






	Thermal Flow Meter			Coriolis Flow Meter	Mass flow controllers	DP Meters	
Mass Flow	👍	👍	👍	👍	👍	👍	*** 👍
Air/Gases	👍	👍	👍	-	👍	👍	👍
Steam	-	-	-	-	-	-	👍
Liquids	-	-	-	👍	-	-	👍
Model/Series	ATMF80/81/86/87	ATMF82/88	ATMF9000 series	ALCM 00300~ 200000	AMF and AMFC	Acone	
Line Size Compatibility	6.3 ~ 100 mm (1/4" ~ 4")	≥ 50mm (2")	≥ 50mm (2")	15mm~8mm (0.5" ~ 3")	1/8",1/4",5/16" comp. fitting	1/2"~120"	
Key Feature	<ul style="list-style-type: none"> Directly measure mass flow of gas Up to four in-dependent switch able flow curves Available with Infrared communicator for remote access of data 	<ul style="list-style-type: none"> Directly measure mass flow of gas Up to four in-dependent switch able flow curves Measure higher velocity than other thermal mass meter - up to 203 m/s 	<ul style="list-style-type: none"> Direct massflow gases insertion and inline Up stream requirements only 3 diameters Insertion up to 600mps Inline up to 20,500NCMH no compeitors (patented) 	<ul style="list-style-type: none"> Directly measure mass flow of liquid Suitable for aggressive and contaminated media Free of dead spots Individual 8-point-calibration report 	<ul style="list-style-type: none"> Directly measure mass flow of gas Single and multi-valves adjustable fast response : <1.5s Command / measuring signal 	<ul style="list-style-type: none"> Dirty gas application Up stream requirements only 3 diameters For liquids, gas & steam Lowest Pressure drop than any DP in the market *** Using SMC Mass Flow Computer 	
Measurement							
Flow Rate	◆	◆	◆	◆	◆	◆	
Total Flow	◆	◆	◆	◆	◆	◆	
Temperature	◆	◆	◆	◆	◆	◆	
Density	-	-	-	-	-	-	
Flow Element							
Flow Range	0 ~ 1450 SCFM	0 ~ 650 f/s	0 ~ 12,068 SCFM inline 0 ~ 1950 fps insertion	.15 ~ 44,000 lbs/hr	.002 ~ 7 SCFM	Based on Re > 8000 1:20	
Turndown Ratio	Over 100:1	Over 100:1	Over 100:1		Over 20:1	+/- 0.5% of reading	
Accuracy	±1% of Reading ± 0.2% of Full Scale	±1% of Reading ± 0.2% of Full Scale	±1% of Reading ± 0.2% of Full Scale	±0.15% of Reading 0 ~ +350 °F	±1% of Reading + (0.5% FS)	-350 to 1500 °F	
Process Temperature	0 ~ +390° F	0 ~ +850 °F	0 ~ +390 °F	High temp up to 662 °F	40 to +115 °F	up to 61,000 PSIG	
Operating Pressure	580 PSIG	580 PSIG	580 PSIG	5000 PSIG	1450 PSIG	NPT,Flange,Wafer,Butt weld	
Connection	Threaded, Flanged	Threaded, Flanged, Ball Valve	Threaded, Flanged	npt, flanges,diary,tri-clamp	compression fitting	304L/SS, 306L,CPVC,PTFE Brass,A106B,A335-P11,etc	
Flow element wetted materials	316SS as per DIN 1.4571 (AISI 316 Ti)	316SS as per DIN 1.4571 (AISI 316 Ti)	316SS as per DIN 1.4571 (AISI 316 Ti)	SS as per DIN 1.4571 (AISI 316 Ti)			
Transmitter							
outputs (standard)	0-5 VDC & 4-20 mA, Pulse	0-5 VDC & 4-20 mA, Pulse	0-5 VDC & 4-20 mA, Pulse	0-5 VDC & 4-20 mA, Pulse	0-5 VDC & 4-20 mA, Pulse	Third Part DP transmitter	
outputs (optional)	RS232, RS485, Hart, Modbus	RS232, RS485, Hart, Modbus	RS232, RS485, Hart, Modbus	Integral/Remote	Integral/Remote	Resmourt DP transmitter	
Integral or Remote Mounting	Integral/Remote	Integral/Remote	Integral/Remote	Integral/Remote	Integral/Remote	Siemens DP ransmitter	
Digital Display Option	◆(std)	◆(std)	◆(std)	◆(std)	◆(std)	ETC....	
