BOP
BATTERY OPERATED PUMP

IM012EB-01 ELECTRONIC METER

INSTRUCTION MANUAL

This meter is designed specifically for the Macnaught BOP Battery Operated Pump Series

INTRODUCTION

PLEASE READ THIS INFORMATION CAREFULLY BEFORE USE.

Read and retain this instruction manual to assist you in the operation of this product.

If you have any problems with the meter, refer to the maintenance and trouble shooting sections of this manual.

If you need further assistance, please contact your local representative or distributor for advice.

This Flow Meter has incorporated the oval rotor principal into its design. This has proven to be a reliable and accurate method of measuring flow.

Exceptional repeatability is the feature of the oval rotor design.

CAUTION

*** Macnaught recommends the use of PPE equipment such as safety glasses, protective gloves, safety shoes etc before handling or using this product.**

*** Do not modify or alter this product any way**

*** Ensure that any fluid spillage is cleaned up immediately to prevent slipping or injury.**

*** Firmly tighten all connections and check for any sign of leakage before use.**

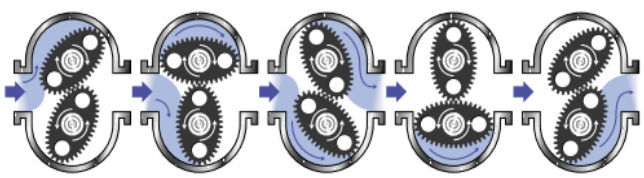
IMPORTANT INFORMATION

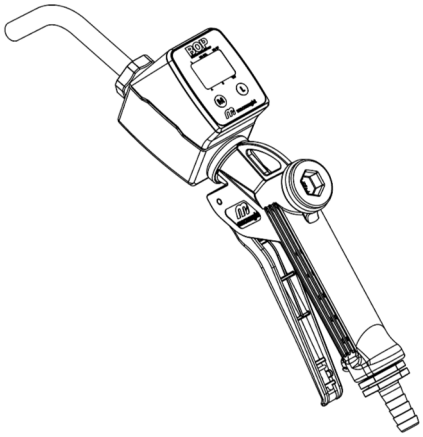
WARNING

This product should only be used with automotive oils and lubricants

OPERATING PRINCIPAL

When fluid passes through the meter the rotors turn, as shown below. The magnets which are located in the rotors will pass across the PCB sensors.
A signal is generated which is then sent by the PCB to the LCD as a Pulse Output.



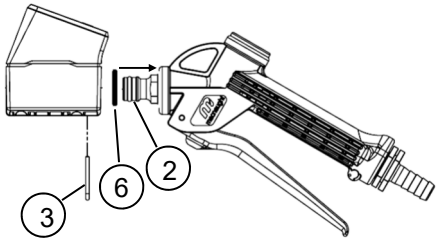


METER TO GUN ASSEMBLY

1) Prior to assembling connector (2) to the gun (1) remove item (5) from the gun (1).

2) Screw item (2) to the gun outlet (1) - Do not over tighten.

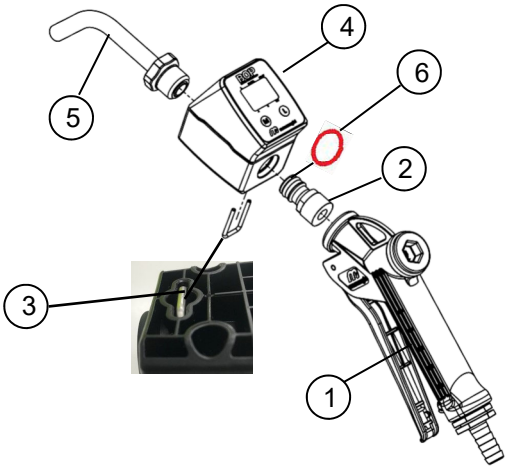
3) Slide O'ring (6) all the way onto screw (2)

