

FILTER SELECTION DATA SHEET

hi-E 40 CB PLEATED FILTER

Carbon-loaded pleated media

Purolator Filtration Systems

Product features

The goal of a Purolator hi-E 40™ CB pleated filter is to promote improved indoor air quality through odor control. These carbon-loaded pleated filters clean the air by removing airborne molecular contaminants present at levels less than one particle per million.

- Hi efficiency: Small (20 x 50 mesh) carbon particles and pleated configuration maximize adsorbent surface area
- Low pressure drop: Uniform dispersion of carbon throughout media, not just on surface, lets air flow freely
- Longer filter life, minimal shedding/dusting: thermal bonding of media to carbon exposes maximum adsorbent surface area
- More adsorbent: pound for pound, our carbon media is six times more effective than competitive GAC carbons

Applications

The Purolator hi-E 40 CB filter is recommended for typical IAQ settings of 1ppm or less. Specific applications include air conditioning filters, furnace filters, heating vents, air intakes, air purification devices, and ozone removal devices.

Appropriate end users are those involved with filtration of hospital facilities, chemical plant offices/labs, pollution control areas, sewage disposal and waste management plant offices, airports, kitchens and restaurants, or commercial offices.

Media

A non-woven pleated filter media composed of synthetic fibers makes up the hi-E 40 CB media. The media of the hi-E 40 CB filter is so stiff with carbon that it is actually self-supporting, and requires no external wire reinforcements.

Each hi-E 40 CB filter is loaded with 200 grams/sq. meter (GSM) of superior, 60% active, 20 x 50 mesh-size carbon particles. Our top-grade carbon provides six times the adsorbent surface area of standard GAC carbon, making it vastly more effective, efficient, and long-lasting.

No adhesive is used in the media: Fine mesh carbon granules are bonded to the synthetic fibers by a unique thermal process that requires no adhesive, and blinds less than 1.5% of each carbon particle's effective surface area. As a result, more than 98.5% of the carbon's surface is exposed to contaminated air, resulting in maxi-



imum gas adsorbing capacity and efficiency. This bonding method also features minimal dust release.

The pleated configuration of the hi-E 40 CB media also increases the filter's exposed surface area, thereby providing a higher overall efficiency by expanding its capability to adsorb contaminants.

Frame

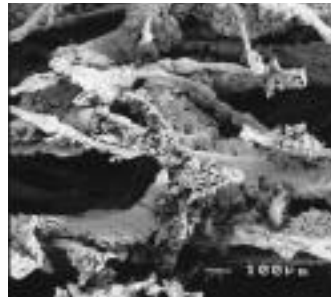
The hi-E 40 CB filter elements are enclosed in a two-piece heavy duty, high-wet-strength beverage board frame. When assembled, the fully bonded double-wall frame combines with the integral corner flaps and forms a rugged, durable filter which will not rack, warp, or leak under normal operating conditions.

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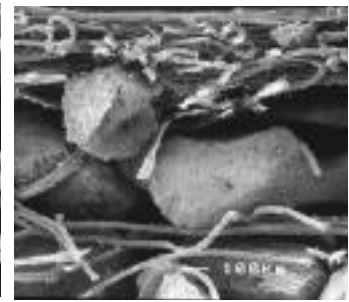
Suggested Product Specifications

1. The filter shall be the hi-E 40 CB as manufactured by Purolator Air Filtration.
2. Air filters shall be (1"), (2"), and (4") deep pleated media, disposable panel type.
3. Pleat element shall be made with carbon element containing 200 grams/sq. meter (GSM).
4. To assure no dirty air bypass, the media grid assembly shall be bonded to all interior surfaces of the water resistant, die-cut frame with solvent-free water based glue.
5. The support grid shall be formed into a wedge configuration to optimize use of the filter media.
6. To maintain accurate pleat alignment on 4" depth filters, die-cut diagonal frame members shall be bonded to the media pack upstream and downstream.
7. Suggested operating temperatures are not to exceed 200°F (93°C).

Don't Cover Up the Carbon!



The photo on the left shows how the carbon is stuck to the media with glue in regular slurry process carbon filters. Look at all that glue!



