



# ENGINEERING DATA

FG2 Series			See Footnotes D								
Size	Effective Area	Free Area	Velocity	300	400	600	800	1000	1200	1400	1600
			Duct Pt	0.007	0.01	0.023	0.04	0.064	0.09	0.123	0.16
10x10	0.38 ft <sup>2</sup>	.75 ft <sup>2</sup>	CFM	101	152	228	304	380	456	532	608
12x12	0.598 ft <sup>2</sup>	1.13 ft <sup>2</sup>	CFM	160	239.2	358.8	478.4	598	717.6	837.2	956.8
14x14	0.81 ft <sup>2</sup>	1.54 ft <sup>2</sup>	CFM	216	324	486	648	810	972	1134	1296
16x16	0.992 ft <sup>2</sup>	1.94 ft <sup>2</sup>	CFM	265	396.8	595.2	793.6	992	1190.4	1388.8	1587.2
18x18	1.365 ft <sup>2</sup>	2.58 ft <sup>2</sup>	CFM	364	546	819	1092	1365	1638	1911	2184
20x12	0.92 ft <sup>2</sup>	1.99 ft <sup>2</sup>	CFM	245	368	552	736	920	1104	1288	1472
20x14	1.08 ft <sup>2</sup>	2.33 ft <sup>2</sup>	CFM	288	432	648	864	1080	1296	1512	1728
20x16	1.24 ft <sup>2</sup>	2.68 ft <sup>2</sup>	CFM	331	496	744	992	1240	1488	1736	1984
20x20	1.56 ft <sup>2</sup>	3.37 ft <sup>2</sup>	CFM	416	624	936	1248	1560	1872	2184	2496
24x12	1.196 ft <sup>2</sup>	2.51 ft <sup>2</sup>	CFM	319	478.4	717.6	956.8	1196	1435.2	1674.4	1913.6
24x14	1.404 ft <sup>2</sup>	2.94 ft <sup>2</sup>	CFM	375	561.6	842.4	1123.2	1404	1684.8	1965.6	2246.4
24x16	1.612 ft <sup>2</sup>	3.38 ft <sup>2</sup>	CFM	430	644.8	967.2	1289.6	1612	1934.4	2256.8	2579.2
24x20	2.028 ft <sup>2</sup>	4.25 ft <sup>2</sup>	CFM	541	811.2	1216.8	1622.4	2028	2433.6	2839.2	3244.8
25X12	1.29 ft <sup>2</sup>	2.60 ft <sup>2</sup>	CFM	329	492.8	739.1	985.5	1231.9	1478.3	1724.6	1971.0
25X14	1.53 ft <sup>2</sup>	3.06 ft <sup>2</sup>	CFM	386	578.4	867.7	1156.9	1446.1	1735.3	2024.6	2313.8
25X16	1.80 ft <sup>2</sup>	3.51 ft <sup>2</sup>	CFM	443	664.1	996.2	1328.3	1660.4	1992.4	2324.5	2656.6
25X20	2.14 ft <sup>2</sup>	4.40 ft <sup>2</sup>	CFM	557	835.5	1253.3	1671.1	2088.8	2506.6	2924.4	3342.1
30x12	1.495 ft <sup>2</sup>	3.14 ft <sup>2</sup>	CFM	399	598	897	1196	1495	1794	2093	2392
30x14	1.755 ft <sup>2</sup>	3.68 ft <sup>2</sup>	CFM	468	702	1053	1404	1755	2106	2457	2808
30x16	2.015 ft <sup>2</sup>	4.23 ft <sup>2</sup>	CFM	538	806	1209	1612	2015	2418	2821	3224
30x20	2.535 ft <sup>2</sup>	5.32 ft <sup>2</sup>	CFM	676	1014	1521	2028	2535	3042	3549	4056
36x20	3.042 ft <sup>2</sup>	6.38 ft <sup>2</sup>	CFM	812	1216.8	1825.2	2433.6	3042	3650.4	4258.8	4867.2
40X20	3.51 ft <sup>2</sup>	7.10 ft <sup>2</sup>	CFM	874	1310.4	1965.6	2620.8	3276	3931.2	4586.4	5241.6

# 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

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**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.