ITALIANO (Lingua Originale)

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B EC DECLARATION OF CONFORMITY

The undersigned
PULSE S.p.A
Via Pacinotti 1 ex. 2 Bargarino
40050 Sasiano - Monterenzio - Italy
HEREBY STATES under its own responsibility that the equipment described below:
Product name: **Pulse Meter**
Model: **K600B/3**
Serial number: refer to List Number shown on CE plate affixed to the product
Intended purpose: Use of the meter for 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 2014/30/EU**
The documentation is at the disposal of the competent authority following motivated request. It can be made available upon request sent to the email address doc@pulse.com
The person authorized to compile the technical file and draw up the declaration is Otto Varini as legal representative

Otto Varini
legal representative

Sassuolo, 01/01/2014

C GENERAL WARNINGS

Important precautions To ensure operator safety and to protect the pump from potential damage, workers must be fully acquainted with this instruction manual before performing any operation.

Symbols used in the manual The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance:

WARNING — **WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury**

NOTICE — NOTICE is used to address practices not related to personal injury

Manual preservation Its 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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D SAFETY INSTRUCTIONS

D1 SAFETY WARNINGS

Motor - preliminary checks before installation — **You must avoiding contact between the electrical power supply and the fluid that needs to be FILTERED.**

Maintenance control Before any checks or maintenance work are carried out, disconnect the power source.
When metering flammable liquids, observe precautions against fire or explosion.
When handling hazardous liquids, always follow the liquid manufacturer's safety precautions.

For your safety, review the major hazards and incidents below before operating your meter Always dispose of used cleaning solvents in a safe manner according to the manufacturer's recommendations.
During meter removal, liquid may spill. Follow the liquid manufacturer's safety precautions to clean up minor spills.
Do not blow compressed air through the meter.
Do not allow liquids to dry inside the meter

Motor - preliminary checks before installation — **WARNING You must avoid any contact between the electrical power supply and the fluid that needs to be FILTERED.**

Maintenance control Before any checks or maintenance work are carried out, disconnect the power source.

FIRE AND EXPLOSION Use equipment only in well ventilated area.
When flammable liquids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can form and explode. To help prevent fire and explosion:
- 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.
- Stop operation immediately if static sparking occurs or if you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.
- 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.
- 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.

EQUIPMENT MISUSE Misuse can cause death or serious injury.
- Do not exceed the rated pressure of any component in the system. To help prevent fire and explosion:
- Read MSDSs to know the specific hazards of the fluids you are using.
- Store hazardous fluids 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.
- ***Do not discard the old batteries in the environment. Refer to local disposal regulations.***

Tools, Fluid or Fumes Hazard Wear protective equipment that is suited to the operations that need to be performed:
- resistant to cleaning products.
- Wear the following personal protective equipment during handling and installation:
- safety shoes.
- close-fitting clothing.
- protective gloves.
- safety goggles.

D2 FIRST AID RULES

Contact with the product In the event of problems developing following EYE/SKIN CONTACT, INHALATION or INGESTION of the treated product, please refer to the SAFETY DATA SHEET of the fluid handled.
NOTICE — Please refer to the safety data sheet for the product

SMOKING PROHIBITED When operating the dispensing system and in particular during refuelling, do not smoke and do not use open flame.

WARNING — **When metering flammable liquids, observe precautions against fire or explosion**
When handling hazardous liquids, always follow the liquid manufacturer's safety precautions.
Do not submerge the meter

D3 GENERAL SAFETY RULES

Essential protective equipment characteristics: Wear protective equipment that is suited to the operations that need to be performed:
- resistant to cleaning products.

Personal protective equipment that be worn:
- Wear the following personal protective equipment during handling and installation:
- safety shoes.
- close-fitting clothing.
- protective gloves.
- safety goggles.

Protective equipment: instruction manual

Protective gloves: Prolonged contact with the treated product may cause skin irritation always wear protective gloves during dispensing.

WARNING — ***If handling hazardous liquids, always follow the Liquid Manufacturer's Safety Precautions. Wear protective clothing such as goggles, gloves and respirator as instructed.***
When metering flammable liquids, observe precautions against fire or explosion. Do not smoke in the presence of any open flame. Do not operate the dispensing system in hot engines, lighted cigarettes, or gas or electric heaters.

D4 PACKAGING

FOREWORD Kaco B/3 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

D5 PACKAGE CONTENTS/PRE-INSPECTION

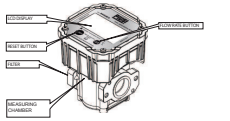
FOREWORD To open the packaging, use a pair of scissors or a cutter, being careful not to damage the dispensing system or its components.

NOTICE — Is the event that one or more of the components described below are missing from inside the package, please contact Pluss inc technical support.

Check that the data on the label 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.

