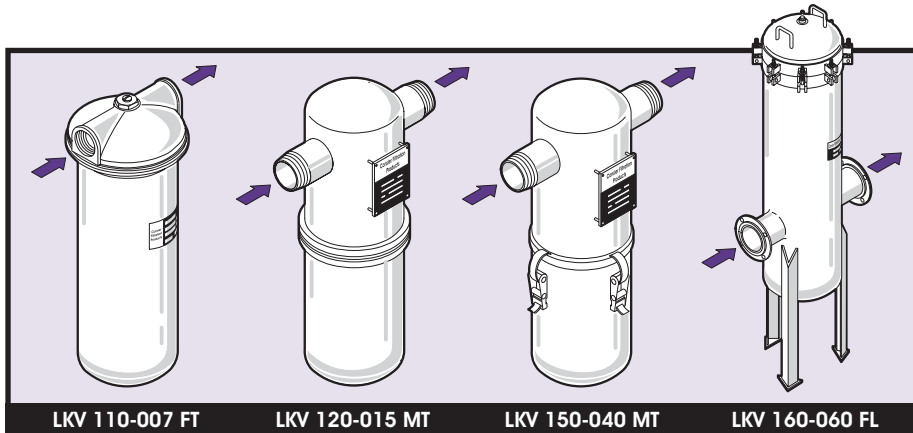


## INDUSTRIAL FILTRATION PRODUCTS

### CONSLER LKV/HKV SERIES VACUUM FILTERS



particle retention range from 0.3 to 750 microns. Optional filter medium materials include fiberglass, cotton, nylon, polypropylene, NOMEX\*, rayon, wool, DACRON\*, TEFLON\*, and wire cloth providing an application range from sub-zero temperatures to 1000° F.

Standard elements are furnished with a carbon steel center core and galvanized steel support frame. 304 Stainless Steel and other materials are also available.

#### Features

- Pleated, maximum area elements
- Low pressure loss design
- Large dirt holding capacity, longer operation between element changes
- Positive sealing, high vacuum capability
- Cleanable, reusable filter element
- Modified and custom designs available

#### Applications

- Efficient removal of dust, dirt, pipescale, and other solid particulate from air and gas vacuum lines.
- Positive protection of vacuum pumps and other pipeline equipment in vacuum furnace, distillation, packaging and other processes.
- LKV for low vacuum service (above 1.0 Torr); HKV for high vacuum service (below 1.0 Torr).
- Filtering of solid particles ranging from 0.3 to 750 microns in size.
- Optional high temperature medias to +300° F.

#### Element Design and Construction

The LKV and HKV Series filters offer a replaceable, cleanable element that features a pleated or "radial fin" cartridge design. This design offers maximum filter area in a compact filter assembly, and provides positive gasket sealing to prevent by-pass of unfiltered fluids. Long filter life, low pressure drop, large dirt holding capacity, and efficient filtration are assured. Most models employ only one filter element to permit quick and simple cartridge changeout.

Standard models LKV 115, HKV 115, and larger are furnished with a cleanable, sewn-end constructed element, which can be reconditioned before replacement is necessary. Following several field cleanings this unique element style can be returned to the factory for recovery and reconditioning.

#### Element Materials

Standard elements are furnished with a polyester filter medium providing 10 micron solids nominal retention. Vacuum filter elements are also supplied in many alternate materials offering a

#### Housing Design and Construction

LKV Series housings are designed for low vacuum services ranging from 760 Torr (atmospheric pressure) down to 1.0 Torr.

HKV Series housings are designed and constructed for high vacuum applications operating in a range from 760 Torr down to 0.001 Torr. All sealing surfaces are machined to a 63 micro-inch finish to assure leak tightness under high vacuum service conditions.

All models can be quickly serviced without breaking pipe connections and the inlet/outlet connections are furnished in a horizontal in-line configuration. Leg supports and hinged or swing-away closure devices are standard on larger sized models. All models provide a large volume sump area for collection of contaminants below the filter element. Standard filters may also be modified to meet unique or special application needs, including designing to higher pressures.

- Materials of construction include carbon steel, 304 and 316 Stainless Steel as well as other alloys.

