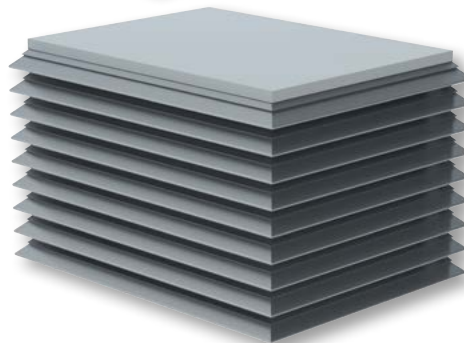
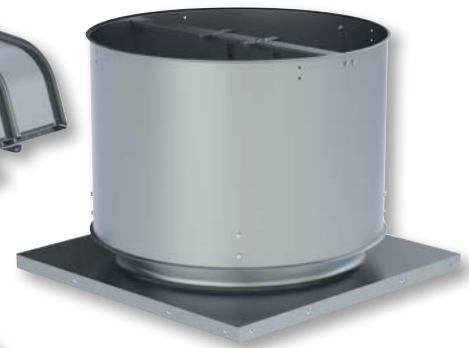




INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

GRAVITY VENTILATORS

MGI & MGR | GRV | TEL & TIL | LUG





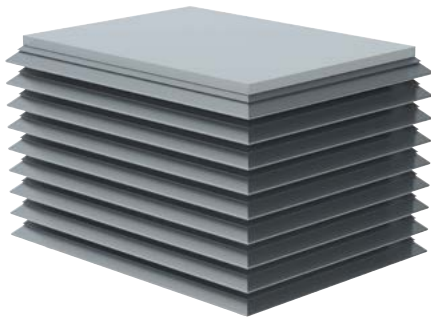
Overview Gravity Ventilators



Models MGI & MGR



Model GRV



Models TEL & TIL



Model LUG

Twin City Fan's complete line of gravity ventilators provide natural ventilation of commercial and industrial buildings in roof mounted installations. Gravity, or natural, ventilation is a means of ventilating a building by strategically placing openings in the building exterior in order to take advantage of naturally occurring phenomena. With a wide variety of designs and styles, Twin City Fan can supply the right gravity ventilator whether it is selected based on performance, size, aesthetic appeal, weather resistance, construction, climate or cost. Gravity ventilators provide relief (exhaust) and intake (supply) airflow in commercial and light industrial applications. Units are non-motorized and designed for roof mounted installations.

Modular Hooded – Models MGI & MGR

Product Overview.....Pages 3-6
Performance & Dimensional DataPages 7-12

Spun Aluminum – Model GRV

Product Overview & Dimensional DataPage 13
Performance DataPage 14

Louvered Penthouse - Models TEL & TIL

Product Overview & Dimensional DataPage 15
Performance DataPages 16-19

Upblast – Model LUG

Product Overview.....Page 20
Performance DataPage 21

Specifications.....Page 22



For complete product performance, drawings and available accessories, download our Fan Selector program at tcf.com.



Modular Hooded Models MGI & MGR

Twin City Fan's all new line of hooded modular gravity ventilators provide natural ventilation of commercial and industrial buildings in roof mounted installations. The interlocking hood panel design of the MGI (Intake) and MGR (Relief) results in a unit which is both structurally robust and aesthetically pleasing. All this combined with the size flexibility and the jobsite assembly benefits make the MGI and MGR one of the most complete gravity ventilator product lines in the industry.

Sizes

Both the MGI and MGR are available in standard throat sizes which range from 8" wide by 8" long up to 72" wide by 180" long. In addition to the breadth of standard sizes available, custom throat sizes not seen in the catalog tables (on pages 7 through 12) can be designed to meet specific performance points or job-specific dimensional requirements. Custom throat sizes must be within the size range listed above and in 1" whole number increments.

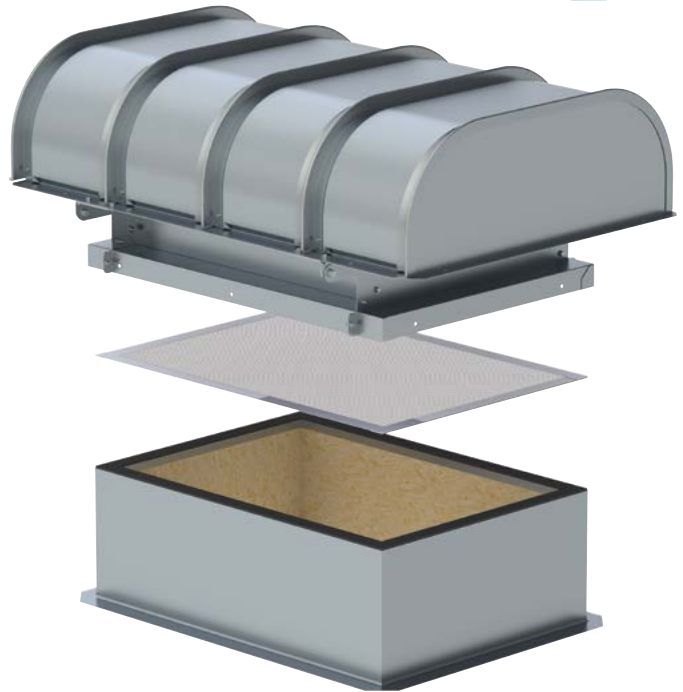
Performance

Model MGI, Intake

- Capacities up to 91,200 CFM
- Static pressure capability to 0.3" w.g.

Model MGR, Relief

- Capacities to 96,000 CFM
- Static pressure capability to 0.2" w.g.



MGR typical installation with insect screen and self-flashing roof curb



Cutaway view showing the MGI's optional filtered intake construction with 2" aluminum washable filters





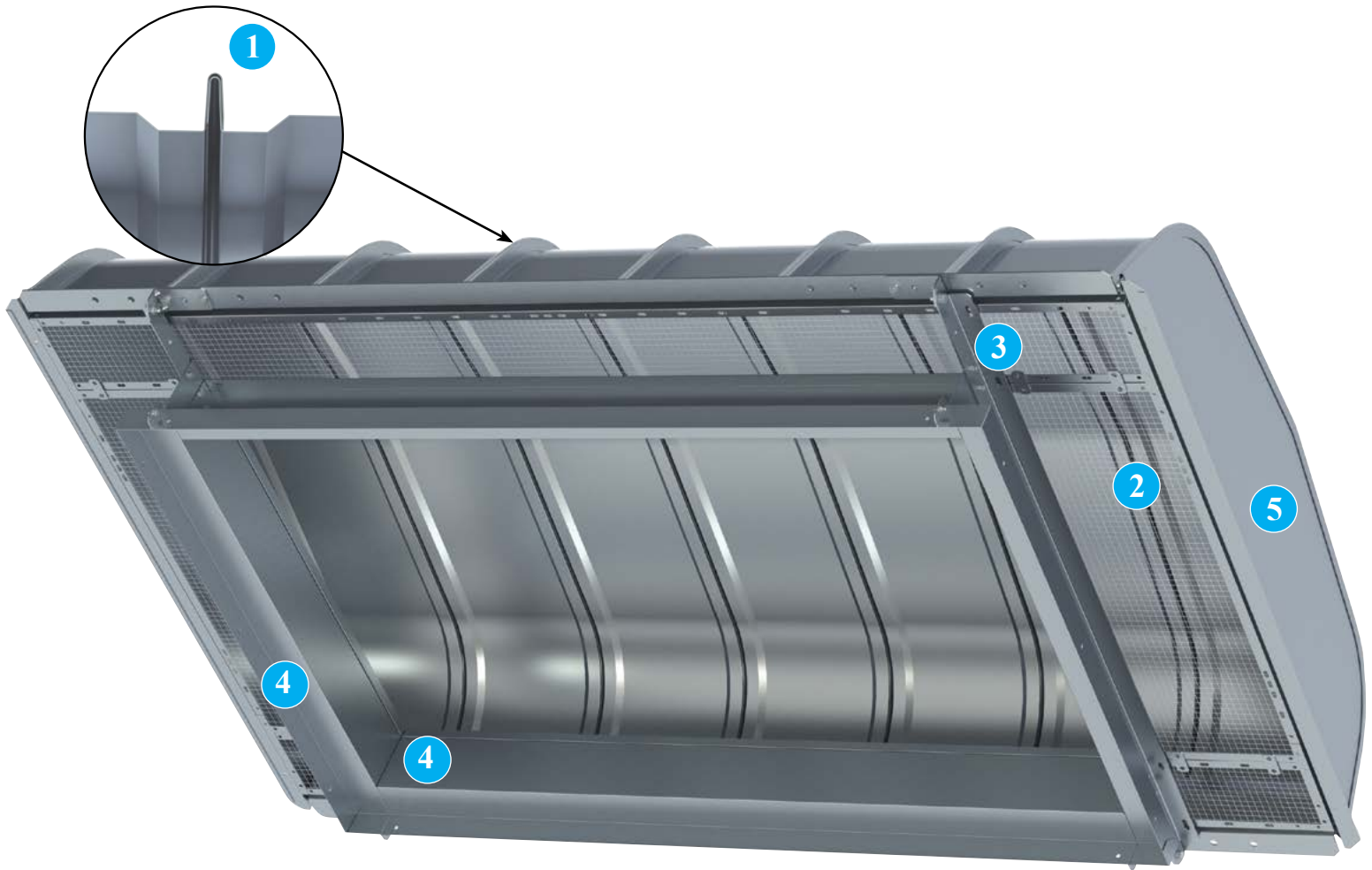
Assembly

An additional benefit of the modular hood design is that large sizes ship in kit form and can be assembled on the job site. The performance tables on pages 7 through 12 specify which units ship assembled and which ship as a kit. This reduces freight costs and minimizes the likelihood of freight damage and the headaches associated with making freight claims. Costs are also reduced on the jobsite when panels and other parts can be carried to the roof for assembly rather than renting cranes and other types of equipment to lift the parts to the rooftop. Care has been taken throughout the design process to simplify field assembly including detailed assembly instructions. No special tools, equipment or training are necessary to construct the units on the jobsite.

