B_A = Mole fraction of moisture in the ambient air.

$$= \frac{\%RH}{100\ P_{bar}\left[10^{\left[6.6912-\left(\frac{3144}{T+390.86}\right)\right]}\right]}$$

B_F = Mole fraction of moisture from free water in the fuel.

$$B_F = \left[\frac{0.0036\ W^2 + 0.075\ W}{100}\right]\left[\frac{20.9 - O_2}{20.9}\right]$$

B_H = Mole fraction of moisture from the hydrogen in the fuel.

$$B_H = \left(1 - \frac{F_d}{F_w}\right)\frac{(20.9 - O_2)}{20.9}$$