

Calculation of Molecular Weight of Dry & Wet Air

Dry Air

<u>Composition</u>	<u>Mole Fraction</u>	<u>AMU</u>
Nitrogen..... N ₂ diatomic	0.779	x (14x2) = 21.9
Oxygen..... O ₂ diatomic	0.209	x (16x2) = 6.69
Argon..... Ar monoatomic	0.009	x (40) = 0.36
CO ₂	trace	

Dry MW = Total = 28.95

Wet Air - H₂O = 2 x 1 = 2

16 x 1 = 16

MW = 18

N₂ 0.779 / 1.010 = 0.77129 x 28 = 21.6

O₂ 0.209 / 1.010 = 0.20693 x 32 = 6.62

Ar 0.009 / 1.010 = 0.00891 x 40 = 0.356

CO₂ 0.003 / 1.010 = 0.00297 x 44 = 0.131

H₂O 0.010 / 1.010 = 0.01000 x 18 = 0.18

100.000% 28.89 = Wet MW