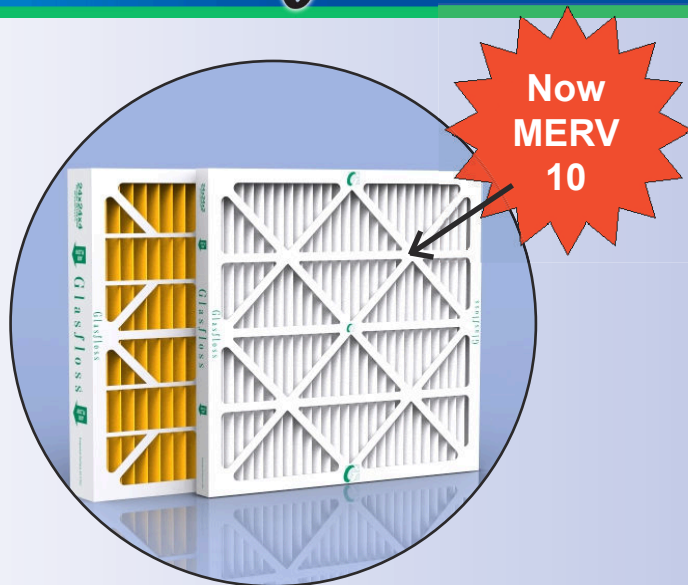




Z-LINE® SERIES

SB, ZL, HV & MR-11

- SB, ZL & HV: MERV 10
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
- Geothermal Unit Replacement Filters

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.

FEATURES



The Z-Line Series pleated filter products include:

- SB - Our most economically priced 1" thick 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. The Glasfloss Z-Line Series SB, ZL and HV filters achieve a MERV 10 rating and MR-11 filters achieve a MERV 11 rating per the ANSI/ASHRAE 52.2 Test Standard.



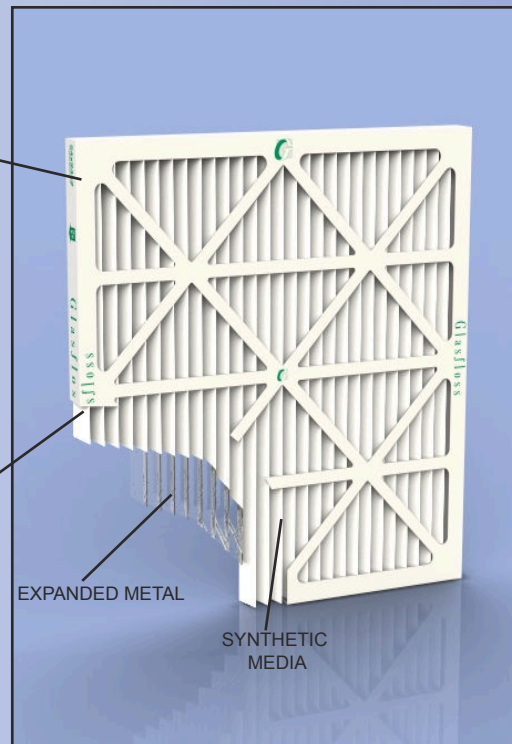
SPECIFICATIONS

DIE CUT FRAME

DOUBLE WALL
BEVERAGE BOARD

EXPANDED METAL

SYNTHETIC
MEDIA



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PRODUCT BULLETIN 6ZLINE • SECTION 6 • 4-1-15



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	MR 11
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 25 x 1	11-1/2 x 24-1/2 x 7/8	300	.24	.21	.18	.24	3.61	4.13	4.13	4.13	305 x 635 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 21-1/2 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
24 x 28 x 2	23-1/2 x 27-3/4 x 1-3/4	500	-	-	-	.31	-	-	-	21.69	610 x 762 x 51	9150	-	-	-	77.1
28 x 30 x 2	27-3/4 x 29-3/8 x 1-3/4	500	-	-	-	.31	-	-	-	25.31	711 x 762 x 51	9150	-	-	-	77.1
30 x 32 x 2	29-3/8 x 31-3/4 x 1-3/4	500	-	-	-	.31	-	-	-	28.92	762 x 813 x 51	9150	-	-	-	77.1
30 x 36 x 2	29-3/8 x 35-3/4 x 1-3/4	500	-	-	-	.31	-	-	-	32.54	762 x 914 x 51	9150	-	-	-	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.

