

2027

Mass Flow Meter



1805, Building A, Smart Valley, 30 Songdo Mirae-ro, Yeonsu-gu, Inc

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홈페이지 바로가기

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Golden Rule Co., Ltd. Company Introduction

1. Summary

❖ **Company name** : Golden Rules Co., Ltd.

❖ **Location**

Headquarters / Research Institute / Factory:

A-1805, 30 Songdomirae-ro, Yeonsu-gu, Incheon, Korea

Factory 2 :

E-306, 30 Songdomirae-ro, Yeonsu-gu, Incheon, Korea

❖ **Company establishment history**

- Founded: October 1, 2004, KC Mess Korea
- Company name change and incorporation: June 19, 2014, Golden Rule Co., Ltd.

❖ **certification**

- ISO9001:2015, ISO14001:2015
- Direct Production Confirmation Certificate
- KC/CE Certification
- KGS, ATEX Explosion-proof certification
- Venture Business Confirmation Certificate : 2025.04.08
- Certificate of Recognition for Research and Development Department : 2015.3.24

❖ **Patent**

- THERMAL MASS FLOWMETER : 2026.05.25 NO. 10-0158125
- THERMAL MASS FLOWMETER : 2016.09.21 NO. 10-1660226
- FN-MASS FLOWMETER : 2016.03.21 NO. 10-1604407호
- Golden Rule trademark registration : 2015.07.20 NO. 40-1118499

Golden Rule Co., Ltd. Company Introduction

CEO Greeting

Golden Rule Co., Ltd. is Korea's only domestically produced mass flow meters and total instruments, boasting trust and expertise. Golden Rule Co., Ltd. is a specialized manufacturer.

Leveraging 37 years of experience in steam and gas engineering at Konics Co., Ltd., Woojin Group Co., Ltd., and HiTrol Co., Ltd., along with accumulated German technology, we have developed a mass flow meter domestically.

After 14 years of proven performance in pilot plants and R&D, we supply our products as import substitutes to government agencies and various industries, and we also export them overseas.

Golden Rule's domestically developed products, including thermal mass flow meters for gas, FN mass flow meters for steam, gas, and liquids, and Coriolis mass flow meters, essential for all industries, are used for precision measurement in plants such as aerospace, semiconductor, automotive, steel, power plants, petrochemicals, chemicals, shipyards, heat treatment furnaces, tires, and food and beverage.

We have become a total instrument manufacturer that supplies volumetric flow meters and measuring instruments to meet customer needs. We would appreciate it if you could experience the best domestic technology, solutions, and service.

Company symbol



The † in the middle signifies the power of Jesus' †, which connects the two worlds. "Do to others as you would have them do to you," "for this is the Law and the Prophets" (Matthew 7:12).

Management Philosophy

- God and the World
- Company and People
- CEO and Employees

Company spirit

- The Golden Rule: Company Goals
- Treat God as King ~ Receive Responses
- Treat People as Kings ~ Win People
- "Whatever you do, work at it with all your heart, as working for the Lord and not for human masters" (Colossians 3:23)

Vision

- Golden Rule Co., Ltd. continuously strives to create value and support the success of its partners in the spirit of the Golden Rule.
- Golden Rule Co., Ltd. is committed to becoming God's entrepreneur, dedicating itself to product development, research, management guidance, and training.
- Golden Rule Co., Ltd. aims to become a recognized leader in the domestic industry in the mass flow meter industry.
- Golden Rule Co., Ltd. aims to become a manufacturing company that consistently provides customers with the best technology and quality.
- Golden Rule Co., Ltd. aims to become a company that provides the best after-sales service, ready to respond to customers' requests.

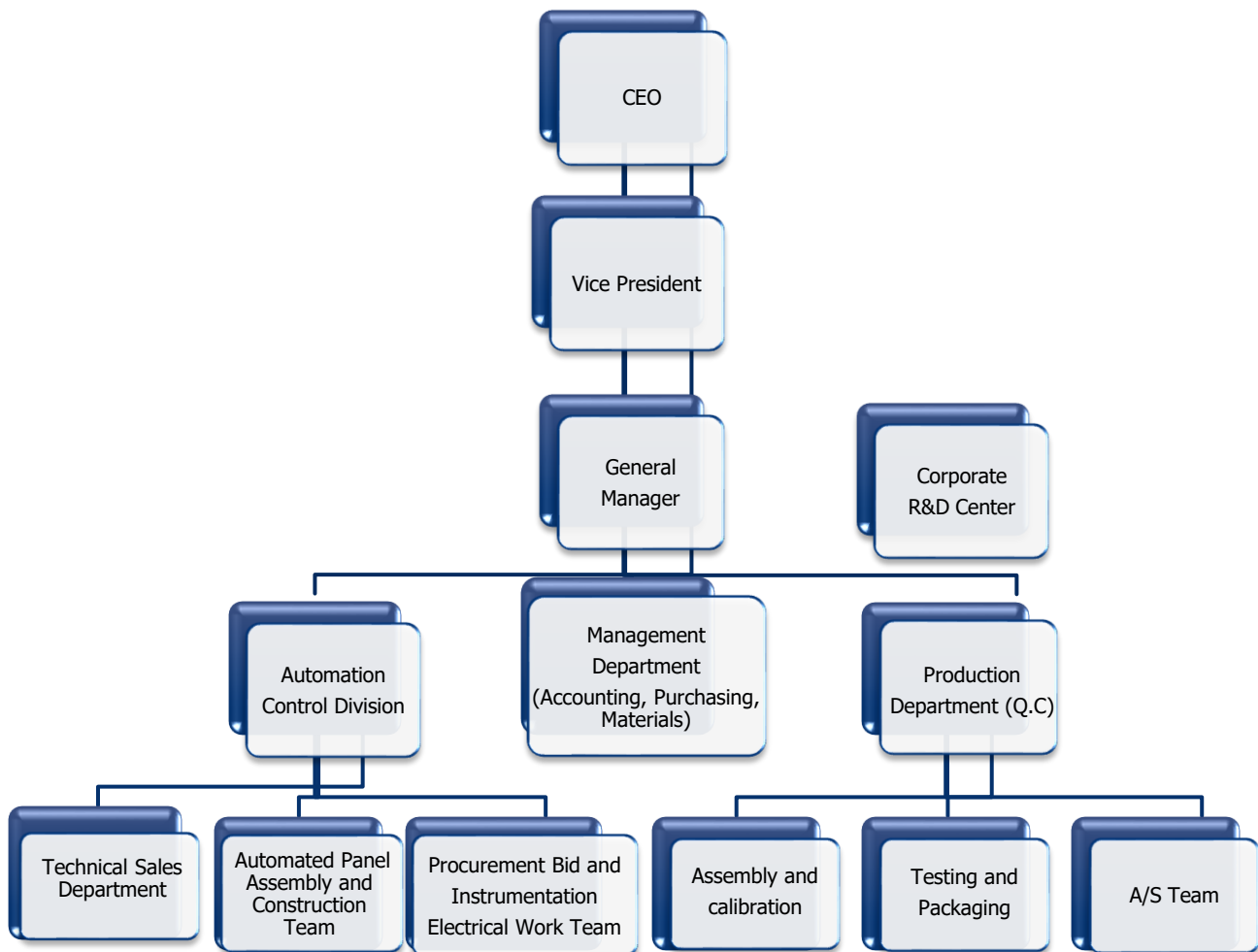
Golden Rule Co., Ltd. Company Introduction

History

- May 2026 Patent Registration at the Patent Office (Patent No. 10-2025-0158125): Thermal Mass Flow Meter 2nd Application January KGS Explosion-Proof Final Change Application Coriolis Flow Meter Hydrogen Pressure Intrinsically Safe (Ex d(ia)IIC T6) August First Performance Certification in Korea & Outstanding Procurement Certification under Review
- August 2025: Application for hydrogen explosion-proof certification (Ex d IIC T6) for Coriolis flowmeters from the Korea Gas Safety Corporation (KGS) under review.
- April: Venture Business Confirmation (Issue No. 20250408030111)
- October 2024: Research Department Recognition (Issue No. 2024157072)
- May: FN mass flowmeters and other flowmeters for steam (electronic, vortex, and ultrasonic flowmeters) for four major EnMS projects were supplied as bulk import replacements.
- January: Research Institute/2nd Factory (306, Building E, Smart Valley, 30 Songdo Mirae-ro, Yeonsu-gu, Incheon)
- April 2023: Development of a domestically produced controller for water quality analyzers completed and commercialized.
- February 2022: Domestic development of temperature/pressure/differential pressure flow transmitters begins
- May 2021: Mass-produced FN mass flow meters for steam, gas, and liquids launched
- March: Domestic development of volumetric/other flow meters (electromagnetic, ultrasonic, vortex, and turbine flow meters) launched
- November 2020: Direct production verification certificate acquired (Korea's first thermal mass flow meter segment)
- June: Prototype Coriolis flow meter for precision hydrogen gas measurement in hydrogen charging stations, generators, and equipment launched
- November 2019: Pilot plant for precision measurement of FN mass flow meters for the fuel jig test facility of the Korean Fighter (KF-21)
- First project completed for Hyundai Heavy Industries through Hanyang ENG
- June 2018: Environmental Management System Certification (ISO 14001:2015) acquired
- January: KC Certification Acquired (Registration No. R-REM-GRc-2610GI)
- April 2017: Completed domestic development and commercialization of the FN Mass Flow Meter for hydrogen measurement.
- January: Launched a prototype of the domestically developed FN Mass Flow Meter for steam and gas.
- September 2016: Patent registration with the Korean Intellectual Property Office (Patent No. 10-660226): Thermal Mass Flow Meter.
- February: Company expansion and relocation (Smart Valley Building A, Room 1805, 30 Songdo Mirae-ro, Yeonsu-gu, Incheon).
- November 2015: Delivered 56 LNG, in-line, explosion-proof units for burner supply to Hyundai Powertech's Dangjin plant.
- August 2014: Delivered 59 units of explosion-proof hydrogen mixed gas electrical steel sheets to POSCO Pohang 1, 2, and 3DNL.
- July: Patent registration with the Korean Intellectual Property Office (Registration No. (No. 40-1118499)
- June 2013: Establishment of Golden Rule Co., Ltd.
- January: Company relocation (Songdo New City Smart Valley Building A, Room 1810)
- April 2012: Acquisition of Korea Gas Safety Corporation explosion-proof certification (Ex d(ib) LLC T4)
- January 2011: OEM launch of volumetric flowmeters (electronic, ultrasonic, vortex, and turbine flowmeters)
- December 2010: Launch of new thermal mass flowmeters (Model: KC-2600 Series)
- November 2008: Patent Office trademark registration application (No. 40-1118499, Class 09 flowmeters, etc., 250 cases)
- April 2007: Began research and development of thermal mass flowmeters
- Establishment of KCM Korea in October 2004

Golden Rule Co., Ltd. Company Introduction

2. organization chart



3 Greetings

Golden Rule Co., Ltd. is Korea's only domestically produced mass flow meters and total instruments, boasting trust and expertise.

