



## INDUSTRIAL HYGIENE INSTRUMENT PROCEDURES

### **KURZ SERIES 440 AIR VELOCITY METER**

10/92

#### **PURPOSE**

To provide guidance in the use of the Kurz velometer.

#### **DISCUSSION**

The Kurz Series 440 Portable Air Velocity Meter is a thermal anemometer. The probe consists of a velocity sensor and a temperature sensor. The velocity sensor is a constant-temperature thermal anemometer which measures "standard" velocity (at standard temperature and pressure) by sensing the cooling effect of the moving flowstream as it passes over the heated sensor. The temperature sensor compensates for temperature variations. LIMITATIONS: This unit should not be used in very hot environments. The maximum temperature of the velocity sensor is 75 degrees Fahrenheit above ambient temperature. DO NOT USE THIS VELOMETER IN FLAMMABLE ATMOSPHERES. This unit is NOT intrinsically safe.

#### **EQUIPMENT**

- Kurz Velometer
- IH Sampling Notes Form

#### **PROCEDURES**

1. Check the battery. If the unit is low, put the unit on charge for at one hour before using. A 12-16 hour charge is recommended to obtain a full charge. Note on the IH Sampling Notes form that the battery was checked
2. Connect the probe to the unit. Loosen the knurled nut on the probe shield and slide the shield toward the cable exposing the sensor. Select the desired range.
3. Place the probe close to and parallel to the surface of the opening, allowing the air to flow perpendicularly through the window at the probe tip.

4. Consult procedures for ventilation audit for specifics on measuring air velocity at different local exhaust units. Record readings on IH Sampling Notes form.
5. If needed, the volumetric flow can be calculated using the formula,

$$Q(\text{cfm}) = \text{Velocity}(\text{fpm}) \times \text{Area}(\text{ft}^2).$$

This formula is valid for ducts without a grill. Consult manufacturer's instruction for details.

6. The Kurz velometer can be used to measure air supply openings. Consult manufacturer's instruction for details.
7. When finished, slide the shield to cover the sensor and use the knurled nut to lock it in place. Remove the probe from the instrument. Assure the unit is turn off.