

ENGLISH (Translated from Italian)

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100	DISPENSING IN FLOW RATE MODE

1 DECLARATION OF CONFORMITY

The undersigned: PIUSI S.p.A.
Via Pacinotti c.m.: z.i.Rangavino
46029 Suzzara - (MN) - Italy
Herby states under its own responsibility, that the equipment described below:
Description : Meter
Model: K600
Serial number: refer to Lot Number shown on CE plate affixed to product
Year of manufacture: refer to the year of production shown on the CE plate affixed to the product: is in conformity with the legal provisions indicated in the directives:
- Electromagnetic Compatibility Directive 2014/53/EU
The documentation is at the disposal of the competent authority following motivated request at Piusi S.p.A. or following request sent to the competent authority.
The person authorised to compile the technical file and draw up the declaration is Otto Varini as legal representative

Suzzara, 20/04/2016
Otto Varini
legal representative

2 GENERAL WARNINGS

Warnings
To ensure operator safety and to protect the dispensing system from potential damage, workers must be fully acquainted with this instruction manual before attempting to operate the dispensing system.
The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance:
ATTENTION
This symbol indicates safe working practices for operators and/or potentially exposed persons.
WARNING
This symbol indicates that there is risk of damage to the equipment and/or its components.
NOTE
This symbol indicates useful information.
This manual should be complete and legible throughout. It should remain available to end users and specialist installation and maintenance technicians for consultation at any time.
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3 SAFETY INSTRUCTIONS
3.1 SAFETY WARNINGS
Mains - preliminary checks before installation
Maintenance control
FIRE AND EXPLOSION
When flammable fluids are present in the work area, such as gasoline and windshiled wiper fluid, be aware that flammable fumes can ignite or explode.
EQUIPMENT MISUSE
Misuse can cause serious damage or injury
Do not operate the unit when fatigued or under the influence of drugs or alcohol.
Do not leave the work area while equipment is energized or under pressure.
Turn off all equipment when equipment is not in use.
Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
Keep children and animals away from work area.
Comply with all applicable safety regulations.
Read MSDS to know the specific hazards of the fluids you are using.
Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
Prolonged contact with the treated product may cause skin irritation always wear protective gloves during dispensing.

3.2 FIRST AID RULES
Persons who have suffered electric shock
Disconnect the power source, or use a dry insulator to protect yourself while you move the injured person away from any electrical conductor. Avoid touching the injured person with your bare hands until he is far away from any conductor. Immediately call for help from qualified and trained personnel. Do not operate switches with wet hands.
SMOKING PROHIBITED
When operating the system and in particular during refuelling, do not smoke and do not use open flame.
3.3 GENERAL SAFETY RULES
Essential protective equipment characteristics
Personal protective equipment that must be worn
Safety shoes.
Close-fitting clothing.
Protective gloves.
Safety goggles.
Instruction manual

