

# Domestic Diaphragm GAS METER

## DMG (HOUSEHOLD GAS METER)



### TYPE OF GAS USED

- ▶ City Gas, LPG, natural gas

### OPERATION PRINCIPAL

- ▶ Gas supplied to gas meter inlet flow through valves and distribution chambers and finally flow out to out of gas meters. Then it causes reciprocating motions to diaphragm due to pressure difference and the motions converted to rotating motions so it is displayed as amount of gas used on index.

### CHARACTERISTICS

- ▶ DMIT gas meters satisfy OIML and all of domestic standards.
- ▶ For smooth rotating motions of synchronization tools, the products used synthetic resins with high friction resistance and it ensures precise detecting and measuring even for very small amount of flow
- ▶ Rotary valves and valve seats are made of materials with excellent durability and it is actually processed in order to minimize noise generation.
- ▶ As a drain holder is installed on the inlet side of the gas meters, it prevents functional problems when alien substances are infiltrated and also helps preventing freezing due to moistures during winter.
- ▶ As the diaphragm used in the product has excellent durability against low and high temperature and water and is made of ring type uncompressible membranes, this outstanding product performs stable pressure difference function.
- ▶ As a pressure difference control device ( $Q_t \sim Q_{max}$ ) is installed inside of the product, it performs extremely stable pressure difference function compared to products from other brands.

### Quality of material used

- ▶ Body is made of aluminum die-casting which is string against shock from outside and with excellent corrosion resistance.
- ▶ As rotating parts are highly durable and made of special synthetic resin which is especially tough against LP gas, the product ensures excellent error curve.
- ▶ As high quality grease which has high low and high temperature resistance, great toughness against gas and with great lubrication, smooth rotation is guaranteed over a long time.

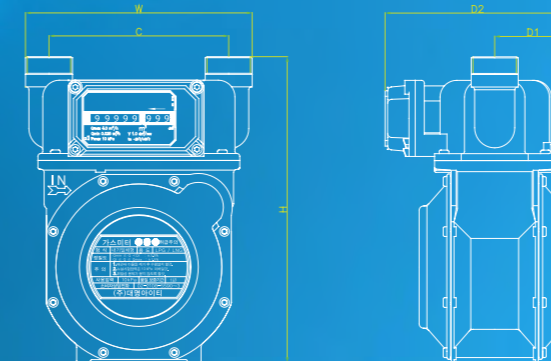
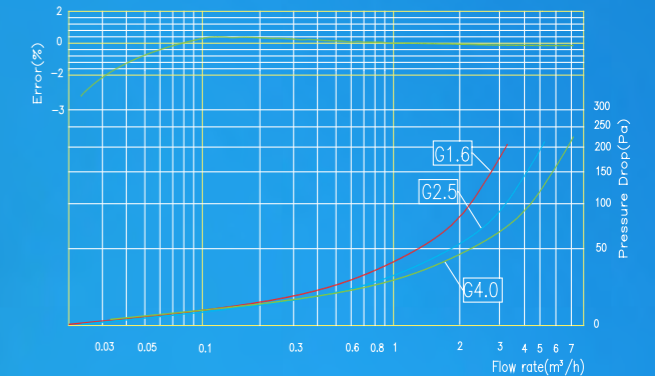
### Cautions when installing the product

- ▶ Little blow into the inlet of the gas meter to check if it rotates ok.
- ▶ Supply pipe must be installed after leakage test.
- ▶ Clean up the inside of the supply pipe before installation.
- ▶ The product must be installed horizontally.
- ▶ Check inlet and outlet must be checked before installation.
- ▶ Do not apply any shock or force against the product.
- ▶ Install the product where it can be easily removed for maintenance.

### Check points after installation

- ▶ Please check if there is any part that is leaking.
- ▶ Let all air out completely and slowly open up the valve.
- ▶ Make a record about product number, date of last check and initial reading.

### Performance Curve



### Exterior Measurement

Category	KG2	KG3S	G1.6	G2.5	G4.0	G6.0A	G6.0B
Height (H)	197	214	214	221	230.5	279.5	
Width (W)	128	164	164	164	165	171.91	
Center (C)	100	100	130	130	130	130	250
Depth (D1)	44	52	52	55	54	61	
Depth (D2)	110	130	130	134	134.5	148	

