Digital Meter Control Valve withelectronic flowmeter

User's manual

007935017080

Magneti Marelli Aftermarket Spółka z.o.o.
Plac Pod Lipami 5, 40-476 Katowice
Tel.: + 48 (032) 6036107, Faks: + 48 (032) 603-61-08
e-mail: checkstar@magnetimarelli.com
www.magnetimarelli-checkstar.pl

IMPORTANT!

This manual contains important warnings and other information. Read and keep for reference.

This dispense valve: is designed to dispense petroleum-based lubricants and antifreeze only. Do not dispense windshield washer solvent with this dispense valve. is designed for indoor use only. Is not designed for in-line installation.

WARNING

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

SKIN INJECTION HAZARD

High-pressure fluid from dispense valve, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

Do not point dispense valve at anyone or at any part of the body.

Do not put your hand over the end of the dispense nozzle.

Do not stop or deflect leaks with your hand, body, glove, or rag.

Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning,checking, or servicing equipment.

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

Do not operate the unit when fatigued or under the influence of drugs or alcohol.

Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.

Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.

Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. Do not alter or modify equipment.

Use equipment only for its intended purpose. Call your distributor for information.

Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not kink or over bend hoses or use hoses to pull equipment.

Keep children and animals away from work area.

Comply with all applicable safety regulations

FIRE AND EXPLOSION HAZARD

When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:

Use equipment only in well ventilated area.

Eliminate all ignition sources, such as cigarettes and portable electric lamps.

Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline. Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. Ground all equipment in the work area. Use only grounded hoses.

If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.

Keep a working fire extinguisher in the work area.

Typical Installation!

FIG. 1 shows a typical hose reel installation.

KEY DESCRIPTION

A Metered dispense valve
B Fluid shutoff valve
C Hose
D Hose reel fluid inlet hose
E Hose reel

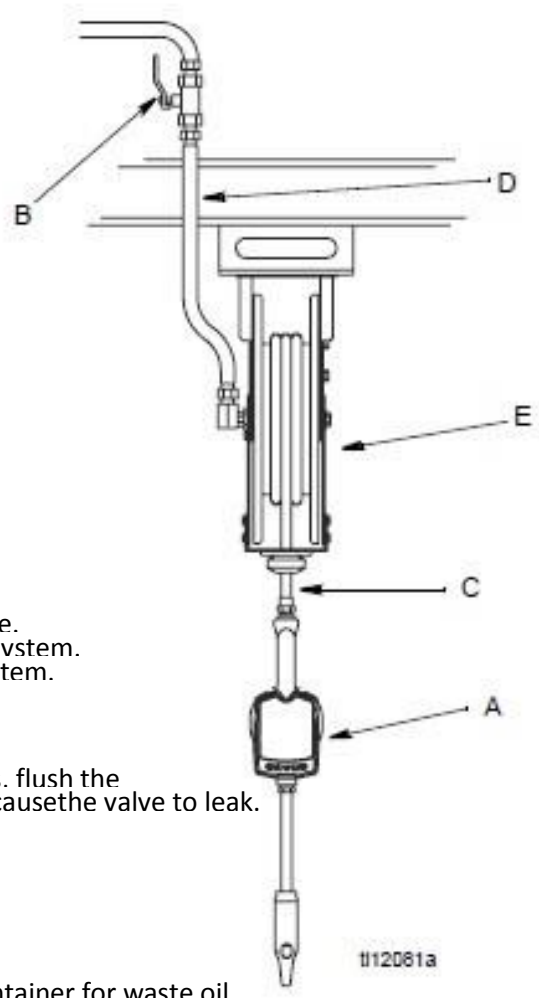


FIG. 1

Pressure Relief Procedure

The equipment stays pressurized until pressure is manually relieved. To reduce the risk of serious injury from pressurized fluid, accidental spray from the dispense valve, or splashing fluid, follow this **Pressure Relief Procedure** when you:

are instructed to relieve pressure.
check, clean, or service any system equipment.
install or clean fluid nozzles or filter.

