hi-E 40™

Standard capacity medium efficiency pleated air filter

Purolator®
Air Filtration
a CLARCOR company

General Product Information

The Purolator hi-E 40™ is a medium efficiency, self-supported, extended surface, pleated air filter. The media area and initial air flow resistance have been carefully balanced to withstand flow capacity up to 625 FPM while maximizing dust holding capacity.

The hi-E 40 is available in many standard face sizes in order to accommodate most system requirements. (29 one-inch depth sizes, 21 two-inch, and 10 four-inch depth sizes, as shown in chart on page 4)

Applications

The Purolator hi-E 40 is effective in stand alone applications or as a pre-filter in place of a disposable, permanent, or media pad/frame filter. In situations where a significantly higher degree of cleanliness and/or longer service life is desired, a hi-E 40 pleated filter should be considered.

As time required for installation of filtration products is often a concern, it should be noted that the hi-E 40 is easy to install in new or existing side-access housings, package air handling units, and built up filter banks.

Economy

The Purolator hi-E 40 provides filtration economy in two ways:

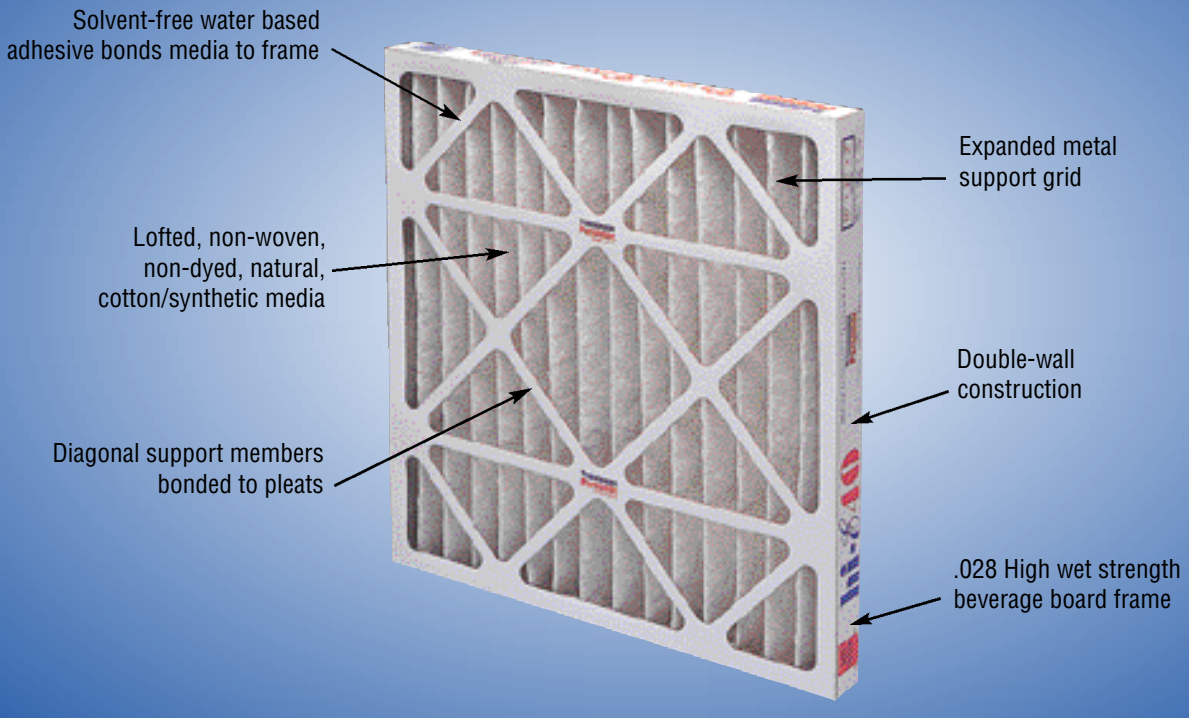
1. Medium efficiency filtration drastically reduces building maintenance costs by protecting expensive HVAC equipment from the damaging effects of dirty air.

2. The use of the hi-E 40 as a pre-filter prolongs the useful life of expensive secondary filters.

Filter media

A lofted, non-woven pleated filter media composed of non-dyed, natural cotton and synthetic fibers makes up the hi-E 40 media. When tested in accordance with ASHRAE testing method 52.1-1992, this fiber blend provides a 25-30% average efficiency and a 90-93% average arrestance and maximizes dust retention capabilities.

hi-E 40 Filter Construction Features



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Filter closure frame

The hi-E 40 filter elements are enclosed in a two piece heavy duty, .028 high wet strength beverage board frame. When assembled, the fully bonded double wall frame combines with the integral corner flaps and forms a rugged, durable filter which will not rack, warp or leak under normal operating conditions.

