



OVAL GEAR FLOWMETER

SERIES

MOGF

Fluidex series MOGF is a Positive Displacement Flow Meter with medium capacity. The meters have two rotating gears in oval-shape. A fixed amount of the liquid passes between the gear teeth and through the meter after each revolution. The flow rate is identified by the number of shaft rotations. MOGF are used in a wide range of applications where accurate measurement of liquid is required.

FEATURES AND BENIFITS:

- ⚙ High accuracy & repeatability
- ⚙ No need for flow conditioning
- ⚙ Measure low & high viscosity liquids
- ⚙ Available in DN15 to DN50 (½" to 2") line sizes
- ⚙ Flow range covered from 1~580 LPM (0.26~150 US GPM)
- ⚙ Pressure up to 400 BAR (5800 PSI)
- ⚙ Available in screwed or flanged ends
- ⚙ Available with wide range of mechanical and electronic registers
- ⚙ Available in Aluminium and Stainless Steel execution
- ⚙ Available in explosion proof and Intrinsically Safe enclosures
- ⚙ Quadrature pulse output option
- ⚙ 4-20 mA Integral output option
- ⚙ Bi-directional flow

STANDARD OPTIONS:

- ▶ *Flanged and hygienic process connections*
- ▶ *Explosion proof*
- ▶ *Mechanical registers*
- ▶ *Integral and remote LCD totalizer and batch totalizer*
- ▶ *Flow rate totalizers*
- ▶ *Scaled pulse*
- ▶ *4~20mA & flow alarm outputs*
- ▶ *Electronic batch controllers and pulse processing modules*



GENERAL SPECIFICATIONS

MOGF	015	025	040	050	050E
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METER PERFORMANCE

	Accuracy @ 3cp
Pulse Meters	± 0.5% of reading (± 0.2% with optional NL correction)
Mechanical 'M' Registers	± 1% of reading
Mechanical 'V' Registers	± 0.5% of reading
Repeatability	Typically ±0.03% of reading

FLOW RANGE

	Flow Range				
Size in MM (INCH)	DN15 (1/2")	DN25 (1")	DN40 (1 1/2")	DN50 (2")	DN50 (2")
LITERS / MINUTE	1~40	10~150	15~250	30~450	35~580
US GPM	0.26~10.6	2.6~40	2.6~66	8~120	9~150

PRESSURE RANGE

METERS (PULSE)	Maximum pressure in Bar (PSI)				
Aluminium (A)					
Screwed	68 (990)	68 (990)	30 (435)	20 (285)	20 (285)
Flanged (ANSI 150)	N/A	12 (175)	12 (175)	12 (175)	12 (175)
Flanged (DIN 16)	N/A	16 (235)	16 (235)	16 (235)	16 (235)
Flanged (JIS 10K)	N/A	10 (145)	10 (145)	10 (145)	10 (145)
Aluminium (M)					
Screwed	N/A	138 (2000)	N/A	N/A	N/A
Stainless Steel (S)					
Screwed	68 (990)	68 (990)	30 (435)	38 (550)	N/A
Flanged (ANSI 150)	N/A	12 (175)	12 (175)	12 (175)	N/A
Flanged (DIN 16)	N/A	16 (235)	16 (235)	16 (235)	N/A
Flanged (JIS 10K)	N/A	10 (145)	10 (145)	10 (145)	N/A
Stainless Steel (N)					
Screwed	100 (1450)	100 (1450)	50 (725)	50 (725)	N/A
Stainless Steel (H)					
Screwed	400 (5800)	400 (5800)	400 (5800)	300 (4350)	N/A

