



BE-LOK INSTRUMENT FITTINGS
INC

Filters

100% Factory Tested For Both Crack & Reseal



Engineering Expertise

@ www.be-lok.com

Introduction

BE-LOK INSTRUMENT FITTINGS INC. A fast-growing manufacturing company spread across an area of 5500 m² (Meters Squared). We are having experience and expertise with advanced technology in design, development and production of high-quality fittings and valves for Instrumentation, Hydraulic, Chemical Injection and Oil & Gas Applications.

We are having state of the art manufacturing facility. We use the Latest manufacturing technologies for highest precision and lowest tolerance. Our well-equipped Manufacturing and Testing facilities is most comprehensive, technically advanced and system oriented.

We manufacture all our products in our own manufacturing facilities under strict quality assurance procedure.

Our products are in line with international specification requirements in quality, safety, consistency and reliability apart from the competitive price. We ensure that our products are quality checked before being shipped to our clients' location.

We are recognised by International Quality Management Systems & Certified by ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, PED 2014/68/EU, ASTM F1387-19, Interchangeability Test Report, MSS-SP-99-2016a etc.

As we are having 20% Market in Domestic Areas and have a 80% hold in international market.

Description

BE-LOK® filters are of T-type direct-flow micron filters designed to protect system components from solid particles and suspended particles of liquids.

Technical Characteristics of In-Line Filters

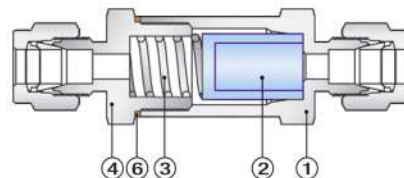
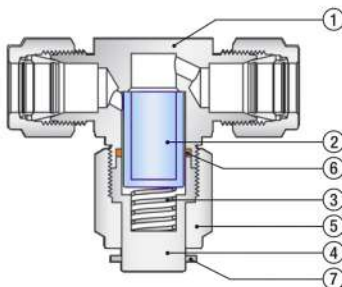
- Compact design, also for the application in confine space.
- Nominal pore size of the replaceable sintered filter element: 0.5, 2, 7.15, 40, 60, 90 microns.
- Nominal Pore size of the replaceable mesh filter element: 40, 90, 140, 230, 440, microns.
- Working Pressure Up to 3000 psi (207 bar).
- Working Temperature Up to -20°F to 900°F (-28°C to 482°C)
- Various End Connections are available. It includes **BE-LOK** Tube Fittings & NPT.

Technical Characteristics of T-Type Filters

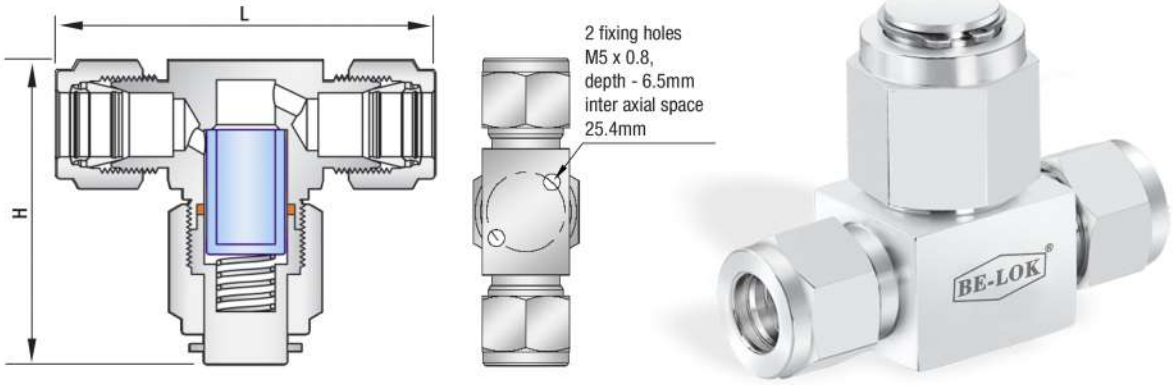
- The filter element can be removed without dismantling the filter.
- Safe filter cover design for application under high pressure.
- Nominal pore size of the replaceable sintered filter element: 0.5, 2, 7, 15, 40, 60, 90, microns.
- Nominal pore size of the replaceable mesh filter element: 40, 90, 140, 230, 440 microns
- Working Pressure Up to 6000 psi (414 bar).
- Working Temperature Up to -20°F to 900°F (-28°C to 482°C).
- Various End Connections are available. It includes **BE-LOK®** Tube Fittings & NPT.

