

V73 Series In-Line Filters

V76 Series Tee Filters

No.V736-8
July 2014

Pressure Rating up to 3000 psig (206 bar), 6000 psig (413 bar)

Features

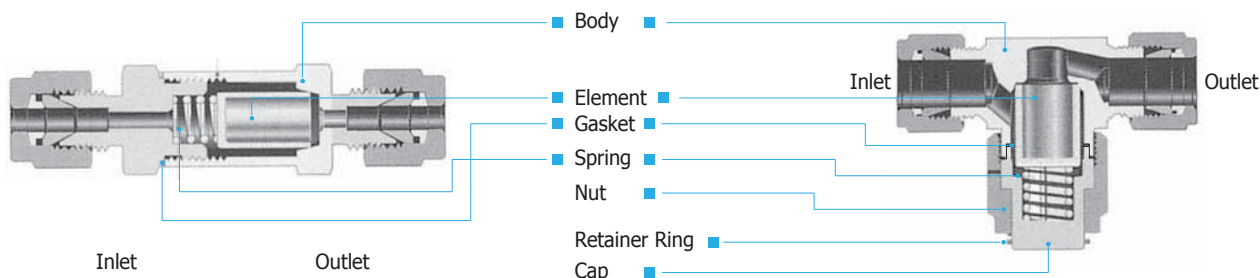
- Traps fine contamination to maintain system purity
- Gas and liquid filtration
- Standard micron filtering ranges
- Sintered Elements : 0.5, 2, 7, 15, 60 and 90 micron
- Strainer Elements : 40,140,230 and 440 micron
- Replaceable SS316 sintered and strainer elements
- SS316 and Brass body construction
- Choice of reliable DK-Lok, NPT & ISO pipe end connections
- Heat Code Traceability

V73 Series In-line Filters

- In-line filters are applicable where space is limited and elements don't have to be replaced often.
- Compact in-line design with large filtration area
- Maximum working pressure 3,000 psig @100°F(206 bar @38°C)

V76 Series Tee Filters

- Filter Element replaceable with the valve in-line.
- Safety union bonnet design for high pressure rating
- Optional Bypass for sampling or purging of process fluid.
- Maximum working pressure 6,000 psig @100 °F(413 bar @38°C)



Materials of Construction

Component	V73 Series		V76 Series	
	Grade/ASTM Specification			
Body	SS316 / A276	Brass / B16	SS316 / A276	Brass / B16
Nut	-	-	SS316 / A276	Brass / B16
Cap	-	-	SS316 / A276	Brass / B16
Retainer Ring	-	-	Stainless Steel	
Element	SS316 (Sintered, Strainer)			
Spring	SS302			
Gasket	SS316 / A240 silver plated			

Wetted components are listed in [blue](#).

Filtration Definitions

- **Filter Element :**
The component within the filter which traps media contamination.
- **Filtration Area :**
The actual surface area of the filter element available to trap contamination.
- **Micron :**
A unit of measure to describe the mean pore diameter of the filter element or the mean particle diameter of media contamination. One micron = 0.001mm or 0.00004 inch

V76 Series Tee Filter CNG Certifications

Certificates	ECER110	ANSI / AGA NGV 3.1-1995 CGA NGV 12.3-M95	ISO 15500
Certificate No	110R-000196	2010-REPORT-032 (01)	2010-REPORT-031(00)
Classification	Class 0	CNG-Filter	CNG-Filter
Temperature	-40°C to 120°C (-40°F to 250°F)	-40°C to 121°C (-40°F to 250°F)	-40°C to 121°C (-40°F to 250°F)
Working Pressure	200 bar @ 120°C	273 bar @ 121°C	273 bar @ 121°C

Sintered Elements Technical Information

- Stainless steel 316 sintered
- High heat resistance and thermal stability up to 1,500°F(815°C)
- High permeability with low-pressure drop.
- Shape-stability with self-supporting structural elements
- Suitable for compression, vibration, and high impulse pressures.
- Precise filtration because pore size and distribution are exact and uniform.
- Chemical resistance against acids and caustic solutions in various ranges of pH.

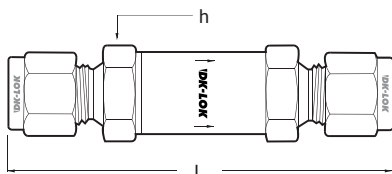
Element Designator	Nominal Pore Size, µm	Pore Size Range, µm	Element Porosity	Cv Factor	Max. Pressure Differential Across Clean Filters at 70°F (21°C)
05	0.5	0.5 - 2	17%	0.046	1160 psig (80.0 bar)
2	2	1 - 4	22%	0.056	
7	7	5 - 10	27%	0.12	
15	15	11 - 25	36%	0.13	
60	60	50 - 75	44%	0.38	
90	90	75 - 110	45%	0.50	

Element Replacement

- The sintered elements don't permit the contaminants in the gas and liquid to pass through the elements when they are bigger than the pore size of micron.
- Contaminants are trapped by element pores and it results in pressure buildup.
- Contamination comes earlier when flow volume is high and media is not clean.
- The filtering elements need to be replaced for minimum pressure drop as well as system purity.

