

## Z-LINE® SERIES

SB, ZL, HV AND MR-11

- SB, ZL & HV: MERV 8  
MR-11: MERV 11
- Heavy-Duty Moisture Resistant Construction
- Galvanized Expanded Metal Backing
- Standard Size 4" and 6" Thick  
ZL, HV & MR-11 Incorporate Media Separators

The Glasfloss Z-Line Series pleated filters offer improved performance for virtually every application. All Glasfloss Z-Line pleated filters feature fibers which do not absorb moisture and will not support microbial growth. The Glasfloss Z-Line Series SB, ZL and HV filters achieve a MERV 8 rating and MR-11 filters achieve a MERV 11 rating per the ANSI/ASHRAE 52.2 Test Standard.

### FEATURES

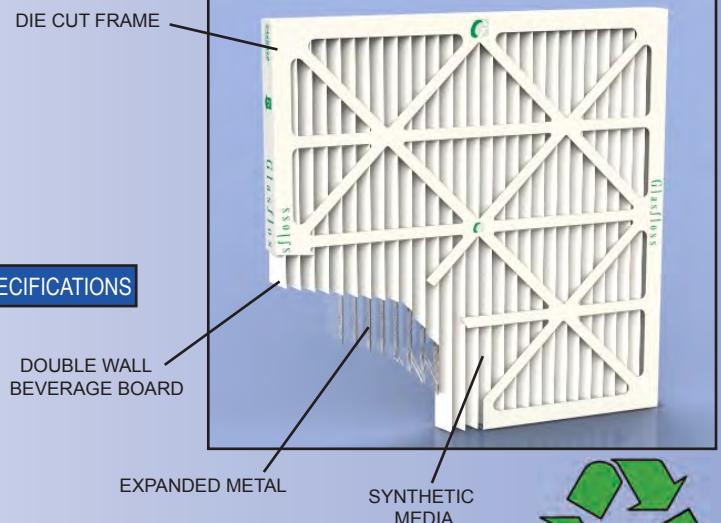


The Z-Line Series pleated filter products include:

- SB - Our most economically-priced pleated filter
- ZL - Offers excellent performance and value for a wide range of applications
- HV - Ideal in high-velocity systems where maximum square footage of media is necessary
- MR-11 - Provides high performance with low pressure drop for energy efficiency

Glasfloss Z-Line Series SB, ZL, HV and MR-11 air filters shall be of the extended-surface pleated-media type. The media utilized shall be made of 100% synthetic fibers. The media shall be pleated in a tapered radial configuration. A heavy duty, recycled expanded metal reinforcement shall be laminated to the air-exit side of the media by a thermo-setting adhesive to maintain continuity of the radial pleats. The expanded metal shall be galvanized to resist rust and corrosion. The pleated cartridge shall be bonded to the peripheral interior of the outer frame. A heavy-duty moisture-resistant beverage board incorporating post-consumer material shall be utilized for an encasing frame. The frame face shall be internally laminated to the pleated cartridge apexes. Glasfloss Z-Line Series SB, ZL, HV and MR-11 filters shall be classified under U.L. std. 900 and shall be rated to withstand temperatures up to 180 degrees Fahrenheit.

