

1767.DP

Electronic Preset Meter

**Installation & Operation  
Manual**



# IMPORTANT!

This manual contains important warnings and information.

## READ AND KEEP FOR REFERENCE.

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### Factory Settings

Each meter is preprogrammed and calibrated at the Factory. Unless otherwise specified at the time of order, each meter is programmed in quarts for use with motor oil as standard. The meter is shipped in the Manual Mode.

The factory Preset can not be changed, if special requirement needed, please contact the service.

### 1000 psi(67bar) Maximum working pressure

### 8 gpm(30Lpm) Maximum Flow Rate

The Meter is designed specifically to dispense motor oils (S.A.E.5-50), gear oils (S.A.E.80-240), automatic transmission fluid, antifreeze (Ethylene Glycol) solution, and hydraulic fluid, it is NOT suitable for brake fluid, or windshield wiper fluid. For these applications refer to the EPM-SF (Electronic Preset Meter for Special Fluids).

### SYMBOLS

#### WARNING

This symbol is an alert to the possibility of serious injury or death if the instruction is not followed.

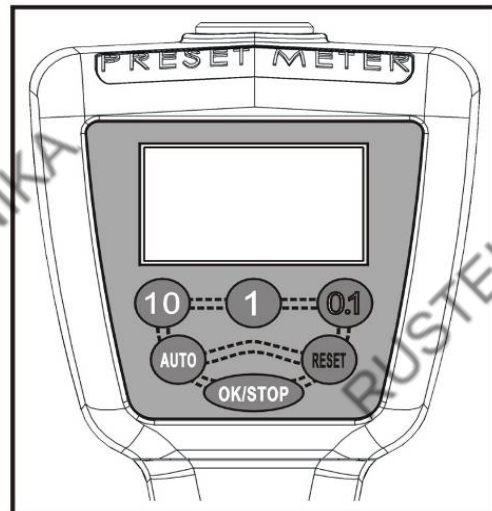
#### CAUTION

This symbol is an alert to the possibility of damage to or destruction of equipment if the instruction is not followed.

#### Equipment Misuse Hazard

1. The Meter is for professional use only.
2. Read all instructions, tags, and labels before operating the Meter.
3. Use the Meter only for its intended purpose.
4. Do NOT modify or alter the Meter.
5. Do NOT leave the Meter unattended while dispensing.
6. Check the Meter daily. If any worn or damaged please repair or replace parts immediately.
7. Do NOT exceed the maximum working pressure level of the lowest rates system component.
8. Use only extensions and nozzles that are matched with this Meter.

9. Use only fluids and solvents that are compatible with the equipment. Notice the warnings for fluid and solvent.
10. Tighten all fluid connections before operating the Meter.
11. Do NOT stop or deflect leaks with hands, body, gloves, or rages.
12. Do NOT dispense values towards any person or any part of the body.
13. Do NOT place hands or fingers over the end of or into the dispense value.
14. Comply with all local, state, and federal fire, electrical, the safety regulation.
15. Use of the product in a manner other than specified in this manual may result in unpaired operation or damage to the Meter.



Overhead view of Display and Keypad

### Keypad Buttons



Used to enter the quantity to be dispensed

#### AUTO



Used to enter and exit the AUTO Mode

#### RESET



Used in Manual or AUTO Mode to clear the previously programmed batch and to reset the meter.

#### OK/STOP



Used to confirm the Value and to stop the flow through a mechanical override

### Installation

#### Relieve the system pressure

#### A. Pre-installation Procedure

**1. Relieve the system pressure**

- a. Turn off the power supply to the pump or close the shut-off value.
- b. Dispense any fluid in the system into a waste container by opening the dispense value.
- c. Open all bleed-type master air and fluid drain value in the system.
- d. Leave the drain value open until ready to pressurize the system.

**2. Close the shut-off value.**

**3. Ground hoses and reels:**

Grounding reduces the risk of static sparking; Ground all system components according to local, state, and federal code. Consult the user's manual on the pump and other system components to ground the following:

- i. Pump follows manufacture's recommendations
- ii. Air and Fluid Hoses use only grounded hoses
- iii. Air Compressor follows manufacture's recommendations.
- iiii. Fluid Supply Container follows the local code

**▲ WARNING**

Does not use Teflon tape on pipe joints, it may cause a loss of grounding across the joint.

