Deltech

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Compressed Air Filtration Technologies

DK SERIES

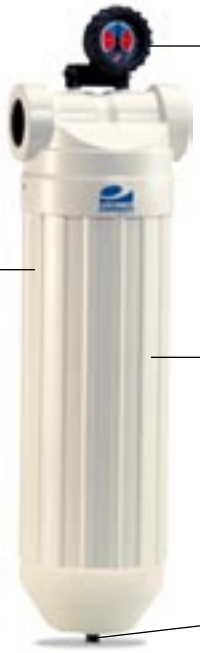
DK Series Filters

Durable and Convenient Housing Designs

DK Series filter heads and bowls, below 41.67 Nm³/min. are precision diecast out of aircraft grade aluminum. The diecasting process increases the structural integrity and produces smooth asymmetrical surfaces to minimize flow resistance. In addition, an ideal anchor finish is achieved to securely bond the durable polyester-based powder coat paint. The paint delivers exceptional protection from harsh environments.

ASME certified welders fabricate pressure vessel filter housings for applications 60 Nm³/min. and above. Flanged connections and dial-type differential pressure gauges are standard.

Pressure vessel filters employ two or more elements to purify the air stream and minimize pressure drop. Above the sturdy flanged base, a single retainer plate secures the elements. This simplifies element changes and eliminates the chance of crushing an element. Many competitive designs employ multiple tie-down rods that waste time and risk element damage from over-tightening.



Differential pressure gauge indicates when to change the filter element *(optional)*

Filter bowl easily unscrews from head — no special tools required

Push-on filter elements snap into place, leaving both hands free for bowl replacement

Internal automatic condensate drain Type G, P & H (Models 2-22)

Materials & Construction

Component	Material for Models 2-41	Material for Models 60-333
Vessel head, bowl	Aluminum alloy	Carbon steel
Surface finish	Powder coat	Polyurethane
O-rings / Gaskets	Buna N	Non-Asbestos
Support cores	Stainless steel or non-corrosive polymer	
G, P, H, and D Element	Microglass fibers and non-woven polyester; glass-filled nylon end caps	
C Element	Activated carbon bonded to a non-woven polyester substrate	
Element adhesive	Two-part epoxy	Two-part epoxy
Internal float drain	Acetel thermo plastic (DK-2 to 22 only)	External drain
Manual drain	PT connection	PT connection

Maximum operating temperature: 55°C (70°C Type D) • Maximum inlet pressure: Models 2-41 16 barg, Models 60-333 9.9 barg
Minimum inlet pressure: 2 barg • Minimum operating temperature 2°C

Advanced Element Designs

DK Series filter elements are designed to ensure performance and long service life. The five (5) designs are engineered for specific applications commonly found in compressed air systems. They share the following common design principles:

- Air-flow design is from inside-to-outside the element. Larger solid particles are trapped inside the element and do not fall to the bottom of the filter housing where they can cause drain mechanisms to foul. Finer aerosols and liquids are captured in the outer layers of filter media.
- Structural design has media layered between an inner and outer core of perforated stainless steel. This protects against differential pressure surges of up to 4.5 barg.
- Silicone-free construction

Deep pleated multiple layer design removes virtually all liquids or mists. Unique element and housing design ensures contaminants are not allowed to re-entrain into the air stream.

Type G Coarse Particulate, Type P Coarse Coalescer and Type H High-Efficiency Coalescer

These filters feature four stages of filtration media which ensure the removal of solid particulates, oil droplets and aerosol mists from the compressed air stream.

- Stage 1 captures solid particulates such as dirt and rust
- Stages 2 and 3 coalesce liquid water, oil droplets and finer aerosol mists
- Stage 4 increases air velocity and channels liquid to the bottom of the housing and prevents and reentrainment of mists into the purified air stream.

Type C Oil Vapor Removal Filter

The C Series is designed to remove gaseous hydrocarbon (oil) and organic vapors, odors and tastes. This is the only way to assure "oil-free air". The pleated element design has activated carbon mechanically bonded into a non-woven polyester substrate. This allows for up to 5 times more activated carbon than what is found in element designs using carbon-impregnated paper.

