

OUTDOOR AIRFLOW MEASUREMENT

(Insert the text below)

- A. Provide where indicated, a complete, dedicated Outdoor Airflow Measurement System capable of directly measuring the airflow through an outside air inlet / opening and providing the measured airflow values via a local display, multiple analog outputs and a single serial output for BACnet or Modbus.

Basis of Design: Air Monitor VOLU-flo/OAM II Outdoor Airflow Measuring System

B. Outdoor Airflow Measurement System

1. The Outdoor Airflow Measurement System shall consist of a dedicated monitor / transmitter and flow sensing element(s) combined to create a complete system. The System shall be factory calibrated and configured based on the application and installation configuration.

Transmitter: The transmitter shall be housed in a NEMA 1 enclosure [NEMA 4 enclosure; NEMA 4 enclosure with heater and insulation], with an integral color graphic display and four button keypad for use during the configuration and field characterization process. The display shall be configurable to indicate two (2) measured process variables (volume, velocity, temperature) during normal operation. The transmitter shall incorporate a temperature sensor input as required to perform continuous airflow density compensation. The Transmitter shall provide BACnet MS/TP (MODBUS RTU) and three (3), field configurable analog outputs designed to interface with the building automation system (BAS). The ability to perform configuration changes and field characterization shall be accomplished via the user interface/display, the need for additional utility software shall not be required. The transmitter shall be the Air Monitor VOLU-flo/OAM II.

Flow sensing elements (For use with Louvers and Rain Hoods): The flow sensing element(s) shall be constructed of 316 SS and only materials that are designed to resist corrosion due to the presence of salt or chemicals in the airstream. The flow sensing elements shall not be affected by the presence of moisture, dirt or debris in the airstream and shall not be affected by gusting wind. Flow sensing element types affected by moisture in the airstream, such as thermal dispersion, shall not be allowed. The flow sensing element(s) shall be the Air Monitor uni-sensor type.

Airflow Station, flow sensing elements mounted in a factory constructed frame (For use in ducts and plenum openings): The flow sensing element(s) shall be constructed of 316 SS and other materials that resist corrosion due to the presence of salt or chemicals in the airstream. Sensors shall be factory mounted in an airflow station constructed of 14 ga. [18 ga. for circular units] galvanized steel, 8" deep casing with 90° connecting flanges and a galvanized expanded metal sheet. The airflow station shall have the flow elements manifolded together with ¼" SS tubing and ¼" compression fittings for field installation. The reference airflow temperature sensor shall be mounted in the Airflow Station. The airflow station shall be the Air Monitor OAM II – AFS type.



2. The Outdoor Airflow Measurement System shall provide airflow measurement accuracy of +/- 5% of reading within the factory calibrated velocity range. The System shall be capable of measuring outdoor airflow velocities from 100 FPM to 2400 FPM. The System's readings shall not be affected by the presence of moisture, dirt or debris in the airstream and shall be unaffected by gusting wind. The measured airflow shall be density corrected for ambient temperature variances and atmospheric pressure due to site altitude.

3. The Outdoor Airflow Measurement System shall be the VOLU-flo/OAM II as manufactured by Air Monitor Corporation, Santa Rosa, California.