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› GRYVOZE 1.5 Inch NPT Digital Flow Meter Instruction Manual

## GRYVOZE DTFM-IN1.5-AP

# GRYVOZE 1.5 Inch NPT Digital Flow Meter Instruction Manual

Model: DTFM-IN1.5-AP

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your GRYVOZE 1.5 Inch NPT Digital Flow Meter. Please read these instructions carefully before installation and use. Keep this manual for future reference.

The GRYVOZE Digital Flow Meter is designed for accurate measurement of various low-corrosive, non-viscous liquids, including water, diesel, gas oil, gasoline, kerosene, methanol, and E15. It features a clear LCD display for real-time flow rates and cumulative totals, offering reliable data for your measurement needs.



Image 1.1: The GRYVOZE 1.5 Inch NPT Digital Flow Meter connected to a fuel nozzle, displaying liquid flow information on its LCD screen.

## 2. PRODUCT OVERVIEW

The GRYVOZE 1.5 Inch NPT Digital Flow Meter is a robust and energy-efficient device built for precision. Key features include:

- **Five Unit Options:** Easily switch between Gallons (GAL), Quarts (QTS), Pints (PTS), Liters (L), and Cubic Meters (m<sup>3</sup>) to suit your measurement requirements.
- **Clear LCD Display:** Provides real-time flow rates, single cumulative totals (up to 99999), and total cumulative totals (up to 29999999).
- **High Accuracy:** Ensures precise readings with a  $\pm 1\%$  accuracy.
- **Energy-Efficient Design:** The display automatically turns off after 2 minutes of inactivity to conserve battery life. It reactivates upon liquid flow or any key press. Standby time exceeds one year.
- **Durable Construction:** Features an aluminum alloy casing and a stainless steel turbine for long-lasting performance in various environments.

- **Wide Application:** Suitable for water, diesel, gas oil, gasoline, kerosene, methanol, E15, and other low-corrosive, non-viscous liquids.

