

Gravity Ventilators

Models FGI, FGR, GRS, WIH, WRH and RGU

Intake and Relief



BUILDING VALUE IN AIR.



May
2011

Fabra Hood

4



Designed for intake or relief applications, the Fabra Hood models FGI or FGR offer many important advantages over other gravity roof ventilators. It is superior in load bearing strength, weather-resistance, dimensional flexibility and appearance.

Models FGI and FGR 4-7

Dimensions and Performance Data8-13

Spun Aluminum

14



For natural gravity or positive pressure systems, intake model GRSI or relief model GRSR, offers excellent performance and durability. Featuring an exceptional low silhouette design and rugged construction this model is both efficient and economical.

Model GRS..... 14

Dimensions and Performance Data 14-15

Louvered Penthouse

16



The WIH intake or WRH relief penthouse units offer an aesthetically pleasing design. This flexible design allows for units to be shipped in pre-assembled sections that can be easily assembled without special tools.

Models WIH and WRH 16

Dimensions and Performance Data 16-17

Upblast Ventilator

18



Model RGU is designed for use as an outlet on vertical high velocity exhaust systems. The RGU can be furnished with or without the curb cap for mounting directly on round stacks.

Model RGU 18

Dimensions and Performance Data 18

All Ventilator Specifications 19-20



Quick Delivery and Quick Build Programs

Greenheck's Quick Delivery program provides many options to help you meet your project's schedule. Stocking warehouses and distribution centers around the world ensure same-day pickup and same-day shipment for orders in by 2 p.m. (CST). Hundreds of custom products can be manufactured through Quick Build in just days.

For available options and accessories please refer to the Greenheck Stock & Quick Build Catalog.



Leading Edge Technical Support

When product and IOM (Installation, Operation and Maintenance Manual)

information is needed, our products are supported by the industry's best product literature, electronic media and Computer Aided Product Selection (CAPS) program. You'll also find this information on our Web site at www.greenheck.com.

Our national and international representative organization provide personal service and expertise. To locate your nearest Greenheck representative, call 715-359-6171 or visit our Web site at www.greenheck.com.



Outstanding Customer Service

Greenheck's experienced staff is ready to answer your questions and delivers solutions. Our representatives have a wealth of industry and product knowledge, they maintain the latest information and can process orders directly to our factory.

Count on the personal service and expertise from our national and international representative organizations. To locate the Greenheck representative nearest you, call 715-359-6171 or visit our Web site at www.greenheck.com.

World Class Manufacturing

Greenheck's skilled production workers use cost-effective machines and unique dies designed and built by our own engineers to add innovative features and greater strength to our gravity ventilators. Our advanced manufacturing processes and quality control procedures always ensure the highest product quality. And just to be sure you get the peace-of-mind you expect when you specify Greenheck, our assembly inspectors test run and monitor every unit before it leaves the factory.



Fabra Hood Models FGI and FGR



Fabra Hoods are designed for intake (model FGI) or relief (model FGR) applications. The Fabra Hood design offers many important advantages not found in other gravity roof ventilators. It's design is superior in appearance, load-bearing strength, weather-resistance and dimensional flexibility.

Appearance

The clean lines and uniform structural design of the Fabra Hood complement any building's appearance. The Fabra Hood is designed with a low profile to mount close to the roofline. The result is minimum impact on the building silhouette.

Strength and Weather-Resistance

These hoods are strong enough to handle the snow loads found in even the harshest of northern climates and they have proven their ruggedness. The key to the Fabra Hood's strength and rigidity is in the design of the arched hood panels. Each panel provides its own structural support and is formed with interlocking edges. The result is a strong, rigid shell without the obstruction and performance losses of excessive internal support braces. The interlocking ribs also create tight, weather-resistant joints. No caulking or caps are required to seal out rain and snow.

Third Party Certified for High Wind

Miami Dade, Notice of Acceptance (NOA) - 09-0511.03
Florida Product Approval (FLPA) - FL12917

Maximum High Wind Certifications Sizes		
Model	Width inches (mm)	Length inches (mm)
FGI	54 (1372)	54 (1372)
FGR	66 (1676)	66 (1676)

- Highest industry rating
- Fans are certified for static and cyclic wind loading and missile impact
- Designed to withstand wind loads of up to 150 mph (241 k)
- No tie downs are needed
- Installation/mounting details are provided

Performance

The rounded inner surfaces of the Fabra Hood's arched panels promote a smooth, uninterrupted flow of air to reduce pressure losses. Cataloged performance data is assured through extensive air testing of both ducted and non-ducted installations with standard birdscreens in place. Intake and relief units differ in size and performance. It is important to note that the "free area" (the opening surrounding the throat) is larger for intake hoods. This larger free area (twice the area of the throat) limits the entry of airborne debris and moisture by creating lower intake air velocities. Since relief units are not affected by velocity considerations, free area is equal to throat area. Consequently, the smaller overall dimensions of relief units result in lower cost.

Broad Range of Sizes

Model FGI (intake) and FGR (relief) are available in throat sizes ranging from a minimum of 8 inches (203 mm) wide by 8 inches (203 mm) long to a maximum of 72 inches (1829 mm) wide by 180 inches (4572 mm) long. The complete range of standard suggested throat sizes is shown on pages 8-13. Other sizes are also available in increments of one inch within the limits shown.

Shipping

Most Fabra Hoods ship assembled until they are too large to fit in a semitrailer. See page 8-13 for specific dimensional data.

Assembly

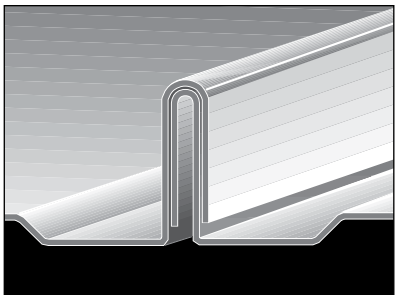
With the Fabra Hood's interlocking rib design, hoods of long lengths can be constructed on the jobsite. Where the appearance of a single unit is desired, large roof openings can be covered using a single hood. This also represents a cost savings in working with a single roof penetration. Neither special tools nor training are required for assembly. See page 7 for details.

Fabra Hood Construction Features

Precision Formed Locking Rib System

Strength, weather tightness and adjustable lengths are the primary advantages of the Fabra Hood's arched, interlocking hood panels. A single precision roll forming operation creates the rib, the adjacent channel and the arch. All three features work in combination for rigidity and efficient water drainage.

Fabra Hoods are available with hood panels and bases constructed of aluminum or galvanized steel as specified.



Accessibility

Fabra Hoods are designed for ease of access to allow inspection and maintenance of screens, filters and dampers. Removal of the two bolts on each support angle permits the hood to be lifted off the base. This construction also allows for a hinged function. By removing bolts on the support angle on one side of the unit's panel length, the hood can swing up and over to lie on the roof deck.

NOTE: For safety, it is not recommended to use this hinging function with larger hoods or to prop any hood part way open. Care should be taken to avoid handling an unbolted hood in strong winds, especially with larger size units.



1 Hood panels

Panels are arched and precision roll formed for strength and weather tightness. The design and construction provides sufficient structural strength to allow inlet and outlet areas to be virtually unobstructed by support members.

2 Birdscreens

Standard birdscreens are constructed of 1/2-inch (13 mm) galvanized steel mesh for minimum restriction of airflow.

3 Support members

Heavy-gauge galvanized steel support members provide additional structural strength as well as a hood/base interface. On larger hoods, truss braces are added for increased strength.

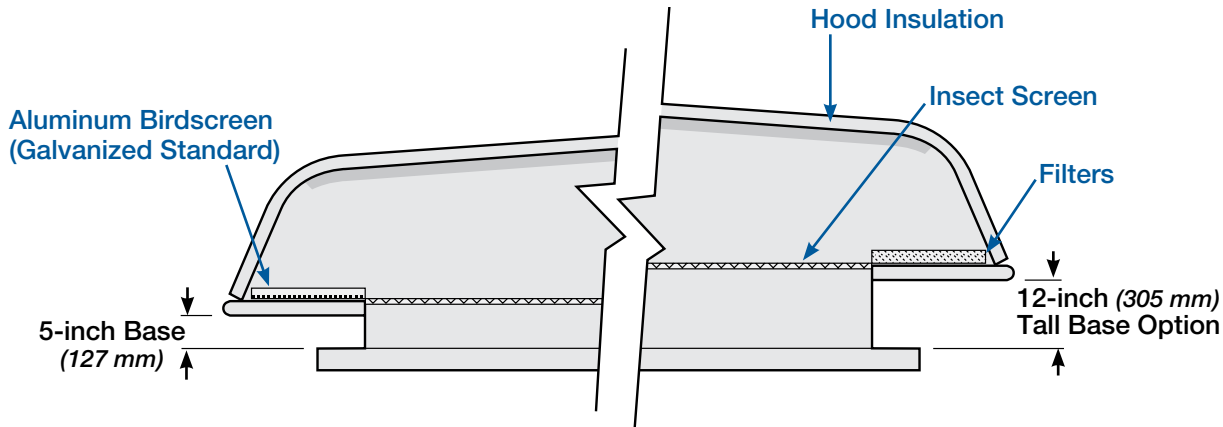
4 Standard base

Standard base height is 5 inches (127 mm). Bases include prepunched mounting holes for ease of installation. The curb cap is 6 inches (152 mm) larger than the throat size to minimize airflow restrictions. Reinforced steel hood support members are securely attached to the base and direct hood loads to the roof curb. 12-inch (305 mm) bases are optional. See page 6 for details.

5 Vertical end panels

Vertical panels are fully locked into the hood end panels.

Fabra Hood Construction Options



12-inch tall bases

12-inch (305 mm) bases are recommended for intake applications to prevent moisture entry and for all applications where rain or snow may accumulate on the roof deck. On larger size units, a 12-inch (305 mm) base will provide more clearance space from the roof deck and allow for better airflow.

Fiberglass hood insulation

Either ½-inch (13 mm) or 1-inch (25 mm) insulation can be factory applied to the underside of the hood to prevent condensation. Insulation is also factory applied to individual panels of large unassembled units.

Aluminum birdscreen

¾ x 1 ¼ inch (19 mm x 32 mm) diamond shape is available in lieu of standard galvanized birdscreen.

Tie-down points

Heavy-gauge galvanized steel tie-down points are available as cable attachment points at the ends of each hood support rail and prevent damage to the Fabra Hood in locations where unusually strong winds occur.

Special coatings

Several options are available for decorative or protective purposes.

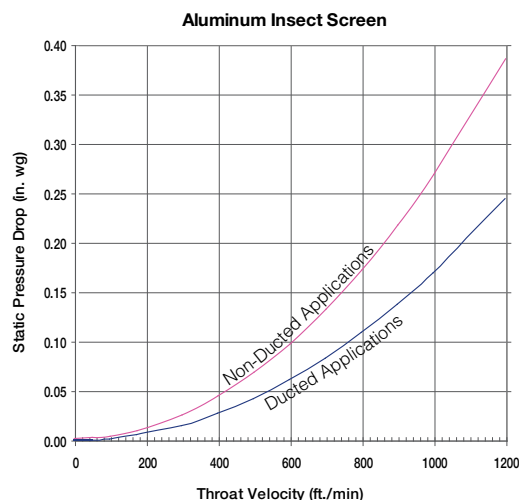
Factory **primed** for field application of final finish.

Baked enamel finish is applied to exterior surfaces only to match or complement a building's color.

Protective coatings that include Greenheck's **Permator™** (a thermosetting polyester urethane) are also available. Protective coatings are applied to all surfaces. Refer to the Performance Coatings catalog for complete coating options.

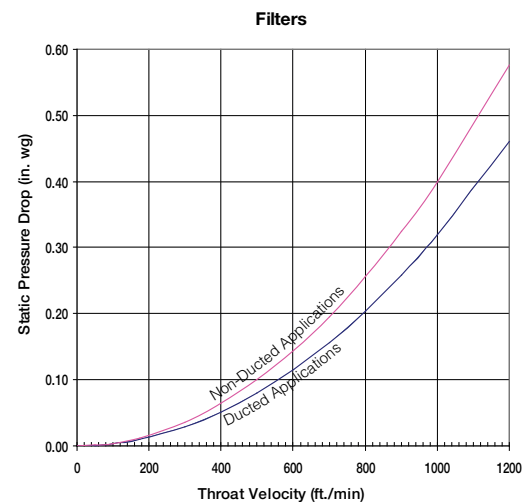
Aluminum Insect Screen

A fine mesh aluminum insect screen tightly fitted to the top of the throat, is available to prevent the entry of insects. (This is in addition to the standard birdscreen and is available on factory assembled units only.) Use the curves on the graph below to determine the static pressure drop for units with insect screen.



Filters

Two-inch aluminum filters are available on model FGI (intake) for applications where foreign material must be removed from the airstream. Use the curves on the graph below to determine the static pressure drop for units with filters.

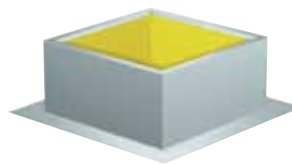




Backdraft Dampers

Backdraft dampers are available for intake or relief with either gravity or motorized operation. Motorized dampers are recommended for all intake

or low velocity relief applications. Damper sizes are the same as throat sizes.



Roof Curbs

Prefabricated roof curbs ensure compatibility between the ventilator, curb and roof opening. Curb extensions are also

available. Curb models are available to meet a wide range of applications and varying roof architecture and construction. See the Greenheck Roof Curbs, Extensions & Equipment Supports catalog for complete details on these products.

On-Site Assembly

Flexibility is a primary feature of the Fabra Hood design. Interlocking hood panels and extendible throats allow units to be constructed to long lengths. On-site assembly for these larger units is not difficult and actually offers several advantages.

For jobs with large throat sizes, assembling hoods on-site reduces costs. There is a cost savings in carrying unassembled components to the roof versus the expense of cranes or other equipment involved in lifting a bulky assembled unit. The risk of damage in transporting large assembled units is also reduced when they are assembled on the roof deck.

