

**Interpretation IC 145.2-2011-1 of
ANSI/ASHRAE Standard 145.2-2011
Laboratory Test Method for Assessing the Performance of
Gas-Phase Air-Cleaning Systems: Air-Cleaning Devices**

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Reference: This request for interpretation refers to the requirements in ANSI/ASHRAE Standard 145.2-2011, Sections 4.3.2 and 4.3.8, regarding duct size.

Background:

Section 4.3.2 Duct Design states the following:

A schematic of the test duct is shown in Figure 4-1. It meets all requirements of the ASHRAE Standard 52.2 test and is essentially a square cross-section, 61 cm × 61 cm (24 in. × 24 in.), as shown in Figure 4-1. An alternate size or shape, such as a circular duct, may be used for testing to this standard if the QA specifications are modified for that shape; this method assumes the Standard 52.2 specifications.[...]

Section 4.3.8 Test Device Size states the following:

The test apparatus shown in Figure 4-1 is designed for test devices with nominal face dimensions of up to 61 cm × 61 cm (24 in. × 24 in.). Smooth transitions in accordance with ASHRAE Standard 52.2 Figures 4-3a and 4-3b are recommended for test devices with face areas differing from the normal test duct cross-section area of 0.37 m² (4 ft²). It shall be permitted to test specially sized air cleaners if the size requirement cannot otherwise be met.

The question has been raised among various laboratory experts and gas-phase experts if ASHRAE Standard 145.2 allows testing of smaller sized filters or allows a duct of smaller face area (such as a 1 ft x 1 ft duct and a 1 ft x 1 ft face area filter). The standard obviously allows different sized ducts and different size filters. However, there has been confusion as to whether a laboratory with a 1 ft x 1 ft duct can test filters and comply with ASHRAE Standard 145.2 requirements.

Interpretation No.1: A test duct that is nominally 1 ft x 1 ft in face area is able to comply with ASHRAE Standard 145.2.

Question No.1: Is this interpretation correct?

Answer No.1: Yes

Interpretation No.2: A filter which is not normally 1 ft x 1 ft in face area, but is manufactured to a 1 ft x 1 ft nominal face area to be tested in a test duct, can be tested in compliance with ASHRAE Standard 145.2.

Question No.2: Is this interpretation correct?

Answer No.2: This is not a correct interpretation

Comments: Section 4.3.8 specifically states “It shall be permitted to test specially sized air cleaners if the size requirement cannot otherwise be met.” In the interpretation above it is implied that the size requirement of 2 ft x 2 ft can be met but they wish to test only a 1ft x 1ft. Thus the wording in ASHRAE Standard 145.2 would need to be changed to allow this.