Design & Materials

No	Part	Material / Specification ASTM	
		T-Shape	In-Line
1	Filter Body	Stainless Steel 316 / A479	
2	Filter Element	Sintered or Mesh / Stainless Steel 316	
3	Spring	Stainless Steel 302 / A313	
4	Cover	Stainless Steel 316 / A479	
5	Cover Nut	Stainless Steel / A479	-
6	O-Ring	Stainless Plated 316 SS / A240	
7	Locking Ring	Stainless Steel	-



Type of Connections and Sizes of T-Type Filters



Series	End Connections			Sizes		
	Code	Size	Type of Connection	Orifice Inch (mm)	L mm (Inch)	H mm (Inch)
TA	02	1/8"	BE-LOK® Tube Fittings	0.094 (2.39)	57.7 (2.27)	47.5 (1.87)
	2N-F	1/8"	NPT Female		50.8 (2.00)	54.9 (2.16)
	M03	3 mm	NPT Male		50.8 (2.00)	54.9 (2.16)
TB	04	1/4"	BE-LOK® Tube Fittings	0.174 (4.41)	62.7 (2.47)	47.5 (1.87)
	4N-M	1/4"	NPT Female		54.1 (2.13)	47.5 (1.87)
	4N-F	1/4"	NPT Male		54.1 (2.13)	47.5 (1.87)
	M06	6 mm	BE-LOK® Tube Fittings		62.5 (2.46)	47.5 (1.87)
TC	06	3/8"	BE-LOK® Tube Fittings	0.213 (5.41)	72.1 (2.84)	56 (2.2)
	6N-M	3/8"	NPT Female		60.5 (2.38)	56 (2.2)
	M08	8 mm	BE-LOK® Tube Fittings		72.1 (2.84)	56 (2.2)
TD	08	1/2"	BE-LOK® Tube Fittings	0.250 (6.35)	77.2 (3.04)	56 (2.2)
	M10	10 mm	BE-LOK® Tube Fittings		72.6 (2.86)	56 (2.2)
	M12	12 mm	BE-LOK® Tube Fittings		77.2 (3.04)	56 (2.2)
	8N-M	1/2"	NPT Female		69.9 (2.75)	56 (2.2)

***Note :** Dimensions are for reference only and are subject to change.
 Dimensions for **BE-LOK®** Tube Fittings are based on hand-tightened compression nuts.

Filtration Area and Filter Elements

Filtration area is the actual surface area of the filter element for trapping the contaminants.

Filter element is a filter component that filters and prevents the process medium from the pollution. Filter elements remove 95% of particles which exceed the nominal pore size.

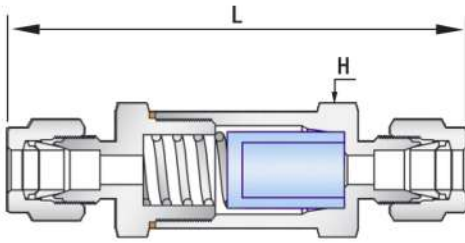
Filtration Area

Filter Type	Filter Series	Filtration Area inch (mm)	
		Sintered	Mesh
In-Line	IA	0.55 (350)	-
	IB	1.3 (830)	1.0 (640)
	IC	2.0 (1280)	1.7 (1090)
	ID	2.0 (1280)	1.7 (1090)
T-Type	TA	1.3 (830)	1.0 (640)
	TB	1.3 (830)	1.0 (640)
	TC	2.0 (1280)	1.7 (1090)
	TD	2.0 (1280)	1.7 (1090)