In addition, the space saved by a compact crate of knocked-down component parts reduces shipping charges and final costs over large, fully assembled units.

Ease of Assembly

Hoods of any length can be easily constructed on the jobsite. No special tools or training are required to assemble a Greenheck Fabra Hood.

Fabra Hoods are assembled with the following basic steps:

Step 1—Base ends, base sides and intermediate hood supports (when required) are placed in position and bolted together.

Step 2—Hood support angles are attached.

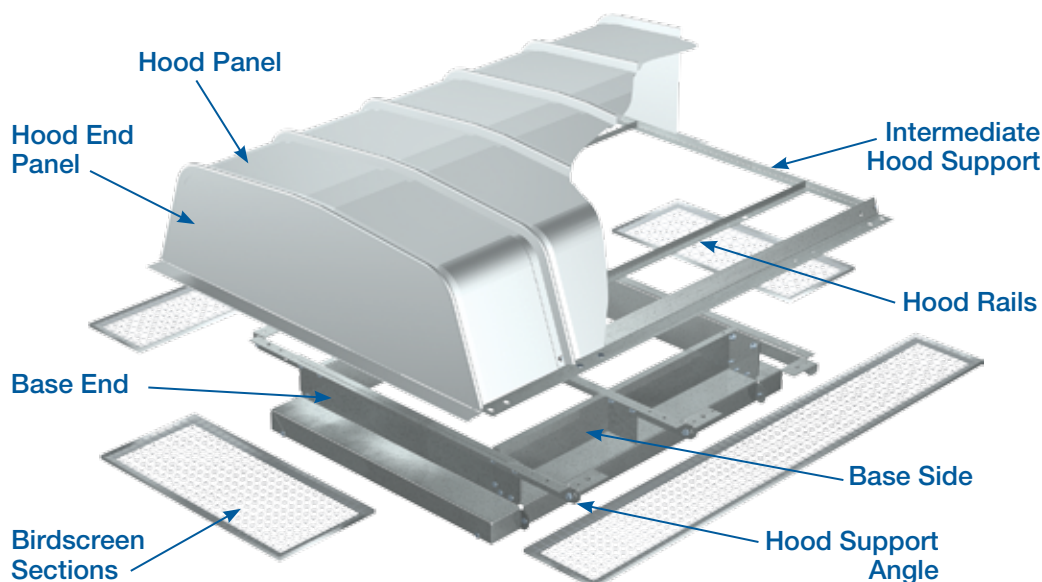
Step 3—All fasteners are tightened and all inside base corners are caulked.

Step 4—Birdscreens are attached to hood support angles.

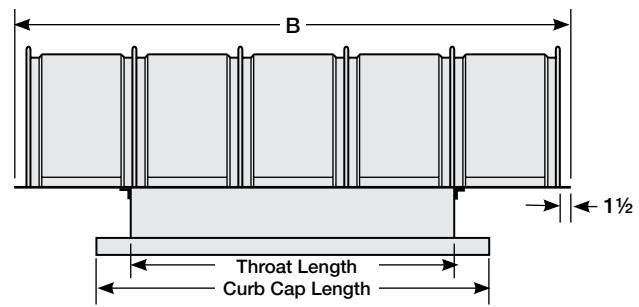
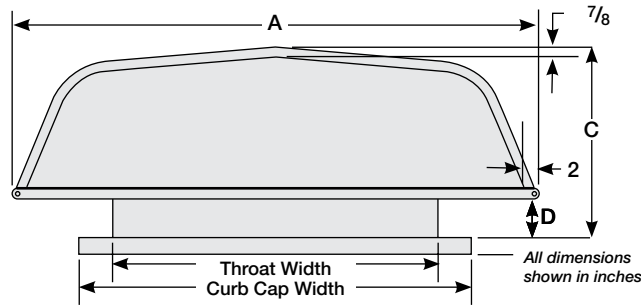
Step 5—Hood rails are attached to hood support angles.

Step 6—Hood panels and end panels are assembled to hood rails.

All hardware is provided with each unit along with complete, detailed and well illustrated instructions.

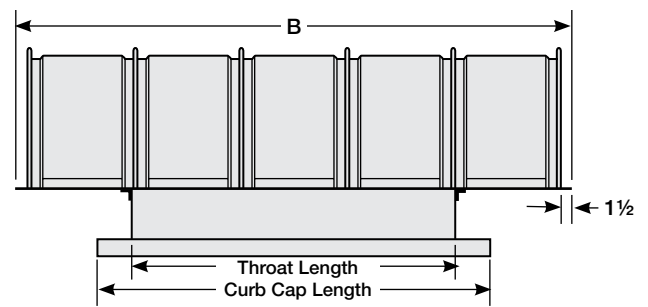
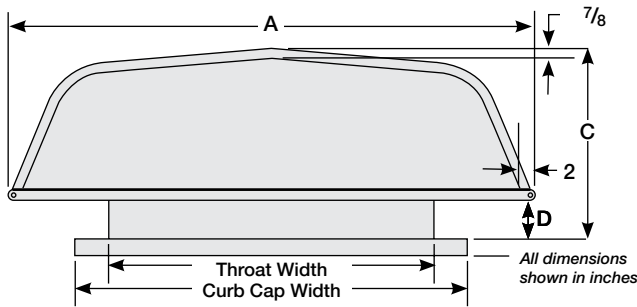


Fabra Hood - Gravity Intake Model FGI



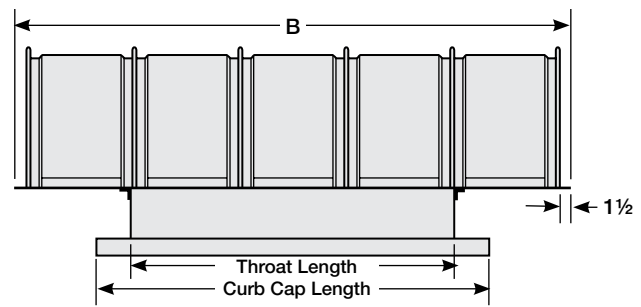
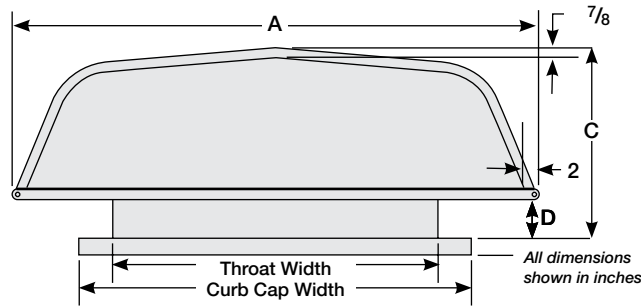
Dimensional Data								Performance Data								Shipped Assembled	Galvanized Unit Weight
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	DUCTED STATIC PRESSURE DROP (IN. WG)									
								0.030	0.047	0.071	0.089	0.119	0.149	0.196			
								NON-DUCTED STATIC PRESSURE DROP (IN. WG)									
								0.053	0.085	0.127	0.158	0.212	0.267	0.350			
								HOOD INTAKE VELOCITY / THROAT VELOCITY (FT/MIN)									
				A	B	C	D	235/475	297/600	364/735	406/820	470/950	527/1065	604/1220			
ft²	Inches							CFM									POUNDS
0.44	8 x 8	14 x 14	8 x 8	22	27	14	5	211	267	327	364	422	474	542	Yes	37	
0.67	8 x 12	14 x 18	8 x 12	22	27	14	5	316	401	490	546	633	710	813	Yes	37	
1.00	8 x 18	14 x 24	8 x 18	22	39	14	5	475	601	735	820	949	1066	1220	Yes	46	
1.33	8 x 24	14 x 30	8 x 24	22	39	14	5	633	802	980	1093	1266	1421	1627	Yes	49	
1.67	8 x 30	14 x 36	8 x 30	22	51	14	5	791	1002	1225	1366	1582	1776	2033	Yes	57	
1.00	12 x 12	18 x 18	12 x 12	26	27	14	5	475	601	735	820	949	1066	1220	Yes	37	
1.50	12 x 18	18 x 24	12 x 18	26	39	14	5	712	902	1102	1229	1424	1598	1830	Yes	46	
2.00	12 x 24	18 x 30	12 x 24	28	39	14	5	949	1202	1470	1639	1899	2131	2440	Yes	49	
2.50	12 x 30	18 x 36	12 x 30	27	51	14	5	1187	1503	1837	2049	2374	2664	3050	Yes	57	
3.00	12 x 36	18 x 42	12 x 36	31	51	14	5	1424	1804	2205	2459	2848	3197	3660	Yes	63	
3.50	12 x 42	18 x 48	12 x 42	29	63	14	5	1662	2104	2572	2869	3323	3729	4270	Yes	73	
4.00	12 x 48	18 x 54	12 x 48	33	63	14	5	1899	2405	2939	3279	3798	4262	4880	Yes	79	
1.36	14 x 14	20 x 20	14 x 14	29	27	16	5	646	818	1000	1116	1292	1450	1660	Yes	43	
1.75	14 x 18	20 x 24	14 x 18	28	39	16	5	831	1052	1286	1434	1662	1865	2135	Yes	49	
2.33	14 x 24	20 x 30	14 x 24	32	39	16	5	1108	1403	1715	1913	2215	2486	2846	Yes	55	
2.92	14 x 30	20 x 36	14 x 30	30	51	16	5	1385	1753	2143	2391	2769	3108	3558	Yes	62	
3.50	14 x 36	20 x 42	14 x 36	36	51	16	5	1662	2104	2572	2869	3323	3729	4270	Yes	70	
4.08	14 x 42	20 x 48	14 x 42	33	63	16	5	1938	2455	3001	3347	3877	4351	4981	Yes	80	
4.67	14 x 48	20 x 54	14 x 48	38	63	16	5	2215	2806	3429	3825	4431	4972	5693	Yes	87	
5.25	14 x 54	20 x 60	14 x 54	36	75	16	5	2492	3156	3858	4303	4985	5594	6405	Yes	96	
1.78	16 x 16	22 x 22	16 x 16	30	39	16	5	844	1069	1306	1457	1688	1894	2169	Yes	52	
2.22	16 x 20	22 x 26	16 x 20	31	39	16	5	1055	1336	1633	1821	2110	2368	2711	Yes	54	
2.67	16 x 24	22 x 30	16 x 24	36	39	16	5	1266	1603	1960	2186	2532	2841	3253	Yes	60	
3.33	16 x 30	22 x 36	16 x 30	34	51	16	5	1582	2004	2450	2732	3165	3552	4066	Yes	68	
4.00	16 x 36	22 x 42	16 x 36	40	51	16	5	1899	2405	2939	3279	3798	4262	4880	Yes	76	
4.67	16 x 42	22 x 48	16 x 42	38	63	16	5	2215	2806	3429	3825	4431	4972	5693	Yes	87	
5.33	16 x 48	22 x 54	16 x 48	36	75	16	5	2532	3206	3919	4371	5064	5683	6506	Yes	95	
6.00	16 x 54	22 x 60	16 x 54	40	75	16	5	2848	3607	4409	4918	5697	6393	7320	Yes	104	
6.67	16 x 60	22 x 66	16 x 60	38	87	16	5	3165	4008	4899	5464	6330	7103	8133	Yes	129	
7.33	16 x 66	22 x 72	16 x 66	42	87	16	5	3481	4409	5389	6011	6963	7814	8946	Yes	136	
2.25	18 x 18	24 x 24	18 x 18	32	39	16	5	1068	1353	1653	1844	2136	2397	2745	Yes	55	
3.00	18 x 24	24 x 30	18 x 24	40	39	16	5	1424	1804	2205	2459	2848	3197	3660	Yes	64	
3.75	18 x 30	24 x 36	18 x 30	38	51	16	5	1780	2254	2756	3074	3560	3996	4575	Yes	73	
4.50	18 x 36	24 x 42	18 x 36	36	63	16	5	2136	2705	3307	3688	4272	4795	5490	Yes	83	
5.25	18 x 42	24 x 48	18 x 42	42	63	16	5	2492	3156	3858	4303	4985	5594	6405	Yes	92	
6.00	18 x 48	24 x 54	18 x 48	40	75	16	5	2848	3607	4409	4918	5697	6393	7320	Yes	101	
6.75	18 x 54	24 x 60	18 x 54	45	75	16	5	3204	4058	4960	5533	6409	7192	8235	Yes	111	
7.50	18 x 60	24 x 66	18 x 60	43	87	16	5	3560	4509	5511	6147	7121	7991	9149	Yes	136	
8.25	18 x 66	24 x 72	18 x 66	46	87	16	5	3916	4960	6063	6762	7833	8790	10064	Yes	145	
9.00	18 x 72	24 x 78	18 x 72	45	99	16	5	4272	5411	6614	7377	8545	9590	10979	Yes	155	
2.78	20 x 20	26 x 26	20 x 20	37	39	16	5	1319	1670	2041	2277	2637	2960	3389	Yes	61	
3.33	20 x 24	26 x 30	20 x 24	44	39	16	5	1582	2004	2450	2732	3165	3552	4066	Yes	69	
4.17	20 x 30	26 x 36	20 x 30	42	51	16	5	1978	2505	3062	3415	3956	4440	5083	Yes	77	
5.00	20 x 36	26 x 42	20 x 36	40	63	16	5	2374	3006	3674	4098	4747	5328	6100	Yes	89	
5.83	20 x 42	26 x 48	20 x 42	48	63	16	5	2769	3507	4287	4781	5538	6215	7116	Yes	98	
6.67	20 x 48	26 x 54	20 x 48	44	75	16	5	3165	4008	4899	5464	6330	7103	8133	Yes	107	
7.50	20 x 54	26 x 60	20 x 54	49	75	16	5	3560	4509	5511	6147	7121	7991	9149	Yes	117	
8.33	20 x 60	26 x 66	20 x 60	47	87	16	5	3956	5010	6124	6830	7912	8879	10166	Yes	143	
9.17	20 x 66	26 x 72	20 x 66	45	99	16	5	4352	5511	6736	7513	8703	9767	11183	Yes	154	
10.00	20 x 72	26 x 78	20 x 72	49	99	16	5	4747	6012	7349	8196	9494	10655	12199	Yes	162	
10.83	20 x 78	26 x 84	20 x 78	47	111	16	5	5143	6513	7961	8880	10286	11543	13216	Yes	194	
11.67	20 x 84	26 x 90	20 x 84	51	111	16	5	5538	7014	8573	9563	11077	12431	14232	Yes	203	

