



# ENGINEERING DATA

1550 Series		See Footnotes A																
SIZE	Velocity		400	500	600	700	800	1000										
	Duct Pt		.011	.017	.024	.034	.044	.068										
4x10	Eff.Area .25 ft <sup>2</sup>	CFM	76	95	114	133	152	190										
		NC	20	25	30	30	35	35										
		Throw	9	10	11	11	12	13	13	15	17	15.5	18	21	17	21	25	20
4x12	Eff.Area .29 ft <sup>2</sup>	CFM	95	119	143	166	190	238										
		NC	20	25	30	30	35	35										
		Throw	10	11	12	12.5	14	16	14.5	17	20	17	20	23	19	24	29	24
4x14	Eff.Area .34 ft <sup>2</sup>	CFM	105	133	162	185	214	266										
		NC	20	25	30	30	35	35										
		Throw	9	10	11	12.5	14	16	15.5	18	21	18	21	24	19	24	29	24
6x8	Eff.Area .29 ft <sup>2</sup>	CFM	95	119	143	166	190	238										
		NC	20	25	30	30	35	35										
		Throw	10	11	12	12.5	14	16	14.5	17	20	17	20	23	19	24	29	24
6x10	Eff.Area .38 ft <sup>2</sup>	CFM	124	152	181	214	242	337										
		NC	20	25	30	30	35	35										
		Throw	11.5	13	15	14.5	16	18	17	20	23	20	23	27	21	26	31	26
6x12	Eff.Area .44 ft <sup>2</sup>	CFM	143	180	219	252	290	361										
		NC	20	25	30	30	35	35										
		Throw	12.5	14	16	16	18	20	19	22	25	21	25	29	22	28	34	29
6x14	Eff.Area .51 ft <sup>2</sup>	CFM	166	209	252	295	333	418										
		NC	20	25	30	30	35	35										
		Throw	13.5	15	17	17	19	21	21	23	27	23	27	31	22	27	32	31
6x16	Eff.Area .59 ft <sup>2</sup>	CFM	185	233	280	328	371	466										
		NC	20	25	30	30-35	35-40	40										
		Throw	13.5	15	17	18	20	22	20	24	28	25	29	33	26	33	40	34
8x8	Eff.Area .40 ft <sup>2</sup>	CFM	124	152	181	214	242	337										
		NC	20	25	30	30-35	35	35-40										
		Throw	12	13	15	14.5	16	18	17	20	23	20	23	27	21	26	31	26
8x10	Eff.Area .50 ft <sup>2</sup>	CFM	201	200	238	280	318	399										
		NC	20	25	30-35	30-35	35-40	40										
		Throw	13	14	16	15.5	17	19	20	23	27	23	27	31	24	30	36	31



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1550 Series		See Footnotes A																		
SIZE	Velocity		400			500			600			700			800			1000		
	Duct Pt		.011			.017			.024			.034			.044			.068		
8x12	Eff.Area .58 ft <sup>2</sup>	CFM	200			252			304			352			404			504		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	14.5	16	18	18	20	22	21	25	29	26	30	35	28	35	42	37	46	55
8x14	Eff.Area .69 ft <sup>2</sup>	CF M	228			285			342			399			456			570		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	17	19	21	21	23	25	24	28	32	27	32	37	30	37	44	39	48	58
8x16	Eff.Area .80 ft <sup>2</sup>	CFM	261			328			394			461			523			656		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	18	20	22	23	26	29	26	30	35	30	35	40	32	40	48	40	50	60
10x10	Eff.Area .63 ft <sup>2</sup>	CFM	200			252			304			352			404			504		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	14.5	16	18	18	20	22	21	25	29	26	30	35	28	35	42	37	46	55
10x12	Eff.Area .75 ft <sup>2</sup>	CFM	247			309			371			432			494			618		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	15	17	19	21	23	25	25	29	33	28	33	38	31	39	47	38	48	58
10x14	Eff.Area .87 ft <sup>2</sup>	CFM	295			371			447			518			594			741		
		NC	20			25			30-35			30-35			35-40			40		
		Throw	18	20	22	24	27	30	27	32	37	32	38	44	35	44	53	42	53	64
10x16	Eff.Area .99 ft <sup>2</sup>	CFM	333			418			504			584			670			836		
		NC	20			25			30-35			35			40			45		
		Throw	20	22	24	26	29	32	27	32	37	33	39	45	37	46	55	46	57	68
12x12	Eff.Area .85 ft <sup>2</sup>	CFM	295			371			447			518			594			741		
		NC	20			25			30-35			30-35			35-40			40-45		
		Throw	18	20	22	24	27	30	27	32	37	32	38	44	35	44	53	42	53	64
12x14	Eff.Area 1.1 ft <sup>2</sup>	CFM	352			442			532			618			708			884		
		NC	20			25			30-35			35			40			45		
		Throw	21	23	25	26	29	32	30	35	40	35	41	47	38	48	58	47	59	71
12x16	Eff.Area 1.2 ft <sup>2</sup>	CFM	409			508			608			713			812			1017		
		NC	20			25			30-35			35			40			45		
		Throw	23	25	28	27	30	33	32	37	43	37	44	51	40	50	60	49	61	73



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1550 Series		See Footnotes A																				
SIZE	Velocity	400	500	600	700	800	1000															
	Duct Pt	.011	.017	.024	.034	.044	.068															
12x18	Eff.Area 1.4 ft <sup>2</sup>	CFM	466	580	694	812	926	1159														
		NC	20	25	30-35	35	40	45														
		Throw	24   27   30	29   32   35	34   40   46	40   47   54	42   53   64	52   65   78														
12x24	Eff.Area 1.8 ft <sup>2</sup>	CFM	603	755	907	1059	1207	1511														
		NC	20	25	35	35	40	45														
		Throw	26   29   32	33   37   41	37   44   51	42   49   56	45   56   67	54   67   80														
14x14	Eff.Area 1.2 ft <sup>2</sup>	CFM	409	508	608	713	812	1017														
		NC	20	25	35	35	40	45														
		Throw	23   25   28	27   30   33	32   37   43	37   44   51	40   50   60	49   61   73														
14x16	Eff.Area 1.4 ft <sup>2</sup>	CFM	466	580	30-694	812	926	1159														
		NC	20	25	35	35	40	45														
		Throw	24   27   30	29   32   35	34   40   46	40   47   54	42   53   64	52   65   78														
14x18	Eff.Area 1.6 ft <sup>2</sup>	CFM	541	675	808	945	1078	1349														
		NC	20	25	35	35	40	45														
		Throw	26   29   32	32   35   39	37   43   50	42   49   56	44   55   66	52   65   78														
14x20	Eff.Area 1.8 ft <sup>2</sup>	CFM	603	755	907	1059	1207	1511														
		NC	20	25	35	35	40	45														
		Throw	26   29   32	33   37   41	37   44   51	42   49   56	45   56   67	54   67   80														
16x16	Eff.Area 1.6 ft <sup>2</sup>	CFM	544	675	808	945	1078	1349														
		NC	20	25	35	35	40	45														
		Throw	26   29   32	32   35   39	37   43   50	42   49   56	44   55   66	52   65   78														

# 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.