AHRI Standard 1240-2017 (R2023) (I-P)

2017 (R2023) Standard for

Performance Rating of Active Chilled Beams

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ICS Code: 27.200

Note:

This standard supersedes AHRI Standard 1240 (I-P)-2016.
This standard was reaffirmed May 2023.
For SI ratings, see AHRI Standard 1241-2017 (R2023) SI

Scope of Certification Program and Certified Ratings

Please refer to the most current version of the Active Chilled Beams Certification Program Operations Manual (OM) for the scope of the certification program and certified ratings.

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PERFORMANCE RATING OF ACTIVE CHILLED BEAMS

Section 1. Purpose

1.1 *Purpose.* The purpose of this standard is to provide, for Active Chilled Beams: definitions; classifications; standard equipment; testing requirements; rating requirements; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions.

Section 2. Scope

2.1 This standard applies to Active Chilled Beams as defined in Section 3, including Multi-service Active Chilled Beams and Room Air Induction Units.

2.2 *Exclusions.*

2.2.1 This standard does not apply to Active Chilled Beams employing volatile-refrigerant coils, condensing coils, or steam coils.

2.2.2 This standard does not apply to Passive Chilled Beams.

Section 3. Definitions

All terms in this document will follow the standard industry definitions in the ASHRAE Terminology website (https://www.ashrae.org/resources--publications/free-resources/ashrae-terminology), unless otherwise defined in this section.

3.1 *Active Chilled Beam*. An air induction and diffusion device which introduces conditioned air for the purposes of temperature and/or humidity control. Primary Air is delivered through a series of Nozzles, which induces and conditions Secondary Air through a unit mounted coil.

3.1.1 *Multi-service Active Chilled Beam*. A chilled beam that incorporates space services other than cooling such as lighting. This type of Active Chilled Beam is usually customized to meet specific project requirements.

3.1.2 *Room Air Induction Unit*. A type of Active Chilled Beam that requires more than 1.5 in H_2O of inlet static pressure to operate.

3.2 *Air-induction Process.* The process by which a jet of Primary Air induces Secondary Air through the coil.

3.2.1 *Primary Air*. Air delivered through the Nozzle(s) of an Active Chilled Beam.

3.2.2 *Secondary Air*. Air induced through the coil of an Active Chilled Beam.

3.2.3 *Supply Air*. The mixture of Primary Air and Secondary Air that is discharged to the space by the Active Chilled Beam.

3.2.4 *Nozzle.* An air flow opening in the Plenum which discharges a jet of Primary Air via the Air-induction Process.

3.2.5 *Plenum.* An air compartment under positive pressure, and consisting of inlet(s) and Nozzle(s) for Primary Air. Also referred to as a *Plenum Chamber*.

3.2.6 *Induction Ratio.* The ratio of the volumetric flow rate of Secondary Air to Primary Air.

3.2.7 *Air Outlet(s) and Inlet(s).* Openings for the delivery or induction of air.

3.2.7.1 *Supply Air Outlet*. An opening for the delivery of Supply Air from the active chilled beam unit.

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