#### Filter Materials & Ratings

- Housing—Carbon Steel  
LKV 110: 1 Torr–150 PSIG at 100° F  
LKV 115–150, threaded or flanged conns: 1–760 Torr at 650° F  
LKV 160 & larger, flanged conns: 1 Torr–50 PSIG at 650° F  
HKV 110: 0.001 Torr–150 PSIG at 100° F  
HKV 115–150, threaded or flanged conns: 0.001–760 Torr at 650° F  
HKV 160 & larger, flanged conns: 0.001 Torr–50 PSIG at 650° F
- Closure Gasket—NEOPRENE\*–300° F max.
- Standard "K5" Elements—  
LKV & HKV 110: 10 micron polyester media, wool gaskets; 200° F max.; cleanable  
LKV & HKV 115 & larger: 10 micron polyester media, wool gaskets; 200° F max.; cleanable & recoverable

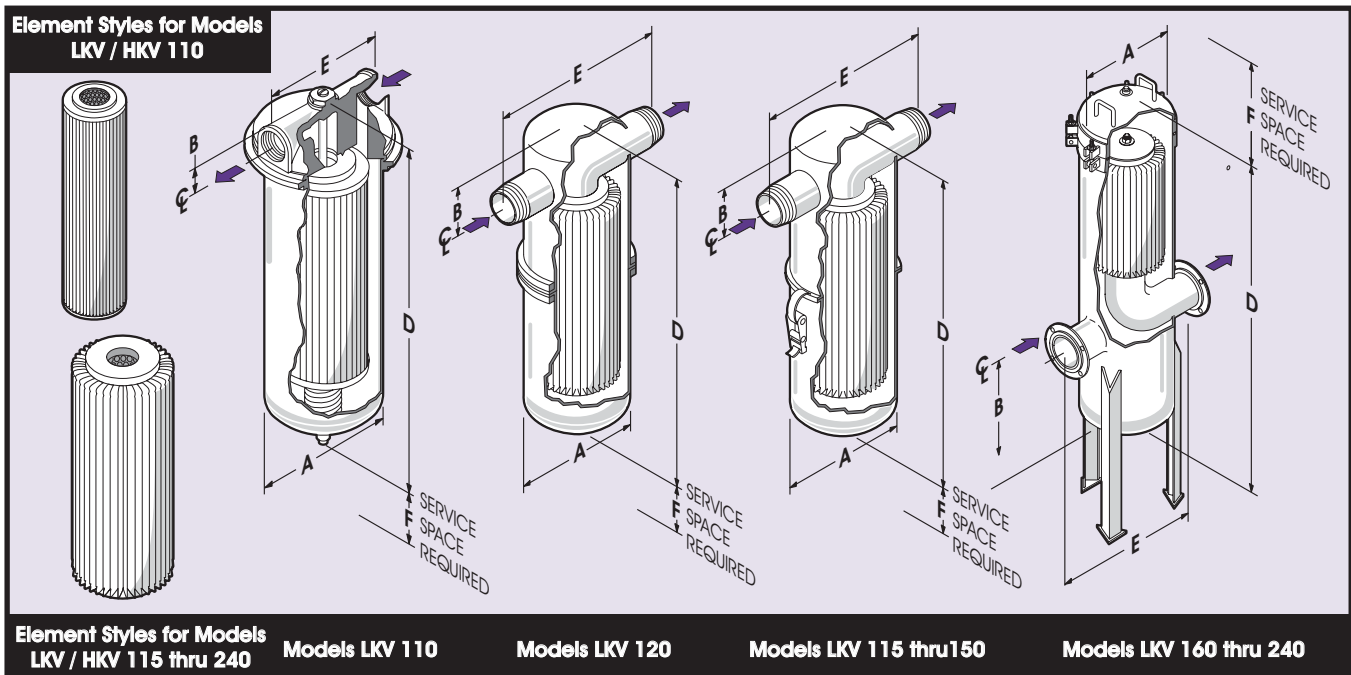
\*DuPont registered trademark.