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After 14 years of proven performance in pilot plants and R&D, we supply our products as import substitutes to government agencies and various industries, and we also export them overseas.

Golden Rule's domestically developed products, including thermal mass flow meters for gas, FN mass flow meters for steam, gas, and liquids, and Coriolis mass flow meters, essential for all industries, are used for precision measurement in plants such as aerospace, semiconductor, automotive, steel, power plants, petrochemicals, chemicals, shipyards, heat treatment furnaces, tires, and food and beverage.

We have become a total instrument manufacturer that supplies volumetric flow meters and measuring instruments to meet customer needs. We would appreciate it if you could experience the best domestic technology, solutions, and service.

♣ CALIBRATION EQUIPMENT

<KOLAS SONIC NOZZLE – Gases>



<CORIOLIS MASS FLOWMETER - Liquid>



♣ CERTIFICATE

- Certificate of Direct Production
- Verification KC/CE
- Certification KGS, ATEX Explosion-proof Certification
- Venture Business Verification:
- 2025.04.08 Recognition of R&D
- Dedicated Department: 2015.03.24
- (Patent) Thermal Mass Flow Measurement System: 10-2025-0158125
- (Patent) Thermal Mass Flow Meter: 2016.09.21 No. 10-1660226
- (Patent) FN Mass Flow Meter: 2016.03.21 No. 10-1604407
- Golden Rule Trademark Registration: 2015.07.20 No. 40-1118499



3. Product

Golden Rule Co., Ltd. Company Introduction

Golden Rule Co., Ltd. produces the most advanced and technologically advanced mass flow meters in Korea. We are striving to become a specialized mass flow meter company, aiming to increase domestic and international exports. The thermal mass flow meter produced by Golden Rule Co., Ltd. was the first in Korea to be patented for use in polluted gases. Furthermore, the domestically developed FN mass flow meter has been patented (No. 10-1606497) and is currently being supplied to large corporations and government agencies. We provide users with all the input/output specifications and accurate flow rate information they need. For more information, please visit our website, www.goldenrules.co.kr

Guaranteed performance

The KC-2600 series model and KC-7730 series produced by Golden Rule Co., Ltd. are state-of-the-art mass flow meters with the latest technology and are used to measure the flow rate of general gas, steam, liquid, oil, etc., and 0.5% RD when installed on site. Maintain its precision.

Products

MASS FLOW METER 1

- KC-2600 Series:** Thermal mass flow meter that measures flow with gas insertion valve type and flange connection type
- KC-2700 Series:** MFC & MFM measuring gas flow
- KC-7730 Series:** Differential pressure mass flow meter for high temperature and high pressure measuring the flow rate of steam, oil, liquid, air and gas
- KC-7777 Series:** Coriolis mass flow meter for precision measurement of gas, liquid, and oil

♣ Gas, Liquid, Oil type Coriolis
Mass flow meter KC-7740 Series



Gas Inseertion & Inline type
KC-2600,, KC-2700



♣ Gas, Steam, Liquid type
FN-Mass Flow meter KC-7730 Series



3. Product

Golden Rule Co., Ltd. Company Introduction

3-1 Thermal Mass Flow METER

Korea's first thermal mass flow meter patent (No. 10-1660226)

A thermal mass flowmeter that measures without temperature or pressure compensation. Monitoring is possible via display and RS485 communication data.

Patent for the first thermal mass flow meter in Korea Thermal mass flowmeter measuring without temperature and pressure correction Monitoring through display and RS485 communication data

Responding to customer needs with fast response speed and $\pm 0.5\%$ control Applicable to HN mixed gas process of biogas production site and steel mill. It can be used at low flow rate and natural pressure.

- First developed domestic product in Korea
- Very poor flow meter for polluted gas Measurement in the environment (moisture, dust, etc.)
- Measurement flow rate: Measured from a low flow rate of 0.01 m/s
- Applied to places where measurement is impossible with existing flow meters
- Excellent for high and low pressure lines and low flow measurement The only domestic XT (internal pressure) + sensor (intrinsically safe)
- Acquired hydrogen explosion proof certificate (Ex d(ib) IIC T4)



For Polluted gas
THERMAL MASS FLOWMETER
KC-2600 Series

Performance

Golden Rule's KC-2600 Series high-performance thermal mass flow meters are used in industrial settings to detect fluid flow and adjust and measure fluid flow rates. The fixed sensor design utilizes a microprocessor to simultaneously measure, adjust, and diagnose flow rates. Instantaneous mass flow rates, total flow rates, and environmental settings are available, and are displayed on a 2x6 LCD panel.

The programmable transmitter is easily configured via the RS-485S communication port and Golden Rule's high-performance interface software or the instrument panel display.

Golden Rule's KC-2600 Series features initial password protection for instantaneous flow rates, total flow rates, response speed, potential cutoff, and flow correction factor, all of which can be customized by the user.

Golden Rule's Smart Interface™ software guides users through the instrument's performance verification process and allows them to select input power, output, installation, and packaging options based on their needs.

3. Product

Golden Rule Co., Ltd. Company Introduction

Merit

KC-2600 Series Thermal mass flow meters have several advantages, including:

- Microprocessor converter MC
- Domestic production allows for quick maintenance
- Accuracy (F.S. $\pm 0.5\%$)
- Turndown ratio of 1000:1 as standard
- Instantaneous and totalized flow rate display (LCD)
- Mass flow rate measurement method
- Measured flow rate (gas 0.01 to 66.2 m/s)
- Indoor and outdoor use (IP67, IP65) & explosion-proof (intrinsically safe + pressure-resistant hydrogen explosion-proof Ex-proof: IP66)
- Simple signal processing and calibration on site
- Basic functions: DC24V (or AC100 to 240V), DC4 to 20mA, Pulse, RS-485
- Fast response speed, high accuracy, excellent durability, low price
- Excellent reproducibility and repeatability, outstanding long-term stability
- Best price-performance ratio, no moving parts
- Easy adaptability to different applications
- Wide flow range (low flow rate) $\frac{1}{4}'' \sim 1''$, high flow rate $1'' \sim 118''$)
- Limited straight pipe section in the upper piping (inserted 7~3D, inline 3~0D)
- Fast response speed to flow rate changes (1 second)
- For gas (air, various gases, biogas): $-40 \sim 150^{\circ}\text{C}$
- Operating pressure: 30 Bar (Option: 50 Bar, $\frac{3}{4}''$ robust sensor probe)
- Very simple installation, low maintenance costs
- Very low installation costs
- Almost no optional features compared to imported products

3. Product

Golden Rule Co., Ltd. Company Introduction

3.1 Technology Introduction

What is a Thermal mass flow meter?

Flow measurement principle

■ Thermal Mass Flow Sensing

Golden Rule's unique Mass Flow probe ensures exceptional accuracy, robustness, and reliability in industrial flow meters.

The Mass Flow sensor consists of two sensing elements: a flow rate sensor and a temperature sensor that automatically compensates for changes in gas temperature. The new device incorporates two temperature-sensitive platinum resistors on a single chip.

The high-ohm resistor is used to measure the reference temperature, while the low-ohm resistor acts as a heater. Using a bridge circuit, the different resistance values of the two elements generate different levels of self-heating. Self-heating depends on the supply voltage, mass flow, and the medium in which the sensor is placed.

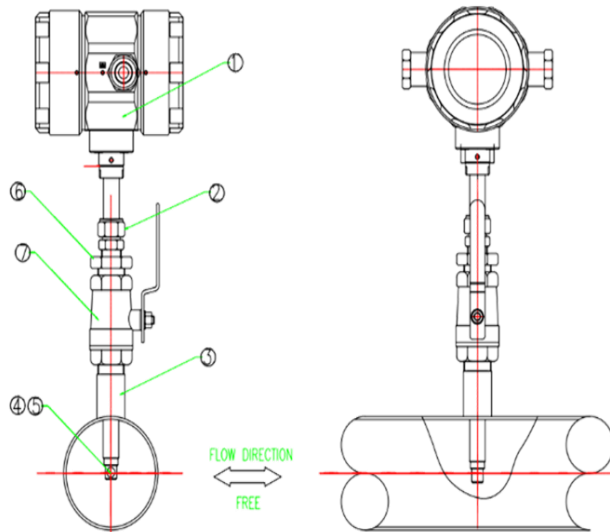
Higher voltage increases self-heating, while higher flow rates increase cooling. If self-heating is continuously maintained by a suitable controller, the voltage will increase with higher flow rates, enabling mass flow measurement.

Application

■ ※ Just choose the one that suits your needs.

Application	Type	Thermal mass		Ultrasonic	Electromagnetic	Diff_pressure	vortex	
		inline	insertion					
Object of Measurement	Liquid	X		O	O	O	O	
	Gas	O		X	X	O	O	
	Vaper	O		X	X	O	O	
	steam	X		X	X	O	O	
Application	control	X		O	O	O	O	
	Monitor	O		O	O	O	O	
	Supply	O		X	O	X	X	
Operating condition	Temperature	Air	– 40 to 150°C	–40 to 200°C	–20 to 200°C	–40 to 600°C	–40 to 200°C	
		Gas	– 40 to 150°C					
		Bio Gas	– 40 to 150°C					
	Pressure	Max 70bar		-	1 - 2 Mpa	1 - 42 Mpa	Max 5 Mpa	
	Pressure loss	Negligible		None	None	None	Small	
	Range ability	Large		Large	Large	Small	Medium	
Installing condition	Bore		Ø8 to Ø6,000		Ø13 to Ø6,000	Ø2.5 to Ø300	Ø2.5 to Ø300	Ø4 to Ø100
	Straight	upstream	1D	7D	10D	10D	30D	15D
	Pipe length	downstream	0D	3D	5D	5D	15D	5D
	Piping work		Required		Not Required	Required	Required	Required
	Explosion-proofing		O		X	X	O	O
Performance	Accuracy	Air	±0.5% F.S	±1% of rate	±0.5% of rate	±0.5% of rate	±1% of rate	
		Gas	±0.5% F.S					
		Bio Gas	±0.5% F.S					
	Velocity	Air	0.01~66.2m/s	—16 ~ 16m/s	0.3 ~ 10m/s	2.0 ~ 120m/s	1.5 ~ 80m/s	
		Gas	0.01~66.2m/s			1.0 ~ 10m/s	0.5 ~ 10m/s	
		Bio Gas	0.01~66.2m/s					

Thermal mass flow meter insertion installation method



7	BALL VALVE	SUS 304	1"(PT)
6	BUSHING	SUS 304	1"-3/4"(PT)
5	HEATER	Ceramic+SUS303	-
4	RTD	Ceramic+SUS303	-
3	NIPPLE	SUS 304	1"(PT)
2	COMPRESSION FITTING	SUS 316	3/4"(PT)
1	HEAD	AL.C	
NO.	DESCRIPTION	MAT'L	REMARK

■ How to Install a Golden Rule Thermal Mass Flow Meter (Ball Valve Mounted)

1. Install the provided nipple vertically and horizontally in the center of the pipe.
2. Connect the ball valve to the installed nipple.
3. Connect the 25A-20A bushing to the ball valve and install the 3/4" fitting.
4. Insert the sensor so that the front of the flow meter is facing forward.
5. Install the sensor detection unit at the center of the pipe, as shown in the drawing.

