

Rotameters – Variable Area Flowmeters

Simple, reliable, low-cost flow measurement solutions



- Excellent repeatability
- Versatile applications
- Effortless installation
- Fischer & Porter heritage
- Quick deliveries

instrumentation

understanding measurement analysis control integration **optimization**



What is an ABB Rotameter?

Building on the heritage of Fischer & Porter

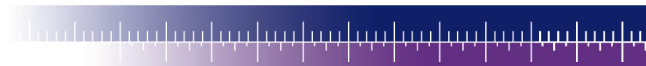
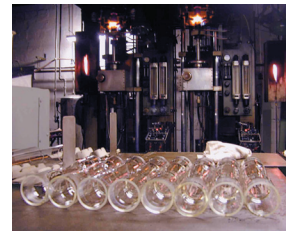
Following the acquisition of Fischer & Porter, ABB brings its considerable scope and power to offer a wide range of world-class rotameters. Today we have one of the highest global install rates, as well as one of the largest customer bases and broadest ranges of rotameters. Our network of distributors provide the user with fast delivery, widespread parts availability and solid service support.

Rotameters, also known as variable area flowmeters, are designed to measure the flow of liquids or gases via a tapered tube and float system. They are accurate, reliable and simple to install and maintain. The biggest benefit is their low cost, which has made them a popular choice for many flow applications since Fischer & Porter introduced the first mass-produced glass tube flowmeter in 1937.

This brochure is designed to help you select the right ABB rotameter for your application. If you have questions or are ready for a quote, simply contact your local ABB representative or visit www.abb.us/instrumentation. We'll be glad to help.



Building on the 70 year heritage of Fischer & Porter










- Automotive*
- Air Compressors*
- Boiler Feed System*
- Cooling Tower*
- Beer & Wine Distilling*
- Back-up to other devices*
- Chromatography*
- Agricultural Irrigation & Fumigation*
- Blanketing Systems*

Where do I use an ABB Rotameter?

Hundreds of applications in your plant

Whether you need to measure flow as part of a manufacturing process, integrated into a larger piece of equipment or as standalone measurement, ABB rotameters offer a viable alternative to other more expensive flow measurement devices.

ABB Rotameters Selection Guide																				
*G=Glass, M=Metal (316 Stainless Steel), A=Acrylic																				
Model Series	Tube Material	FLOW RATE		PRESSURE (PSIG)		TEMPERATURE (°F)		FUNCTIONS			PAGE #									
		Water (GPM)	Air (SCFM)	25	100	250	500	750	1000	2000		3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE
 10A2235	G	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	4
 10A3220	M	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	5
 10A4500	G	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	4
 AM54	M	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	5
 10A6130	G	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	4
 10B4500	G	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	6
 FP Series	A	10	20	25	100	250	500	750	1000	2000	3000	100	200	300	400	INDICATE	ALARM	TRANSMIT	REGULATE	6

- Computer Chip Manufacturing*
- Pulp & Paper applications*
- Fuels Monitoring*
- High pressure applications*
- Moisture Analysis*
- Water & Wastewater applications*
- Chemical industry applications*
- Gas analyzer systems*
- Low & high flow measurement*
- Pump Seal Cooling Water*
- Vacuum Furnace*

Which ABB Rotameter do I use?

ABB Glass Rotameters—Visibly Better

VA MASTER FLOWRATOR® Meters (Series 10A4500)

Used for measuring a wide variety of liquids and gases in most industrial processing facilities. Monitors natural gas flows into ovens, furnaces, cooling fluids to protect equipment, sampling systems in laboratories and flow rates into and out of large tanks.

- Easy range change and cleaning—no removal from the line required
- Tube sizes ranging from ½-inch through 2-inch bore for liquid or gas service
- Visual indication of flow rate over a 12½ to 1 range on a linear scale
- Optional one or two bi-stable alarms for contact closure (or opening) on rising or falling flow

RATOSIGHT Flow Rate Indicator with Optional Ratolarm (Series 10A2235)

Used for automatic shut-down of heavy equipment when bearing lubricant flow becomes too low, shut-down of electrical equipment when cooling water flow falls below a preset limit, or the actuation of auxiliary equipment such as pump motor starters or solenoid valves.

- Resistance to mechanical and thermal stresses makes them virtually maintenance free
- Optional Ratolarm extension (Series 10A2235-OA) for alarm actuation
- “Fail-Safe” alarm construction ensuring reliability and uptime
- Unique glass & bronze body design offers flexible installation options along with corrosion resistance



PURGEMASTER (Series 10A6100)

Ideal for many low flow rate applications, such as purging control lines and instrument enclosures. Excellent for fluid sampling, liquid specific gravity, level measurements and other low flow applications.

