

Z-LINE® SERIES

ZL, HV & MR-11

- ZL & HV: MERV 10
MR-11: MERV 11
- Heavy-Duty Moisture Resistant Construction
- Galvanized Expanded Metal Backing
- Standard Size 4" and 6" Thick
- 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:

- 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 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 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 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.



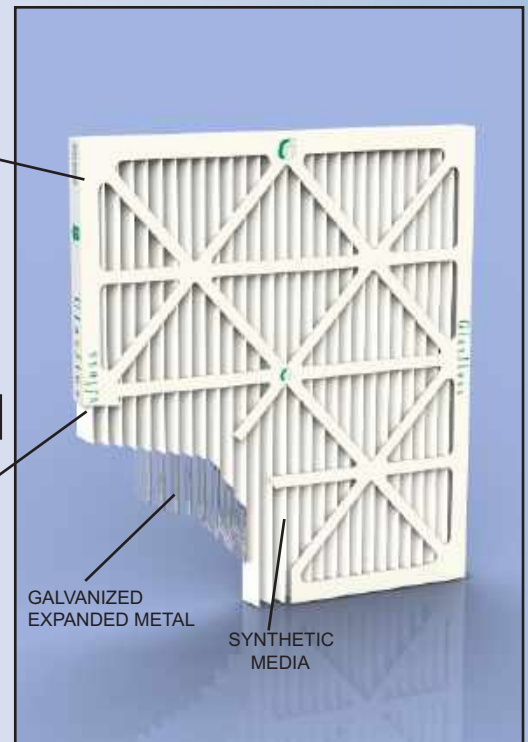
SPECIFICATIONS

DIE CUT FRAME

DOUBLE WALL
BEVERAGE BOARD

GALVANIZED
EXPANDED METAL

SYNTHETIC
MEDIA



"Serving You With Locations Throughout The Nation"