■ Caution

1. After installing the nipple, ball valve, bushing, and compression fitting, insert the flow meter, and then tighten the compression fitting nut at least three turns. Be careful not to tighten too loosely, as this may cause leakage.
2. If using a DC type, the power supply must be at least 24V 2A.
Failure to do so may result in damage to the sensor.
3. For wiring instructions, refer to the manual and wiring diagram.
Alternatively, please refer to the manual and wiring diagram in the data room of the www.goldenrules.co.kr website.
Please refer to the manual and wiring diagram for further information.

3. Product

Golden Rule Co., Ltd. Company Introduction

Chapter 3-2 Coriolis Mass Flow Meter With just one flow meter, you can measure 4 types simultaneously:

volume & mass flow (instantaneous, totalised), temperature, pressure, and density, and monitor data through RS485 communication. In particular, with DC 4-20mA output signals, you can control mass flow, volume flow, pressure, and energy flow. Its fast response speed meets customer demands and $\pm 0.1\%$ F.S precision control helps save energy, minimising losses in industrial sites.

- First domestic development patent and performance certification in progress
- Can measure gas, special gas, steam, liquid, and oil
- Can be installed with flange & flangeless type
- Applicable where existing flow meters can't measure
- Usable in high temperature and high pressure, pressure loss, and straight pipe sections before and after on zero line
- Pressure explosion-proof certificate (IP67: Ex d(ia) IIC T6) KGS, Atex



Merit

The KC-7777 Series Coriolis mass flow meter for high temperature and high pressure has various advantages as follows:

- 4-multi measurement: can simultaneously measure flow, temperature, pressure, and density with a single flow meter
- Microprocessor converter MC
- Quick maintenance due to local production
- Accuracy (R.D $\pm 0.1\%$)
- Turn-down ratio 100:1 standard
- Instant and cumulative flow display (LCD)
- Mass flow measurement method
- Measurement velocity (0.1~100m/s)
- Hydrogen pressure explosion-proof type (Ex-proof IP67: Ex d(ia) IIC T6) domestic explosion-proof KGS, overseas explosion-proof Atex
- Easy signal processing and calibration on-site
- DC24V, DC4~20mA, RS-485, PULSE basic functions
- Fast response, high accuracy, excellent durability, affordable price
- Excellent reproducibility and repeatability, outstanding long-term stability
- Best price-performance ratio, no moving parts
- Easy adaptability to other applications
- Wide flow range (small flow 1A~50A, large flow 80A~250A)
- Minimal straight pipe section above, can measure lines with almost no straight section
- For air, gas, hydrogen, special gases: -50~150°C (option: -50~350°C), for liquids and oil: -50~150°C, cryogenic liquids: -200~150°C (option: -255~150°C)
- Operating pressure: standard 16 Bar (option: 40 Bar ~ 1,200 Bar)
- Low pressure loss: very low due to Coriolis tube weight method compared to conventional products (below 0.1 Bar)
- Almost failure-free and low maintenance cost
- Installation cost is cheap (weight-precision type, no interface device needed for temperature and pressure compensation)
- Almost no optional features compared to imported products

CORIOLIS MASS FLOWMETER
Ex-proof type KC-7777 Series

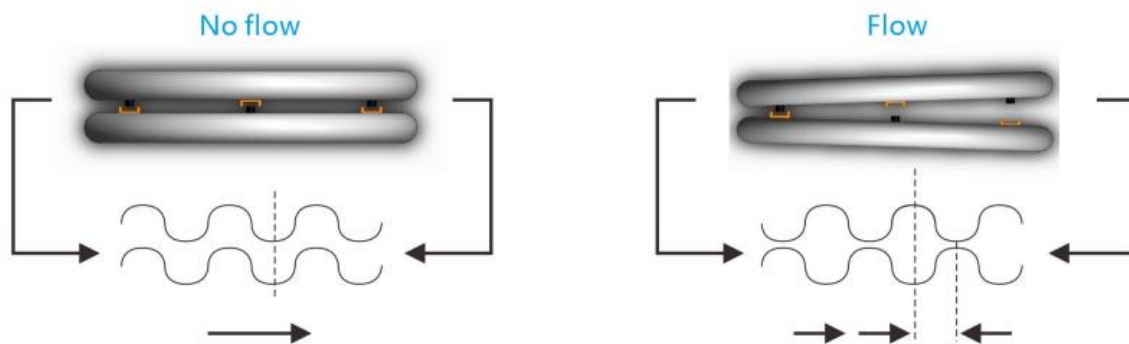
3. Product

Golden Rule Co., Ltd. Company Introduction

3.2 Technology Introduction What is a Coriolis mass flow meter?

Flow Measurement Principle

A Coriolis mass flow meter vibrates the flow meter tube as fluid passes through, based on the Coriolis principle. The sensor detects and analyses changes in the frequency, phase difference and temperature of the flow meter tube. This allows for the direct measurement of the fluid's mass flow, and density can be calculated from the vibration frequency. Other process variables like mass flow, volume flow, density and temperature can also be obtained.



This is a highly excellent measuring instrument that can handle the demanding conditions of industrial sites, developed with domestic proprietary technology to minimise industrial losses and ensure technical freedom, with accuracy and reliability proven through numerous national projects. You can set up a communication network (RS-485) to monitor the progress of the four multi-measurements of flow, temperature, pressure, and density of the mass flow meter. It adheres to ISO 5167 industry standards and is manufactured under the ISO 9001/14000 quality management system.

Application

■ Please choose according to your needs.

Application	Type	FN-Mass		Ultrasonic	Electromagnetic	Diff_pressure	Vortex
		Inline	Integral				
Object of Measurement	Liquid		O	O	O	O	O
	Gas		O	O	X	O	O
	Vapor		O	X	X	O	O
	Steam		O	X	X	O	O
Application	Control		O	O	O	O	O
	Monitor		O	O	O	O	O
	Supply		O	X	O	X	X
Operating condition	Temperature	Gas	-50 to 350°C	-40 to 200°C	-20 to 120°C	-40 to 600°C	-40 to 200°C
		Liquid	-255 to 350°C				
		Steam	-50 to 350°C				
	Pressure	Max 1,200 bar		-	-1 to 2 Mpa	-1 to 42 Mpa	Max 5 Mpa
Installing condition	Pressure loss	Negligible		None	None	None	Small
	Range ability	Large		Large	Large	Small	Medium
	Bore	Ø1 to Ø250		Ø13 to Ø6000	Ø2.5 to Ø300	Ø2.5 to Ø300	Ø4 to Ø100
	Straight upstream	3D	5D	10D	10D	30D	15D
Performance	Pipe length downstream	0D	3D	5D	5D	15D	5D
	Piping work	Required		Not required	Required	Required	Required
	Explosion-proofing	O		X	X	O	O
	Accuracy	Gas	±0.15% R.D	±1% of rate	±0.5% of rate	±1.5% of rate	±1% of rate
		Liquid	±0.1% R.D				
		Steam	±0.5% R.D				
Velocity	Velocity	Gas	0.1~100m/s	-16~+16m/s	0.3~10m/s	2.0~120m/s	1.5~80m/s
		Liquid	0.1~100m/s			1.0~10m/s	0.5~10m/s
		Steam	0.1~100m/s				

3. Product

Golden Rule Co., Ltd. Company Introduction

3-2 FN-MASS FOWMETER

A single flow meter can measure 5-in-1 volume & mass flow (instantaneous and totalized), temperature, pressure, density, and energy. Data can be monitored via RS485 communication. Specifically, the DC 4-20mA output signal enables mass flow control, volume flow control, pressure control, and energy flow control.

Its fast response speed meets customer needs, and its $\pm 0.1\%$ F.S. precision control enables energy savings, minimizing losses in industrial settings.

- The world's first domestically developed new technology certified product
- Capable of measuring gases, gases, special gases, steam, liquids, and oils
- Flanged and flangeless installation options available
- Applicable to applications where conventional flow meters cannot measure
- Usable in high-temperature, high-pressure, pressure-loss, and lines without straight pipe sections
- Orifice and flow nozzle (large diameter) adjustment available
- Pressure-proof and explosion-proof certification (IP67: Ex d IIC T6) from KGS and Atex Patent No. 10-1606497



FN질량유량계
일반형 KC-7730
방폭형 KC-7730-FM153K

Merit

The KC-7730 Series high temperature and high pressure differential pressure mass flow meter has the following various advantages. · 5-Multi-Measurement: Simultaneously measure flow rate, temperature, pressure, density, and heat with a single flow meter.