The photo on the right shows the carbon media used in the Purolator hi-E 40 CB pleated filter. See how much more surface area of each carbon particle is exposed? That exposed surface area is available to adsorb airborne molecular contaminants from the air.

Performance data: hi-E 40 CB

Series	Nominal (1) Size WxHxD	Actual Size WxHxD	hi-E 40 CB Model number	CFM (2) capacity med.	CFM (2) capacity high	Resist. " W.G. med.	Resist. " W.G. high	Resist. " W.G. final (3)	Media area Sq. ft.	Carbon Weight (g)
1 <i>11 pleats per lineal foot of face area</i>	12x24x1	11-3/8 x 23-3/8 x 3/4	HE40CB-2401	—	600	—	.28	1.00	2.8	52
	16x20x1	15-1/2 x 19-1/2 x 3/4	HE40CB-6001	—	665	—	.28	1.00	3.2	59
	16x25x1	15-1/2 x 24-1/2 x 3/4	HE40CB-6501	—	850	—	.28	1.00	4.1	76
	18x24x1	17-3/8 x 23-3/8 x 3/4	HE40CB-8401	—	900	—	.28	1.00	4.4	82
	20x20x1	19-1/2 x 19-1/2 x 3/4	HE40CB-0001	—	850	—	.28	1.00	4.2	78
	20x25x1	19-1/2 x 24-1/2 x 3/4	HE40CB-0501	—	1050	—	.28	1.00	5.2	97
	24x24x1	23-3/8 x 23-3/8 x 3/4	HE40CB-4401	—	1200	—	.28	1.00	6.1	113
2 <i>10 pleats per lineal foot of face area</i>	12x24x2	11-3/8 x 23-3/8 x 1-3/4	HE40CB-2402	600	1000	.16	.22	1.00	5.6	104
	16x20x2	15-1/2 x 19-1/2 x 1-3/4	HE40CB-6002	665	1100	.16	.22	1.00	6.7	124
	16x25x2	15-1/2 x 24-1/2 x 1-3/4	HE40CB-6502	850	1400	.16	.22	1.00	8.4	157
	18x24x2	17-3/8 x 23-3/8 x 1-3/4	HE40CB-8402	900	1500	.16	.22	1.00	8.7	162
	20x20x2	19-1/2 x 19-1/2 x 1-3/4	HE40CB-0002	850	1400	.16	.22	1.00	8.3	153
	20x25x2	19-1/2 x 24-1/2 x 1-3/4	HE40CB-0502	1050	1750	.16	.22	1.00	10.4	193
	24x24x2	23-3/8 x 23-3/8 x 1-3/4	HE40CB-4402	1200	2000	.16	.22	1.00	11.8	219
4 <i>10 pleats per lineal foot of face area</i>	12x24x4	11-3/8 x 23-3/8 x 3-3/4	HE40CB-2404	1000	1250	.22	.33	1.00	11.5	214
	16x20x4	15-3/8 x 19-3/8 x 3-3/4	HE40CB-6004	1100	1400	.22	.33	1.00	13.8	256
	16x25x4	15-3/8 x 24-3/8 x 3-3/4	HE40CB-6504	1400	1750	.22	.33	1.00	17.4	323
	18x24x4	17-3/8 x 23-3/8 x 1-3/4	HE40CB-8404	1500	1875	.22	.33	1.00	17.9	333
	20x20x4	19-3/8 x 19-3/8 x 3-3/4	HE40CB-0004	1400	1750	.22	.33	1.00	17.0	316
	20x25x4	19-3/8 x 24-3/8 x 3-3/4	HE40CB-0504	1750	2170	.22	.33	1.00	21.4	398
	24x24x4	23-3/8 x 23-3/8 x 3-3/4	HE40CB-4404	2000	2500	.22	.33	1.00	25.6	476

(1) Width and height dimensions are interchangeable. The hi-E 40 CB may be installed with pleats running vertical or horizontal.

(2) Capacity ratings are recommended levels. Resistance to airflow data is based on ASHRAE 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 CB can be operated to higher or lower final resistance levels without materially affecting filter efficiency.

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