Digital Meter Control Valve withelectronic flowmeter and pre selection

User's manual

007935017085

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

Pressure Relief Procedure

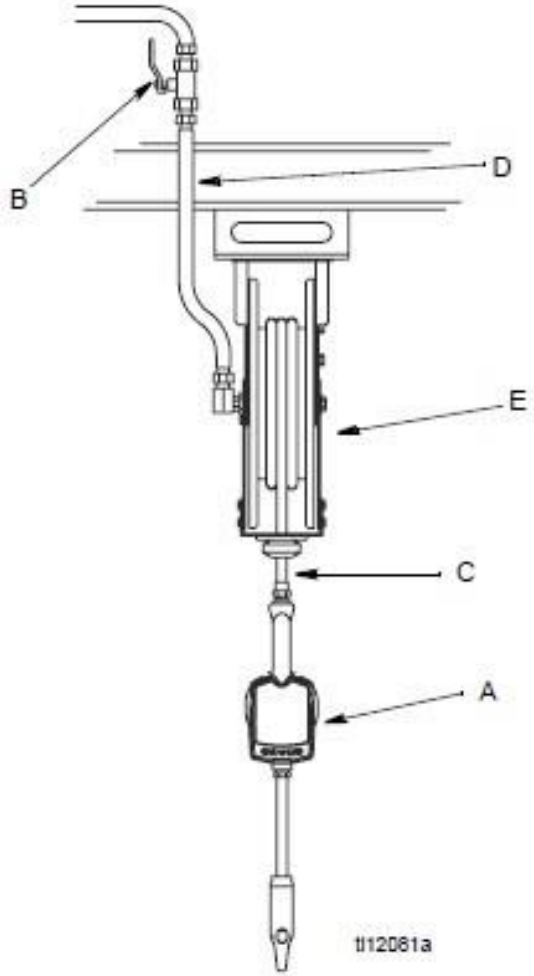
The equipment stays pressurized until pressure is manually relieved. To reduce the risk of serious injury from pressurized fluid, accidental spray from the dispense valve, or splashing fluid, follow this **Pressure Relief Procedure** when you:

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.

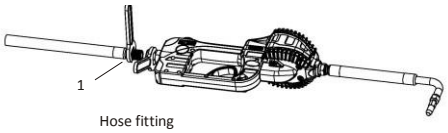
FIG. 1

c. If you have multiple dispense positions, first flush the dispense position farthest from the pump, then work your way toward the pump.

FIG. 1

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)

FIG. 2

.

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

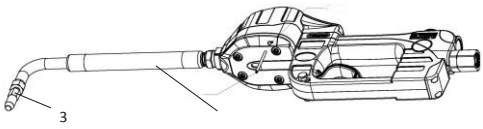


FIG. 3

Installing Extension and Nozzle on Meter

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

Only tighten nozzle with the wrench on the flats of the nozzle bushing.

Do not disassemble the bushing from the nozzle. Disassembly will affect FIG. 3 the performance of the nozzle.

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.

Meter Setup and Operation Instructions

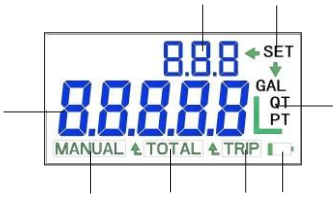
1. Basic Factor and Working Condition:

1000 psi (7 MPa, 69 bar) Maximum Working Pressure 5 gpm (19 lpm) Maximum Flow Rate

Power Supply	**AC6V**	**Oil Inlet:**	**1/2" BSP**	**Default Measure Unit**	**L**
Default Accuracy Factor	**0.5000**	**Flow Rate**	**1-30L/Min**	**Broken Pressure**	**140Bar**
Measure Accuracy	**±0.5‰**	**Min. Working Pressure**	**0.7Bar**	**Max. Working Pressure**	**70Bar**

2. LCD DISPLAY

3 6



2

1. Displays re-settable total, accumulated total and Scale Factor
2. Displays unit of measure

   1
3. Display the current adding quantity
4. "MANUAL" is an indicator of being in normal delivered model , not in preset model 4

   7 8 5
5. Low battery Icon
6. "SET" is an indicator for adjust unit of measure or preset flow rate
7. "TOTAL" is an indicator for total amount deliver
8. "TRIP" is an indicator for current flow rate.

