 2 ALKALINE BATTERIES standard 1.5 V AAA
DISPLAY specifications

- 5 digit resettable totalizer.
- Records total, instantaneous flow rate and number of dispensing operations saved (6-digit).
- Total may be multiplied by x10 - x100.

DISPLAY specifications

- Battery low level indicator. When it goes on, replace the batteries immediately.
- Unit of measure for partial registration (litres).
- Displays instantaneous "FLOW RATE".
- Indicates the "TOTAL" or "RESET TOTAL".
- Unit of measure for partial registration (litres).

TECHNICAL PERFORMANCE

- MPE (maximum permissible error)
  Max. value between: 0,01 l (minimum error) 0,3% (supply > 2 l)
- Repeatability 0,2%
- Pressure loss < 0,5 bars at max flow rate
- Temperature ∆T +5 °C ÷ +40 °C (+41 °F ÷ +104 °F)

strength points

- 2000 permanent operations can be saved to memory and viewed on the instrument at any time.
- Comes standard with a device able to maintain the date and time while the battery is being changed.
- MPE (maximum permissible error) 0,01 l or the 0,3% when dispensing more than 2 litres, also thanks to a double pair of magnets which improves measurement precision.
- For each meter, a detailed calibration certificate is provided containing the data from the tests performed.

SEALED closing

- Lead sealed to guarantee that the instrument cannot be tampered with.
RAASM MID-certified digital meter is designed to measure oil and similar products in compliance with current European legislation. It let you view the total amount supplied - which cannot be reset - while the partial supplies can be displayed and saved. The instantaneous flow rate can be consulted on the display, as well as the number of dispensing operations saved to memory. It can also be mounted on guns already in use, provided the transparent display p/n 38119 and automatic nozzle p/n 38116 are also used.

<table>
<thead>
<tr>
<th>Article</th>
<th>37780M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatible fluids</td>
<td>Oil and allied products</td>
</tr>
<tr>
<td>Viscosity</td>
<td>90 ÷ 200 mPas</td>
</tr>
<tr>
<td>Body’s material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Gear’s material</td>
<td>POM</td>
</tr>
<tr>
<td>Inlet/Outlet</td>
<td>G 1/2” (f) / G 1/2” (f)</td>
</tr>
<tr>
<td>Delivery</td>
<td>1 ÷ 10 l/min</td>
</tr>
<tr>
<td>Minimum measurable quantity</td>
<td>0,5 l</td>
</tr>
<tr>
<td>Max operating pressure</td>
<td>1 ÷ 20 bar</td>
</tr>
<tr>
<td>Burst pressure</td>
<td>200 bar</td>
</tr>
<tr>
<td>Precision class</td>
<td>0,5</td>
</tr>
<tr>
<td>MPE (maximum permissible error)</td>
<td>Max. value between: 0,01 l (minimum error) - 0,3% (supply &gt; 2 l)</td>
</tr>
<tr>
<td>Working temperature</td>
<td>+5 °C ÷ +40 °C</td>
</tr>
<tr>
<td>Mechanical environment class</td>
<td>M2</td>
</tr>
<tr>
<td>Electromagnetic environment class</td>
<td>E2</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Measuring principle

When the fluid enter in the oval gear chamber through the inlet “A”, the gears start to rotate. The gears start to rotate because of the pressure of the fluid which comes out from the outlet “B”. Each rotation corresponds to a determinate quantity of fluid.
strenght points

• MID-MI005 Certification.

• Reference Directive 2014/32/UE.

• Sealed with stainless steel wire applied on screws after in-house calibration.

Guarantee and quality of the components are our priority!

Correct dimensional tolerances between gears and chamber grant the reliability and the accuracy of the meter. 4 magnets, placed on one of the two gear, give the pulses to the microprocessor during every rotation.
Dispensing guns

inlet filter

• supplied on the entire protect range, guaranteeing cleaning of dispensed liquid while maintaining gun performance.

PERFORMANCE

<table>
<thead>
<tr>
<th>Series</th>
<th>1/2&quot; 30 TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow rate</td>
<td>10 l/min</td>
</tr>
<tr>
<td>Max pressure</td>
<td>60 bar</td>
</tr>
<tr>
<td>Inlet union</td>
<td>G 1/2&quot; (f)</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR</td>
</tr>
</tbody>
</table>

1 DRIP-CATCHER NOZZLE
Only ø 16 mm automatic drip-catcher nozzles are installed to guarantee maximum precision dispensing.

2 TERMINAL
Versions with flexible or rigid terminal are available.

3 TRANSPARENT SIGHT GLASS
Each gun has a transparent sight glass to check that there are no air bubbles during oil throughflow.