Enclosure Protection/Ratings	NEMA 4,Class 1, Div 1, Groups B, C, & D	NEMA 4,Class 1, Div 1, Groups B, C, & D	NEMA 4,Class 1, Div 1, Groups B, C, & D	IP 65-68 NEMA 4,,	NEMA 4,		
Power Supply	115 VAC, 230 VAC, 24 VDC	115 VAC, 230 VAC, 24 VDC	115 VAC, 230 VAC, 24 VDC	24 VDC, 15%	24 VDC, 15%		
Agency Approvals	II 2GD EExd IIC T2 or T3 or T4 EEx, CE	II 2GD EExd IIC T2 or T3 or T4 EEx, CE	II 2GD EExd IIC T2 or T3 or T4 EEx, CE	II 2GD EExd IIC T2 or T3 or T4 EEx, CE	eqv IEC60079-1:1990 EEx, CE	II 2 G EEx ia IIC T4, CE BVS 03 ATEX E 205	
Industries & Applications	Biogas (waste water) Exotic gases (semiconductor) Chemical processing gases Pharmaceutical gases Natural gas/Fuel gases Refinery gases Automotive industries Compressed air	Biogas (waste water) combustion Controls Chemical processing gases Stack gases Natural gas/Fuel gases Refinery gases Automotive industries Compressed air	High flow gases combustion Controls Chemical processing gases Limited straight runs Natural gas/Fuel gases Refinery gases Automotive industries Compressed air	Automotive Fuel consumption Hydraulics Petrochemicals Polyurethane Food industry Pharmaceutical Industries Custody Transfer liquids	Semi-conductor gas Flow controller Very low flows cc clean room applications	Dirty gas application Wet gas application Liquids Saturated steam Superheated steam No straight run applications Low pressure drop	

						
	Magnetic Meters	Ultrasonic Meters	PD Meter	Turbine Flow Meter	Variable Area Flow Meter	Vortex Flow meters
Mass Flow	-	-	-	-	-	-
Air/Gases	-	-	-	👍	👍	👍
Steam	-	-	-	-	👍	👍
Liquids	👍	👍	👍	👍	👍	👍
Model/Series	ALMAG	ALSONIC	ALBRPD,ALGPD & ALHPD	ALTM	ALVAMT	ALVTX
Line Size Compatibility	6 ~ 2000 mm (1/4" ~ 80")	1/2" ~ 240"(15 ~ 6000 mm)	6 ~ 400 mm (1/4-16")	15 ~ 250 mm (1/2" ~ 10")	6 ~ 200 mm (1/4" ~ 8")	0.5" ~ 24"(15 ~ 700 mm)
Key Feature	<ul style="list-style-type: none"> For conductive liquids many type of liners Larger sizes up to 2000mm Both AC or DC available NIST certificate 	<ul style="list-style-type: none"> Portable, fixed, spool psc DSP technology can measure < 30% particles Excellent for BTU and energy measurement Clamp or insertion sensors NIST certificate 	<ul style="list-style-type: none"> High pressure flows Easy to clean Reverse flows Low operating noise Constant K-factor Low pressure drop NIST certificate 	<ul style="list-style-type: none"> Easily cleaned Temperature range from -450 up to +660 °F Fast response time Low flows designed with sapphire bearings Pressures up to 55,000psig 	<ul style="list-style-type: none"> Pressure drop 1 ~10 PSIG for gas & steam application Ni-MH Battery(3 years) Consistent overall length Heating jacket design NIST certificate 	<ul style="list-style-type: none"> Ideal for steam application Simplified setup and diagnostic functions. 4-20 mA and pulse outputs; user selectable. NIST certificate
Measurement						
Flow Rate	◆	◆	◆	◆	◆	◆
Total Flow	◆	◆	◆	◆	◆	◆
Temperature	-	BTU, temp available	-	-	-	-
Density	-	-	-	-	-	-