Easy Access

Hoods pivot to allow access for cleaning or maintenance by simply removing the mounting bolts along one side of the hood. They can also be completely detached from the unit by removing the mounting bolts along both sides of the hood. **Caution should be exercised when working with large hoods or in areas of strong wind to avoid injury.**





1 Hood Panels Interlocking hood panels provide strength, aesthetic appeal and protection from the elements. Panels are constructed of galvanized steel as standard and are also available constructed of aluminum.

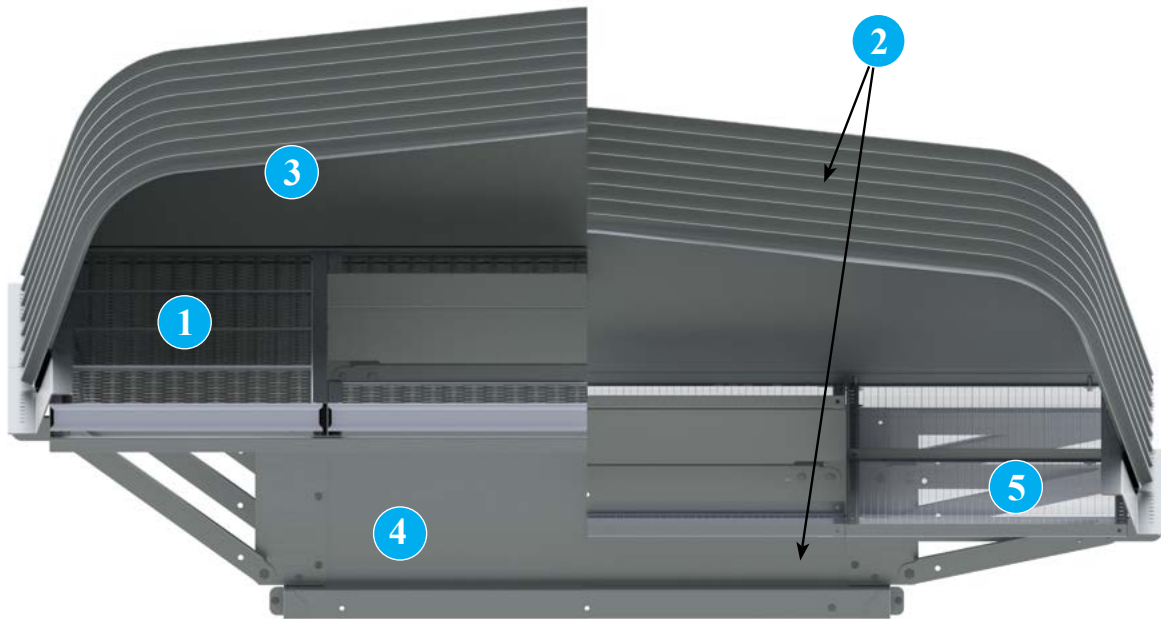
2 Birdscreen Standard birdscreen material is ½" x ½" galvanized steel affixed to a heavy gauge galvanized steel frame. Birdscreens are removable to provide access to interior of unit for service and/or cleaning.

3 Hood Supports Heavy gauge frame members support the hood

4 Base/Curb Cap Curb caps/bases are constructed of galvanized steel as standard. Standard base height is 5" for a throat length dimension of 120" or less. Any sizes with a throat length greater than 120" have a 12" base height as standard.

5 End Panels End panels are fastened to hood panels to ensure of weather tightness and dampen any potential vibration.

Modular Hooded Model MGR | MGI



- 1 Filtered Intake** Model MGI can be supplied with 2" aluminum washable mesh filters for instances in which entrainment of airborne dirt, dust and other particles is of concern. Filters can be easily removed with the hood in place to allow for easy cleaning.
- 2 Aluminum Construction** Hood and exterior of base section are constructed of aluminum in lieu of standard galvanized steel.
- 3 Insulated Hood** Inside of hood is lined with insulation to reduce sound and condensation from the hood.
- 4 Extended Bases** Standard base height of 5" can be substituted with 12" high bases. This is recommended for intake installations in which precipitation may accumulate on the roofdeck. It is also recommended on larger units to provide a more efficient inlet or outlet condition. Note that the 12" base is a standard feature on units with a throat size larger than 60 x 120.
- 5 Aluminum Birdscreen** Aluminum birdscreen is available in lieu of standard galvanized birdscreen.

OTHER OPTIONS/ACCESSORIES INCLUDE

Tie Down Points

A quantity of four tie-down points are included to help secure the unit to the roof in areas with strong winds. Cables used for tie down are supplied by others.

Insect Screen

An aluminum insect screen, placed between the ventilator base and the roof curb, prevents insects from entering the building.

Dampers

For intake or relief service. Used to prevent backdrafts, either in or out of the building. Dampers are available as either gravity operated or motorized.

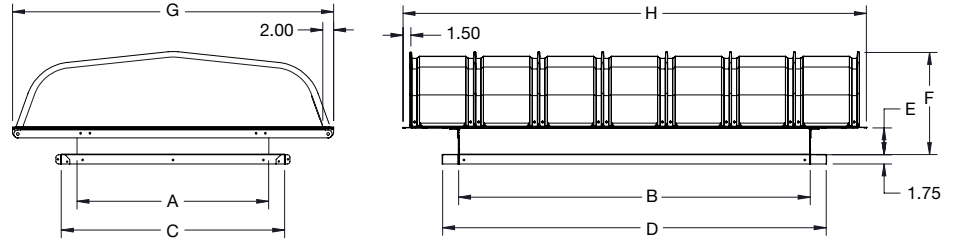
Roof Curbs

Prefabricated roof curbs are available in heavy duty galvanized steel or aluminum in heights of 8", 12" or 18". All types are provided with 1½" of insulation and feature continuously welded seams for added rigidity and moisture protection. Curbs longer than 120" will require assembly and/or welding in the field by others.

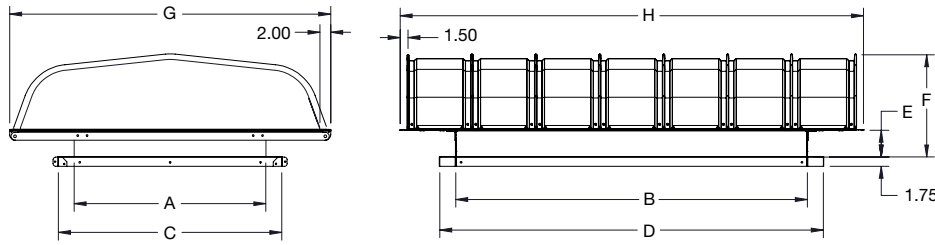
Special Coatings

Coatings are available for protective and decorative purposes. Contact your Twin City Fan & Blower representative for more information on available coatings and colors.