Note : Clean filter valve components whenever the element is replaced.

V73 Series In-line Filters



Ordering Information and Dimensions

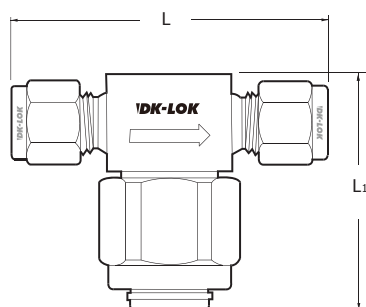
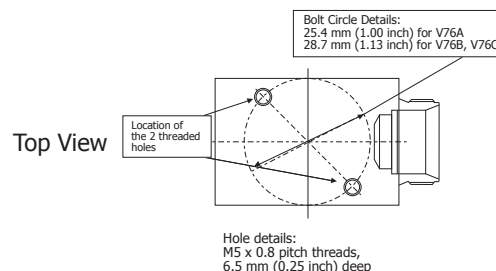
Basic Ordering Number		End Connections Inlet and Outlet	Orifice inch (mm)	Dimensions. mm (in.)	
				L	H
V73A-	D-2T-	1/8 in. DK-Lok	0.09 (2.4)	59.7(2.35)	9/16
	F-2N-	1/8 in. Female NPT		54.9(2.16)	
	D-3M-	3mm DK-Lok		60.5(2.38)	
V73B-	D-4T-	1/4 in. DK-Lok	0.19 (4.7)	74.9(2.95)	3/4
	M-4N-	1/4 in. Male NPT		68.3(2.69)	
	F-4N-	1/4 in. Female NPT		72.9(2.87)	
	D-6M-	6mm DK-Lok		75.2(2.96)	
V73C-	M-8N-	1/2 in. Male NPT	0.28 (7.1)	81.3(3.20)	1
	D-6T-	3/8 in. DK-Lok		81.5(3.21)	
V73D-	D-8T-	1/2 in. DK-Lok	0.41 (10.3)	88.6(3.49)	1

Flow Capacities

Filter Series	Nominal Pore Micron	Pressure Drop		
		20 psi	60 psi	120 psi
		Water GPM @70°F (21°C)		
73A Series	05	0.01	0.44	0.13
	2	0.11	0.26	0.44
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
	90	0.28	0.55	0.66
73B Series	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
	60	1.27	3.61	5.04
73C Series 73D Series	90	1.70	4.60	6.68
	05	0.13	0.44	0.83
	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
	15	1.19	2.85	4.49
	60	2.83	7.34	10.95
	90	3.25	8.32	12.05
	40,140,230,440	2.7	6.04	9.4

Technical Information

Filter Series	Pressure Rating @100 °F (38 °C), psig (bar)		Temperature Rating, °F (°C)		Filtration Area in. ² (mm ²)	
Body Material	SS316	Brass	SS316	Brass	Sintered	Strainer
V73A	3000 (206)	3000 (206)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	0.55(350)	-
V73B					1.30(830)	1.0(640)
V73C, V73D	2500 (172)	2000 (137)			2.0(1280)	1.7(1090)