METERS (MECHANICAL)	Maximum pressure in Bar (PSI)				
Aluminium (A)					
Screwed	40 (580)	40 (580)	30 (435)	20 (285)	20 (285)
Screwed – Veeder Root	N/A	N/A	20 (285)	20 (285)	20 (285)
Flanged (ANSI 150)	N/A	12 (175)	12 (175)	12 (175)	12 (175)
Flanged (DIN 16)	N/A	16 (235)	16 (235)	16 (235)	16 (235)
Flanged (JIS 10K)	N/A	10 (145)	10 (145)	10 (145)	10 (145)
Stainless Steel (S)					
Screwed	40 (580)	40 (580)	30 (435)	20 (285)	N/A
Screwed – Veeder Root	N/A	20 (285)	20 (285)	20 (285)	20 (285)
Flanged (ANSI 150)	N/A	12 (175)	12 (175)	12 (175)	N/A
Flanged (DIN 16)	N/A	16 (235)	16 (235)	16 (235)	N/A
Flanged (JIS 10K)	N/A	10 (145)	10 (145)	10 (145)	N/A

(A, S) Normal Pressure, (M, N) Intermediate Pressure, (H) High Pressure

TEMPERATURE RATINGS

Mechanical	-20°C~+80°C (-4°F~+176°F)
Pulse	-20°C~+120°C (-4°F~+250°F)

RECOMMENDED FILTER

Size	150 microns (100 mesh)
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PULSE OUTPUT OPTIONS

MOGF	Pulses / litre (Pulses / US Gallon) – Nominal				
	015	025	040	050	050E
Reed switch	84 (318)	27 (102)	14 (53)	6.5 (25)	4.8 (18)
Hall effect	168 (636)	107 (405)	56 (212)	26 (99)	19.2 (73)
QP-Quadrature Hall option*	168 (636)	54 (204)	28 (106)	13 (49)	9.6 (36)
PF-Pulsating Flow (Hall effect)*	42 (159)	13.5 (51)	N/A	N/A	N/A
Reed switch output	30Vdc x 200mA max. (max. temperature shock 10°C (50°F) per minute)				
Hall effect output (NPN)	3 wire open collector, 5~24Vdc, 20mA max.				
Optional Outputs	4-20mA, Scaled pulse, Quadrature pulse, Flow alarm or Two stage Batch Control				

(*) QP & PF options are not available with High Pressure Meters

ENVIRONMENTAL CLASSIFICATION

Protection class

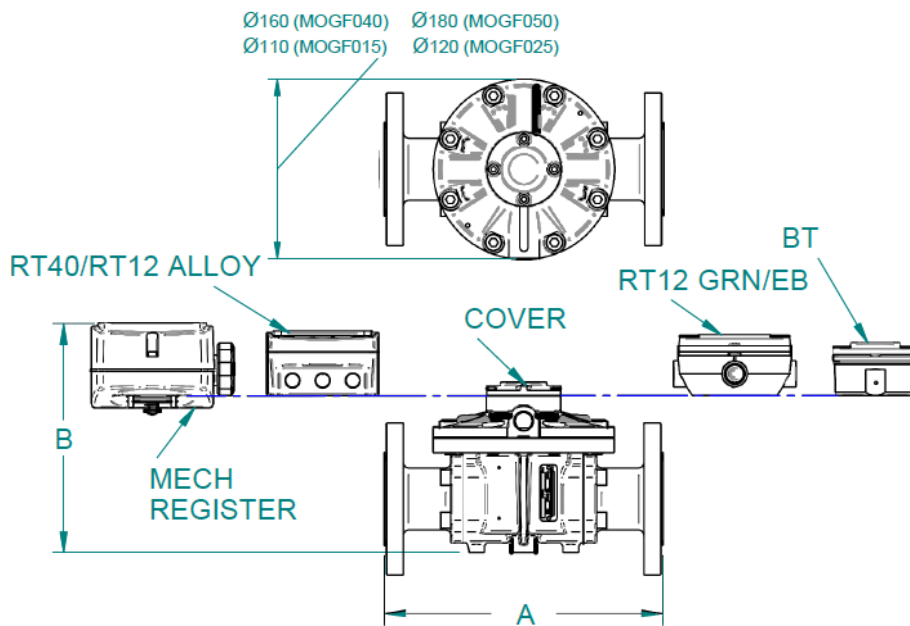
IP66/67 (NEMA 4X)