Flow Element						
Flow Range	0.03 ~ +/- 40 fps.	0.03 ~ +/- 150 fps.	0.001 ~ 265 GPM(GPD&HPD) 15 ~ 7,100 GPM (BRPD)	0.008 ~ 130 GPM	Liquids 0.02 ~ 880 GPM Gases 0.01 ~ 2300 SCFM	Steam -0.2 to 9,800 lb/min Gas - 2 to 105,000 SCFM
Turndown Ratio			±0.25% (GPD,HPD)		20:01	Liquid - 1.5 to 1500 GPM
Accuracy	± 0.2% ,± 0.5% Reading	±0.5% of reading	±0.1% (BRPD)	±0.15%	+/- 1% of reading	liquid +/- 0.7% Rdg
Viscosity			5 ~ 1,000,000 cSt	0 ~ 60 cSt	< 30 CP	gas/steam+/- 1.0% Rdg
Process Temperature	360 °F	-4 ~ +122 °F	0 ~ +480 °F	-450 ~ +660 °F	-100 ~ +400 °F(Standard)	wafer, flange or insertion
Operating Pressure	5,000 PSIG	No need to monitor pressure	23K psig(HPD),930psig (BRPD)	55,000 PSIG	580 PSIG	-4 ~ +400 °F (Optional)
Connection	PTFE, FEP, Polyurethane, Neoprene Liner - 316 SS, Has and B/C, Ti, Ta, Platinum	Clam-On sensors	threads, flanges, etc... bores for SAE flanges 1¼ SS per DIN 1.4305/AISI 303 1.4571/AISI 316 Ti	BASF flanges,(ANSI and DIN), tri-clamp,ermeto threads, NPT Body: 1.4305, (316 Ti) Wheel: 1.4122,(1.4460)	JIS , DIN and ANSI available	930 psig(Max.) JIS , DIN and ANSI available
Wetted materials		No wetted material needed				Stainless Steel 304 Stainless Steel 316
Transmitter						
outputs (standard)	4-20 mA & Scale pulse	4-20 mA or 0-20 mA	8-30 VDC & 4-20 mA, Pulse	8-30 VDC & 4-20 mA, Pulse	4-20 mA and Scale pulse	4-20 mA (2 wire)
outputs (optional)	Hart, Modbus, RS485	Pulse RS485, RS-232	RS485/232, MODBUS	RS485/232, MODBUS	Key pad for setup	RS485, HART, MODBUS
Integral or Remote Mounting	Integral/Remote	Integral/Remote	Integral/Remote	Integral/Remote	Integral	Integral/Remote
Digital Display Option	◆	◆	◆	◆	◆	◆
Enclosure Ratings	IP65 / IP67 / IP68 / Ex proof	IP65 / IP67	IP 65, aluminum AlMgSiPb	IP 65, aluminum AlMgSiPb	IP 65 aluminum	IP 65 aluminum
Power Supply	24VDC, 90-260 VAC	90 ~ 260Vac 50/60 Hz	14-30 VDC	14-30 VDC	11 ~ 36VDC(2 wire 4-20 mA)	11 ~ 36 VDC(2 wire 4-20 mA)
Agency Approvals	CE	CE	CE, EX II 2 G EEx ia IIC T4, BVS 03 ATEX E 205	CE, EX II 2 G EEx ia IIC T4, BVS 03 ATEX E 205	CE, Ex ia IIC T5, Ex d IIB T6	CE, Explosion Proof, Exd IIB T4, Intrinsically Safe, Exib IIC T4
Industries and Applications	Liquid Slurries Water & Wastewater Corrosive Liquids Chemical Processing Cellulose/cosmetics Food & Beverage Cement, lime Pharmaceuticals Fertilizer	Portable flow monitoring Food and beverage Water and wastewater Refined and Crude oils Bi-directional flow Ultra pure fluid Alcohol / acid Oil Derivatives Batch control	Polyurethane & polymers Isocyanate Sealing materials Petrochemical products Fats Light,heavy or crude oils Glues, Paints Abrasive fluids Coating wax	Fuel oil Solvents Di water Pharmaceuticals Liquefied gas Food Industry Automotive Refineries High pressure (58,000 PSIG)	Leak Detection Pump Seal Automotive Sampling Systems Analyzers Refrigeration Blanketing Systems Temperature Controls Water Filtration	Dirty gas application Wet gas application Liquids Saturated steam Superheated steam