

CI-340 Equations

3. E : Transpiration rate (milimol/m²/s)

$$E = \frac{e_o - e_i}{P - e_o} \times W \times 10^3$$

$$e_o = \frac{hr_o \times e_s}{100}$$

$$e_i = \frac{hr_i \times e_s}{100}$$

$$e_s = 6.13753 \times 10^{-3} \times e^{T_a \times \frac{18.564 - \frac{T_a}{254.4}}{T_a + 255.57}}$$

Where e_o (e_i): outlet (inlet) water vapor (bar)

P : atmospheric pressure (bar)

e_s : saturated water vapor at air temperature (bar)

T_a : air temperature (°C)

hr_o (hr_i): outlet (inlet) relative humidity (%)