### SPECIFICATIONS





THE CLEAR CHOICE SINCE 1936

**SB, ZL, HV and MR-11 STANDARD SIZE FILTERS**

SIZE W x H x D NOMINAL	SIZE W x H x D EXACT	RATED VELOC- ITY FPM	INITIAL RESIST. IN. W.G.				MEDIA SQUARE FEET				SIZE W x H x D NOMINAL MM	RATED VELOC- ITY M/H	INITIAL RESIST. PASCALS			
			SB	ZL	HV	MR11	SB	ZL	HV	MR11			SB	ZL	HV	MR11
10 x 10 x 1	9-1/2 x 9-1/2 x 7/8	300	.24	.21	.18	.24	1.24	1.48	1.61	1.61	254 x 254 x 26	5490	59.7	52.2	44.8	59.7
10 x 20 x 1	9-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	2.06	2.47	2.67	2.67	254 x 508 x 26	5490	59.7	52.2	44.8	59.7
10 x 24 x 1	9-1/2 x 23-1/2 x 7/8	300	.24	.21	.18	.24	2.47	2.97	3.22	3.22	254 x 610 x 26	5490	59.7	52.2	44.8	59.7
10 x 30 x 1	9-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	3.71	4.33	4.95	4.95	254 x 762 x 26	5490	59.7	52.2	44.8	59.7
12 x 12 x 1	11-1/2 x 11-1/2 x 7/8	300	.24	.21	.18	.24	1.55	1.80	2.06	2.06	305 x 305 x 26	5490	59.7	52.2	44.8	59.7
12 x 20 x 1	11-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	2.47	2.88	3.29	3.29	305 x 508 x 26	5490	59.7	52.2	44.8	59.7
12 x 24 x 1	11-3/8 x 23-3/8 x 7/8	300	.24	.21	.18	.24	2.97	3.46	3.96	3.96	305 x 610 x 26	5490	59.7	52.2	44.8	59.7
12 x 30 x 1	11-5/8 x 29-1/2 x 7/8	300	.24	.21	.18	.24	3.88	4.51	5.16	5.16	305 x 762 x 26	5490	59.7	52.2	44.8	59.7
14 x 14 x 1	13-1/2 x 13-1/2 x 7/8	300	.24	.21	.18	.24	2.29	2.62	3.12	3.12	356 x 356 x 26	5490	59.7	52.2	44.8	59.7
14 x 20 x 1	13-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	2.88	3.29	3.91	3.91	356 x 508 x 26	5490	59.7	52.2	44.8	59.7
14 x 24 x 1	13-1/2 x 23-1/2 x 7/8	300	.24	.21	.18	.24	3.46	3.96	4.70	4.70	356 x 610 x 26	5490	59.7	52.2	44.8	59.7
14 x 25 x 1	13-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	3.61	4.13	4.90	4.90	356 x 635 x 26	5490	59.7	52.2	44.8	59.7
14 x 30 x 1	13-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	4.92	5.74	6.56	6.56	356 x 762 x 26	5490	59.7	52.2	44.8	59.7
15 x 20 x 1	14-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	3.09	3.70	4.11	4.11	381 x 508 x 26	5490	59.7	52.2	44.8	59.7
15 x 30 5/8 x 1	14-5/8 x 30-1/4 x 7/8	300	.24	.21	.18	.24	5.09	9.28	10.57	10.57	381 x 777 x 26	5490	59.7	52.2	44.8	59.7
16 x 16 x 1	15-1/2 x 15-1/2 x 7/8	300	.24	.21	.18	.24	2.63	3.12	3.45	3.45	406 x 406 x 26	5490	59.7	52.2	44.8	59.7