- Simple snap-in tube construction minimizes downtime for cleaning & replacement
- Interchangeable parts for all lengths simplifies maintenance and stocking of spares
- Internal backcheck to restrict backflow and draining when tube is removed
- Optional one or two bi-stable alarms for contact closure (or opening) on rising or falling flow



Series 10A6100

Series 10A4500

Series 10A2235

Corrosive liquids

Liquid specific gravity

Nitrogen Generators

Mining applications

Hazardous areas without power

Reverse Osmosis

Fume Scrubbers

OEM

Film & X-ray

Localized flow monitoring

Developing Equipment

Aggressive & opaque fluids

Explosion-proof applications

ABB's Metal Rotameters Rugged, Durable and Easy to Read

ARMORED VA METER (Series AM54)

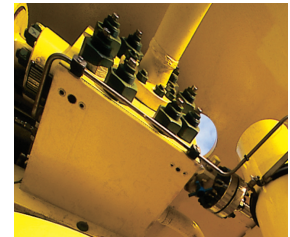
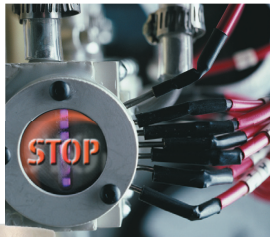
The Armored VA Meter is ideal for the chemical, pharmaceutical and food industries. It is exceptionally successful metering aggressive or opaque fluids, or where glass tube variable area flowmeters are not appropriate for safety reasons.

- Measurement ranges from 0.1 to 530 GPH liquid; 0.5 to 2200 SCFM gas
- Short, straight-through design makes installation easier
- Optional Teflon® lining and a Teflon® float for maximum corrosion resistance
- HART® communications, transmitter output, totalized output or minimum \pm /or maximum alarms available

ARMORED PURGEMETER (Series 10A3200)

Suitable for most low flow, high pressure and corrosive applications in municipal and industrial settings. Used for gas analyzer systems, various sampling systems, and situations where glass meter tubes are not appropriate for safety reasons.

- Measures even dirty and corrosive gases or liquids
- Measures ranges from 0.3 to 800 GPH water; 1.3 to 3300 SCFH air
- Optional minimum and/or maximum alarms
- Analog output 4-20 mA transmitter signal



Series
10A3200



Series
AM54

Air Drying, Refrigeration & Temperature Control Equipment

Mining applications

Deionization Water Purification

Petrochemical, Oil & Gas Processing

Pulp & Paper

Purging applications

Swimming Pools

Remote areas without power

Leak Detection

Troubleshooting

Sampling systems

Specialty Rotameters

Rotameters For Special Applications

Ori-Flowrator™ Meters (Series 10B4500)

Providing low-cost measurement of large liquid or gas flows in many industries such as oil, gas, petrochemical, water & wastewater. The ABB Ori-Flowrator meter is an all stainless steel variable-area flowmeter used in conjunction with a primary orifice plate. It is a special version of the 10A4500, with the following added benefits:

- Linear indication over 12½ to 1 flow range
- No external power required
- Easy range change and cleaning
- Suitable for hazardous areas

Bulls Eye™ Sight Flow Indicator (Series 10E1400)

Used in many industries to monitor and indicate flow through filter, cooling and intake/outlet pumping lines. Also widely used for troubleshooting or as back-up for meters, switches, process indicators and other control devices.

- Dual glass for see-through visibility
- High pressure and temperature version available (up to 400 PSI)
- Rugged construction maximizes reliability
- Unique sealing method guarantees leak-free operation



Acrylic VA Flowmeter (Series FP)

Very cost-effective gas and liquid flow measurement for many low temperature and pressure applications in all industries. With one-piece, clear acrylic construction, this meter is virtually unbreakable in most industrial process applications.

- Easy to read scales and float indicator
- Flow rates up to 20 GPM
- Air ranges up to 100 SCFM
- Easy installation and maintenance in-line or on panel



Series FP

Series 10B4500

Series 10E1400

Deionization Water Purification

Nitrogen Generators

Power Utility applications

Cooling water

Liquid specific gravity

Wastewater Treatment

Corrosive liquids

Food & Beverage applications

Ground Water Remediation

Why should I use an ABB Rotameter?

Low Cost, Simple, Reliable and Flexible

Cost Effectiveness

Many are discovering that ABB rotameters provide cost-effective flow measurement for many of their applications. [Why?](#)

- All ABB rotameters are low cost compared to other flow measurement devices
- In addition they have very low installation costs; no upstream/downstream straight piping requirements
- Plus their reliability combines for an extremely low cost of ownership
- Long life expectancy also brings low life-cycle cost

Reliability

There are many ABB rotameters still operating after 30, 40 and even 50 years or more. [Why?](#)

- ABB rotameters are renowned for being the highest quality available
- They last longer, with millions installed since 1937
- Our trouble-free operation ensures years of accurate flow measurement
- Excellent repeatability yields consistent products

Simplicity

Our rotameters are still popular for many flow applications after all these years. [Why?](#)

- They are pre-calibrated before they leave the factory
- Once delivered they are very easy to install
- Maintenance is very simple due to their excellent design
- ABB rotameters have common parts minimizing stocking requirements

Flexibility

ABB rotameters are found in almost every application and industry, with millions sold over the years. [Why?](#)

- Our rotameters can be used to measure a wide variety of liquids, gases & steam
- They require no power and can be used anywhere
- ABB rotameters are easily converted to measure different fluids & capacities
- They are available with alarms, transmitted output and even HART communications

ABB has Sales & Customer Support
expertise in over 100 countries worldwide

www.abb.com/instrumentation

The Company's policy is one of continuous product
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