RE

NITTOSEIKO

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Micro oil Meter

INSTRUCTION MANUAL

MNV14551 25.07

Thank you for purchasing a compact rotary flow meter of our make this time. This instruction manual explains various cautions necessary for operation of this flow meter. The user is kindly requested to read through this manual so that this flow meter may be used correctly and in safety for a long period of time to his satisfaction. For any inquiry about this flow meter or order of spare parts, please let us know the type and the serial No. indicated on the nameplate without fail.

Precautionary Instructions for Installation

1. Requirement of Flushing Pipeline

Before installing the micro oil meter, thoroughly flush the pipeline to.wash out dirt, slag and other foreign matters remaining therein after the piping work.

2. Protection from Excessively High Air Flow

At the initial stage of operation, air in the pipeline is discharged at.a high speed. Since.the micro oil meter works also with air, open the valve slowly keeping watch on the readings on the oil meter, to prevent the rotor of the meter from damage due to the rotation・ at high speeds.

1. Components

1. Flow meter
2. Strainer, 100 mesh Y type (to be delivered on request)

2. Principle of Measurement.

The micro oil meter which works on the same principle as with rotary piston type flow meter is equipped with an LCD counter at its display section.

As a fluid flows in through the meter, magnetic field created around the magnet 14 fitted in the rotor 13 causes a pulse which is proportional to the flow rate of the fluid to be sent off from the reed relay 17 at a rate of 10mL/pulse with the actual value for the flow rate being displayed on the LCD counter 18.

3. Specification and Construction

For detailed specification of the micro oil meter, refer to the catalog of the product. For its construction, refer to the construction drawing included in the catalog.

4. Handling

Since the micro oil meter is a highly sophisticated precision instrument, exercise a great care in carrying and installation.

a) Transport and storage

Use particular care when carrying the meter not to give it severe shocks. Abstain from storing it under other objects to keep it safe from strain or breakage.

b) Installation

Due consideration should be given to the following points prior to the installation of the meter.

(1) Before installation, thoroughly flush the pipeline to expel foreign matters remaining in it.

(2) Preferred place of installation

a) Place which is subject.to no corrosive gases or dust

b) Place with least chance of exposure to vibration or variations in operational pressures

c) Place of least chance of humidity or splashes of rainwater

d) Place where access for check is readily available

(3) If the liquid temperature or the ambient temperature should exceed +60°C, be sure to separate the display section (counter) from the flow meter proper without fail.

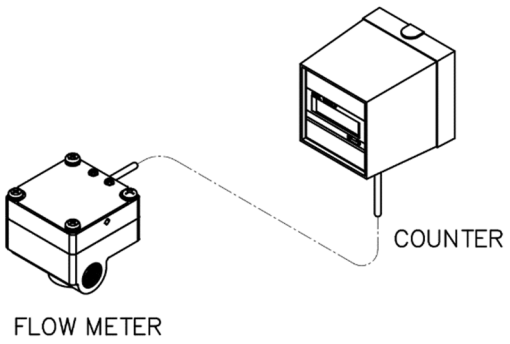


fig.1

(4) Position of installation

There is no restriction on the positioning the oil meter with respect to the direction of flow of the fluid handled. So, you can install it in the desired position that fits your requirement.

(5) Dry cell

The micro oil meter operates on a lithium dry cell which lasts for more than 7 years, but cannot be replaced with a new one when it is ･ depleted.

(6) Piping

In consideration of the case in cleaning the strainer and access for maintenance of the oil meter, arrangement of the piping as shown below is recommended.

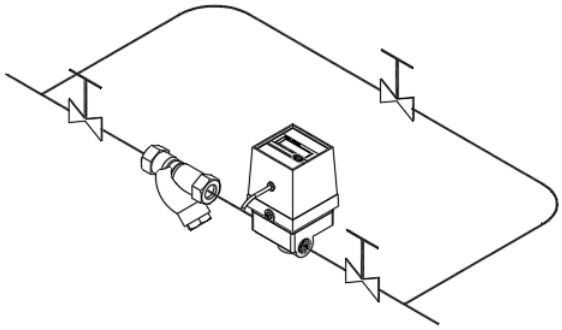


fig.2

(7) Change in the direction of recognition of reading given on the LCD display

If it is so desired, unscrew the cross recessed head screws at the points as shown in the figure, rotate the counter by 180° and replace it.

