

Oval Gear Flow Meters Overview



These compact rugged oval gear flowmeters are designed to give high performance with a low cost of ownership. These meters are capable of measuring simple water-like liquids as well as lubricating fluids. There are several models; some with totally non-metallic wetted components, PEEK, ceramic and a choice of elastomer, which makes these the ideal choice for the metering of aggressive chemicals. The standard inlet and outlet are BSP or NPT female threads, and flanges are also available on special orders. For OEMs, alternatives are available, including manifold mountings. The standard models are 316 St St, aluminium, and PEEK. For hazardous areas either the Namur sensor or the reed switch (simple apparatus) may be used.



FEATURES

- Excellent chemical resistance
- Rugged construction
- Individual calibration
- High viscosity capability
- Low pressure drop
- No flow conditioning required
- Compact meter assembly
- Hall, reed switch or Namur sensor
- Good accuracy
- 0.1% repeatability
- IP65/NEMA 4 protection
- Non-metallic options
- High Pressure 700 bar on selected models



IDEAL FOR

- Engine test
- Oil flow
- High viscosity liquids
- OEM equipment
- Hazardous areas
- Batching



Ordering Codes

Model

The order code is preceded by the flow meter size eg **OG4***

Body Material

S = 316 St St 50 bar std

A = Aluminium 10 bar max

P = PEEK 10 bar max (at 80°C max)

Temp Rating

S = 80°C / 158°F

T = 100°C / 212°F

U = 150°C / 300°F

Pressure Rating

5 = 50 bar 750 PSI (St St)

1 = 10 bar 150 PSI (PEEK)

4 = 400 bar 5880 PSI (St St)

7 = 700 bar 10150 PSI (St St)

Seal Material

V = Viton™

N = Nitrile

E = EPDM

K = Kalrez®

Detector Type

H = Hall Effect

R = Reed Switch & Resistor

N = Namur

R = Reed Switch (hazardous area)

Process Fitting Size

T = 3/4" (OG4 std)

Process Fitting Type

B = BSP F

N = NPT F

* Refer to specific Oval Gear data sheets for order codes relating to the required model

e.g. **OG4-SS5-VHT-B** is a standard OG4 flow meter with an oil flow range of 0.25 to 50 L/min, 316 St St body, 50 bar pressure rating, Viton™ seal, Hall effect detector and 3/4" BSP female fittings with a standard 6 point traceable water calibration.

Not all options from the order code selection charts are possible. Please contact your sales office for OEM specials or to confirm availability of required options.



TECHNICAL SPECIFICATIONS

Model	Oil Flow L/Min			Water Flow L/Min			'K' factor
	Min	Max	Accuracy	Min	Max	Accuracy	Pulses/L
OG1	0.01	1	0.75% FSD	0.1	1	1.00% FSD	2050
OG2	0.03	4	0.75% FSD	0.15	4	1.00% FSD	1100
OG3	0.05	10	1%	0.5	10	0.50% FSD	440
OG4	0.25	50	0.50%	2.5	50	1.00%	115
OG5	0.50	100	0.50%	4	100	0.75%	78
OG6	2	200	0.50%	10	200	1.00%	21
OG7	5	500	0.50%	20	500	1.00%	15

At the heart of the meter are a pair of toothed oval gears one of which contains chemically resistant magnets.

Rotation is detected through the chamber wall by a Hall Effect detector, Namur sensor or a reed switch giving the number of pulses per litre passed. The output is an NPN pulse or a voltage free contact closure, either of which is readily interfaced with most electronic display or recording devices, such as the Pulsite® Solo.

This combination of materials and technology ensures a long life product with reliable, accurate operation throughout. PEEK is a superb material for gear and bearing manufacture. It has excellent pressure and velocity characteristics, coupled with very good thermal properties and chemical resistance.

For fluids with viscosities above 1000 cSt specially cut gears are required and the flow range is reduced for a given meter size. Refer to the [High Viscosity Data Sheet](#).

Standard Materials of Construction

Body and cap - 316 St St, PEEK, Aluminium

'O' Ring seal - Viton™

Gears - PEEK

Magnets - Ceramic

Ceramic (PTFE encapsulated option)

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