THE CLEAR CHOICE SINCE 1936

ZL, HV and MR-11 STANDARD SIZE FILTERS

SIZE W x H x D NOMINAL	SIZE W x H x D EXACT	RATED VELOCITY FPM	INITIAL RESIST. IN. W.G.			MEDIA SQUARE FEET			SIZE W x H x D NOMINAL MM	RATED VELOCITY M/H	INITIAL RESIST. PASCALS		
			ZL	HV	MR11	ZL	HV	MR11			ZL	HV	MR11
10 x 10 x 1	9-1/2 x 9-1/2 x 7/8	300	.20	.18	.24	1.48	1.61	1.61	254 x 254 x 26	5490	49.8	44.8	59.7
10 x 20 x 1	9-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	2.47	2.67	2.67	254 x 508 x 26	5490	49.8	44.8	59.7
10 x 24 x 1	9-1/2 x 23-1/2 x 7/8	300	.20	.18	.24	2.97	3.22	3.22	254 x 610 x 26	5490	49.8	44.8	59.7
10 x 30 x 1	9-5/8 x 29-5/8 x 7/8	300	.20	.18	.24	4.33	4.95	4.95	254 x 762 x 26	5490	49.8	44.8	59.7
12 x 12 x 1	11-1/2 x 11 1/2 x 7/8	300	.20	.18	.24	1.80	2.06	2.06	305 x 305 x 26	5490	49.8	44.8	59.7
12 x 20 x 1	11-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	2.88	3.29	3.29	305 x 508 x 26	5490	49.8	44.8	59.7
12 x 24 x 1	11-3/8 x 23-3/8 x 7/8	300	.20	.18	.24	3.46	3.96	3.96	305 x 610 x 26	5490	49.8	44.8	59.7
12 x 25 x 1	11-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	4.13	4.13	4.13	305 x 635 x 26	5490	49.8	44.8	59.7
12 x 30 x 1	11-5/8 x 29-1/2 x 7/8	300	.20	.18	.24	4.51	5.16	5.16	305 x 762 x 26	5490	49.8	44.8	59.7
14 x 14 x 1	13-1/2 x 13-1/2 x 7/8	300	.20	.18	.24	2.62	3.12	3.12	356 x 356 x 26	5490	49.8	44.8	59.7
14 x 20 x 1	13-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	3.29	3.91	3.91	356 x 508 x 26	5490	49.8	44.8	59.7
14 x 24 x 1	13 1/2 x 23 1/2 x 7/8	300	.20	.18	.24	3.96	4.70	4.70	356 x 610 x 26	5490	49.8	44.8	59.7
14 x 25 x 1	13-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	4.13	4.90	4.90	356 x 635 x 26	5490	49.8	44.8	59.7
14 x 30 x 1	13 5/8 x 29 5/8 x 7/8	300	.20	.18	.24	5.74	6.56	6.56	356 x 762 x 26	5490	49.8	44.8	59.7
15 x 20 x 1	14-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	3.70	4.11	4.11	381 x 508 x 26	5490	49.8	44.8	59.7
15 x 30-5/8 x 1	14-5/8 x 30-1/4 x 7/8	300	.20	.18	.24	9.28	10.57	10.57	381 x 777 x 26	5490	49.8	44.8	59.7
16 x 16 x 1	15-1/2 x 15-1/2 x 7/8	300	.20	.18	.24	3.12	3.45	3.45	406 x 406 x 26	5490	49.8	44.8	59.7
16 x 20 x 1	15-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	3.91	4.32	4.32	406 x 508 x 26	5490	49.8	44.8	59.7
16 x 24 x 1	15-1/2 x 23-1/2 x 7/8	300	.20	.18	.24	4.70	5.20	5.20	406 x 610 x 26	5490	49.8	44.8	59.7
16 x 25 x 1	15-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	4.90	5.41	5.41	406 x 635 x 26	5490	49.8	44.8	59.7
16 x 30 x 1	15-5/8 x 29-5/8 x 7/8	300	.20	.18	.24	5.83	6.67	6.67	406 x 762 x 26	5490	49.8	44.8	59.7
18 x 18 x 1	17-1/2 x 17-1/2 x 7/8	300	.20	.18	.24	3.88	4.44	4.44	457 x 457 x 26	5490	49.8	44.8	59.7
18 x 20 x 1	17-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	4.32	4.94	4.94	457 x 508 x 26	5490	49.8	44.8	59.7
18 x 24 x 1	17-1/2 x 23-1/2 x 7/8	300	.20	.18	.24	5.20	5.94	5.94	457 x 610 x 26	5490	49.8	44.8	59.7
18 x 25 x 1	17-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	5.41	6.19	6.19	457 x 635 x 26	5490	49.8	44.8	59.7
18 x 30 x 1	17-5/8 x 29-5/8 x 7/8	300	.20	.18	.24	7.20	8.23	8.23	457 x 762 x 26	5490	49.8	44.8	59.7
20 x 20 x 1	19-1/2 x 19-1/2 x 7/8	300	.20	.18	.24	4.73	5.55	5.55	508 x 508 x 26	5490	49.8	44.8	59.7
20 x 22 x 1	19-1/2 x 21-7/8 x 7/8	300	.20	.18	.24	5.24	6.15	6.15	508 x 558 x 26	5490	49.8	44.8	59.7
20 x 24 x 1	19-3/8 x 23-3/8 x 7/8	300	.20	.18	.24	5.69	6.68	6.68	508 x 610 x 26	5490	49.8	44.8	59.7
20 x 25 x 1	19-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	5.93	6.96	6.96	508 x 635 x 26	5490	49.8	44.8	59.7
20 x 30 x 1	19-5/8 x 29-5/8 x 7/8	300	.20	.18	.24	7.20	8.23	8.23	508 x 762 x 26	5490	49.8	44.8	59.7
22 x 22 x 1	21-1/2 x 21-1/2 x 7/8	300	.20	.18	.24	6.43	7.17	7.17	558 x 558 x 26	5490	49.8	44.8	59.7
24 x 24 x 1	23-3/8 x 23-3/8 x 7/8	300	.20	.18	.24	6.93	7.92	7.92	610 x 610 x 26	5490	49.8	44.8	59.7
24 x 30 x 1	23-5/8 x 29-5/8 x 7/8	300	.20	.18	.24	8.66	9.90	9.90	610 x 762 x 26	5490	49.8	44.8	59.7
25 x 25 x 1	24-1/2 x 24-1/2 x 7/8	300	.20	.18	.24	7.48	8.51	8.51	635 x 635 x 26	5490	49.8	44.8	59.7