(8) Important precautionary instructions

(a)Be sure to install a strainer for the oil meter. Also, strictly observe the range of specified flow rates, operational pressure and temperature as indicated on the name plate.

(b) Upon completion of installation, close the valves at both intake and delivery sides, and also close the valve installed in the by-pass line. Use special care to prevent entry of dust, dirt,etc. into the meter as most of the troubles encountered with it is attributable to the clogging of such foreign matters in the instrument.

5.Measurements value

This represents that the integrated (accumulated) amount of fluid that has been allowed to flow in the pipeline through the micro oil meter is 289.68 liters.

Momentary flow rate can be obtained through the measurement of the counting speed of the counter per unit hour, for example:

Integrated amount read upon completion of measurement 490.00L.

Integrated amount read at the beginning of measurement 488.50L.

Duration of measurements:41 seconds.

Then, the momentary flow rate (490.00-488.50) L / 41sec × 3600sec = 131.7L/H

6. Zero Resetting of Counter

When zero resetting of the counter is desired.with the model equipped with a counter with this function, press in the square push button under the counter.

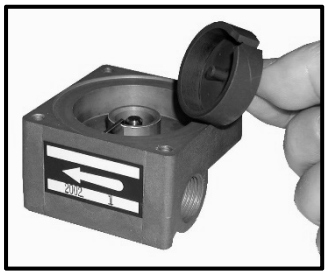
7.Disassembly

(1) Loosenning 2 pcs. of M4 screws, separate counter from measuring chamber.

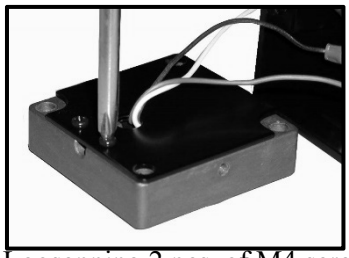
(2) Loosenning 4 pcs. of MS screws, remove measuring chamber cover 16.

(3) Disassembled measuring chamber unit.

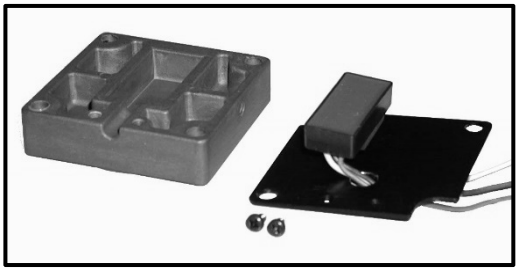
(4) Check if rotor 13 rotates srnrnothly.



(5) If it does not move smoothly, clean rotor and measuring chamber.



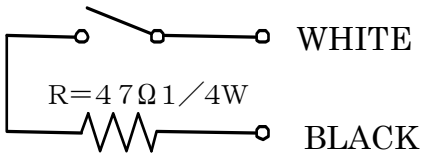
(6) Loosenning 2 pcs. of M4 screws, remove reed relay unit 17.



(7) If it does not operate properly,change it with new one.

8.Wiring of Reed Relay

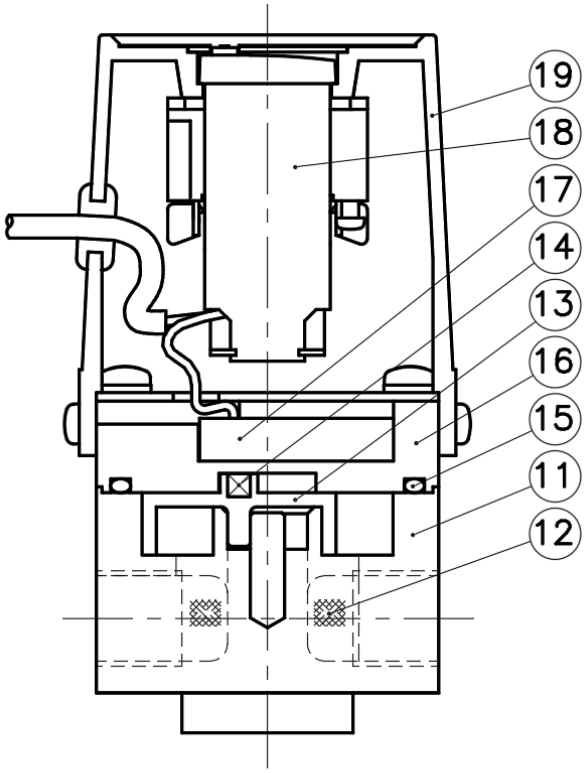
Reed relay unit contains two read switches; one is for counter operation and other is for remote indication purpose.