**B. Installation Procedure**

- 1. If the Meter installed, go directly to step 6. Steps 2 through 5 are for flushing the system prior to installing the meter.
- 2. Close fluid dispense values at every dispense position.
- 3. Once the main fluid outlet value at the pump is closed, the air pressure to the pump motor is properly adjusted, and the air value is open, slowly open the main fluid value.
- 4. Place the hose end in a waste container. Make sure hose is secure in order to ensure no fluid leakage.
- 5. Open the dispense value slowly and allow enough oil to pass through to ensure the system clean.  
Notes: If the system has multiply dispensed positions, start at the position farthest from the pump, and move towards the pump.
- 6. Relieve the pressure (please refer to Relieve the system pressure, above).
- 7. Insert the metal end of the hose into the swivel located at the end of the handle, and tightens it completely with an open ended, adjustable wrench.



Connecting the hose

Note: The thread of meter is always female, so the thread for the hose should be male. Apply thread sealant to the male end. The inlet and outlet connections are 1/2" NPT or 1/2" BSPT depending on meter model.

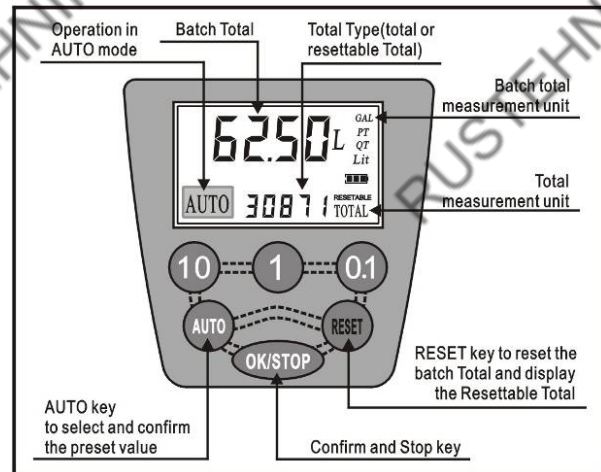
- 8. Thread the new nozzle into the opposite end of the meter and screw it tightly with an open ended, adjustable wrench.



Installing the nozzle

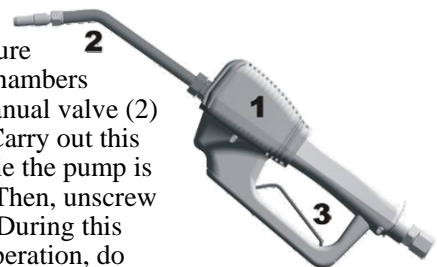
- 9. Open all dispense position shut-off values, and start the pump to pressurize the system.
- 10. To ensure accuracy, purge all air from the fluid lines and dispense value before use.

**Operating the Meter**



**▲ WARNING**

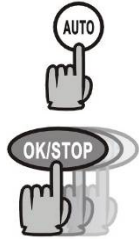
In case of manual anti-drip valve, after using, it is important to discharge the over pressure between the chambers (1) and the manual valve (2) of the spout. Carry out this operation while the pump is switched off. Then, unscrew the valve (2). During this discharging operation, do not push the trigger (3).



### ⚠ WARNING

To access the various customizing functions and to select the desired options, **two different actions are indicated on the keys.**

- This symbol indicates that it is necessary **to press the key briefly**, and afterwards release it.

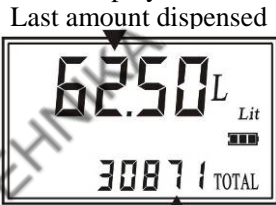


- This symbol indicates that it is necessary **to press and hold on the key** for a few seconds.

To exit from the customization menu, independent of the activity in progress, press **RESET**. **The settings displayed at that moment immediately become operational.**

### A. Display Mode

To start-up the Meter by selecting **RESET**. The Meter displays:



Stored value Total  
Push and hold on until default value zero.  
The Meter will display:



Stored value Total

### ⚠ WARNING

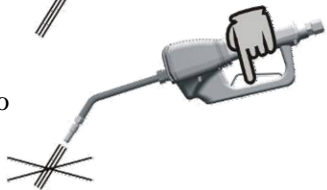
The Stored value Total is set as default in factory, it will be stored when using, it cannot be changed to default again by yourself, if you need, please contact the Preset Meter authorized service center.

### ⚠ CAUTION

Pull the trigger to dispense.



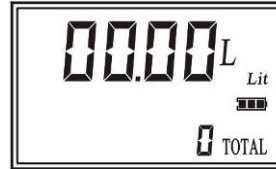
Release the trigger to stop dispensing.



### B. Operation Mode

#### B-1. Manual Mode

Program the Meter to Manual Mode by selecting **RESET**. The Meter displays:



Manual Mode

Pull the trigger to begin the flow. When the desired amount has been pumped, release the trigger to stop the flow.

Press **RESET** to reset counter display to zero.

