

Correction Formula

LIQUID / GAS

Liquid Correction Formula

Information required to size for conditions other than water:

- Specific Gravity of Fluid (@ Operation Conditions)
- Fluid Temperature (@ Operation Conditions)
- Viscosity (@ Operation Conditions)

RATE OF FLOW UNIT CONVERSIONS:	
GMP (FLOWING LIQUID)	CC/MIN (FLOWING LIQUID)
= GPH / 60	= GPM x 3,785
= CC/MIN / 3,785	= GPH x 63.08
= CC/HR / (3,785 X 60)	= CC/HR / 60
= LPM / 3.785	= LPM x 1,000
= LPH / 227.1	= LPH x 16.67
= M3/MIN x 264.2	= M3/MIN x 1,000,000
= M3/HR x 4.402	= M3/HR x 16,667
= PINTS/MIN / 8	= PINTS/MIN x 473.1
= FT3/MIN x 7.48	= FT3/MIN x 28,320
= FT3/HR x 8.021	= FT3/HR x 472
= Kg/MIN x 0.264 / Sp. Gr.	= Kg/MIN x 1,000 / Sp. Gr.
= Kg/HR / (227 x Sp. Gr.)	= Kg/HR x 16.67 / Sp. Gr.
= Lbs/MIN / (8.347 x Sp. Gr.)	= Lbs/MIN x 453.6 / Sp. Gr.
= Lbs/HR / (500.8 x Sp. Gr.)	= Lbs/HR x 7.56 / Sp. Gr.
= GRAMS/MIN / (3,785 x Sp. Gr.)	= GRAMS/MIN / Sp. Gr.
= GRAMS/HR / (227,000 x Sp. Gr.)	= GRAMS/HR / (60 x Sp. Gr.)

CORRECTION FORMULA:

$$\sqrt{\frac{\text{Float Density - Customer Fluid}}{(\text{Float Density} - 1.0) * \text{Customer fluid}}}$$

FLOAT DENSITY:

Teflon: 2.20	316SS: 8.04
Glass 2.53	Hastelloy® C-276: 8.94
Sapphire: 3.989	Carboly: 15.0
Titanium: 4.5	Tantalum: 16.6
316L SS: 8.03	

FLUID DENSITY CONVERSIONS

SP. GR.	= LBS/FT3 / 62.4
	= KG/M3 / 1000
	= G/CM3
	= 141.5 / (131.5 + API)

Gas Correction Formula

Information required to size for conditions other than air at STP:

- Operating Temperature
- Operating Back Pressure
- Specific Gravity of Fluid @ STP

RATE OF FLOW UNIT CONVERSIONS:

SCFM (FLOWING GAS)	SCC/MIN (FLOWING GAS)
= SCFH / 60	= SCFM x 28,317
= SLPM / 28.317	= SCFH x 472
= SLPH / 1,699	= SCIM x 16.39
= SM3/MIN x 35.31	= SLPM x 1,000
= SM3/HR x 0.5885	= SLPH x 16.67
= NM3/MIN x 37.99	= SM3/MIN x 1,000,000
= NM3/HR x 0.6331	= @ SM3/HR x 16,667
= SCC/MIN / 28,317	= NM3/MIN x 1,075,785
= Kg/MIN x 29.39 / Sp. Gr.	= NM3/HR x 17,929
= Kg/HR x 0.490 / Sp. Gr.	= Kg/MIN x 832,000 / Sp. Gr.
= @ Lbs/MIN x 13.33 / Sp. Gr.	= Kg/HR x 13,876 / Sp. Gr.
= Lbs/HR x 0.2222 / Sp. Gr.	= Lbs/MIN x 377,500 / Sp. Gr.
= Lbs/Day x 0.00926 / Sp. Gr.	= Lbs/HR x 6292 / Sp. Gr.
= ACFM x (Oper PSIG + 14.7) x 530	
14.7 x (Oper temp F + 460)	

CORRECTION FORMULA:

$$\sqrt{\frac{(\text{oper. back pressure} + 14.7) \times 36}{\text{Gas S.G.} \times (\text{Oper. Temp F} + 460)}}$$

TEMPERATURE CONVERSIONS:

Deg. F	= (9 / 5) x °C + 32
	= °K - 459.67
	= (9 / 5) x (°R - 273.15) + 32

FLUID DENSITY CONVERSIONS:

SP. GR.	= LBS/FT3 / 0.075
	= KG/M3 / 1.2
	= Mol. Wt. / 29.0
	= g/cm3 / 0.0012

PRESSURE CONVERSIONS:

PSIG	= FT. Water / 2.308	= (Pa / (1.013 x 100,000) x 14.7
	= In. Water	= PSIA - 14.7
	= mm Water / 704	= (ATM x 14.7) - 14.7
	= In. Hg / 2.036	= ((TORR / 760) x 14.7) - 14.7
	= mm Hg / 51.7	= ((Bars / 1.013) X 14.7) - 14.7
	= Kg/cm2 x 14.228	= (Millibars / 1013) x 14.7) - 14.7
	= (KPa / 101.3) x 14.7	