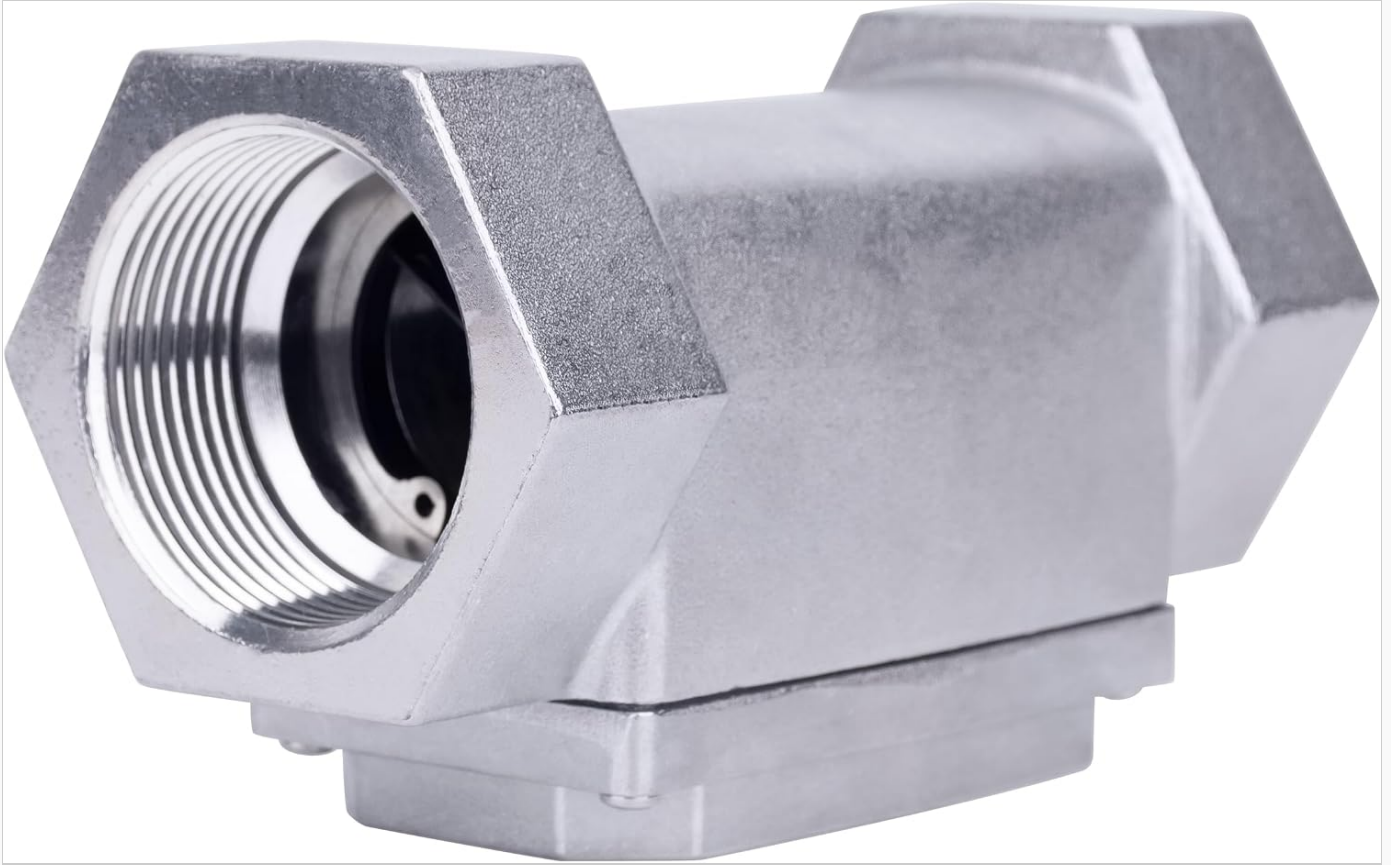


Image 2.1: Detailed view of the GRYVOZE Digital Flow Meter's exterior.



*Ideal for diesel,  
gasoline, kerosene,  
methanol, water,  
and so on.*



Image 2.2: Examples of applicable liquids for the flow meter, including diesel, gasoline, kerosene, methanol, and water.

### 3. SAFETY INFORMATION

- **Liquid Compatibility:** This flow meter is designed for low-corrosive, non-viscous liquids. Do not use with highly corrosive or high-viscosity liquids (e.g., lubricating oil, engine oil), as this may damage the device or lead to inaccurate readings.
- **Waterproof Rating:** The device has an IPX4 waterproof rating, meaning it is resistant to splashing water. It is **not** designed for submersion (IPX8). Avoid immersing the flow meter in water, oil, or other liquids. To extend the lifespan of the built-in electronic board, prevent water from splashing directly onto the display dial.
- **Pressure Stability:** Maintain a steady and stable pressure during use to ensure measurement accuracy. Avoid arbitrary adjustments to the outflow position.
- **Pump Connection:** The turbine meter is not suitable for direct, close-range connection to pumps. This can cause interference and lead to data instability. Ensure adequate distance or buffering if connecting near a pump.
- **Operating Temperature:** Use the device within the specified working temperature range of -10°C to 80°C (14°F to 176°F).

## 4. SETUP

### 4.1 Battery Installation

The flow meter requires 2 x AAA LRO3 batteries. These are typically included. To install or replace batteries:

1. Locate the battery compartment cover on the back of the display unit.
2. Carefully remove the cover.
3. Insert two AAA batteries, ensuring correct polarity (+/-).
4. Replace the battery compartment cover securely.