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SIZE W x H x D NOMINAL	SIZE W x H x D EXACT	RATED VELOCITY FPM	INITIAL RESIST. IN. W			MEDIA SQUARE FEET			SIZE W x H x D NOMINAL MM	RATED VELOCITY M/H	INITIAL RESIST. PASCALS		
			ZL	HV	MR-11	ZL	HV	MR-11			ZL	HV	MR-11
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
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.

Pleats Per Lineal Foot

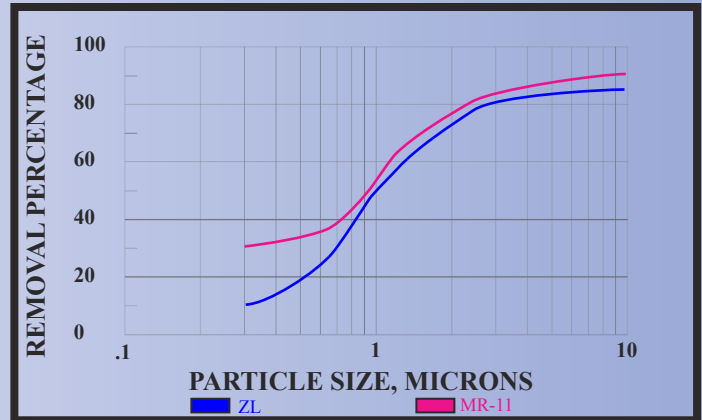
DEPTH	SB	ZL	HV	MR-11
1"	12	14	16	16
2"	NA	10	15	15
4"	NA	9	11	11
6"	NA	9	11	11

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

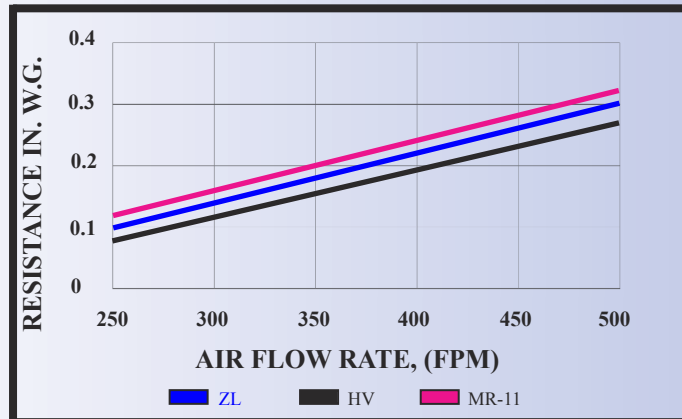
MINIMUM PARTICLE SIZE EFFICIENCY

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



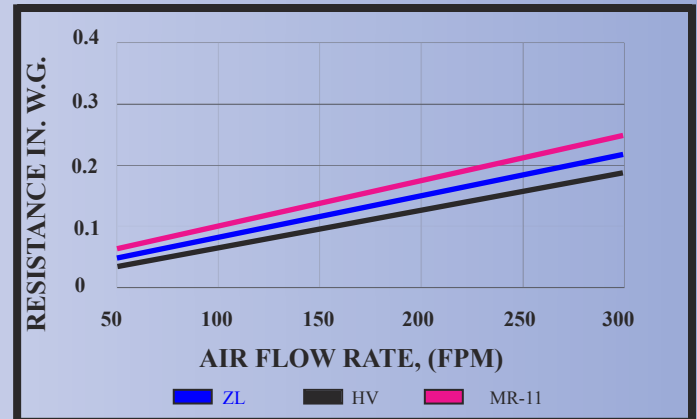
STANDARD PRESSURE DROP

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



STANDARD PRESSURE DROP

Test Filter Size 24" x 24" x 1" Nominal



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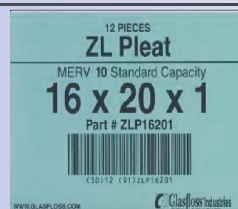
Glasfloss Z-Line® MERV 11 Geothermal Unit Replacement Filters One Piece Die-Cut Frame Construction

- Improved Rigidity
- Increased Media Area
- MERV 11 Performance
- New Standard Part Numbers
- New Lower Carton Quantity



GEOTHERMAL REPLACEMENT SIZES			
PART NUMBER	ACTUAL SIZES	CARTON QUANTITY	CARTON WEIGHT
M1124282	23-1/2 x 27-3/4 x 2	6	14 LB
M1128302	27-3/4 x 29-3/8 x 2	6	16 LB
M1130322	29-3/8 x 31-3/4 x 2	6	17 LB
M1130362	29-3/8 x 35-3/4 x 2	6	18 LB

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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