### Specifications

Category	KG2	KG3S	G1.6	G2.5	G4.0	G6.0A	G6.0B
Max Capacity (m³/h)	2.5	2.5	4	6	10		
Min Capacity (m³/h)	0.016	0.016	0.025	0.04	0.06		
Cyclic Volume (L/rev)	0.4	0.78	1	1.2	2		
Max Counter (m³/h)	9999.999			99999.999			
Max Operating pressure (kPa)	10 or (50kPa)						
Min Counter (L)	0.2						
Accuracy	$Q_{min} \leq Q < Q_1 Q_{max}$			±3.0			
	$0.1 Q_{max} \leq Q \leq Q_{max}$			±1.5			
Temperature (°C)	-20~+60						
Weight (Kg)	1.5	1.6		1.8	2	2.8	3.0
Connecting pipe (UNION)	15mm PT 1/2"	15mm PT 1/2"	20mm PT 3/4"	20mm PT 3/4"	20mm PT 3/4"	25mm PT 1"	



## Remote Reading Diaphragm GAS METER

### CHARACTERISTICS

- ▶ DMIT gas meters allow precise gas measurements from remote places as they have devices which can emit electrical signals installed inside.
- ▶ They are easy to be installed and uninstalled regardless of installation spot.
- ▶ They do not require extra external power sources but have simple structures and are easy to be managed.

### STRUCTURES

- ▶ Flow part : By attaching magnets and reed switches inside, the meters transmit electrical signals corresponding to the amount of flow.
- ▶ Command part : By using micro-processors and LCDs, it receives electrical pulse corresponding to amount of flow from flow part then calculates and displays the information on LCD window.

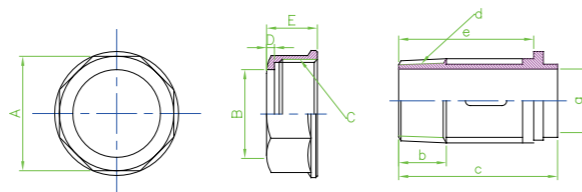
MODEL	NUT(mm)			TUBE(mm)		
G1.6						
G2.5	36	Φ27.6	M34x1.5	2.5	16	Φ20 15 49
G4.0						20 mm PT 3/4" 42.5

### OPERATION PRINCIPAL

- ▶ First it forms electrical signal corresponding to certain volume (10 liters) from flow signal emitter installed within the meter then transmits this to remote command part via cables.

### QUALITY OF MATERIAL USED

- ▶ The exterior is made of aluminum die-casting thus causes no deformation after a long period of time used
- ▶ Valves are made of special synthetic resin with low friction coefficient and high durability.
- ▶ Rotating parts are made of synthetic resin which has high durability and gas resistance thus maintains stable performance after a long period of time used.



## Digital Diaphragm GAS METER

### CHARACTERISTICS

- ▶ With high sensitivity on even small amount of flow (Pilot), this product provides extremely precise readings.
- ▶ Measured values are immediately displayed on LCD panel.
- ▶ Precise remote measurement is available via digital communication output.

### STRUCTURES

- ▶ During normal conditions, it displays normal values on LCD panel and it is designed that its options can be adjusted by approaching a magnet onto lead switch from outside.
- ※ By applying non-magnetic sensors, it is tough against magnetic forces from outside.

### PARTS

- ▶ All electronic parts used in the products have the best qualities with excellent characteristics and durability as they can be used over 10 years without any replacement.
- ▶ Non-volatile memory: This allows read and write on major measurement information over 10 years or more.

### DISPLAYING DEVICES

- ▶ Voltage: 3.6V
- ▶ The displaying devices in the meters have the LCD panel of following specifications.
- ▶ Displaying type: segmental
- ▶ Viewing angle: When read from 2m away toward 6 O'clock direction, it has clear contrast so the readings on commands and conditions from the display are easily readable.
- ▶ The parts used for LCD, lead cable and other peripherals have strong resistive characteristics against temperature and time.
- ▶ Poly-carbonate materials are used for KCD window.
- ▶ The last measurement reading is automatically recorded and saved in memory.