Fabra Hood - Gravity Intake Model FGI



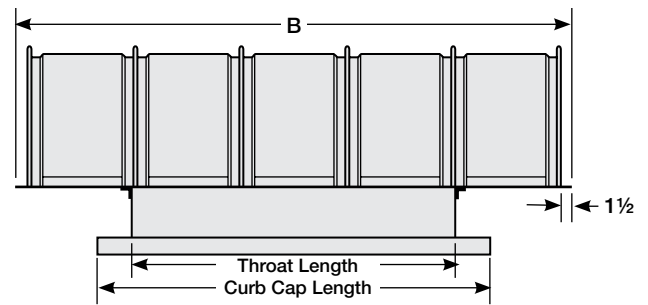
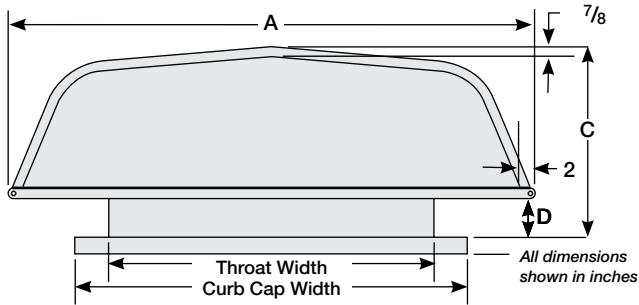
Dimensional Data								Performance Data								Shipped Assembled	Galvanized Unit Weight	
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	DUCTED STATIC PRESSURE DROP (IN. WG)										
								0.030	0.047	0.071	0.089	0.119	0.149	0.196				
								NON-DUCTED STATIC PRESSURE DROP (IN. WG)										
								0.053	0.085	0.127	0.158	0.212	0.267	0.350				
				HOOD INTAKE VELOCITY / THROAT VELOCITY (FT/MIN)														
				A	B	C	D	235/475	297/600	364/735	406/820	470/950	527/1065	604/1220				
ft²	Inches			CFM														POUNDS
4.00	24 x 24	30 x 30	24 x 24	52	39	19	5	1899	2405	2939	3279	3798	4262	4880	Yes	82		
5.00	24 x 30	30 x 36	24 x 30	49	51	19	5	2374	3006	3674	4098	4747	5328	6100	Yes	91		
6.00	24 x 36	30 x 42	24 x 36	47	63	19	5	2848	3607	4409	4918	5697	6393	7320	Yes	104		
7.00	24 x 42	30 x 48	24 x 42	54	63	19	5	3323	4208	5144	5738	6646	7459	8539	Yes	114		
8.00	24 x 48	30 x 54	24 x 48	52	75	19	5	3798	4809	5879	6557	7596	8524	9759	Yes	125		
9.00	24 x 54	30 x 60	24 x 54	50	87	19	5	4272	5411	6614	7377	8545	9590	10979	Yes	154		
10.00	24 x 60	30 x 66	24 x 60	55	87	19	5	4747	6012	7349	8196	9494	10655	12199	Yes	163		
11.00	24 x 66	30 x 72	24 x 66	54	99	19	5	5222	6613	8083	9016	10444	11721	13419	Yes	174		
12.00	24 x 72	30 x 78	24 x 72	58	99	19	5	5697	7214	8818	9836	11393	12786	14639	Yes	185		
13.00	24 x 78	30 x 84	24 x 78	56	111	19	5	6171	7815	9553	10655	12343	13852	15859	Yes	220		
14.00	24 x 84	30 x 90	24 x 84	60	111	19	5	6646	8417	10288	11475	13292	14917	17079	Yes	230		
15.00	24 x 90	30 x 96	24 x 90	58	123	19	5	7121	9018	11023	12295	14242	15983	18299	Yes	244		
6.25	30 x 30	36 x 36	30 x 30	60	51	19	5	2967	3757	4593	5123	5934	6659	7625	Yes	108		
7.50	30 x 36	36 x 42	30 x 36	58	63	19	5	3560	4509	5511	6147	7121	7991	9149	Yes	119		
8.75	30 x 42	36 x 48	30 x 42	57	75	19	5	4154	5260	6430	7172	8308	9323	10674	Yes	131		
10.00	30 x 48	36 x 54	30 x 48	64	75	19	5	4747	6012	7349	8196	9494	10655	12199	Yes	143		
11.25	30 x 54	36 x 60	30 x 54	62	87	19	5	5341	6763	8267	9221	10681	11987	13724	Yes	174		
12.50	30 x 60	36 x 66	30 x 60	60	99	19	5	5934	7515	9186	10246	11868	13319	15249	Yes	186		
13.75	30 x 66	36 x 72	30 x 66	66	99	19	5	6527	8266	10104	11270	13055	14651	16774	Yes	200		
15.00	30 x 72	36 x 78	30 x 72	64	111	19	5	7121	9018	11023	12295	14242	15983	18299	Yes	225		
16.25	30 x 78	36 x 84	30 x 78	69	111	19	5	7714	9769	11941	13319	15428	17314	19824	Yes	251		
17.50	30 x 84	36 x 90	30 x 84	67	123	19	5	8308	10521	12860	14344	16615	18646	21349	Yes	264		
18.75	30 x 90	36 x 96	30 x 90	72	123	19	5	8901	11272	13779	15368	17802	19978	22874	Yes	278		
9.00	36 x 36	42 x 42	36 x 36	69	63	19	5	4272	5411	6614	7377	8545	9590	10979	Yes	134		
10.50	36 x 42	42 x 48	36 x 42	67	75	19	5	4985	6312	7716	8606	9969	11188	12809	Yes	147		
12.00	36 x 48	42 x 54	36 x 48	66	87	19	5	5697	7214	8818	9836	11393	12786	14639	Yes	176		
13.50	36 x 54	42 x 60	36 x 54	73	87	19	5	6409	8116	9921	11065	12817	14384	16469	Yes	196		
15.00	36 x 60	42 x 66	36 x 60	72	99	19	5	7121	9018	11023	12295	14242	15983	18299	Yes	208		
16.50	36 x 66	42 x 72	36 x 66	78	99	19	5	7833	9920	12125	13524	15666	17581	20129	Yes	224		
18.00	36 x 72	42 x 78	36 x 72	76	111	19	5	8545	10821	13227	14754	17090	19179	21959	Yes	252		
19.50	36 x 78	42 x 84	36 x 78	74	123	19	5	9257	11723	14330	15983	18514	20777	23789	Yes	280		
21.00	36 x 84	42 x 90	36 x 84	80	123	19	5	9969	12625	15432	17213	19938	22376	25618	Yes	295		
22.50	36 x 90	42 x 96	36 x 90	78	135	19	5	10681	13527	16534	18442	21362	23974	27448	Yes	311		
24.00	36 x 96	42 x 102	36 x 96	83	135	19	5	11393	14428	17637	19672	22787	25572	29278	Yes	324		
25.50	36 x 102	42 x 108	36 x 102	81	147	19	5	12105	15330	18739	20901	24211	27170	31108	No	340		
12.25	42 x 42	48 x 48	42 x 42	78	75	23	5	5815	7365	9002	10041	11631	13052	14944	Yes	178		
14.00	42 x 48	48 x 54	42 x 48	76	87	23	5	6646	8417	10288	11475	13292	14917	17079	Yes	221		
15.75	42 x 54	48 x 60	42 x 54	85	87	23	5	7477	9469	11574	12909	14954	16782	19214	Yes	252		
17.50	42 x 60	48 x 66	42 x 60	83	99	23	5	8308	10521	12860	14344	16615	18646	21349	Yes	261		
19.25	42 x 66	48 x 72	42 x 66	81	111	23	5	9138	11573	14146	15778	18277	20511	23484	Yes	291		
21.00	42 x 72	48 x 78	42 x 72	88	111	23	5	9969	12625	15432	17213	19938	22376	25618	Yes	320		
22.75	42 x 78	48 x 84	42 x 78	86	123	23	5	10800	13677	16718	18647	21600	24240	27753	Yes	355		
24.50	42 x 84	48 x 90	42 x 84	84	135	23	5	11631	14729	18004	20081	23261	26105	29888	Yes	373		
26.25	42 x 90	48 x 96	42 x 90	90	135	23	5	12461	15781	19290	21516	24923	27970	32023	Yes	392		
28.00	42 x 96	48 x 102	42 x 96	88	147	23	5	13292	16833	20576	22950	26584	29834	34158	No	412		
29.75	42 x 102	48 x 108	42 x 102	93	147	23	5	14123	17885	21862	24385	28246	31699	36293	No	429		
31.50	42 x 108	48 x 114	42 x 108	91	159	23	5	14954	18937	23148	25819	29907	33563	38428	No	450		
16.00	48 x 48	54 x 54	48 x 48	86	87	25	5	7596	9619	11758	13114	15191	17048	19519	Yes	257		
18.00	48 x 54	54 x 60	48 x 54	85	99	25	5	8545	10821	13227	14754	17090	19179	21959	Yes	278		
20.00	48 x 60	54 x 66	48 x 60	94	99	25	5	9494	12024	14697	16393	18989	21310	24399	Yes	299		
22.00	48 x 66	54 x 72	48 x 66	92	111	25	5	10444	13226	16167	18032	20888	23441	26838	Yes	332		
24.00	48 x 72	54 x 78	48 x 72	90	123	25	5	11393	14428	17637	19672	22787	25572	29278	Yes	353		
26.00	48 x 78	54 x 84	48 x 78	98	123	25	5	12343	15631	19106	21311	24685	27703	31718	No	383		
28.00	48 x 84	54 x 90	48 x 84	92	135	25	5	13292	16833	20576	22950	26584	29834	34158	No	412		
30.00	48 x 90	54 x 96	48 x 90	98	135	25	5	14242	18036	22046	24589	28483	31965	36598	No	430		
32.00	48 x 96	54 x 102	48 x 96	96	147	25	5	15191	19238	23515	26229	30382	34096	39038	No	452		
34.00	48 x 102	54 x 108	48 x 102	94	159	25	5	16140	20440	24985	27868	32281	36227	41478	No	475		
36.00	48 x 108	54 x 114	48 x 108	100	159	25	5	17090	21643	26455	29507	34180	38358	43917	No	495		
38.00	48 x 114	54 x 120	48 x 114	98	171	25	5	18039	22845	27924	31147	36079	40489	46357	No	517		

