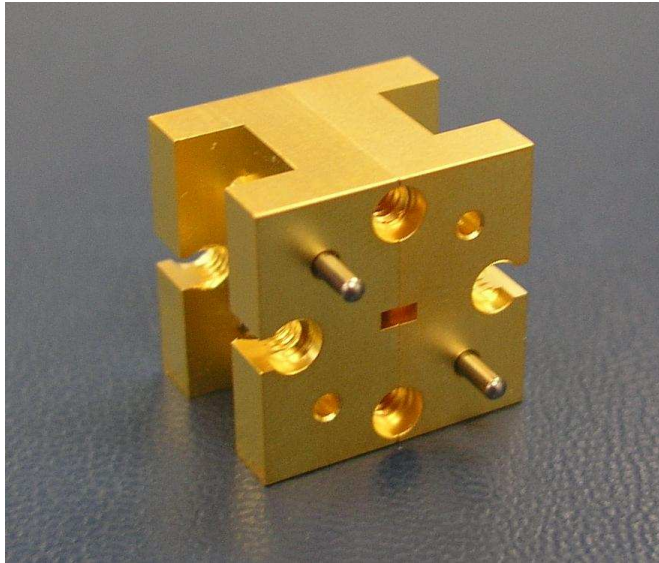


FIB SERIES
IRIS BANDPASS FILTERS

FEATURES:

- Waveguides Available – WR-42 up to WR-05
- Low Pass Band Insertion Loss
- Narrow Pass Band
- High Power Capabilities
- Space Qualified

APPLICATIONS:

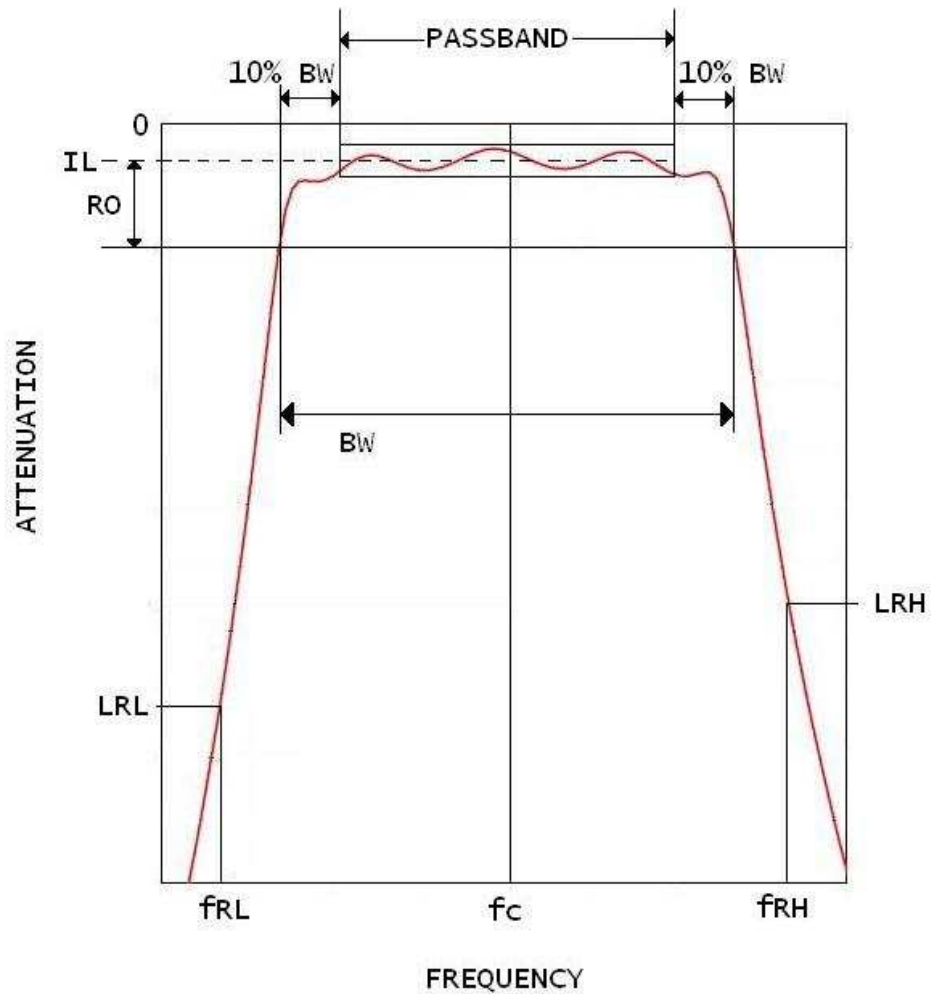
- Preselector Filter
- Spurious Mode Suppression
- Image Rejection
- Instrumentation

