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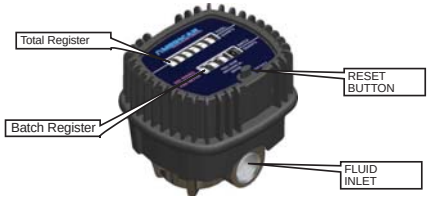
A. AMERICAN LUBRICATION TIM-616: GENERAL OVERVIEW

The TIM-616 Pro Series mechanical oval gear meter is designed to allow precise measuring of oil and other liquids that are compatible with the materials found in the meter. The oval gears in the measuring chamber (see diagram) are turned by the fluid, and activate the gear train housed in the top of the meter body. The gear train has a quarts total register, which cannot be reset, and a quarts batch register which can be reset using the push button built into the meter's face.



TIM-616 Mechanical Meter

***NOTE*: Please read and comply with the instructions and warnings contained in this manual. Incorrect installation or inproper use of the flow meter could cause serious injury or death.**

B. INSTALLATION

The TIM-616 features two ½" NPT(F) ports. It has been designed to be installed in any position, in a fixed in-line installation or as part of a control handle. The meter does have a specific direction of flow, so you must be careful to use the correct inlet and outlet (see diagram above showing fluid inlet). Make sure the threaded connections do not interfere with the inside of the measurement chamber. This can cause the gears to be damaged and/or seize. A filter with adequate filtering capacity should always be placed at the inlet of the meter or somewhere in the product line onto which the TIM-616 is mounted. If solid particles enter the measurement chamber, the gears could be damaged and/or seize.

C. DAILY USE

Once installed, the TIM-616 flow meter is ready to use. To reset the batch register, press the RESET button until the batch indicator returns to zero.

The total indicator cannot be reset. It is important to make sure that the operating pressure does not exceed the meter's working pressure, which is 1000 PSI.

D. METER MAINTENANCE

The TIM-616 was designed to require minimal maintenance. Maintenance would only be required if a filter was not installed and contaminants entered the measuring chamber. This could cause the meter to read inaccurately and/or cause permanent damage.

1) Cleaning

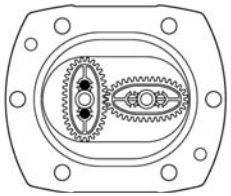
To clean debris from the measuring chamber, refer to the spare parts list on the right while completing the following steps:

a) Remove the rubber guard (not shown) from the top of the meter.
b) Remove the six retention screws (item 11) from the lower body (item 1).
c) Remove the cover (item 2)
d) Remove the plate (item 4) and the seal ring (item 9).
e) Remove the small gear (item 8) and the two oval gears (item 7).

1) **Cleaning (continued)**

f) Clean where necessary. For this operation, use a brush or pointed object such as a small screwdriver. Be careful not to damage the body or the gears.
g) To reassemble the unit, carry out these steps in the reverse order. Please pay close attention to the notes below before re-assembling the meter!

1) Inspect the seal ring (item 9) and lubricate well before re-installing.
2) If the oval gears (item 7) are not installed correctly, the meter will not work. Check that the gears are meshing correctly and rotating freely before closing the cover (see drawing below).

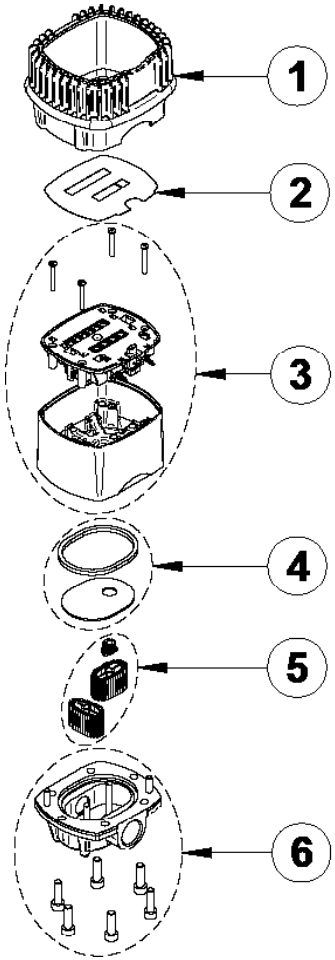


3) Make sure that the small gear (item 8) is on the right hand oval gear when holding the meter body with the fluid inlet facing down.
4) Insure that the gears in the upper meter body (items 2 and 3) mesh properly with the gears on the bottom body (item 1)
5) Ensure that the six screws are tightened correctly (item 11).

E. TROUBLESHOOTING GUIDE

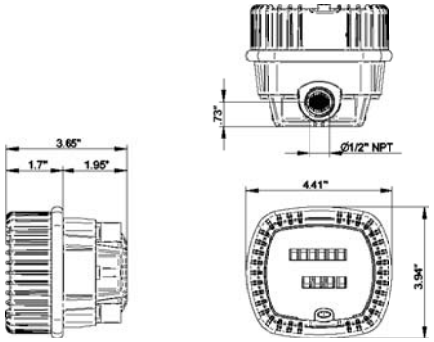
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Inaccurate Dispensing	Measuring chamber is dirty or clogged	Clean the measuring chamber following the instructions shown in Section D.
	Air in the liquid	Identify and eliminate leaks in the suction lines
Reduced or Zero Flow Rate	Measuring chamber is dirty or clogged	Clean the measuring chamber following the instructions shown in Section D.
	Filter is clogged or dirty	Clean the filter

F. PARTS BREAKDOWN & SPECIFICATIONS



Item	Part Number	Description	Qty
1	TIM-616-1	Protective Guard	1
2	TIM-616-2	Label	1
3	TIM-616-3	Gear Train Assembly	1
4	TIM-616-4	Seal Plate & Seal Ring	1
5	TIM-616-5	Lower Gears	1
6	TIM-616-6	Measuring Chamber	1

F. PARTS BREAKDOWN & SPECIFICATIONS (continued)



DATA	REFERENCE	VALUE
Mechanism		Oval Gears
Flow Rate	Range	1– 32 qt./min.
Operating Pressure	Max	1000 PSI
Bursting Pressure	Min	3000 PSI
Storage Temperature	Range	-4 - 176 °F
Storage Humidity	Max	85% RH
Operating Temperature	Range	-4 - 176 °F
Pressure loss with SAE 10W40 oil at 20°C (4 gal/min)	(PSI)	10 PSI
Accuracy		+/- 1%
Repeatability	Typical	+/- 0.2%
Batch Indicator		3 + 1 digits
Total Indicator		6 digits
Resolution	(of the indication)	0.1 quarts
Connections	Inlet/Outlet	½" NPT(F)
Weight		1.7 lbs

AMERICAN LUBRICATION EQUIPMENT CORPORATION®

PRO SERIES

MECHANICAL OVAL GEAR METER

TIM-616

Features

Superior Construction Enables the Use of Manual Non-Drip Tips

Full 1000 PSI Working Pressure with 3:1 Safety Factor

No Batteries

No Exposed Pointers or Spinning Pieces to Break

Lowest Pressure Drop of all Mechanical Meters

Reliable Oval Gear Design

6 Bolt Construction

Protective Shock Guard Included

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Baltimore, MD. Los Angeles, CA.

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M0173 EN rev.2