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1 CONFORMITY

1.1 DECLARATION OF CONFORMITY (2014/34/UE)

The manufacturer: PIUSI S.p.A. Via Pacinotti, 16/A - z.i. Rangavino 46029 Suzzara (MN) Italy

Declares under its own and sole responsibility that the machine: Meter K33 ATEX Year of manufacture: refer to the year of production shown on the CE plate affixed to the PRODUCT.

CERTIFIES THAT comply with all relevant provisions of the following directives: - 2014/34/UE and the following harmonized standards, applied standards and/or technical specifications: UNI EN 1127-1:2011, UNI EN 80079-36:2016, UNI EN 80079-37:2016

This equipment is classified as follows: Group II, category 2G Ex h IIB T6 Gb

Read the Use and Maintenance manual before using the pump.

Place: Suzzara (MN) Date: 01/05/2023 Otto Varini Legal Representative

2 MACHINE DESCRIPTION

K33 ATEX is mechanical flow meter with nutating disk, designed to allow a precise measurement of Diesel oil or other fluids compatible with the manufacturing material.

WARNING To ensure a proper and safe use of the meter it is necessary to read and follow the instructions and warnings contained in this manual.

2.1 DEFINITION OF CLASSIFIED ZONES

FOREWORD ZONE 0 Definition of zones as shown in directive 99/92/CE Place where an explosive atmosphere made up of a mix of air and inflammable substances...

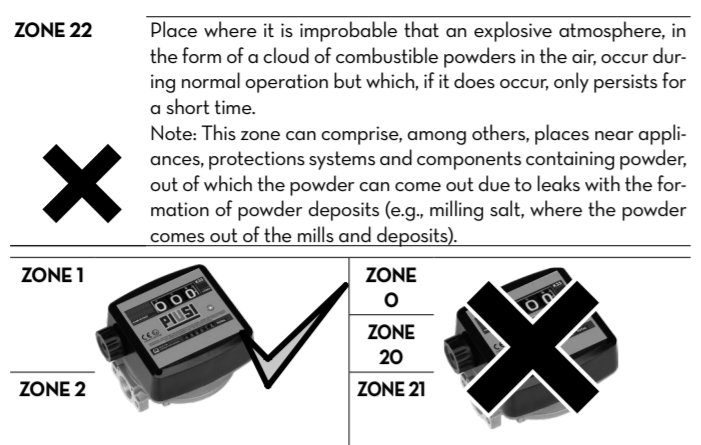
ZONE 1 Place where it is probable that an explosive atmosphere, made up of a mix of air and inflammable substances in the form of gas, vapour or mist, can occur occasionally during normal operation.

ZONE 2 Place where it is improbable that an explosive atmosphere, made up of a mix of air and inflammable substances in the form of gas, vapour or mist, can occur during normal operation, but which, if it does occur, only persists for a short time.

ZONE 20 Place where an explosive atmosphere in the form of a cloud of combustible powders in the air is continuously present, either for long periods or frequently.

ZONE 21 Place where it is probable that an explosive atmosphere, in the form of a cloud of combustible powders in the air, can occur occasionally during normal operation.

ZONE 21 Note: Said zone can include, for example, among others, places in the immediate vicinity of powder loading and emptying points and places where powder layers form or which, during normal operation, could produce an explosive concentration of combustible powders mixed with the air.



2.2 INTENDED USE

WARNING INTENDED USE APPLIANCE FOR THE MEASUREMENT OF FUEL SUITABLE FOR OPERATING IN ZONES CLASSIFIED "1" AND "2", ACCORDING TO DIRECTIVE 99/92/CE

FORBIDDEN USE Using the appliance for fluids other than those listed at paragraph "H2 - Fluids permitted" and for uses other than those described at the item "authorised use" is forbidden.

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 use the appliance in places where there is risk of explosion and/or fires classified in the following zones: 0, 20, 21, 22.

2.3 HANDLING AND TRANSPORT

Due to the limited weight and dimensions of the METERS, special lifting equipment is not required to handle them. THE APPLIANCES ARE CAREFULLY PACKED before dispatch. Check the packing when receiving the material and store in a dry place.

3 GENERAL WARNINGS

Important precautions To ensure operator safety and to protect instrument 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 Important note for guaranteed safety in classified zones 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 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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NOTE THIS MANUAL IS VALID ONLY FOR K33 ATEX METER

WARNING BEFORE PROCEEDING WITH THE REFUELLING OF THE AIRCRAFT, ENSURE THAT THE SYSTEM INTENDED FOR SUCH ACTION COMPLIES WITH THE REGULATIONS IN FORCE IN THE COUNTRY OF USE

WARNING USE THE METER ONLY WITH FLUIDS PERMITTED. DO NOT USE WITH FLUIDS NOT PERMITTED TO AVOID DAMAGING THE INSTRUMENT.

WARNING BEFORE CONNECTION, MAKE SURE THAT THE PIPING AND THE SUCTION TANK ARE FREE OF DIRT AND SOLID RESIDUE THAT COULD DAMAGE THE METER AND ITS ACCESSORIES.