#### B-2. AUTO Mode

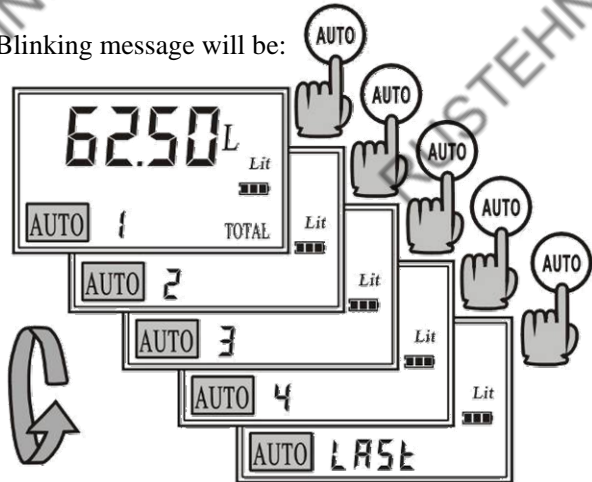
METER stores:

**AUTO** 1-2-3-4-last:

Five different PRESET values which are frequently used.

Press **AUTO** as many times as necessary to reach the desired values and the values are repeated.

Blinking message will be:



To confirm a PRESET value, press and hold on the **OK/STOP** until the METER displays:

Reset Batch Total



AUTO message not blinking



Selected value

To start dispensing by pull the trigger completely then released.



The trigger thus remains locked in open position. Now dispensing can continue in AUTO mode.



**Automatic stop**

The supply automatically stops when the preset value is reached.

\*If you want to stop the dispensing before the preset value reached, just press **OK/STOP** to stop.

**WARNING**

In any case the operator must attend to the METER while dispensing in AUTO mode in order to avoid any oil spillage.

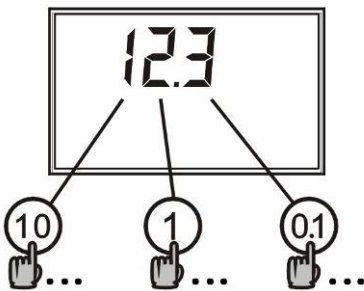
**B-3. User Mode**

If the METER is off, press RESET to re-start it. The value is last amount dispensed, the Meter will display:



Stored value Total.

To select a new PRESET value (for example 12.3), uses the numeric keys as many times as you consider and it is turned to LAST mode automatically.



The METER displays:  
Select value



Press **OK/STOP** and hold on until counter is zero.

**Reset Batch Total**



Selected value

To start dispensing by pull the trigger completely then released.

The supply automatically stops when the preset value is reached.

\*If you want to stop the dispensing before the preset value reached, just press **OK/STOP** to stop.

**C. Preset Values Setting**

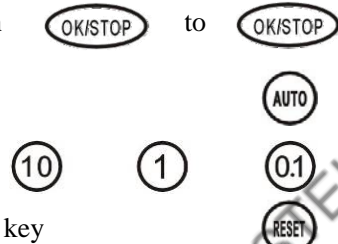
**C-1. Numeric Function**

Press and hold on **OK/STOP** to set the function

Selective key

Numeric keys

Confirm and quit key



**CAUTION**

Press and hold on **OK/STOP** to set the function: it contains Value setting, Unit setting, Decimal Digits setting, Reset setting, Auto reset setting and Calibrating setting.

**C-2. Value Setting**

The METER allows the Operator to store 5 different used PRESET values (AUTO 1...AUTO 4), which can be rapidly recalled without having to set them each time by means of the numeric keys.



Press and hold on **OK/STOP** once to set the function.

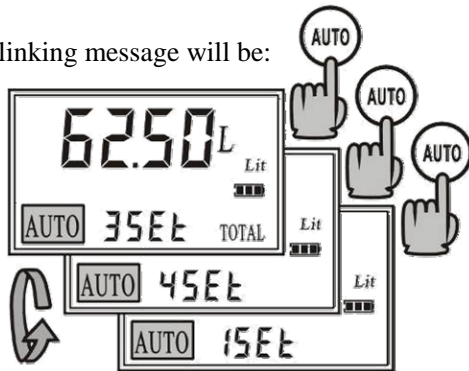
The METER will display:  
Blinking



Index of the PRESET value AUTO 1.

When the value is blinking, press **AUTO** to select preset 1-4, then press the numeric button to set the value.

Blinking message will be:



Press **RESET** to confirm the value and quit the setting mode, the setting value will be stored.

**▲ WARNING**

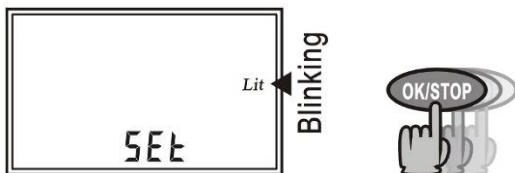
By holding on the keys the value continues to vary.