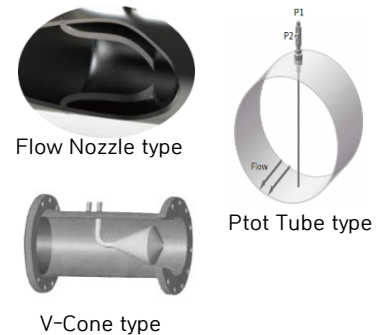
- Microprocessor converter MC.
- Domestically produced for quick maintenance.
- Accuracy (R.D. $\pm 0.5\%$).
- Turndown ratio of 20:1 (direct calculation of expansion, compression, and viscosity coefficients -> flow rate function: capacitance sensor applied).
- Instantaneous and totalized flow rate display (LCD).
- Mass flow rate measurement method.
- Measured flow rate (0.1~100m/s).
- Explosion-proof (Ex-proof IP67: Ex d IIC T6). Domestically, KGS, internationally, Atex.
- Simple signal processing and calibration on site.
- Basic functions: DC24V, DC4~20mA, RS-485.
- Fast response speed, high accuracy, excellent durability, and low price.
- Excellent reproducibility and repeatability, and outstanding long-term stability.
- Best price-to-performance ratio, no moving parts.
- Other Easy to adapt to various applications
- Wide flow range (low flow 10A~50A, high flow 50A~500A)
- Fewer straight pipe sections in the upper piping (inserted 10D, inline 5D). However, lines with few straight pipe sections can be designed to reflect field conditions.
- Fast response time to flow rate changes (0.1 sec.)
- For steam: -20~400°C, For air and gas: -40~100°C, For hydrogen and special gases: -40~100°C, For liquid, ultra-pure water, and oil: -20~100°C
- Operating pressure: 10 Bar (optional: 30 Bar, 200 Bar)
- Operating loss: Direct calculation method, significantly smaller than conventional differential pressure methods (less than 0.1 Bar)
- Almost no breakdowns, low maintenance costs
- Low installation costs (for temperature and pressure compensation) Integrated design (no interface device installation required)
- Almost no optional features compared to imported products

3. Product

Golden Rule Co., Ltd. Company Introduction

3.2 Technology Introduction

What is the FN mass flow rate system, which is a direct calculation formula for the flow rate function?



Flow measurement principle

■ FN-Mass Flow Sensing

Golden Rule's unique mass flow meter guarantees exceptional accuracy, robustness, and reliability in industrial flow meters.

The mass flow sensor utilizes an orifice plate and optional flow nozzle, which minimize pressure loss. This mass flow sensor utilizes proprietary patented calculation methods to derive flow rates under variable fluid properties. This mass flow sensor has been certified as a new technology.

It enables engineering under demanding industrial conditions. Developed with domestically-developed technology, it minimizes industrial losses and ensures technological independence. Its accuracy and stability have been proven through numerous national projects, making it an exceptional measuring device.

By configuring a communication network (RS-485), it can monitor the progress of the mass flow meter's 5-multiple measurement values: flow rate, temperature, pressure, density, and heat. Orifice Plate, Flow Nozzle, Venturi tube, etc. are manufactured in compliance with the ISO 5167 industry standard and under the ISO 9001 quality management system.

Application

■ Please select according to your purpose.

Application	Type	FN-Mass		Ultrasonic	Electromagnetic	Diff_pressure	Vortex
		Inline	Integral				
Object of Measurement	Liquid	○		○	○	○	○
	Gas	○		X	X	○	○
	Vapor	○		X	X	○	○
	Steam	○		X	X	○	○
Application	Control	○		○	○	○	○
	Monitor	○		○	○	○	○
	Supply	○		X	○	X	X
Operating condition	Temperature	Gas	-40 to 400°C	-40 to 200°C	-20 to 120°C	-40 to 600°C	-40 to 200°C
		Liquid	-20 to 400°C				
		Steam	-20 to 400°C				
	Pressure	Max 200 bar		-	-1 to 2 Mpa	-1 to 42 Mpa	Max 5 Mpa
	Pressure loss	Negligible		None	None	None	Small
Installing condition	Range ability	Large		Large	Large	Small	Medium
	Bore	Ø8 to Ø6000		Ø13 to Ø6000	Ø2.5 to Ø300	Ø2.5 to Ø300	Ø4 to Ø100
	Straight upstream	1D	7D	10D	10D	30D	15D
	Pipe length Downstream	0D	3D	5D	5D	15D	5D
	Piping work	Required		Not required	Required	Required	Required
Performance	Accuracy	O		X	X	O	O
		Gas	±0.5% R.D				
		Liquid	±0.5% R.D				
	Velocity	Steam	±0.5% R.D	±1% of rate	±0.5% of rate	±1.5% of rate	±1% of rate
		Gas	0.1~100m/s				
		Liquid	0.1~100m/s				
		Steam	0.1~100m/s				

3. Product

Golden Rule Co., Ltd. Company Introduction

1. Smart Transmitter
D/P Transmitter KC-7730D
Press' Level Transmitter KC-7730PL



2. Smart Pressure Transmitter
General type KC-7730P



3. Smart Temp' Transmitter
General type KC-7730T



3. Flow Conditioner
SUS type KC-7700



4. Equipment in stock Golden Rule Co., Ltd. Company Introduction

4.1 Manufacturing facility status

Although our company owns the production facilities listed below, we are unable to submit the supporting documents required by the Direct Production Verification Standards for Products Directly Produced by Small and Medium-Sized Enterprises. Therefore, we hereby submit this verification. If any discrepancies are found, we will revoke the verification as stipulated in Article 11 of the Act on Promotion of Purchase and Distribution Support for Small and Medium-Sized Enterprise Products. We hereby confirm that we have no objection to administrative actions such as cancellation of the verification.

August 19, 2024.

Company Name: Golden Rule Co., Ltd.

Representative: Hong Han Mo 

NO.	Production facility name	Manufacture	Model Name Or Device number	Year of purchase	Note
1	drilling equipment	SMG	S M D-360	2015	
2	electric welder	Asia Co., Ltd.	ASEA-180	2018	
3	cutter	makita	GA 4031	2015	
4	Tapping mechanism	BOSCH	GSB 10RE	2014	
5	assembly equipment	VECTOR등	AK-1MA등	2014	
6	soldering tools	Anseong Electric	Ceramic straight	2012	
7	Flow Test Equipment	Yamano	Pi-15	2015	
8	Standard voltage and current generator	REK	RPS3005D-2	2019	
9	insulation resistance meter	TOYOTECH	MG-2000	2019	
10	Withstanding voltage tester	ILOSAM	ILO-PT2013	2019	
11	Digital Meter	DONG WHA	DM-1010	2019	
12	vernier caliper	Mitutoyo	CD-20APX	2015	

4. Equipment in stock Golden Rule Co., Ltd. Company Introduction

4.2 Testing and inspection facilities status

	<table><tr><td>Equipment</td></tr><tr><td>Flow testing device</td></tr><tr><td>Manufacturer</td></tr><tr><td>Golden rules</td></tr><tr><td>Model name or specification</td></tr><tr><td>GR-101</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	Flow testing device	Manufacturer	Golden rules	Model name or specification	GR-101	Division	Test equipment
Equipment									
Flow testing device									
Manufacturer									
Golden rules									
Model name or specification									
GR-101									
Division									
Test equipment									
	<table><tr><td>Equipment</td></tr><tr><td>Standard voltage and current generator</td></tr><tr><td>Manufacturer</td></tr><tr><td>REK</td></tr><tr><td>Model name or specification</td></tr><tr><td>RPS3005D-2</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	Standard voltage and current generator	Manufacturer	REK	Model name or specification	RPS3005D-2	Division	Test equipment
Equipment									
Standard voltage and current generator									
Manufacturer									
REK									
Model name or specification									
RPS3005D-2									
Division									
Test equipment									
	<table><tr><td>Equipment</td></tr><tr><td>insulation tester</td></tr><tr><td>Manufacturer</td></tr><tr><td>ILOSAM</td></tr><tr><td>Model name or specification</td></tr><tr><td>ILO-PT2013</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	insulation tester	Manufacturer	ILOSAM	Model name or specification	ILO-PT2013	Division	Test equipment
Equipment									
insulation tester									
Manufacturer									
ILOSAM									
Model name or specification									
ILO-PT2013									
Division									
Test equipment									
	<table><tr><td>Equipment</td></tr><tr><td>Flow testing device</td></tr><tr><td>Manufacturer</td></tr><tr><td>Golden rules</td></tr><tr><td>Model name or specification</td></tr><tr><td>PI-15</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	Flow testing device	Manufacturer	Golden rules	Model name or specification	PI-15	Division	Test equipment
Equipment									
Flow testing device									
Manufacturer									
Golden rules									
Model name or specification									
PI-15									
Division									
Test equipment									
	<table><tr><td>Equipment</td></tr><tr><td>Insulation regulator</td></tr><tr><td>Manufacturer</td></tr><tr><td>TOYOTECH</td></tr><tr><td>Model name or specification</td></tr><tr><td>MG-2000</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	Insulation regulator	Manufacturer	TOYOTECH	Model name or specification	MG-2000	Division	Test equipment
Equipment									
Insulation regulator									
Manufacturer									
TOYOTECH									
Model name or specification									
MG-2000									
Division									
Test equipment									
	<table><tr><td>Equipment</td></tr><tr><td>Digital multi meter</td></tr><tr><td>Manufacturer</td></tr><tr><td>DONG HWA</td></tr><tr><td>Model name or specification</td></tr><tr><td>DM-1010</td></tr><tr><td>Division</td></tr><tr><td>Test equipment</td></tr></table>	Equipment	Digital multi meter	Manufacturer	DONG HWA	Model name or specification	DM-1010	Division	Test equipment
Equipment									
Digital multi meter									
Manufacturer									
DONG HWA									
Model name or specification									
DM-1010									
Division									
Test equipment									