WARNING BEFORE USING THE PUMP SWITCH OFF ALL THE ELECTRONIC DEVICES (I.E. MOBILE PHONES, BEEPERS ETC.)

4 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.

NOTE Please refer to the safety data sheet for the product

SMOKING PROHIBITED DO NOT SMOKE NEAR THE METER AND DO NOT USE THE INSTRUMENT NEAR FLAMES.

5 GENERAL SAFETY RULES

WARNING USER'S RESPONSIBILITY IT IS ESSENTIAL TO GET TO KNOW AND UNDERSTAND THE INFORMATION CONTAINED IN THIS MANUAL. IT IS ESSENTIAL TO GET TO KNOW AND OBSERVE THE SAFETY SPECIFICATIONS FOR FLAMMABLE LIQUIDS.

Essential protective equipment characteristics IN CASE OF CONTACT WITH THE PRODUCT AND FOR GOOD STANDARD OF BEHAVIOUR, wear protective equipment which is: - suited to the operations that need to be performed; - resistant to products used

Personal protective equipment that must be worn safety shoes, close-fitting clothing, protection gloves, safety goggles

Necessary safety devices Protective gloves instructions manual

NOTE TO PREVENT ELECTRIC SHOCK AND DETONATION OF SPARKS, ALL PUMPING SYSTEM MUST HAVE PROPER GROUNDING, INCLUDING TANK AND ANY ACCESSORIES.

WARNING FAILURE TO OBSERVE THE ABOVE MENTIONED RULES CAN CAUSE SERIOUS ACCIDENTS

6 TECHNICAL DATA

Table with 2 columns: Technical data and Mod. K33 ATEX. Includes rows for Meter Mechanism, Flow rate, Operating pressure, Burst pressure, Storage temperature, Storage humidity, Operating temperature, Pressurer loss with diesel oil, Accuracy after calibration, Repeatability, Batch total readout, Totaliser readout, Readout resolution, Connections, Weight, Package dimensions, and Optional features.

7 OPERATING CONDITIONS

7.1 ENVIRONMENTAL CONDITIONS

Table with 2 columns: Ambient Temperature and Fluid Temperature. Shows min and max values in °C and °F.

WARNING The temperature limits shown apply to the METER components and must be respected to avoid possible damage or malfunction.

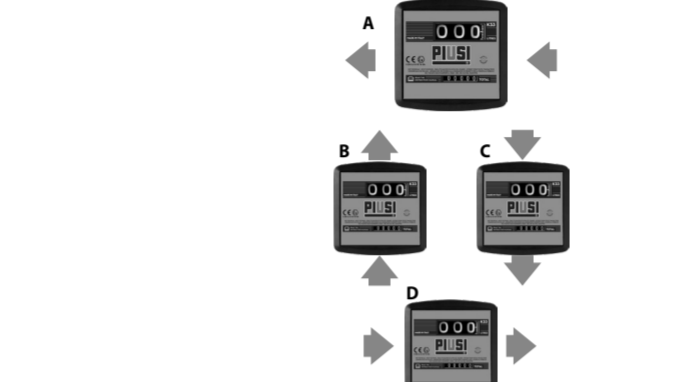
7.2 FLUIDS PERMITTED

WARNING THE METER CAN BE USED ONLY WITH THE FOLLOWING FLUIDS: - DIESEL - KEROSENE - PETROL - PETROL ALCOHOL MIXED MAX 20% (E20) - AVGAS 100/100LL - JET A / A1 - ASPEN2/4

8 INSTALLATION

FOREWORD

The meters K33 ATEX can be installed in any position, on rigid pipelines or flexible hoses, directly on pumps or tanks. The meter flow direction is fixed and indicated by an arrow.



WARNING BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS

The meter must never be operated before the delivery and suction lines have been connected.

PRELIMINARY CHECK - Verify that all components are present. Request any missing parts from the manufacturer. - Check that the meter has not suffered any damage during transport or storage.

WARNING IF VALVES IN THE CIRCUIT ARE TO BE INSTALLED, MAKE SURE THEY ARE EQUIPPED WITH OVER-PRESSURE SYSTEM. CLEAN THE TANK AND MAKE SURE IT IS WELL-VENTILATED (RECOMMENDED OPENING PRESSURE: 3 psi) APPLY THE QUICK COUPLING TO THE TANK CORRECTLY AND SAFELY

9 CALIBRATION

FOREWORD

K33 ATEX are pre-calibrated in factory to be used with Diesel oil. As specific operating conditions (such as real flow rate, nature and temperature of the measured fluid) may affect the meter accuracy, a re-calibration should be carried out after the installation has been completed.

1 Unscrew the plug (see diagram 1, pos. "14"). Purge the system (pump, pipelines, meter) of air by dispensing until the flow stream is full and steady.

2 Stop the flow by shutting off the nozzle, but let the pump running. Reset the batch register by means of the reset knob (pos. "2").

3 Dispense at the flow rate which the best accuracy is required at, by using a calibration container having a capacity not lower than 20 litres. Do not reduce the flow in order to reach the graduated zone of the calibration container.