**C-3. Unit Setting**

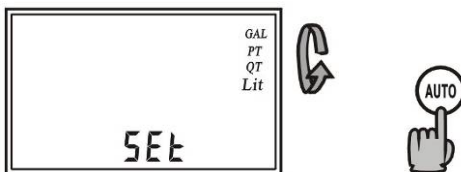
The METER allows the user to select one of the following measurement Units:

- QTS = QUARTS
- PTS = PINTS
- LIT = LITRES
- GAL = GALLONS (U.S. Gallons)

Press and hold on **OK/STOP** twice to set the function. The METER displays:



When the Unit is blinking, press **AUTO** to select unit L, GAL, PT or QT.



Press **RESET** to confirm the value and quit the setting mode, the setting value will be stored.

**▲ WARNING**

The above mentioned measurement Units refer to the **Batch** total indication.

- If you select the unit LITRES, the **TOTALS** will be displayed in **LITRES**.
- If you select the unit GALLONS, PINTS or QUARTS, the **TOTALS** will be displayed in **GALLONS**.

- The modification of the Unit of measurement does NOT require a new Calibration.
- If the TOTAL indicates a value other than zero, this value is automatically converted from LITRES in to GALLONS or vice-measurement Unit is being modified.

**C-4. Decimal Digits Setting**

Press and hold on **OK/STOP** third to set the function.

Blinking point



When the number point is blinking, press **AUTO** to select location of the point to confirm the number of decimal digits setting.

Press **RESET** to confirm the value and quit the setting mode, the setting value will be stored.

**▲ WARNING**

- **The METER displays the FLOATING POINT Batch total dispensed.** Independent of the selection carried out (two or three decimal digits):
  - As soon as the amount dispensed exceeds 10 units, the METER displays only **two decimal digits**.
  - As soon as the amount dispensed exceeds 99 units, the METER displays only **one decimal digits**.

**C-5. Reset Setting**

Press and hold on **OK/STOP** forth to set the function.

The METER displays:



When YES is blinking, press **AUTO** to select YES or No, If YES the batch total will be set to zero after hold on **OK/STOP** button for 10 seconds, NO for cancel.

Press **RESET** to confirm the value and quit the setting mode, the setting value will be stored.

**▲ WARNING**

Independent of the selection carried out, **the Batch Total supplied is never reset if the dispensing operation has been carried out in AUTO mode.**

### C-6.Auto Reset Setting

#### ⚠ WARNING

The function described in this paragraph concerns **only those who want to obtain the maximum dispensing stop precision in AUTO mode.** If a slight excess of the pre-set value (a few hundredths of liters) does not cause any problem, **the present paragraph can be ignored.**

The METER in AUTO mode allows the user to obtain a high precision stop, thus dispensing exactly the pre-set amount without exceeding the PRESET value.


To guarantee this high stop precision, especially **when the unit operates at the maximum allowed flow-rates** the value does not close when the PRESET value is reached, **but when the PRESET value by a few Unit hundredths.**

To guarantee the stop precision, **this pre-stop value must not be fixed**, but is dependent on the flow-rate used. To allow the manager to obtain the highest stop precision, the unit has been equipped with a Stop Precision factor, called **PS factor.**



The manager, during the customization of the METER, can select a PS factor between **ZERO and FIVE.**

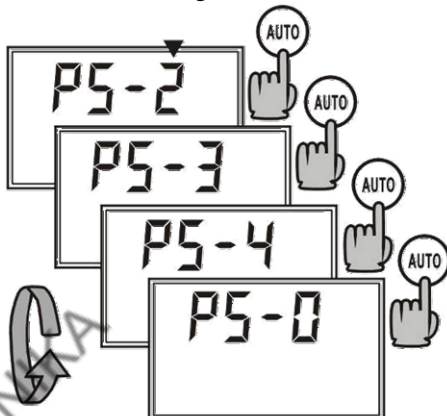
#### By selection:


- PS=0 a pre-closing equal to **ZERO** is set.
- PS=1
- PS=2
- PS=3
- PS=4 the **MAXIMUM** pre-closing is set.

Press and hold on  fifth to set the function. The METER displays:  
Blinking



When PS factor is blinking, press  to select PS 0-4 to increase the PS factor by one.  Blinking



Press  to confirm the value and quit the setting mode, the setting value will be stored.



#### ⚠ WARNING

**The higher the flow rate, the higher the selected PS value.** If you select a too high PS value, the dispensed amount may be lower than the pre-set value by some hundredths of a liter.

### C-7.Calibrating Setting

The METER is equipped with a meter with high-precision gears, pre-calibrated in the factor.

