



Badger Meter

Industrial Meters

Oscillating Piston Model OP Chemical
Sizes 1/2", 1", 2"

DESCRIPTION

The Badger Meter positive displacement meter, Model OP, is one of the most cost effective methods for metering process fluids in the chemical, pharmaceutical and food industries. The simple but efficient design of the OP meter generates high accuracy and repeatability over the entire meter flow range. Magnetic, through-the-wall transmission prevents operator exposure to corrosive fluids and protects the fluid from external contamination.

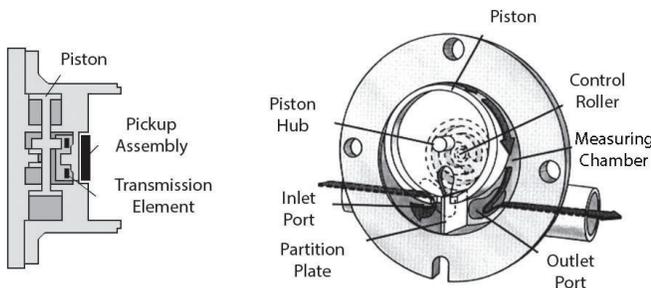
Offered in three sizes, 1/2", 1" and 2", for flows up to 100 gpm, these meters are extremely rugged, reliable and need little maintenance and calibration. With only three internal moving parts, maintenance is seldom required. If necessary, it takes but a few minutes.

All parts are designed and built of materials recommended for your application, providing you with a long life, trouble-free, precision flow meter. The meter's compact design and mode of operation allows for installation in tight spaces and in any position.

To complement the OP meter line, Badger Meter offers a complete line of accessories that includes mechanical, pneumatic, electromechanical and electronic transmitters, totalizers, indicators and batch/process controllers.

OPERATION

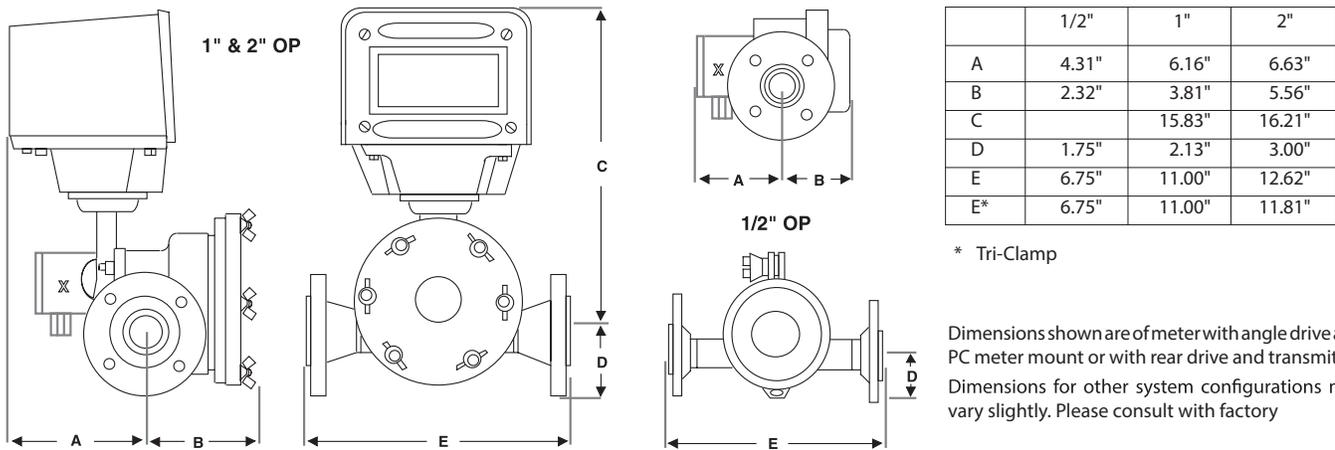
The meter function is based on the continuous filling and discharging of the measuring chamber (positive displacement). Controlled clearances between the piston and the chamber provide minimum gap leakage for precise measurement of each volume cycle. As the piston oscillates, its center hub rotates a magnet. The movement is sensed through the meter wall by electromagnetic sensors or by a follower magnet. Each revolution of the magnet is equivalent to a fixed volume of fluid, which is converted to any engineering unit of measure for totalization, indication or process control.



MATERIALS OF CONSTRUCTION

All Meter Sizes	Chemical Model
Housing Materials	316 Stainless Steel
Piston Materials	Ryton or Ultem, (one temp.) Kynar, (high or low temp.)
O-Ring Materials	Buna N Viton Teflon EPR
Bushing Material	Standard: Rulon Optional: Rulon (black) for abrasive applications
Magnet Casing	Alloy 20
Control Roller	Alloy 20

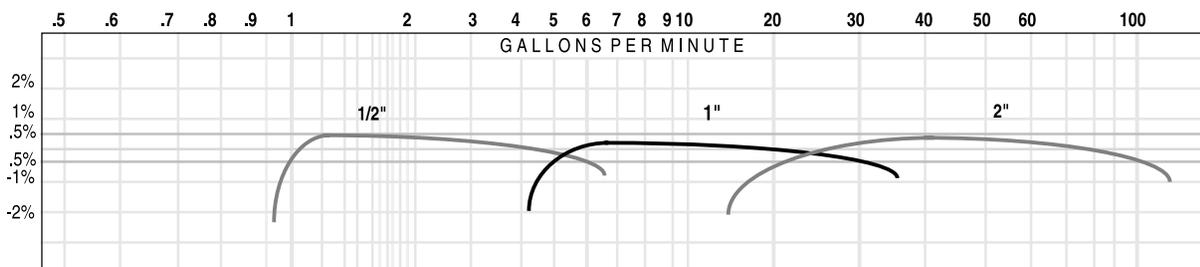
DIMENSIONS



SPECIFICATIONS

	1/2"	1"	2"
Minimum Flow Rate, Q Minimum	1.5 gpm	5.5 gpm	25 gpm
Continuous Operating Maximum Rate	4 gpm	20 gpm	65 gpm
Short Duration Maximum Flow, Q Maximum	6 gpm	30 gpm	100 gpm
Continuous operation is acceptable at these rates, but accelerated wear of the piston and/or bushings may occur.			
Standard Flange Connections	150* psi ANSI 16.5	150 psi ANSI 16.5	150 psi ANSI 16.5
	1/2" Chemical meter can be ordered with 1" flanges for low flow applications on 1" lines. All sizes available with optional 300 psi flanges.		
Pressure Drop at Maximum Continuous Operating Flow (@ viscosity & specific gravity of water)	1.8 psi	6.3 psi	10.6 psi
	Pressure loss increases with fluid viscosity		
Maximum Viscosity Limit	10,000 cps (flow range is decreased as viscosity increases). Contact factory for higher viscosities		
Maximum Operating Pressure	150 psi (300 psi optional)		
Maximum Operating Temperature	250 °F		
Minimum Operating Temperature**	40 °F		
**Minimum temperature for stated accuracy.			
Accuracy	± 0.5% over entire meter flow range		
Repeatability	± 0.2% or better under similar repeatable batch operations		

Metric Conversion: psi x 0.0703 = bars gpm x 3.785 = liters per minute ° F - 32 x 0.555 = ° C



Control. Manage. Optimize.

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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
 México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
 Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
 Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
 Czech Republic | Badger Meter Czech Republic s.r.o. | Mařikova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
 Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
 Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836
 China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412