DESCRIPTION

Millitech series FIB iris bandpass filters have a narrow passband in the range of 1% to 15% of center frequency. These filters offer low insertion loss in the passband with a wide range of passband frequencies. Filters in this series are available from 18 to 220 GHz, and can handle up to 10 Watts. These filters also offer excellent rejection at high and low side rejection frequencies. Characteristics of the filter can be modified to suit specific rejection requirements.

Series FIB filters are constructed using rugged waveguide channel housing and are precision machined. Standard filter response is of a Chebyshev design. Consult Millitech for alternate topologies.

ELECTRICAL SPECIFICATIONS



LEGEND	
BW	Bandwidth
f_c	Center Frequency
f_{RL}	Low Side Rejection Frequency ($f_c - 1.5BW$)
f_{RH}	High Side Rejection Frequency ($f_c + 1.5BW$)
L_{RL}	Attenuation at f_{RL}
L_{RH}	Attenuation at f_{RH}
IL	Passband Insertion Loss
RO	Band-Edge Rolloff (1dB typ.)

MODEL	Frequency Band and Range (GHz)	Typical Passband IL (dB)	Maximum Passband IL (dB) (1)	L _{RL} @ F _{RL} (1)	L _{RH} @ F _{RH} (1)	Passband VSWR (1)
FIB-42	K 18 – 26.5	0.25	0.4	>50	45	1.5:1
FIB-28	Ka 26.5 – 40	0.25	0.4	>50	42	1.5:1
FIB-22	Q 33 – 50	0.3	0.5	>50	40	1.5:1
FIB-19	U 40 – 60	0.35	0.55	>50	38	1.5:1
FIB-15	V 50 – 75	0.35	0.55	>50	35	1.5:1
FIB-12	E 60 – 90	0.45	0.75	>50	35	1.5:1
FIB-10	W 75 – 110	0.6	0.9	50	30	1.5:1
FIB-08	F 90 – 140	(2)	(2)	(2)	(2)	(2)
FIB-06	D 110 – 170	(2)	(2)	(2)	(2)	(2)
FIB-05	G 140 – 220	(2)	(2)	(2)	(2)	(2)

(1) Specifications are based upon a 6-section, 10% bandwidth filter. Measurements are typical.

(2) Please consult Millitech for further information.