16 x 20 x 1	15-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	3.29	3.91	4.32	4.32	406 x 508 x 26	5490	59.7	52.2	44.8	59.7
16 x 24 x 1	15-1/2 x 23-1/2 x 7/8	300	.24	.21	.18	.24	3.96	4.70	5.20	5.20	406 x 610 x 26	5490	59.7	52.2	44.8	59.7
16 x 25 x 1	15-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	4.13	4.90	5.41	5.41	406 x 635 x 26	5490	59.7	52.2	44.8	59.7
16 x 30 x 1	15-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	5.00	5.83	6.67	6.67	406 x 762 x 26	5490	59.7	52.2	44.8	59.7
18 x 18 x 1	17-1/2 x 17-1/2 x 7/8	300	.24	.21	.18	.24	3.33	3.88	4.44	4.44	457 x 457 x 26	5490	59.7	52.2	44.8	59.7
18 x 20 x 1	17-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	3.70	4.32	4.94	4.94	457 x 508 x 26	5490	59.7	52.2	44.8	59.7
18 x 24 x 1	17-1/2 x 23-1/2 x 7/8	300	.24	.21	.18	.24	4.45	5.20	5.94	5.94	457 x 610 x 26	5490	59.7	52.2	44.8	59.7
18 x 25 x 1	17-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	4.64	5.41	6.19	6.19	457 x 635 x 26	5490	59.7	52.2	44.8	59.7
18 x 30 x 1	17-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	6.17	7.20	8.23	8.23	457 x 762 x 26	5490	59.7	52.2	44.8	59.7
20 x 20 x 1	19-1/2 x 19-1/2 x 7/8	300	.24	.21	.18	.24	4.11	4.73	5.55	5.55	508 x 508 x 26	5490	59.7	52.2	44.8	59.7
20 x 22 x 1	19-1/2 x 21-7/8 x 7/8	300	.24	.21	.18	.24	4.56	5.24	6.15	6.15	508 x 558 x 26	5490	59.7	52.2	44.8	59.7
20 x 24 x 1	19-3/8 x 23-3/8 x 7/8	300	.24	.21	.18	.24	4.95	5.69	6.68	6.68	508 x 610 x 26	5490	59.7	52.2	44.8	59.7
20 x 25 x 1	19-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	5.16	5.93	6.96	6.96	508 x 635 x 26	5490	59.7	52.2	44.8	59.7
20 x 30 x 1	19-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	6.17	7.20	8.23	8.23	508 x 762 x 26	5490	59.7	52.2	44.8	59.7
22 x 22 x 1	21-1/2 x 21-1/2 x 7/8	300	.24	.21	.18	.24	5.44	6.43	7.17	7.17	558 x 558 x 26	5490	59.7	52.2	44.8	59.7
24 x 24 x 1	23-3/8 x 23-3/8 x 7/8	300	.24	.21	.18	.24	5.94	6.93	7.92	7.92	610 x 610 x 26	5490	59.7	52.2	44.8	59.7
24 x 30 x 1	23-5/8 x 29-5/8 x 7/8	300	.24	.21	.18	.24	7.42	8.66	9.90	9.90	610 x 762 x 26	5490	59.7	52.2	44.8	59.7
25 x 25 x 1	24-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	6.45	7.48	8.51	8.51	635 x 635 x 26	5490	59.7	52.2	44.8	59.7
10 x 20 x 2	9-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	3.84	6.24	6.24	254 x 508 x 51	9150	-	74.6	67.1	77.1