5. Delivery performance Golden Rule Co., Ltd. Company Introduction

5.1 Thermal Mass Flow Meter – 2,597 EA

Compressed air energy management system Project (206 ea)	Daegu Dalseong Industrial Complex & Gumi Industrial Complex Companies (Daehan Sintered Metal Co., Ltd., Daehan Textile Co., Ltd., Daedong Metal Co., Ltd., Foodwill Co., Ltd., SJ Tech Co., Ltd., L&F Co., Ltd., Taekyung Agricultural Products Co., Ltd., Yuwon Co., Ltd., Changseong Precision Co., Ltd., Daegeon Industrial Co., Ltd., Hot Air Heat Treatment Seongseo Factory, Woorim Industrial Co., Ltd., Woosung Powertech Co., Ltd., Jinyoung R&S Co., Ltd., Iljin Composite Materials, etc.) Gyeongnam & Busan Regional Industrial Complex, Daehan Textile, Yujin Fluid, SK Chemicals, Namdong Industrial Complex Yeonwoo, Daeyoung & Samhwan Industrial, LI Knowledge Industry Center Namdong, etc.
Export(142 ea)	Pakistan, Bangladesh, Indonesia, Philippines, Vietnam, Ukraine, Nigeria, Iran, Poland, China, Romania, Tanzania, etc.
City Gas(LNG, LPG) (36 ea)	Daesung Energy (formerly Daegu City Gas), Korea Gas Co., Ltd., KC Heat Co., Ltd., Korea Gas Corporation (Samcheok, Tongyeong), Seokmun Industry, KCC Daejeon Plant, Gaswell, Dongseo & Jinyang Ascon, Daejeon Sewage Treatment Plant, Dangjin Dongbu Steel, Eugene MS Daegu, Busan Environmental Corporation Myeongji Business Office, AKC Inc., Daechang Co., Ltd., Kolon Glotech, Doosan Energy, etc.
Shipyard(88 ea)	Jin Heavy Industries Philippines Subic Shipyard, Hyundai Heavy Industries Special Shipbuilding, Daewoo Shipbuilding & Marine Engineering, Daehan Shipbuilding & Marine Engineering Yeongam, etc.
R&D (137 ea)	POSCO Research Institute, Pohang Institute of Industrial Science and Technology, KRISS, Korea Electric Power Research Institute, Agency for Defense Development Changwon (Daejeon, Changwon), Seoul National University, Yonsei University, Kyungpook National University, Pusan National University, KIST, Doosan Heavy Industries & Construction Daejeon Research Institute, UTC POEER, Suhyuk, Samsung Electronics Gwangju Research Institute, China Carbon Black, Cheonan Automotive Parts Research Institute, Korea Meteorological Administration, Samsung Techwin, Kennertech, Jasotech Hwaseong Research Institute, Korea Institute of Machinery and Materials, Korea Aerospace Research Institute, Korea Institute of Energy Research, Korea Institute of Energy Technology Evaluation and Planning, Korea Aerospace Industries, KEPSCO Research Institute, Gwangmyeong Electric, Innwill, Techwin, Sungkyunkwan University, Doosan Fuel Cell, Doosan Energy, Sungkyunkwan University, Geosung ENG, Kangwon National University,
Steel (438 ea)	POSCO Pohang/Gwangyang (259 units), Hyundai Steel Incheon/Dangjin (16 units), Y.K STEEL, Steel Ceramics, Korea Iron and Steel Corporation, China Jilin Integrated Steel, Dongbu Steel Dangjin Plant, Dongkuk Steel Pohang, Coretech, Tenova Korea (6 units), Hyundai Steel Suncheon Plant (29 units), Hyundai Yulchon Forging Plant (2 units), Shinwha ENG (6 units), SeAH Steel (14 units)
WATER REGENERATION CENTER & WATER PURIFICATION PLANT (672 ea)	Tancheon, Nanji, Mansu, Goseong-gun, Yangpyeong, Suwon Environmental Corporation, Daejeon, Busan Janglim, Busan Suyeong, Donghae, Hoengseong Ucheon, Cheongju Environmental Corporation, Anseong 2nd Industrial Complex, Gunsan, Mungyeong, Damyang, Gyeonggi Gwangju Docheok, Busan Janglim, Dangjin-gun Godae Bugok, Gwangju Mangwol-dong, Goryeong-gun Dasan, Gajwa, Lotte Samgang, Dongkuk Pharmaceutical, Gyeongnam Yangsan, Asan-si, Taebaek, Shinae-ri, Suji Respia, Powol Agricultural and Industrial Complex, Incheon Metropolitan Landfill, Chukryeongsan Natural Recreation Forest Drainage Reservoir, Busan Environmental Corporation, Geoje Island, Jeonju Grill, Incheon Cheo, Gangwon Land, Gimhae Jinrye, Yeosu, Incheon Gong Village, Ansan, Chilgok, Pocheon Il-dong Sewage Treatment Plant, Ilto C&M Jangsu Business Office, Yangju, Incineration Plant, Wonju i-Sense, Jinro Fermentation Ansan, Panasia, Dongdaemun Environmental Corporation, KEC, Daejeon Wolpyeong Water Purification Plant, Korea Water Resources Corporation, Gwangyang City Seppum Industrial Complex Wastewater, Jeonbuk Sewage Treatment Plant, Yeosu Dundok Water Purification Plant, Mokpo Water Quality Management Facility, Cheongsong, Sangju Sewage Treatment Plant, Metropolitan Landfill, Jeonnam Gurye, Gangwon-do Sewage, Jeonnam Sewage, Hoengseong Sewage, Pocheon Incinerator, Wonju Sewage, Jeonbuk Iksan Waterworks and Sewage, Hwasun Dongmyeon Sewage, Gwangju Environmental Corporation, Sokcho Sewage, Korea Water Resources Corporation Cheongsong, Jeonnam Gurye Sewage, Naju Sanpo Sewage, Jincheon Sewage, Wonju Enterprise City, Gongju Sewage, Busan Southern Sewage, Daegu Public Facilities Dalseong, Muju, Cheongju, Yongin sewage, Buan-gun Budong agricultural and fishing village sewage, Gongju Jungchon Samrye, Cheongju, Gwangyang-si Gwangyeong, Guri Galmay, Gyeonggi-do Yangju, Yeongdeok sewage treatment plant, Water Resources Corporation Gimcheon, Byeonam Forest Healing Center, Gyeongnam Changnyeong old water purification plant, Goseong-gun township sewage treatment plant, Yangsan city public sewage, Dangjin Songak sewage, Jeonju sewage treatment plant, Gyeongju Gampo clear water, Jeongeup livestock manure, Jeongdongjin sewage, Suwon environment, Jeollabuk-do Namwon sewage, Gangwon Hoengseong rainwater, Gochang-gun township, Cheonan 5th industrial complex, Yeongam Miam Munsu district, Incheon CJ, Icheon-si Bubal public sewage, Gumi environmental resource facility, Yongin city environmental resource facility, Naju Sejin-dong Shineul sewage, Damyang Singye Water purification plant, Gapyeong Sewage Treatment Plant, Jungnang Sewage Treatment Plant, Masan Chilseo Sewage Treatment Plant, Gwangmyeong Sewage Treatment Plant, Muan Sewage Treatment Plant, Daebu Sewage Treatment Plant, HLB Energy Busan, Dongkuk Electronics, etc.
Landfill & Livestock Waste Combined Heat and Power Plant / Sewage Treatment Plant Digester Gas Wastewater Biogas (278 ea)	Vietnam Pok-Hip, Jangsu Combined Heat and Power Plant, Gimpo, Gyeongbuk Yeongcheon, Mokpo Landfill, Damyang Livestock Manure, Chungnam Asan, Seogu Landfill, Songpari Clean Center, KT Chemical, Hongcheon, Jeju, Jeonju Paper Cycling Town, Cheongju Environment Office, Gyeongsan Surplus Gas Burner, Songdo Re-Clean Center, Incheon Negative Wastewater Biogas, Incheon Metropolitan Area Landfill, Incheon Dream Park Cultural Foundation, Gyeongbuk Yeongcheon Bio, Daejeon City Corporation, Coca-Cola Yeosu, PR Energy, Gwangju Environment Corporation, Jeonju Public Sewage Treatment Plant, Pyeongtaek Livestock Wastewater, Hanmi Pharmaceutical Pyeongtaek, Daekyung Esco, Iksan Sewage Treatment Plant, Uljin Livestock Manure Treatment Plant, Daegu Yeongcheon, Guri, Gulpocheon Sewage Treatment Plant, Seonju Jeong Gunsan, Gaswell, Yeosu Landfill, Miryang Livestock Waste Treatment Plant, Cheonan Sanitary Landfill, Yangsan Cogeneration, Daegu Environmental Corporation, Gunwi Livestock Manure, Bio Energy Farm Asan, Daegu Environment Corporation Sangri, Hallasan Bio, Korea Environment Corporation Sokcho sewage sludge, Haenam Water Purification Plant, Gimpo Clear Water Office, Korea Environment Corporation Unjeong-dong Landfill, Yeoncheon Public Sewage Treatment Facility Phase 3, HL Ecotech, Jinseong Co., Ltd., Mungyeong Jeomchon Sewage Treatment Plant, Gwangju 2 Sewage Treatment Plant, Mungyeong Sewage Treatment Plant, Miryang Livestock Manure Treatment Plant, Sejong Water Restoration Center, Yangsan Biogasification Facility,
Automatic Clean Net Room for Food Waste(17 ea)	Seongnam Pangyo, Daejeon, Songdo, Gwangmyeong, Sejong City's first village
power Plant, wind power, nuclear fuel (48 ea)	Yeongdong, Jeju, Ulsan combined cycle, Hadong thermal power plant, Osan combined heat and power plant, GS Dangjin power plant, KEPSCO Nuclear Fuel, Oksan ENT power plant, EEW KOREA Sacheon

5. Delivery performance Golden Rule Co., Ltd. Company Introduction

5.1 열질량유량계 – 2,597대

CHEMICAL (46 ea)	KP Chemical, Hyosung (Ulsan, Vietnam, China), LG Life Sciences Jeonju Plant, Taekyung Chemical, Kumho Petrochemical Ulsan, LG Chem Daesan/Cheongju, SK Chemical Ulsan, Hanmi Fine Chemical, Hanwha Chemical Yeosu, Lotte Chemical Ulsan, Shinchang Yeosu Plant, POSCO Chemical, KCC Yeosu Plant, KCC Daejuk Plant, HRS Pyeongtaek, Heesung Catalyst Co., Ltd., Kolon Glotech Gumi (1 unit), Kolon Industries Gyeongsan (1 unit), Hanwha Global Boeun Co., Ltd. (3 units), Joheung Ansan (3 units)
machinery, mining, dyeing (36 ea)	Bearing Art Yeongju ~ 17 ea, Korea NSK Cheonan ~ 14 ea, Daesung MDI Yeongwol ~ 1 ea, Daeon ANC ~ 2 ea
Medicine, food, communication, cement (29 ea)	Samsung Biologics ~ 2 units / Dongseo Food, Namyang Dairy ~ 3 units / KT Busan ~ 2 units / Halla Cement (1 unit) & Hanil Cement (Gongju, Mokpo, Haman, Gaya Plants ~ 4 units), Ilsan Industrial (2 units), Champran Buan, Dongseo Food Bupyeong/Changwon (2 units), Namyang Dairy, Haitai Beverage, OB Beer Cheongju, Korea Cement, Mael Dairies Gochang, CJ CheilJedang Incheon, Gangwon Yanggu Smart Form, Hansol Paper Janghang
Bridge, resource recovery (51 ea)	Busan Gwangan Bridge ~ 10 units, Yeongjong Bridge ~ 10 units, Mokpo Sacheonnyeong Bridge ~ 22 units / Gyeongnam Yangsan & Mokdong Yangcheon ~ 6 units, EZ&E Energy Yangju ~ 2 units, KBI TECH Incheon ~ 1 unit,
Aviation, automobile, engine, heavy industry, etc. (169 ea)	Aerosystems (2 units), Hyundai Powertech Dangjin (56 units), Hyundai Motor Ulsan (9 units), Kia Motors Hwaseong (1 unit), Doosan Energy Changwon (4 units), Changsung Industrial Energy Gimhae (1 unit), Gyeongchang Industrial Daegu (7 units), KAIS Pyeongtaek (9 units), Hyundai Motor Asan (3 units), DH Auto Lease (2 units), SL Daegu (6 units)
semiconductors, gas manufacturing, hydrogen gas (92 ea)	Samsung Electronics Suwon/Hwaseong Plant, LG Siltron Gumi Plant, LG Electronics Cheongju Plant, Haesung DS Changwon Plant, Yeongil Sealtech, Ecopro Cheongju Plant, Toray Cheongju, Dansil Gas Chem, KC Innovation, Korea Gas Corporation (Samcheok/Tongyeong), Emco Vietnam Co., Ltd. (7 units), Sungil Hitech (4 units), Daeon ANC (1 unit), Versum Materials Korea (11 units)
Construction & Engineering Company (112 ea)	POSCO E&C, Samsung C&T, Lotte E&C, Hyundai E&C, Hanwha, Hanla OMS, Doosan E&C, Taeyoung E&C, Hanyang ENG Co., Ltd.

