Oval gear flow meter RIZUR-DOM

Intended use and application area

Oval gear flow meters RIZUR-DOM are used primarily for the control of the viscous medium. Positive-displacement flowmeters are a device for efficient and exact measurement of the flow of liquids with high viscosity (up to 1 mil cP).

With this technology there's no need for the flow control or the straight parts of the pipeline rule (which is compulsory for the operation of the majority of other flow meters). As a result, RIZUR-DOM is a compact and efficient solution on flow meter of almost any clean media.

Temperature drops in some types of media, e.g. oils, can cause the change in viscosity. In such cases, volumetric measurement principle along with the Coriolis one provide most accurate results for flow measurement.

RIZUR-DOM is designed for the measurement of volume flow rate of clean liquids that are under pressure (up to 400 bars) or are moving under their own weight, regardless of their viscosity and conductivity - petroleum, diesel, kerosene, animal and vegetable oils, natural or synthetic oils, chemicals, additives, paints, glue, emulsions, solvents, etc.

Flow meters RIZUR-DOM are used in petrochemical, chemical, pharmaceutical, food and fuel and energy branches of the industry.

Design description and functions

Oval gear flow meters RIZUR-DOM are positive-displacement flowmeters. They have two oval gears inside. The spaces between the gears and the frame are called chambers. The oval gears start moving under the influence of the liquid flow, driving the liquid through the flow meter with each turn.

Each full turn (360°) of the oval gear is equal to some amount of liquid. When the flow changes, so does the number of turns.

Since the amount of liquid passing through the flow meter is always the same, regardless of the flow speed, then the total discharge can be calculated by simply counting the number of gear turns. For that purpose, there're magnets on the gears themselves that produce a series of high-resolution impulses. The flow meter can be supplied with an impulse output, as well as with a secondary transducer (compact or separable design version), with an analogue output 4-20 mA, HART or others. On request, flow meter can be supplied with a mechanical or electronic summator.

Technical specifications

Measuring range, l/h	0,5 ... 150000
Nominal pressure, bar	Up to 400
Medium viscosity, centipoise	Up to 1000
Process temperature, °C	Up to +120
Accuracy, %	0,2 ... 1 of the measured medium
Output signal	Impulse; analogue 4-20mA; HART (other types on request)
Housing and gear wheels material	Cast iron; aluminium; stainless steel
Process connection	Thread, flange
Ambient temperature, °C	-40 ... +60 (-70 ... +60 with a soft enclosure)
Power supply	Without power supply; 8... 24V DC; batteries
Explosion protection marking	0 Ex ia IIB T4 Ga X; 1 Ex d IIB T4 Gb X

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INQUIRY FORM №_____

Oval gear flow meter RIZUR-DOM, Impeller flowmeter RIZUR-DOR, Turbine type flowmeter RIZUR-DOT

Technical regulations
TU 26.51.52-001-12189681-2018

Company name	
Contact person, position	
Contact details, tel., e-mail	
Number of flow meters, pcs.	
Process information	
Medium	
Operating pressure, MPa	
Medium density, kg/m^3	
Medium viscosity, mPa·s	
Operating temperature, °C	
Ambient temperature, °C	
Flow (minimal, nominal, maximal), kg/h	
DN of the pipeline, mm	
Explosion protection: yes (specify the marking)/no	
Flow meter information	
Design version (compact or separable)	
Cable length (for the separable version), m	
Connection type, flange (DN, mm/NP, MPa) or other	
Constriction devices (DN 1, mm /DN 2, mm)	
Measuring pipe material (titanium, stainless steel, Hastelloy)	
Electric output	
Power supply (=,~), V	
Accuracy, %	
Acceptable pressure difference, bar	
Mating flanges (2 pcs.); yes/no	
Additional requirements	

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