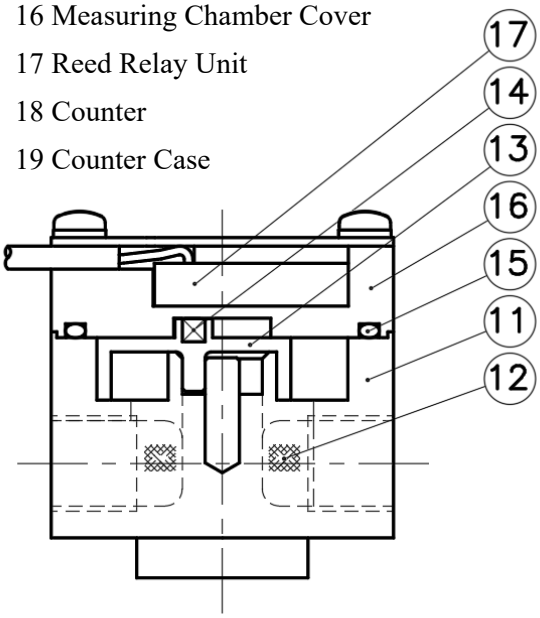
9.Structural Drawing

Parts Name

11 Measuring Chamber Unit
12 Built-in Filter
13 Rotor
14 Magnet
15 0 Ring
16 Measuring Chamber Cover
17 Reed Relay Unit
18 Counter
19 Counter Case



LOCAL INDICATION TYPE



WITHOUT LOCAL INDICATION TYPE

Product warranty

The products and specifications described in this document are subject to change (including specification change and production termination) without notice for product improvement. When you consider using or ordering the product described in this document, please contact us as appropriate to confirm that the information described in this document is the latest.

This product is manufactured and inspected under the appropriate quality control as an industrial instrument, and delivered. However, failure may occur due to an unexpected cause. When this product is used for process control that may cause serious problems in terms of safety, safety can be achieved by duplicating the control system, such as adding equipment that performs the same function in addition to this product. Acceptance inspection will be conducted promptly for the purchased product, and with regard to the handling before or during the acceptance inspection of this product, please give due consideration to management and maintenance.

Warranty period

The warranty period for this product is one year after delivery.

The warranty period shall start from the date of the form (delivery note, installation commission confirmation, receipt).

Scope of warranty

If a failure or defect is found in our product during this warranty period due to our responsibility, we will provide replacement products, or replace or repair the defect part free of charge.

However, if any failure or damage falls under any of the following articles, this warranty does not apply.

1. **When it originates in the specification and the standard specified you, your handling method, etc.**
2. **In the case where the change in structure, performance, specifications, etc which carried out after purchase or delivery, and in which we are not involved.**
3. **When it is due to a phenomenon that cannot be foreseen by the technology that has been put into practical use on or before the time of purchase or contract.**
4. **When used out of range of conditions and environment described in catalogs and specifications.**
5. **In case where this product is used incorporated into your device and the damage could be avoided by the device function which should have in general concept.**
6. **Due to natural disasters or force majeure**
7. **Consumables such as batteries and relays, and optional items such as cables.**

In addition, the warranty mentioned here is limited to the warranty of the product purchased or delivered, and the damage caused by the failure of this product or damage is excluded.

NITTOSEIKO CO.,LTD.

Control System Division Global Sales Section
Website: https://global.nittoseiko.com/

【Website】 【Inquiry Form】