Filter Elements

		Type of Filtering Element	Designation of Filtering Element
0.5	From 0.5 To 2	Sintered	05
2	From 1 To 4		2
7	From 5 To 10		7
15	From 11 To 25		15
40	From 35 To 53		40
60	From 50 To 75		60
90	From 75 To 100		90
40	-	Mesh	40
90	-		90
140	-		140
230	-		230
440	-		440

Connection Types and Sizes of in-Line Filters



Series	End Connections			Sizes		
	Code	Size	Type of Connection	Orifice Inch (mm)	L mm (Inch)	H mm (Inch)
IA	02	1/8"	BE-LOK® Tube Fittings	0.094 (2.39)	59.7 (2.35)	9/16
	2N-F	1/8"	NPT Female		54.9 (2.16)	9/16
	M03	3 mm	BE-LOK® Tube Fittings		60.5 (2.38)	9/16
IB	04	1/4"	BE-LOK® Tube Fittings	0.187 (4.75)	74.9 (2.95)	3/4
	4N-F	1/4"	NPT Female		72.9 (2.87)	3/4
	4N-M	1/4"	NPT Male		68.3 (2.69)	3/4
	M06	6 mm	BE-LOK® Tube Fittings		75.2 (2.96)	3/4
	M08	8 mm	BE-LOK® Tube Fittings		78.5 (3.10)	3/4
IC	06	3/8"	BE-LOK® Tube Fittings	0.281 (7.14)	81.5 (3.21)	1
	6N-M	3/8"	NPT Male		71.1 (2.80)	1
	M10	10 mm	BE-LOK® Tube Fittings		83.9 (3.30)	1
	M12	12 mm	BE-LOK® Tube Fittings		87.9 (3.46)	1
ID	08	1/2"	BE-LOK® Tube Fittings	0.406 (10.3)	88.6 (3.49)	1
	8N-M	1/2"	NPT Female		81.6 (3.21)	1

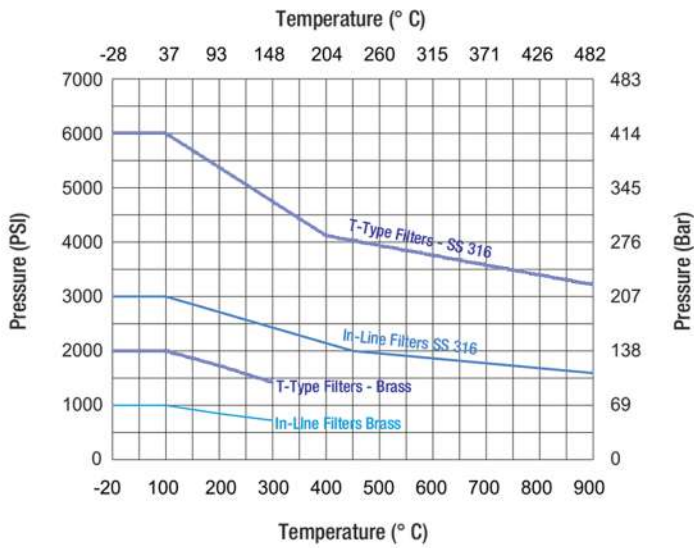
*Note : Dimensions are for reference only and are subject to change.
Dimensions for BE-LOK® Tube Fittings are based on hand-tightened compression nuts.