TOTAL 64EA

CEO Hong Han-mo

FN-MASS flow meter Delivery Performance Table 458EA

Client	Enduser	Model
The Yoon Synergy	The Yoon Synergy	FN-MASS KC-7730A, Compressed Air
ILJIN AIR TECH	ILJIN AIR TECH	FN-MASS KC-7730A, Compressed Air
COMP KOREA	COMP KOREA	FN-MASS KC-7730A, Compressed Air ~ 17EA
Daejeon Urban Railway Corporation	Yuseong Hot Spring Pumping Station	FN-MASS KC-7730L, Water
BELTECH CO.,LTD	BELTECH LAP	FN-MASS KC-7730L, Water
Korea Institute of Machinery and Materials	Korea Institute of Machinery and Materials	KC-7730G-FM153BEx, 25A, LPG
Sepratech Co., Ltd.	Hanwha Ulsan Plant	FN-MASS KC-7730A, Compressed Air ~ 4EA
GTC CO., LTD.	GTC CO., LTD.	FN-MASS KC-7730A, Compressed Air ~ 12EA
Bugang Tech	Icheon (Remnant Corpse Disposal System)	KC-7730G-FM153BEx, 25A, LPG
BELTECH CO.,LTD	Beltech test league	FN-MASS KC-7730A, Compressed Air ~ 4EA
Sambu General Machinery	Sambu General Machinery	FN-MASS KC-7730A, Compressed Air
Gyeongsan Paper	Gyeongsan Paper	KC-7730S-FM153BEx, 250A, Steam
Act Co., Ltd.	Act Co., Ltd.	FN-MASS KC-7730A, Compressed Air ~ 10EA
SEON BO INDUSTRY	Busan (Gupyeong 2nd Factory)	FN-MASS KC-7730A, Compressed Air
Korea Institute of Machinery and Materials	Cheonan, Chungcheongnam-do (Puritech)	KC-7730G-FM153BEx, 40A, O2 Gas ~ 4EA
Korea Institute of Machinery and Materials	Cheonan, Chungcheongnam-do (Puritech)	FN-MASS KC-7730A, Compressed Air ~ 4EA
TURBO MAN	Iksan, Jeollabuk-do (Hite Jujeong)	KC-7730L-FM153BEx, 25A, Ethanol
Pukyong National University	YONDANG CAMPUS	FN-MASS KC-7730A, Compressed Air
DONGIL CNE	Hanwha Onsan Plant	FN-MASS KC-7730A, Compressed Air
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730A, Air ~ 10EA
SUNHWAN ENG	Kunyoung Machinery	KC-7730OP-FM153BEx, 50A, NG
SEA ANTLE	SEA ANTLE	FN-MASS KC-7730A, Compressed Air ~ 2EA
COMP KOREA	COMPRESSURED AIR	FN-MASS KC-7730A, Compressed Air ~ 3EA
FINETECH	FINETECH	FN-MASS KC-7730A, Compressed Air ~ 15EA
ILJIN MATERIAL	IKSAN PLANT	FN-MASS KC-7730A, Compressed Air ~ 2EA
PURITECH	PURITECH	FN-MASS KC-7730A, Compressed Air ~ 4EA
J KEISIS CO.,LTD,	J KEISIS CO.,LTD.	FN-MASS KC-7730A, Compressed Air ~ 22EA
JUNG WOO FLOW	JUNG WOO FLOW	FN-MASS KC-7730A, Compressed Air ~ 3EA
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730A, Compressed Air ~ 10EA
Wonkwang valve	STX ENGINE	KC-7730H-FM153B-G050-H2 Mixture
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730GF, Compressed Air ~ 10EA
VPE KOREA	VPE KOREA	FN-MASS KC-7730GF, Compressed Air
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730GF, Compressed Air ~ 20EA
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730GF, Compressed Air ~ 30EA
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730GF, Compressed Air ~ 30EA
BOYN E&M CO.,LTD.	Urban Railroad Corporation	FN-MASS KC-7730GF, Compressed Air
Kukdong Jeyeon	Kukdong Jeyeon	FN-MASS KC-7730WF, Water
Kukdong Jeyeon	Kukdong Jeyeon	KC-7730L-FM153B-G080-Ethylene Glycol
Korea Aerospace Research Institute	Korea Aerospace Research Institute	FN-MASS KC-7730G-FM153B, H2 Mixture ~ 3EA
LG ELECTRONICS	Cheongju Factory	FN-MASS KC-7730S, 스팀, 100A, 125A, 200A ~ 3EA
LG ELECTRONICS	Cheongju Factory	FN-MASS KC-7730G-FM153BEx, LNG, 50A(2), 65A(2), 80A(1), 100A, 125A, 150A ~ 8EA
Kunyoung Machinery	Kunyoung Machinery	FN-MASS KC-7730GF, Compressed Air
SAMSUNG ELECTRONICS	For precise measurement of gas accumulation	KC-7730GF O2-65A, N2-32A ~ 2EA
Korea Water Resources Corporation	Korea Water Resources Corporation	FN-MASS KC-7730SF 25A Steam, Water ~ 2EA
Chungbuk Sewage Treatment Plant	For testing of water and wastewater facilities	KC-7730B-FM153BEx, 300A, 350A, Bio gas~ 2EA
Innowill Co.,Ltd.	Korea Energy Research Institute	FN-MASS KC-7730GF, 100A, 50A, Blower Air ~ 2EA

FN-MASS flow meter Delivery Performance Table 450EA

Client	Enduser	Model
INFORAD CO.,LTD.	Korea Energy Research Institute For vacuum pump precision flow test	FN-MASS KC-7730OP 공기 25A, 40A
Korea Energy Research Institute	Hydrogen charging station 1st and 2nd plants	KC-7730G-FM153B, H2 Mixture, 50A, 8.2barg 25.2-252 kg/h, 200°C
INNO WILL CO.,LTD.	Korea Energy Research Institute	FN-MASS KC-7730OP 50A, 65A, AIR ~ 2EA
Toray Advanced Materials.	For precise measurement of gas accumulation	FN-MASS KC-7730OP-FM153B ~ 2EA O2-65A, N2-32A
Energy Technology Evaluation Institute	Ammonia decomposition hydrogen production purification system	FN MASS KC-7730OP-FM153B ~ 2EA 20A,NH3 Mix, 7.43barg, 20A-H2 Mix, 6.93barg
Korea Aerospace Industries' Sacheon site	Korean fighter KF-21 fuel system integrated rig test equipment	FN MASS KC-7730OP-FM153B ~ 12EA JP-5,100A(2),15A(3), Liquid, 20A(6),32A(1)
Energy Technology Evaluation Institute	Alkaline water electrolysis for BOP hydrogen measurement	FN-MASS KC-7730OP-FM153B, ½",5Nm3/h
KEPCO Electric Power Research Institute (Daejeon)	For precision measurement of hydrogen generators	FN-MASS KC-7730OP-FM153B 3/8", 200 LPM, 3-5 Barg
POSCO KWANG YANG	Nitrogen gas purification system	FN-MASS KC-7730OP, 150A, 5,000Nm3/h
POSCO Pohang Stainless Steel 3	For precise measurement of gas cutters	KC-7730OP-FM153B, 25A, LNG, O2 ~ 2EA
SK Innovation	For precise measurement of hydrogen gas	KC-7730H-FM153BEx, ½", 55-1520LPM, Nor17 Max 30Barg
Guri Sewage Treatment Plant	For precise measurement of biogas consumption	KC-7730G-FM153BEx, Bio gas, 80A ~ 3EA
INNO WILL CO.,LTD.	Korea Energy Research Institute	FN-MASS KC-7730OP 150A, AIR
Haesung DS Co., Ltd. Changwon Headquarters	For precision measurement of semiconductor plasma process and hydrogen generator	KC-7730H-FM153BEx, 3/8",15-150LPM,3-5Barg
Uljin Livestock Manure Treatment Plant	For precision measurement of biogas for supply to generators	KC-7730B, Bio Gas, 50~500mmH2O,40~60°C 100A-800Nm3/h, 80A-500Nm3/h ~ 3EA
LS Cable & System / POSCO R&D Center	For precise measurement of LNG consumption	LNG,80A,160Nm3/h,31°C,30Kpa,24V.RS-485~ 6EA
POSCO R&D Center	1For sintering steam research project	KC-7730S,Steam,250A,8-80Ton/h,193°C,8BAR
POSCO KWANG YANG	For precise steam measurement	KC-7730S,Steam,100A,7000kg/h,190°C,7Bar
Lithium Plus Geumsan Plant	Sodium hydroxide crystallization facility pjt for semiconductor fuel cell	KC-7730S,Steam,200A,150A,100A ~ 6EA KC-7730L,Liquid,80A,40A,25A ~ 10EA
Hyundai Motor	For precision testing of hydrogen generator	KC-7730H-FM153BEx, H2,3/8",2-40m3/h,8.2Barg ~ 2EA
LG Energy Solution	Danil Gaschem Co., Ltd., for precise measurement of nitrogen gas	KC-7730G,N2 Gas,7.5Bar,70-1200Nm3/h,25°C
ECO PRO CO.,LTD.	For air precision measurement in laboratory test facilities	KC-7730G,Air,300A,130m3/min,95-101Kpa,25°C
Eumseong Livestock Manure Treatment Plant	For precision measurement of biogas for supply to generators	KC-7730B, Bio Gas, 50~300mmH2O,40~60°C 125A-125Nm3/h, 208Nm3/h ~ 3EA
Posco Pohang	For precision measurement of air lines	KC-7730G,50A,800Kpa,25°C,63-630Nm3/h
Water Resources Corporation	Membrane filter for precise measurement of air	KC-7730G,300A,25°C,0.8Bar,800-8000Nm3/h
Daejeon Techno Park Hydrogen Electric Vehicle	For precise measurement of hydrogen gas at hydrogen charging stations	KC-7730H-FM153BEx, H2 GAS, ½", 1~10Nm3/min, 20°C, 250Bar
Ulsan Sewage Treatment Plant	For precise steam line measurement	KC-7730S-FM153BEx, Steam, 50A, 1~10Ton/h, 205°C, 17Bar
Korea Land & Housing CorporationHwaseong Dongtan 2 Clean Energy C	For precision measurement of biogas trade	KC-7730B-FM153BEx, Bio gas, 250mmAq, 30~40°C, 50A, 20-200Nm3/h ~ 2EA 100A, 28~280Nm3/h ~ 1EA
Hyundai Motor	Hydrogen equipment, for precise measurement of hydrogen gas	KC-7730H-FM153BEx, 10A, H2 GAS, 5000SLPM -50~95°C, 40BAR ~ 3EA
Posco Pohang	For precision measurement of air lines	KC-7730G,50A,800Kpa,25°C,63-630Nm3/h ~ 3EA
Maeil Dairies Gochang Cheese Factory	For Steam EMS System Project	KC-7730S,80A,125A179°C,7.9BAR ~ 2EA
ECO PRO CO., LTD.	For O2 Gas trading	KC-7730-FM153B, 80A, O2 Gas, 30-1,500Nm3/h 25°C, 8.8 Bar
KEPCO Technology	For hydrogen gas trading	FN-MASS KC-7730H-FM153B ~ 2EA H2 Gas,3/4",100Nm3/h, 30Nm3/h,40-90°C, 8-9.7 Barg
Hong Bo Energy	Gaswell Co., Ltd. For precise measurement of gas supply at biogas purification equipment	KC-7730B-FM153B,200A,120-4,200Nm3/h

