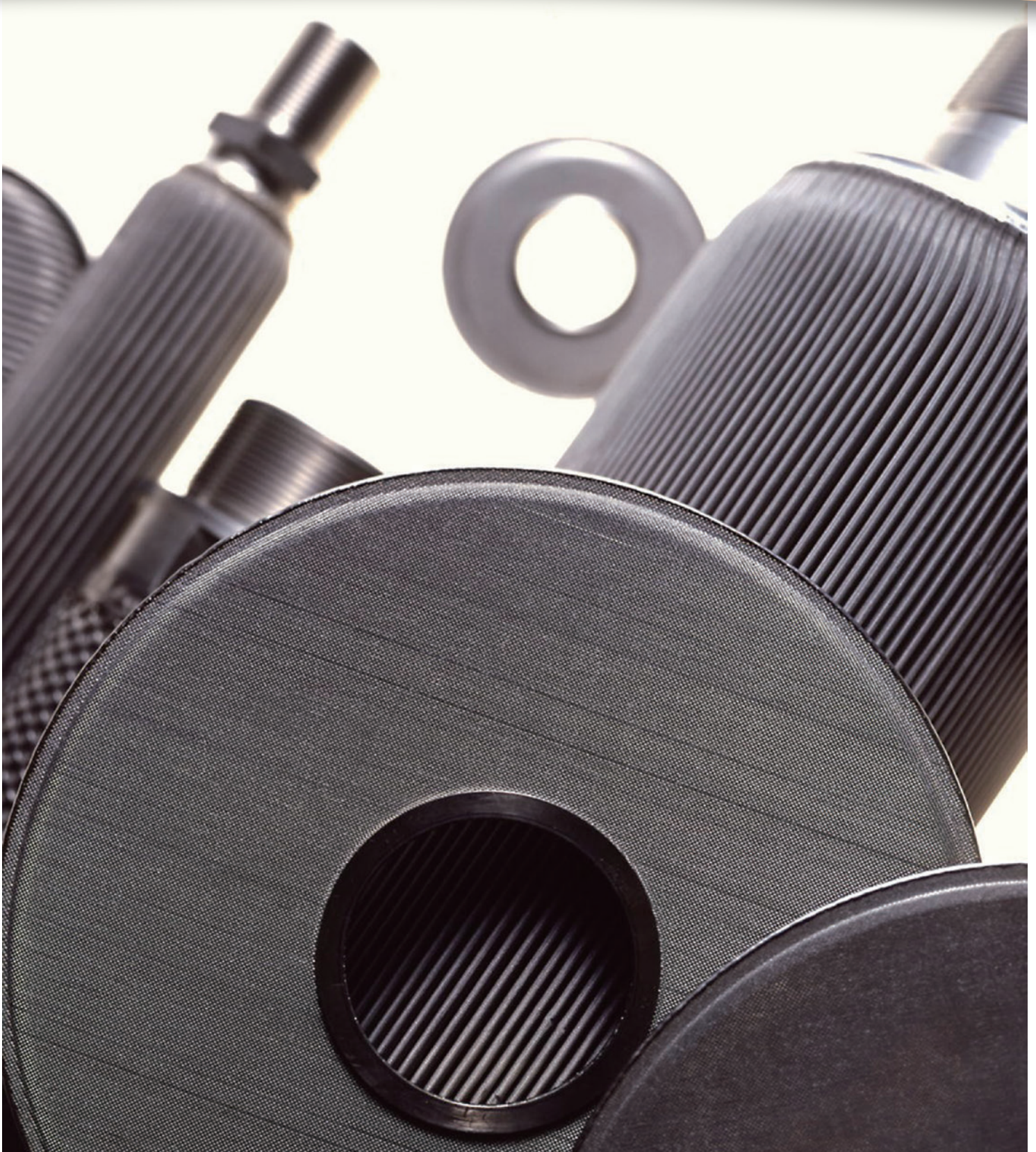


# FUJI METAL FIBER FILTER ELEMENT

Laminated Non-woven Metal Fiber Sintered Filter



**FUJI FILTER**

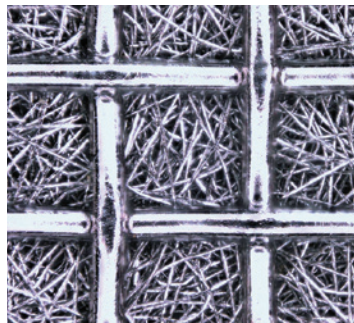
**FUJI METAL FIBER** is a non-woven metal fiber made up of laminated, sintered layers of metal fiber felt, usually stainless steel. It is mainly used for high temperature, high viscosity fluid filtration. This structure gives extended filtration performance resulting in increased product quality, higher productivity and lower production costs. The typical deep layer structure ensures excellent performance which is especially effective in the removal of gel contaminants in high molecular polymer on production lines for synthetic fabrics, film, plastic and so on.



