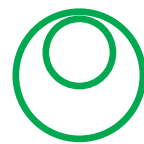


Multipulse SAP

Super Acid Proof PD Flowmeters



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 / BENEFITS

- Flows: 0.2~50 litres/min (0.05 ~13 US gal/min)
- Size: 10 & 20mm (3/8" & 3/4") process connections
- High accuracy & repeatability, direct reading flowmeter
- No requirement 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 and 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 and batch control.



APPLICATIONS INCLUDE

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.



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Specifications

Model prefix :	MP010P	MP020P
Nominal size (inches)	10mm (3/8")	20mm (3/4")
Flow range	0.2 ~ 10 litres / min (0.05 ~ 2.7 US gal / min)	2 ~ 50 litres / min (0.5 ~ 13.2 US gal / min)
Accuracy @ 3cp	± 1% o.r. **	± 0.5% of reading
Improved accuracy	± 0.2% of rate with optional RT12 using NLC	
Repeatability	typically ± 0.03%	
Temperature range	-10°C ~ +60°C (14°F ~ +140°F)	
Maximum pressure	7 bar (60 psi)	
Protection class	IP66/67 (NEMA4X) or intrinsically safe (I.S.)	
Recommended filtering	150 micron (100 mesh) 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	
Electrical - for pulse meters (see also optional outputs)		
Output pulse resolution	pulses / litre (pulses / US gallon) - nominal	
# Reed switch	200 (760)	20 (76)
Hall effect	400 (1520)	100 (380)
Reed switch output	30Vdc x 200mA max.	
Hall effect output (NPN)	3 wire open collector, 5~24Vdc max., 20mA max.	
Optional functions		
Display	flowrate, total (accumulative & resettable)	
Preset batching	1 & 2 stage high speed batch control	
Optional outputs		
Flow	4 ~ 20mA, high & low flow rate alarms	
Pulse	scaled pulse (programmable), pulse amplifier	

* Max. flow is to be reduced as viscosity increases, max. pressure drop 100Kpa. (15psi)
 ** Within nominal spans of MP010 (0.17~1.7, 1.7~5 & 5~10 litres/min)
 # Max. thermal shock 10°C (50°F) / min. applies to the reed switch

Model coding

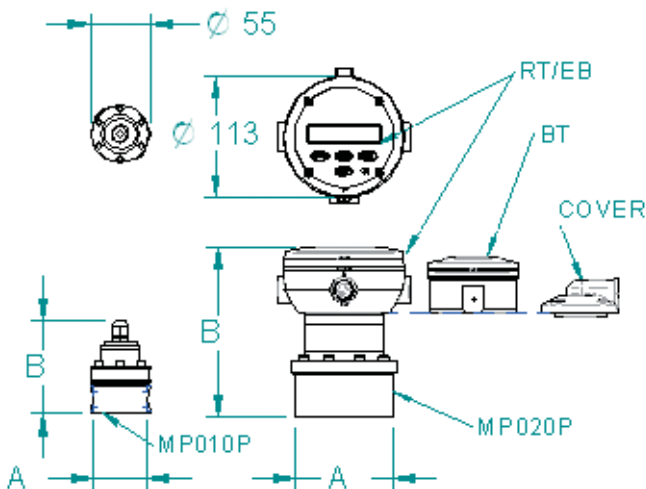
MP010	3/8" (10mm)
MP020	3/4" (20mm)
Body material	
P	PVDF
Piston material	
0	PVDF
2	PEEK
3	CFT
Partition material	
1	Ceramic
3	PVDF
O-ring material	
1	Viton
2	Ethylene Propylene Rubber (EPR)
3	Teflon encapsulated viton
4	Buna-N (Nitrile)
Temperature limits	
- 1	- 10 to 60°C (+14°F ~ 140°F)
Process connections	
1	BSP female threaded
Cable entries	
0	3-6mm cable gland (MP010P)
1	M20 x 1.5mm (MP020P)
2	1/2" NPT (MP020P)

Model No. Example

MP020 P 3 1 1 - 1 1 2 R2

glass reinforced nylon (GRN)	GRN terminal cover
2 NPN open collector phased outputs	QP Quadrature pulse output
accum. & reset totals & pulse output	B2 BT11 dual totaliser
IECEX & ATEX approved	B3 Intrinsically safe BT11 (I.S.)
flow rate, totals & all outputs	R2 RT12 Flow Rate Totaliser
IECEX & ATEX approved	R3 Intrinsically safe RT12 (I.S.)
dc 2 stage batch controller	E0 EB10 batch controller
consult factory	SB Specific build requirement

DIMENSIONS



ALL DIMENSIONS IN MILLIMETERS +/- 2

	A	A		B	B
	MP010P	MP020P	Configuration	MP010P	MP020P
B.S.P.	50	90	RT/EB REGISTER		159
N.P.T.	50	90	BT REGISTER		150
			COVER		127
			CABLEGLAND	87	

INTEGRAL AND REMOTE INSTRUMENTS



Integral Instruments



Panel Instruments



Dual Totaliser



Preset Batcher

Rate Totaliser

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