10 x 20 x 2	9-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	3.84	6.24	6.24	254 x 508 x 51	9150	72.2	67.2	77.1
12 x 12 x 2	11-1/2 x 11-1/2 x 1-3/4	500	.29	.27	.31	2.89	4.33	4.33	305 x 305 x 51	9150	72.2	67.2	77.1
12 x 20 x 2	11-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	4.80	7.20	7.20	305 x 508 x 51	9150	72.2	67.2	77.1
12 x 24 x 2	11-3/8 x 23-3/8 x 1-3/4	500	.29	.27	.31	5.77	8.66	8.66	305 x 610 x 51	9150	72.2	67.2	77.1
14 x 20 x 2	13-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	5.76	8.64	8.64	356 x 508 x 51	9150	72.2	67.2	77.1
14 x 25 x 2	13-1/2 x 24-1/2 x 1-3/4	500	.29	.27	.31	7.22	10.83	10.83	356 x 635 x 51	9150	72.2	67.2	77.1
15 x 20 x 2	14-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	6.24	9.12	9.12	381 x 508 x 51	9150	72.2	67.2	77.1
16 x 16 x 2	15-1/2 x 15-1/2 x 1-3/4	500	.29	.27	.31	4.98	7.66	7.66	406 x 406 x 51	9150	72.2	67.2	77.1
16 x 20 x 2	15-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	6.24	9.60	9.60	406 x 508 x 51	9150	72.2	67.2	77.1
16 x 24 x 2	15-1/2 x 23-1/2 x 1-3/4	500	.29	.27	.31	7.50	11.55	11.55	406 x 610 x 51	9150	72.2	67.2	77.1
16 x 25 x 2	15-1/2 x 24-1/2 x 1-3/4	500	.29	.27	.31	7.82	12.03	12.03	406 x 635 x 51	9150	72.2	67.2	77.1
18 x 18 x 2	17-1/2 x 17-1/2 x 1-3/4	500	.29	.27	.31	6.47	9.92	9.92	457 x 457 x 51	9150	72.2	67.2	77.1
18 x 20 x 2	17-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	7.20	11.04	11.04	457 x 508 x 51	9150	72.2	67.2	77.1
18 x 24 x 2	17-1/2 x 23-1/2 x 1-3/4	500	.29	.27	.31	8.66	13.28	13.28	457 x 610 x 51	9150	72.2	67.2	77.1
18 x 25 x 2	17-1/2 x 24-1/2 x 1-3/4	500	.29	.27	.31	9.02	13.84	13.84	457 x 635 x 51	9150	72.2	67.2	77.1
20 x 20 x 2	19-1/2 x 19-1/2 x 1-3/4	500	.29	.27	.31	8.16	12.00	12.00	508 x 508 x 51	9150	72.2	67.2	77.1
20 x 24 x 2	19-3/8 x 23-3/8 x 1-3/4	500	.29	.27	.31	9.81	14.43	14.43	508 x 610 x 51	9150	72.2	67.2	77.1
20 x 25 x 2	19-1/2 x 24-1/2 x 1-3/4	500	.29	.27	.31	10.23	15.04	15.04	508 x 635 x 51	9150	72.2	67.2	77.1
20 x 30 x 2	19-5/8 x 29-5/8 x 1-3/4	500	.29	.27	.31	12.00	18.24	18.24	508 x 762 x 51	9150	72.2	67.2	77.1
24 x 24 x 2	23-3/8 x 23-3/8 x 1-3/4	500	.29	.27	.31	11.55	17.61	17.61	610 x 610 x 51	9150	72.2	67.2	77.1
25 x 25 x 2	24-1/2 x 24-1/2 x 1-3/4	500	.29	.27	.31	12.63	18.65	18.65	635 x 635 x 51	9150	72.2	67.2	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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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 VELOCITY FPM	INITIAL RESIST. IN. W.G.			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	.24	.22	.25	11.13	13.61	13.61	457 x 610 x 102	9150	59.7	54.7	62.2
16 x 20 x 4	15-1/2 x 19-1/2 x 3-3/4	500	.24	.22	.25	12.34	15.43	15.43	406 x 508 x 102	9150	59.7	54.7	62.2
16 x 24 x 4	15-1/2 x 23-1/2 x 3-3/4	500	.24	-	-	14.84	-	-	406 x 610 x 102	9150	59.7	-	-
16 x 25 x 4	15-1/2 x 24-1/2 x 3-3/4	500	.24	.22	.25	15.47	19.34	19.34	406 x 635 x 102	9150	59.7	54.7	62.2
18 x 24 x 4	17-1/2 x 23-1/2 x 3-3/4	500	.24	.22	.25	17.32	21.03	21.03	457 x 610 x 102	9150	59.7	54.7	62.2
20 x 20 x 4	19-1/2 x 19-1/2 x 3-3/4	500	.24	.22	.25	15.43	18.52	18.52	508 x 508 x 102	9150	59.7	54.7	62.2
20 x 24 x 4	19-3/8 x 23-3/8 x 3-3/4	500	.24	.22	.25	18.55	22.27	22.27	508 x 610 x 102	9150	59.7	54.7	62.2
20 x 25 x 4	19-1/2 x 24-1/2 x 3-3/4	500	.24	.22	.25	19.34	23.20	23.20	508 x 635 x 102	9150	59.7	54.7	62.2
24 x 24 x 4	23-3/8 x 23-3/8 x 3-3/4	500	.24	.22	.25	22.27	27.21	27.21	610 x 610 x 102	9150	59.7	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	-	44.8	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	-	44.8	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	-	44.8	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	-	44.8	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	-	44.8	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	-	44.8	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	-	44.8	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	-	44.8	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