#### Why calibrate?

If the METER is used:

- **with fluids having a viscosity close to the limits of the allowed range**(such as low viscosity antifreeze fluids or high viscosity oils for gear boxes)
- **in extreme flow-rate conditions**(close to the min. And max. Value of the allowed range) **it may be necessary to carry out an on-site calibration.**

#### How to calibrate?

If the METER allows the user to carry out a rapid electronic calibration by modifying the **Calibration factor (K Factor).**

#### ⚠ WARNING

At delivery all METER are given the same libration factor:

**K factor = 1,000**

**This calibrations factor guarantees the best accuracy in the following operating conditions:**

- Fluid: motor oil type 10W 30;
- Temperature: 20°C ;
- Flow-rate: 10 liters/min.

The calibration can be done either as:


- an on-site calibration, by dispensing into a calibration or as
- a direct modification of the calibration factor.

#### On-site calibration by dispensing into a calibrated container:

Press and hold down  sixth to set the function.

The METER displays:  
Blinking



Press key  : it is possible to start the calibration by dispensing the fluid into a calibrated container.



During dispensing the METER displays:  
Batch Total dispensed



Blinking

**The dispensing operation may be freely interrupted and resumed.**

The Calibration dispensing will be finished when the level of the fluid reaches the graduated area of the Calibrated container.

Indicated value



Blinking

**▲ WARNING**

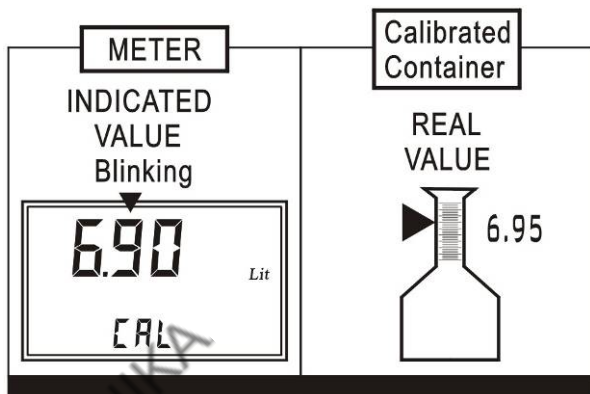
In order to get a correct calibrated K Factor from meter, ensure calibration capacity is set to more than 5 liters.

Purge all air from the unit before carrying out the calibration.

**Carry out the calibration dispensing at a steady flow-rate** by pulling the trigger completely and keeping it in open position until the container is full. Do not reduce the flow-rate to reach the graduated area of the calibrated container.

The correct technique to be used at the final stages of the filling operation into the Calibrated container is small topping-ups. This is achieved by rapidly pulling the trigger of the METER and then releasing it very quickly.

Press Again to modify the indicated value which equals to the container.



Press key "10" to increase the indicated value.



Press key "0.1" to decrease the indicated value.



**▲ WARNING**

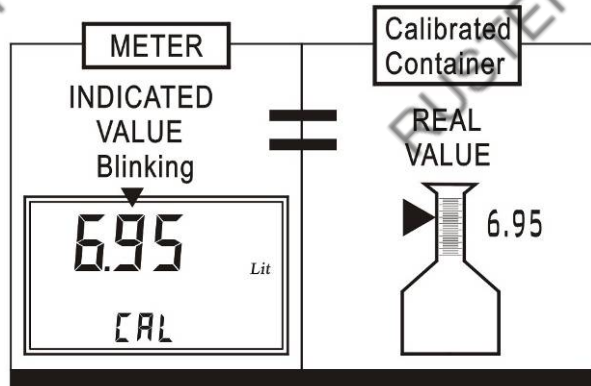
After dispensing, wait a few minutes to allow the removal of possible air bubbles from the Calibrated Container.

Read the Real value only at the end of this phase as the level in the container may decrease.

**Do not wait more than 15 minutes as the METER will exit from menu and it will no longer be possible to complete the calibration operation.** The METER is ready to accept the modification of the **indicated** value to make it correspond to the **real** value.

The METER is ready to accept the modification of the **indicated** value to make it correspond to the **real** value.

After correction:



Each time a key is pressed, the last digit on the right is modified by one unit.

**By holding down the keys, the value changed, slowly at first and then rapidly.**

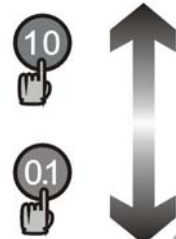
Press Again, the Meter will calculate the K Factor automatically which is blinking.



The METER stores the new Calibration Factor (K Factor) and displays:



Blinking  
New K Factor





After a few seconds, the METER automatically exits from the customization mode and starts using the new Calibration Factor.