## LKV/HKH Series Specifications - Vacuum Service

Model No.	Connection		Dimensions - Inches*					Housing Gasket Part No.	Element			Approx. Weight Lbs.
	Size	Style	A	B	D	E	F		Part No.	No Req'd.	Total filter Area Sq. Ft.	
LKV/HKV 110-005 FT	1/2	FPT	3 5/8	7/8	12 3/4	4 5/8	12 3/4	40313	10824K5	1	1.8	7
LKV/HKV 110-007 FT	3/4	FPT	3 5/8	7/8	12 3/4	4 5/8	12 3/4	40313	10824K5	1	1.8	7
LKV/HKV 110-010 FT	1	FPT	3 5/8	7/8	12 3/4	4 5/8	12 3/4	40313	10824K5	1	1.8	7
LKV/HKV 115-015 MT	1 1/2	MPT	5 1/4	3	17	11	10	6003N03	15474K5	1	2.8	15
LKV/HKV 120-015 MT	1 1/2	MPT	6 1/4	3	19	12	12	6004N04	10958K5	1	3.9	30
LKV/HKV 130-020 MT	2	MPT	8 1/4	4 1/2	20	18	12	6005N04	10469K5	1	6.3	40
LKV/HKV 140-030 MT	3	MPT	8 1/4	4 1/2	27 1/4	18	17	6005N04	10962K5	1	7.2	45
LKV/HKV 150-040 MT	4	MPT	10 1/4	5 1/2	35	20	21	6006N04	10963K5	1	12.7	75
LKV/HKV 150-040 FL	4	FLG	10 1/4	5 1/2	35	20	21	6006N04	10963K5	1	12.7	85
LKV/HKV 160-060 FL	6	FLG	12 3/4	11 1/2	51	22 3/4	26	6007N03	15468K5	1	22.0	310
LKV/HKV 180-080 FL	8	FLG	16	13	77	26	26	6008N03	10943K5	2	72.2	434
LKV/HKV 190-100 FL	10	FLG	20	15 1/2	84	32	26	6009N03	10945K5	2	115.6	768
LKV/HKV 200-120 FL	12	FLG	24	17 1/2	90	36	26	6010N03	11810K5	2	132.5	1025
LKV/HKV 210-140 FL	14	FLG	28	19 1/2	93	44	26	6011N03	11019K5	2	192.0	1235
LKV/HKV 220-160 FL	16	FLG	30	21	122	50	26	6012N03	10950K5	3	345.0	1678
LKV/HKV 230-200 FL	20	FLG	36	25	132	54	26	6013N03	10952K5	3	414.0	2452
LKV/HKV 240-240 FL	24	FLG	42	28	142	62	26	6017N03	10953K5	3	495.0	3344

\*All dimensions are approximate.

- Standard filters are supplied with 10 micron polyester filter medium and a NEOPRENE closure gasket. Contact your CONSLER representative for other available materials.
- Models LKV 160 thru 240 have a 1 1/2" NPT drain connection. Models HKV 160 thru 240 have a 1 1/2" ANSI flat face flanged drain (with blind flange cover).
- Models LKV and HKV 160 have two handles for closure removal.
- Models LKV and HKV 180 thru 200 have a hinged closure with one handle.
- Models LKV and HKV 210 thru 240 have a swing away closure device and one handle.
- Models LKV and HKV 160 thru 240 have three leg supports with length of 18" from bottom of vessel to grade.
- Flanged end models have 150# ANSI flat face flanges.



# Flow Capacities<sup>1</sup>

Capacity (ACFM) vs. Differential Pressure (mm Hg)  
at 60° F-Gas Specific Gravity 1.0 (Air)<sup>2</sup>

Inlet Press.	LKV/HKV Model	△ p in torr (mmHg)		
		0.5	1.0	5.0
760 torr (mmHg)	110-005 FT	5	8	15
	110-007 FT	7	12	26
	110-010 FT	12	20	40
	115-015 MT	30	50	100
	120-015 MT	30	50	100
	130-020 MT	50	80	160
	140-030 MT	80	130	260
	150-040 MT	135	225	450
	160-060 FL	300	500	1000
	180-080 FL	525	875	1750
	190-100 FL	850	1400	2800
	200-120 FL	1200	2000	4000
	210-140 FL	1320	2200	4400
	220-160 FL	1800	3000	6000
	230-200 FL	3000	5000	10000
	240-240 FL	4500	75000	15000

Inlet Press.	LKV/HKV Model	△ p in torr (mmHg)			
		.005	.01	.02	.05
1 torr (mmHg)	110-005 FT	8	11	15	22
	110-007 FT	12	18	26	39
	110-010 FT	20	29	40	60
	115-015 MT	50	65	100	150
	120-015 MT	50	65	100	150
	130-020 MT	80	105	160	240
	140-030 MT	130	170	260	390
	150-040 MT	225	290	450	675
	160-060 FL	500	650	1000	1500
	180-080 FL	875	1150	1750	2625
	190-100 FL	1400	1800	2800	4200
	200-120 FL	2000	2600	4000	6000
	210-140 FL	2200	2860	4400	6600
	220-160 FL	3000	3900	6000	9000
	230-200 FL	5000	6500	10000	15000
	240-240 FL	7500	9800	15000	22500

Inlet Press.	LKV/HKV Model	△ p in torr (mmHg)			
		0.25	0.5	1.0	2.0
150 torr (mmHg)	110-005 FT	8	11	15	22
	110-007 FT	12	18	26	39
	110-010 FT	20	29	40	60
	115-015 MT	50	70	100	150
	120-015 MT	50	70	100	150
	130-020 MT	85	115	160	240
	140-030 MT	135	185	260	390
	150-040 MT	230	325	450	675
	160-060 FL	520	720	1000	1500
	180-080 FL	910	1250	1750	2625
	190-100 FL	1460	2000	2800	4200
	200-120 FL	2080	2400	4000	6000
	210-140 FL	2300	3150	4400	6600
	220-160 FL	3100	4300	6000	9000
	230-200 FL	5200	7200	10000	15000
	240-240 FL	7800	10800	15000	22500

