

**TECHNICAL ERRATA SHEET FOR
ANSI/AMCA STANDARD 230-23
Incorrect operator in ambient-air-density calculation
and
Incorrect SI unit
June 2, 2023**

The information contained in this errata sheet is not part of ANSI/AMCA Standard 230-23, *Laboratory Methods of Testing Air Circulating Fans for Rating and Certification*, and has not been processed in accordance with ANSI's requirements for an American National Standard (ANS). As such this errata sheet may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.

The corrections listed in this errata sheet apply to all copies of ANSI/AMCA Standard 230-23, *Laboratory Methods of Testing Air Circulating Fans for Rating and Certification*.

1. Section 8.2

The SI and I-P equations (Eq. 8.5 and Eq. 8.6) used to calculate ambient air density, ρ_0 , have in their denominator the incorrect operator used to convert Celsius and Fahrenheit temperature to Kelvin and Rankine temperature, respectively. The subtraction symbol should be an addition symbol. The two equations should read as follows:

$$\rho_0 = \left(\frac{p_b - 0.378p_p}{R(t_{d0} + 273.15)} \right) \quad \text{SI} \quad \text{Eq. 8.5}$$

$$\rho_0 = 70.73 \left(\frac{p_b - 0.378p_p}{R(t_{d0} + 459.67)} \right) \quad \text{I-P} \quad \text{Eq. 8.6}$$

2. Section 8.7

Eq. 8.12, the SI equation used to calculate fan total pressure, is correct; however, the SI unit for airflow rate should be m³/s, not m³/h.

The unit's description following Eq. 8.12 and Eq. 8.13 should be corrected as follows:

8.7 Fan total pressure

The fan total pressure at a given airflow shall be calculated according to the following equations:

$$P_t = \frac{\rho_0}{2} \left(\frac{Q_0}{A} \right)^2 \quad \text{SI} \quad \text{Eq. 8.12}$$

$$P_t = \rho_0 \left(\frac{Q_0}{1097.8 \times A} \right)^2 \quad \text{I-P} \quad \text{Eq. 8.13}$$

Where:

- A = Fan outlet or discharge area, m² (ft²)
- P_t = Fan total pressure, Pa (in. wg)
- Q_0 = Airflow rate, ~~m³/h~~ m³/s (cfm)
- ρ_0 = Air density, kg/m³ (lbm/ft³)

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