**▲ WARNING**

One dispensing operation is enough to carry out the on-site calibration of the meter. If you wish to verify the result of this calibration, **carryout a normal dispensing in the same Calibrated Container** without re-entering the calibration function in the Customization menu.

**D. Battery replacement**

The METER continuously controls the battery charging state. As soon as the METER below a given level, the METER displays:



Blinking message "batt"

**▲ WARNING**

As soon as the message "bAtt" appears, displaying in AUTO mode is immediately stopped and it is no longer possible to lock the trigger in open position.

This prevents the unit from continuing to dispense in AUTO mode even if the PRESET value has been reached, owing to an insufficient battery charge.

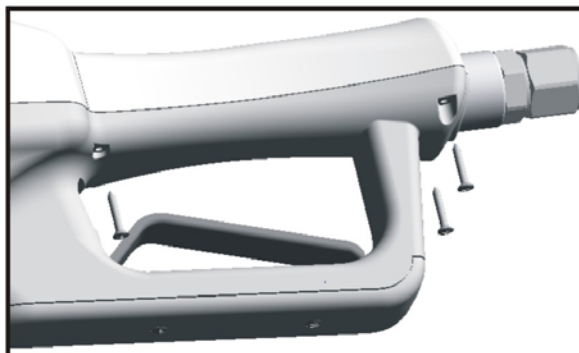
**Even when the message "bAtt" is displayed, it is still possible to carry out dispensing operations in MANUAL mode.**

Although it is possible to carry out tens of dispensing operations in MANUAL mode even when the message "bAtt" is being displayed, **the batteries must be replaced as soon as possible to resume the full functioning capacity of this METER** and to avoid the quality of the image on the LCD from deteriorating, thus causing metering errors.

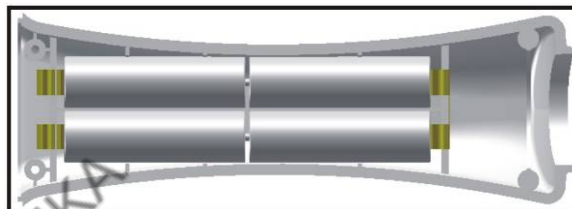
When the message "bAtt" blinks, the TOTAL is **constantly updated**, although not displayed.

**To replace the batteries:**

A. With a small screwdriver (PH cross handle) off the four screws of the battery pack and remove it.



- B. Open the battery pack by removing the cover.
- C. Remove the flat batteries.
- D. Install 4 new batteries of type AA 1.5 Volt Alkaline, paying attention to polarity shown on the cover.



E. Place the cover again and fix the battery pack by screwing the four screws.

**▲ WARNING**


METER will start automatically all as soon as the battery pack is fixed, carrying out a short SELF-TEST:

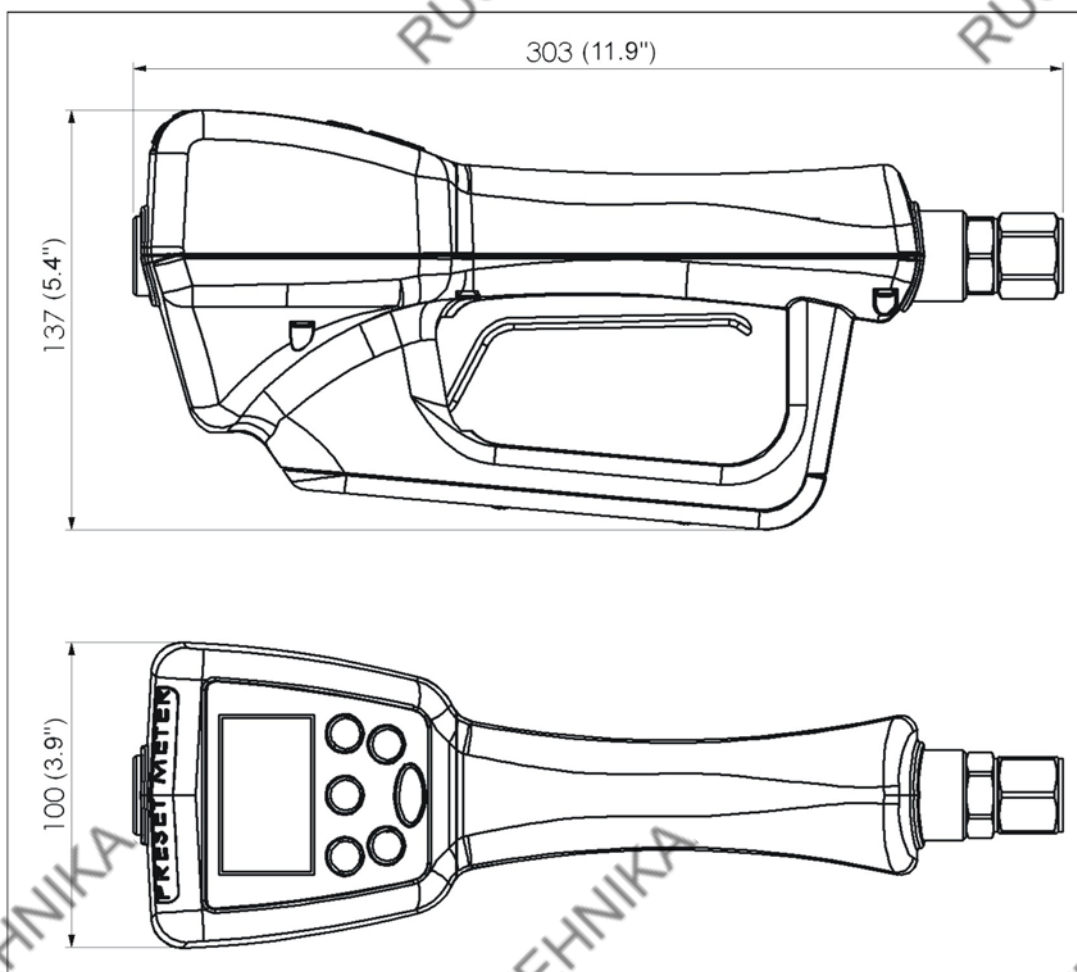
- Complete lighting of LCD
- Complete stop of LCD
- Display of serial number of electronic board
- Normal operation mode