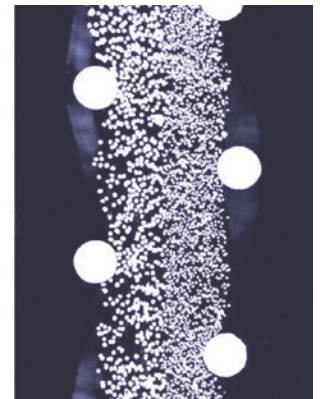
### Features

- Outstanding heat resistance, durability and corrosion resistance
- Highly integrated, high density pore distribution ensures excellent filtration efficiency
- Three dimensional matrix structure with Void ratio of 70 to 80% results in low filtration resistance and high contaminant retention
- Multilayer structure of coarse and fine metal fiber felt designed to maximize retention capacity

### Surface



### Cross Section



### Standard Specification

**Material** SUS316L  
(Please consult us for other materials)

**Size** 1180×1500mm (Standard plate)

**Thickness** 0.30~0.65mm  
(These dimensions do not include the protective and support mesh layers)

**Configuration** Tubular: φ10,5,14,18,25,35,40,50mm  
Length 250,500,750,1000mm  
Pleated: 35,50,60,115  
Length 250,500,750,1000mm  
Disc: φ2~1500mm

**Filtration** 3~60μm

### Applications

**High Polymer use:** High viscosity polymer filter for fiber, film, plastics  
Raw materials

**Chemical:** Monomer/oligomer filters  
Chemical plant filters

**Pharmaceuticals:** Pharmaceutical products

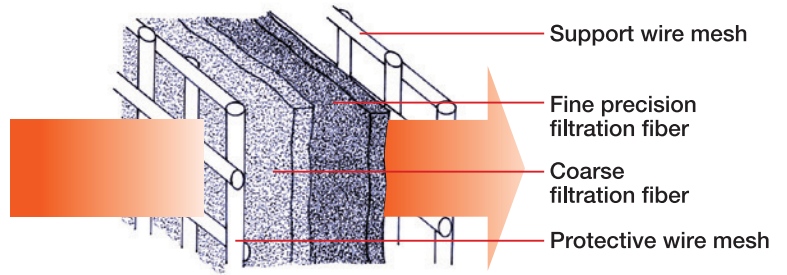
**Food:** Food production  
Crystalization / Recovery filters

**Aviation, Marine, Machinery:** Fuel oil, lube oil, hydraulic oil for filters

**Others:** High temperature exhaust gas processing filters, Oil mist separators.



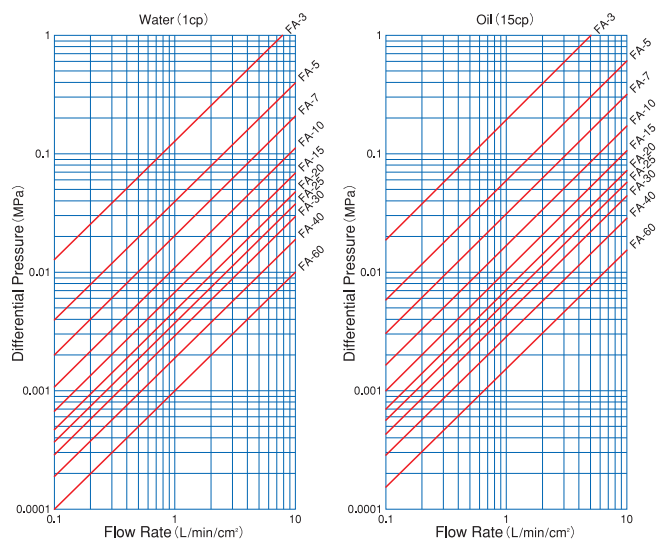
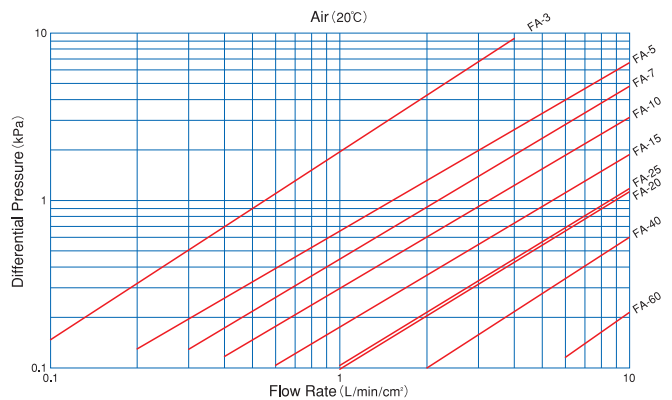
# FUJI Metal Fiber Filter Element



