

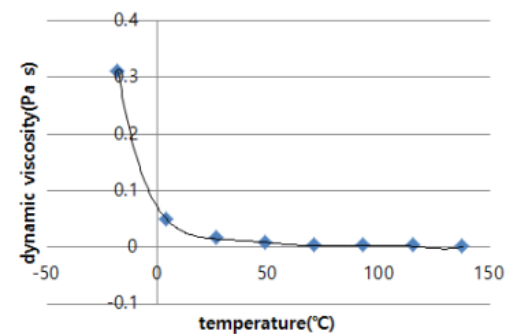
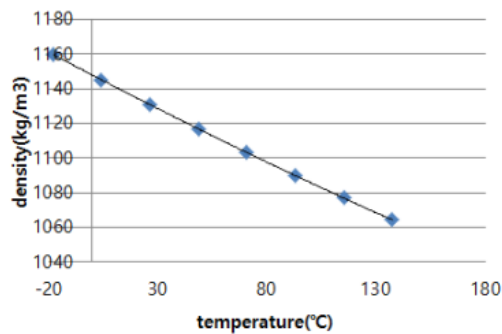
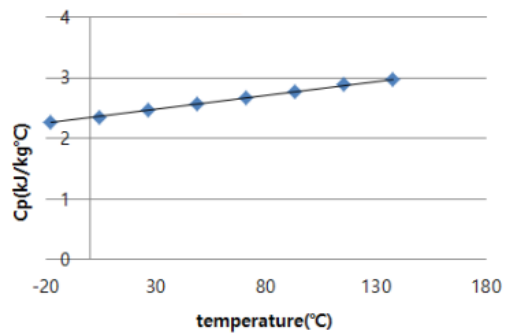
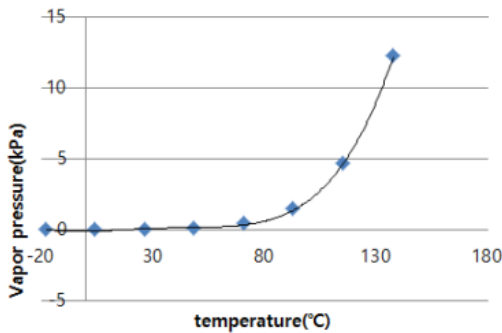
## Oil metering injection flow system



# 1. Oil metering injection flow system

Perfect for a quick dose injection at once!

Since antifreeze has ethylene glycol as its main component and expands in volume in response to the ambient temperature in summer and winter, a difference in weight occurs at the same volume. The volumetric expansion coefficient of ethylene glycol is 0.00057 per 1°C, and the volume increases by about 2.5% at 48.9°C than at 4.4°C



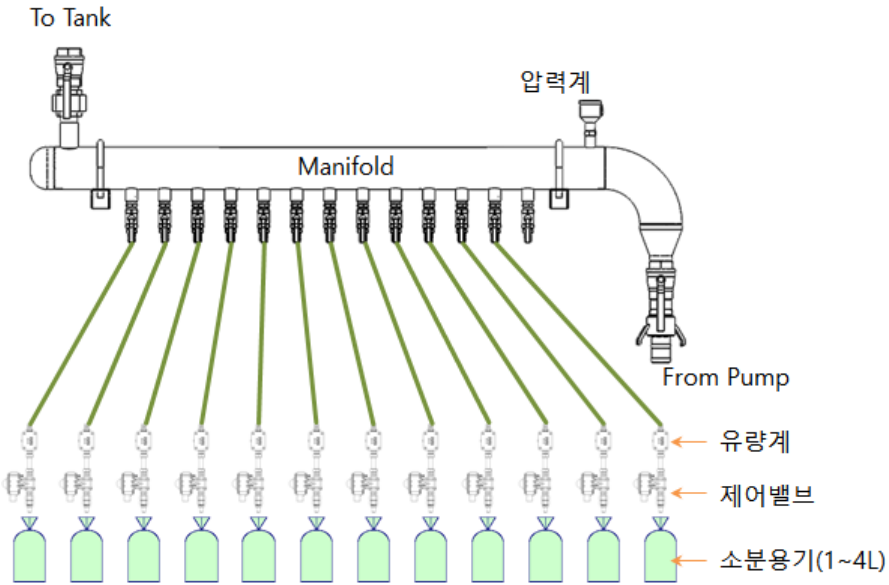
Physical properties of ethylene glycol (vapor pressure, constant pressure specific heat, density, viscosity coefficient)

Weighing that reflects volumetric expansion as a function of temperature is most necessary. If the temperature is almost constant, you can use the K-factor (number of pulses per unit flow rate) or M-factor (flow rate per unit pulse) of the flowmeter to perform accurate subdivision metering.

Golden Rule Co., Ltd. succeeded in injecting 1 to 4 liters of antifreeze into the parent company's antifreeze subdivision line by using a volumetric oval gear, and when injecting 4 liters, productivity was greatly improved by reducing the time from 14 seconds to 7 seconds, and after injection it was confirmed that it was finished cleanly without any residue falling off. As a fixed-rate injection flow system, a flow meter, control valve, pressurized pump, antifreeze manifold, PLC controller, and UI are all in one set.

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Subdivision Line Quantitative Injection Flow System



Subdivision line flow system

Golden Rule Co., Ltd.'s oval gear flowmeter specifications are as follows. It is in the form of a female screw combination, and applies 6 types of oval gears, with a minimum of 0.5 L/h and a maximum of 5000 L/h. The case and rotor are made of stainless steel and aluminum. is being produced. It is recommended to use an aluminum rotor in terms of rotor rotational force and pressure loss.

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Perfect for a quick dose injection at once!

Item	GR-03	GR-06	GR-08	GR-10	GR-20	GR-25
Fluid	Liquid, Oil, Diesel, Gasoline, Antifreeze, Urea solution					
Accuracy	± 0.5 %					
Max. pressure	5 MPa					
Temperature	-40 ~ 120 °C					
Flow rate	0.5 ~ 50 L/h	5 ~ 150 L/h	10 ~ 300 L/h	20 ~ 700 L/h	100 ~ 2000 L/h	400 ~ 5000 L/h
K-factor	7812 P/L	2583 P/L	781 P/L	415 P/L	252 P/L	100 P/L
Power	12 ~ 24V DC					
Output signal	NPN open collector					
Connection(Female)	PT 1/4"	PT 1/4"	PT 3/8"	PT 1/2"	PT 3/4"	PT 1"
Material	Aluminum, Stainless Steel					
Wire	Ground(-), Power(+), Signal(-)					

(Golden Rule) Oval Gear Capacity Flow Meter Specifications



The driving principle of the flowmeter is that two gears with precise teeth are engaged and rotated when the fluid flows. At this time, the rotational speed is picked up and sent out as pulses, and the accuracy is maintained at ± 0.5%. For liquids, it can be applied mainly to water, light oil, waste oil, urea solution, oil, and high-viscosity fluids. The toothed rotor is anodized and the rotor shaft is Teflon-coated, eliminating the need for separate bearings.

Golden Rule Co., Ltd.'s subdivision line metered injection flow rate system greatly improves productivity, resulting in high customer satisfaction.



**Golden Rules**

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KC Q ISO 9001 : 2015

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