12 x 12 x 2	11-1/2 x 11-1/2 x 1-3/4	500	-	.30	.27	.31	-	2.89	4.33	4.33	305 x 305 x 51	9150	-	74.6	67.1	77.1
12 x 20 x 2	11-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	4.80	7.20	7.20	305 x 508 x 51	9150	-	74.6	67.1	77.1
12 x 24 x 2	11-3/8 x 23-3/8 x 1-3/4	500	-	.30	.27	.31	-	5.77	8.66	8.66	305 x 610 x 51	9150	-	74.6	67.1	77.1
14 x 20 x 2	13-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	5.76	8.64	8.64	356 x 508 x 51	9150	-	74.6	67.1	77.1
14 x 25 x 2	13-1/2 x 24-1/2 x 1-3/4	500	-	.30	.27	.31	-	7.22	10.83	10.83	356 x 635 x 51	9150	-	74.6	67.1	77.1
15 x 20 x 2	14-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	6.24	9.12	9.12	381 x 508 x 51	9150	-	74.6	67.1	77.1
16 x 16 x 2	15-1/2 x 15-1/2 x 1-3/4	500	-	.30	.27	.31	-	4.98	7.66	7.66	406 x 406 x 51	9150	-	74.6	67.1	77.1
16 x 20 x 2	15-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	6.24	9.60	9.60	406 x 508 x 51	9150	-	74.6	67.1	77.1
16 x 24 x 2	15-1/2 x 23-1/2 x 1-3/4	500	-	.30	.27	.31	-	7.50	11.55	11.55	406 x 610 x 51	9150	-	74.6	67.1	77.1
16 x 25 x 2	15-1/2 x 24-1/2 x 1-3/4	500	-	.30	.27	.31	-	7.82	12.03	12.03	406 x 635 x 51	9150	-	74.6	67.1	77.1
18 x 18 x 2	17-1/2 x 17-1/2 x 1-3/4	500	-	.30	.27	.31	-	6.47	9.92	9.92	457 x 457 x 51	9150	-	74.6	67.1	77.1
18 x 20 x 2	17-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	7.20	11.04	11.04	457 x 508 x 51	9150	-	74.6	67.1	77.1
18 x 24 x 2	17-1/2 x 23-1/2 x 1-3/4	500	-	.30	.27	.31	-	8.66	13.28	13.28	457 x 610 x 51	9150	-	74.6	67.1	77.1
18 x 25 x 2	17-1/2 x 24-1/2 x 1-3/4	500	-	.30	.27	.31	-	9.02	13.84	13.84	457 x 635 x 51	9150	-	74.6	67.1	77.1
20 x 20 x 2	19-1/2 x 19-1/2 x 1-3/4	500	-	.30	.27	.31	-	8.16	12.00	12.00	508 x 508 x 51	9150	-	74.6	67.1	77.1
20 x 24 x 2	19-3/8 x 23-3/8 x 1-3/4	500	-	.30	.27	.31	-	9.81	14.43	14.43	508 x 610 x 51	9150	-	74.6	67.1	77.1
20 x 25 x 2	19-1/2 x 24-1/2 x 1-3/4	500	-	.30	.27	.31	-	10.23	15.04	15.04	508 x 635 x 51	9150	-	74.6	67.1	77.1
20 x 30 x 2	19-5/8 x 29-5/8 x 1-3/4	500	-	.30	.27	.31	-	12.00	18.24	18.24	508 x 762 x 51	9150	-	74.6	67.1	77.1
24 x 24 x 2	23-3/8 x 23-3/8 x 1-3/4	500	-	.30	.27	.31	-	11.55	17.61	17.61	610 x 610 x 51	9150	-	74.6	67.1	77.1
25 x 25 x 2	24-1/2 x 24-1/2 x 1-3/4	500	-	.30	.27	.31	-	12.63	18.65	18.65	635 x 635 x 51	9150	-	74.6	67.1	77.1

