



OVAL GEAR FLOWMETER

SERIES

SOGF

FLUIDEX
Solutions for Measurement and Control



Fluidex series SOGF is a precise Positive Displacement Flow Meter for small capacity. The meters incorporates 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 during a certain period of time. The SOGF are used in a wide range of applications where accurate measurement of clean liquids is required. The SOGF is available as a blind pulse meter with a non-factored pulse output capable of interfacing to most monitoring and control instrumentation or it can be fitted with different options of registers (totalizers, rate totalizers or batch controllers). Such registers have monitoring and control output options.

FEATURES AND BENIFITS:

- ⚙ High accuracy & repeatability
- ⚙ No need for flow conditioning
- ⚙ Measure low & high viscosity liquids
- ⚙ Available in DN04, DN06 and DN08 (1/8", 1/4" and 3/8") line sizes
- ⚙ Flow range covered from 0.5~550 LPH (0.16~145 US GPM)
- ⚙ Pressures up to 400 BAR (5800 PSI)
- ⚙ Available in screwed ends (NPT and BSP)
- ⚙ Available with wide range of electronic registers
- ⚙ Available in Aluminium and Stainless Steel
- ⚙ Available in explosion proof and Intrinsically Safe enclosures
- ⚙ Quadrature pulse output option
- ⚙ 4-20mA Integral output option
- ⚙ Bi-directional flow

INDUSTRIES

- Automotive
- Aviation
- Mining
- Power
- Chemical
- Pharmaceutical
- Food
- Paint
- Petroleum
- Environmental

APPLICATIONS

- Metering of additives for fuel
- Corrosion inhibitors
- Catalysts
- Emulsifiers
- Oils
- Grease
- Fragrances
- Adhesives
- Solvents
- Ink
- Insecticides

STANDARD OPTIONS:

- ▶ *Explosion proof*
- ▶ *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

SOGF	004	006	008
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METER PERFORMANCE

Accuracy @ 3cp	± 1% of reading (± 0.2% of reading with optional FRT12 with Non Linearity correction)		
Repeatability	Typically ± 0.03% of reading		

FLOW RANGE

Size in MM (INCH)	Flow Range		
	4 MM (1/8")	6 MM (1/4")	8 MM (3/8")
LITERS / HOUR	0.5~36	2~100	15~550
US GPH	0.13~9.5	0.5~27	4~145

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

PRESSURE RANGE

	Maximum pressure in Bar (PSI)		
	4 MM (1/8")	6 MM (1/4")	8 MM (3/8")
Aluminium (A)			
Screwed	15 (220)	15 (220)	15 (220)
Stainless Steel 316L (S)			
Screwed	34 (495)	34 (495)	34 (495)
Stainless Steel (N)			
Screwed	100 (1450)	100 (1450)	100 (1450)
Stainless Steel (H)			
Screwed	400 (5800)	400 (5800)	400 (5800)

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

TEMPERATURE RATINGS

Range	-20°C~+120°C (-4°F~+250°F) Reduced to +80°C (+176°F) when fitted with integral instruments
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PULSE OUTPUT OPTIONS

	Pulses / litre (Pulses / US Gallon) – Nominal		
Reed switch	2800 (10598)	1050 (3975)	355 (1345)
Hall effect	2800 (10598)	1050 (3975)	710 (2690)
QP-Quadrature Hall Option*	2800 (10598)	1050 (3975)	710 (2690)
PF-Pulsating Flow (Hall Effect)*	2800 (10598)	1050 (3975)	178 (675)
HR-High Resolution Hall Effect	11200 (42400)	4200 (15900)	N/A
Reed switch output	30Vdc x 200mA max. (Maximum thermal shock 10°C (18°F) / minute)		
Hall effect output (NPN)	3 wire open collector, 5~24Vdc, 20mA max.		
Optional Outputs	4-20 mA, Scaled pulse, Quadrature pulse, Flow alarms or Two stage batch control		

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

ENVIRONMENTAL CLASSIFICATION

Protection class	IP66/67 (NEMA-4X)
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HAZARDOUS AREA CLASSIFICATION

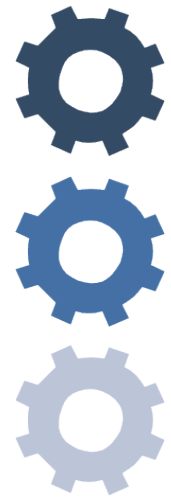
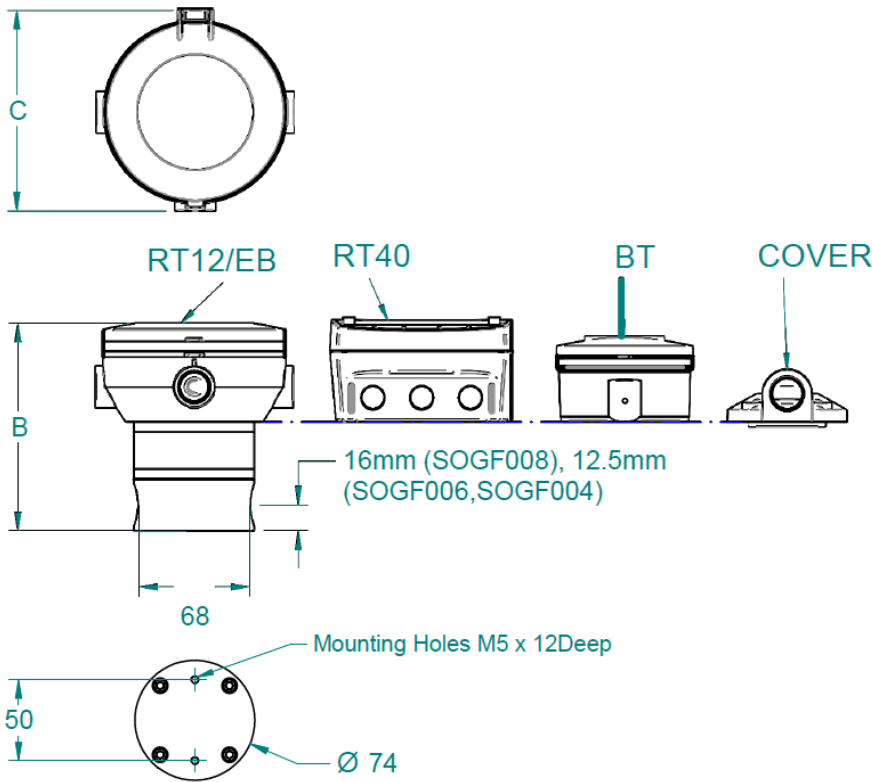
Class (Optional)	Exd I/IB T4/T6 (Integral ancillaries can be supplied I.S. (Intrinsically Safe))
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RECOMMENDED FILTER