3.4 PACKAGING
FOREWORD
K600 COMES PACKED IN A CARDBOARD BOX WITH A LABEL INDICATING THE FOLLOWING DATA:
1- contents of the package
2- weight of the contents
3- description of the product
3.5 PACKAGE CONTENTS/PRE-INSPECTION
FOREWORD
To open the packaging, use a pair of scissors or a cutter, being careful not to damage the dispensing system or its components.
NOTE
In the event that one or more of the components described below are missing from inside the package, please contact Piusi Inc technical support.
WARNING
Check that the data on the plate correspond to the desired specifications. In the event of any anomaly, contact the supplier immediately, indicating the nature of the defects. Do not use equipment which you suspect might not be safe.
4 KNOWLEDGE K600
FOREWORD
K600 - meter and pulser versions - represents a family of meters developed to satisfy a wide range of requirements for the control, measurement, dispensing and transfer of lubricating oils and fuels.
Its measurement principle is based on elliptical gears that provide high accuracy over a wide range of flow rates together with reduced loss of head. The fluid passing through the instrument turns the gears whose rotation transfers constant "fluid units". The exact measurement of the fluid dispensed is carried out by counting the rotations of the gears and, thus, the "fluid units" transferred. The magnetic coupling, consisting of magnets installed in the gears and a magnetic switch located outside the measuring chamber, guarantees the seal of the measuring chamber and ensures the transmission of the impulses generated by the rotation of the gears to the microprocessor.
The meter housing is manufactured of extruded aluminium and is furnished with external guides for a practical and simple installation. The various models are differentiated by the length of the housing, which is related to their ability to function at higher flow rates.
The meter body is made of die-cast aluminium and fitted with connections for the installation of threaded flanges suitable for any type of tubing.
At the inlet opening, a filtering disk of stainless steel mesh is installed, which can be accessed from the outside by removing the flange close to the flow inlet side.
Normal Mode: Mode with display of Partial and Total dispensed quantities.
Flow Rate Mode: Mode with display of Flow Rate, as well as Partial dispensed quantity.
The METER features a non-volatile memory for storing the dispensing data, even in the event of a complete power break for long periods.
operating modes
Main components: K600
1- Display LCD
2- RESET button
3- Measuring chamber
4- CAL key
5- Battery housing
6- Filter
Measurement principle
The measuring chamber is located in the lower part of the instrument. It is fitted with connections for the installation of threaded flanges at inlet and outlet. The cover on the bottom part provides access to the measurement mechanism for any cleaning operations.
Inside the measuring chamber are the oval gears which, on turning, generate electrical pulses which are processed by the microprocessor-controlled electronic board.
By applying a suitable calibration factor (meaning a "weight" associated with each pulse), the microprocessor - on-board on meter versions and remote on pulser versions - translates the pulses generated by the fluid volume rotation expressed in the set units of measurement, displayed on the partial and total registers of the LCD.
All K600/3 meters are factory set with a calibration factor called FAC-TORY K FACTOR which is set according to the use fluid (diesel fuel or oil of SAE10 W40 type), for optimal measurement performance. Calibration settings can be changed following the instructions in this manual, but you can return to the factory calibration at any time.
The METER is powered by two standard type 1.5 V batteries (size N). The battery housing is closed by a threaded watertight cap that can be easily removed for quick battery change.
4.2 VERSION PULSER
The PULSER version is a pulse emitter (reed bulb) which translates the magnetic field variations generated by gear rotation into electric pulses to be sent to an external receiver. The receiver is to be connected according to the enclosed diagram. The pulser does not need any independent electrical power supply, as it is directly powered by the receiver's generator.
The issued pulse type is represented by a square wave generated by the voltage variation - see the following diagram:
The device calibration is carried out by means of the external pulse receiver.
4.3 USERS BUTTONS
FOREWORD
The METER features two buttons (RESET and CAL) which individually perform two main functions and, together, other secondary functions.
- for the RESET key, resetting the partial register and Reset Total
- for the CAL key, entering instrument calibration mode
Used together, the two keys permit entering configuration mode where the desired unit of measurement can be set.
CALIBRATE MEANS PERFORMING ACTIONS ON THE METER KEYS. BELOW IS THE LEGEND OF THE SYMBOLS USED TO DESCRIBE THE ACTIONS TO BE PERFORMED
Short pressure of CAL key Long pressure of CAL key
Short pressure of reset key Long pressure of reset key
Start dispensing
- wait for the meter to go to Standby, meaning the display screen shows Total only - quickly press the CAL key.
Start dispensing
The flow rate is updated every 0.7 seconds. Consequently, the display could be relatively unstable at lower flow rates. The higher the flow rate, the more stable the displayed value.
4.4 MALFUNCTIONS
FOREWORD
The METER features two buttons (RESET and CAL) which individually perform two main functions and, together, other secondary functions.
- for the RESET key, resetting the partial register and Reset Total
- for the CAL key, entering instrument calibration mode
Used together, the two keys permit entering configuration mode where the desired unit of measurement can be set.
CALIBRATE MEANS PERFORMING ACTIONS ON THE METER KEYS. BELOW IS THE LEGEND OF THE SYMBOLS USED TO DESCRIBE THE ACTIONS TO BE PERFORMED
Short pressure of CAL key Long pressure of CAL key
Short pressure of reset key Long pressure of reset key
Start dispensing
- wait for the meter to go to Standby, meaning the display screen shows Total only - quickly press the CAL key.
Start dispensing
The flow rate is updated every 0.7 seconds. Consequently, the display could be relatively unstable at lower flow rates. The higher the flow rate, the more stable the displayed value.
4.5 MALFUNCTIONS
FOREWORD
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- for the CAL key, entering instrument calibration mode
Used together, the two keys permit entering configuration mode where the desired unit of measurement can be set.
CALIBRATE MEANS PERFORMING ACTIONS ON THE METER KEYS. BELOW IS THE LEGEND OF THE SYMBOLS USED TO DESCRIBE THE ACTIONS TO BE PERFORMED
Short pressure of CAL key Long pressure of CAL key
Short pressure of reset key Long pressure of reset key
Start dispensing
- wait for the meter to go to Standby, meaning the display screen shows Total only - quickly press the CAL key.
Start dispensing
The flow rate is updated every 0.7 seconds. Consequently, the display could be relatively unstable at lower flow rates. The higher the flow rate, the more stable the displayed value.

Proactive equipment
Instruction manual

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