

## CONVERSION DATA - DESCRIPTION AND OPERATION

### 1. General

- A. This section contains information for converting the more commonly used measuring units found in this manual from the common United States system to the International System of Units (metric system).
- B. Other conversion factors may be found in manuals such as *Standard for Use of the International System of Units (SI): The Modern Metric System*, prepared by ASTM, 100 Bar Harbor Drive, West Conshohocken, PA 19428-2959 USA.

### 2. Conversion Factors

- A. Distance and Length
  - (1) Multiply inches by 25.4 to obtain mm (millimeters).
  - (2) Multiply feet by 0.3048 to obtain m (meters).
- B. Mass
  - (1) Multiply ounces by 28.35 to obtain g (grams).
  - (2) Multiply pounds by 0.04536 to obtain kg (kilograms).
  - (3) Divide kilograms by 2.205 to obtain pounds.
- C. Temperature
  - (1) Converting from Fahrenheit to Celsius:
    - (a) Subtract 32 degrees from temperature and divide the difference by 1.8 to obtain degrees Celsius.
    - (b) Formula:  $T(^{\circ}\text{C}) = (T(^{\circ}\text{F}) - 32) / 1.8$
  - (2) Converting from Celsius to Fahrenheit:
    - (a) Multiply the sum by 1.8 degrees and add 32 degrees to temperature to obtain Fahrenheit.
    - (b) Formula:  $T(^{\circ}\text{F}) = T(^{\circ}\text{C}) \times 1.8 + 32$
- D. Torque
  - (1) Multiply inch-pounds by 0.11298 to obtain Newton-meters.
  - (2) Multiply foot pounds by 1.3588 to obtain Newton-meters.
- E. Force
  - (1) Multiply pounds of force by 4.4482 to obtain N (Newtons).
- F. Pressure
  - (1) Multiply pressure (psi) by 6.8948 to obtain kPa (kiloPascals).
- G. Mass flow
  - (1) Multiply pounds-per-hour by  $1.26 \times 10^{-4}$  to obtain kg/sec.