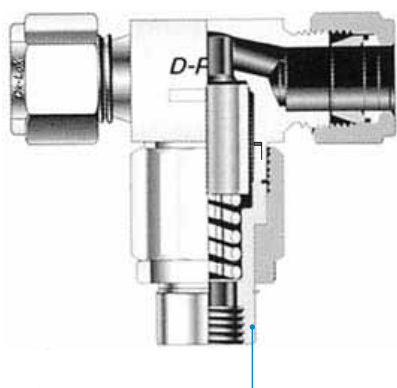
V76 Series Tee Filters

Top mounting

Ordering Information and Dimensions

Basic Ordering Number	End Connections Inlet & Outlet	Orifice mm (in.)	Dimensions, mm (in.)		
			L	L1	H
V76A	F-2N-	1/8 in. Female NPT	50.8(2.0)	47.5 (1.87)	-
	D-2T-	1/8 in. DK-Lok	57.7(2.27)		7/16
	D-4T-	1/4 in. DK-Lok	62.7(2.47)		9/16
	M-4N-	1/4 in. Male NPT	54.1(2.13)		1"
	F-4N-	1/4 in. Female NPT	54.1(2.13)		-
V76B	D-6M-	6mm DK-Lok	62.5(2.46)	56 (2.2)	14mm
	D-6T-	3/8 in. DK-Lok	72.1(2.84)		11/16
	D-8M-	8mm DK-Lok	72.1(2.84)		1-1/8"
V76C	M-6N-	3/8 in. Male NPT	60.5(2.38)	56 (2.2)	-
	D-10M-	10mm DK-Lok	72.6(2.86)		19mm
	D-12M-	12mm DK-Lok	77.2(3.04)		1-1/8"
	D-8T-	1/2 in. DK-Lok	77.2(3.04)		7/8
	M-8N-	1/2 in. Male NPT	69.9(2.75)		-

All dimensions shown are for reference only and are subject to change. Dimensions with DK-Lok nuts are in finger-tight position.

Technical Information

Filter Series	Pressure Rating @100 °F (38 °C), psig (bar)		Temperature Rating, °F (°C)		Filtration Area in. ² (mm ²)	
	SS316	Brass	SS316	Brass	Sintered	Strainer
V76A, V76B	6000(413)	2000(137)	-20 to 900	-20 to 300	1.3(830)	1.0(640)
V76C	6000(413)	2000(137)	(-28 to 482)	(-28 to 148)	2.0(1280)	1.7(1090)


By-pass port

By-pass port of female 1/8 in. or 1/4 in. NPT is available for sampling and purging of process fluid. To use, replace the cap on Tee filter with the by-pass port.

Operation

Keep the cap downwards to prevent contaminants from entering the system during element replacement

Filter Series	Nom. Pore Micron	Pressure Drop		
		20 psi	60 psi	120 psi
		Water GPM @ 70 °F (21 °C)		
V76A-F-2N V76A-D-2T	05	0.06	0.19	0.32
	2	0.11	0.26	0.44
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
V76A-D-4T V76A-M-4N V76A-F-4N	90	0.28	0.55	0.66
	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
V76A-D-6M V76A-D-6T V76B Series V76C Series	60	1.13	2.96	4.27
	90	1.56	3.72	5.37
	05	0.13	0.44	0.83
	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
V76B Series V76C Series	15	1.19	2.85	4.49
	60	2.12	5.26	7.34
	90	2.40	6.02	8.33
	40, 140, 230, 440	0.28	0.55	0.66

Ordering information

Select desired basic ordering number, element designator, option and body material listed below.

V76A-D-4T

-7

-BF2N

-S

V76B-D-6T

-NE

-B

Element			Filter with no element	By-pass	Body Material
Element Type	Element Designator	Nominal Micron	NE : Filter with no element Note : NE option is applicable to V76 series Tee filter only.	Nil : No By-pass option BF2N : 1/8 in. Female NPT BF4N : 1/4 in. Female NPT	S : SS316 B : Brass
Sintered	0.5	0.5			
	2	2			
	7	7			
	15	15			
	60	60			
	90	90			
Strainer	40	40			
	140	140			
	230	230			
	440	440			



Field Assembly Kit

Element Kits

To order, select desired kit basic ordering number and element designator. Example : FE73A-05

Element Kit Basic Ordering Number		Element Designator	Nominal Pore Size, µm	Pore Size Range, µm	Kit applicable Filter Series	
Sintered	FE73A- FE73B- FE73C-	05	0.5	05 - 2	FE73A-	V73A
		2	2	1 - 4	FE73B-	V73B
		7	7	5 - 10		V76A
		15	15	11 - 25		V73C, V73D
		60	60	50 - 75	FE73C-	V76B, V76C
		90	90	75 - 110		
Strainer	FES73C-	40	40	-	FES73C-	V73C, V73D
		140	140	-		V76B, V76C
		230	230	-		
		440	440	-		

Gasket and Spring Kits

To order, select desired gasket or spring kit ordering number

Filter Series	Gasket Kit Ordering Number	Spring Kit Ordering Number	Kit applicable Filter Series
V73 Stainless Brass	9WSH-73A-S	9SPR-73A-2	V73A
	9WSH-73B-S	9SPR-73B-2	V73B
	9WSH-73C-S	9SPR-73C-S	V73C
	9WSH-73D-S	9SPR-73D-2	V73D
V76 Stainless Brass	76A-WSH-S	9SPR-76A-2	V76A
	76B-WSH-S	9SPR-76B-2	V76B / V76C

We reserve the right to change specifications stated in this catalog for our continuing program of improvement.

Safe Filter Selection

The Selection of a Filter for any application or system design must be considered to ensure safe performance. Filter function, Filter rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. DK-Lok accepts no liability for any improper selection, installation, operation or maintenance.