FN-MASS flow meter Delivery Performance Table 458EA

Client	Enduser	Model
Daesang Co., Ltd. Gunsan Factory	Bauman Co., Ltd. Biogas purification facility for precise measurement for gas trading	KC-7730B-FM153B,200A,120-4,200Nm3/h
Geugdong Chemical Gunsan Factory	Bauman Co., Ltd. Biogas purification facility for precise measurement for gas trading	KC-7730B-FM153B,200A,120-4,200Nm3/h
Taerim Paper Masan Factory	For precise measurement of incinerator main steam	KC-7730S,Steam,400A,6.5-65Ton/h,176°C,8BAR
Maeil Dairies Yeongdong Factory	For Steam EMS System Project Main & Header Line	KC-7730S, 179.5°C, 7.9 Bar Steam, 200A(2대), 500 ~ 5,000kg/h Steam, 125A, 250 ~ 2,500kg/h Steam, 50A, 50 ~ 500kg/h ~ 5EA
Nexen Tire Changnyeong Factory	For Steam EnMS System Project Main & Header Line	KC-7730S, Steam, 150A(2대),125A,80A(2대),65A,50A ~ 7EA
LG Chemical Cheoungju Factory	Steam Main & Header Line	FN-MASKC-7730S,스팀,200A,100A(8대)~ 9EA 8 Bar, 180°C, 100A, 0.15~2.5 T/h, 0.2~3 T/h
BEF Co., Ltd. Asan Factory	For precise measurement of main flow rate for biogas commerce	KC-7730B-FM153B,300A,200A,,250mmAq,30°C~ 2EA
TCC Pohang	For the Steam EnMS System Project, Main & Heater Units (2 units) in the first batch, 33 units in the second batch - Total of 35 units	Steam, 25A(14대), 50 ~ 500kg/h, 179.5°C , 7.9 Bar Steam, 40A(13대), 100 ~ 1,000kg/h, 179.5°C , 7.9 Bar Steam, 50A(3대), 150 ~ 1,500kg/h, 179.5°C , 7.9 Bar Steam, 65A(3대), 200 ~ 2,000kg/h, 179.5°C , 7.9 Bar Steam, 80A(1대), 250 ~ 2,500kg/h, 179.5°C , 7.9 Bar Steam, 200A(2대),1,000 ~ 10,000kg/h, 179.5°C , 7.9 Bar
Jeonbuk Buan electrolysis production base	Hyundai Engineering & Construction Plant 2 - Fuel Cell Vehicle Maintenance Room, Experimental Building & Performance Evaluation Room for Precision Hydrogen Gas Measurement	KC-7730H-FM153K,25A,150Nm3/h,ANSI 300# RF 100Nm3/h,ANSI 150# RF,28°C, 20Barg ~ 2EA
KEPCO Technology is approving additional products.	Hizen Tech Solution Co., Ltd., for precision measurement of hydrogen generators	FN-MASS KC-7730H-FM153B ~ 2EA H2 Gas,3/4",100Nm3/h, 30Nm3/h,40-90°C, 8-9.7 Barg
Korea Aerospace Industries Sacheon site	Seonyoung Systec (2 units) under approval Korea Fighter KF-21 Fuel System Integrated Rig Test Equipment	FN MASS KC-7730L-FM153K ~ 2EA JP-8, 100A(2), 25~500GPM, AMB, 145psi (10 bar)
Korea Institute of Machinery and Materials, Daejeon	hydrogen gas test facility	KC-7730H-FM153K, 25A, H2 GAS, 0 ~ 1 g/Sec,25°C, 3-4 Barg ~ 1EA
Bigtex Seogu Factory	Carbon-neutral CO2 emissions precision measurement project	KC-7730G (for gas), Flue mixed gas 6" (4 units), CO2 mixed gas 2-1/2" (2 units), 2" (1 unit), KC-7730L (for liquid), Amine, 1-1/2", 1/2" (3 units) ~ 11EA
Korea Aerospace Industries (KAI)	Fuel System Line (KOLAS Included)	KC-7730OP,100A,JP-5,20~500GPM,AMB,10Bar~ 2EA
Hongbo Energy Gaswell Co., Ltd.	Biogas Purification Facility Gas Metering Measurement	KC-7730B-FM153B,200A,120-4,200Nm3/h
Doosan Enerbility Yeosu	Pilot Plant Air Precision Measurement	KC-7730G,Air+CO,1/2"LOK,240°C,69Barg,max. 0.33m3/h
Booster Co., Ltd.	Hydrogen Flow Metering Measurement	KC-7730H-FM153K,H2, 50A, 50-600Nm3/h,DC24V,RS485
Korea Environment Corporation	Bu-UI Branch / Yangsan City Digester Biogas Metering Measurement	KC-7730B-FM153K,Bio gas, 150A, 150Nm3/h, DC24V~ 2EA
Gumi Gunwi-gun Livestock Manure Treatment Plant	Digester Biogas Metering Measurement	KC-7730B,Bio gas, 80A,200~200m3/h,DC24V ~ 2EA
Gumi Wastewater Treatment Plant	Main Compressed Air Precision Measurement	KC-7730G,Air,500A,ATM,10Barg,4-20mA,DC24V ~ 10EA

The above delivery performance information is true and correct.

Golden Rule Co., Ltd. August 2026



T-mass flow meter field photos

Golden Rule Co., Ltd. Introduction



Overseas LPG & AIR Mixer
Explosion-proof, Inline type
97 units delivered
(Domestic & Export)



Busan Gwangandaegyo &
Yeongjong Bridge Cable
air-insert valve type 22
units delivered



Delivered 203 units for
compressed air to Daegu
Dalseong Industrial
Complex Energy



Delivery of 56 units of
Hyundai Powertech city gas
burners for measurement



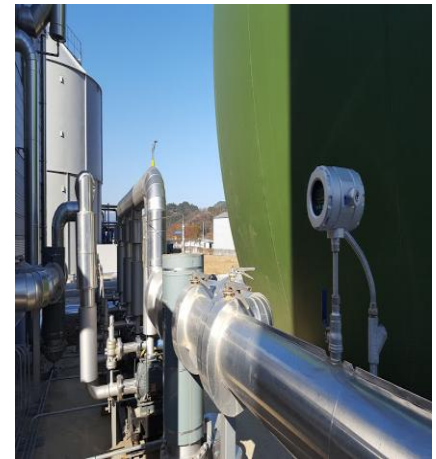
Korea Gas Corporation
(Samcheok & Tongyeong Base)
Delivery of 3 units for Flare
Stack Fuel Gas & LNG Main
Supply



Tancheon Environment Co.,
Ltd. Delivery of 196 units for
measuring air flow in the
aeration tank

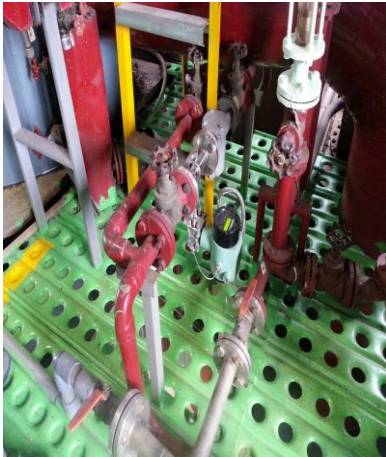


Gwangju Environment
Corporation Biogas, 100A
line



Yeongcheon sewage
sludge Bio Gas, 200A line

FN-Mass Flow Meter field photos Golden Rule Co., Ltd. Introduction



Ethanol production process,
line 25A



City Railway Corporation
Water, 50A Line



Icheon (Residual Body
Disposal System) LPG,
25A line



Boiler water supply, 50A
line



Ship ballast water system
device



Hanwha Ulsan Plant Air,
100A Line



Korea Institute of Machinery and Materials
Cheonan LNG
50A(2), 65A(2), 80A, 100A, 125A, 150A
~ 8EA

6. Certification documents

Golden Rule Co., Ltd. Introduction

[별지 제3호서식]

제 2020-0553-00074 호

직접생산확인증명서

○대 분 류 : 실험실용실험,측정,관측및검사기기
○제 품 명 : 유체측정용기기
※ 동 제품의 직접생산 가능범위: 불임의 세부명칭 '별첨특허사항'에 따른
○성 산 업 계 령 : (주)골든룰
○사 업 자 번 호 : 131-86-61891
○대 표 자 생 명 : 홍한모
○소 제 제 (본사) : 인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호
(공장1) : [131-86-61891] 인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호
※ 별첨 「생산과정 기록」에 계속
○유 효 기 간 : ※ 불임의 세부명칭 유효기간 참조
「중소기업제품 구매촉진 및 판권지원에 관한 법률」 제25조제4항 본문 및 같은 법 시행규칙 제25조제3항에 따라 위와 같이 직접생산을 증명합니다.