HAZARDOUS AREA CLASSIFICATION

Class (Optional)

Exd I/IB T4/T6 (Integral ancillaries can be supplied I.S. (Intrinsically Safe))

DIMENSIONS



Process Connections	MOGF015	MOGF025		MOGF040	MOGF050	MOGF050E
		A ¹	S ²			
ANSI 150 Flange	-	198	237	252	277	277
DIN 16 Flange	-	198	237	252	277	277
JIS 10K Flange	-	198	237	252	277	277
BSP Screwed	110	137	176	188	212	212
NPT Screwed	110	137	176	188	212	212

Register Options	MOGF015		MOGF025		MOGF040		MOGF050	
	A ¹	S ²	A ¹	S ²	A ¹	S ²	E ³	
RT12 (GRN) / EB	154	148	168	165	203	194	218	268
BT Register	145	139	160	157	195	186	210	260
RT40 / RT12 (ALLOY)	157	151	171	168	206	197	221	271
Cover	106	100	120	117	155	146	170	220
Mechanical Register	178	176	188	214	227	222	237	286

(A¹) Aluminium, (S²) Stainless Steel, (E³) Extended, All dimensions in millimetres ± 2 mm

METER SELECTION MATRIX AND ORDER CODE

		Size	Flow	LPM*	US GPM*	MOGF				
MOGF015	DN15	1/2"		1~40	0.26~10.6	015	025	040	050	050E
MOGF025	DN25	1"		10~150	2.6~40					
MOGF040	DN40	1 1/2"		15~250	4~66					
MOGF050	DN50	2"		30~450	8~120					
MOGF050E	DN50	2"	35~580	9~150						
		Body material								
	A	Aluminium				•	•	•	•	
	E	Aluminium version Extended flow								•
	M	Intermediate pressure Aluminium (138 bar (2000 PSI) max.)					138			
	S	316 Stainless Steel				•	•	•	•	•
	N	Intermediate pressure 316L SS				100	100	50	50	Bar
	H	High pressure 316SS				400	400	400	300	Bar
		Rotor materials								
	0	TF-PPS rotors (Teflon Filled Polyphenylene)				•	•	•	•	
	1	Keishi cutting of TF-PPS rotors (for high viscosity liquids)				•	•	•	•	
	4	Aluminium (Applicable in Aluminium meters only)				•	•	•	•	•
	5	Stainless steel				•	•	•	•	
	6	Aluminium - keishi cut (for high viscosity liquids)				•	•	•	•	•
	7	Stainless steel - keishi cut (for high viscosity liquids)				•	•	•	•	
		Bearing type								
	0	No bearing (PPS rotors only)				•	•	•	•	
	1	Carbon Ceramic (standard with stainless steel rotors)				•	•	•	•	•
	4	Hardened steel roller bearings (standard with Aluminium)				•	•	•	•	•
		O-ring materials								
	1	Viton (Standard)		Temperature	-15~+120°C					
	2	Ethylene Propylene Rubber			Up to 150°C (300°F)					
	3	Teflon encapsulated Viton			Up to 150°C (300°F)					
	4	Buna-N (Nitrile)			-40~+120°C (-					
		Temperature limits								
	-	2	120°C (250°) - see note 1			•	•	•	•	•
	-	3	150°C (300°F) - see note 2			•	•	•	•	•
	-	5	120°C (250°F) - see note 3			•	•	•	•	•
	-	8	80°C (176°F) - see note 4			•	•	•	•	•
		Process connections								
	1	BSPP (G) female threaded				•	•	•	•	•
	2	NPT female threaded				•	•	•	•	•
	3	Tri-clamp hygienic ferrules (1/2" larger)				•	•	•	•	•
	4	ANSI-150 RF flanges				•	•	•	•	•
	5	ANSI-300 RF flanges				•	•	•	•	•
	6	PN16 DIN flanges				•	•	•	•	•
	7	JIS 10kg/cm ² flanges				•	•	•	•	•
	9	Customer nominated (Consult Factory)								
		Cable entries								
	M	No cable entry								
	0	3~6 mm cable gland								
	1	M20 x 1.5 mm								
	2	1/2" NPT								
Order Code Example										
MOGF015	S	4	4	1	-	2	1	1	REG	

