



ENGINEERING DATA

425 Series											See Footnotes A & C																		
SIZE	Velocity	300			400			500			600			700			800			900			1000			1200			
	Duct Pt	.007			.011			.017			.024			.034			.044			.055			.068			.100			
14x14	Eff.Area .800 ft ²	CFM	257			353			431			515			604			701			792			861			920		
		NC	<20			25			30			30			30			30			35			35			40		
		Throw	6.5	7	7.5	8.5	10	11	11	12	13	12.5	14.5	17	14.5	17	20	16	19	22	17	21	25	19	24	30	21	26	31
16x16	Eff.Area 1.0 ft ²	CFM	326			439			541			663			756			866			971			1102			1220		
		NC	<20			22			30			30			30			30			35			35			40		
		Throw	7	8	9	9.5	11	12	11.5	13	15	13.5	16	18	16	19	22	18	21	24	18	23	28	22	27	32	24	30	36
18x18	Eff.Area 1.3 ft ²	CFM	428			557			712			840			977			1118			1284			1423			1525		
		NC	20			25			30			30			35			35			35			35			40		
		Throw	8	9	10	10.5	12	13	13.5	15	17	15.5	18	21	18	21	24	20	24	28	22	27	32	24	30	36	26	33	40
20x20	Eff.Area 1.55 ft ²	CFM	504			685			856			1027			1176			1344			1512			1712			2000		
		NC	20			25			30			30			35			35			35			40			40		
		Throw	9	10	11	12	13	15	15.5	17	19	16	19	22	20	24	27	23	27	31	24	30	35	26	33	40	29	36	43
24x24	Eff.Area 2.2 ft ²	CFM	725			984			1208			1477			1723			1932			2174			2415			2800		
		NC	20			25			30			30			35			35			35			40			40		
		Throw	10.5	11.5	12.5	13.5	15	17	18	20	22	20	23.5	27	24	28	32	27	32	37	28	35	42	30	38	46	32	40	48

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:

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.

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.