The replacement of the batteries does not cause any data loss.

The customization of the METER, previously set, remains operational at the next re-starting.

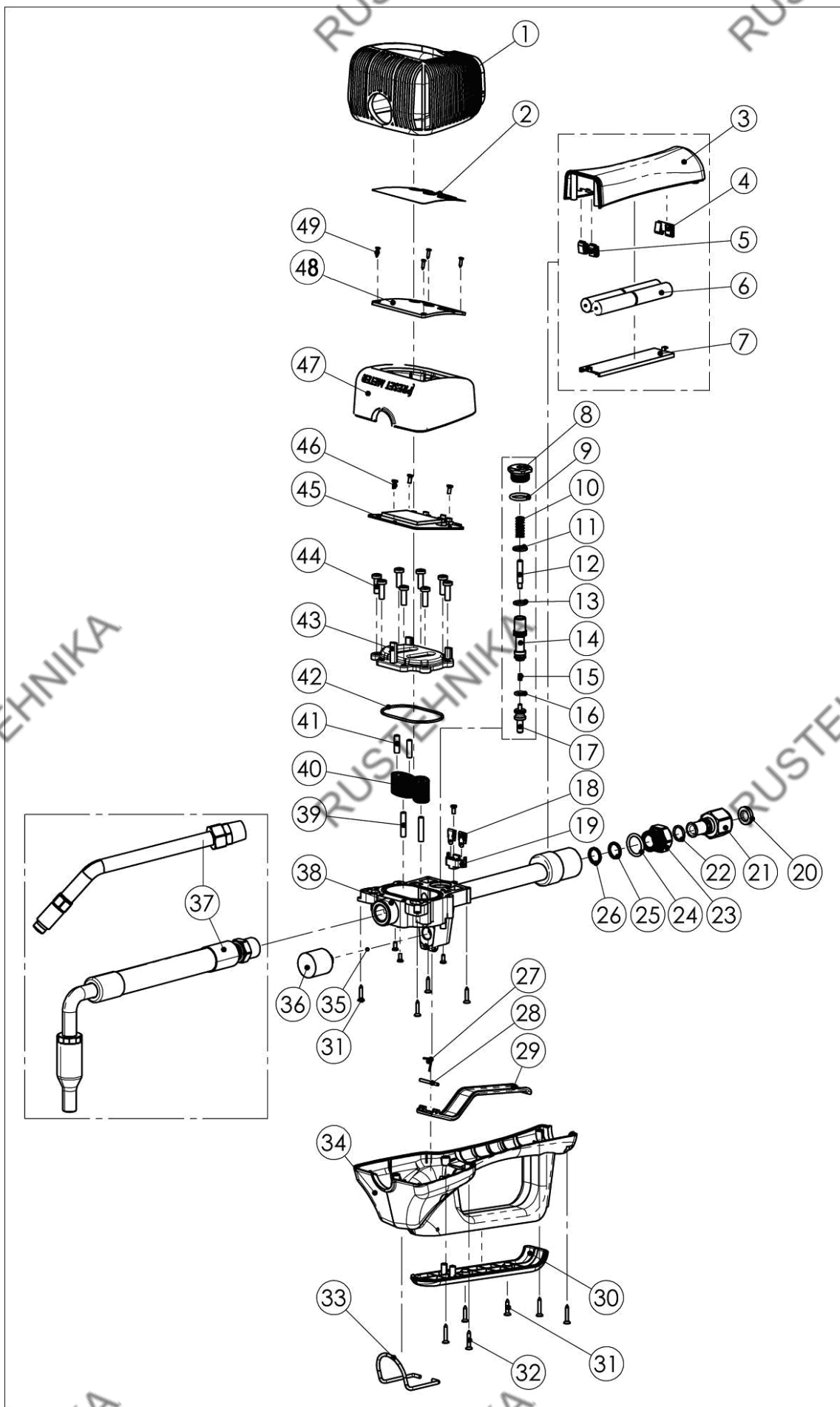
**▲ CAUTION**

1. Leaving the Meter without operation more than 20 seconds, it will turn to be sleep style.
2. Please check the anode and cathode when batteries changing.
3. If the mark of battery like , the Preset Mode can not work anymore, please change the batteries. The Manual Mode still works.
4. Each time of using AUTO mode, please **pause** for more than 30 seconds between reusing AUTO mode.



**SPECIFICATIONS**

	<b>English</b>	<b>Metric</b>
Maximum Flow*	8 gpm	30 lpm
Minimum Flow*	0.25 gpm	1 lpm
Operating Pressure (Maximum)	1000 psi	67 bar
Operating Pressure (Minimum)	5 psi	0.35 bar
Operating Temperature (Maximum)	120° F	50°C
Operating Temperature (Minimum)	20° F	-5°C
Accuracy-Oils	± 5%	± 5%
Accuracy-Anti-Freeze	± 1.5%	± 1.5%
5-Digital LCD Display,10 mm High x 5mmWidth	Quart,Pint,Gallon	Liter
Inlet and Outlet Connections	1/2" NPT	1/2"



Preset Meter Owner's Menu

NO.	Description	PCS
1	Rubber Cover	1
2	Lens Cover	1
3	Top Handle	1
4	Doubled Battery Shrapnel	1
5	Recharging Battery Shrapnel	2
6	AA 1.5 Volt Battery	4
7	Battery Cover	1
8	Directive Cover	1
9	O Ring	1
10	Main Spring	1
11	O Ring	1
12	Signal Pole	1
13	O Ring	1
14	Slip Pole	1
15	Sub-Spring	1
16	O Ring	1
17	Press Pole	1
18	Main Battery Shrapnel	2
19	Bracket	1
20	Filter	1
21	Rotated Linker	1
22	O Ring	1
23	Linking Nut	1
24	O Ring	1
25	Block Washer	2
26	Washer	1
27	Handle Spring	1
28	Columned Pin	1
29	Trigger	1
30	Bottom Cover	1
