

General Description

Ceiling supply diffusers shall be Valid Air High Performance Diffusers, manufactured in the USA by Warren Technology.

Face

Diffuser face shall be constructed of a corrosion proof, scratch resistant, white thermoplastic plate affixed to an aluminum backplate. Diffuser shall be 2'x2' square with 8-way throw, unless otherwise noted.

Sizes

Diffuser shall be available in the following face sizes: 2'x4', 2'x2', 1'x4', 1'x2', 6"x4', and 6"x2'. The flow rates for a given dimple jet depth shall be directly proportional to the face area of the diffuser. Noise Criteria (NC) levels shall be consistent for all sizes for a given flow rate per unit face area.

Supply Jets

High induction dimple jets shall be formed into the face of the diffuser, capable of producing an airstream parallel to the ceiling at full flow throughout the entire design range. Dimple jets shall be sized to optimize room air induction and entrainment for a variety of design cfm capacities.

Throw Patterns

Dimple jets shall be arranged in a variety of patterns which result in 8-way (center of the room), 5-way (next to a sidewall), 3-way (in a corner), 2-way (opposite directions), or 1-way horizontal throws. Vertical throw (downblow) dimple jets shall be available for high heating load applications. Dual pattern models shall deliver 25% of the airflow vertically, and 75% of the airflow horizontally in each direction. Noise criteria (NC) and static pressure drop (SP) ratings shall not be affected by the throw pattern.

Plenum

Diffuser plenum shall be made from 0.030 inch thickness aluminum with side inlet on wedge shape or top inlet on square shape. Model VU shall be constructed of molded fiberglass covered on both sides with aluminum foil (R value 6), prescored for: 6, 8, 10, 12, 14, and 16 inch top inlet collars.

Optional Accessories

Insulation

Diffuser plenum shall have one-half inch thick internal insulation to reduce heat transfer and potential for condensation. Polymer foam insulation shall be used, to eliminate fibers in the airstream and to provide an effective vapor barrier. It shall meet the following standards: NFPA 90A&B, 255, 259; ASTM C518, C411, C423, C665, E84, E90, E96; UL 94HBF, 181, 723.

Mounting Frame

Standard unit shall be suitable for T-bar mounting without requiring any special brackets. Aluminum alloy frames shall be available which permit mounting in spline, plaster and sheet-rock ceilings.

Filter Rack

The diffuser plenum shall have a filter rack with hinged access door and twist latches with sufficient space for two layers of one inch thick filters.

Filters

Filters are each one inch thick and may be stacked to increase efficiency. Filter face area shall equal that of the diffuser. The filter assembly shall not reduce the capacity, diminish the throw characteristics, or increase the noise levels of the diffuser.

High Efficiency Particulate Filters

High efficiency filters shall be constructed of permanently charged rectangular polypropylene split fibers or other high efficiency media. The effective area of the media shall be at least 1.6 square feet per square foot of face area, and will not contain less than 12 pleats per foot.

Carbon filters

Odor control carbon filters shall be constructed of non-woven polyester that is impregnated with 150% carbon add-on. Filter media shall contain no less than 10.5 grams of carbon per square foot of media area. Effective media area shall not be less than 6.1 square feet per square foot of face area, and will not contain less than 12 pleats per foot.

Zeolite Filters

Odor control ammonia lock filters shall be constructed of non-woven polyester that is impregnated with 150% zeolite add-on. Filter media shall contain no less than 15 grams of zeolite per square foot of media area. Effective media area shall not be less than 6.1 square feet per square foot of face area, and will not contain less than 12 pleats per foot.

Construction Filters

Construction filters shall be constructed of polyester or synthetic fibers.

Note: For detailed specifications and performance data on filters please refer to Warren Uni•Guard™ product guide.