High Pressure Oval Gear Meters
Technical Product data sheet

Oval Gear Meters

These compact rugged oval gear flowmeters are designed to give high performance with a low cost of ownership. These meters are happy measuring simple water like products as well as lubricating fluids. The standard inlet and outlet are BSP or NPT female threads, flanges are also available. For OEM use alternatives, including manifold mountings, are available. The standard models are 316 St St, aluminium, Hastelloy C 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 loss
- No flow conditioning required
- Compact meter assembly
- Hall, reed switch or Namur sensor
- Good accuracy
- 0.1% repeatability
- IP67/NEMA 4 protection
- Up to 700 bar on selected models
- Non-metallic option

* When used with our metra-smart instrument

Ideal for

- ♦ Engine test
- ♦ Oil flow
- ♦ High viscosity fluids
- ♦ OEM equipment
- ♦ Hazardous areas

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High Pressure Oval Gear Meters

Order Codes

The order code is preceded by the flow meter size e.g. OG4

Body type
- **S** - 316 St St
- H - Hastelloy C

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)
- 4 - 400 Bar 5880 PSI (St St) (OG1-OG6)
- 7 - 700 Bar 10150 PSI (St St) (OG1-OG4)

'O' ring mat'l
- **V** - Viton™
- N - Nitrile
- E - EPDM
- K - Kalrez

Detector type
- **H** - Hall Effect
- R - Reed switch
- N - Namur

Pipe thread size
- Q - ¼"
- H - ½"
- **T** - ¾"
- U - 1"
- P - 1½"
- D - 2"

Connections
- **B** - BSP F
- N - NPT F

eg **OG4-SS4 - VHT-B** is a high pressure flowmeter with an oil flow range of 0.25 to 50 L/Min, 316 St St body, 400 Bar pressure rating, Viton™ seal, Hall effect detector and ¾" BSP female fittings with a standard 6 point traceable water calibration.

	Oil flow			Water flow			'K' factor
Model	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	0.50% FSD	0.15	4	1.00% FSD	1100
OG3	0.05	10	1%	0.5	10	0.50% FSD	400
OG4	0.25	50	0.50%	2.5	50	1.00%	100
OG5	0.50	100	0.25%	4	100	0.50%	70
OG6	2	200	0.50%	10	200	1.00%	21

At the heart of the meter are a pair of toothed oval gears one of which contains chemically resistant magnets, the gears rotate freely on robust bearings. Rotation is detected through the chamber wall by a Hall Effect detector, Namur sensor or a reed switch giving a number 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. 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. Stainless gears with roller bearings are an alternative. For fluids with viscosities above 1000cStk specially cut gears are required and the flow range is reduced for a given meter size.

Standard Materials of Construction

Body and cap	- 316 St St - Hastelloy C
'O' Ring	- Viton™
Gears	- PEEK
Magnets	- Ceramic