E HOW K600 B/3 WORKS: GENERAL

Kaco B/3 represents a family of meters developed to satisfy a wide range of requirements for the control, measurement and dispensing of non-corrosive fluids such as oil, diesel, kerosene, petrol, lubricants and other viscous oil products of given fluid 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 displacement 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 transducer located in the meter, allows the transmission of the rotation of the gears to the mechanical counter, and reduces 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 measuring chamber is made of aluminium and fitted with connectors 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.



E1 COMPATIBLE LIQUIDS

The liquids compatible with Kaco B/3 are at low viscosity, namely:
- DIESEL FUEL
- MOTOR OIL - SYNTHETIC / MINERAL

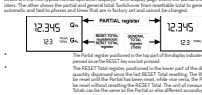
WARNING — **DO NOT USE WITH GUMMIES LIQUIDS**

WARNING — *PLANT OPERATION RESTRICTIONS IT IS FORBIDDEN:*
1 ***To use the appliance in a construction configuration other than that contemplated by the manufacturer***
2 ***To use the appliance with fixed guards tampered with or removed.***
3 ***To integrate other systems and/or equipment not considered by the manufacturer in the execution project.***
4 ***To connect the appliance up to energy sources other than those contemplated by the manufacturer***
5 ***To use the commercial devices for purposes other than those indicated by the manufacturer.***
6 ***Do not use in case of lightnings***

E2 DISPLAY LCD

FOREWORD The "LCD" of the K600 B/3 features two numerical registers and various indications displayed to the user only when the applicable function so requires.

1 Partial register (5 figures with moving comma FROM 0.1 to 99999 indicating the volume dispensed since the reset button was last pressed
2 Indication of battery charge
3 Indication of calibration mode
4 Totals register (6 figures with moving comma FROM 0.1 to 999999 that can include two types of Total:
4.1. General Total that cannot be reset (TOTAL)
4.2. Resettable total (Reset TOTAL)
5 Indication of total multiplication factor (x10 / x100)
6 Indication of type of total (TOTAL / Reset TOTAL)
7 Indication of unit of measurement (Litre, Gallons, Cubic Gallons, Cubic Litre)
8 Indication of Flow Rate mode
9 Indication of unit of measurement of Partial Counter (Litre, Gallons, Cubic Litre, Cubic Gallons)



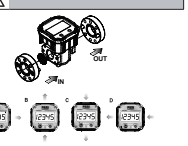
Measurement Chamber The measurement chamber is located in the lower part of the instrument. It features a threaded inlet and outlet.
The measurement chamber provides access to the measurement mechanism for any cleaning operations.
Inside the measurement chamber are the end gears which, on turning, generate electrical pulses which are processed by the microprocessor-controlled electronic board. By applying a suitable calibration factor (meaning a "weight" associated with each pulse generated by the rotation of the end gears), the K600 B/3 can convert the rotation expressed in the set units of measurement, displayed on the partial and total registers of the LCD. All the meters are factory set with a calibration factor which, in the case of the K600 B/3 meter, is equal to 1000.
For best meter performance - and to ensure the intrinsic characteristics of the fluid to be measured - the instrument can be "calibrated". It is possible to return to factory calibration at any time.

Measurement Chamber The METER is powered by two standard type 1.5 V batteries (size R6). The battery housing is closed by a threaded watertight cap that can be easily removed for quick battery change.

E3 DISPLAY POSITIONING

FOREWORD The square shape of the Kaco B/3 body allows the unit to be rotated in its housing, thus ensuring great versatility in positioning.
The display is secured with a screw.
Unscrew the screw, remove the display
Extract the display from its housing

WARNING — ***When removing the display of Kaco B/3, be careful to avoid pinching the cable.***



F INSTALLATION

Kaco METER or PULS OUT features a 1-inch or 34mm inlet and outlet, depending on the fluid for which they were calibrated. Threaded and perpendicular. It is designed for fixed in-line installation.
Make sure the threaded connections do not interfere with the inside of the measuring chamber causing damage to the meter.
Do not use mechanical connections which may damage the meter body or the connection flanges.
Only the PULS OUT version must be connected by means of 2 cables according to the electrical features in the diagram.
IMPORTANT: CARRY OUT INSTALLATION BY PLACING THE SUCTION FILTER.

REMOTE DISPLAY CONNECTION DIAGRAM WITH PULSE TRANSMITTER (Pulse Out) - EXTERNAL / INTERNAL POWER

ATTENTION: Before the external power connection, remove the battery from battery housing
EXTERNAL POWER AND REMOTE COUNTER
Vcc
Gnd
Pulse
Vcc
Gnd
Pulse Out
Vcc
Gnd
Pulse Out
Input 9-24 Vdc
Pulse Out
Gnd
Vcc
Gnd
Pulse Out
Vcc
Gnd
Pulse Out
Vcc
Gnd
Pulse Out