(*) Max. flow is to be reduced as viscosity increases, max. pressure drop 100Kpa. (15 psi)

(1) Temperature rating in case of PPS or when fitted with integral instruments is limited to 80°C (180°F), (2) Hall effect output only, Not available for High Pressure Meters, (3) Instruments include integral cooling fan to increase the temperature rating to 120°C (250°F), (4) This is the maximum temperature in meters with mechanical registers, (P) Pulse Meters, (M) Mechanical Register



METER SELECTION MATRIX AND ORDER CODE

REGISTER - PULSE METERS

Order Code Example With Register

MOGF015	S	4	4	1	-	2	1	1	R2			
										Integral options	Remarks	
										00	Nil	
										SS	Stainless Steel Cover	
										RS	Reed Switch only	To suit I.S. Installations
IEC. Ex & ATEX approved										E1	Exd IIB T4/T6	Al and SS meters
IEC. Ex & ATEX mines approved										E2	Exd I/IIB T4/T6	SS meters only
2 NPN open collector phased outputs										QP	Quadrant pulse	Not for high pressure
IEC. Ex & ATEX approved										Q1	Exd w/ Quadrature pulse	Not for high pressure
For injected combustion engines										PF	Pulsating Flow option	Hall effect output only
IEC. Ex & ATEX approved										P1	Exd with PF option	With Pulsating Flow
With scalable pulse output										B2	BT11 Dual Totalizer	
IEC. Ex & ATEX approved										B3	BT11 Intrinsically Safe	
Outputs: Scaled pulse, alarm, 4-20 mA										R0	RT12 Flow Rate Totalizer	Alloy Housing
Outputs: Scaled pulse, alarm, 4-20 mA										R2	RT12 Flow Rate Totalizer	GRN Housing
IEC. Ex & ATEX approved										R3	RT12 Intrinsically Safe	
Large digit flow rate, totals, scaled pulse, backlighting (Consult Factory for availability) Adapts to pulse output board										R4	RT40 Flow Rate Totalizer	
Not available for High Pressure models										FI	Loop powered 4~20mA	80°C max
DC powered 2 stage batch controller										A1	Exd with FI	80°C max
Consult factory										E0	EB10 Batch Controller	
										SB	Specific build requirement	

REGISTER - MECHANICAL METERS

Order Code Example

MOGF015	S	4	4	1	-	2	1	M	M1	V	
015~025	040	Unit	Small Mechanical Registers								
9999.9	99999	LITERS	4 Digit totalizer					M3			
9999.9	99999	US GAL	4 Digit totalizer					M4			
	050		Large Mechanical Registers								
	999999	LITERS	5 Digit Reset Register					V1			
	999999	LITERS	5 Digit Reg + Ticket Printer					V3			
	999999	LITERS	5 Digit Reg + Preset Batch Reg					V5			
	999999	LITERS	5 Digit Reg + Preset + Printer					V7			
									SB	Specific Build requirement	
										V	Control Valve options (close coupled)
										V	Mechanical control valve + linkages coupled to meter

Consult factory for US Gallons V-series Mechanical Registers and for the available range of strainer-air eliminator



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FLUIDEX PTY, LTD
P.O.Box 185, Strathfield
NSW 2135
Australia
T +61-4-3576 4450 | F +61-2-8076 1533
sales@fluidex.com.au | www.fluidex.com.au

Distributor