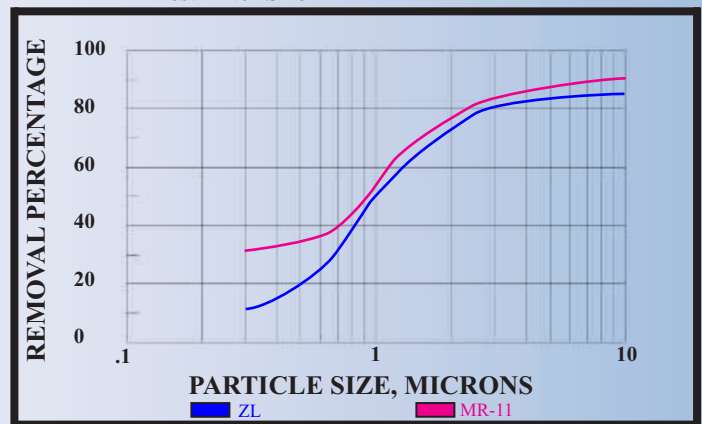
DEPTH	ZL	HV	MR-11
1"	14	16	16
2"	10	15	15
4"	9	11	11
6"	-	11	11

Media Area to Face Area Ratio

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

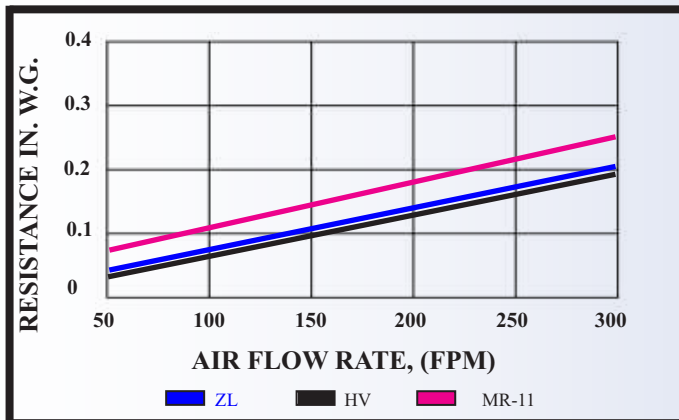
MINIMUM PARTICLE SIZE EFFICIENCY

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



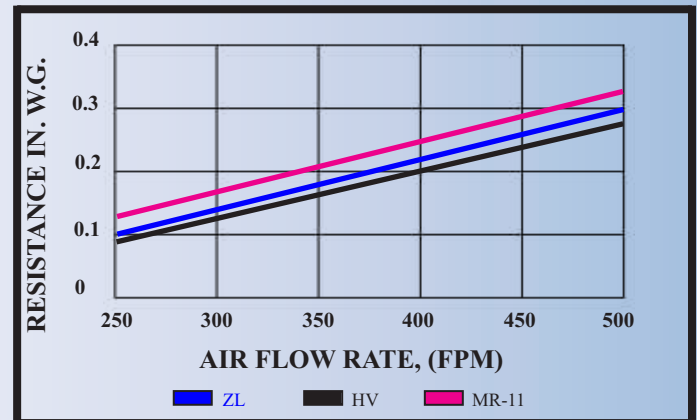
STANDARD PRESSURE DROP

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



STANDARD PRESSURE DROP

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



"Serving You With Locations Throughout The Nation"

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

- Improved Rigidity
- Increased Media Area
- MERV 11 Performance



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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