4 Tighten the plug (pos. "14") again. The O ring which the calibration screws provided with, has the function to avoid accidental loosening of the adjustment screw but does not have any sealing functions.

5 Compare the indication of the calibration container (real value) with the one of the meter (indicated value). - If the indicated value is higher than the real value, loosen the screw (pos. "12").

6 Repeat the operations 4 to 6 until accuracy is satisfactory.

7 Tighten the plug (pos. "14") again. The O ring which the calibration screws provided with, has the function to avoid accidental loosening of the adjustment screw but does not have any sealing functions.

8 Tighten the plug (pos. "14") again. The O ring which the calibration screws provided with, has the function to avoid accidental loosening of the adjustment screw but does not have any sealing functions.

10 EVERY DAY USE

WARNING THE WORKING OPERATIONS MUST ALWAYS BE GUARDED BY THE OPERATOR. Should any sealants be used on the suction and delivery circuit of the pump, make sure that these products are not released inside the meter.

USE After installation and calibration K33 ATEX is ready to work. Turn the reset knob (see diagram 1, pos. "12") (clockwise if it is mounted on the left of the meter and anticlockwise if it is mounted on the right) until the batch register is completely reset.

USE BY GRAVITY K33 ATEX can also be used in fuel units which are not equipped with pump and send the flow is generated by the difference in fuel level between the tank and the nozzle outlet.

WARNING BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS The meter must never be operated before the delivery and suction lines have been connected.

11 MAINTENANCE

FOREWORD

No ordinary maintenance is required provided that the meter K33 ATEX is properly installed and used. An incorrect filtering on the meter inlet may block or wear out the measuring chamber, thus affecting the meter accuracy.

WARNING TO MAINTAIN THE SAFETY OF THE APPLIANCE, IT IS MANDATORY TO REPLACE THE DAMAGED PARTS. FOR SAFETY PURPOSES, YOU MUST USE ONLY GENUINE SPARE PARTS.

Safety instructions During maintenance, the use of personal protective equipment (PPE) is compulsory. In any case always bear in mind the following basic recommendations for a good functioning of the METER.

WARNING BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS

Authorised maintenance personnel All maintenance must be performed by qualified personnel. Tampering can lead to performance degradation, danger to persons and/or property and may result in the warranty and UL/ATEX CERTIFICATION being voided.

Measures to be taken ONCE A WEEK: - Check that the pipe connections are not loose to prevent any leaks;

12 DISASSEMBLING REASSEMBLING

FOREWORD

K33 ATEX METER can be easily disassembled into its main parts without removing the body from the pipes.

METER UNIT To disassemble the meter unit operate as follows: A Remove the reset knob by firmly pulling it axially.

B Loosen the 4 retaining screws (see diagram 1, pos. "7").

C Loosen the 2 screws (pos. "5"). To reassemble the unit reverse the procedure described above.

RESET KNOB To modify the reset knob position: A Perform only the operations a) and b) described above.

B Take out the plug (see diagram 1, pos. "4") by pushing it from the inside towards the outside of the cover.

C Fix again the plug on the opposite hole by placing it inside the cover and pushing it outwards.

D Fix again the meter cover and reset knob. To enter the measuring chamber operate as follows: A Disassemble the meter unit.

B Loosen the eight screws (see diagram 1, pos. "7").

C Remove the body cover (pos. "8") together with the gear unit. During this operation be careful not to damage the gasket (pos. "10").

D Remove the whole measuring chamber (pos. "11") by lifting it from the meter body and at the same time pulling it back towards the inlet in order to remove the O ring (pos. "16") from its seat at the outlet.

13 PROBLEMS, CAUSES AND SOLUTIONS

For any problems contact the authorised dealer nearest to you. Problem: Leak from the shaft gasket. Possible cause: Damaged gasket. Corrective action: Remove (see section "Gear unit") and replace the O ring and the bush.

Insufficient accuracy: Wrong calibration. Corrective action: Repeat calibration following the instructions in section "Measuring chamber".

Reduced flowrate: Clogged or blocked measuring chamber. Corrective action: Clean the measuring chamber following the instructions in section "Measuring chamber".

Soiled or blocked measuring chamber. Corrective action: Clean the measuring chamber following the instructions in section "Meter unit".

Air in the fluid. Corrective action: Locate and eliminate leaks in inlet lines.

Blocked or soiled filter. Corrective action: Clean the filter.

Blocked or soiled filter. Corrective action: Clean the filter.

14 DEMOLITION AND DISPOSAL

FOREWORD If the system needs to be disposed, the parts which make it up must be delivered to companies that specialize in the recycling and disposal of industrial waste and, in particular:

Disposing of packing materials: The packaging consists of biodegradable cardboard which can be delivered to companies for normal recycling of cellulose.

Metal Parts: Metal parts, whether paint-finished or in stainless steel, can be consigned to scrap metal collectors.

Disposal Miscellaneous parts disposal: Other components, such as pipes, rubber gaskets, plastic parts and wires, must be disposed of by companies specialising in the disposal of industrial waste.



EN Installation, use and maintenance manual IT Manuale di installazione uso e manutenzione

BULLETIN M0268D ITEN...01

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