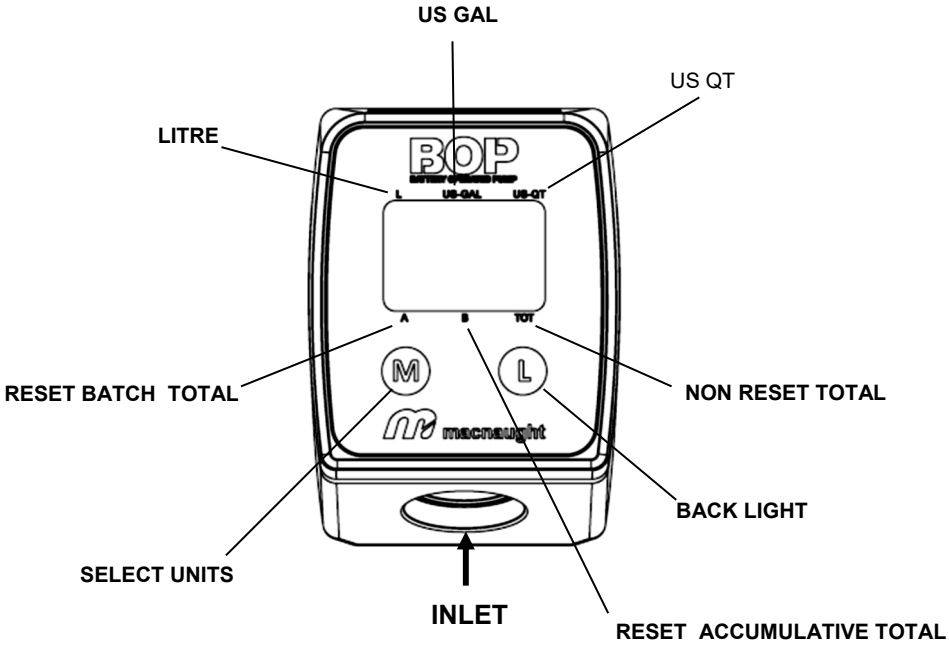


4) Remove the 'U'clip (3) from the meter (4)

5) Insert the meter inlet (4) onto the connector (2) apply light pressure to the meter, this will slightly compress the O'ring (6) then firmly press in the 'U' clip until flush with the body (3) as shown

6) Carefully screw the outlet tube (5) onto the meter outlet (4) - Do not over tigthen





OPERATING INSTRUCTIONS

The display wakens when flluid passes through the meter or either the “M”or “L”button is pressed.

Note: The display will go to sleep after 3 seconds if no flow is detected

BACK LIGHT

To turn on the backlight press “L“ button

Change Units Setting

1) Waken display by pressing either the ‘M”or “L” button
2) Press and hold down the “L” button until the arrow moves to the next unit setting
   a) Press and hold down button to change from L to US-GAL
   b) Press and hold down button to change from US-GAL to US-Qt
   c) Press and hold down button to change from US-Qt to L

Change Batch and Total Setting

1) Waken display by pressing either the ‘M”or “L” button
2) Press and release “M” button to move arrow to desired batch or total setting
   A = Resettable batch total
   B = Resettable accumulative total
   C = Non ressettable accumulative total

Reset batch or accumulative totals to zero

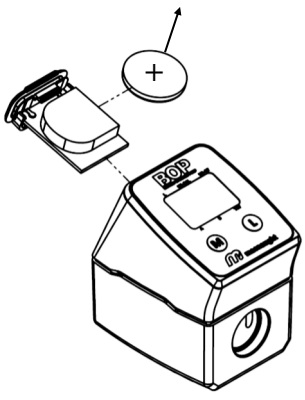
1) Waken display by pressing either the ‘M”or “L” Button
2) Press and release “M” button to move arrow to desired batch (A) or total (B) setting
3) Simultaneously press and release the “M”and “L”buttons to reset the numbers to zero.

REPLACE BATTERY

1) Carefully pull open the battery drawer as shown
2) Carefully slide the old battery from the PCB
3) Carefully insert the new CR2450 Lithium Coin battery.

Note:
Ensure the battery is fitted with the + on the battery pointing up as shown below.