Pressure V/S. Temperature

Filter Type	T-Type				In-Line				T-Type				In-Line							
Filter Series	TA	TB	TC	TD	IA	IB	IC	ID	TA	TB	TC	TD	IA	IB	IC	ID				
Material	SS 316								Brass											
Temperature °F (°C)	Working Pressure in psi (bar)																			
From -20 (-28) to 100 (38)	6000 (413)				3000 (206)				2500 (172)				2000 (137)				1000 (68.9)			
200 (93)	5160 (355)				2580 (177)				2150 (148)				1730 (119)				780 (53.7)			
300 (148)	4660 (321)				2330 (160)				1940 (133)				1470 (101)				680 (46.8)			
400 (204)	4280 (294)				2140 (147)				1780 (122)				-				-			
500 (260)	3980 (274)				1990 (137)				1660 (114)				-				-			
600 (315)	3760 (259)				1880 (129)				1560 (107)				-				-			
650 (343)	3700 (254)				1845 (127)				1540 (106)				-				-			
700 (371)	3600 (248)				1800 (124)				1500 (103)				-				-			
750 (398)	3520 (242)				1760 (121)				1460 (100)				-				-			
800 (426)	3460 (238)				1725 (118)				1440 (99.2)				-				-			
850 (454)	3380 (232)				1690 (116)				1410 (97.1)				-				-			
900 (482)	3280 (225)				1640 (112)				1360 (93.7)				-				-			

The information in the table is valid for a standard stainless-steel O-ring.

When using non-standard O-rings, the working pressure and temperature may be below the specified values.



Maximum differential pressure with a clean filter at 21°C (70°F)

Maximum Differential Pressure psi (bar)									
0.5 MKM	2 MKM	7 MKM	15 MKM	40 MKM	60 MKM	90 MKM	140 MKM	230 MKM	440 MKM
2250 (152.2)	2250 (152.2)	1950 (134.5)	1750 (120.7)	1150 (79.3)	1150 (79.3)	1000 (69.0)	1000 (69.0)	1000 (69.0)	1000 (69.0)

Ordering Information

B-IF-IA-2N-MF-ST-40-SS-SG

Type of Filter		Filter Series	Thread Type and Size		Type of End Connection		Filter Element		Pore Size		Material	
IF	In-Line Filter	IA	02	1/8" OD*	F	Female Thread In and Out	-	Sintered*	05	0.5 MKM	SS	SS 316
TF	T-Type Filter	IB	04	1/4" OD*	M	Male Thread In and Out	ST	Mesh	2	2 MKM	B	Brass
		IC	06	3/8" OD*	MF	Male / Female			7	7 MKM		
		ID	08	1/2" OD*	FM	Female / Male			15	15 MKM		
		TA	M03	3mm OD*	OD	BE-LOK® Tube Fitting			40	40 MKM		
		TB	M06	6mm OD*					60	60 MKM		
		TC	M08	8mm OD*					90	90 MKM		
		TD	M10	10mm OD*					140	140 MKM		
			M12	12mm OD*					230	230 MKM		
			2N	1/8" NPT					440	440 MKM		
			4N	1/4" NPT								
			6N	3/8" NPT								
			8N	1/2" NPT								
			2R	1/8" BSPT								
			4R	1/4" BSPT								
			6R	3/8" BSPT								
			8R	1/2" BSPT								
			2G	1/8" BSPP								
			4G	1/4" BSPP								
			6G	3/8" BSPP								
			8G	1/2" BSPP								
			20M	M20 x 1.5**								

Optional	
SG	NACE MR-1075
OXY	For Oxygen Medium Application

BE-LOK® Tube Fitting **Other metric sizes are also available

Testing

Each **BE-LOK®** filter is hydrostatically tested at a pressure 1.5 times higher the maximum working pressure. The leak test is carried out with nitrogen at a pressure of 1000 psi (69 bar).

Filter Installation Recommendations

Filters are installed in strict accordance with the direction of flow of the medium. The direction of flow must match the direction of the arrow on the filter body. If the filter has **BE-LOK®** tube fittings, the installation shall be carried out together with the installation instruction for the tube fittings.