4 GRIP
Grip in aluminium alloy or technopolymer.

5 LEVER LOCKING BUTTON
Depending on your needs, models are available both with and without the lever locking button.

6 HOOK
All guns come standard with a hook so they can be stored quickly and easily.
RAASM MID-certified guns are designed to measure oil and similar products in compliance with current European legislation. They accommodate the 37780M meter and confirm all technical characteristics. The range of guns available can meet every need and includes flexible or rigid terminals, handles in aluminium or technopolymer, lever locking buttons and automatic drip-catcher nozzles.

### TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>1/2&quot; 40 AL</th>
<th>1/2&quot; 40 AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 l/min</td>
<td>10 l/min</td>
</tr>
<tr>
<td>70 bar</td>
<td>70 bar</td>
</tr>
<tr>
<td>G 1/2&quot; (f)</td>
<td>G 1/2&quot; (f)</td>
</tr>
<tr>
<td>Viton®</td>
<td>Viton®</td>
</tr>
</tbody>
</table>

### Strength Points

- **All accessory components** required by law are available for implementation on the gun you already have so it can be used for MID-MI005 certified delivery.
- **Precision, ergonomic design** featuring compact, light-weight structure that ensures an easy, manoeuvrable grip.
- **IP65 protection rating** so the meter can be used in environments that are extremely dusty and subject to jets of water.
Dispensing guns with **flexible terminal**

**Oil and allied products**

Series 1/2" 30 TP
P/N 38145M
with digital meter p/n 37780M

- **Grip:** technopolymer
- **Terminal:** flexible black synthetic rubber
- **Drip-catcher nozzle:** automatic Ø 16 mm
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2" (f)**

Series 1/2" 40 AL
P/N 38155M
with digital meter p/n 37780M

- **Grip:** in aluminum alloy
- **Terminal:** flexible black synthetic rubber
- **Drip-catcher nozzle:** automatic Ø 16 mm
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2" (f)**
- **Coloured caps supplied for all the range**

Series 1/2" 40 AP
P/N 38185M
with digital meter p/n 37780M

- **Grip:** in aluminum alloy
- **Terminal:** flexible black synthetic rubber
- **Drip-catcher nozzle:** automatic Ø 16 mm
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2" (f)**
- **Coloured caps supplied for all the range**
- **Lever locking button**
Dispensing guns with **rigid terminal**

Oil and allied products

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**Series 1/2” 30 TP**

P/N 38146M

with digital meter p/n 37780M

- **Grip:** technopolymer
- **Drip-catcher nozzle:** automatic ø 16 mm
- **Terminal:** rigid terminal in aluminum alloy
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2” (f)**

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**Series 1/2” 40 AL**

P/N 38156M

with digital meter p/n 37780M

- **Grip:** in aluminum alloy
- **Drip-catcher nozzle:** automatic ø 16 mm
- **Terminal:** rigid terminal in aluminum alloy
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2” (f)**

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**Series 1/2” 40 AP**

P/N 38186M

with digital meter p/n 37780M

- **Grip:** in aluminum alloy
- **Drip-catcher nozzle:** automatic ø 16 mm
- **Terminal:** rigid terminal in aluminum alloy
- **Hook for storing the gun**
- **Transparent sight glass to check the oil throughflow**
- **Inlet swivel joint G 1/2” (f)**
- **Coloured caps supplied for all the range**
- **Lever locking button**
Customise your gun

P/N 38119
Transparent sight glass assembly kit
to check that there are no air bubbles during oil throughflow

P/N 38116
Automatic drip-catcher nozzle ø 16 mm

P/N 38110
Flexible terminal with automatic drip-catcher nozzle ø 16 mm

P/N 38111
Rigid terminal with automatic drip-catcher nozzle ø 16 mm
All components of the new RAASM MID digital meter and guns can be purchased separately. These units can be used to take a standard gun, already in use and turn it into a gun certified for commercial transactions for public use. The parts indispensable for this purpose are the 37780M digital meter, the automatic drip-catcher nozzle 38116 and the oil sight glass 38119. See the exploded drawing below to find the necessary item.
THREE WORDS TO DESCRIBE RAASM

- Technology
The starting point for the entire production cycle is the research and development of cutting-edge new solutions which lead to the development of high quality products, fully produced in Italy.

- Quality
The quality of our product manufacturing has always been our absolute priority. To reach this goal rigorous testing accompanies every phase of the manufacturing process.

- Functionality
RAASM offers the most complete range of lubrication products suited to many sectors. Our aim is to always be available to provide solutions to our customers.