1. Turn off the power supply to the pump.
2. Trigger the dispense valve into a waste container to relieve pressure.
3. Open any bleedtype master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to pressurize the system.

Installation Procedure

If this is a new installation or if there is contaminated fluid in the lines, flush the lines before you install the metered valve. Contaminated lines could causethe valve to leak.

1. Close the fluid shutoff valve (B, FIG. 1) at each dispense position.
2. Make sure
   the main fluid outlet valve at the pump is closed.
   the air pressure to the pump motor is adjusted.
   the air valve is open.
3. Slowly open main fluid valve.
4. a. Place the hose end (with no dispense valve connected) into a container for waste oil.
   b. Secure the hose in the container so it will not come out during flushing.
   c. If you have multiple dispense positions, first flush the dispense position farthest from the pump, then work your way toward the pump.
5. Slowly open the shutoff valve (B, FIG. 1) at the dispense position. Flush out a sufficient amount of oil to ensure that the entire system is clean. Close the valve.
6. Repeat step 5 at all other dispense positions.

Connecting Hose to Meter

1. Follow the **Pressure Relief Procedure**
2. Apply thread sealant to the male threads of the hose fitting. Thread the hose fitting into the swivel (1) and tighten firmly (FIG. 2)

.
Make sure you let sealant cure to the manufacturer's recommendations before you let fluid into the system.

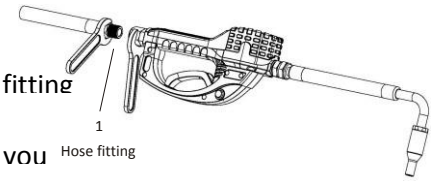


FIG. 2

Installing Extension and Nozzle on Meter

1. Thread extension tube fitting (2) into meter outlet at least three full3).turns. (FIG. Do not use a twist/lock or manual shut-off nozzle. You must use an automatic nozzle on the meter or the meter could be damaged.
2. Thread new nozzle (3) onto extension tube. With an open-end, adiustable wrench. Tighten it firmly.

Onlvtighten nozzle with the wrench on the flats of the nozzle bushing. ***Do not disassemble the bushing from the nozzle.*** Disassembly will affect the performance of the nozzle.

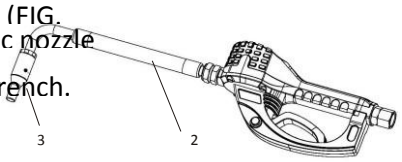


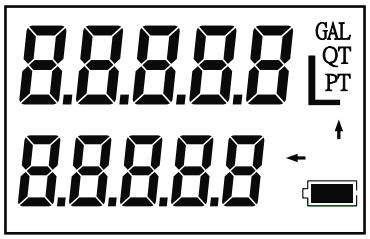
FIG. 3

4. Open all dispense position shut-off valves (B, FIG. 3) and start the pump to pressurize the system. See **Operation**, for proper operation of meter. To ensure dispensing accuracy, purge all air from the fluid lines and dispense valve before you use it.Set the system flow to the desired flow rate, which is typically 5.6 lpm. Do not exceed a 19 lpm flow rate.

Digital meter Information

1. The electronic gear meter

consists of an oval gear and its chamber with the appropriate connections to establish a controlled flow through the meter. The basic meter is made of the measuring element and of the housing.



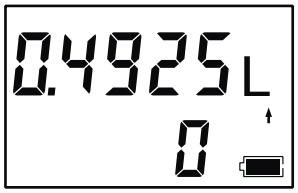
A 5-digit liquid crystal display, 4 units and battery indicator, accurate to the second decima place, shows the exact amount of fluid dispensed. The unit is programmed at the factory to dispense and totalize in **L, GAL, PT and QT.** Low battery indicator is included.