OUTLINE DRAWING

FIGURE 1

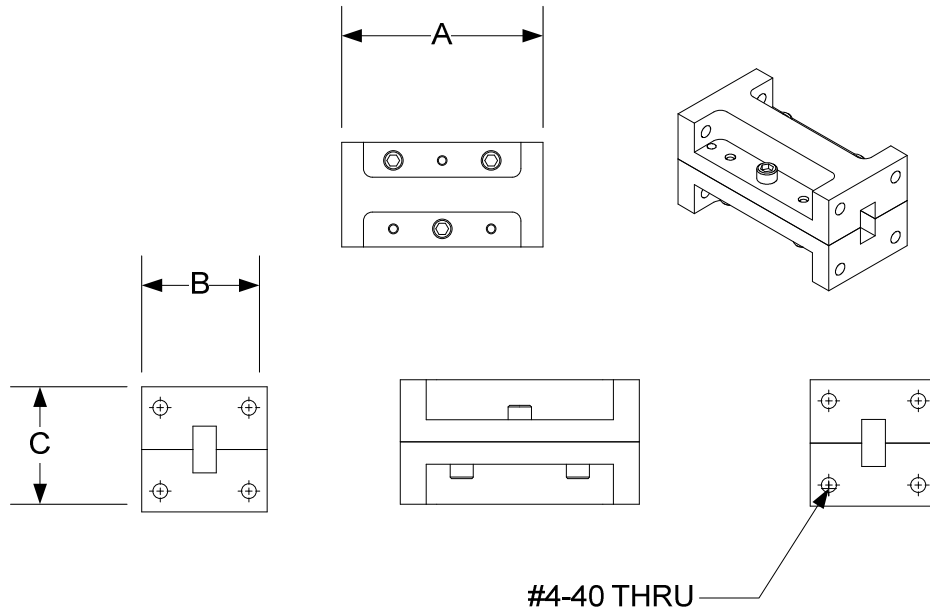


FIGURE 2

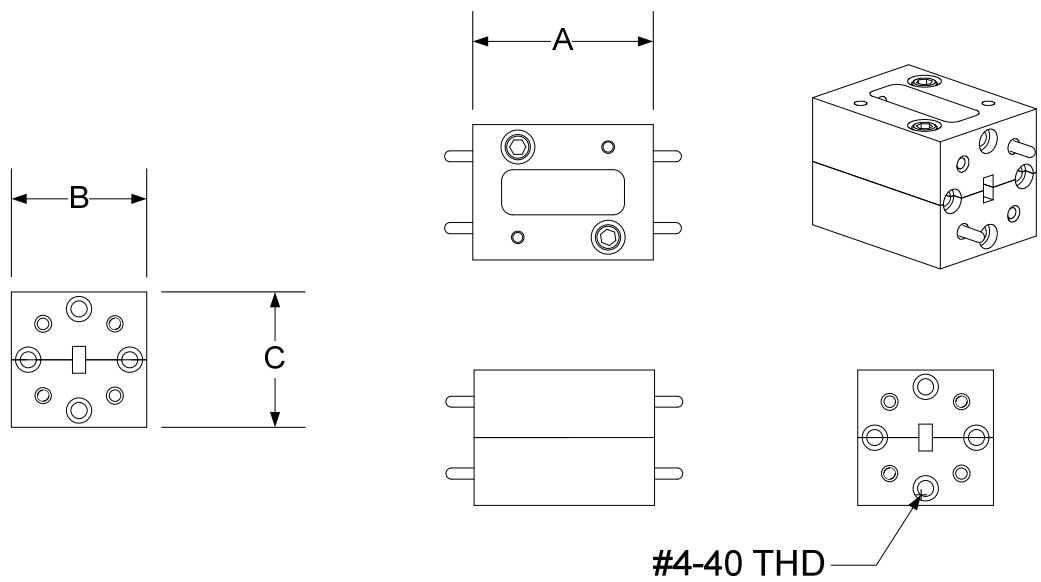
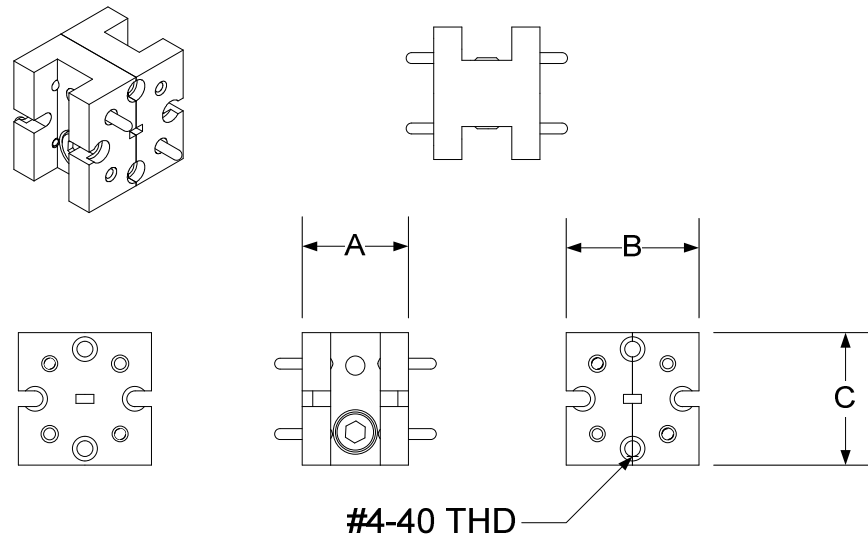