Fabra Hood - Gravity Intake Model FGI



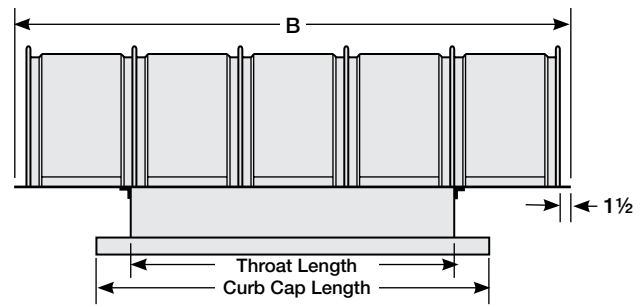
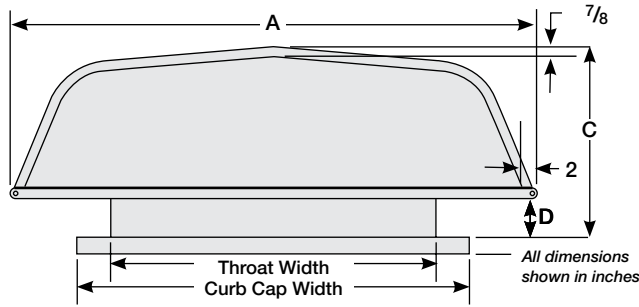
Dimensional Data								Performance Data							Shipped Assembled	Galvanized Unit Weight		
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	DUCTED STATIC PRESSURE DROP (IN. WG)										
								0.030	0.047	0.071	0.089	0.119	0.149	0.196				
								NON-DUCTED STATIC PRESSURE DROP (IN. WG)										
								0.053	0.085	0.127	0.158	0.212	0.267	0.350				
								HOOD INTAKE VELOCITY / THROAT VELOCITY (FT/MIN)										
				A	B	C	D	235/475	297/600	364/735	406/820	470/950	527/1065	604/1220				
ft²	Inches			CFM														POUNDS
20.25	54 x 54	60 x 60	54 x 54	95	99	26	5	9613	12174	14881	16598	19226	21576	24704	No	304		
22.50	54 x 60	60 x 66	54 x 60	105	99	26	5	10681	13527	16534	18442	21362	23974	27448	No	341		
24.75	54 x 66	60 x 72	54 x 66	103	111	26	5	11749	14879	18188	20286	23499	26371	30193	No	370		
27.00	54 x 72	60 x 78	54 x 72	101	123	26	5	12817	16232	19841	22131	25635	28769	32938	No	394		
29.25	54 x 78	60 x 84	54 x 78	109	123	26	5	13886	17585	21495	23975	27771	31166	35683	No	433		
31.50	54 x 84	60 x 90	54 x 84	107	135	26	5	14954	18937	23148	25819	29907	33563	38428	No	457		
33.75	54 x 90	60 x 96	54 x 90	105	147	26	5	16022	20290	24801	27663	32044	35961	41173	No	481		
36.00	54 x 96	60 x 102	54 x 96	112	147	26	5	17090	21643	26455	29507	34180	38358	43917	No	502		
38.25	54 x 102	60 x 108	54 x 102	110	159	26	5	18158	22995	28108	31352	36316	40756	46662	No	528		
40.50	54 x 108	60 x 114	54 x 108	108	171	26	5	19226	24348	29762	33196	38452	43153	49407	No	550		
42.75	54 x 114	60 x 120	54 x 114	114	171	26	5	20294	25701	31415	35040	40589	45550	52152	No	572		
25.00	60 x 60	66 x 66	60 x 60	104	111	29.5	5	11868	15030	18371	20491	23736	26638	30498	No	379		
27.50	60 x 66	66 x 72	60 x 66	114	111	29.5	5	13055	16533	20209	22540	26110	29301	33548	No	404		
30.00	60 x 72	66 x 78	60 x 72	112	123	29.5	5	14242	18036	22046	24589	28483	31965	36598	No	429		
32.50	60 x 78	66 x 84	60 x 78	110	135	29.5	5	15428	19539	23883	26639	30857	34629	39648	No	473		
35.00	60 x 84	66 x 90	60 x 84	119	135	29.5	5	16615	21042	25720	28688	33230	37293	42697	No	500		
37.50	60 x 90	66 x 96	60 x 90	117	147	29.5	5	17802	22544	27557	30737	35604	39956	45747	No	525		
40.00	60 x 96	66 x 102	60 x 96	115	159	29.5	5	18989	24047	29394	32786	37978	42620	48797	No	552		
42.50	60 x 102	66 x 108	60 x 102	122	159	29.5	5	20176	25550	31231	34835	40351	45284	51847	No	576		
45.00	60 x 108	66 x 114	60 x 108	120	171	29.5	5	21362	27053	33068	36884	42725	47948	54897	No	601		
47.50	60 x 114	66 x 120	60 x 114	126	171	29.5	5	22549	28556	34906	38933	45098	50611	57947	No	733		
50.00	60 x 120	66 x 126	60 x 120	124	183	29.5	5	23736	30059	36743	40982	47472	53275	60996	No	761		
30.25	66 x 66	72 x 72	66 x 66	113	123	29.5	5	14360	18186	22229	24794	28721	32232	36903	No	431		
33.00	66 x 72	72 x 78	66 x 72	123	123	29.5	5	15666	19839	24250	27048	31332	35162	40258	No	504		
35.75	66 x 78	72 x 84	66 x 78	121	135	29.5	5	16971	21492	26271	29302	33942	38092	43612	No	555		
38.50	66 x 84	72 x 90	66 x 84	120	147	29.5	5	18277	23146	28292	31557	36553	41022	46967	No	632		
41.25	66 x 90	72 x 96	66 x 90	128	147	29.5	5	19582	24799	30313	33811	39164	43952	50322	No	643		
44.00	66 x 96	72 x 102	66 x 96	126	159	29.5	5	20888	26452	32334	36065	41775	46882	53677	No	663		
46.75	66 x 102	72 x 108	66 x 102	133	159	29.5	5	22193	28105	34354	38319	44386	49812	57032	No	726		
49.50	66 x 108	72 x 114	66 x 108	131	171	29.5	5	23499	29759	36375	40573	46997	52742	60386	No	753		
52.25	66 x 114	72 x 120	66 x 114	129	183	29.5	5	24804	31412	38396	42827	49608	55673	63741	No	784		
55.00	66 x 120	72 x 126	66 x 120	136	183	29.5	5	26110	33065	40417	45081	52219	58603	67096	No	823		
57.75	66 x 126	72 x 132	66 x 126	134	195	36.5	12	27415	34719	42438	47335	54830	61533	70451	No	900		
60.50	66 x 132	72 x 138	66 x 132	132	207	36.5	12	28721	36372	44459	49589	57441	64463	73806	No	916		
36.00	72 x 72	78 x 78	72 x 72	134	123	29.5	5	17090	21643	26455	29507	34180	38358	43917	No	587		
39.00	72 x 78	78 x 84	72 x 78	132	135	29.5	5	18514	23446	28659	31966	37028	41555	47577	No	641		
42.00	72 x 84	78 x 90	72 x 84	130	147	29.5	5	19938	25250	30864	34425	39876	44751	51237	No	670		
45.00	72 x 90	78 x 96	72 x 90	136	159	29.5	5	21362	27053	33068	36884	42725	47948	54897	No	733		
48.00	72 x 96	78 x 102	72 x 96	136	171	29.5	5	22787	28857	35273	39343	45573	51144	58556	No	771		
51.00	72 x 102	78 x 108	72 x 102	135	171	29.5	5	24211	30661	37478	41802	48421	54341	62216	No	791		
54.00	72 x 108	78 x 114	72 x 108	136	183	29.5	5	25635	32464	39682	44261	51270	57537	65876	No	811		
57.00	72 x 114	78 x 120	72 x 114	136	195	29.5	5	27059	34268	41887	46720	54118	60734	69536	No	848		
60.00	72 x 120	78 x 126	72 x 120	136	207	29.5	5	28483	36071	44091	49179	56966	63930	73196	No	886		
63.00	72 x 126	78 x 132	72 x 126	136	207	36.5	12	29907	37875	46296	51638	59815	67127	76855	No	934		
66.00	72 x 132	78 x 138	72 x 132	136	219	36.5	12	31332	39678	48500	54097	62663	70323	80515	No	973		
69.00	72 x 138	78 x 144	72 x 138	136	219	36.5	12	32756	41482	50705	56556	65511	73520	84175	No	976		
72.00	72 x 144	78 x 150	72 x 144	136	231	36.5	12	34180	43285	52910	59015	68360	76716	87835	No	1015		
75.00	72 x 150	78 x 156	72 x 150	136	231	36.5	12	35604	45089	55114	61474	71208	79913	91495	No	1116		
78.00	72 x 156	78 x 162	72 x 156	136	243	36.5	12	37028	46893	57319	63933	74056	83109	95154	No	1228		
81.00	72 x 162	78 x 168	72 x 162	136	243	36.5	12	38452	48696	59523	66392	76905	86306	98814	No	1351		
84.00	72 x 168	78 x 174	72 x 168	136	255	36.5	12	39876	50500	61728	68851	79753	89502	102474	No	1486		
87.00	72 x 174	78 x 180	72 x 174	136	255	36.5	12	41301	52303	63932	71310	82601	92699	106134	No	1634		
90.00	72 x 180	78 x 186	72 x 180	136	267	36.5	12	42725	54107	66137	73768	85450	95895	109793	No	1798		

Fabra Hood - Gravity Relief Model FGR



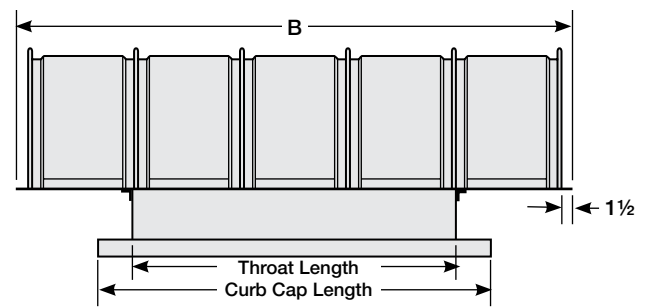
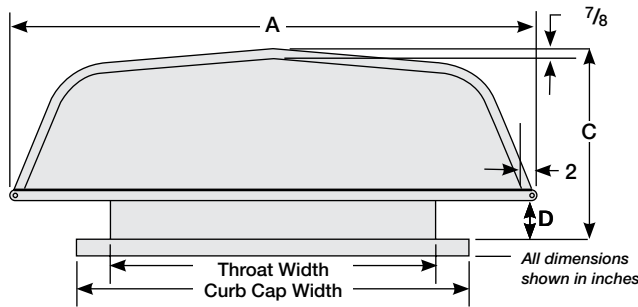
Dimensional Data								Performance Data								Shipped Assembled	Galvanized Unit Weigh
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	DUCTED STATIC PRESSURE DROP (IN. WG)									
								0.024	0.043	0.060	0.084	0.107	0.136	0.160			
								NON-DUCTED STATIC PRESSURE DROP (IN. WG)									
								0.042	0.075	0.105	0.146	0.186	0.236	0.278			
HOOD AND THROAT VELOCITY (FT/MIN)																	
								420	560	660	780	880	990	1075			
ft²	Inches							CFM									POUNDS
0.44	8 x 8	14 x 14	8 x 8	22	27	14	5	186	248	294	346	391	440	478	Yes	37	
0.67	8 x 12	14 x 18	8 x 12	22	27	14	5	279	372	441	520	586	661	717	Yes	37	
1.00	8 x 18	14 x 24	8 x 18	22	39	14	5	418	559	661	779	880	991	1075	Yes	46	
1.33	8 x 24	14 x 30	8 x 24	22	39	14	5	557	745	881	1039	1173	1321	1434	Yes	48	
1.67	8 x 30	14 x 36	8 x 30	22	51	14	5	697	931	1101	1299	1466	1651	1792	Yes	56	
1.00	12 x 12	18 x 18	12 x 12	26	27	14	5	418	559	661	779	880	991	1075	Yes	37	
1.50	12 x 18	18 x 24	12 x 18	26	39	14	5	627	838	991	1169	1319	1486	1613	Yes	46	
2.00	12 x 24	18 x 30	12 x 24	26	39	14	5	836	1117	1322	1559	1759	1982	2151	Yes	48	
2.50	12 x 30	18 x 36	12 x 30	26	51	14	5	1045	1396	1652	1948	2199	2477	2688	Yes	56	
3.00	12 x 36	18 x 42	12 x 36	26	51	14	5	1254	1676	1983	2338	2639	2972	3226	Yes	58	
3.50	12 x 42	18 x 48	12 x 42	26	63	14	5	1463	1955	2313	2727	3079	3468	3764	Yes	69	
4.00	12 x 48	18 x 54	12 x 48	26	63	14	5	1672	2234	2643	3117	3518	3963	4301	Yes	71	
1.36	14 x 14	20 x 20	14 x 14	28	27	16	5	569	760	900	1061	1197	1349	1464	Yes	42	
1.75	14 x 18	20 x 24	14 x 18	28	39	16	5	731	977	1157	1364	1539	1734	1882	Yes	50	
2.33	14 x 24	20 x 30	14 x 24	28	39	16	5	975	1303	1542	1818	2052	2312	2509	Yes	53	
2.92	14 x 30	20 x 36	14 x 30	28	51	16	5	1219	1629	1928	2273	2565	2890	3136	Yes	60	
3.50	14 x 36	20 x 42	14 x 36	28	51	16	5	1463	1955	2313	2727	3079	3468	3764	Yes	62	
4.08	14 x 42	20 x 48	14 x 42	28	63	16	5	1707	2281	2699	3182	3592	4046	4391	Yes	74	
4.67	14 x 48	20 x 54	14 x 48	28	63	16	5	1951	2606	3084	3637	4105	4624	5018	Yes	76	
5.25	14 x 54	20 x 60	14 x 54	28	75	16	5	2194	2932	3470	4091	4618	5202	5645	Yes	87	
1.78	16 x 16	22 x 22	16 x 16	30	39	16	5	743	993	1175	1385	1564	1761	1912	Yes	52	
2.22	16 x 20	22 x 26	16 x 20	30	39	16	5	929	1241	1469	1732	1955	2202	2390	Yes	53	
2.67	16 x 24	22 x 30	16 x 24	30	39	16	5	1115	1489	1762	2078	2346	2642	2868	Yes	55	
3.33	16 x 30	22 x 36	16 x 30	30	51	16	5	1393	1862	2203	2598	2932	3303	3584	Yes	64	
4.00	16 x 36	22 x 42	16 x 36	30	51	16	5	1672	2234	2643	3117	3518	3963	4301	Yes	66	
4.67	16 x 42	22 x 48	16 x 42	30	63	16	5	1951	2606	3084	3637	4105	4624	5018	Yes	78	
5.33	16 x 48	22 x 54	16 x 48	30	63	16	5	2229	2979	3525	4156	4691	5284	5735	Yes	80	
6.00	16 x 54	22 x 60	16 x 54	30	75	16	5	2508	3351	3965	4676	5277	5945	6452	Yes	91	
6.67	16 x 60	22 x 66	16 x 60	31	75	16	5	2786	3724	4406	5195	5864	6605	7169	Yes	95	
7.33	16 x 66	22 x 72	16 x 66	30	87	16	5	3065	4096	4846	5715	6450	7266	7886	Yes	120	
2.25	18 x 18	24 x 24	18 x 18	32	39	16	5	940	1257	1487	1753	1979	2229	2419	Yes	55	
3.00	18 x 24	24 x 30	18 x 24	32	39	16	5	1254	1676	1983	2338	2639	2972	3226	Yes	57	
3.75	18 x 30	24 x 36	18 x 30	32	51	16	5	1567	2094	2478	2922	3298	3715	4032	Yes	67	
4.50	18 x 36	24 x 42	18 x 36	32	51	16	5	1881	2513	2974	3507	3958	4458	4839	Yes	69	
5.25	18 x 42	24 x 48	18 x 42	32	63	16	5	2194	2932	3470	4091	4618	5202	5645	Yes	81	
6.00	18 x 48	24 x 54	18 x 48	33	63	16	5	2508	3351	3965	4676	5277	5945	6452	Yes	84	
6.75	18 x 54	24 x 60	18 x 54	32	75	16	5	2821	3770	4461	5260	5937	6688	7258	Yes	95	
7.50	18 x 60	24 x 66	18 x 60	34	75	16	5	3135	4189	4956	5845	6597	7431	8065	Yes	99	
8.25	18 x 66	24 x 72	18 x 66	32	87	16	5	3448	4608	5452	6429	7256	8174	8871	Yes	124	
9.00	18 x 72	24 x 78	18 x 72	35	87	16	5	3762	5027	5948	7013	7916	8917	9678	Yes	129	
2.78	20 x 20	26 x 26	20 x 20	34	39	16	5	1161	1551	1836	2165	2443	2752	2987	Yes	58	
3.33	20 x 24	26 x 30	20 x 24	34	39	16	5	1393	1862	2203	2598	2932	3303	3584	Yes	60	
4.17	20 x 30	26 x 36	20 x 30	34	51	16	5	1742	2327	2754	3247	3665	4128	4480	Yes	69	
5.00	20 x 36	26 x 42	20 x 36	34	51	16	5	2090	2793	3304	3896	4398	4954	5377	Yes	71	
5.83	20 x 42	26 x 48	20 x 42	34	63	16	5	2438	3258	3855	4546	5131	5779	6273	Yes	84	
6.67	20 x 48	26 x 54	20 x 48	36	63	16	5	2786	3724	4406	5195	5864	6605	7169	Yes	89	
7.50	20 x 54	26 x 60	20 x 54	34	75	16	5	3135	4189	4956	5845	6597	7431	8065	Yes	98	
8.33	20 x 60	26 x 66	20 x 60	37	75	16	5	3483	4654	5507	6494	7330	8256	8961	Yes	104	
9.17	20 x 66	26 x 72	20 x 66	35	87	16	5	3831	5120	6058	7143	8063	9082	9857	Yes	128	
10.00	20 x 72	26 x 78	20 x 72	38	87	16	5	4180	5585	6609	7793	8796	9908	10753	Yes	135	
10.83	20 x 78	26 x 84	20 x 78	37	99	16	5	4528	6051	7159	8442	9529	10733	11649	Yes	153	
11.67	20 x 84	26 x 90	20 x 84	39	99	16	5	4876	6516	7710	9092	10262	11559	12545	Yes	158	

