

GAS CORRECTION FACTORS

For FMA1800, FMA-5700 and FMA-8500 Flow Sensors



FMA-760A shown smaller than actual size.



FMA1806, with optional totalizer FMA-TOTAL shown smaller than actual size.

The FMA1800 and FMA-700/800 Electronic Mass Flowmeters and Controllers are factory calibrated for nitrogen (N₂). However, these units can be used for many gases, with the flow rate compensated by an appropriate correction factor. The actual flow rate for any gas is equal to the flow rate of nitrogen for the unit multiplied by the correction factor.

$$\text{Actual Flow Rate of Gas} = \text{Flow Rate of Nitrogen} \times \text{Correction Factor}$$

Example:
FMA-1714 used with Helium gas, (He)
Calculations:
Range of FMA1714 for Nitrogen, N₂: 0 to 1000 SCCM
Conversion Factor for Helium for FMA1714 Models: 1.45

Flow Rate of Helium: (0 to 1000 SCCM) x 1.45 = 0 to 1450 SCCM
Description: The FMA1714 Mass Flow Sensor has a linear 0 to 5 Vdc output. When used with Helium gas, the output will be proportional to a flow rate of 0 to 1450 SCCM.

Compound (Formula)	Correction Factor for FMA1700/1800 and FMA-700A/800A	Compound (Formula)	Correction Factor for FMA1800
Ammonia (NH ₃)	0.73	Hydrogen Iodide (HI)	0.99
Argon (Ar)	1.45	Krypton (Kr)	1.453
Butane (C ₄ H ₁₀)	0.26	Methane (CH ₄)	0.72
Carbon Dioxide (CO ₂)	0.74	Neon (Ne)	1.46
Carbon Tetrafluoride (Freon 14) (CF ₄)	0.42	Nitrogen (N ₂)	1.00
Chlorine (Cl ₂)	0.86	Nitrogen Dioxide (NO ₂)	0.74
Ethane (C ₂ H ₆)	0.50	Nitrous Oxide (N ₂ O)	0.71
Fluorine (F ₂)	0.98	Oxygen (O ₂)	0.99
Helium (He)	1.45	Propane (C ₃ H ₈)	0.36
Hydrogen (H ₂)	1.01	Silane (SiH ₄)	0.60
Hydrogen Bromide (HBr)	1.00	Sulfur Dioxide (SO ₂)	0.69
Hydrogen Chloride (HCl)	1.00	Xenon (Xe)	1.44

Correction factors for other gases available. Consult Engineering Department for details.
Note: Not all gases listed are compatible with each model. To determine exact compatibility, consult Engineering Department. Conversion factors reduce accuracy by 2%.