Badger Meter

Industrial Line

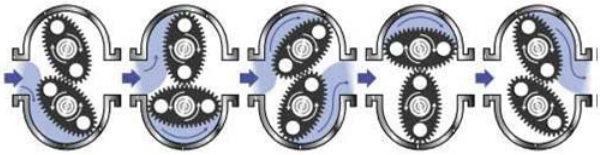
Inline and Flanged Oval Gear Meter

1/2", 3/4" and 1"

OVERVIEW

The Badger Meter Industrial Oval Gear Meter, Model IOG is a modular flow meter design, economical yet highly accurate and rugged. The Model IOG is designed for a variety of chemical applications including petroleum based fluids, water solutions, and any other liquid compatible with the materials of construction.

OPERATING PRINCIPLE



Fluid enters the inlet port and then passes through the metering chamber. Inside the chamber, fluid forces the internal gears to rotate before exiting through the outlet port. Each rotation of the gears displaces a specific volume of fluid. As the gears rotate, a magnet on each end of the gear pass a reed switch in the top-mounted register's circuit board. The reed switches send pulses to the microprocessor in the register to change the LED display segments. The oval gear meter can be used in conjunction with a variety of industrial registers. See the Oval Gear Meter Registers Technical Briefs (ITB-192) and the ER420 Flow rate/Totalizer Technical Brief (ITB-174) for more information on the available register options.

APPLICATIONS

Due to the rugged nature of this particular flow measurement technology, the Industrial Oval Gear Meter can be used in a number of applications where conventional meters are not acceptable. Whether the liquid being measured is very viscous or highly corrosive, the oval gear meter can handle it. The Industrial Oval Gear Meter is designed for a variety of applications including petroleum based fluids, water solutions, and any other liquid compatible with the materials of construction.

FEATURES

- Compact size
- High accuracy and repeatability (see flow ranges on next page)
- Factory calibrated
- Flow ranges from .25 GPM to 18 GPM
- Flexibility of installation options (vertical installation or horizontal installation)
- Low pressure drop
- Minimum number of wearable parts for long product life and easy field servicing
- Wide range of instrumentation available for control system interfacing

HOUSINGS & CONNECTIONS BY SIZE

Sizes: 1/2", 3/4" and 1"
Aluminum: NPT, BSP, 150#, PN16
Stainless: NPT, BSP, 150#, 300#, PN16

OPERATING FLUID TEMPERATURES

Rotor Material	Min. Operating Temperature (°C/°F)	Max. Operating Temperature (°C/°F)
Stainless Steel	-30/-22	120/240
Plastic (PPS/LCP)	-30/-22	80/176

Maximum Storage Temperature: 175°F (79°C)
Minimum Storage Temperature: -22°F (-30°C)