Fire retardant construction

The Purolator hi-E 40 pleated filter is U.L. Class 2 approved and listed. Testing on this product was performed in accordance with U.L Standard 900. Suggested operating temperatures: Not to exceed 200°F (93°C).

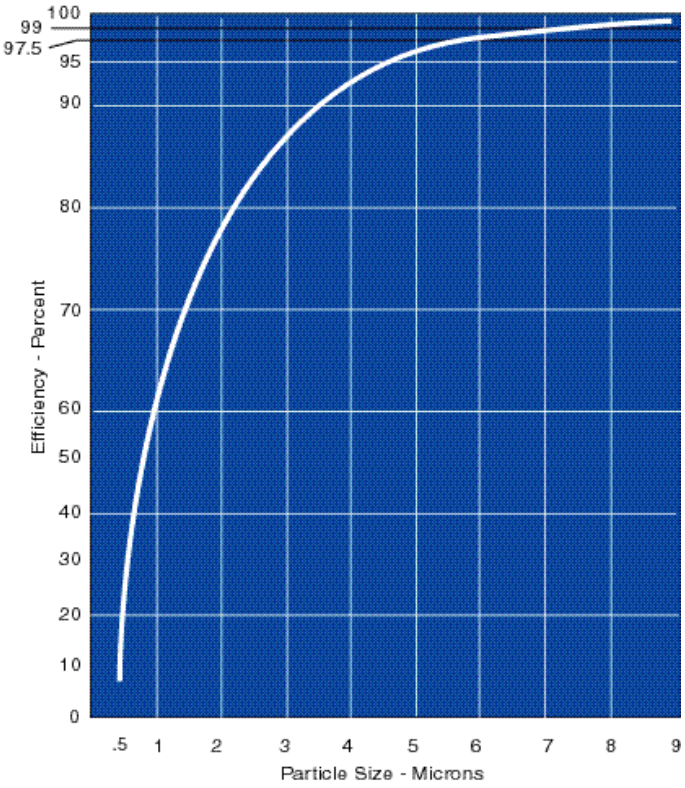
Pleat Configuration

The filter media derives its support from being continuously bonded to a corrosion resistant, 28-gauge, expanded metal grid allowing a 95% open face area. This media/backing configuration is formed into aerodynamic wedge-shaped pleats. To eliminate the possibility of dirty air bypass, the media pack is securely bonded to the periphery of the enclosure frame with solvent-free water based glue.

Antimicrobial agent application

To inhibit microbial organism growth, Purolator also offers a hi-E 40 filter treated with an EPA approved bound antimicrobial agent (refer to Purolator bulletin PB-AMB).

Efficiency Curve



Product Specifications

The filter shall be the hi-E 40 as manufactured by Purolator Air Filtration. Air filters shall be (1"), (2") and (4") deep, medium efficiency, pleated media, disposable panel type. The filter media shall be self-extinguishing lofted non-woven, non-dyed, natural cotton and synthetic fibers. The filter media shall be bonded to a 28-gauge corrosion resistant, expanded metal support grid with a 95% open face area.

To assure no dirty air bypass, the media grid assembly shall be bonded to all interior surfaces of the .028 heavy duty, high wet strength beverage board frame with solvent-free water based glue. The support grid shall be formed into a wedge configuration to optimize use of the filter media. Die cut diagonal frame members shall be bonded to the media pack, upstream and downstream, to maintain accurate pleat alignment.

Filters shall have a rated average efficiency of 25-30% and an average arrestance of 90-93% when tested in accordance with ASHRAE 52.1-1992 Test Standard. Filter shall have a MERV of six when tested in accordance with ASHRAE Standard 52.2. The filter shall be listed and rated Class 2 by Underwriters Laboratories, Inc.

The 1/2/4" series hi-E 40 shall have a minimum of _____ pleats per lineal foot and shall contain not less than _____ square feet of effective filtering media per square foot of face area. The filter shall be capable of operating at face velocities of up to _____ FPM with an initial resistance not to exceed _____ inches W.G.