Type D Fine Particulate Filter for Desiccant Dust

These "dry-side" filters are installed after desiccant air dryers. The pleated elements are made of microglass fiber and non-woven polyester. This offers six times more surface area over wrapped-media particulate elements and therefore longer service life.

Model DK Series	Type	Solid Particles down to micron	Remaining Oil Content mg/m³	Pressure Drop at Rated Conditions (barg)	
				Dry	Wet
G	Coarse Particulate	10.0	–	0.03	–
P	Coarse Coalescing	1.0	0.5	0.03	0.14
H	High Efficiency Coalescing	0.01	0.01	0.08	0.19
D	Fine Particulate	1.0	–	0.03	–
C	Vapor	–	0.003	0.03	–

Features & Specifications

DK Series Product Specifications

Model	Flow Capacity	Inlet/Outlet Connections	Dimensions A	B	C	D	Weight
G, P, H, D & C	Nm^3/min	inch	mm	mm	mm	mm	kg
	2.0	1/2" PT	94	258	23	90	0.92
	3.0	3/4" PT	94	258	23	120	0.92
	5.0	1"PT	94	370	23	120	1.09
	7.5	1-1/2"PT	130	332	33	150	2.30
	12.0	1-1/2"PT	146	477	34	180	4.39
	15.8	2"PT	165	434	38	180	4.66
	22.5	2"PT	165	627	38	180	6.51
	30.0	3"PT	207	762	55	200	11.05
	41.7	3"PT	207	892	55	200	12.50
DK-60(Type)	60.0	4"FLG	510	1,076	190	485	186
DK-83(Type)	83.3	6"FLG	580	1,248	222	650	247
DK-125(Type)	125.0	8"FLG	800	1,410	282	650	271
DK-166(Type)	166.7	8"FLG	800	1,410	282	650	275
DK-250(Type)	250.0	10"FLG	1,000	1,530	332	650	403
DK-333(Type)	333.3	12"FLG	1.091	1,700	455	650	641

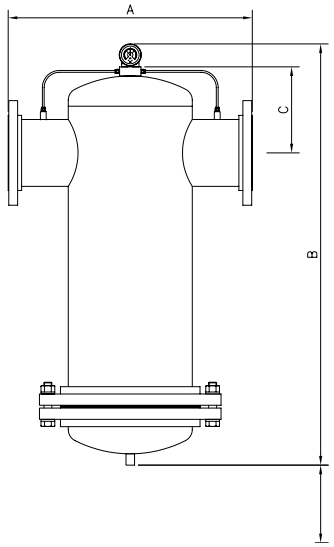
Features:
Automatic Float Drain Mechanism: Models DK-2 through DK-22,
Electronical Drain Mechanism: Models HK-30 through DK-333 (Type G, P & H)
Differential Pressure Gauge Indicator: Optional to DK-41, Standard DK-60 & larger (except Type C)
Manual Drain Mechanism: Standard on Type D & C

Table 1: Correction Factors (multipliers) for Inlet Air Pressure

Inlet Air	barg	2.1	2.8	4.1	5.5	6.9	8.3	10.3	13.8	16
Pressure	psig	30	40	60	80	100	120	150	200	232
Correction Factor		0.39	0.48	0.65	0.82	1.00	1.17	1.43	1.87	2.12

Element Efficiencies

Element	Type	Efficiency
G	Coarse Particulate	10μ, 99.9%
P	Coarse Coalescing	1μ, 99.999%
H	High Efficiency Coalescing	0.01μ, 99.999%
D	Fine Particulate	1μ, 99.999%
C	Vapor	0.003ppm



Inlet Pressure

Model	Max. Inlet Air Pressure	Min. Inlet Air Pressure
DK-60 - DK-333	9.9 barg	2 barg

Operating Temperature

Type	Max. Operating Temp	Min. Operating Temp
G, P, H, & C	55°C	2°C
D	70°C	2°C

Improvements and research are continuous at SPX Deltech.
Specifications may change without notice.

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