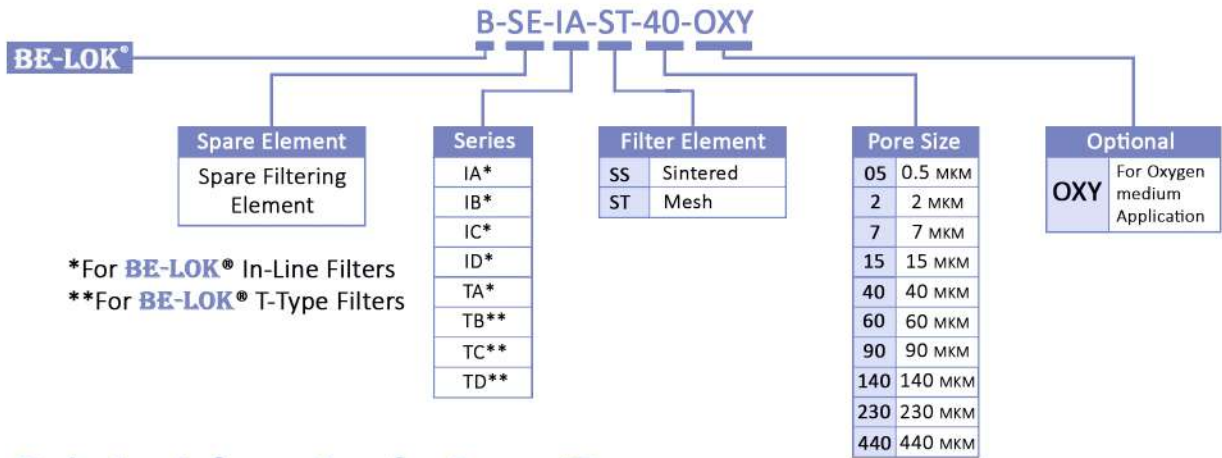
When installing a filter with a thread connection (male or female tapered NPT or BSPT), PTFE tape or sealants for the tapered thread shall be used. The sealant usually contains a lubricant, it fills the voids between threads and prevents from thread galling.

When using Telfon tape as a sealing material, wind it around the male tapered thread clockwise from the beginning of the thread. Make sure the tape does not go beyond the first thread, otherwise some of the tape may break and drop in the process. Cut off the excess tape, ensure that the tape on the fitting is properly secured, and install it with wrenches.

When installing, hold the filter body with a wrench and turn the body of the fitting attached to it, and not otherwise. The thread tightening force is regulated by the thread standard.

Filters shall be subject to periodic maintenance by replacing the filter element and tightening the fitting nut in case of disassembly / assembly of the connection.

Ordering Information



Ordering Information for Spare Kit

The filter element is made of stainless steel and has a few small pores. The particles larger than the pores of the filter element do not pass through the filter and are removed from the working medium. After some time, the particle will clog the pores of the filter element, resulting in an increase in pressure loss across the filter.

The life of the filter element depends on the amount of process medium that has passed through it, and on its purity. To ensure a minimum pressure drop across the filter, the filter element shall be changed regularly. To replace filter elements in in-line filters, they shall be dismantled from the system.

At the same time, in the case of dismantling the filters with tube fittings, their dismantling and subsequent installation into the system after replacing the filter element should be carried out in accordance with the instructions for disassembling and reassembling the tube fittings. Replacement of T-shape filter elements is possible without removing the filter body from the system. **BE-LOK®** filter spare parts kit consists of a replacement filter element and silver-plated O-ring in 316 / A240 stainless steel.

Safety

For safe operation of **BE-LOK®** filters shall be adequately selected. When choosing materials operating conditions, compatibility of materials, purpose and product specifications shall be considered. Installation and maintenance of products shall be carried out by qualified personnel.

Wrong selection, poor installation or incorrect operation and maintenance may result in accident, cause personal injury and result in material damage. **BE-LOK INSTRUMENT FITTINGS INC** provides a guarantee for all manufactured and supplied products, however, is not responsible for the wrong selection, installation, operation, and technical maintenance of delivered products.

Products



Flange Adapter



Pipe Fitting



Flare Fitting



Valve Manifold



Thermowells



Check Valve



Tube Fitting



Needle Valve



Weld Fitting



Swivel Adapter



High Pressure



Gauge Root



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