

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)
- Sizes: 10mm (3/8"), 20mm (3/4")
(see also Micropulse & Maxipulse data sheets for other sizes and flow ranges)
- High accuracy & repeatability, direct reading flowmeter
- No requirement for flow conditioning (straight pipe runs etc)
- Simple to install, easy to service (low number of parts)
- Measures high and low viscosity liquids
- Measures conductive and non-conductive clean liquids

Meter selection

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

- *Multipulse SAP* meters have two outputs which can be interfaced to most electronic instrumentation. The reed switch is ideal for rate measurement and does not require external power. The open collector hall effect output produces high resolution pulses ideal for precise dispensing and preset batch control.
- *Multipulse SAP* meters are available with integral or remote totalisers, flow rate totalisers and preset batch controllers.

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	MPO10P	MPO20P
Nominal size (inches)	10mm (3/8")	20mm (3/4")
Flow range	0.1 ~ 10 litres / min (0.03 ~ 2.6 US gal / min)	2 ~ 50 litres / min (0.5 ~ 13.2 US gal / min)
* Maximum flow (fuels)	12 litres / min (3 gal / min)	80 litres / min (21 gal / min)
Accuracy @ 3cp	± 0.5% of rate (± 0.2% with optional RT12)	
Repeatability	typically ± 0.03%	
Temperature range	-10°C ~ +40°C (-14°F ~ +100°F)	
Maximum pressure	4 bar (60 psi)	
Materials		
Body materials	PVDF (polyvinylidene fluoride)	
Piston materials	PEEK (polyetheretherketone) or carbon filled teflon	
O-ring materials	viton, nitrile (Buna-N), EPR or teflon encapsulated viton	
Electrical		
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. (max. temp. shock 10°C (50°F) / min)	
** Hall effect output	3 wire NPN open collector, 5 ~ 24Vdc max., 20mA max.	
Electrical connection	3 - 6mm Ø cable gland	M20 or 1/2" NPT female
Physical		
Process connections	BSP female threaded	
Protection class	IP66/67 (NEMA4X)	
Dimensions	refer <www.trimecind.com>	
Pressure drop chart	refer <www.trimecind.com>	
Chemical resistance chart	refer <www.trimecind.com>	
Recommended filtering	≤ 150 micron (100 mesh)	

* Maximum flow on fuels may be maintained for intermittent periods of refuelling.

* Maximum flow is to be reduced as viscosity increases, max. pressure drop 100Kpa.

** Micropulse is supplied with Reed Switch or Hall output only, nominate when ordering.

Ordering information

Meter size	
MPO10	3/8" (10mm)
MPO20	3/4" (20mm)
Body material	
P	PVDF
Piston material	
2	PEEK
3	CFT
Partition material	
1	Ceramic
3	PVDF
O-ring material	
1	Viton (std.) - 200°C max. (400°F)
2	EPR - 150°C max. (300°F)
3	Teflon encapsulated - 150°C (300°F)
4	Buna-N (nitrile) - 100°C max. (212°F)
Temperature limits	
4	- 10 to 40°C (14°F ~ +100°F)
Process connections	
1	BSP (RP) female threaded
Cable entries	
0	Cable gland (MPO10P)
1	M20 x 1.5mm (MPO25P)
2	1/2" NPT (MPO25P)
Model No. Example	
MPO20	P 2 1 1 1 1 2 R1
Integral options	
Quadrature pulse output	QP (2 Hall effects)
BT10 dual totaliser	B0 (accum. & reset totals)
BT11 (BT10 with pulse output)	B1 (scaled pulse output)
RT11 Flow Rate Totaliser	R1 (flow rate & totals)
RT12 (RT11 with outputs)	R2 (alarms & 4-20mA)
EB10 batch controller	E0 (Ecobatch)
Specific build requirement	SB (consult factory)

Optional functions (with RT, BT & EB instruments)

- Flow rate display : 8 digit, programmable engineering units
- Resettable total : 5 & 8 digit, programmable engineering units
- Accumulated total : 8 digit, programmable engineering units
- Preset batching : 1 or 2 stage high speed batch control

Optional outputs (with RT, BT & EB instruments)

- Analog : 4~20mA programmable zero & span
- Scaled pulse : programmable (eg: 1 pulse/litre, /10 gal etc.)
- Flowrate alarms : programmable high and low flow rate alarms

Integral and Remote Electronics



Preset batcher (refer EB data sheet)



Battery totaliser
(refer BT data sheet)



Rate totaliser
(refer RT data sheet)

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