**Standby time of up to one year**

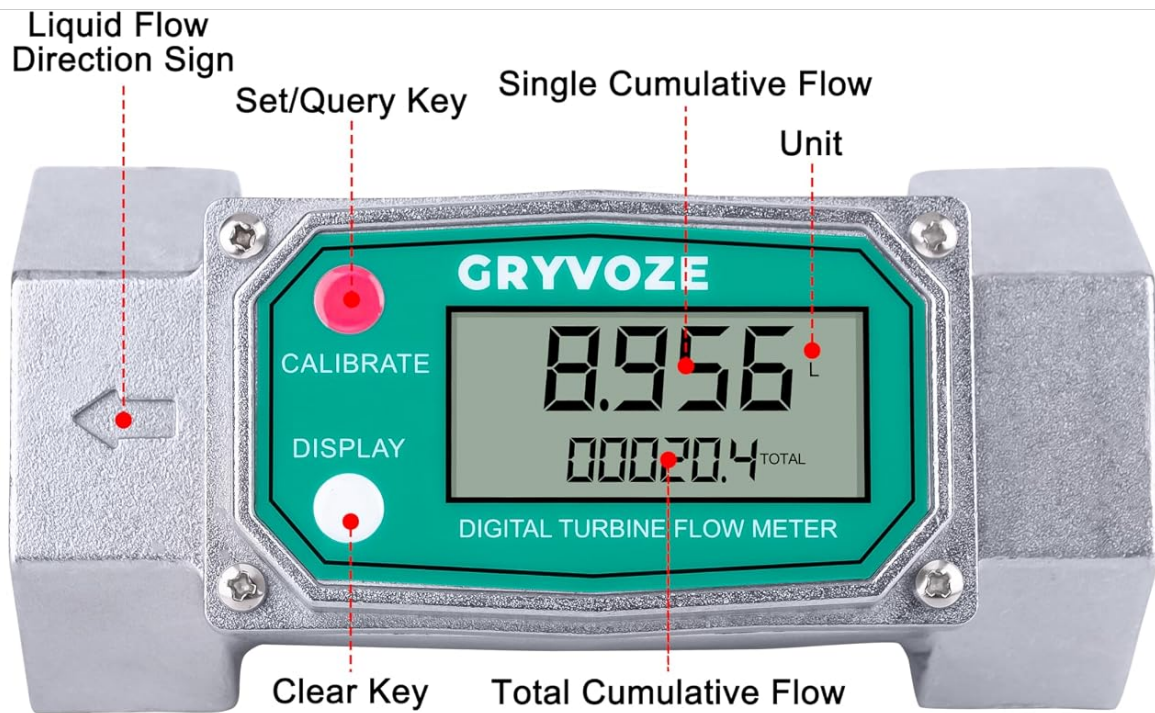
**You can effortlessly replace the batteries themselves**



Image 4.1: Illustration of battery installation and the internal turbine mechanism.

### 4.2 Installation Direction

Ensure the flow meter is installed with the correct liquid flow direction. An arrow indicating the flow direction is typically marked on the meter's body. Install the meter inline with your piping system, ensuring the liquid flows in the direction of the arrow.