Modular Hooded Model MGI



Throat Size (AxB)	Curb Cap Size (Cx D)	Base Height (E)	Hood Height (F)	Hood Size (GxH)	Throat Area (ft²)	Hood Area (ft²)	Weight (lbs)	Ducted Static Pressure Drop (in. w.g.)										
								0.004	0.009	0.016	0.025	0.037	0.05	0.065	0.082	0.101	0.122	0.146
								Unducted Static Pressure Drop (in. w.g.)										
								0.008	0.019	0.034	0.053	0.076	0.103	0.134	0.17	0.21	0.254	0.303
								Hood Velocity (ft/min)										
100	150	200	250	300	350	400	450	500	550	600								
CFM																		
8x8	14x14	5	17.24	32x27	0.44	4.22	46	422	633	844	1055	1266	1478	1689	1900	2111	2322	2533
8x12	14x18	5	17.24	32x27	0.67	4.00	47	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
8x18	14x24	5	17.24	32x39	1.00	6.00	59	600	900	1200	1500	1800	2100	2400	2700	3000	3300	3600
8x24	14x30	5	17.24	32x39	1.33	5.67	61	566	850	1133	1416	1700	1983	2266	2550	2833	3116	3400
8x30	14x36	5	17.24	32x51	1.67	7.67	73	766	1149	1533	1916	2299	2683	3066	3449	3833	4216	4599
12x12	18x18	5	17.24	32x27	1.00	3.67	51	366	550	733	916	1100	1283	1466	1650	1833	2016	2200
12x18	18x24	5	17.24	32x39	1.50	5.50	60	550	825	1100	1375	1650	1925	2200	2475	2750	3025	3300
12x24	18x30	5	17.24	32x39	2.00	5.00	62	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000
12x30	18x36	5	17.24	32x51	2.50	6.83	75	683	1025	1366	1708	2049	2391	2733	3074	3416	3758	4099
12x36	18x42	5	17.24	32x51	3.00	6.33	77	633	950	1266	1583	1899	2216	2533	2849	3166	3483	3799
12x42	18x48	5	17.24	32x63	3.50	8.17	93	816	1225	1633	2041	2450	2858	3266	3675	4083	4491	4900
12x48	18x54	5	17.24	32x63	4.00	7.67	95	766	1150	1533	1916	2300	2683	3066	3450	3833	4216	4600
14x14	20x20	5	17.24	32x27	1.36	3.31	53	330	495	661	826	991	1157	1322	1487	1653	1818	1983
14x18	20x24	5	17.24	32x39	1.75	5.25	61	525	787	1050	1312	1575	1837	2100	2362	2625	2887	3150
14x24	20x30	5	17.24	32x39	2.33	4.67	63	466	700	933	1166	1400	1633	1866	2100	2333	2566	2800
14x30	20x36	5	17.24	32x51	2.92	6.42	75	641	962	1283	1604	1924	2245	2566	2887	3208	3528	3849
14x36	20x42	5	17.24	36x51	3.50	7.17	82	716	1075	1433	1791	2150	2508	2866	3225	3583	3941	4300
14x42	20x48	5	17.24	33x63	4.08	8.00	95	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
14x48	20x54	5	17.24	38x63	4.67	9.50	104	950	1425	1900	2375	2850	3325	3800	4275	4750	5225	5700
14x54	20x60	5	17.24	36x75	5.25	10.75	115	1075	1612	2150	2687	3225	3762	4300	4837	5375	5912	6450
16x16	22x22	5	17.24	32x39	1.78	5.22	61	522	783	1044	1305	1566	1827	2088	2349	2611	2872	3133
16x20	22x26	5	17.24	32x39	2.22	4.78	62	477	716	955	1194	1433	1672	1911	2150	2389	2627	2866
16x24	22x30	5	17.24	36x39	2.67	5.33	68	533	800	1066	1333	1599	1866	2133	2399	2666	2933	3199
16x30	22x36	5	17.24	34x51	3.33	6.67	78	666	1000	1333	1666	2000	2333	2666	3000	3333	3666	4000
16x36	22x42	5	17.24	40x51	4.00	8.00	88	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
16x42	22x48	5	17.24	38x63	4.67	9.50	102	950	1425	1900	2375	2850	3325	3800	4275	4750	5225	5700
16x48	22x54	5	17.24	36x75	5.33	10.67	113	1066	1600	2133	2666	3200	3733	4266	4800	5333	5866	6400
16x54	22x60	5	17.24	40x75	6.00	12.00	122	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600	7200
16x60	22x66	5	17.27	38x87	6.67	13.17	141	1316	1974	2633	3291	3949	4608	5266	5924	6583	7241	7899
16x66	22x72	5	17.27	42x87	7.33	14.83	150	1483	2225	2966	3708	4450	5191	5933	6675	7417	8158	8900
18x18	24x24	5	17.24	32x39	2.25	4.75	62	475	712	950	1187	1425	1662	1900	2137	2375	2612	2850
18x24	24x30	5	17.24	40x39	3.00	6.00	73	600	900	1200	1500	1800	2100	2400	2700	3000	3300	3600
18x30	24x36	5	17.24	38x51	3.75	7.58	84	758	1137	1516	1895	2274	2654	3033	3412	3791	4170	4549
18x36	24x42	5	17.24	36x63	4.50	8.83	98	883	1325	1766	2208	2649	3091	3533	3974	4416	4858	5299
18x42	24x48	5	17.24	42x63	5.25	10.58	109	1058	1587	2116	2645	3174	3704	4233	4762	5291	5820	6349
18x48	24x54	5	17.24	40x75	6.00	12.00	120	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600	7200
18x54	24x60	5	17.24	44x75	6.75	13.25	128	1325	1987	2650	3312	3975	4637	5300	5962	6625	7287	7950
18x60	24x66	5	17.27	42x87	7.50	14.67	149	1466	2200	2933	3666	4400	5133	5866	6600	7333	8066	8800
18x66	24x72	5	17.27	46x87	8.25	16.25	157	1625	2437	3250	4062	4875	5687	6500	7312	8125	8937	9750
18x72	24x78	5	17.25	45x99	9.00	18.33	179	1833	2750	3666	4583	5499	6416	7333	8249	9166	10083	10999
20x20	26x26	5	17.24	38x39	2.78	5.72	70	572	858	1144	1430	1716	2002	2288	2574	2861	3147	3433
20x24	26x30	5	17.24	44x39	3.33	6.67	78	666	1000	1333	1666	2000	2333	2666	3000	3333	3666	4000
20x30	26x36	5	17.24	42x51	4.17	8.50	90	850	1275	1700	2125	2550	2975	3400	3825	4250	4675	5100
20x36	26x42	5	19.35	40x63	5.00	10.00	105	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
20x42	26x48	5	17.24	46x63	5.83	11.67	115	1166	1750	2333	2916	3500	4083	4666	5250	5833	6416	7000
20x48	26x54	5	17.24	44x75	6.67	13.33	127	1333	2000	2666	3333	3999	4666	5333	5999	6666	7333	7999
20x54	26x60	5	17.23	49x75	7.50	15.00	143	1500	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000
20x60	26x66	5	17.25	47x87	8.33	16.75	164	1675	2512	3350	4187	5025	5862	6700	7537	8375	9212	10050
20x66	26x72	5	17.25	45x99	9.17	18.17	178	1816	2724	3633	4541	5449	6358	7266	8174	9083	9991	10899
20x72	26x78	5	17.25	49x99	10.00	20.00	187	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
20x78	26x84	5	17.25	47x111	10.83	21.42	215	2141	3212	4283	5354	6425	7496	8566	9637	10708	11779	12850
20x84	26x90	5	17.25	50x111	11.67	22.83	226	2283	3425	4566	5708	6849	7991	9133	10274	11416	12558	13699



Modular Hooded Model MGR

Throat Size (AxB)	Curb Cap Size (Cx D)	Base Height (E)	Hood Height (F)	Hood Size (GxH)	Throat Area (ft²)	Hood Area (ft²)	Weight (lbs)	Ducted Static Pressure Drop (in. w.g.)										
								0.002	0.006	0.01	0.016	0.022	0.031	0.04	0.05	0.062	0.075	0.09
								Unducted Static Pressure Drop (in. w.g.)										
								0.005	0.011	0.02	0.031	0.045	0.061	0.08	0.101	0.125	0.151	0.179
								Hood Velocity (ft/min)										
200	300	400	500	600	700	800	900	1000	1100	1200								
CFM																		
8x8	14x14	5	17.24	32x27	0.44	4.22	46	844	1266	1689	2111	2533	2956	3378	3800	4223	4645	5067
8x12	14x18	5	17.24	32x27	0.67	4.00	47	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
8x18	14x24	5	17.24	32x39	1.00	6.00	59	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600	7200
8x24	14x30	5	17.24	32x39	1.33	5.67	61	1133	1700	2266	2833	3400	3966	4533	5100	5667	6233	6800
8x30	14x36	5	17.24	32x51	1.67	7.67	73	1533	2299	3066	3833	4599	5366	6132	6899	7666	8432	9199
12x12	18x18	5	17.24	32x27	1.00	3.67	48	733	1100	1466	1833	2200	2566	2933	3300	3667	4033	4400
12x18	18x24	5	17.24	32x39	1.50	5.50	60	1100	1650	2200	2750	3300	3850	4400	4950	5500	6050	6600
12x24	18x30	5	17.24	32x39	2.00	5.00	62	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
12x30	18x36	5	17.24	32x51	2.50	6.83	75	1366	2049	2733	3416	4099	4783	5466	6149	6833	7516	8199
12x36	18x42	5	17.24	32x51	3.00	6.33	77	1266	1899	2533	3166	3799	4433	5066	5699	6333	6966	7599
12x42	18x48	5	17.24	32x63	3.50	8.17	93	1633	2450	3266	4083	4900	5716	6533	7350	8167	8983	9800
12x48	18x54	5	17.24	32x63	4.00	7.67	95	1533	2300	3066	3833	4600	5366	6133	6900	7667	8433	9200
14x14	20x20	5	17.24	32x27	1.36	3.31	49	661	991	1322	1653	1983	2314	2644	2975	3306	3636	3967
14x18	20x24	5	17.24	32x39	1.75	5.25	61	1050	1575	2100	2625	3150	3675	4200	4725	5250	5775	6300
14x24	20x30	5	17.24	32x39	2.33	4.67	63	933	1400	1866	2333	2800	3266	3733	4200	4667	5133	5600
14x30	20x36	5	17.24	32x51	2.92	6.42	75	1283	1924	2566	3208	3849	4491	5132	5774	6416	7057	7699
14x36	20x42	5	17.24	32x51	3.50	5.83	77	1166	1749	2333	2916	3499	4083	4666	5249	5833	6416	6999
14x42	20x48	5	17.24	32x63	4.08	7.58	93	1516	2275	3033	3792	4550	5308	6067	6825	7584	8342	9100
14x48	20x54	5	17.24	32x63	4.67	7.00	95	1400	2100	2800	3500	4200	4900	5600	6300	7000	7700	8400
14x54	20x60	5	17.24	32x75	5.25	8.75	108	1750	2625	3500	4375	5250	6125	7000	7875	8750	9625	10500
16x16	22x22	5	17.24	32x39	1.78	5.22	61	1044	1566	2088	2611	3133	3655	4177	4699	5222	5744	6266
16x20	22x26	5	17.24	32x39	2.22	4.78	62	955	1433	1911	2389	2866	3344	3822	4300	4778	5255	5733
16x24	22x30	5	17.24	32x39	2.67	4.33	63	866	1299	1733	2166	2599	3033	3466	3899	4333	4766	5199
16x30	22x36	5	17.24	32x51	3.33	6.00	76	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600	7200
16x36	22x42	5	17.24	32x51	4.00	5.33	78	1066	1599	2133	2666	3199	3733	4266	4799	5333	5866	6399
16x42	22x48	5	17.24	32x63	4.67	7.00	94	1400	2100	2800	3500	4200	4900	5600	6300	7000	7700	8400
16x48	22x54	5	17.24	32x63	5.33	6.33	96	1266	1900	2533	3167	3800	4433	5067	5700	6334	6967	7600
16x54	22x60	5	17.24	32x75	6.00	8.00	109	1600	2400	3200	4000	4800	5600	6400	7200	8000	8800	9600
16x60	22x66	5	17.24	32x75	6.67	7.33	111	1466	2199	2933	3666	4399	5133	5866	6599	7333	8066	8799
16x66	22x72	5	17.27	32x87	7.33	9.00	133	1800	2700	3600	4500	5400	6300	7200	8100	9000	9900	10800
18x18	24x24	5	17.24	32x39	2.25	4.75	62	950	1425	1900	2375	2850	3325	3800	4275	4750	5225	5700
18x24	24x30	5	17.24	32x39	3.00	4.00	64	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
18x30	24x36	5	17.24	32x51	3.75	5.58	77	1116	1674	2233	2791	3349	3908	4466	5024	5583	6141	6699
18x36	24x42	5	17.24	32x51	4.50	4.83	78	966	1449	1933	2416	2899	3383	3866	4349	4833	5316	5799
18x42	24x48	5	17.24	32x63	5.25	6.42	95	1283	1925	2566	3208	3850	4491	5133	5775	6417	7058	7700
18x48	24x54	5	17.24	33x63	6.00	6.08	98	1216	1824	2433	3041	3649	4258	4866	5474	6083	6691	7299
18x54	24x60	5	17.24	32x75	6.75	7.25	109	1450	2175	2900	3625	4350	5075	5800	6525	7250	7975	8700
18x60	24x66	5	17.24	34x75	7.50	7.50	115	1500	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000
18x66	24x72	5	17.27	32x87	8.25	8.08	133	1616	2424	3233	4041	4849	5658	6466	7274	8083	8891	9699
18x72	24x78	5	17.27	35x87	9.00	9.08	140	1816	2724	3633	4541	5449	6358	7266	8174	9083	9991	10899
20x20	26x26	5	17.24	34x39	2.78	4.72	66	944	1416	1888	2361	2833	3305	3777	4249	4722	5194	5666
20x24	26x30	5	17.24	34x39	3.33	4.17	67	833	1250	1666	2083	2500	2916	3333	3750	4167	4583	5000
20x30	26x36	5	17.24	34x51	4.17	5.83	80	1166	1749	2333	2916	3499	4083	4666	5249	5833	6416	6999
20x36	26x42	5	17.24	34x51	5.00	5.00	82	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
20x42	26x48	5	17.24	34x63	5.83	6.67	98	1333	2000	2666	3333	4000	4666	5333	6000	6667	7333	8000
20x48	26x54	5	17.24	36x63	6.67	6.67	103	1333	1999	2666	3333	3999	4666	5332	5999	6666	7332	7999
20x54	26x60	5	17.24	34x75	7.50	7.50	113	1500	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000
20x60	26x66	5	17.24	37x75	8.33	8.17	120	1633	2450	3266	4083	4900	5716	6533	7350	8167	8983	9800
20x66	26x72	5	19.35	35x87	9.17	8.92	139	1783	2674	3566	4458	5349	6241	7132	8024	8916	9807	10699
20x72	26x78	5	17.27	38x87	10.00	9.83	146	1966	2949	3933	4916	5899	6883	7866	8849	9833	10816	11799
20x78	26x84	5	17.27	37x99	10.83	11.17	169	2233	3350	4466	5583	6700	7816	8933	10050	11167	12283	13400
20x84	26x90	5	17.27	39x99	11.67	11.67	175	2333	3499	4666	5833	6999	8166	9332	10499	11666	12832	13999

Spun Aluminum

Model GRV

Available For Quickship

The GRV series relief ventilators are low silhouette spun aluminum units that match the appearance of spun aluminum power roof ventilators.

The GRV provides for natural gravity ventilation and may also be used as an intake. For intake units, a minimum curb height of 12" is recommended.

Sizes & Capacities

GRV relief ventilators are available in 12 sizes, models 090B through 480B. Performance capabilities include a broad capacity range up to 25,100 CFM, with static pressure capabilities to $\frac{3}{8}$ in. w.g.

Construction Features

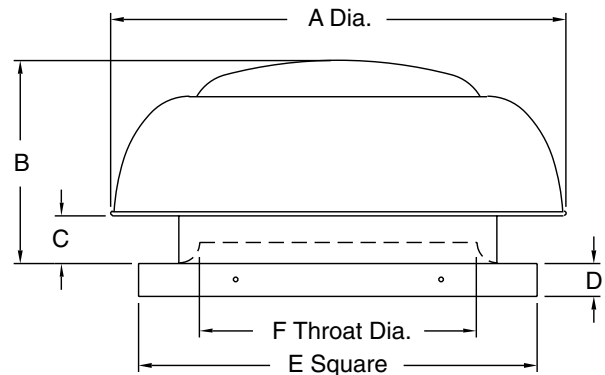
- Spun aluminum cover
- Curb base constructed of aluminum
- Galvanized steel birdscreen is standard on all units

Accessories

- Backdraft damper (gravity or motorized)
- Roof curbs
- Curb hinge
- Special coatings
- Aluminum birdscreen
- Aluminum insect screen



Model GRV

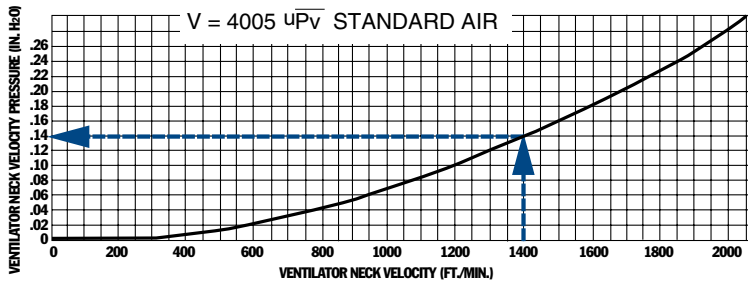


DIMENSIONAL DATA

GRV SIZE	DIMENSIONS (INCHES)						DAMPER SIZE	CANTED CURB SIZE	NECK AREA (SQ. FT.)	AVERAGE SHIP WEIGHT (LB.)
	A	B	C	D	E INSIDE	F				
090B	22.50	8.25	1.50	2.00	16.50	9.00	10 x 10	15.0 x 15.0	0.44	17
120B	27.50	11.25	2.00		24.00	12.13	18 x 18	22.5 x 22.5	0.80	20
160B		12.25	3.00		16.25	18 x 18	22.5 x 22.5	1.44	25	
180B	32.25	12.75	4.00		29.50	18.25	24 x 24	28.0 x 28.0	1.82	30
210B			4.50		21.25	24 x 24	28.0 x 28.0	2.46	47	
240B	40.50	16.00	5.00		35.50	24.25	30 x 30	34.0 x 34.0	3.21	55
270B		16.50	5.50			27.38	30 x 30	34.0 x 34.0	4.09	67
300B	50.00	19.00	6.00		42.50	30.38	36 x 36	41.0 x 41.0	5.03	75
320B		19.50				32.38			5.72	107
360B		36.38				7.22			135	
420B	60.00	21.50	3.00	52.00	42.38	46 x 46	50.5 x 50.5	9.79	187	
480B	74.00	27.25		6.50	58.00	48.38	50 x 50	56.5 x 56.5	12.76	225

NECK VELOCITY (FPM)			575	810	980	1140	1390	1610	1800	1970								
			525	740	905	1045	1290	1480	1650	1810								
GRV SIZE	THROAT DIA. (IN.)	NECK AREA (FT ²)	PRESSURE DROP (IN. W.G.)															
			.031		.062		.093		.125		.187		.250		.312		.375	
			RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM	RELIEF CFM	INTAKE CFM		
090B	9.00	0.44	255	355	430	500	610	710	790	865	230	325	400	460	570	650	725	795
120B	12.10	0.80	460	650	785	910	1110	1290	1440	1575	420	590	725	835	1030	1185	1320	1450
160B	16.25	1.44	830	1165	1410	1640	2000	2320	2590	2835	755	1065	1305	1505	1860	2130	2375	2605
180B	18.25	1.82	1045	1475	1785	2075	2530	2930	3275	3585	955	1345	1645	1900	2350	2695	3005	3295
210B	21.25	2.46	1415	1995	2410	2805	3420	3960	4430	4845	1290	1820	2225	2570	3175	3640	4060	4455
240B	24.25	3.21	1845	2600	3145	3660	4460	5170	5780	6325	1685	2375	2905	3355	4140	4750	5295	5810
270B	27.38	4.09	2350	3315	4010	4665	5685	6585	7360	8055	2145	3025	3700	4275	5275	6055	6750	7405
300B	30.38	5.03	2890	4075	4930	5735	6990	8100	9055	9910	2640	3720	4550	5255	6490	7445	8300	9105
320B	32.38	5.72	3290	4635	5605	6520	7950	9210	10295	11270	3005	4235	5175	5975	7380	8465	9440	10355
360B	36.38	7.22	4150	5850	7075	8230	10035	11625	12995	14225	3790	5345	6535	7545	9315	10685	11915	13070
420B	42.38	9.79	5630	7930	9595	11160	13610	15760	17620	19285	5140	7245	8860	10230	12630	14490	16155	17720
480B	48.38	12.76	7335	10335	12505	14545	17735	20545	22970	25135	6700	9440	11550	13335	16460	18885	21055	23095

Static Resistance of GRV Relief and/or Intake Ventilators



1. Divide CFM by ventilator neck area to find neck velocity.
2. Locate this neck velocity at bottom of chart. Read vertically upward to intersection of curve, then horizontally to left-hand margin. Read neck velocity pressure at this point.
3. To find system resistance, multiply neck velocity pressure by appropriate resistance factor of unit. (Resistance factor shown below.)

APPLICATION	RESISTANCE FACTOR
RELIEF	1.55
INTAKE	1.83

Louvered Models TEL | TIL

Model TEL units are used for exhaust or gravity relief.
Model TIL units are used for fresh air intake.

Model TEL & TIL (Louvered Penthouse)

- Ventilators offer exhaust and intake capacities of up to 103,000 cfm
- Aerodynamically designed with generous air flow areas for efficient performance
- Louvered on all four sides for full 360° perimeter opening
- Multiple tiers for high air flow capacities
- Outstanding weather protection. (Louvered ventilators are reasonably weather tight. However, they are not recommended for use where airborne water droplets from storms or high winds may damage the interior of the building.)
- Vertical snow and storm baffle on base to guard against storm driven rain and snow
- Extruded louvers have double water and snow baffles for added weather protection

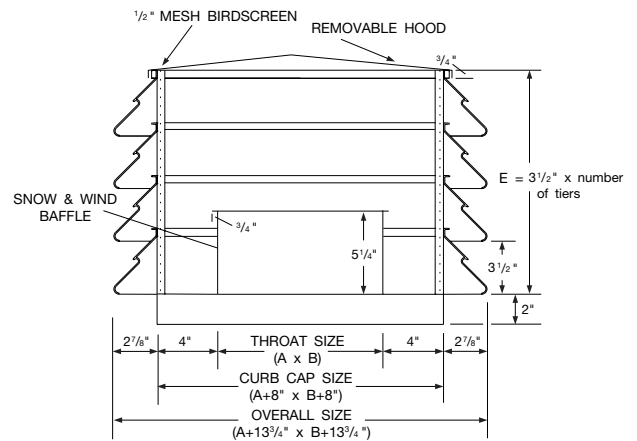
Construction Features

- Base constructed of .080" aluminum
- Removable .050" cross broke and reinforced aluminum hood
- .081" extruded aluminum louvers are precision miter cut and welded for maximum strength
- All curb cap corners are miter cut and continuous welded for strength and water tightness
- Hoods are reinforced and braced for extra rigidity and resistance to wind damage
- Large sizes are cross braced internally for extra rigidity and resistance to wind damage
- All enclosures are equipped with 1/2" x 1/2" mesh galvanized wire birdscreen (omitted when equipped with filters)
- Shipped fully assembled for easy installation (overall louver dimensions of 96" x 144" and smaller)



Models TEL & TIL

DIMENSIONAL DATA



See tables for throat size, tiers and height dimensions.

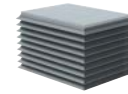
Curb Sizing

Curbs are sized by adding 6 1/2" to the throat dimension (A + B). Example: An 18" x 24" throat would require a 24 1/2" x 30 1/2" roof curb.

Backdraft Damper Sizing

Backdraft dampers are sized by the throat dimension (A + B). Example: An 18" x 24" throat would require an 18" x 24" backdraft damper.



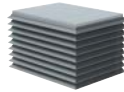


THROAT SIZE A x B	CFM at SP = 0.15" w.g.																	
	Number of Tiers and Height in Inches (E)																	
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0	38.5	42.0	45.5	49.0	52.5	56.0	59.5	63.0	66.5	70.0
12 x 12	1199	1225	1238	1245														
12 x 14	1382	1419	1438	1448														
12 x 16	1562	1611	1636	1649														
12 x 18	1737	1800	1832	1850	1861													
12 x 20	1909	1987	2026	2049	2063													
12 x 24	2244	2354	2411	2444	2464													
12 x 30	2729	2892	2979	3029	3061	3082												
12 x 36	3197	3418	3538	3608	3652	3682												
12 x 42	3653	3935	4089	4181	4240	4279												
12 x 48	4101	4444	4635	4750	4823	4873												
14 x 14	1590	1642	1668	1682	1691	1697												
14 x 16	1791	1860	1865	1915	1927	1935												
14 x 18	1987	2075	2120	2146	2162	2172												
14 x 20	2178	2286	2342	2375	2395	2408	2417											
14 x 24	2548	2700	2781	2828	2857	2877	2890											
14 x 30	3078	3303	3425	3497	3543	3573	3595											
14 x 36	3587	3888	4055	4156	4220	4264	4294	4316										
14 x 42	4080	4459	4675	4807	4891	4949	4989	5019										
14 x 48	4561	5021	5287	5451	5557	5629	5681	5718										
16 x 16	2012	2104	2151	2178	2194	2205	2213	2219										
16 x 18	2227	2343	2403	2438	2460	2474	2484	2491										
16 x 20	2435	2577	2652	2696	2723	2741	2754	2763										
16 x 24	2835	3034	3141	3205	3245	3272	3290	3304	3314									
16 x 30	3404	3694	3856	3953	4016	4058	4087	4109	4125									
16 x 36	3945	4331	4552	4687	4775	4835	4877	4908	4931									
16 x 42		4950	5234	5410	5525	5604	5660	5701	5732	5756								
16 x 48		5556	5905	6123	6268	6367	6438	6490	6530	6560								
18 x 18	2458	2604	2682	2727	2755	2774	2787	2797	2804	2809								
18 x 20	2681	2860	2956	3013	3048	3072	3089	3101	3110	3117								
18 x 24	3107	3356	3493	3575	3627	3662	3687	3705	3718	3729	3737							
18 x 30	3709	4067	4273	4398	4480	4535	4574	4603	4624	4641	4654							
18 x 36	4277	4750	5029	5203	5317	5395	5451	5492	5523	5546	5565							
18 x 42		5410	5767	5992	6142	6245	6319	6374	6415	6447	6472	6492						
18 x 48		6055	6490	6770	6957	7087	7181	7250	7302	7343	7375	7401						
18 x 54			7202	7537	7763	7922	8036	8121	8185	8236	8275	8307						
20 x 20	2917	3135	3254	3325	3370	3400	3421	3436	3448	3457	3464	3469						
20 x 24	3367	3667	3836	3938	4004	4049	4080	4103	4120	4133	4144	4152						
20 x 30	3996	4425	4677	4834	4936	5006	5055	5092	5119	5140	5157	5170	5181					
20 x 36		5148	5488	5704	5847	5946	6017	6069	6108	6139	6163	6182	6198					
20 x 42		5844	6276	6555	6743	6873	6967	7037	7090	7131	7163	7189	7210	7228				
20 x 48		6521	7046	7391	7625	7789	7908	7996	8064	8116	8158	8191	8219	8241				
20 x 54			7802	8214	8496	8696	8841	8950	9032	9097	9148	9190	9223	9251				
24 x 24		4263	4501	4649	4745	4811	4857	4892	4917	4937	4953	4965	4976	4984				
24 x 30		5101	5452	5676	5825	5928	6002	6057	6098	6130	6155	6176	6192	6206				
24 x 36		5891	6359	6666	6874	7019	7125	7203	7263	7309	7346	7376	7400	7420	7436			
24 x 42			7234	7627	7898	8090	8230	8335	8415	8477	8527	8567	8600	8627	8649			
24 x 48			8082	8565	8902	9143	9320	9453	9555	9635	9699	9751	9793	9827	9857	9881		
24 x 54			8911	9485	9890	10182	10398	10561	10687	10785	10864	10928	10980	11023	11060	11090		
24 x 60			9725	10390	10864	11209	11465	11659	11810	11928	12023	12099	12162	12215	12258	12296		
30 x 30		6036	6453	6878	7107	7269	7386	7474	7540	7592	7633	7667	7694	7716	7735	7751		
30 x 36		6901	7568	8023	8339	8566	8733	8859	8955	9031	9091	9139	9179	9212	9239	9262		
30 x 42			8544	9121	9531	9829	10050	10217	10347	10448	10530	10596	10650	10695	10732	10764	10791	
30 x 48			9484	10184	10690	11062	11340	11553	11718	11849	11953	12038	12108	12166	12215	12257	12292	
30 x 54			10394	11219	11823	12271	12610	12870	13073	13234	13364	13469	13556	13629	13690	13741	13786	
30 x 60				12232	12934	13461	13861	14171	14413	14607	14763	14890	14995	15083	15157	15219	15273	15319
30 x 66				13226	14028	14634	15098	15458	15742	15968	16152	16302	16426	16529	16617	16691	16755	16810
30 x 72					15108	15794	16322	16734	17060	17321	17532	17706	17850	17970	18072	18158	18232	18296
36 x 36		7824	8688	9297	9732	10049	10286	10466	10605	10715	10802	10874	10932	10981	11021	11056	11085	11111
36 x 42			9743	10508	11066	11480	11792	12031	12218	12367	12486	12583	12663	12729	12785	12833	12873	12908
36 x 48			10749	11670	12353	12867	13259	13563	13801	13991	14145	14270	14374	14460	14533	14595	14648	14694
36 x 54			11719	12793	13604	14220	14695	15065	15358	15592	15782	15938	16067	16175	16266	16344	16411	16468
36 x 60				13887	14824	15544	16104	16453	16892	17173	17401	17589	17746	17877	17987	18082	18163	18233
36 x 66				14957	16020	16845	17490	18000	18407	18736	19005	19227	19411	19566	19698	19810	19906	19990
36 x 72					17195	18125	18858	19440	19906	20285	20595	20851	21065	21245	21398	21529	21641	21739
36 x 80					18738	19808	20657	21336	21884	22330	22697	23001	23256	23470	23653	23809	23944	24061
36 x 84						20639	21547	22275	22864	23345	23741	24069	24345	24577	24775	24945	25091	25218

Selections to the right of the divider are suitable for intake. (Perimeter Velocity of 600 fpm or less)

CFM @ 0.15" w.g.

Louvered
Models TEL | TIL



THROAT SIZE A x B	CFM at SP = 0.15" w.g.																			
	Number of Tiers and Height in Inches (E)																			
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0	38.5	42.0	45.5	49.0	52.5	56.0	59.5	63.0	66.5	70.0		
42 x 42				11812	12523	13059	13470	13788	14039	14239	14401	14533	14643	14734	14811	14877	14933	14981		
42 x 48					13919	14581	15094	15496	15815	16072	16280	16451	16593	16713	16813	16899	16973	17036		
42 x 54					15266	16056	16675	17164	17555	17871	18129	18342	18519	18668	18794	18902	18995	19075		
42 x 60							18219	18797	19263	19641	19951	20208	20422	20603	20756	20888	21001	21099		
42 x 66							19732	20402	20943	21385	21750	22052	22306	22520	22702	22858	22993	23110		
42 x 72							21220	21981	22601	23109	23529	23879	24173	24422	24634	24816	24973	25110		
42 x 80								24056	24781	25378	25874	26289	26639	26936	27189	27408	27596	27761		
42 x 84								25081	25859	26502	27037	27485	27863	28185	28460	28696	28902	29080		
42 x 96										29839	30492	31041	31507	31904	32245	32540	32795	33018		
48 x 48				14363	15408	16221	16860	17366	17771	18099	18367	18589	18773	18929	19060	19173	19270	19353		
48 x 54				16836	17801	18568	19182	19677	20081	20413	20688	20918	21113	21278	21420	21542	21647			
48 x 60				18216	19333	20230	20953	21541	22023	22422	22754	23032	23268	23470	23642	23791	23921			
48 x 66						20826	21852	22686	23369	23932	24399	24790	25119	25399	25638	25844	26021	26176		
48 x 72							23441	24387	25166	25812	26350	26801	27183	27508	27786	28026	28234	28415		
48 x 80							25518	26614	27523	28280	28914	29449	29903	30290	30623	30910	31160	31378		
48 x 84								27712	28686	29499	30182	30760	31250	31670	32030	32342	32614	32851		
48 x 96								30957	32127	33111	33943	34649	35252	35770	36217	36605	36943	37240		
48 x 108										36664	37646	38485	39203	39823	40359	40825	41233	41590		
54 x 54				16913	18334	19474	20391	21133	21736	22232	22642	22984	23272	23515	23723	23901	24055	24189		
54 x 60				19776	21088	22156	23027	23742	24333	24824	25236	25584	25880	26133	26351	26539	26703			
54 x 66						22655	23872	24874	25702	26390	26966	27451	27862	28212	28512	28771	28996	29193		
54 x 72							25548	26681	27623	28411	29073	29632	30108	30514	30864	31167	31430	31660		
54 x 80							27732	29039	30134	31056	31834	32496	33060	33545	33963	34326	34642	34920		
54 x 84								30199	31371	32360	33198	33911	34521	35045	35499	35892	36236	36537		
54 x 96									35020	36212	37229	38100	38848	39495	40057	40546	40974	41351		
54 x 108										39990	41187	42218	43108	43881	44553	45141	45657	46112		
54 x 120										43790	45088	46280	47314	48214	49000	49689	50296	50831		
54 x 144												54279	55603	56762	57780	58676	59468	60170		
60 x 60				19442	21270	22774	24012	25032	25877	26580	27169	27664	28085	28444	28752	29018	29249	29450		
60 x 66				22712	24405	25811	26981	27957	28774	29462	30045	30541	30965	31331	31648	31924	32165			
60 x 72					25990	27563	28882	29989	30922	31711	32383	32957	33450	33876	34245	34568	34851			
60 x 80						29839	31354	32637	33725	34652	35445	36125	36712	37221	37664	38052	38392			
60 x 84							30955	32568	33938	35105	36101	36955	37689	38324	38875	39356	39777	40148		
60 x 96								36136	37768	39169	40374	41413	42313	43095	43776	44373	44898	45361		
60 x 108									41507	43142	44556	45784	46851	47783	48599	49316	49948	50507		
60 x 120										47044	48669	50085	51322	52405	53357	54197	54938	55597		
60 x 144										54693	56736	58529	60108	61499	62728	63817	64784	65646		
66 x 66						26091	27684	29021	30145	31093	31896	32580	33164	33667	34101	34479	34808	35097		
66 x 72						29502	31005	32278	33358	34277	35064	35740	36323	36828	37268	37654	37992			
66 x 80							33578	35048	36305	37382	38308	39108	39801	40405	40932	41395	41803			
66 x 84							34839	36406	37751	38908	39905	40768	41517	42171	42743	43245	43689			
66 x 96								40395	42003	43398	44608	45663	46584	47390	48100	48726	49280			
66 x 108									46148	47779	49205	50453	51548	52512	53363	54117	54786			
66 x 120										50209	52077	53718	55161	56432	57555	58550	59434	60221		
66 x 144										58147	60484	62553	64387	66014	67459	68747	69897	70925		
72 x 72				29405	31380	33064	34501	35729	36781	37685	38465	39140	39728	40242	40692	41089				
72 x 80							35728	37382	38806	40035	41098	42020	42822	43523	44138	44679	45157			
72 x 84							37029	38792	40314	41632	42774	43768	44635	45393	46060	46648	47168			
72 x 96								42920	44734	46318	47701	48912	49975	50910	51736	52467	53117			
72 x 108								46927	49030	50877	52501	53932	55193	56309	57298	58177	58960			
72 x 120								50843	53229	55338	57203	58853	60314	61612	62767	63796	64716			
72 x 144								58476	61418	64043	66384	68471	70334	71999	73490	74826	76027			
84 x 84									41219	43362	45236	46875	48310	49570	50677	51653	52516	53281	53962	
84 x 96										49946	51903	53631	55158	56510	57709	58775	59725	60573		
84 x 108										54497	56767	58785	60580	62177	63602	64875	66013	67035		
84 x 120											61504	63809	65870	67714	69365	70846	72176	73374		
84 x 144											70701	73569	76155	78487	80592	82492	84210	85765		

Selections to the right of the divider are suitable for intake. (Perimeter Velocity of 600 fpm or less)

CFM @ 0.15" w.g.

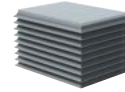
When an engineering application specifies a CFM capacity for a listed size ventilator that is different from that shown for that ventilator in the tables, the new static pressure (P₂) for the specified CFM is readily determined by applying the equation:

$$P_2 = P_1 \left(\frac{CFM_2}{CFM_1} \right)^2$$

The CFM₁ and P₁ are shown in the preceding tables. CFM₂ is the specified air flow and P₂ is the corresponding static pressure to be determined.

Example: Determine the static pressure of a unit with a 48" x 48" throat, 10 tiers (35") height, and flowing 15,000 CFM. The above data table yields the following:

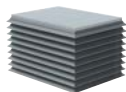
$$P_1 = .15, CFM_1 = 17,366. \text{ Thus, } P_2 = .15 \left(\frac{15000}{17366} \right)^2 = .15 (.864)^2 = .11" \text{ w.g.}$$



THROAT SIZE A x B	CFM at SP = 0.05" w.g.																	
	Number of Tiers and Height in Inches (E)																	
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0	38.5	42.0	45.5	49.0	52.5	56.0	59.5	63.0	66.5	70.0
12 x 12	692	707	715	719														
12 x 14	798	820	830	836														
12 x 16	902	930	944	952														
12 x 18	1003	1039	1058	1068	1074													
12 x 20	1102	1147	1170	1183	1191													
12 x 24	1296	1359	1392	1411	1423													
12 x 30	1575	1670	1720	1749	1767	1779												
12 x 36	1846	1974	2042	2083	2109	2126												
12 x 42	2109	2272	2361	2414	2448	2470												
12 x 48	2367	2566	2676	2742	2785	2813												
14 x 14	918	948	963	971	977	980												
14 x 16	1034	1074	1094	1106	1113	1117												
14 x 18	1147	1198	1224	1239	1248	1254												
14 x 20	1257	1320	1352	1371	1383	1390	1396											
14 x 24	1471	1559	1606	1633	1650	1661	1669											
14 x 30	1777	1907	1977	2019	2045	2063	2075											
14 x 36	2071	2245	2341	2399	2437	2462	2479	2492										
14 x 42	2355	2575	2699	2775	2824	2857	2880	2898										
14 x 48	2633	2899	3053	3147	3208	3250	3280	3301										
16 x 16	1162	1215	1242	1257	1267	1273	1278	1281										
16 x 18	1286	1353	1387	1408	1420	1428	1434	1438										
16 x 20	1406	1488	1531	1556	1572	1583	1590	1595										
16 x 24	1637	1752	1814	1850	1873	1889	1900	1908	1913									
16 x 30	1965	2133	2226	2282	2318	2343	2360	2372	2382									
16 x 36	2278	2500	2628	2706	2757	2791	2816	2833	2847									
16 x 42	2858	3202	3123	3190	3235	3268	3292	3309	3323									
16 x 48	3208	3409	3535	3619	3676	3717	3747	3770	3788									
18 x 18	1419	1504	1548	1574	1591	1602	1609	1615	1619	1622								
18 x 20	1548	1651	1707	1739	1760	1774	1783	1790	1795	1799								
18 x 24	1794	1937	2017	2064	2094	2114	2129	2139	2147	2153	2157							
18 x 30	2141	2348	2467	2539	2586	2618	2641	2657	2670	2679	2687							
18 x 36	2469	2742	2904	3004	3070	3115	3147	3171	3188	3202	3213							
18 x 42	3124	3329	3460	3546	3606	3648	3680	3704	3722	3737	3748							
18 x 48	3496	3747	3908	4017	4092	4146	4186	4216	4240	4258	4273							
18 x 54	4158	4351	4482	4574	4640	4689	4726	4755	4778	4796								
20 x 20	1684	1810	1879	1920	1946	1963	1975	1984	1991	1996	2000	2003						
20 x 24	1944	2117	2215	2274	2312	2338	2356	2369	2379	2386	2392	2397						
20 x 30	2307	2555	2700	2791	2850	2890	2919	2940	2956	2968	2977	2985	2991					
20 x 36	2972	3169	3293	3376	3433	3474	3504	3527	3544	3558	3569	3579						
20 x 42	3374	3624	3785	3893	3968	4022	4063	4093	4117	4136	4151	4163	4173					
20 x 48	3765	4068	4267	4402	4497	4566	4617	4656	4686	4710	4729	4745	4758					
20 x 54	4504	4742	4905	5021	5104	5167	5215	5252	5282	5306	5325	5341						
24 x 24	2461	2599	2684	2739	2777	2804	2824	2839	2851	2860	2867	2873	2878					
24 x 30	2945	3148	3277	3363	3422	3465	3497	3521	3539	3554	3566	3575	3583					
24 x 36	3401	3672	3849	3969	4053	4114	4159	4193	4220	4241	4258	4272	4284	4293				
24 x 42	4176	4404	4560	4671	4752	4812	4858	4894	4923	4946	4965	4981	4994					
24 x 48	4666	4945	5140	5279	5381	5458	5517	5563	5600	5629	5654	5674	5691	5705				
24 x 54	5145	5476	5710	5878	6033	6097	6170	6227	6272	6309	6339	6364	6385	6403				
24 x 60	5615	5999	6272	6471	6619	6731	6818	6887	6941	6986	7022	7052	7077	7099				
30 x 30	3485	3778	3971	4103	4197	4264	4315	4353	4383	4407	4426	4442	4455	4466	4475			
30 x 36	3985	4370	4632	4815	4946	5042	5115	5170	5214	5248	5276	5299	5318	5334	5348			
30 x 42	4933	5266	5503	5675	5802	5899	5974	6032	6079	6117	6149	6175	6196	6215	6230			
30 x 48	5475	5880	6172	6387	6547	6670	6765	6841	6901	6950	6991	7024	7053	7076	7097			
30 x 54	6001	6477	6826	7085	7280	7430	7548	7641	7716	7776	7827	7869	7904	7934	7959			
30 x 60	7062	7468	7772	8003	8181	8322	8433	8523	8597	8657	8708	8751	8787	8818	8845			
30 x 66	7636	8099	8449	8717	8925	9089	9219	9325	9412	9483	9543	9594	9637	9674	9705			
30 x 72	8722	9119	9423	9661	9849	10000	10122	10222	10305	10375	10434	10484	10526	10563				
36 x 36	4517	5016	5367	5619	5802	5939	6042	6123	6186	6237	6278	6312	6340	6363	6383	6400	6415	
36 x 42	5625	6067	6389	6628	6808	6946	7054	7140	7209	7265	7311	7349	7382	7409	7432	7453		
36 x 48	6206	6737	7132	7429	7655	7830	7968	8078	8166	8239	8299	8348	8391	8426	8457	8483		
36 x 54	6766	7386	7854	8210	8484	8698	8867	9002	9112	9202	9276	9339	9391	9436	9475	9508		
36 x 60	8018	8559	8975	9297	9551	9753	9915	10047	10155	10245	10321	10385	10440	10486	10527			
36 x 66	8635	9249	9725	10098	10392	10628	10817	10973	11101	11207	11297	11372	11437	11493	11541			
36 x 72	9928	10465	10887	11223	11493	11712	11891	12039	12162	12266	12354	12430	12495	12551				
36 x 80	10818	11436	11926	12318	12635	12892	13104	13280	13427	13551	13656	13746	13824	13892				
36 x 84	11916	12440	12861	13201	13478	13707	13896	14055	14190	14304	14402	14486	14560					

Selections to the right of the divider are suitable for intake.
(Perimeter Velocity of 600 fpm or less)

CFM @ 0.05" w.g.



THROAT SIZE A x B	CFM at SP = 0.05" w.g.																			
	Number of Tiers and Height in Inches (E)																			
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0	38.5	42.0	45.5	49.0	52.5	56.0	59.5	63.0	66.5	70.5		
42 x 42				6820	7230	7540	7777	7961	8105	8221	8314	8391	8454	8507	8551	8589	8622	8650		
42 x 48					8036	8419	8715	8947	9131	9279	9399	9498	9580	9649	9707	9757	9799	9836		
42 x 54					8814	9270	9627	9910	10135	10318	10467	10590	10692	10778	10851	10913	10967	11013		
42 x 60							10519	10853	11121	11340	11519	11667	11791	11895	11984	12060	12125	12181		
42 x 66							11392	11779	12092	12347	12557	12732	12878	13002	13107	13197	13275	13343		
42 x 72							12251	12691	13049	13342	13584	13786	13956	14100	14222	14327	14418	14497		
42 x 80								13889	14307	14652	14938	15178	15380	15551	15698	15824	15933	16028		
42 x 84								14481	14930	15301	15610	15868	16087	16272	16431	16568	16686	16789		
42 x 96										17227	17604	17922	18191	18420	18617	18787	18934	19063		
48 x 48				8293	8896	9365	9734	10026	10260	10450	10604	10732	10839	10929	11005	11069	11125	11174		
48 x 54				9720	10278	10720	11075	11361	11594	11785	11944	12077	12189	12285	12367	12437	12498			
48 x 60				10517	11162	11680	12097	12437	12715	12945	13137	13298	13434	13550	13650	13736	13811			
48 x 66					12024	12616	13098	13492	13817	14087	14313	14503	14664	14802	14921	15023	15113			
48 x 72						13534	14080	14530	14902	15213	15474	15694	15882	16042	16181	16301	16405			
48 x 80						14733	15366	15890	16327	16693	17002	17264	17488	17680	17846	17990	18116			
48 x 84							16000	16562	17031	17426	17759	18042	18285	18493	18673	18830	18966			
48 x 96							17873	18548	19116	19597	20005	20353	20652	20910	21134	21329	21500			
48 x 108									21168	21735	22219	22634	22992	23301	23570	23806	24012			
54 x 54			9765	10585	11243	11773	12201	12550	12836	13072	13270	13436	13576	13696	13799	13888	13966			
54 x 60			11417	12175	12792	13295	13707	14049	14332	14570	14771	14942	15088	15213	15322	15417				
54 x 66				13080	13782	14361	14839	15237	15569	15849	16086	16288	16461	16611	16741	16855				
54 x 72					14750	15404	15948	16403	16785	17108	17383	17617	17819	17994	18146	18279				
54 x 80					16011	16766	17398	17930	18380	18761	19087	19367	19609	19818	20001	20161				
54 x 84						17436	18112	18683	19167	19578	19931	20233	20495	20723	20921	21095				
54 x 96							20219	20907	21494	21997	22429	22803	23127	23409	23656	23874				
54 x 108								23088	23779	24374	24889	25334	25723	26062	26360	26623				
54 x 120								25235	26032	26720	27317	27836	28290	28688	29038	29347				
54 x 144										31338	32103	32772	33359	33876	34334	34739				
60 x 60			11225	12280	13149	13863	14452	14940	15346	15686	15972	16215	16422	16600	16753	16887	17003			
60 x 66			13113	14090	14902	15577	16141	16613	17010	17346	17633	17878	18089	18272	18431	18570				
60 x 72				15005	15914	16675	17314	17853	18309	18696	19028	19312	19558	19772	19958	20121				
60 x 80					17227	18102	18843	19471	20006	20464	20857	21196	21490	21745	21969	22166				
60 x 84					17872	18803	19594	20268	20843	21336	21760	22126	22445	22722	22965	23179				
60 x 96						20863	21805	22614	23310	23910	24429	24881	25274	25619	25922	26189				
60 x 108							23964	24908	25725	26433	27050	27588	28059	28472	28837	29160				
60 x 120								27161	28099	28916	29631	30256	30806	31290	31719	32099				
60 x 144								31577	32756	33792	34703	35506	36216	36845	37403	37901				
66 x 66					15064	15983	16755	17404	17952	18415	18810	19147	19438	19688	19906	20096	20263			
66 x 72					17033	17901	18635	19259	19790	20244	20634	20971	21263	21517	21739	21935				
66 x 80						19387	20235	20960	21582	22117	22579	22979	23328	23632	23899	24135				
66 x 84						20114	21019	21796	22463	23039	23537	23970	24347	24677	24968	25224				
66 x 96							23322	24251	25056	25755	26363	26895	27361	27771	28132	28452				
66 x 108								26643	27585	28409	29129	29762	30318	30809	31244	31630				
66 x 120								28988	30067	31014	31847	32581	33230	33804	34314	34768				
66 x 144								33571	34921	36115	37174	38113	38948	39691	40355	40949				
72 x 72					16977	18117	19090	19919	20628	21235	21757	22208	22598	22937	23234	23494	23723			
72 x 80						20627	21582	22405	23114	23728	24260	24723	25128	25483	25795	26072				
72 x 84						21379	22396	23275	24036	24696	25269	25770	26208	26593	26932	27232				
72 x 96							24780	25827	26741	27540	28239	28853	29393	29870	30292	30667				
72 x 108								27093	28307	29374	30312	31137	31866	32510	33081	33588	34040			
72 x 120								29354	30732	31950	33026	33979	34823	35572	36238	36833	37364			
72 x 144								33761	35460	36975	38327	39532	40607	41569	42429	43201	43894			
84 x 84							23798	25035	26117	27063	27892	28619	29258	29822	30320	30762	31155			
84 x 96									28836	29966	30964	31845	32626	33318	33934	34482	34972			
84 x 108									31464	32774	33939	34976	35898	36721	37455	38113	38702			
84 x 120										35509	36840	38030	39094	40048	40903	41671	42362			
84 x 144										40819	42475	43968	45315	46530	47627	48619	49516			

Selections to the right of the divider are suitable for intake. (Perimeter Velocity of 600 fpm or less)

CFM @ 0.05" w.g.

When an engineering application specifies a CFM capacity for a listed size ventilator that is different from that shown for that ventilator in the tables, the new static pressure (P₂) for the specified CFM is readily determined by applying the equation:

$$P_2 = P_1 \left(\frac{CFM_2}{CFM_1} \right)^2$$

The CFM₁ and P₁ are shown in the preceding tables. CFM₂ is the specified air flow and P₂ is the corresponding static pressure to be determined.

Example: Determine the static pressure of a unit with a 48" x 48" throat, 10 tiers (35") height, and flowing 13,000 CFM. The above data table yields the following:

P₁ = .05, CFM₁ = 10,026. Thus, P₂ = .05 $\left(\frac{13000}{10026} \right)^2 = .05 (1.30)^2 = .08"$ w.g.

GRAVITY VENTILATORS



Available For
Quickship

Upblast Model LUG



Model LUG



Model LUG is a roof mounted upblast gravity ventilator intended for use on high velocity exhaust systems.

Sizes & Performance

LUG gravity relief ventilators are available in 11 sizes ranging from a 14" to a 60" nominal inlet diameter.

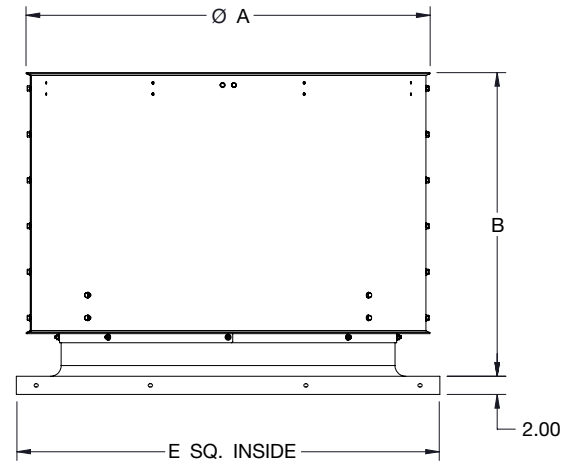
Construction Features

Ventilator curb caps shall be constructed of heavy gauge galvanized steel or painted steel for durability and appearance. Discharge cap with butterfly dampers shall contain a rain channel to protect against rain entry. Discharge cap assemblies shall be constructed of heavy gauge galvanized steel.

Accessories

- Roof curb
- Birdscreen
- Fusible link

DIMENSIONAL DATA

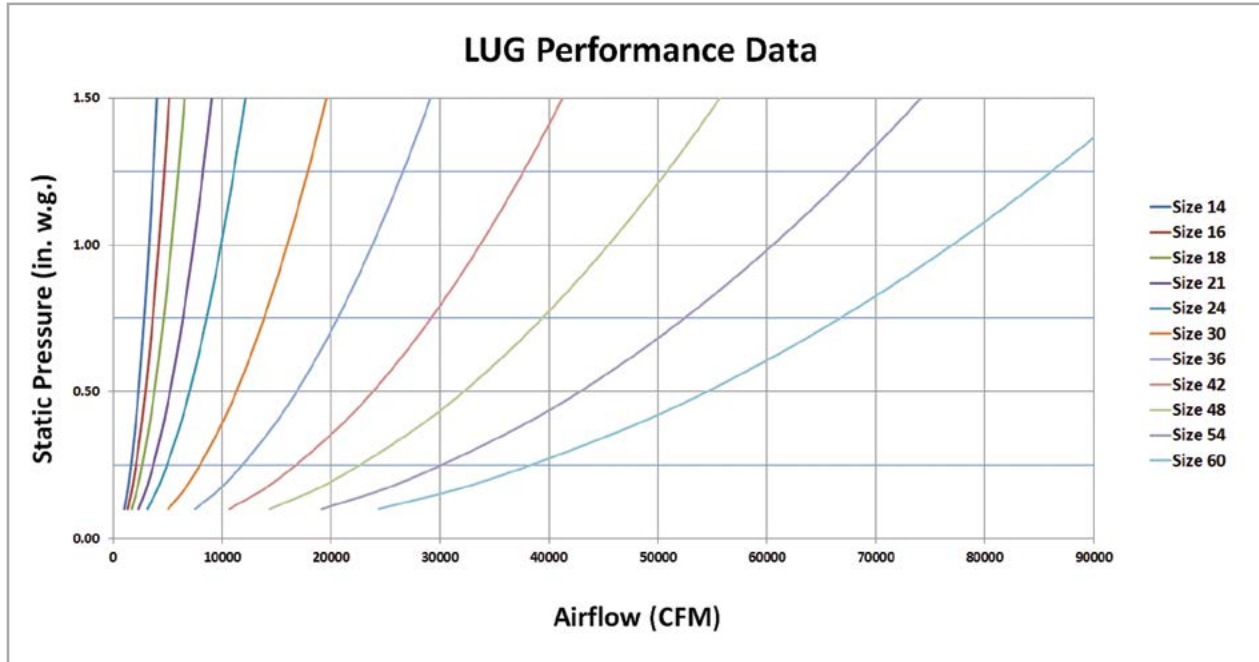
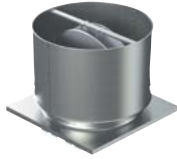


SIZE	A	B	E	AVG. SHIP WT. (lbs.)	CANTED CURB DIMENSIONS
14	21.13	19.94	21.50	48	20.00 x 20.00
16	23.13	20.94	24.50	55	23.00 x 23.00
18	25.13	21.94	26.50	62	25.00 x 25.00
21	28.44	23.69	29.50	73	28.00 x 28.00
24	31.88	25.44	32.50	84	31.00 x 31.00
30	37.88	28.94	40.50	119	39.00 x 39.00
36	43.88	33.44	46.50	152	45.00 x 45.00
42	49.88	37.17	52.50	194	51.00 x 51.00
48	55.88	40.67	58.50	230	57.00 x 57.00
54	61.88	44.67	64.50	273	63.00 x 63.00
60	67.88	48.92	70.50	317	69.00 x 69.00

D-4870-5



Upblast
Model LUG



CFM Required to Open Damper Blades

DAMPER MATERIAL		14	16	18	21	24	30	36	42	48	54	60
STEEL	MIN.	1955	2516	3179	4284	5627	8704	12444	16949	22032	28305	34782
	MAX.	2413	3519	4805	6363	8259	16223	24544	29853	41165	52321	60827
ALUM	MIN.	1380	1776	2244	3024	3972	6144	8784	11964	15552	19980	24552
	MAX.	2413	3519	4805	6363	8259	16223	24544	29853	41165	52321	60827

The terminal velocity of rain is approximately 2000 feet per minute. Selections below this point are not recommended if rain entry into the building is a concern.

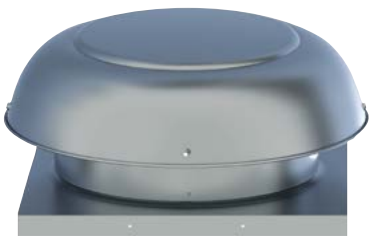




Models MGI & MGR

MODELS MGI/MGR

Gravity ventilators shall be of the hooded modular type, Model MGI (intake) or Model MGR (relief) as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota. Units shall be constructed of heavy gauge galvanized steel or aluminum for durability and appearance. Hoods shall be constructed with interlocking panels and shall be hinged or completely removable as standard to allow for ease of access to internal components. Hood support members shall be heavy gauge galvanized steel. Curb bases shall be 6 in. larger than throat dimensions and shall be 5 in. high as standard up to throat sizes of 60 x 120 with an optional 12 in. high base. Units shall contain a galvanized mesh bird screen mounted across the intake area of the hood to prevent birds from nesting inside the unit.



Model GRV

MODEL GRV

Gravity relief and/or intake ventilators shall be of the spun aluminum type, Model GRV as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota. Units shall be constructed of aluminum for durability and appearance. Unit top covers shall have a rolled bead edge for rigidity. Units shall have a deep inlet venturi to prevent against snow and rain entry into the building. Units shall contain a galvanized bird screen to prevent birds from nesting inside the unit.



Models TEL & TIL

MODELS TEL/TIL

Louvered Penthouse Gravity Ventilators shall be Model TEL (relief) or Model TIL (intake) as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota. Units shall be constructed of a heavy-duty extruded aluminum louvered enclosure with mitered and welded corners. Louvered enclosures shall have an easily removable aluminum top cover and galvanized birdscreen. The ventilator base shall include pre-punched mounting holes for easy attachment to the roof curb and shall provide protection from weather.



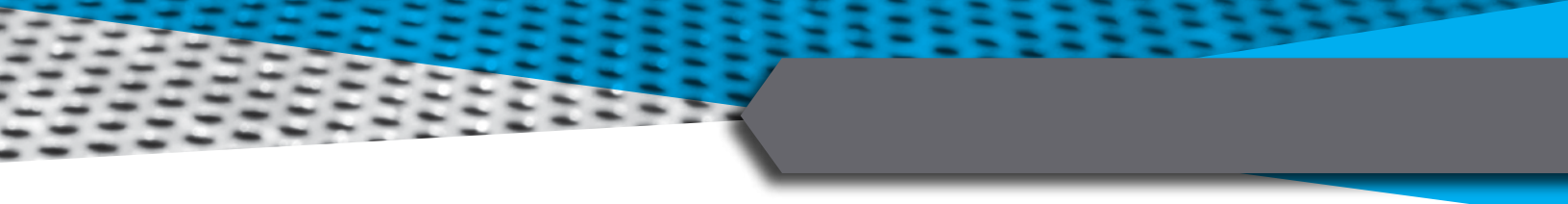
Model LUG

MODEL LUG

Gravity relief ventilators shall be of the roof mounted upblast type, Model LUG as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota. Ventilator curb caps shall be constructed of heavy gauge galvanized steel or painted steel for durability and appearance. Curb caps shall have a deep formed inlet venturi for efficient airflow and pre-punched mounting holes for easy attachment to the roof curb. Discharge cap with butterfly dampers shall contain a rain channel to protect against rain entry. Butterfly damper blades shall be constructed of steel as standard, unless the outlet velocity of the ventilator is below the minimum required to open steel damper blades, then aluminum blades shall be provided. Discharge cap assemblies shall be constructed of heavy gauge galvanized steel for durability and appearance.

GUARANTEE — The manufacturer shall guarantee the workmanship and materials for its gravity intake and relief ventilators for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.





INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

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MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | PROPELLER WALL FANS | PROPELLER ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS
RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS
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