Tolerances shall be +/- 1/8" for height, width and +/- 1/16" for depth. Recommended final resistance is 1.00" w.g. All special sizes will be undersized by 1/8" unless specified otherwise.

Pleats Per Lineal Foot

DEPTH	SB	ZL	HV	MR-11
1"	12	14	16	16
2"	NA	10	15	15
4"	NA	9	11	11
6"	NA	9	11	11

Media Area to Face Area Ratio

DEPTH	SB	ZL	HV	MR-11
1"	1.48	1.73	1.97	1.97
2"	NA	2.88	4.40	4.40
4"	NA	5.56	6.80	6.80
6"	NA	8.53	10.43	10.43

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Glasfloss has a policy of uninterrupted research, development and product improvement and reserves the right to change design and specifications without notice.

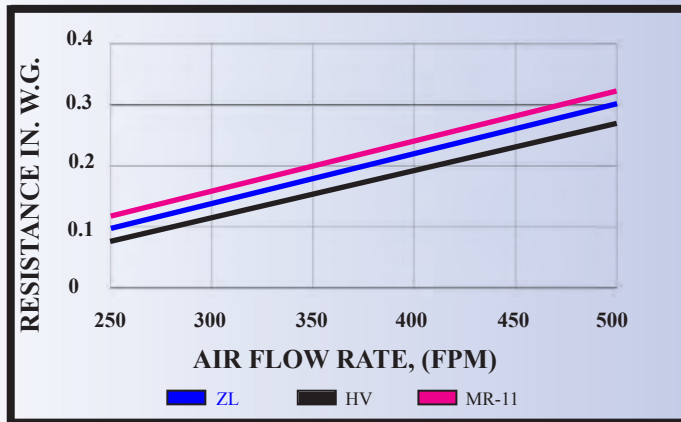
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SIZE W x H x D NOMINAL	SIZE W x H x D EXACT	RATED VELOC- ITY FPM	INITIAL RESIST. IN. W.G.				MEDIA SQUARE FEET				SIZE W x H x D NOMINAL MM	RATED VELOC- ITY M/H	INITIAL RESIST. PASCALS			
			SB	ZL	HV	MR11	SB	ZL	HV	MR11			SB	ZL	HV	MR11
12 x 24 x 4	11-3/8 x 23-3/8 x 3-3/4	500	-	.25	.22	.25	-	11.13	13.61	13.61	457 x 610 x 102	9150	-	62.2	54.7	62.2
16 x 20 x 4	15-1/2 x 19-1/2 x 3-3/4	500	-	.25	.22	.25	-	12.34	15.43	15.43	406 x 508 x 102	9150	-	62.2	54.7	62.2
16 x 24 x 4	15-1/2 x 23-1/2 x 3-3/4	500	-	.25	-	-	-	14.84	-	-	406 x 610 x 102	9150	-	62.2	-	-
16 x 25 x 4	15-1/2 x 24-1/2 x 3-3/4	500	-	.25	.22	.25	-	15.47	19.34	19.34	406 x 635 x 102	9150	-	62.2	54.7	62.2
18 x 24 x 4	17-1/2 x 23-1/2 x 3-3/4	500	-	.25	.22	.25	-	17.32	21.03	21.03	457 x 610 x 102	9150	-	62.2	54.7	62.2
20 x 20 x 4	19-1/2 x 19-1/2 x 3-3/4	500	-	.25	.22	.25	-	15.43	18.52	18.52	508 x 508 x 102	9150	-	62.2	54.7	62.2
20 x 24 x 4	19-3/8 x 23-3/8 x 3-3/4	500	-	.25	.22	.25	-	18.55	22.27	22.27	508 x 610 x 102	9150	-	62.2	54.7	62.2
20 x 25 x 4	19-1/2 x 24-1/2 x 3-3/4	500	-	.25	.22	.25	-	19.34	23.20	23.20	508 x 635 x 102	9150	-	62.2	54.7	62.2
24 x 24 x 4	23-3/8 x 23-3/8 x 3-3/4	500	-	.25	.22	.25	-	22.27	27.21	27.21	610 x 610 x 102	9150	-	62.2	54.7	62.2
*25 x 29 x 4	24-1/2 x 28-1/2 x 3-3/4	500	-	.25	.22	.25	-	28.36	34.80	34.80	635 x 737 x 102	9150	-	62.2	54.7	62.2
*28 x 30 x 4	27-3/8 x 29-3/8 x 3-3/4	500	-	.25	.22	.25	-	30.63	37.92	37.92	711 x 762 x 102	9150	-	62.2	54.7	62.2
12 x 24 x 6	11-3/8 x 23-3/8 x 5-3/4	500	-	-	.18	.22	-	-	20.86	20.86	305 x 610 x 152	9150	-	49.8	42.3	54.7
16 x 20 x 6	15-1/2 x 19-1/2 x 5-3/4	500	-	-	.18	.22	-	-	23.66	23.66	406 x 508 x 152	9150	-	49.8	42.3	54.7
16 x 25 x 6	15-1/2 x 24-1/2 x 5-3/4	500	-	-	.18	.22	-	-	29.65	29.65	406 x 635 x 152	9150	-	49.8	42.3	54.7
18 x 24 x 6	17-1/2 x 23-1/2 x 5-3/4	500	-	-	.18	.22	-	-	32.24	32.24	457 x 610 x 152	9150	-	49.8	42.3	54.7
20 x 20 x 6	19-1/2 x 19-1/2 x 5-3/4	500	-	-	.18	.22	-	-	28.39	28.39	508 x 508 x 152	9150	-	49.8	42.3	54.7
20 x 24 x 6	19-3/8 x 23-3/8 x 5-3/4	500	-	-	.18	.22	-	-	34.14	34.14	508 x 610 x 152	9150	-	49.8	42.3	54.7
20 x 25 x 6	19-1/2 x 24-1/2 x 5-3/4	500	-	-	.18	.22	-	-	35.58	35.58	508 x 635 x 152	9150	-	49.8	42.3	54.7
24 x 24 x 6	23-3/8 x 23-3/8 x 5-3/4	500	-	-	.18	.22	-	-	41.73	41.73	610 x 610 x 152	9150	-	49.8	42.3	54.7

Tolerances shall be +/- 1/8" for height, width and +/- 1/16" for depth. Recommended final resistance is 1.00" w.g. All special sizes will be undersized by 1/8" unless specified otherwise.  
 \*Utilizes four piece frame construction.