Fabra Hood - Gravity Relief Model FGR



Dimensional Data								Performance Data							Shipped Assembled	Galvanized Unit Weight
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	0.024	0.043	0.060	0.084	0.107	0.136	0.160		
								NON-DUCTED STATIC PRESSURE DROP (IN. WG)								
				0.042	0.075	0.105	0.146	0.186	0.236	0.278						
				HOOD AND THROAT VELOCITY (FT/MIN)												
				A	B	C	D	420	560	660	780	880	990	1075		
ft²	Inches							CFM								POUNDS
4.00	24 x 24	30 x 30	24 x 24	38	39	19	5	1672	2234	2643	3117	3518	3963	4301	Yes	69
5.00	24 x 30	30 x 36	24 x 30	38	51	19	5	2090	2793	3304	3896	4398	4954	5377	Yes	79
6.00	24 x 36	30 x 42	24 x 36	40	51	19	5	2508	3351	3965	4676	5277	5945	6452	Yes	84
7.00	24 x 42	30 x 48	24 x 42	38	63	19	5	2926	3910	4626	5455	6157	6935	7527	Yes	95
8.00	24 x 48	30 x 54	24 x 48	42	63	19	5	3344	4468	5287	6234	7037	7926	8603	Yes	102
9.00	24 x 54	30 x 60	24 x 54	40	75	19	5	3762	5027	5948	7013	7916	8917	9678	Yes	113
10.00	24 x 60	30 x 66	24 x 60	44	75	19	5	4180	5585	6609	7793	8796	9908	10753	Yes	120
11.00	24 x 66	30 x 72	24 x 66	42	87	19	5	4598	6144	7269	8572	9675	10898	11829	Yes	146
12.00	24 x 72	30 x 78	24 x 72	45	87	19	5	5016	6702	7930	9351	10555	11889	12904	Yes	152
13.00	24 x 78	30 x 84	24 x 78	43	99	19	5	5434	7261	8591	10131	11434	12880	13979	Yes	171
14.00	24 x 84	30 x 90	24 x 84	46	99	19	5	5852	7819	9252	10910	12314	13871	15054	Yes	178
15.00	24 x 90	30 x 96	24 x 90	44	111	19	5	6269	8378	9913	11689	13194	14861	16130	Yes	202
6.25	30 x 30	36 x 36	30 x 30	44	51	19	5	2612	3491	4130	4870	5497	6192	6721	Yes	88
7.50	30 x 36	36 x 42	30 x 36	49	51	19	5	3135	4189	4956	5845	6597	7431	8065	Yes	95
8.75	30 x 42	36 x 48	30 x 42	46	63	19	5	3657	4887	5783	6819	7696	8669	9409	Yes	107
10.00	30 x 48	36 x 54	30 x 48	52	63	19	5	4180	5585	6609	7793	8796	9908	10753	Yes	116
11.25	30 x 54	36 x 60	30 x 54	49	75	19	5	4702	6283	7435	8767	9895	11146	12097	Yes	128
12.50	30 x 60	36 x 66	30 x 60	54	75	19	5	5225	6982	8261	9741	10995	12385	13441	Yes	136
13.75	30 x 66	36 x 72	30 x 66	51	87	19	5	5747	7680	9087	10715	12094	13623	14786	Yes	162
15.00	30 x 72	36 x 78	30 x 72	49	99	19	5	6269	8378	9913	11689	13194	14861	16130	Yes	172
16.25	30 x 78	36 x 84	30 x 78	53	99	19	5	6792	9076	10739	12663	14293	16100	17474	Yes	191
17.50	30 x 84	36 x 90	30 x 84	51	111	19	5	7314	9774	11565	13637	15393	17338	18818	Yes	216
18.75	30 x 90	36 x 96	30 x 90	54	111	19	5	7837	10472	12391	14611	16492	18577	20162	Yes	223
9.00	36 x 36	42 x 42	36 x 36	58	51	19	5	3762	5027	5948	7013	7916	8917	9678	Yes	110
10.50	36 x 42	42 x 48	36 x 42	54	63	19	5	4389	5865	6939	8182	9236	10403	11291	Yes	119
12.00	36 x 48	42 x 54	36 x 48	62	63	19	5	5016	6702	7930	9351	10555	11889	12904	Yes	130
13.50	36 x 54	42 x 60	36 x 54	58	75	19	5	5643	7540	8922	10520	11874	13375	14517	Yes	142
15.00	36 x 60	42 x 66	36 x 60	55	87	19	5	6269	8378	9913	11689	13194	14861	16130	Yes	168
16.50	36 x 66	42 x 72	36 x 66	61	87	19	5	6896	9216	10904	12858	14513	16348	17743	Yes	178
18.00	36 x 72	42 x 78	36 x 72	58	99	19	5	7523	10054	11895	14027	15832	17834	19356	Yes	190
19.50	36 x 78	42 x 84	36 x 78	63	96	19	5	8150	10891	12887	15196	17152	19320	20969	Yes	211
21.00	36 x 84	42 x 90	36 x 84	60	111	19	5	8777	11729	13878	16365	18471	20806	22582	Yes	235
22.50	36 x 90	42 x 96	36 x 90	64	111	19	5	9404	12567	14869	17534	19790	22292	24195	Yes	244
24.00	36 x 96	42 x 102	36 x 96	62	123	19	5	10031	13405	15861	18703	21110	23778	25808	Yes	258
25.50	36 x 102	42 x 108	36 x 102	65	123	19	5	10658	14242	16852	19872	22429	25265	27421	Yes	266
12.25	42 x 42	48 x 48	42 x 42	63	63	23	5	5120	6842	8096	9546	10775	12137	13173	Yes	144
14.00	42 x 48	48 x 54	42 x 48	60	75	23	5	5852	7819	9252	10910	12314	13871	15054	Yes	157
15.75	42 x 54	48 x 60	42 x 54	67	75	23	5	6583	8797	10409	12274	13853	15605	16936	Yes	169
17.50	42 x 60	48 x 66	42 x 60	64	87	23	5	7314	9774	11565	13637	15393	17338	18818	Yes	197
19.25	42 x 66	48 x 72	42 x 66	70	87	23	5	8046	10752	12722	15001	16932	19072	20700	Yes	208
21.00	42 x 72	48 x 78	42 x 72	67	99	23	5	8777	11729	13878	16365	18471	20806	22582	Yes	222
22.75	42 x 78	48 x 84	42 x 78	72	99	23	5	9509	12707	15035	17729	20010	22540	24463	Yes	245
24.50	42 x 84	48 x 90	42 x 84	69	111	23	5	10240	13684	16191	19092	21550	24274	26345	Yes	270
26.25	42 x 90	48 x 96	42 x 90	67	123	23	5	10972	14661	17348	20456	23089	26008	28227	Yes	284
28.00	42 x 96	48 x 102	42 x 96	71	123	23	5	11703	15639	18504	21820	24628	27741	30109	Yes	296
29.75	42 x 102	48 x 108	42 x 102	69	135	23	5	12434	16616	19661	23183	26167	29475	31991	Yes	311
31.50	42 x 108	48 x 114	42 x 108	73	135	23	5	13166	17594	20817	24547	27707	31209	33873	Yes	321
16.00	48 x 48	54 x 54	48 x 48	68	75	25	5	6687	8936	10574	12468	14073	15852	17205	Yes	168
18.00	48 x 54	54 x 60	48 x 54	76	75	25	5	7523	10054	11895	14027	15832	17834	19356	Yes	187
20.00	48 x 60	54 x 66	48 x 60	73	87	25	5	8359	11171	13217	15586	17591	19815	21506	Yes	216
22.00	48 x 66	54 x 72	48 x 66	79	87	25	5	9195	12288	14539	17144	19351	21797	23657	Yes	246
24.00	48 x 72	54 x 78	48 x 72	76	99	25	5	10031	13405	15861	18703	21110	23778	25808	Yes	242
26.00	48 x 78	54 x 84	48 x 78	73	111	25	5	10867	14522	17182	20261	22869	25760	27958	Yes	281
28.00	48 x 84	54 x 90	48 x 84	79	111	25	5	11703	15639	18504	21820	24628	27741	30109	Yes	319
30.00	48 x 90	54 x 96	48 x 90	76	123	25	5	12539	16756	19826	23378	26387	29723	32260	Yes	310
32.00	48 x 96	54 x 102	48 x 96	81	123	25	5	13375	17873	21148	24937	28146	31704	34410	Yes	350
34.00	48 x 102	54 x 108	48 x 102	78	135	25	5	14211	18990	22469	26495	29905	33686	36561	Yes	367
36.00	48 x 108	54 x 114	48 x 108	83	135	25	5	15047	20107	23791	28054	31665	35668	38711	Yes	381
38.00	48 x 114	54 x 120	48 x 114	80	147	25	5	15883	21224	25113	29612	33424	37649	40862	No	398

Fabra Hood - Gravity Relief Model FGR



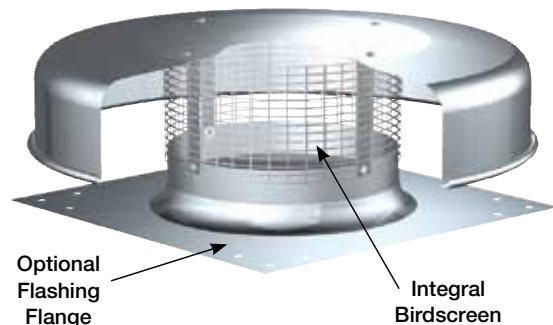
Dimensional Data								Performance Data								Shipped Assembled	Galvanized Unit Weight	
Throat Area	Throat Width x Length	Curb Cap Width x Length	Optional Damper Width x Length	Width	Length	Overall Height	Base Height	DUCTED STATIC PRESSURE DROP (IN. WG)										
								0.024	0.043	0.060	0.084	0.107	0.136	0.160				
				NON-DUCTED STATIC PRESSURE DROP (IN. WG)						420	560	660	780	880	990			1075
				0.042	0.075	0.105	0.146	0.186	0.236									
				HOOD AND THROAT VELOCITY (FT/MIN)														
ft²	Inches							CFM							POUNDS			
20.25	54 x 54	60 x 60	54 x 54	85	75	26	5	8464	11310	13382	15780	17811	20063	21775	Yes	223		
22.50	54 x 60	60 x 66	54 x 60	81	87	26	5	9404	12567	14869	17534	19790	22292	24195	Yes	266		
24.75	54 x 66	60 x 72	54 x 66	78	99	26	5	10345	13824	16356	19287	21769	24521	26614	Yes	285		
27.00	54 x 72	60 x 78	54 x 72	85	99	26	5	11285	15080	17843	21040	23748	26751	29034	Yes	300		
29.25	54 x 78	60 x 84	54 x 78	82	111	26	5	12225	16337	19330	22794	25727	28980	31453	Yes	345		
31.50	54 x 84	60 x 90	54 x 84	88	111	26	5	13166	17594	20817	24547	27707	31209	33873	Yes	363		
33.75	54 x 90	60 x 96	54 x 90	85	123	26	5	14106	18850	22304	26301	29686	33438	36292	Yes	380		
36.00	54 x 96	60 x 102	54 x 96	90	123	26	5	15047	20107	23791	28054	31665	35668	38711	Yes	396		
38.25	54 x 102	60 x 108	54 x 102	87	135	26	5	15987	21364	25278	29807	33644	37897	41131	Yes	416		
40.50	54 x 108	60 x 114	54 x 108	85	147	26	5	16928	22620	26765	31561	35623	40126	43550	No	433		
42.75	54 x 114	60 x 120	54 x 114	90	147	26	5	17868	23877	28252	33314	37602	42355	45970	No	450		
25.00	60 x 60	66 x 66	60 x 60	90	87	29.5	5	10449	13963	16521	19482	21989	24769	26883	Yes	284		
27.50	60 x 66	66 x 72	60 x 66	87	99	29.5	5	11494	15360	18174	21430	24188	27246	29571	Yes	304		
30.00	60 x 72	66 x 78	60 x 72	94	99	29.5	5	12539	16756	19826	23378	26387	29723	32260	Yes	320		
32.50	60 x 78	66 x 84	60 x 78	91	111	29.5	5	13584	18152	21478	25326	28586	32200	34948	Yes	367		
35.00	60 x 84	66 x 90	60 x 84	97	111	29.5	5	14629	19548	23130	27275	30785	34677	37636	Yes	387		
37.50	60 x 90	66 x 96	60 x 90	94	123	29.5	5	15674	20945	24782	29223	32984	37154	40324	Yes	403		
40.00	60 x 96	66 x 102	60 x 96	91	135	29.5	5	16719	22341	26434	31171	35183	39631	43013	Yes	423		
42.50	60 x 102	66 x 108	60 x 102	97	135	29.5	5	17763	23737	28087	33119	37382	42108	45701	No	444		
45.00	60 x 108	66 x 114	60 x 108	94	147	29.5	5	18808	25134	29739	35067	39581	44584	48389	No	460		
47.50	60 x 114	66 x 120	60 x 114	99	147	29.5	5	19853	26530	31391	37016	41780	47061	51078	No	479		
50.00	60 x 120	66 x 126	60 x 120	96	159	29.5	5	20898	27926	33043	38964	43979	49538	53766	No	496		
30.25	66 x 66	72 x 72	66 x 66	95	99	29.5	5	12643	16895	19991	23573	26607	29971	32528	No	322		
33.00	66 x 72	72 x 78	66 x 72	103	99	29.5	5	13793	18431	21808	25716	29026	32695	35486	No	342		
35.75	66 x 78	72 x 84	66 x 78	99	111	29.5	5	14942	19967	23626	27859	31445	35420	38443	No	388		
38.50	66 x 84	72 x 90	66 x 84	96	123	29.5	5	16092	21503	25443	30002	33864	38144	41400	No	410		
41.25	66 x 90	72 x 96	66 x 90	103	123	29.5	5	17241	23039	27260	32145	36282	40869	44357	No	430		
44.00	66 x 96	72 x 102	66 x 96	100	135	29.5	5	18390	24575	29078	34288	38701	43594	47314	No	449		
46.75	66 x 102	72 x 108	66 x 102	106	135	29.5	5	19540	26111	30895	36431	41120	46318	50271	No	471		
49.50	66 x 108	72 x 114	66 x 108	103	147	29.5	5	20689	27647	32713	38574	43539	49043	53228	No	489		
52.25	66 x 114	72 x 120	66 x 114	109	147	29.5	5	21839	29183	34530	40717	45958	51767	56185	No	509		
55.00	66 x 120	72 x 126	66 x 120	106	159	29.5	5	22988	30719	36347	42860	48376	54492	59143	No	530		
57.75	66 x 126	72 x 132	66 x 126	103	171	36.5	12	24137	32255	38165	45003	50795	57217	62100	No	595		
60.50	66 x 132	72 x 138	66 x 132	108	171	36.5	12	25287	33791	39982	47146	53214	59941	65057	No	616		
36.00	72 x 72	78 x 78	72 x 72	112	99	29.5	5	15047	20107	23791	28054	31665	35668	38711	No	365		
39.00	72 x 78	78 x 84	72 x 78	108	111	29.5	5	16301	21783	25774	30392	34303	38640	41937	No	412		
42.00	72 x 84	78 x 90	72 x 84	105	123	29.5	5	17555	23458	27756	32730	36942	41612	45163	No	434		
45.00	72 x 90	78 x 96	72 x 90	112	123	29.5	5	18808	25134	29739	35067	39581	44584	48389	No	457		
48.00	72 x 96	78 x 102	72 x 96	109	135	29.5	5	20062	26809	31721	37405	42219	47557	51615	No	479		
51.00	72 x 102	78 x 108	72 x 102	115	135	29.5	5	21316	28485	33704	39743	44858	50529	54841	No	497		
54.00	72 x 108	78 x 114	72 x 108	112	147	29.5	5	22570	30161	35686	42081	47497	53501	58067	No	519		
57.00	72 x 114	78 x 120	72 x 114	109	159	29.5	5	23824	31836	37669	44419	50136	56474	61293	No	541		
60.00	72 x 120	78 x 126	72 x 120	115	159	29.5	5	25078	33512	39652	46757	52774	59446	64519	No	607		
63.00	72 x 126	78 x 132	72 x 126	112	171	36.5	12	26332	35187	41634	49094	55413	62418	67745	No	629		
66.00	72 x 132	78 x 138	72 x 132	117	171	36.5	12	27586	36863	43617	51432	58052	65390	70971	No	648		
69.00	72 x 138	78 x 144	72 x 138	114	183	36.5	12	28840	38538	45599	53770	60690	68363	74197	No	670		
72.00	72 x 144	78 x 150	72 x 144	119	183	36.5	12	30093	40214	47582	56108	63329	71335	77423	No	690		
75.00	72 x 150	78 x 156	72 x 150	117	195	36.5	12	31347	41890	49564	58446	65968	74307	80649	No	759		
78.00	72 x 156	78 x 162	72 x 156	121	195	36.5	12	32601	43565	51547	60784	68607	77280	83875	No	834		
81.00	72 x 162	78 x 168	72 x 162	118	207	36.5	12	33855	45241	53530	63121	71245	80252	87101	No	918		
84.00	72 x 168	78 x 174	72 x 168	116	219	36.5	12	35109	46916	55512	65459	73884	83224	90327	No	1010		
87.00	72 x 174	78 x 180	72 x 174	120	219	36.5	12	36363	48592	57495	67797	76523	86197	93553	No	1111		
90.00	72 x 180	78 x 186	72 x 180	118	231	36.5	12	37617	50268	59477	70135	79161	89169	96779	No	1222		

Construction Features

When you buy a Greenheck model GRS, you receive a ventilator with the industry's best performance and durability for intake (model GRSI) or relief (model GRSR) on natural gravity or positive pressure systems. Exceptional low silhouette design and construction features make this unit a rugged, efficient and economical air inlet or outlet.

- Broadest performance in the industry, up to 18,400 cfm (31,300 m³/hr)
- Most advanced weather protection of any ventilator in its class
- Greenheck subjects these products to extensive life testing, assuring the ventilator will provide years of reliable performance
- All aluminum exterior for corrosion-resistant construction
- Integral birdscreen to prevent entry of birds and/or small objects
- Built-in curb cap with prepunched holes for easy attachment to roof curbs

Optional built-in flashing flange (model GRSF) with prepunched holes for quick and easy installations without a roof curb.

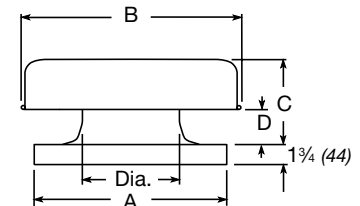


Dimensions

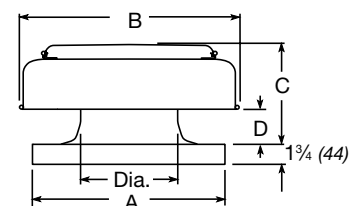
Model	A	B	C	D	E	Dia.	Damper Size	Curb Material	Shroud Material	Unit Weight
GRS-8	19 (483)	20½ (521)	7¼ (184)	1½ (38)	20¼ (514)	8¼ (210)	8 x 8 (203 x 203)	0.051 (1.3)	0.051 (1.3)	7 (3)
GRS-10	19 (483)	20½ (521)	7¼ (197)	2 (51)	20¼ (514)	10¼ (260)	10 x 10 (254 x 254)	0.051 (1.3)	0.051 (1.3)	8 (4)
GRS-12	22 (559)	29 (737)	10 (254)	3½ (89)	23¼ (591)	12¼ (311)	12 x 12 (305 x 305)	0.064 (1.6)	0.064 (1.6)	10 (5)
GRS-15	22 (559)	29 (737)	10 (254)	3½ (89)	23¼ (591)	14¼ (362)	16 x 16 (406 x 406)	0.064 (1.6)	0.064 (1.6)	13 (6)
GRS-16	26 (660)	29 (737)	11 (279)	4¼ (108)	27¼ (692)	16¼ (413)	16 x 16 (406 x 406)	0.064 (1.6)	0.064 (1.6)	16 (7)
GRS-18	30 (762)	35½ (902)	9¾ (248)	1¼ (44)	31¼ (794)	20¼ (514)	18 x 18 (457 x 457)	0.064 (1.6)	0.064 (1.6)	19 (9)
GRS-20	30 (762)	35½ (902)	11¼ (286)	3¼ (95)	31¼ (794)	20¼ (514)	18 x 18 (457 x 457)	0.064 (1.6)	0.064 (1.6)	24 (11)
GRS-24	34 (864)	38¼ (972)	11 (279)	4 (102)	35¼ (895)	24¼ (622)	24 x 24 (610 x 610)	0.064 (1.6)	0.064 (1.6)	29 (13)
GRS-30	40 (1016)	48 (1219)	18¼ (476)	5½ (138)	-	30½ (775)	30 x 30 (762 x 762)	0.064 (1.6)	0.064 (1.6)	35 (16)
GRS-36	46 (1168)	56¼ (1441)	21¼ (540)	6 (152)	-	36½ (927)	36 x 36 (914 x 914)	0.064 (1.6)	0.080 (2.0)	45 (20)
GRS-42	52 (1321)	63¼ (1607)	24¼ (616)	6¼ (159)	-	42½ (1089)	42 x 42 (1067 x 1067)	0.064 (1.6)	0.080 (2.0)	60 (27)
GRS-48	58 (1473)	72 (1829)	26¼ (667)	6½ (165)	-	48½ (1232)	48 x 48 (1219 x 1219)	0.064 (1.6)	0.080 (2.0)	80 (36)

All dimensions in inches (millimeters) and the weight in pounds (kilograms). NOTE: Models GRS-8 through GRS-24 have a one-piece cover and shroud. Access is gained through the removal of screws. Models GRS-30 through GRS-48 have a removable cover, separate from the shroud, to facilitate maintenance and servicing of dampers.

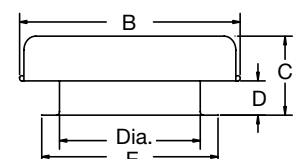
GRS - Sizes 8 thru 24



GRS - Sizes 30 thru 48



GRSF - Sizes 8 thru 24 with optional Flashing Flange



Performance

Performance data for these units was obtained through actual testing. The information is presented in capacity versus total pressure drop through the GRS. Total pressure drop includes the static and velocity pressure drops. To find the static drop alone, use the following equations.

$$\text{Throat Velocity} = \left[\frac{\text{CFM}}{\text{Throat Area}} \right]$$

$$\text{Static Pressure} = \left[\text{Total Pressure} \right] - \left[\text{Velocity Pressure} \right]$$

$$\text{Velocity Pressure} = \left[\frac{\text{Throat Velocity}}{4008.6} \right]^2$$

The data is presented for both discharge and intake units. The intake velocity of the intake unit should not exceed 600 feet per minute. Above this velocity, airborne particles may be carried into the building. The table below displays the maximum recommended values for the respective intake units. In areas where snow depths may be a problem, 12 inch (305 mm) or higher curbs are recommended.

		Capacities (CFM)										Recommended Maximum Intake Capacities		
		Model	Throat Area (ft ²)	Total Pressure Drop in inches of wg								Intake Area (ft ²)	Max. CFM Intake	
				0.04	0.06	0.08	0.1	0.15	0.2	0.25	0.3			0.35
Model GRSI	Intake Performance	GRSI-8	0.37	178	218	252	282	345	398	445	488	527	1.30	780
		GRSI-10	0.57	279	342	395	442	541	624	698	765	826	1.72	1032
		GRSI-12	0.82	400	490	566	633	775	895	1001	1097	1184	2.52	1512
		GRSI-15	1.12	553	677	782	874	1071	1237	1383	1515	1636	2.57	1542
		GRSI-16	1.45	742	908	1049	1173	1436	1658	1854	2031	2194	3.02	1812
		GRSI-18	1.83	901	1104	1274	1425	1745	2015	2253	2468	2665	3.42	2052
		GRSI-20	2.25	1096	1343	1550	1733	2123	2452	2741	3002	3243	4.43	2658
		GRSI-24	3.24	1542	1888	2180	2438	2985	3447	3854	4222	4560	4.95	2970
		GRSI-30	5.03	2013	2465	2847	3183	3898	4501	5032	5512	5954	7.49	4496
		GRSI-36	7.29	2921	3577	4130	4618	5656	6531	7301	7998	8639	10.19	6111
		GRSI-42	9.77	3911	4791	5532	6185	7574	8746	9779	10712	11570	11.93	7159
		GRSI-48	12.83	5139	6294	7268	8126	9952	11491	12848	14074	15201	15.48	9286
		Model	Throat Area (ft ²)	Total Pressure Drop in inches of wg								Table is based on 600 fpm maximum intake velocity. Above these values (numbers in gray), provisions should be made to contain incoming moisture.		
				0.04	0.06	0.08	0.1	0.15	0.2	0.25	0.3			0.35
Model GRSR	Relief Performance	GRSR-8	0.37	231	282	326	365	446	516	576	631	682		
		GRSR-10	0.57	331	406	468	524	641	741	828	907	980		
		GRSR-12	0.82	468	573	662	740	907	1047	1171	1282	1385		
		GRSR-15	1.12	663	811	937	1048	1283	1481	1656	1814	1960		
		GRSR-16	1.45	870	1065	1230	1375	1685	1945	2175	2382	2573		
		GRSR-18	1.83	1060	1298	1499	1676	2052	2370	2649	2902	3135		
		GRSR-20	2.25	1284	1572	1815	2029	2486	2870	3209	3515	3797		
		GRSR-24	3.24	1879	2301	2657	2971	3638	4201	4697	5145	5558		
		GRSR-30	5.03	2281	2794	3226	3607	4418	5101	5703	6247	6748		
		GRSR-36	7.29	3279	4016	4637	5184	6349	7331	8197	8979	9699		
		GRSR-42	9.77	4672	5722	6607	7387	9047	10447	11680	12795	13820		
		GRSR-48	12.83	6211	7607	8783	9820	12027	13888	15527	17009	18372		

Louvered Penthouse Models WIH & WRH

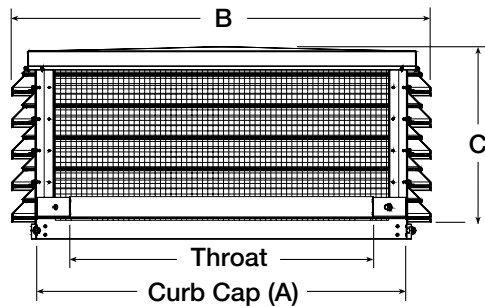


Greenheck designs penthouse units for aesthetically pleasing gravity intake or relief applications.

- Clean horizontal lines blend perfectly with modern architecture.
- The special louver design results in low pressure drops, low hood heights, and maintains maximum weather resistance.
- All-aluminum construction assures lasting durability and appearance.
- The removable cover is equipped with insulation to prevent condensation.

The flexible design of the WIH (intake) and WRH (relief) allow the units to be shipped in pre-assembled sections. These sections are easy to assemble on the jobsite without special tools. All required fasteners and complete assembly instructions are shipped with each unit.

DIMENSIONAL DRAWING FOR CHARTS



Use these tables for specific product dimensions

Dimensional & Performance Data

Dimensions (inches)						Intake (WIH) CFM						Relief (WRH) CFM							
						Total Pressure Drop in inches of wg*						Total Pressure Drop in inches of wg*							
						.008	.030	.048	.069	.094	.123	.024	.055	.075	.097	.123	.152	.220	
						THROAT VELOCITY (ft/min)						THROAT VELOCITY (ft/min)							
Throat	Area (ft²)	A	B	C	Number of Louvers	200	400	500	600	700	800	400	600	700	800	900	1000	1200	
12 x 12	1.00	20 x 20	26 x 26	12¼	3	200	400	500	600	700	800	400	600	700	800	900	1000	1200	
12 x 14	1.20	20 x 22	26 x 28	12¼	3	240	480	600	720	840	960	480	720	840	960	1080	1200	1440	
12 x 16	1.30	20 x 24	26 x 30	12¼	3	260	520	650	780	910	1040	520	780	910	1040	1170	1300	1560	
12 x 18	1.50	20 x 26	26 x 32	12¼	3	300	600	750	900	1050	1200	600	900	1050	1200	1350	1500	1800	
12 x 22	1.80	20 x 30	26 x 36	12¼	3	360	720	900	1080	1260	1440	720	1080	1260	1440	1620	1800	2160	
12 x 24	2.00	20 x 32	26 x 38	12¼	3	400	800	1000	1200	1400	1600	800	1200	1400	1600	1800	2000	2400	
14 x 14	1.36	22 x 22	28 x 28	12¼	3	272	544	680	816	952	1088	544	816	952	1088	1224	1360	1632	
14 x 16	1.55	22 x 24	28 x 30	12¼	3	310	620	775	930	1085	1240	620	930	1085	1240	1395	1550	1860	
14 x 18	1.75	22 x 26	28 x 32	12¼	3	350	700	875	1050	1225	1400	700	1050	1225	1400	1575	1750	2100	
14 x 20	1.95	22 x 28	28 x 34	12¼	3	390	780	975	1170	1365	1560	780	1170	1365	1560	1755	1950	2340	
14 x 24	2.34	22 x 32	28 x 38	12¼	3	468	936	1170	1404	1638	1872	936	1404	1638	1872	2106	2340	2808	
14 x 28	2.70	22 x 36	28 x 42	12¼	3	540	1080	1350	1620	1890	2160	1080	1620	1890	2160	2430	2700	3240	
16 x 16	1.78	24 x 24	30 x 30	12¼	3	356	712	890	1068	1246	1424	712	1068	1246	1424	1602	1780	2136	
16 x 20	2.22	24 x 28	30 x 34	12¼	3	444	888	1110	1332	1554	1776	888	1332	1554	1776	1998	2220	2664	
16 x 24	2.68	24 x 30	30 x 36	12¼	3	536	1072	1340	1608	1876	2144	1072	1608	1876	2144	2412	2680	3216	
16 x 28	3.11	24 x 36	30 x 42	12¼	3	622	1244	1555	1866	2177	2488	1244	1866	2177	2488	2799	3110	3732	
16 x 30	3.33	24 x 38	30 x 44	12¼	3	666	1332	1665	1998	2331	2664	1328	1992	2324	2656	2988	3320	3984	
16 x 32	3.55	24 x 40	30 x 46	12¼	3	710	1420	1775	2130	2485	2840	1420	2130	2485	2840	3195	3550	4260	
18 x 18	2.25	26 x 26	32 x 32	12¼	3	450	900	1125	1350	1575	1800	900	1350	1575	1800	2025	2250	2700	
18 x 24	3.00	26 x 32	32 x 38	12¼	3	600	1200	1500	1800	2100	2400	1200	1800	2100	2400	2700	3000	3600	
18 x 26	3.25	26 x 34	32 x 40	12¼	3	650	1300	1625	1950	2275	2600	1300	1950	2275	2600	2925	3250	3900	
18 x 30	3.74	26 x 38	32 x 44	16	4	748	1496	1870	2244	2618	2992	1496	2244	2618	2992	3366	3740	4488	
18 x 32	4.00	26 x 40	32 x 46	16	4	800	1600	2000	2400	2800	3200	1600	2400	2800	3200	3600	4000	4800	
18 x 36	4.50	26 x 44	32 x 50	16	4	900	1800	2250	2700	3150	3600	1800	2700	3150	3600	4050	4500	5400	
22 x 22	3.37	30 x 30	36 x 36	16	4	674	1348	1685	2022	2359	2696	1348	2022	2359	2696	3033	3370	4044	
22 x 26	3.97	30 x 34	36 x 40	16	4	794	1588	1985	2382	2779	3176	1588	2382	2779	3176	3573	3970	4764	
22 x 30	4.60	30 x 38	36 x 44	16	4	920	1840	2300	2760	3220	3680	1840	2760	3220	3680	4140	4600	5520	
22 x 36	5.50	30 x 44	36 x 50	19½	5	1100	2200	2750	3300	3850	4400	2200	3300	3850	4400	4950	5500	6600	
22 x 40	6.10	30 x 48	36 x 54	19½	5	1220	2440	3050	3660	4270	4880	2440	3660	4270	4880	5490	6100	7320	
22 x 44	6.73	30 x 52	36 x 58	19½	5	1346	2692	3365	4038	4711	5384	2692	4038	4711	5384	6057	6730	8076	
24 x 24	4.00	32 x 32	38 x 38	16	4	800	1600	2000	2400	2800	3200	1600	2400	2800	3200	3600	4000	4800	
24 x 30	5.00	32 x 38	38 x 44	19½	5	1000	2000	2500	3000	3500	4000	2000	3000	3500	4000	4500	5000	6000	
24 x 36	6.00	32 x 44	38 x 50	19½	5	1200	2400	3000	3600	4200	4800	2400	3600	4200	4800	5400	6000	7200	
24 x 40	6.67	32 x 48	38 x 54	19½	5	1334	2668	3335	4002	4669	5336	2668	4002	4669	5336	6003	6670	8004	
24 x 44	7.35	32 x 52	38 x 58	19½	5	1470	2940	3675	4410	5145	5880	2940	4410	5145	5880	6615	7350	8820	
24 x 48	8.00	32 x 56	38 x 62	19½	5	1600	3200	4000	4800	5600	6400	3200	4800	5600	6400	7200	8000	9600	

*Total pressure drop includes velocity pressure losses at outlet of throat but does not include birdscreen loss.
Increase the total pressure drop with a 1.15 multiplier to allow for birdscreen pressure drop.

Louvered Penthouse Models WIH & WRH

Construction Features

Weathershield

The interior vertical edge of the curb cap forms the throat and weathershield. Each corner is also shielded to prevent leakage. The



louvers are mounted 4 inches from the roof opening for added weather protection.

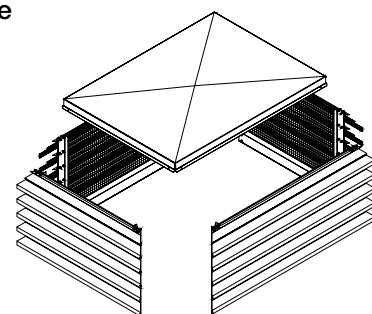
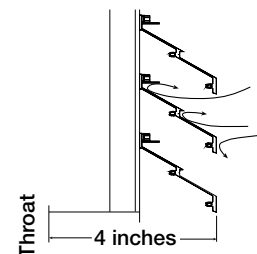
Weather Resistant Louver Blades

Each unit features weather resistant aluminum louver blades with mitered corners. The sturdy extruded aluminum louver blade has a material thickness of 0.080 inches.

Assembled Sides and Cover

The unit is made into four side sections and a reinforced cover. A factory assembled side consists of the curb cap, vertical supports, and the quantity of louvers required for the specified height.

The sides are joined at the four corners by stainless steel screws in each louver. These screws are countersunk to maintain the appearance of the mitered corner. The cover is securely fastened to the unit by stainless steel fasteners.



Note: For other sizes please consult factory

Dimensional & Performance Data						Intake (WIH) CFM						Relief (WRH) CFM							
Dimensions (inches)						Total Pressure Drop in inches of wg*						Total Pressure Drop in inches wg*							
						.008	.030	.048	.069	.094	.123	.024	.055	.075	.097	.123	.152	.220	
						THROAT VELOCITY (ft/min)						THROAT VELOCITY (ft/min)							
Throat	Area (ft ²)	A	B	C	Number of Louvers	200	400	500	600	700	800	400	600	700	800	900	1000	1200	
28 x 28	5.44	36 x 36	42 x 42	19%	5	1088	2176	2720	3264	3808	4352	2176	3264	3808	4352	4896	5440	6528	
28 x 36	7.00	36 x 44	42 x 50	19%	5	1400	2800	3500	4200	4900	5600	2800	4200	4900	5600	6300	7000	8400	
28 x 40	7.80	36 x 48	42 x 54	19%	5	1560	3900	4680	5460	6240	7020	3120	4680	5460	6240	7020	7800	9360	
28 x 44	8.55	36 x 52	42 x 58	19%	5	1710	3420	4275	5130	5985	6840	3420	5130	5985	6840	7695	8550	10260	
28 x 50	9.75	36 x 58	42 x 64	19%	5	1950	3900	4875	5850	6825	7800	3900	5850	6825	7800	8775	9750	11700	
28 x 56	10.9	36 x 64	42 x 70	23½	6	2180	4360	5450	6540	7630	8720	4360	6540	7630	8720	9810	10900	13080	
32 x 32	7.10	40 x 40	46 x 46	19%	5	1420	2840	3550	4260	4970	5680	2840	4260	4970	5680	6390	7100	8520	
32 x 36	8.00	40 x 44	46 x 50	19%	5	1600	3200	4000	4800	5600	6400	3200	4800	5600	6400	7200	8000	9600	
32 x 40	8.90	40 x 48	46 x 54	19%	5	1780	3560	4450	5340	6230	7120	3560	5340	6230	7120	8010	8900	10680	
32 x 48	10.70	40 x 56	46 x 62	23½	6	2140	4280	5350	6420	7490	8560	4280	6420	7490	8560	9630	10700	12840	
32 x 54	12.00	40 x 62	46 x 68	23½	6	2400	4800	6000	7200	8400	9600	4800	7200	8400	9600	10800	12000	14400	
32 x 64	14.20	40 x 72	46 x 78	27¼	7	2840	5680	7100	8520	9940	11360	5680	8520	9940	11360	12780	14200	17040	
36 x 36	9.00	44 x 44	50 x 50	19%	5	1800	3600	4500	5400	6300	7200	3600	5400	6300	7200	8100	9000	10800	
36 x 40	10.0	44 x 48	50 x 54	23½	6	2000	4000	5000	6000	7000	8000	4000	6000	7000	8000	9000	10000	12000	
36 x 48	12.0	44 x 56	50 x 62	23½	6	2400	4800	6000	7200	8400	9600	4800	7200	8400	9600	10800	12000	14400	
36 x 54	13.5	44 x 62	50 x 68	23½	6	2700	5400	6750	8100	9950	10800	5400	8100	9450	10800	12150	13500	16200	
36 x 60	15.0	44 x 68	50 x 74	23½	6	3000	6000	7500	9000	10500	12000	6000	9000	10500	12000	13500	15000	18000	
36 x 72	18.0	44 x 80	50 x 86	27¼	7	3600	7200	9000	10800	12600	14400	7200	10800	12600	14400	16200	18000	21600	
42 x 42	12.3	50 x 50	56 x 56	23½	6	2450	4900	6125	7350	8575	9800	4900	7350	8575	9800	11025	12250	14700	
42 x 48	14.0	50 x 56	56 x 62	27¼	7	2800	5600	7000	8400	9800	11200	5600	8400	9800	11200	12600	14000	16800	
42 x 54	15.8	50 x 62	56 x 68	27¼	7	3150	6300	7875	9450	11025	12600	6300	9450	11025	12600	14175	15750	18900	
42 x 60	17.5	50 x 68	56 x 74	31	8	3500	7000	8750	10500	12250	14000	7000	10500	12250	14000	15750	17500	21000	
42 x 72	21.0	50 x 80	56 x 86	31	8	4200	8400	10500	12600	14700	16800	8400	12600	14700	16800	18900	21000	25200	
42 x 84	24.5	50 x 92	56 x 98	34¾	9	4900	9800	12250	14700	17150	19600	9800	14700	17150	19600	22050	24500	29400	
48 x 48	16.0	56 x 56	62 x 62	27¼	7	3200	6400	8000	9600	11200	12800	6400	9600	11200	12800	14400	16000	19200	
48 x 54	18.0	56 x 62	62 x 68	31	8	3600	7200	9000	10800	12600	14400	7200	10800	12600	14400	16200	18000	21600	
48 x 64	21.4	56 x 72	62 x 78	31	8	4280	8560	10700	12840	14980	17120	8560	12840	14980	17120	19260	21400	25680	
48 x 72	24.0	56 x 80	62 x 86	34¾	9	4800	9600	12000	14400	16800	19200	9600	14400	16800	19200	21600	24000	28800	
48 x 84	28.0	56 x 92	62 x 98	38½	10	5600	11200	14000	16800	19600	22400	11200	16800	19600	22400	25200	28000	33600	
48 x 96	32.0	56 x 104	62 x 110	38½	10	6400	12800	16000	19200	22400	25600	12800	19200	22400	25600	28800	32000	38400	
54 x 54	20.3	62 x 62	68 x 68	31	8	4050	8100	10125	12150	14175	16200	8100	12150	14175	16200	18225	20250	24300	
54 x 60	22.0	62 x 68	68 x 74	34¾	9	4400	8800	11000	13200	15400	17600	8800	13200	15400	17600	19800	22000	26400	
54 x 72	27.0	62 x 80	68 x 86	38½	10	5400	10800	13500	16200	18900	21600	10800	16200	18900	21600	24300	27000	32400	
54 x 84	31.5	62 x 92	68 x 98	38½	10	6300	12600	15750	18900	22050	25200	12600	18900	22050	25200	28350	31500	37800	
54 x 96	36.0	62 x 104	68 x 110	42½	11	7200	14400	18000	21600	25200	28800	14400	21600	25200	28800	32400	36000	43200	
54 x 108	40.5	62 x 116	68 x 122	42½	11	8100	16200	20250	24300	28350	32400	16200	24300	28350	32400	36450	40500	48600	
60 x 60	25.0	68 x 68	74 x 74	34¾	9	5000	10000	12500	15000	17500	20000	10000	15000	17500	20000	22500	25000	30000	
60 x 72	30.0	68 x 80	74 x 86	38½	10	6000	12000	15000	18000	21000	24000	12000	18000	21000	24000	27000	30000	36000	
60 x 84	35.0	68 x 92	74 x 98	42¼	11	7000	14000	17500	21000	24500	28000	14000	21000	24500	28000	31500	35000	42000	
60 x 96	40.0	68 x 104	74 x 110	46	12	8000	16000	20000	24000	28000	32000	16000	24000	28000	32000	36000	40000	48000	
60 x 108	45.0	68 x 116	74 x 122	49¾	13	9000	18000	22500	27000	31500	36000	18000	27000	31500	36000	40500	45000	54000	
60 x 120	50.0	68 x 128	74 x 134	49¾	13	10000	20000	25000	30000	35000	40000	20000	30000	35000	40000	45000	50000	60000	

