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Setting the **Standards** for
Home Energy Efficiency

Interpretation: Automatic Airflow Regulators as Airflow Measurement Stations

Designation: No. 380-2022-006 & 380-2019-011 & 380-2025-014

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Request from:

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Reference: This request for interpretation refers to the requirements in:

Standard: ANSI/RESNET/ICC 380-2022
[ANSI/RESNET/ICC 380-2019]
[ANSI/RESNET/ICC 380-2025]

Section(s): 6.4.1.1.1. Airflow measurement station (380-2022)
[6.4.1.1. Airflow measurement station (380-2019)]
[605.1.1 (1.) Airflow measurement station (380-2025)]

Table(s):

Relating to:

Excerpt of text:

380-2025:

SECTION 605—PROCEDURE TO MEASURE AIRFLOW MIDSTREAM IN THE VENTILATION DUCT

This section defines procedures to measure the airflow of a mechanical *ventilation* system midstream in the *ventilation* duct. The airflow is permitted to be measured using an *airflow measurement station* (Section 605.1), a *velocity pressure probe* (Section 605.2) or a *hot wire anemometer* (Section 605.3).

605.1 Airflow measurement station.

605.1.1 Equipment needed.

1. **AIRFLOW MEASUREMENT STATION.** A permanently installed airflow measurement instrument capable of measuring average velocity pressure across a duct diameter or static pressure across an in-line aperture of known area. The airflow measurement instrument shall contain a port that allows it to be connected to a *manometer*. The airflow measurement instrument must have a calculation procedure provided by the manufacturer to convert the measured velocity pressure or static pressure into volumetric airflow with a maximum error of 10 percent or 5 CFM (2.5 L/s), whichever is greater.

380-2022:

6.4 Procedure to measure airflow midstream in the Ventilation duct.

This Section defines procedures to measure the airflow of a mechanical Ventilation system midstream in the Ventilation duct. The airflow is permitted to be measured using an Airflow Measurement Station (Section 6.4.1), a velocity pressure probe (Section 6.4.2), or a hot wire anemometer (Section 6.4.3).

6.4.1 Airflow measurement station.

6.4.1.1 Equipment needed.

6.4.1.1.1 Airflow measurement station.

A permanently installed airflow measurement instrument capable of measuring average velocity pressure across a duct diameter or static pressure across an in-line aperture of known area. The airflow measurement instrument shall contain a port that allows it to be connected to a manometer. The airflow measurement instrument must have a calculation procedure provided by the manufacturer to convert the measured velocity pressure or static pressure into volumetric airflow with a maximum error of 10 percent or 5 CFM (2.5 L/s), whichever is greater.

380-2019:

6.4 Procedure to Measure Airflow Mid-Stream in the Ventilation Duct

This Section defines a procedure to measure the airflow of a mechanical ventilation system mid-stream in the ventilation duct. The airflow is permitted to be measured using an Airflow Measurement Station (Section 6.4.1) or using an Integrated Diagnostic Tool (Section 6.4.3).

6.4.1. Equipment Needed

6.4.1.1. Airflow Measurement Station.

An Airflow Measurement Instrument capable of simultaneously measuring and averaging velocity pressure across a duct diameter with a maximum error of 10% or 5 CFM (2.5 L/s), whichever is greater, coupled with a section of permanently installed smooth-walled ductwork designed to facilitate accurate readings. The Airflow Measurement Instrument shall either be temporarily inserted into the Station for the duration of the procedure or be permanently installed as part of the Station.[1] The Airflow Measurement Instrument shall contain a port that allows it to be connected to a Manometer. Any temporary air flow station shall have its calibration checked at the manufacturer's recommended interval, and at least annually if no time is specified.

[1] (Informative Note) For example, as part of a manufacturer-assembled device consisting of the instrument factory-mounted in a housing.

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Background: A claim has been made that an Automatic Airflow Regulator can be used as an inline measurement device for airflow measurement. The claim is that an Automatic Airflow Regulator is an acceptable Airflow Measurement Station per RESNET 380.

Interpretation: *This interpretation was proposed by the petitioner.*

An Automatic Airflow Regulator, or CAR Damper, is **not** an acceptable airflow measurement device unless it meets the definition of an Airflow Measurement Station.

(The following applies to Standards 380-2025, 380-2022 and 380-2019.)
)Where Automatic Airflow Regulators do not contain a port that allows it to be connected to a manometer, they are not acceptable Airflow Measurement Station devices.

(The following applies to Standards 380-2025 and 380-2022.)
Furthermore, where Automatic Airflow Regulators do not have a calculation procedure provided by the manufacturer to convert the measured velocity pressure or static pressure into volumetric airflow with a maximum error of 10 percent or 5 CFM (2.5 L/s), whichever is greater, they are not acceptable Airflow Measurement Station devices.

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Question: Is this Interpretation correct?

SDC Answer: Yes

SDC Comments: