



ENGINEERING DATA

150 Series		See Footnotes A & C																										
SIZE	Velocity	400	500	600	700	800	900	1000	1200																			
	Duct Pt	.011	.017	.024	.034	.044	.055	.068	.100																			
6x6	Eff.	CFM	45	65	85	95	100	105	110	125																		
	Area	NC	25	25	25	30	30	35	35	40																		
	.100 ft ²	Throw	2.5 3 3	2.5 3 4	2.5 3 4	3 4 4	3.5 4 5	3.5 5 6	4 5 6	4.5 6 7																		
8x8	Eff.	CFM	80	100	120	140	160	180	200	240																		
	Area	NC	25	25	25	30	30	35	35	40																		
	.201 ft ²	Throw	2 2 3	2.5 3 4	2.5 3 4	3 4 4	3.5 4 5	4 5 6	4 6 6	5 7 8																		
10x10	Eff.	CFM	124	155	186	205	248	280	310	374																		
	Area	NC	25	25	25	30	30	35	40	40																		
	.299 ft ²	Throw	3.5 3 3	3 4 4	3.5 5 5	4.5 5 6	5 6 7	5 6 7	6 7 9	7 9 11																		
12x12	Eff.	CFM	180	225	270	330	360	405	450	540																		
	Area	NC	25	25	30	30	35	35	40	40																		
	.465 ft ²	Throw	3 4 4	4 5 5	4.5 5 6	5 6 7	6 7 8	6 8 9	7 9 11	8.5 11 13																		
14x14	Eff.	CFM	280	340	420	490	560	630	700	840																		
	Area	NC	25	25	30	30	35	35	40	40																		
	.645 ft ²	Throw	4 5 5	4.5 5 6	5.5 7 8	6.5 8 9	7.5 9 10	7.5 10 12	8.5 11 13	10.5 13 16																		
16x16	Eff.	CFM	507	616	761	887	1015	1120	1270	1471																		
	Area	NC	25	25	30	30	35	35	40	40																		
	.925 ft ²	Throw	14 16 17	17 19 21	20 23 27	21 25 29	25 29 33	24 30 36	25 31 37	27 34 41																		
18x18	Eff.	CFM	624	796	936	1127	1247	1390	1610	1873																		
	Area	NC	25	25	30	35	35	40	40	40																		
	1.25 ft ²	Throw	15.5 17 19	18 20 22	20 23 27	22 26 30	26 30 35	25 31 37	26 33 39	28 35 42																		
20x20	Eff.	CFM	780	992	1158	1389	1542	1750	1987	2316																		
	Area	NC	25	25	30	35	35	40	40	40																		
	1.55 ft ²	Throw	15.5 17 19	20 22 24	20 24 28	23 27 31	25 30 34	25 31 37	26 32 38	29 36 43																		

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.