



Mass Flow Controller AFC 202 & Meter AFM 302

Features

For high flow from 30 slm to 400 slm, the traditional analog Qualiflow AFC 202 and AFM 302 with elastomeric seals and magnetic valve :

- Normally open and normally closed versions available with color identification (green for NO, red for NC).
- Special pressure compensated stainless steel valve for ultra fast flow control.
- No particle generation or entrapment.



Ratings

Flow Range (equivalent N2) :..... from 30 slm to 400 slm
 Control Range :..... between 2 and 100% F.S.
 Valve Type :..... Electromagnetic
 Valve Rest Position : Normally Open or Normally Closed
 Accuracy : +/- 1% of F.S.
 Linearity : +/- 0.5% of F.S.
 Repeatability : +/- 0.3% of F.S.
 Step Response Time : <= 5 sec. typical (SEMI E17-91)
 Temperature Range : between 5 and 40°C
 Temperature Coefficient : < 0.1% F.S./°C
 Maximum Inlet Pressure : 10 bar
 Minimum Differential Pressure : 1.5 bar for 30 slm F.S.
 2.0 bar for 50 slm F.S.
 2.5 bar for 100 slm F.S.
 3.0 bar for 200 slm F.S.
 4.5 bar for 400 slm F.S.
 Pressure Coefficient : < 0.1% F.S./bar
 Wetted Materials : 316 L Stainless steel
 Leak Integrity : < 2.10⁻⁸ scc/sec (He)
 Standard Seals : Viton, Neoprene
 Fittings : 1/4" VCR, Swagelok

Power Input Requirement :

Mass Flow Controller :..... +/- 15 VDC, 150 mA
 Mass Flow Meter :..... +/- 15 VDC, 25 mA
 Set Point Signal : from 0 to 5 VDC
 Flow Output Signal : from 0 to 5 VDC
 Electrical Connector : Card Edge

Options :

- Kalrez seals
- Separated electronics
- External readout
- Other on request

Case GND	1	A	Setpoint
Common	2	B	Common
Readout	3	C	Common
+15 VDC	4	D	Valve control
	5	E	
Test point	6	F	-15 VDC
	8	J	Sensor Up-stream
	9	K	Sensor Com
Extra I/O	10	L	Sensor Down-stream

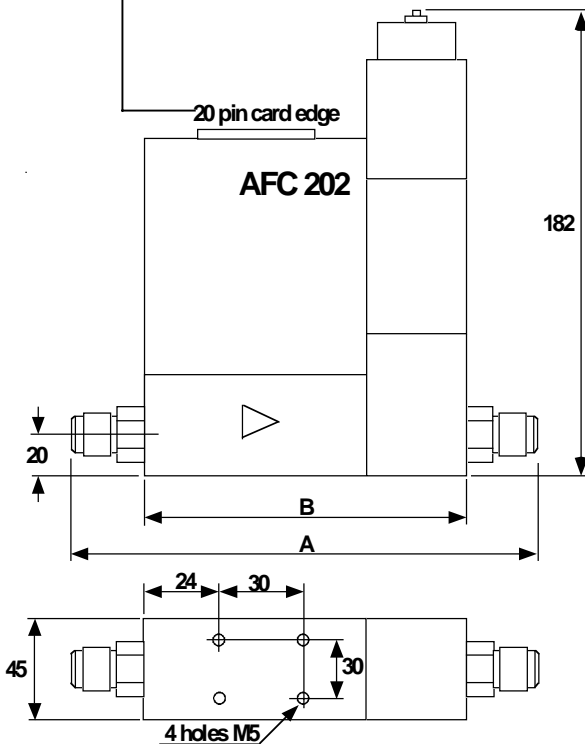


Table of Dimension (mm)

	AFC 202		AFM 302	
	VCR 3/8" MM	SWAGELOK 3/8"	VCR 3/8" MM	SWAGELOK 3/8"
A (mm)	181.4	183.3 (inc. nuts)	141.9	143.8 (inc. nuts)
B (mm)	123	123 (inc. nuts)	83.5	83.5

Gas Process Number

Symbol	Gas Name	Number	Density SEMI E52-0298	Sp. Heat [g / l]	C [cal/g/°C]
	Air	8	1.2929	0.2401	1.000
NH3	Ammonia	29	0.7710	0.519	0.68
Ar	Argon	4	1.7842	0.1246	1.453
AsH3	Arsine	35	3.481	0.1178	0.666
BCl3	Boron Trichloride	70	5.26	0.130	0.40
CO	Carbon Monoxide	9	1.2500	0.495	1.000
CCl4	Carbon Tetrafluoride	101	6.86	0.141	0.309
Cl2	Chlorine	19	3.209	0.116	0.83
B2H6	Dibirane	58	1.24	0.495	0.44
SiH2Cl2	Dichlorosilane	67	4.54	0.141	0.43
CHF3	Fluoroform	49	3.125	0.173	0.506
CCl2F2	Freon-12	84	5.5	0.149	0.34
CF4	Freon-14	63	3.96	0.167	0.41
GeH4	Germane	43	3.423	0.138	0.58
He	Helium	1	0.1788	1.242	1.454
H2	Hydrogen	7	0.0899	3.400	1.016
HCl	Hydrogen Chloride	11	1.635	0.1937	0.981
C2F6	Hexafluoroethane	118	6.16	0.185	0.24
Kr	Krypton	5	3.73	0.0596	1.45
CH4	Methane	28	0.7166	0.528	0.722
CH3SiCl3	Methyltrichlorosilane	183	6.670	0.164	0.250
N2	Nitrogen	13	1.2503	0.2484	1.000
NO2	Nitrogen Dioxide	26	6.675	0.194	0.41
NF3	Nitrogen Trifluoride	53	3.173	0.178	0.434
N2O	Nitrous Oxide	27	1.98	0.206	0.206
O2	Oxygen	15	1.429	0.2183	0.996
O3	Ozone	30			
PH3	Phosphine	31	1.523	0.2607	0.688
C3H8	Propane	89	1.98	0.392	0.35
SiH4	Silane	39	1.438	0.3188	0.596
SiF4	Silicon Tetrafluoride	88	4.68	0.168	0.35
Si2H6	Disilane	97			
SO2	Sulphur Dioxide	32	2.91	0.149	0.67
SF6	Sulphur Hexafluoride	110	6.5	0.1590	0.27
TiCl4	Titanium Tetrachloride	114	8.465	0.22	0.30
C4F8	Octafluorocyclohexane	129			
SiHCl3	Trichlorosilane	147	6.047	0.130	0.348