Size	75 microns (200 mesh)
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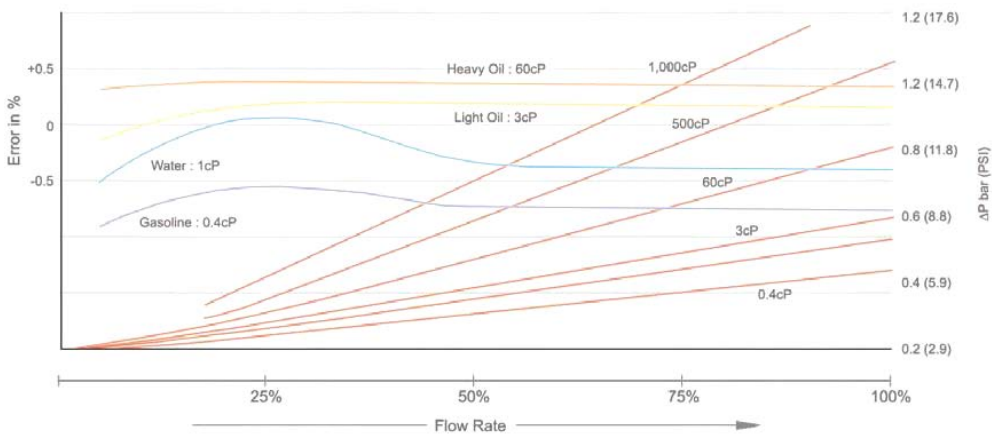
DIMENSIONS



Register Options	SOGF004		SOGF006		SOGF008	
	B	C	B	C	B	C
RT (GRN) / EB Register	122	124	122	124	129	124
BT Register	113	94	113	94	120	94
RT40 / RT 12 (ALLOY)	125	96	125	96	132	96
Cover	92	72	92	72	99	72

All dimensions in millimetres ± 2 mm

ACCURACY CURVES & PRESSURE DROP



METER SELECTION MATRIX AND ORDER CODE

		Size			LPH*	US GPH*	SOGF		
SOGF004	DN004	1/8"	Flow		0.5~36	0.13~9.5	004	006	008
SOGF006	DN006	1/4"			2~100	0.5~27			
SOGF008	DN008	3/8"			15~550	4~145			
		Body material							
	A	Aluminium							
	S	316 Stainless Steel							
	N	316 Stainless Steel (Intermediate Pressure)							
	H	316 Stainless Steel (High Pressure)							
		Rotor materials							
	0	TF-PPS rotors (Teflon Filled Polyphenylene Sulfide)							
	5	316 Stainless steel							
	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 rotors)							
		O-ring materials							
	1	Viton (Standard)	Temperature		-15~+120°C (5~+250°F)				
	2	Ethylene Propylene Rubber			Up to 150°C (300°F) max.				
	3	Teflon encapsulated Viton			Up to 150°C (300°F) max.				
	4	Buna-N (Nitrile)			-40~+120°C (-40~+250°F)				
		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	BSP female threaded							
	2	NPT female threaded							
	9	Customer nominated (Consult Factory)							
		Cable entries							
	0	3~6 mm cable gland							
	1	M20 x 1.5 mm							
	2	1/2" NPT							
		With B2/B3 options							
Order Code Example									
SOGF015	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 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 case of SOGF008 with PPS



METER SELECTION MATRIX AND ORDER CODE

REGISTER - PULSE METERS

Order Code Example With Register

SOGF006	S	4	4	1	-	2	1	1	R2		
										Integral options	Remarks
									R2		
									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/IIIB 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
									HR	High Resolution Hall Effect	For SOGF004/006
								IEC. Ex & ATEX approved	H1	Exd with HR	
								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	GRN Housing
								Large digit flow rate, totals, scaled pulse, backlighting	R4	RT40 Flow Rate Totalizer	Alloy Housing
								DC powered 2 stage batch controller	E0	EB10 Batch Controller	
								80°C max (180°F)	FI	Loop powered 4~20mA	
								80°C max (180°F)	A1	Exd with FI	Not for SOGF008 High Pressure
								Only for SOGF004/006	FH	High Resolution Hall Output with FI	
								Consult factory	SB	Specific build requirement	



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