31	Cross Recessed Pan Tapping Screw	6
32	Cross Recessed Pan Tapping Screw	2
33	Hook	1
34	Under-Handle	1
35	Steel Sphere	1
36	Electricity Magnet	1
37	Flexible Spout / Rigid spout	1
38	Main Body	1
39	Axis	2
40	Ellipse Gear	2
41	Magnet Pole	2
42	O Ring	1
43	Top Cover	1
44	Cross Recessed Pan Tapping Screw	8
45	PCB Board	1
46	Cross Recessed Pan Tapping Screw	7
47	Front Cover	1
48	Keypad Lens	1
49	Cross Recessed Pan Tapping Screw	4

## Troubleshooting

### Warning

Relieve the pressure prior to checking or repairing the METER.  
 Make sure all values, controls and pumps are operating correctly.

Symptom	Fault	Remedy
Battery Inside is Blanking	Batteries are low	Replace batteries
Display is Blanking	Meter inactive Batteries exhausted program error  Loose battery connection	Press reset button Replace batteries / Press reset button Remove and reinsert battery pack / Press reset button Remove battery pack and check battery connection / Press reset button
Meter does not latch for batching	Meter not in AUTO mode Meter not reset after prior batching Low batteries	Press AUTO button and program batch size Press RESET button  Check for battery icon / Replace batteries / Press RESET button
Meter does not latch for batching	Filter is clogged Pump pressure is low Foreign material is jamming meter	Clean or replace the filter in the swivel nut Turn up the pump pressure Contact your local distributor for repair
Meter inaccurate	Scale factor incorrect for fluid	Enter program mode check and reset program factor
Batch overruns program value	Pulse delay value set too low	Enter program mode, reset pulse delay to higher value