4) Slide the battery drawer shut firmly to ensure the O’ring seals the drawer opening correctly,



TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Meter not reading	a) Damaged or faulty PCB b) Damaged or jammed rotors	a) Replace meter b) Replace meter
No display	a) Flat battery	a) Replace battery (Lithium CR2450)
	b) Damaged or faulty PCB	b) Replace meter
Meter not accurate	a) Air in the oil	a) Ensure the system is fully primed and air free
	b) Leakage	b) Check and ensure all connections are properly assembled and sealed, otherwise replace meter as required.
	c) Flowrate too high	c) See specification for maximum flowrate

SPECIFICATIONS

FLOW RATE	Up to 10LPM
OPERATING TEMPERATURE	-20 deg C to +70 deg C
OPERATING PRESSURE	20psi
ACCURACY	+/- 2% of reading
IP RATING	IP65
INLET CONNECTION	½”inlet connector supplied
OUTLET CONNECTION	1/2"BSPP (F)
POWER	1 x CR2450 - 3V Lithium Coin Battery

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EU Declaration of Conformity

We: Macnaught Pty. Ltd. **Of:** 41-49 Henderson Street, Turrella NSW 2205, Australia.

Declare that: BOP Electronic Meter IM012EB-01

In accordance with:	Machinery Directive	2006/42/EC
	Electromagnetic Compatibility Directive	2014/30/EU
	Restriction of Hazardous Substance Directive	2011/65/EU as amended by 2015/863/EU
	Waste Electrical and Electronic Equipment Directive	2012/19/EU

have been designed and manufactured to the applicable harmonised standards below:

(IM012EB-01)

EN ISO 12100: 2010
EN60204-1: 2018
EN 61326-1:2013 ; EN 61326-2-2:2013
EN IEC 61000-3-2:2019 ; EN 61000-3-3:2013+A1:2019
EN 61000-4-2:2009 ; EN 61000-4-3:2006+A1:2008+A2:2010
EN 61000-4-4:2012 ; EN 61000-4-5:2014+A1:2017
EN 61000-4-6:2014 + AC:2015
EN 61000-4-8:2010 ; EN 61000-4-11:2004+A1:2017

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specification. The product complies with all essential requirements of the Directives.

Signature

Name: Marco Uccellani Position: Engineering Manager

Done at: 41-49 Henderson Street, Turrella NSW 2205, Australia. Date: 18/Oct/2021

COM-D/MG/PIM/CE-BOP.EM_R1
QA-CN7444
Issued by: R.Khan

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UK Declaration of Conformity

We: Macnaught Pty. Ltd. **Of:** 41-49 Henderson Street, Turrella NSW 2205, Australia.

Declare that: BOP Electronic Meter IM012EB-01

In accordance with: Supply of Machinery (Safety) Regulations 2008
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
The Waste Electrical and Electronic Equipment Regulations 2013

have been designed and manufactured to the applicable harmonised standards below:

(IM012EB-01) BS EN ISO 12100: 2010
EN60204-1: 2018

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specification. The product complies with all essential requirements of the Directives.

Signature

Name: Marco Uccellani Position: Engineering Manager

Done at: 41-49 Henderson Street, Turrella NSW 2205, Australia. Date: 18/Oct/2021

COM-D/MG/PIM/UKCA-BOP.EM_R1
QA-CN7444
Issued by: R.Khan

WEEE Directive - Waste Electrical and Electronic Equipment

The WEEE Directive requires the recycling of waste electrical and electronic equipment in the European Union.

Whilst the WEEE Directive does not apply to some of Macnaught's products, we support its policy and ask you to be aware of how to dispose of this product.

The crossed out wheelie bin symbol illustrated and found on our products signifies that this product should not be disposed of in general waste or landfill.

Please contact your local dealer national distributor or Macnaught Technical Services for information on product disposal.

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Note:
This product should be disposed of according to all applicable local and national government environment regulations and guidelines.

For Warranty Terms and Conditions see macnaught.com.au
For a list of Australian Service Centres see macnaught.com.au