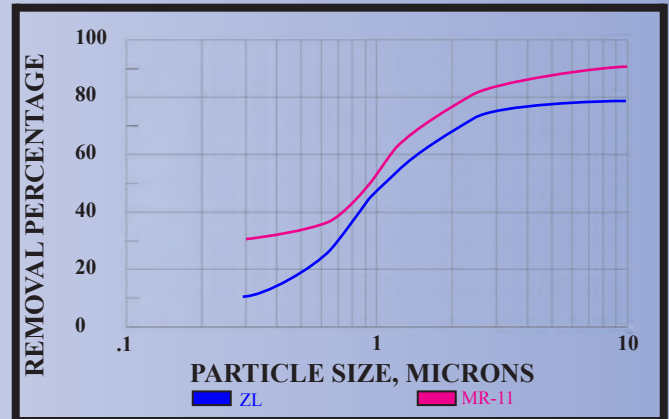
## STANDARD PRESSURE DROP

Test Filter Size 24" x 24" x 2" Nominal



## MINIMUM PARTICLE SIZE EFFICIENCY

Test Filter Size 24" x 24" x 2" Nominal

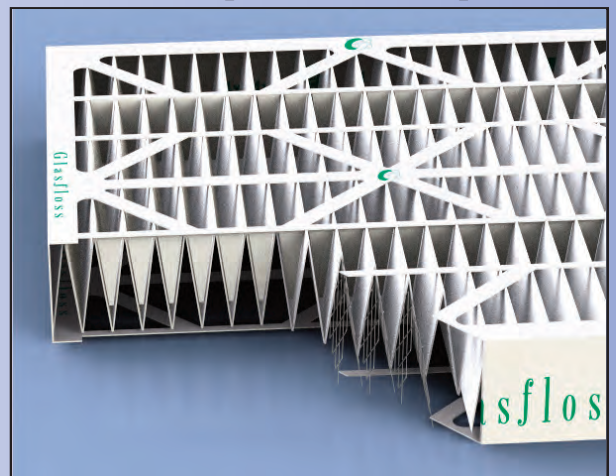


The Z-Line Series offers the most complete line of pleated filters in the market. The mechanical structure of the media fibers sustains efficiency over the service life of the filter and produces high dust-holding capacity. Glasfloss Z-Line Series pleated filters are used in a broad range of installations, from pre-filters for high efficiency filters to primary filters for computer room units.

The Z-Line Series offers four grades to choose from:

- SB** - Our most economical pleated filter grade provides efficiency and dependability
- ZL** - Offers the optimum combination of price and performance and is designed to ensure maximum filter life.
- HV** - Ideal in high-velocity systems where maximum square footage of media is necessary. The HV has increased surface area that ensures a good air flow-to-media ratio where low resistance and filter integrity are of prime importance.
- MR-11** - Provides high performance with low pressure drop for energy efficiency

Standard size 4" thick ZL, HV, MR-11 & 6" MR-11 incorporate media separators



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Glasfloss has a policy of uninterrupted research, development and product improvement and reserves the right to change design and specifications without notice.

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## GLASFLOSS' COMMITMENT to GREEN



For years, Glasfloss has been designing air filtration products for maximum energy savings and environmental benefits in HVAC systems. Now more than ever, our commitment to Green products and manufacturing processes is at the heart of our company. For more information on Glasfloss Green products and LEED project certification options, please contact your Glasfloss Sales Representative.

### Z-LINE SERIES SB, ZL, HV & MR-11 LEED APPLICATION AND PERFORMANCE BENEFITS

- SB, ZL & HV meet LEED requirement for MERV 8 with a very low pressure drop
- SB, ZL & HV meet American Institute of Architects (AIA) Guidelines for Healthcare Facilities-2010 Edition (Filter Efficiencies, Table 2.1-3) (MERV 8)
- SB, ZL & HV meet ANSI/ASHRAE Standard 170-2008, Ventilation of Health Care Facilities (MERV 8)
- SB, ZL & HV meet NAFA Guidelines for Libraries, Archives & Museums for pre-filtering the airborne molecular contaminant (AMC) filtration stage (MERV 8)
- SB, ZL & HV meet the requirement of MERV 8 per the Florida Green Lodging Program
- MR-11 provides exceptional efficiency on 1-3 micron size particles (E2 range)
- MR-11 achieves MERV 11 with lowest pressure drop available

Glasfloss Industries incorporates color-coded carton labels on standard sizes to help identify the product, which enhance warehouse operations and shipments.



Glasfloss is proud to be an Energy Star Partner. The Energy Star Service and Product Provider Partnership is available to organizations that provide energy efficiency related products and/or services to the commercial buildings and industrial plants in the United States.



Glasfloss manufactures a variety of medium and high efficiency air filters which can be specified for LEED certification applications. For specific information on these products, please contact your local Glasfloss Sales Representative.



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