## TWO FORMS OF USE

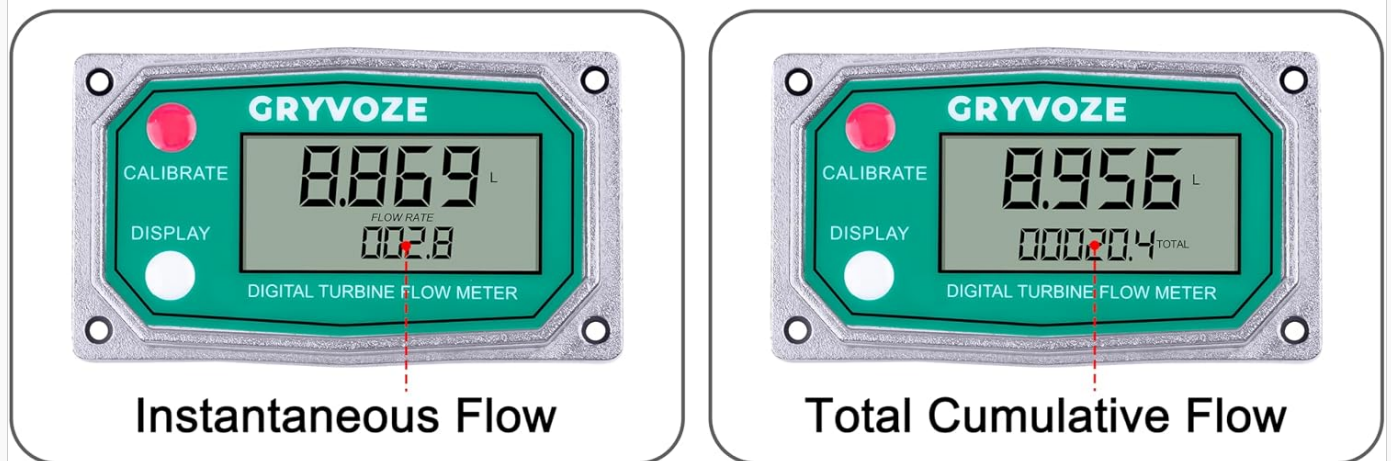


Image 4.2: Labeled diagram of the flow meter's display and key components, including the liquid flow direction sign.

### 4.3 Operating Conditions

- **Flow Range:** Ensure the liquid flow velocity falls within the required range of 10.5-74 GPM (40-280 LPM) for accurate readings.
- **Working Pressure:** The meter is designed for a working pressure of up to 6 Bar.
- **Pressure Stability:** Maintain consistent and stable pressure during operation.

## 5. OPERATING INSTRUCTIONS

### 5.1 Power On/Off

- **Automatic Power On:** The display will automatically power on when liquid begins to flow through the meter.
- **Manual Power On:** Press any key to manually turn on the display.
- **Automatic Power Off:** The display will automatically turn off after 2 minutes of inactivity (no flow, no key presses) to conserve battery power.

### 5.2 Display Modes

The meter typically displays two main values:

- **Instantaneous Flow Rate:** Shows the current rate of liquid flow.
- **Cumulative Total:** Shows the total volume of liquid that has passed through the meter. This can be a single count (resettable) or a total cumulative count (non-resettable).

Refer to Image 4.2 for labeled display components.

### 5.3 Changing Units

The default unit of measurement is Liters (L). To change the unit (GAL, QTS, PTS, L, m<sup>3</sup>):

1. With the display on, press and hold the "SET/QUERY" key (often labeled "DISPLAY" or similar, as per Image 4.2) for a few seconds until the unit starts flashing.
2. Press the "SET/QUERY" key repeatedly to cycle through the available units (GAL, QTS, PTS, L, m<sup>3</sup>).
3. Once your desired unit is displayed, stop pressing the key. The unit will automatically save after a few seconds of inactivity.

### 5.4 Resetting Single Cumulative Flow

To reset the single cumulative flow (the smaller, resettable total):

1. Ensure the display is showing the single cumulative flow.
2. Press and hold the "CLEAR" key (as per Image 4.2) for a few seconds until the single cumulative flow resets to zero.

The total cumulative flow (larger, non-resettable total) cannot be reset by the user.

## 6. CALIBRATION

Your GRYVOZE Digital Flow Meter is factory-calibrated to provide accurate readings right out of the box. Manual calibration is generally not required for initial use.

### When to Calibrate

It is necessary to calibrate the flow meter if you notice a significant decrease in measurement accuracy over time or after prolonged use. Factors like debris accumulation or wear on the turbine can affect accuracy.

### Calibration Procedure (General Guide)

The exact calibration procedure may vary slightly. A common method involves flowing a known volume of liquid and adjusting the meter's calibration factor. Always refer to the specific instructions provided with your meter for precise steps. A typical process includes:

1. Prepare a container with a precisely known volume (e.g., 20 liters).
2. Enter calibration mode (often by pressing and holding a combination of keys, or a dedicated "CALIBRATE" button as shown in Image 4.2).
3. Flow the known volume of liquid through the meter.
4. Compare the meter's reading with the known volume.
5. Adjust the calibration factor on the meter's display until the reading matches the known volume.
6. Save the calibration settings.