PERFORMANCE DATA: hi-E 40 Filters

Series	Nominal(1) size WxHxD	Actual size WxHxD	hi-E 40 Model number	CFM(2) capacity med	CFM(2) capacity high	Resist. in. W.G. med	Resist. in. W.G. high	Resist. in. W.G. final(3)	Total media area/filter	Media area/sq.ft. face area
1 11 pleats per lineal foot of face area	10x10x1	9-1/2 x 9-1/2 x 3/4	HE40-1101	200	350	.24	.42	1.00	1.2	1.6
	10x15x1	9-1/2 x 14-1/2 x 3/4	HE40-1501	200	350	.24	.42	1.00	1.6	
	10x20x1	9-1/2 x 19-1/2 x 3/4	HE40-1001	425	700	.24	.42	1.00	2.4	
	10x24x1	9-1/2 x 231/2 x 3/4	HE40-1401	425	700	.24	.42	1.00	2.6	
	12x12x1	11-1/2 x 11-1/2 x 3/4	HE40-2201	300	500	.24	.42	1.00	1.5	
	12x16x1	11-1/2 x 15-1/2 x 3/4	HE40-2601	300	500	.24	.42	1.00	2.1	
	12x20x1	11-1/2 x 19-1/2 x 3/4	HE40-2001	500	850	.24	.42	1.00	2.6	
	12x24x1	11-3/8 x 23-3/8 x 3/4	HE40-2401	600	1000	.24	.42	1.00	3.1	
	14x20x1	13-1/2 x 19-1/2 x 3/4	HE40-4001	585	975	.24	.42	1.00	2.8	
	14x24x1	13-1/2 x 23-1/2 x 3/4	HE40-1441	730	1200	.24	.42	1.00	2.0	
	14x25x1	13-1/2 x 24-1/2 x 3/4	HE40-4501	730	1215	.24	.42	1.00	3.6	
	14x30x1	13-1/2 x 29-1/2 x 3/4	HE40-4301D	850	1400	.24	.42	1.00	2.2	
	15x20x1	14-1/2 x 19-1/2 x 3/4	HE40-5001	625	1040	.24	.42	1.00	3.1	
	15x30x1	14-3/4 x 29-3/4 x 3/4	HE40-5301D	850	1400	.24	.42	1.00	2.5	
	16x16x1	15-1/2 x 15-1/2 x 3/4	HE40-6601D	530	890	.24	.42	1.00	2.6	
	16x20x1	15-1/2 x 19-1/2 x 3/4	HE40-6001	665	1100	.24	.42	1.00	3.3	
	16x24x1	15-1/2 x 23-3/8 x 3/4	HE40-6401	800	1335	.24	.42	1.00	3.4	
	16x25x1	15-1/2 x 24-1/2 x 3/4	HE40-6501	850	1400	.24	.42	1.00	4.2	
	16x30x1	15-3/4 x 29-3/4 x 3/4	HE40-6301D	850	1400	.24	.42	1.00	2.9	
	18x20x1	17-3/8 x 19-1/2 x 3/4	HE40-8001	750	1250	.24	.42	1.00	3.3	
	18x22x1	17-3/8 x 21-1/2 x 3/4	HE40-8201	900	1500	.24	.42	1.00	4.2	
	18x24x1	17-3/8 x 23-3/8 x 3/4	HE40-8401	900	1500	.24	.42	1.00	4.5	
	18x25x1	17-3/8 x 24-1/2 x 3/4	HE40-8501	950	1550	.24	.42	1.00	4.8	
	20x20x1	19-1/2 x 19-1/2 x 3/4	HE40-0001	850	1400	.24	.42	1.00	4.3	
	20x24x1	19-3/8 x 23-3/8 x 3/4	HE40-0401	1000	1665	.24	.42	1.00	5.1	
	20x25x1	19-1/2 x 24-1/2 x 3/4	HE40-0501	1050	1750	.24	.42	1.00	5.4	
	20x30x1	19-1/2 x 29-1/2 x 3/4	HE40-0301	1200	1600	.24	.42	1.00	4.3	
	24x24x1	23-1/2 x 23-1/2 x 3/4	HE40-4401	1200	2000	.24	.42	1.00	6.0	
	25x25x1	24-1/2 x 24-1/2 x 3/4	HE40-5501	1200	2000	.24	.42	1.00	6.6	
2 10 pleats per lineal foot of face area	10x20x2	9-1/2 x 19-1/2 x 1-3/4	HE40-1002	425	700	.16	.24	1.00	4.6	3.1
	12x12x2	11-1/2 x 11-1/2 x 1-3/4	HE40-2202	600	900	.16	.24	1.00	3.1	
	12x20x2	11-1/2 x 19-1/2 x 1-3/4	HE40-2002	500	850	.16	.24	1.00	5.1	
	12x24x2	11-3/8 x 23-3/8 x 1-3/4	HE40-2402	600	1000	.16	.24	1.00	6.1	
