



# ENGINEERING FOOTNOTES

## Footnote A:

**Size:** Nominal size or the duct opening.

**Effective Area:** The space between the vanes actually utilized by the air.

**Velocity:** The actual velocity of the air through the vanes measured with a velometer or similar device.

**Duct Pt:** The total pressure behind the register in the duct forcing that air through the register.

**Throw:** The throws noted in the tables are the distance from the register to where the air stream velocity has dropped to not under 100/75/50 F.P.M.

## Footnote B:

**Size:** Nominal size or the duct opening.

**Effective Area:** The space between the vanes actually utilized by the air.

**Velocity:** The actual velocity of the air through the vanes measured with a velometer or similar device.

**Duct Ps:** The static pressure in the duct behind the grille. The static load on the fan chargeable against that grille. Velometer readings are taken between grille vanes giving actual velocity.

## Footnote C:

**Noise Criteria:** NC "A" scale. (1) Below NC25 extremely quiet. (2) Below NC30 Quiet Office.

(3) Below NC35 Conference Rooms; normal voice 10-30 ft. (4) Below NC40 Conference Rooms; 6-12 ft. normal voice.

(5) NC45 Conference Rooms; 3-6 ft. normal voice.

## Footnote D:

1) Tested without filters. Typical disposable 1" capacity is 2 cfm per square inch of gross filter area. Recommended velocity is 300-400 fpm. Velocities higher than 500 fpm will decrease filter performance. Increase flow resistance, and possibly blow off agglomerates of collected dirt. Velocity measured 1" from face.

2) Generally the more surface area of media you have in an air filter the lower pressure drop you will have across the filter.

3) Lower face velocities (the air speed at the face of the filter) will also produce less pressure drop across the filter while higher return air velocities cause higher pressure drop and can cause the filter to blow off agglomerates. Ashrae calls out for 300 FPM face velocity across the filter face. This is the ideal return air velocity. Actual face velocities will vary depending on the system design."

**Example:** 20x25 filter = 3.47 SF x 300 FPM face velocity = 1041 CFM

20x25 filter = 3.47 SF x 500 FPM face velocity = 1736 CFM

## Footnote E:

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