출력일자: 2020년 11월 11일

중소기업중앙회

※ 유의사항(별첨표지)

① 직접생산 제품 또는 다른 회사 제품을 중 직접생산하지 아니한 제품, 직접생산한 제품에서 다른 회사 상표 부착제품을 납품금지
② (별첨표지, 소제제) 중소기업제품구매촉진 및 판권지원에 관한 법률 제25조제4항 본문 및 같은 법 시행규칙 제25조제3항에 따라 위와 같이 직접생산을 증명합니다.
③ 생산일지 및 설계, 제작 등 직접생산확인서 제출 시 30일 이내에 증명서 반환
④ (별첨표지, 소제제) 중소기업제품구매촉진 및 판권지원에 관한 법률 제25조제4항 본문 및 같은 법 시행규칙 제25조제3항에 따라 위와 같이 직접생산을 증명합니다.
⑤ 직접생산확인서를 증명서 이면 제 3항에서 제4항에 기재된 사항에 따라 직접생산확인서 제출
※ 이 증명서는 중소기업제품 구매촉진 및 판권지원에 관한 법률 제25조제4항 본문 및 같은 법 시행규칙 제25조제3항에 따라 위와 같이 직접생산을 증명합니다.
※ 이 증명서는 중소기업제품 구매촉진 및 판권지원에 관한 법률 제25조제4항 본문 및 같은 법 시행규칙 제25조제3항에 따라 위와 같이 직접생산을 증명합니다.

특허증
CERTIFICATE OF PATENT

특허 제 10-1660226 호

발명번호 제 10-2014-0149787 호
출원일 2014년 10월 31일
등록일 2016년 09월 21일

발명의 명칭 The name of the invention
열차 차량용 조명장치

특허권자 Inventor
주식회사 골든룰(131-86-61891)
인천광역시 남동구 남동로577길 51(금곡동)

발명자 Inventor
홍한모(130407-*****)
인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

위의 발명은 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2016년 09월 21일
특허청장
COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
최용수

특허증
CERTIFICATE OF PATENT

특허 제 10-1606497 호

발명번호 제 10-2015-007584 호
출원일 2015년 02월 26일
등록일 2016년 09월 21일

발명의 명칭 The name of the invention
유형합성 나노입자 합성방법에 관한 발명

특허권자 Inventor
동북대학교에 기재

발명자 Inventor
동북대학교에 기재

위의 발명은 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2016년 09월 21일
특허청장
COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
최용수

특허증
CERTIFICATE OF PATENT

특허 제 10-2986225 호

출원번호 제 10-2025-0158125 호
출원일 2025년 10월 28일
등록일 2026년 06월 30일

발명의 명칭 The name of the invention
열차 차량용 조명장치

특허권자 Inventor
주식회사 골든룰(131-86-61891)
인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

발명자 Inventor
동북대학교에 기재

위의 발명은 대한민국 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Ministry of Intellectual Property of the Republic of Korea.

2026년 06월 30일
지식재산청
MINISTER
REPUBLIC OF KOREA
김용선

공정거래위원회
공정거래위원회(신청)서

제 2025-04월 08일

발명번호 제 10-2025-0158125 호
출원일 2025년 10월 28일
등록일 2026년 06월 30일

발명의 명칭 The name of the invention
열차 차량용 조명장치

특허권자 Inventor
주식회사 골든룰(131-86-61891)
인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

발명자 Inventor
동북대학교에 기재

위의 발명은 대한민국 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Ministry of Intellectual Property of the Republic of Korea.

2026년 06월 30일
지식재산청
MINISTER
REPUBLIC OF KOREA
김용선

연구개발전담부서 인정서

제 2024157072 호

1. 전담부서명: 연구개발부
[소속기업명: (주)골든룰]

2. 소 제 제: 인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

3. 신고 연월일: 2024년 10월 28일

과학기술정보통신부

「기초연구진흥 및 기술개발지원에 관한 법률」 제14조의 2제1항 및 같은 법 시행규칙 제27조제1항에 따라 위와 같이 기업의 연구개발전담부서로 인정합니다.

2024년 10월 28일
한국산업기술진흥협회

KICR

환경 경영 체제 인증서

주식회사 골든룰

인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

한국산업인정원은 상기 기업의 환경경영체제가 아래의 인증기준 및 인증범위의 기준에 적합함을 인증함.

ISO 14001:2015 / KS I ISO 14001:2015

인증번호: KICR-H-002
인증 유효기간: 2025. 06. 28.
유효 기 간: 2022. 06. 27.

한국산업인정원

벤처기업확인서
CERTIFICATE OF VENTURE ENTERPRISE

제 2025-04월 08일

발명번호 제 10-2025-0158125 호
출원일 2025년 10월 28일
등록일 2026년 06월 30일

발명의 명칭 The name of the invention
열차 차량용 조명장치

특허권자 Inventor
주식회사 골든룰(131-86-61891)
인천광역시 연수구 송도동 제30-3지선상실험용,측정,관측및검사기기 1805호(송도동, 송도 제30-3지선상실험용,측정,관측및검사기기 1805호)

발명자 Inventor
동북대학교에 기재

위의 기업은 「벤처기업육성에 관한 특별법」 제25조의 규정에 따라 벤처기업임을 확인합니다.

2025년 04월 08일
벤처기업확인서

Attestato di esame CE del tipo
EC-type-examination certificate
n. ECM 16 ATEX-9 001

Elaborato a norma della direttiva 2014/53/CE - Allegato III
Issued according to 2014/53/CE - Annex III

Richiedente
Applicant
Regime Sociale
Company Name
Indirizzo
Office 127, 160 Techno-2, Yongsang, Gyeonggi, Korea
Luogo di produzione
Place of production
Apparecchiatura
Equipment
FLOMASTER (FMS58)

Questo attestato di esame CE del tipo EC-type-examination certificate relates only to the design, production, and testing of the product. It does not constitute a guarantee of the product's safety or performance. The certificate is issued on the basis of the information provided by the applicant and the results of the examination. It is not valid for products that are not covered by the certificate. The certificate is issued for a limited period of time and is subject to renewal. The certificate is issued for a limited period of time and is subject to renewal. The certificate is issued for a limited period of time and is subject to renewal.

Ente Certificazione Macchine srl
Via S. Rita, 10 - 20121 Milano - Italy
Tel. +39 02 58 58 58 58 - Fax +39 02 58 58 58 58
E-mail: info@entecertificazionemacchine.it - Web: www.entecertificazionemacchine.it

6. Certification documents

Golden Rule Co., Ltd. Introduction

KS
No. 2012 - 0412

Safety Certificate

Manufacturer: OHSUNG MECHANICAL CO., LTD.
Address: 151-1, Yanggungri, Jincheon, Namyangju-si, Gyeonggi-do, Republic of Korea

The following equipment fabricated by the above manufacturer has been certified for the use of the Safety Certification Mark as the equipment is assessed and tested in accordance with the article 34 of the Occupational Safety & Health Act and the article 58 (4) 4 of the Enforcement Rule thereof.

Product: FLOWMETER
Type/Model: KC-9820-EX
Rating: 2W 2P 24V
Type of Protection: EX dIIB T4/F60
Certification No.: 12-04090-0412
Safety Certification Standard: Notification of Provisions under Mandatory Safety Certification (Notice of Ministry of Employment and Labor No. 2010-20)
Certification condition: 1. Tamb = -20 °C ~ +40 °C
2. Each product shall be subjected to a static overpressure test at 1.1 MPa
Date of Issue: July 18th, 2012

Approved for issue on behalf of the president: *Ki Hyun Song*
General Manager
Signature: *[Signature]*

KGS Korea Gas Safety Corporation

12A-A03A-003-003A

방송통신기자재등의 적합등록증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 Trade Name or Registrant	주식회사 글론티
기자재명칭(제품명칭) Equipment Name	열식열량유량계
기부번호 Equipment code	241901
기본모델명 Basic Model Number	
파생모델명 Series Model Number	
등록번호 Registration No.	R-REM-GR-241901
제조자/제조국가 Manufacturer/Country of Origin	주식회사 글론티 / 한국
등록연월일 Date of Registration	2018-01-05
기타 Others	

위 기자재는 「전자파」 제58조의2 제3항에 따라 등록되었음을 증명합니다.
It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2018년(Year) 01월(Month) 05일(Day)

국립전파연구원장
Director General of National Radio Research Agency

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03A-003A-003-003A

방송통신기자재등의 적합등록증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 Trade Name or Registrant	주식회사 글론티
기자재명칭(제품명칭) Equipment Name	열식열량유량계
기부번호 Equipment code	241901
기본모델명 Basic Model Number	KC-7788
파생모델명 Series Model Number	
등록번호 Registration No.	R-GR-KC-7788
제조자/제조국가 Manufacturer/Country of Origin	주식회사 글론티 / 한국
등록연월일 Date of Registration	2025-12-22
기타 Others	

위 기자재는 「전자파」 제58조의2 제3항에 따라 등록되었음을 증명합니다.
It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2025년(Year) 12월(Month) 22일(Day)

국립전파연구원장
Director General of National Radio Research Agency

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C105-A03A-003A-003A

방송통신기자재등의 적합등록증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 Trade Name or Registrant	주식회사 글론티
기자재명칭(제품명칭) Equipment Name	열식열량유량계
기부번호 Equipment code	241901
기본모델명 Basic Model Number	KC-7788
파생모델명 Series Model Number	
등록번호 Registration No.	R-GR-KC-7788
제조자/제조국가 Manufacturer/Country of Origin	주식회사 글론티 / 한국
등록연월일 Date of Registration	2025-12-22
기타 Others	

위 기자재는 「전자파」 제58조의2 제3항에 따라 등록되었음을 증명합니다.
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2025년(Year) 12월(Month) 22일(Day)

국립전파연구원장
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03A-003A-003-003A

방송통신기자재등의 적합등록증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 Trade Name or Registrant	주식회사 글론티
기자재명칭(제품명칭) Equipment Name	열식열량유량계
기부번호 Equipment code	241901
기본모델명 Basic Model Number	KC-8888
파생모델명 Series Model Number	
등록번호 Registration No.	R-GR-KC-8888
제조자/제조국가 Manufacturer/Country of Origin	주식회사 글론티 / 한국
등록연월일 Date of Registration	2025-12-22
기타 Others	

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2025년(Year) 12월(Month) 22일(Day)

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