4 buttons are included on the meter: **"TOTAL ", "RESET"**(upside the meter)

2. Before putting into operation

Please check the technical data of the installation match with those of the lube meter. For example connections, pressure, flow range and medium. Once the meter has been installed, please make sure that no air pressure shocks or particles can damage the meter. Please check all connections to leakage.

After the installation we recommend to do several transactions into an approved tank. Should the use of different oil viscosities show discrepancies by the error limit, this can immediately be corrected at the site as what follows:



A. Toggle two time "Total" ,then Toggle "Reset" long time. The display will show the current value of correction factor, please take it down.

B. Apply the following formula to decide the proper correction factor:

Proper correction factor= (actual value/displayed value) x current correction factor.

eg. Actual value shown in the approved tank=0.9 QT

Displayed value shown on the meter=1.000 QT Current correction factor =1.0100

Proper correction factor=0.9/1x1.0100=0.9090

c. Follow the instruction of item 4.5.1 of this manual to modify the correction factor.

3 .Electronic register with LCD

The LCD register is connected to the bare meter with 4 screws. And a protector cover is connected to the bare meter with 4 screws. In the factory, a calibration factor is programmed, which has been determined on a hydraulic test bench.

A 5-digit liquid crystal display, 4 units and battery indicator, accurate to the second decimal place, shows the exact amount of fluid dispensed. The unit is programmed at the factory to dispense and totalize in L, GAL, PT and QT. Low battery indicator is included.

4 .Details of operation

4.1 Change the battery: Battery Type: Lithium CR123A, 3V/1400 mAh

A lithium battery supplies the unit and is built to last for 8 years of normal operation, which corresponds to approx. 500,000 litres (132,000 US GAL). When the battery signal is flashing on the display, a new battery should be changed. a) Remove the protector cover unscrewing the four screws.

b) Change the battery with one of the same type and screw the lid on again.

4.2 Reset

The display of the batch register memory can be put to ZERO by pushing the RESET button. A reset is not possible during a batch process. Resetting of the totalizer is only possible through internal programming.

4.3 Interruption of batch process

By releasing the meter trigger, the batch process is interrupted. When pulled again, the batch process will be continued at the very point where it was interrupted, unless the RESET button has been pushed in the meantime.

4.4 Totalizer

Pressing the TOTAL button will cause the accumulator memory value to be displayed, for as long as the button is being pressed.

4.5 Programming the meter

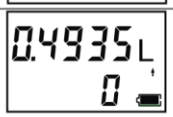
4.5.1 Modification of meter correction factor