	14x20x2	13-1/2 x 19-1/2 x 1-3/4	HE40-4002	585	975	.16	.24	1.00	5.6	
	14x25x2	13-1/2 x 24-1/2 x 1-3/4	HE40-4502	730	1215	.16	.24	1.00	7.0	
	15x20x2	14-1/2 x 19-1/2 x 1-3/4	HE40-5002	625	1040	.16	.24	1.00	6.1	
	16x16x2	15-1/2 x 15-1/2 x 1-3/4	HE40-6602D	530	890	.16	.24	1.00	5.7	
	16x20x2	15-1/2 x 19-1/2 x 1-3/4	HE40-6002	665	1100	.16	.24	1.00	6.6	
	16x24x2	15-1/2 x 23-3/8 x 1-3/4	HE40-6402	800	1335	.16	.24	1.00	7.4	
	16x25x2	15-1/2 x 24-1/2 x 1-3/4	HE40-6502	850	1400	.16	.24	1.00	8.3	
	18x20x2	17-3/8 x 19-1/2 x 1-3/4	HE40-8002	750	1250	.16	.24	1.00	7.1	
	18x22x2	17-3/8 x 21-1/2 x 1-3/4	HE40-8202	900	1500	.16	.24	1.00	7.8	
	18x24x2	17-3/8 x 23-3/8 x 1-3/4	HE40-8402	900	1500	.16	.24	1.00	9.1	
	18x25x2	17-3/8 x 24-1/2 x 1-3/4	HE40-8502	950	1550	.16	.24	1.00	9.6	
	20x20x2	19-1/2 x 19-1/2 x 1-3/4	HE40-0002	850	1400	.16	.24	1.00	8.1	
	20x24x2	19-3/8 x 23-3/8 x 1-3/4	HE40-0402	1000	1665	.16	.24	1.00	9.7	
	20x25x2	19-1/2 x 24-1/2 x 1-3/4	HE40-0502	1050	1750	.16	.24	1.00	10.2	
	20x30x2	19-1/2 x 29-1/2 x 1-3/4	HE40-0302	1200	2000	.16	.24	1.00	13.1	
	24x24x2	23-3/8 x 23-3/8 x 1-3/4	HE40-4402	1200	2000	.16	.24	1.00	11.6	
	25x25x2	24-1/2 x 24-1/2 x 1-3/4	HE40-5502	1200	2000	.16	.24	1.00	12.8	
4 9 pleats per lineal foot of face area	12x24x4	11-3/8 x 23-3/8 x 3-3/4	HE40-2404	1000	1250	.20	.28	1.00	11.5	5.8
	16x20x4	15-3/8 x 19-3/8 x 3-3/4	HE40-6004	1100	1400	.20	.28	1.00	12.7	
	16x25x4	15-3/8 x 24-3/8 x 3-3/4	HE40-6504	1400	1750	.20	.28	1.00	15.9	
	18x24x4	17-3/8 x 23-3/8 x 3-3/4	HE40-8404	1500	1875	.20	.28	1.00	16.6	
	20x20x4	19-3/8 x 19-3/8 x 3-3/4	HE40-0004	1400	1750	.20	.28	1.00	15.9	
	20x24x4	19-3/8 x 23-3/8 x 3-3/4	HE40-0404	1625	2050	.20	.28	1.00	19.2	
	20x25x4	19-3/8 x 24-3/8 x 3-3/4	HE40-0504	1750	2170	.20	.28	1.00	20.0	
	24x24x4	23-3/8 x 23-3/8 x 3-3/4	HE40-4404	2000	2500	.20	.28	1.00	23.0	
	25x29x4	24-1/2 x 28-1/2 x 3-3/4	HE40-5904	2500	3150	.20	.28	1.00	29.3	
	28x30x4	27-1/2 x 29-1/2 x 3-3/4	HE40-8004	2900	3650	.20	.28	1.00	33.6	

(1) Width and height dimensions are interchangeable. The hi-E 40 may be installed with pleats running vertical or horizontal.
(2) Capacity ratings are recommended levels. Resistance to airflow data is based on ASHRAE the 52.1-1992 Test Method. Performance tolerances conform to Section 7.4 of ARI Standard 850-93.
(3) The recommended final operating resistance is typical of systems currently in operation. The hi-E 40 can be operated to higher or lower final resistance levels without adversely affecting filter efficiency.

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