3. Functional Feature:

3.1 When the low battery, there will flashing signal appearing on the right bottom of LCD.Please see the following picture:

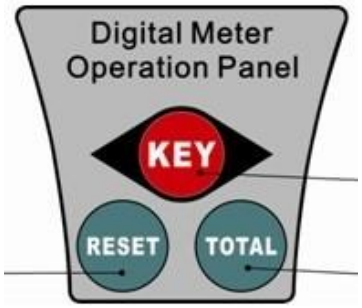
Flash

3.2 In the setting display, the system will enter into automatically dispensing mode if there is only dispensing operation.

3.3 Preset range: 0-999, which is non-cycle. Under the presetting mode, the dispensing will shut off automatically by trigger for 5 seconds if there is no oil during the process. After the dispensing under the presetting mode, there is " OK" flashing at the left-above of display.

Battery display

4. Functional Buttons:



A. **KEY :**

a.1 In dispensing mode: press this button shortly can check the current adding quantity **"Trip"** and total adding quantity **"Total"**

a.2 In factor setting mode: click this button to change between unit seting model**,** total quantity setting model and calbration setting model;

a.3 In the calberation setting model : after you change the factor,press this button timely to save the factor.

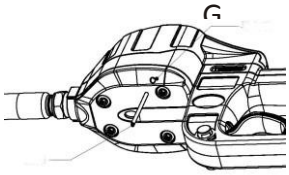
A.

B. **RESET**

In dispensing model: click this button to return zero from current adding quantity **"Trip".**

In calbration setting model: click this button to increased the data one by one. Press this B.C bottom to increased the data quickly

G



Hidden button

uiding-point C. **TOTAL:**

In unit setting model: click this button to change the measure unit.**L, QT, PT, Gal** In calberation setting model: click this button to change the flashing place for data.

D. **Hidden Button:**

Through guiding point, click hidden button by the hard round pole with diameter 3.0mm or so, the program can be return original state, but the TOTAL quantity cannot be resettable.

E. **RESET+TOTAL:**

In dispensing model, press **Reset** button and **TOTAL** button together as long as 3 to 5 seconds ,can enter into the calbration setting status.

.

5. Manual Dispensing Operation and Steps:

5.1 Press any botton to activate , insure not in the setting model..

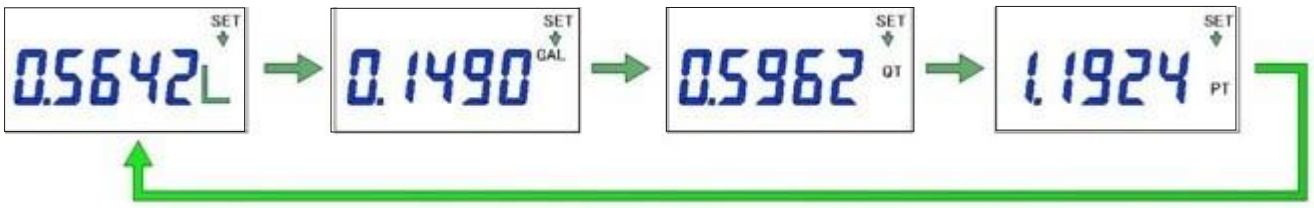
5.2 Press **Reset** bottom to make zero.

Press the trigger by one hand until the gun is in the dispensing and counting quantity status.

5.3 The accuracy will not be affected by start or stop dispensing from time to time, e.g. 8.L as dispensing quantity for one time.

6. Measure Unit Choice

There are four international measure unit as standard, that is, L=Liter, GAL=Gallon, QT=Quart, PT=Pint . When choosing the measure unit, please press **RESET** button and **TOTAL** button at the same time as long as 3 to 5 seconds, enter into the Setting model by **KEY** button. See the flashing arrow-down, click RESET button and change the measure unit (see the following picture).



7. Calbration Programming:

7.1 The Accuracy Factor Correction

In order to use the preset meter better, please adjust or correct the accuracy factor according to the following formula when you make first oil operation.

New Accuracy Factor= Old Accuracy Factor x Correction Index “K”

Correction Index “K”= Dispensed Quantity÷Displayed Quantity

7.2 Correction Steps:

7.2.1 Measure the dispensed quantity by the standard measure, example: If the dispensed quantity is 1.6L and the displayed quantity is 1.52L, K=1.6÷1.52=1.0526

7.2.2 Press **RESET** Botton +**TOTAL** Botton at the same time as long as three to five seconds. Display the current “CAL” by **KEY** button, for example: the accuracy factor is 0.5360 (write down this data)