Inlet Press.	HKV Model	△ p in torr (mmHg)		
		.0005	.001	.0025
0.1 torr (mmHg)	110-005 FT	8	15	22
	110-007 FT	12	26	39
	110-010 FT	20	40	60
	115-015 MT	50	100	150
	120-015 MT	50	100	150
	130-020 MT	80	160	240
	140-030 MT	130	260	390
	150-040 MT	500	450	675
	160-060 FL	225	1000	1500
	180-080 FL	875	1750	2625
	190-100 FL	1400	2800	4200
	200-120 FL	2000	4000	6000
	210-140 FL	2200	4400	6600
	220-160 FL	3000	6000	9000
	230-200 FL	5000	10000	15000
	240-240 FL	7500	15000	22500

Inlet Press.	LKV/HKV Model	△ p in torr (mmHg)			
		0.05	0.1	0.2	0.5
25 torr (mmHg)	110-005 FT	8	11	15	22
	110-007 FT	12	18	26	39
	110-010 FT	20	29	40	60
	115-015 MT	50	70	100	150
	120-015 MT	50	70	100	150
	130-020 MT	85	115	160	240
	140-030 MT	135	185	260	390
	150-040 MT	230	325	450	675
	160-060 FL	520	720	1000	1500
	180-080 FL	910	1250	1750	2625
	190-100 FL	1460	2000	2800	4200
	200-120 FL	2080	2400	4000	6000
	210-140 FL	2290	3150	4400	6600
	220-160 FL	3100	4300	6000	9000
	230-200 FL	5200	7200	10000	15000
	240-240 FL	7800	10800	15000	22500

1. Values are based on actual test results or empirical calculations.
2. To determine proper filter sizing for gases other than air, multiply pressure drop by the correction factor for the appropriate gas from chart on back cover. For temperatures greater than 60° F, multiply pressure drop by the absolute temperature factor:  $\frac{460 + (° F)}{520}$

## Vacuum Conversion Table

Conversion of pressures between 760 and 0 torr  
(above 1 torr use LKV, below 1 torr use HKV)

torr (mmHg) 32° F	psia	inches of mercury absolute (32° F)	inches of mercury vacuum (32° F)	% vacuum
760	14.7	29.9	0	0
750	14.5	29.5	0.39	1.3
735	14.2	28.9	0.98	1.9
700	13.5	27.6	2.36	7.9
600	11.6	23.6	6.30	21
500	9.7	19.7	10.24	34
400	7.7	15.7	14.17	47
380	7.3	15.0	14.96	50
300	5.8	11.8	18.11	61
200	3.9	7.85	22.05	74
150	2.9	5.91	24.02	80
100	1.93	3.94	25.98	87
90	1.74	3.54	26.38	88
80	1.55	3.15	26.77	89.5
70	1.35	2.76	27.17	90.8
60	1.16	2.36	27.56	92.1
51	1	2.03	27.91	93.0
50	0.97	1.97	27.95	93.5
40	0.77	1.57	28.35	94.8
30	0.58	1.18	28.74	96.1
25.4	0.49	1	28.92	96.6
20	0.39	0.785	29.13	97.4
10	0.193	0.394	29.53	98.7
7.6	0.147	0.299	29.62	99.0
1	0.019	0.039	29.88	99.9
0.75	0.015	0.030	29.89	99.9
0.1	0.0019	0.0039	29.92	99.99
0.01	0.00019	0.0004	29.92	99.999
0	0	0	29.92	100

**Graver Technologies also makes:**

- Air Intake Filters
- Air Intake Filter/Silencers
- Air/Gas Pressure Filters
- Vacuum Filters
- Liquid Filters/Strainers
- Smoke/Oil Mist Eliminators
- Filter Separators
- Special and Custom-Designed Filters and Filter Elements
- Lube Oil Filters and Filter Elements

Graver Technologies has representatives in major cities of the United States, Mexico and Canada. Representatives are also located in many other countries around the world.

Consler brand filters are manufactured in Honeoye Falls, NY. For more details about Consler brand filters contact your representative or Graver Technologies. Graver has a policy of continued product improvement and reserves the right to change specifications without notice.

Visit our web site at [www.gravertech.com](http://www.gravertech.com).