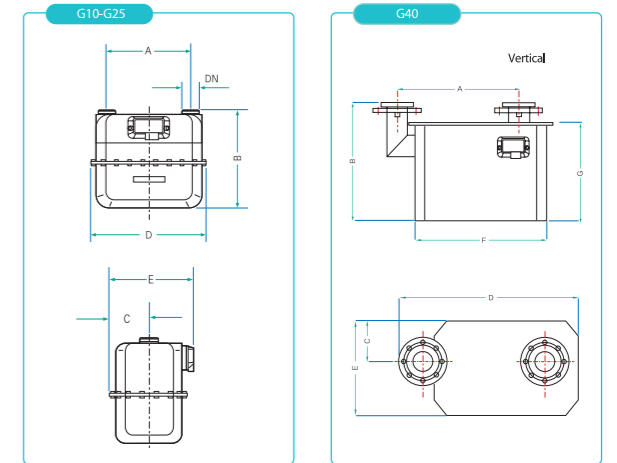


# Commercial Diaphragm GAS METER

COMMERCIAL & INDUSTRIAL

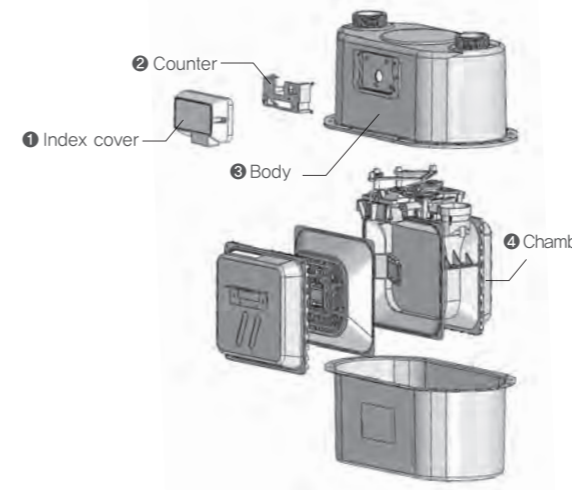


## Specification / Dimension



## Mechanism

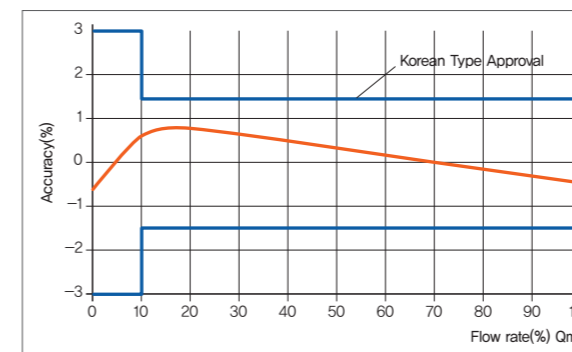
► Measuring chambers are separated by synthetic diaphragms. The chambers are filled, and emptied periodically as the chambers slide left and right, and the movement of the diaphragms is transferred via a gear to the crankshaft. This shaft moves the valves, which control the gas flow. The rotations of the gear are transferred via a magnetic coupling to the index.



Indication	Unit	G10	G16	G25	G40
A	mm	280	280	335	510
B	mm	333	333	398	495
C	mm	119	119	143	172
D	mm	415	415	475	753
E	mm	239	239	294	400
F	mm	-	-	-	551
G	mm	-	-	-	415
Weight	Kg	6.7 (7.7)	6.7 (7.7)	11 (12.5)	50

Indication	G10	G16	G25	G40
Nominal Diameter (DN)	40mm(Union)	50mm(Union)	80mm(Flange)	
Operating Pressure (Kpa)	50 (100Kpa Option)			
Cyclic Volume (dm <sup>3</sup> )	6	12	18	
Minimum Capacity (m <sup>3</sup> /h)	0.1	0.16	0.25	0.4
Maximum Capacity (m <sup>3</sup> /h)	16	25	40	65
T.D.R	1:160			
Error P Qmax-Qt	Within ±1.5%			
Error P Qt-Qmin	Within ±3.0%			
Max Counter	999999.99			
Using Gas	LPG, LPG, Inert Gas			
Body Material	Aluminium Steel			
Pulser	Magnet for the pulse was installed inside.			
Approval	Korean Type Approval			

## Accuracy curve



# APPENDIX

## How to install reed switch?

For commercial diaphragm gas meters



1. Prepare reed switch.



2. Where to insert reed switch.

Very below the rolling counter, you can find silver sticker. Please remove the sticker off.



3. Remove the plastic part.

With driver or something sharp tools, you can remove the plastic part.



4. Insert reed switch.

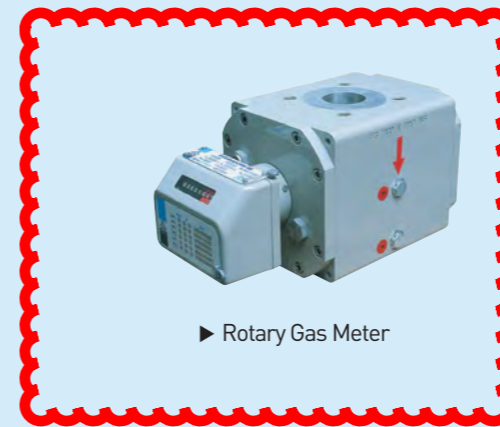
Insert the reed switch into bottom of the index cover like picture shown.



5. Screw the bolt.

Fasten the reed switch as screwing the bolt.

## Other Products



▶ Rotary Gas Meter



▶ Turbine Gas Meter



▶ Volume Corrector(UNIGAS300)



▶ Heat Meter (DMH 500)



▶ Cold Water Meter



▶ Hot Water Meter

## Certification

DMIT has certifications as ISO9001, ISO14001, KS B8300, Gost (of Russia) and more, and acquired Korean Type Approval which follows recommendations of OIML R137.