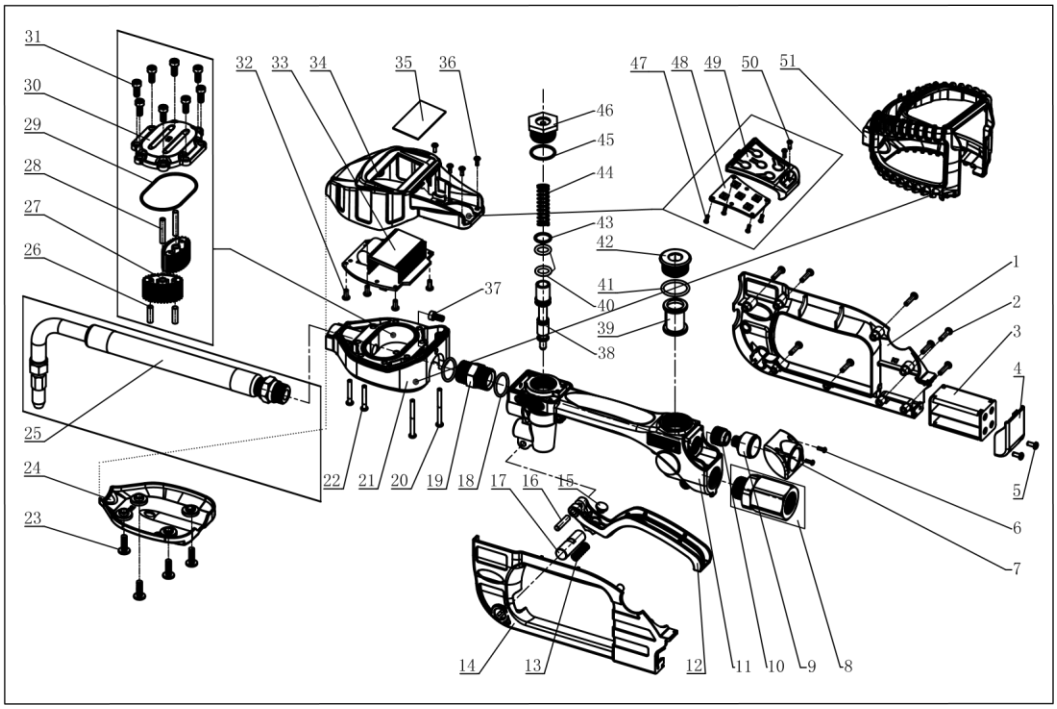
7.2.3 Calculate the new correction factor: 0.5360×1.0526=0.5642 how to enter 0.5642 as CAL.

In Calbration setting status, click and shift the flashing data, move the flashing data by **TOTAL** botton set the data increasingly by **RESET** button change the 3 into 6, 6 into 4, 0 into 2 one by one.

After correction, enter the KEY button to confirm and save the setting data.

Press **RESET** and **TOTAL** buttons at the same time as long as 3 to 5 seconds. Back to dispensed oil mode to finish the correction.

Exploded Drawing & Part List



Item	Description	Quantity	Item	Description	Quantity
YQ_01	handle cover-right	1	YQ_27	gear	2
YQ_02	screw	8	YQ_28	pin	2
YQ_03	battery case	1	YQ_29	o-ring	1
YQ_04	battery case cover	1	YQ_30	meter cover	1
YQ_05	screw	1	YQ_31	screw	1
YQ_06	screw	2	YQ_32	screw	4
YQ_07	gauge cover	1	YQ_33	PCB	1
YQ_08	adapter	1	YQ_34	meter cover	1
YQ_09	gauge cover	1	YQ_35	glass plate	1
YQ_10	adapter	1	YQ_36	screw	2
YQ_11	handle	1	YQ_37	screw	8
YQ_12	trigger	1	YQ_38	alex	1
YQ_13	spring	1	YQ_39	filter	1
YQ_14	handle cover-left	1	YQ_40	o-ring	2
YQ_15	trigger-block	1	YQ_41	o-ring	1
YQ_16	trigger-pin	1	YQ_42	filter cover	1
YQ_17	trigger-lock	1	YQ_43	o-ring	1
YQ_18	o-ring	2	YQ_44	return spring	1
YQ_19	adapter	1	YQ_45	o-ring	1
YQ_20	screw	2	YQ_46	adapter	1

YQ_21	meter body	1	YQ_47	adapter	4
YQ_22	screw	2	YQ_48	PCB	1
YQ_23	screw	2	YQ_49	bottom plate	1
YQ_24	meter bottom plate	1	YQ_50	screw	2
YQ_25	flexible nozzle	1	YQ_51	rubber protection	1
YQ_26	magnetic bar	2			

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