Ensure a steady flow rate during calibration for optimal results.

## 7. MAINTENANCE

### 7.1 Battery Replacement

Replace the 2 x AAA LRO3 batteries when the display becomes dim or the meter stops functioning. Refer to Section 4.1 for battery installation instructions.

### 7.2 Cleaning

- Wipe the exterior of the meter with a soft, damp cloth.
- Do not use abrasive cleaners or solvents.
- Avoid splashing water directly onto the display dial to protect the electronic components.
- Periodically inspect the turbine impeller for any debris or blockages that might affect accuracy. Clean carefully if necessary.

### 7.3 Storage

When not in use for extended periods, store the flow meter in a dry, cool place, away from direct sunlight and extreme temperatures. Consider removing batteries if storing for very long durations to prevent leakage.

## 8. TROUBLESHOOTING

| Problem                  | Possible Cause                                                                                                                                                                                                                                              | Solution                                                                                                                                                                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display is blank or dim. | <ul style="list-style-type: none"><li>• Batteries are low or depleted.</li><li>• Automatic power-off activated.</li></ul>                                                                                                                                   | <ul style="list-style-type: none"><li>• Replace batteries (2 x AAA LRO3).</li><li>• Press any key or initiate liquid flow to reactivate.</li></ul>                                                                                                                   |
| Inaccurate readings.     | <ul style="list-style-type: none"><li>• Flow rate outside specified range (10.5-74 GPM).</li><li>• Unstable pressure.</li><li>• Debris in turbine.</li><li>• Meter needs calibration.</li><li>• Incorrect liquid type (high viscosity/corrosive).</li></ul> | <ul style="list-style-type: none"><li>• Ensure flow rate is within range.</li><li>• Stabilize pressure.</li><li>• Inspect and clean turbine.</li><li>• Perform calibration (refer to Section 6).</li><li>• Ensure liquid is low-corrosive and non-viscous.</li></ul> |
| No flow detected.        | <ul style="list-style-type: none"><li>• No liquid flow.</li><li>• Meter installed in wrong direction.</li><li>• Turbine blocked.</li></ul>                                                                                                                  | <ul style="list-style-type: none"><li>• Verify liquid supply.</li><li>• Check installation direction (arrow on meter).</li><li>• Inspect and clear any blockages in the turbine.</li></ul>                                                                           |

## 9. SPECIFICATIONS

| Feature      | Detail        |
|--------------|---------------|
| Model Number | DTFM-IN1.5-AP |
| Brand        | GRYVOZE       |

| Feature                      | Detail                                         |
|------------------------------|------------------------------------------------|
| Size                         | 1.5 Inch NPT                                   |
| Material                     | Aluminum alloy casing, Stainless steel turbine |
| Flow Range                   | 10.5-74 GPM (40-280 LPM)                       |
| Working Pressure             | 6 Bar                                          |
| Accuracy                     | ±1%                                            |
| Working Temperature          | -10°C~80°C (14-176°F)                          |
| Waterproof Rating            | IPX4                                           |
| Single Count Range           | 0-99999                                        |
| Total Cumulative Count Range | 0-29999999                                     |
| Battery Type                 | 2 x AAA LRO3 batteries                         |
| Standby Time                 | Over 1 year                                    |
| Dimensions (L x W x H)       | 13.6 x 6.9 x 7.7 cm                            |
| Weight                       | 0.6 Kilograms                                  |
| Included Components          | 1.5 Inch NPT Digital Fuel Flow Meter           |



Image 9.1: Specification comparison for different sizes of GRYVOZE flow meters.

10. WARRANTY AND SUPPORT

GRYVOZE products are manufactured to high-quality standards. For warranty information or technical support, please refer to the contact details provided with your purchase or visit the official GRYVOZE website. Please have your model number (DTFM-IN1.5-AP) and purchase date available when contacting support.

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### Question

Example: How do I reset this device or fix this error?

### Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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