FIGURE 3

MECHANICAL SPECIFICATIONS

MODEL	A (in/mm)	B (in/mm)	C (in/mm)	Flange MIL.F-3922
FIB-42	(1)	0.875/22.2	0.875/22.2	/54-001
FIB-28	(1)	0.75/19.1	0.75/19.1	/54-003
FIB-22	(1)	1.125/28.6	1.125/28.6	/67B-006
FIB-19	(1)	1.125/28.6	1.125/28.6	/67B-007
FIB-15	(1)	0.75/19.1	0.75/19.1	/67B-008
FIB-12	(1)	0.75/19.1	0.75/19.1	/67B-009
FIB-10	(1)	0.75/19.1	0.75/19.1	/67B-010
FIB-08	(1)	0.75/19.1	0.75/19.1	/67B-M08
FIB-06	(1)	0.75/19.1	0.75/19.1	/67B-M06
FIB-05	(1)	0.75/19.1	0.75/19.1	/67B-M05

(1) Length of FIB will depend on center frequency and number of sections.

Note: Outline of the FIB will vary depending on model and length. Typically, if the FIB length is 1" or greater, Figure2 will be used for WR-22 and smaller. If the FIB length is smaller than 1", Figure3 will be used. Figure1 is used for WR-42 and WR-28.

HOW TO ORDER**Specify Model Number
FIB-AA-BCDD0****AA** = Waveguide Standard

- 05** – WR-05 (140 – 220 GHz)
- 06** – WR-06 (110 – 170 GHz)
- 08** – WR-08 (90 – 140 GHz)
- 10** – WR-10 (75 – 110 GHz)
- 12** – WR-12 (60 – 90 GHz)
- 15** – WR-15 (50 – 75 GHz)
- 19** – WR-19 (40 – 60 GHz)
- 22** – WR-22 (33 – 50 GHz)
- 28** – WR-28 (26.5 – 40 GHz)
- 42** – WR-42 (18 – 26.5 GHz)

B = Flange Type

- R** – Round
- S** – Square

C = Frequency Band

- K** – 18 - 26.5 GHz
- A** – 26.5 - 40 GHz (Ka)
- Q** – 33 - 50 GHz
- U** – 40 - 60 GHz
- V** – 50 - 75 GHz
- E** – 60 - 90 GHz
- W** – 75 - 110 GHz
- F** – 90 - 140 GHz
- D** – 110 - 170 GHz
- G** – 140 - 220 GHz

DD = See Standard Models Table Below

If you would like a product not listed in our Standard Products table, please contact Millitech for model number. When ordering please indicate center frequency, bandwidth, desired levels of attenuation outside of the passband, as well as any special requests.

STANDARD MODELS

Standard Models are items that require no setup fee.

Model Number	Center Frequency (GHz)	Bandwidth (GHz)	Number of Sections	Typical Passband IL (dB)	Low Side Rejection (dB)	High Side Rejection (dB)	Outline Figure	A (in)
FIB-42-SK010	24.5	1.0	7	0.65	>50	>50	1	2.4
FIB-28-SA010	36.5	1.0	5	1.5	47	42	1	1.44
FIB-22-RQ010	43.0	4.4	6	0.35	>50	40	2	1.0
FIB-15-RV010	60.0	6.0	6	0.35	41	32	2	1.0
FIB-15-RV020	62.5	6.2	6	0.35	42	31	2	1.0
FIB-12-RE010	79.0	8.0	6	0.5	>50	35	3	0.75
FIB-10-RW010	89.0	3.2	7	0.8	>50	>50	3	0.75
FIB-10-RW020	94.25	4.0	5	1.2	45	37	3	0.60
FIB-10-RW030	94.5	2.0	6	2.0	>50	>50	3	0.60
FIB-10-RW040	95.0	10.0	6	0.7	>50	30	2	1.0
FIB-08-RF010	112.5	7.0	7	0.8	40	38	3	0.60
FIB-05-RG010	150	8.0	5	1.5	(1)	18	2	1.2
FIB-05-RG020	210.0	20.0	6	1.8	30	(1)	3	0.60

(1) Please consult Millitech for further information.

Note: Rejection values measured at typical room temperature. Typical filter roll-off is 1dB.