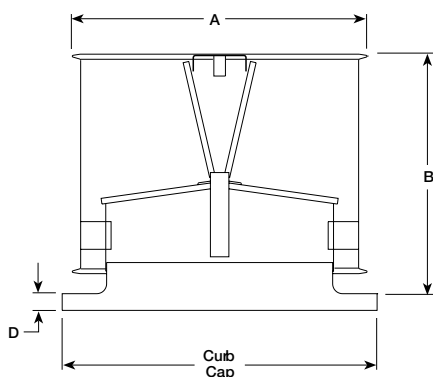
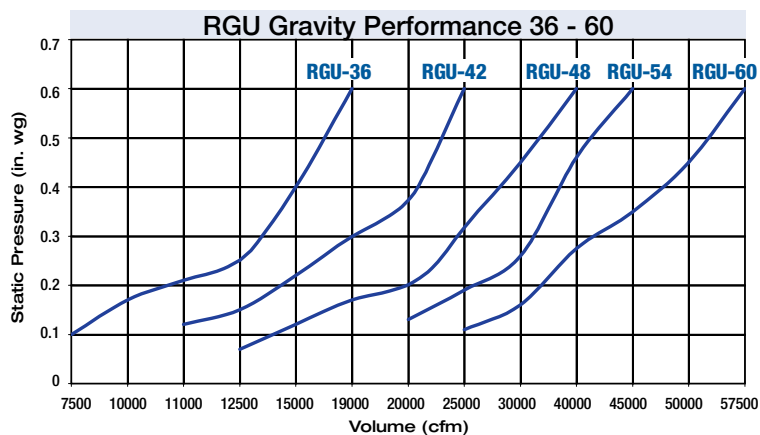
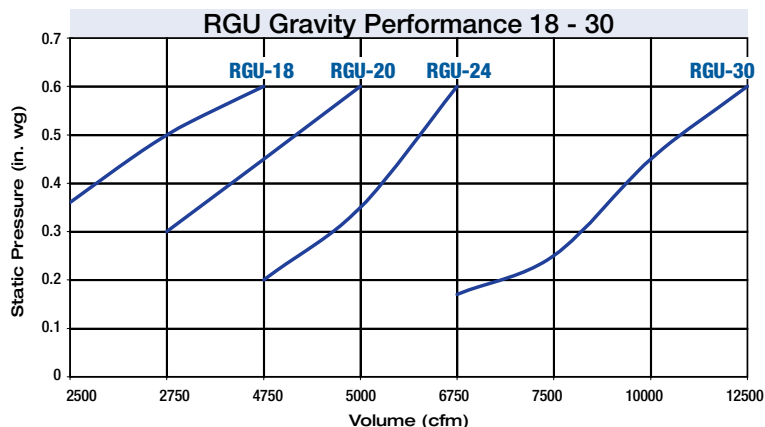
Upblast Ventilator Model RGU



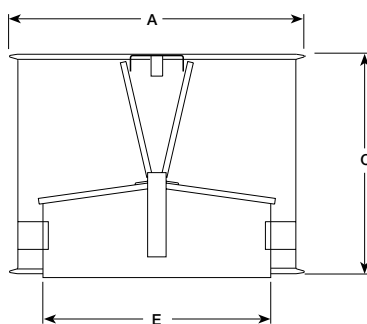
Model RGU is designed for use as a weatherproof outlet on vertical high velocity exhaust systems and can be furnished without the curb cap to allow for direct mounting on round stacks.

Standard construction is heavy-gauge galvanized steel. Nine sizes are available, corresponding to powered units in sizes 18-60.

Fusible link damper lifters are available to allow the RGU units to function as heat and smoke relief vents.



RGU with curb cap



RGU without curb cap

Minimum CFM Required to Open Dampers		
Model Size	Aluminum	Galvanized
18	2750	3520
20	3170	4090
24	3950	5220
30	6050	7130
36	7620	10980
42	11050	13550
48	12820	16420
54	21430	21430
60	24820	24820

Model RGU Dimensional Data							Max. Recommended Roof Opening*	Approximate Weight (lb) (kg)
Model Size	A	B	C	D	E	Curb Cap		
18	25 (635)	22 (559)	20 1/4 (514)	1 3/4 (44)	18 1/2 (470)	28 (711)	22 (559)	120 (54)
20	27 1/4 (692)	24 (610)	21 1/4 (540)	1 3/4 (44)	20 1/2 (521)	30 (762)	24 (610)	140 (64)
24	31 1/8 (791)	26 (660)	24 (609)	1 3/4 (44)	24 1/2 (622)	34 (864)	28 (711)	160 (73)
30	37 3/8 (949)	30 (762)	26 3/4 (679)	1 3/4 (44)	30 5/8 (778)	40 (1016)	34 (864)	175 (79)
36	43 1/2 (1105)	33 (838)	29 1/4 (743)	1 3/4 (44)	36 5/8 (930)	46 (1168)	40 (1016)	190 (86)
42	48 7/8 (1241)	38 (965)	34 1/4 (870)	1 3/4 (44)	42 3/4 (1086)	52 (1321)	46 (1168)	245 (111)
48	56 (1422)	40 (1016)	34 1/4 (870)	1 3/4 (44)	48 1/2 (1232)	58 (1473)	52 (1321)	295 (114)
54	62 5/8 (1591)	45 (1143)	40 1/4 (1022)	1 3/4 (44)	55 (1397)	66 1/2 (1689)	60 (1524)	450 (204)
60	68 3/4 (1746)	48 (1219)	43 1/8 (1095)	1 3/4 (44)	61 (1549)	72 1/2 (1842)	66 (1676)	600 (272)

*Minimum distance—actual distance determined by motor use. All dimensions shown in inches (millimeters).

Fabra Hood

Gravity roof ventilators shall be constructed of heavy-gauge aluminum or galvanized steel as specified.

Hoods shall be constructed of precision formed, arched panels with interlocking seams.

Bases shall be constructed so that the curb cap is 6 inches (152 mm) larger than the throat size.

Standard base height shall be 5 inches (127 mm).

Optional 12-inch (305 mm) bases shall be furnished as specified (and are recommended) for intake applications to restrict entry of moisture and for all applications where rain and snow may accumulate on the roof deck.

Hood support members shall be constructed of galvanized steel and fastened so that the hood can be either removed completely from the base or hinged open.

Birdscreens constructed of ½-inch (13 mm) galvanized steel mesh shall be mounted horizontally across the intake/discharge area of the hood.

Gravity hoods shall be Fabra Hood Model FGI for intake or Model FGR for relief (as specified) as manufactured by Greenheck Fan Corporation of Schofield, Wisconsin and in Rocklin, California, USA.

Spun Aluminum Gravity Roof Ventilator

Exterior construction shall be heavy-gauge aluminum windband with a rolled bead.

Curb cap shall be constructed of heavy-gauge aluminum and includes a one-piece spun venturi.

Curb cap shall be prepunched for mounting.

Internal components shall be constructed of rigid galvanized steel with birdscreen.

Ventilator shall be model GRS as manufactured by Greenheck Fan Corporation, Schofield, Wisconsin, USA.

The GRS can be used with the following accessories:

- Gravity or motorized dampers to assure weather tightness.
- Prefab curbs to reduce installation time.
- Protective coatings to extend the life of the unit or blend its color with other equipment.

Models WIH/WRH

Models WIH and WRH shall be low silhouette louvered penthouse units for intake or relief applications.

Construction shall be all-aluminum to assure lasting durability and appearance.

Unit shall have a removable aluminum cover for internal access and shall be lined with fiberglass insulation to prevent condensation.

Cover shall be securely fastened to the unit by corrosion-resistant fasteners.

Birdscreen shall be constructed of ½-inch (13 mm) mesh securely mounted across intake/relief openings.

Units shall feature a weather-resistant 0.080-inch (2 mm) aluminum louver with mitered corners.

Louvers shall be mounted 4 inches (102 mm) from the roof opening for maximum weather protection.

Louver design shall result in low pressure drops, low hood heights, and maintain maximum weather resistance.

Options include a variety of bird and insect screens, dampers, roof curbs, special finishes and factory assembled based on shipping limitations.

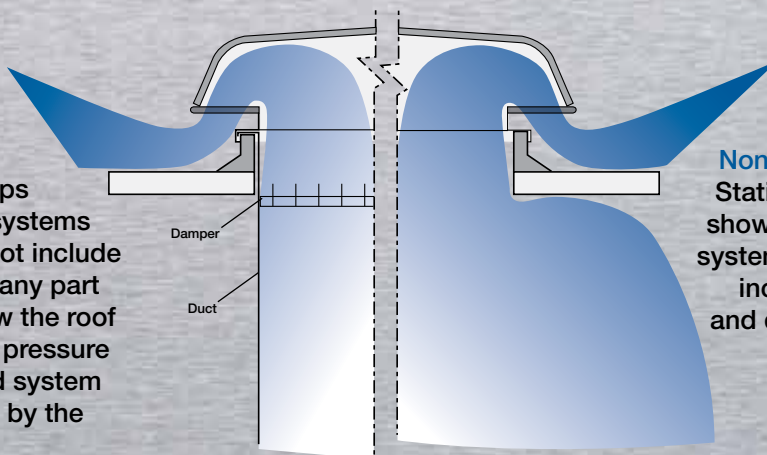
Models WIH or WRH shall be manufactured by Greenheck Fan Corporation, in Schofield, Wisconsin and in Rocklin, California, USA.

System Resistance

Performance data shown on models include static pressure drops for both ducted and non-ducted systems. Pressure drop values as shown are lower for ducted systems than for non-ducted systems. The non-ducted pressure drop includes the sudden expansion at the throat for intake and sudden contraction loss at the throat for exhaust. These losses are not present when a duct is attached to the throat. In calculating total system resistance for ducted systems, it is necessary to add the pressure drop values shown to the combined total of the other losses in the system. A damper installed in either a ducted or non-ducted system will also require that an additional pressure drop value be included. Where insect screens or filters are installed, the static pressure drops shown on page 6 should be included in system resistance calculations in lieu of standard cataloged pressure drops.

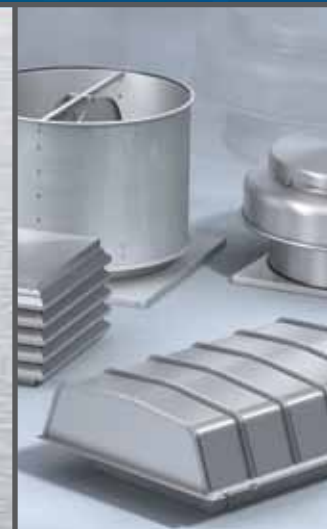
Ducted Systems

Static pressure drops shown for ducted systems in this catalog do not include pressure drops for any part of the system below the roof curb. All additional pressure drops in the ducted system must be calculated by the system designer.



Non-ducted Systems

Static pressure drops shown for non-ducted systems in this catalog include all entrance and discharge losses.



Building Value in Air

Greenheck delivers value to mechanical engineers by helping them solve virtually any air quality challenges their clients face with a comprehensive selection of

top quality, innovative air-related equipment. We offer extra value to contractors by providing easy-to-install, competitively priced, reliable products that arrive on time.

And building owners and occupants value the energy efficiency, low maintenance and quiet, dependable operation they experience long after the construction project ends.

Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the shipment date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.



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