Introduction of function key

"**TOTAL/MOVE**" button is used to choose desired digit or symbol

"**RESET**" button is the switching key to add "1" to figures or symbols chosen

4.5.2 Programming procedure by maintenance operator

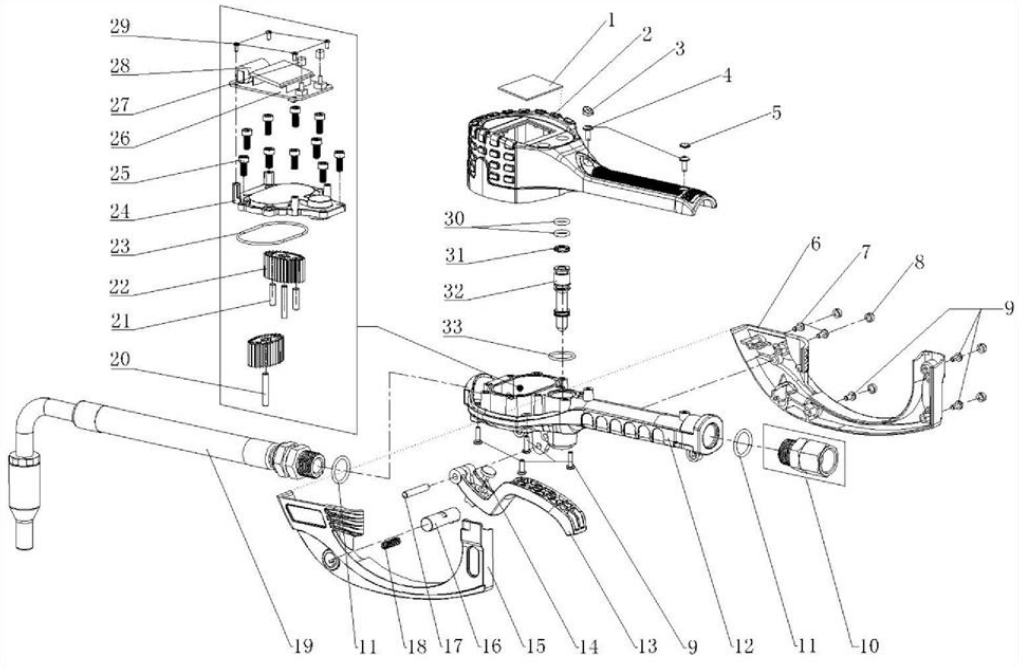
Action	Display
1. Press two times "TOTAL", then press "RESET" over 2 seconds to activate programming mode, the first digit "0" flashes, display screen shows the original measurement unit.	
2. Choose the digit by pressing "TOTAL" button,and this digit is flashing	
3. Pressing "RESET" button to add "1" and adjust the figure to be identical to "Meter correction factor".	
4. Press "RESET" and "TOTAL" in same time , over 2 seconds to exit programming mode	

4.5.3 Programming procedure by measurement unit from L to GAL ,PT,QT

a. Press two time “TOTAL”, then press long “RESET” button to activate programming mode,
b. Press “TOTAL” button until the measurement unit sign flashes to activate switches among L, GAL, PT and QT.
c. Press “RESET” and “TOTAL” in same time , over 2 seconds to exit programming mode5.Technical data

	English	Metric
Flow rate range	0-9 gpm	0-30 L/m
Operating Pressure (Maximum)	1500 psi	100 bar
Working Temperature:	14ºF-+122ºF	-10ºC-+50ºC
Accuracy(approved version)	±0.5%	±0.5%
Applied Viscosity of Fluid	8-5000mPas	8-5000mPas
5-Digit LCD display	Quarts, Pints, Gallons	Liters
Inlet and outlet connections	1/2”NPT	1/2”BSP

Explode drawing and Parts list



Parts List

Item	Description	Q'ty	Item	Description	Q'ty
NYQ_01	Window	1	NYQ_18	Trigger spring	1
NYQ_02	Meter body	1	NYQ_19	Nozzle	1
NYQ_03	Stopper	1	NYQ_20	Pin	2
NYQ_04	screw	2	NYQ_21	Magnetic bar	4
NYQ_05	Stopper	1	NYQ_22	Gear	2
NYQ_06	right handle cover	1	NYQ_23	O-ring	1
NYQ_07	screw	2	NYQ_24	Meter cover	1
NYQ_08	Stopper	5	NYQ_25	screw	8
NYQ_09	screw	7	NYQ_26	Circuit board	1
NYQ_10	Swivel adapter	1	NYQ_27	Key cap	2
NYQ_11	O-ring	2	NYQ_28	Battery	1
NYQ_12	Handle	1	NYQ_29	screw	4
NYQ_13	Trigger	1	NYQ_30	O-ring	2
NYQ_14	Trigger Block	1	NYQ_31	X-Seal	1
NYQ_15	left handle cover	1	NYQ_32	Lock pin	1
NYQ_16	Trigger Pin	1	NYQ_33	O-ring	1
NYQ_17	Trigger lock	1			

Magneti Marelli Aftermarket Spółka z.o.o.

Plac Pod Lipami 5, 40-476 Katowice

Tel.: + 48 (032) 6036107, Faks: + 48 (032) 603-61-08

e-mail: checkstar@magnetimarelli.com

www.magnetimarelli-checkstar.pl