

Multipulse SAP flowmeters are specifically engineered Positive Displacement meters which provide high levels of accuracy, repeatability and safety when dispensing batches of aggressive acids and other dangerous chemicals which react with metals. These meters suit both high and low viscosity liquids either pumped or gravity fed.

## Features and Benefits

- Flows: 0.05 to 13 US gal/min (0.2 to 50 liters/min)
- Size: 3/8" & 3/4" (10 & 20mm) process connections
- High accuracy & repeatability, direct reading flowmeter
- No req. for flow conditioning ( straight pipe runs etc)
- PVDF & PEEK construction resists most chemicals
- Quadrature pulse output option & bi-directional flow

## Meter Selection

Meters are selected based on flow range, pressure, temperature, material compatibility and functionality.

- **Multipulse SAP meters** are available as blind meters with pulse output or with integral or remote totalisers, flow rate displays or preset batch controllers.
- **Pulse meter** outputs can be interfaced to most electronic displays or instrumentation. The reed switch is used when external power is not available & can be used in intrinsically safe loops. The output from the hall sensor is an NPN open collector providing high speed solid state pulses ideal for precise dispensing & batch control.



## Applications

Photographic laboratories, plating plants, chemical plants, mining floatation cells, saline processes, container filling systems, stripping processes, pickling and etching processes and wet cell battery manufacturing.

## Specifications

Model Prefix	MP010P	MP020P
Nominal Size	3/8" (10mm)	3/4" (20mm)
Flow Range	0.05 to 2.7 gal/min (0.2 - 10 liters/min)	0.5 to 13.2 gal/min (2 to 50 liters/min)
Accuracy @ 3 cp	+/- 1% o.r. **	+/- 0.5% of reading
Improved Accuracy	+/- 0.2% of rate with optional RT12 using NLC	
Repeatability	typically +/- 0.03%	
Temperature Range	14F to 140F (-10C to 60C)	
Maximum Pressure	60 psi (7 bar)	
Protection Class	IP66/67 (NEMA4X) or intrinsically safe (I.S.)	
Recommended Filtering	100 mesh (150 micron) minimum	
Body Materials	PVDF (polyvinylidene fluoride)	
Piston Materials	PVDF, PEEK or carbon filled teflon	
O-ring Materials	viton, nitrile (Buna-N), EPR or teflon encapsulated viton	
<b>Electrical - for pulse meters (see also other outputs)</b>		
Output Pulse Resolution	Pulses per gallon (Pulses per liter) - Nominal	
# Reed Switch	760 (200)	76 (20)
Hall Effect	1520 (400)	380 (100)
Reed Switch Output	30Vdc x 200mA max.	
Hall Effect Output (NPN)	3 wire open collector, 5-24Vdc max., 20mA max.	
<b>Optional Functions</b>		
Display	Flowrate, total (accumulative & resettable)	
Preset Batching	1 & 2 stage high speed batch control	
<b>Optional Outputs</b>		
Flow	4-20mA, high and low flow rate alarms	
Pulse	Scaled pulse (programmable), pulse amplifier	

\*Max. flow is to be reduced as viscosity increases, max. pressure drop 15 psi (100Kpa)

\*\* Within nominal spans of MP010 - 0.045 to .45, .45 to 1.32 and 1.32 to 2.64 gal/min (0.17 to 1.7, 1.7 to 5 and 5 to 10 liters/min)

# Max. thermal shock 50F (10C)/min applies to the reed switch

## Ordering Information

### Model Coding

MP010	3/8" (10mm)
MP020	3/4" (20mm)

### Body Material

P	PVDF
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### Piston Material

0	PVDF
2	PEEK
3	CFT

### Partition Material

1	Ceramic
3	PVDF

### O-ring Material

1	Viton
2	Ethylene Propylene rubber (EPR)
3	Teflon Encapsulated Viton
4	Buna-N (Nitrile)

### Temperature Limits

- 1	-14F to 140F (-10C to 60C)
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### Process Connections

1	BSP Female Threaded
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### Cable Entries

0	.12" to .24" (3 - 6mm) cable gland (MP010P)
1	M20 x .06" (1.5mm) (MP020P)
2	1/2" NPT (MP020P)

MP020 P 3 1 1 - 1 1 2 R2

glass reinforced nylon (GRN)		GRN Terminal Cover
2 NPN open collector phased output	QP	Quadrature Pulse Output
accum. & reset totals & pulse output	B2	BT11 Dual Totalizer
IECEX & ATEX approved	B3	Intrinsically Safe BT11 (I.S.)
Flow rate, totals & all outputs	R2	RT12 Flow Rate Totalizer
IECEX & ATEX approved	R3	Intrinsically Safe RT12 (I.S.)
dc 2 stage batch controller	E0	EB10 batch controller
Consult Factory	SB	Specific Build Requirement

## Integral and Remote Instruments



Integral Instruments



Dual Totalizer



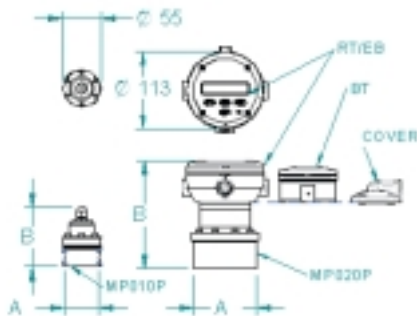
Preset Batcher

Rate Totalizer



Panel Instruments

## Dimensions



	A	A		B	B
	MP010P	MP020P	Configuration	MP010P	MP020P
BSP	50	90	RT/EB Register		159
NPT	50	90	BT Register		150
			Cover		127
			Cable Gland	87	



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The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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