

differential temperature. The piping surface must be clean and free of rust or other oxidized surface. Immersion wells shall be of the proper length and shall be installed in the proper method to ensure accuracy. Most wells should be placed into the end of a tee fitting so that the fluid must pass directly over the well before leaving out the branch outlet of the tee. Wells installed on the branch side of a tee should be avoided.

## **6.5 FLOW MEASURING HOOD PROCEDURES**

The following procedures describe the methods to be utilized when making air volume measurements with a flow measuring hood. While the procedures outlined here are prescriptive, instrumentation use should always be in accordance with the manufacturer's recommendation. All instrumentation used for airflow measurements shall conform to the requirements of Table 4-1 for function, range, accuracy, and resolution.

### **6.5.1 INSTRUMENTS**

Flow measuring hoods (various manufacturers)

### **6.5.2 GENERAL MEASUREMENT TECHNIQUES**

The flow-measuring hood is a direct reading flow measurement device. It is designed with a fabric "sock" that covers the terminal air outlet device being measured. The conical or pyramid shaped hood collects all of the air entering or leaving an air terminal outlet and guides the airflow over the flow measuring instrumentation. Hoods generally are constructed so that the outlet tapers down to the metering section. A velocity measuring grid and calibrated differential pressure manometer or thermal anemometer in the hood will display the airflow in cfm (L/s) directly. However, it may be necessary to compare selected flow hood measurements with Pitot tube traverses of ducts connected to a grille, register, or diffuser (GRD) to develop correction factors specific to a system. This is up to the judgment of the NEBB Qualified TAB Supervisor.

### **6.5.3 SPECIFIC MEASUREMENT TECHNIQUES**

The flow-measuring hood should be tailored for the particular job. The large end of the cone should be sized to fit over the complete diffuser and should have a gasket around the perimeter to prevent air leakage. Some digital instruments have memory, averaging, and printing capabilities. Flow measuring hoods should not be used where the velocities of the terminal devices are excessive or severely stratified.

It is important to note that inlet and outlet conditions of the measured grill, register, or diffuser (GRD) may affect the reading displayed by the flow-measuring hood. Repeated readings on the same GRD should be performed in the same manner and orientation.

The resistance to flow applied to the GRD when performing a flow measurement may have a significant effect on the actual value of the flow. The result is that, while a flow-measuring hood accurately measures the GRD air volume when applied to the GRD, the flow increases, sometimes substantially, when the flow-measuring hood is removed from the GRD. Analog flow measuring hoods are commonly supplied with correction curves to be used for this effect. Digital flow measuring hoods may feature devices to compute the correction with each reading, or use curves.