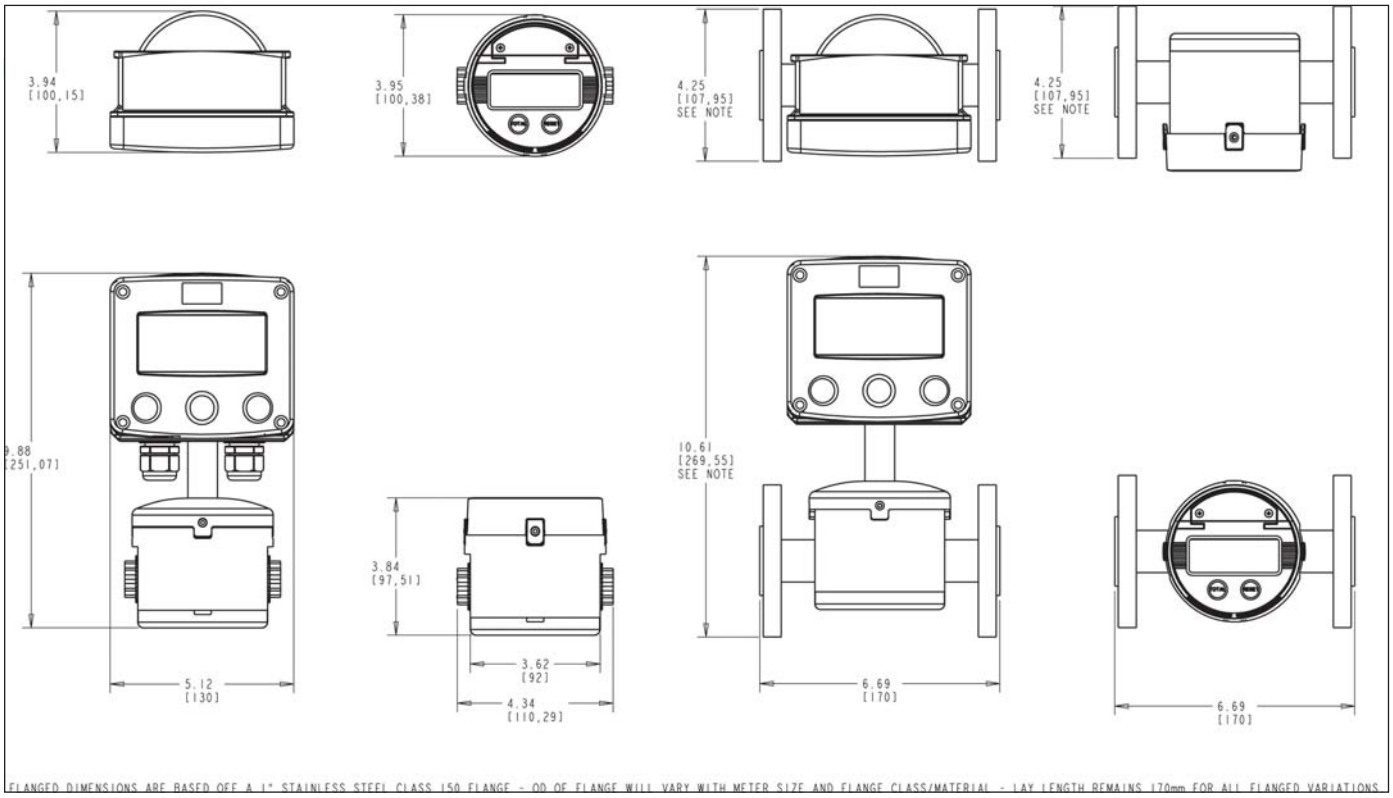
PRESSURE RATING

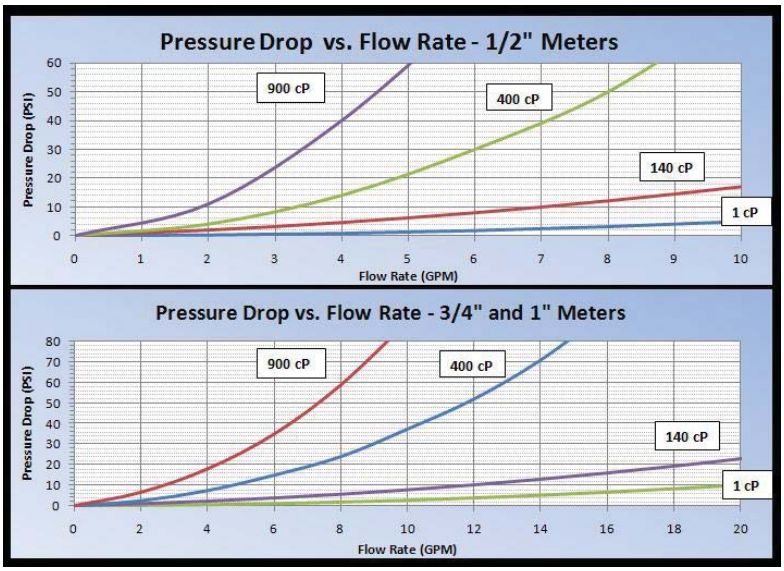
- NPT/BSP Ports – 800 psi
- Flanged Connections
  - 150# - 285 PSI
  - 300# - 740 PSI
  - PN16 - 232 PSI
- For higher pressure applications please check with the factory.

MAXIMUM VISCOSITY

- 1000 cP
- Consult the factory for higher viscosity applications.

Technical Brief





MATERIALS OF CONSTRUCTION

Housing	316L Stainless Steel or 6061 Aluminum
Cover	316L Stainless Steel or 6061 Aluminum
Spindle	316L Stainless Steel
Gears	316L Stainless Steel or LCP (plastic)
Bushing	Graphalloy (for stainless gears), no bushing for LCP
O-ring	Standard: Stainless – Aflas Aluminum – Viton Optional: Buna, EPDM, Aflas, Viton
Cover Screws	Stainless Steel
Magnet	Alnico 500

FLOW RANGE

	American (gpm)		SI (lpm)				
Port Size	Low	High	Low	High	Fluid Viscosity	Accuracy (%)	Repeat-ability (%)
1/2"	0.25	8	1.0	30	> 5.0 cP	± 0.5	±0.03
	0.50	6.6	2.0	25	< 5.0 cP	± 2.0	±0.03
3/4"	0.50	16	2.0	60	> 5.0 cP	± 0.5	±0.03
	1.20	14	4.5	53	< 5.0 cP	± 2.0	±0.03
1"	0.60	18	2.3	68	> 5.0 cP	± 0.5	±0.03
	1.40	16	5.3	60	< 5.0 cP	± 2.0	±0.03

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.

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