## Specifications

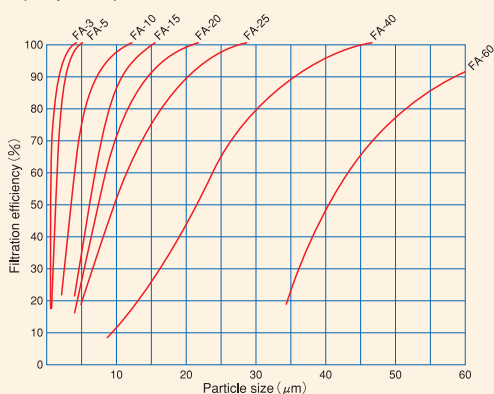
Type	Filtration Efficiency (μm)	Bubble Point Pressure (mmH <sub>2</sub> O)	Penetration Coefficient K (cm <sup>2</sup> )	Filtration Resistance Coefficient K <sub>0</sub> (cm <sup>-1</sup> )	Contaminant Retention Capacity (mg/cm <sup>2</sup> )	Penetration Coefficient ε (%)
FA-3	3	1250	0.53×10 <sup>-3</sup>	73×10 <sup>5</sup>	4.2	69
FA-5	5	775	1.61×10 <sup>-3</sup>	23×10 <sup>5</sup>	5.3	80
FA-7	7	515	2.67×10 <sup>-3</sup>	12×10 <sup>5</sup>	8.3	77
FA-10	10	377	5.78×10 <sup>-3</sup>	6.4×10 <sup>5</sup>	9.6	80
FA-15	15	252	11.0×10 <sup>-3</sup>	4.0×10 <sup>5</sup>	10.1	83
FA-20	20	189	23.0×10 <sup>-3</sup>	2.7×10 <sup>5</sup>	16.9	85
FA-25	25	151	36.4×10 <sup>-3</sup>	2.2×10 <sup>5</sup>	30.0	84
FA-30	30	126	52.9×10 <sup>-3</sup>	1.7×10 <sup>5</sup>	34.4	85
FA-40	40	94	65.5×10 <sup>-3</sup>	1.1×10 <sup>5</sup>	39.7	80
FA-60	58.5	64	121.7×10 <sup>-3</sup>	0.6×10 <sup>5</sup>	41.0	87
Note	ISO 4003			ISO 4572		

## Flow Diagram



## Filtration Efficiency

The graph shows the filtration efficiency curves of FA Series FUJI METAL FIBER as measured by a multipass test. These Performance curves show high filtration efficiency, a property of depth filtration media.



Initial pressure loss through the filter element is calculated by following formula.

$$\Delta P_0 = 1.7 \times 10^{-5} \times K_0 \frac{\mu \cdot Q}{A}$$

ΔP<sub>0</sub>: Initial pressure loss (kgf/cm<sup>2</sup>)

μ: Viscosity of fluid

K<sub>0</sub>: Filtration resistance coefficient (cm<sup>-1</sup>)

(Poise = dyne · sec/cm<sup>2</sup>)

A: Filtration area (cm<sup>2</sup>)

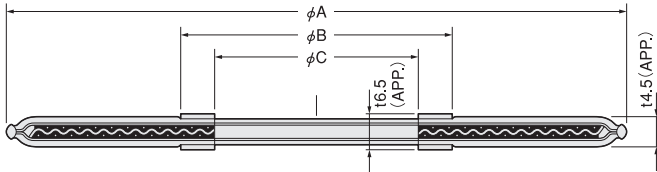
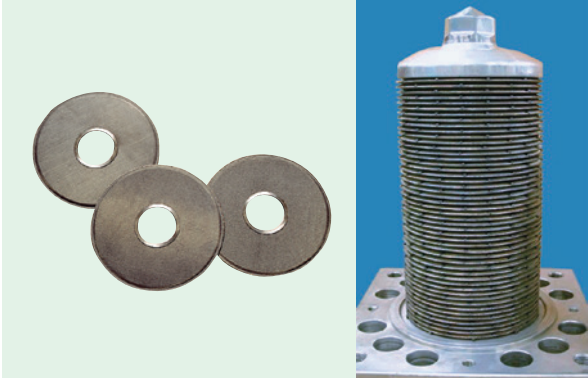
Q: Flow volume (L/min)

# High viscosity polymer Filter Applications



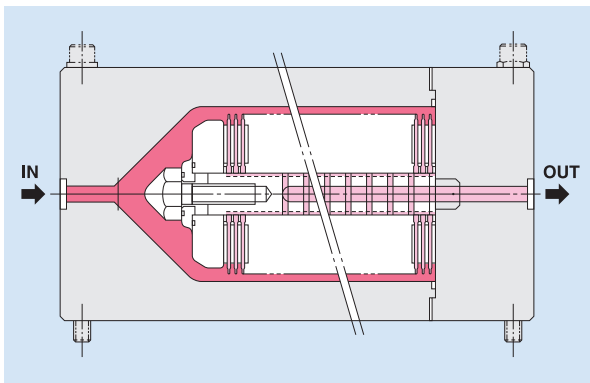
Housing

## Leaf Disc Type



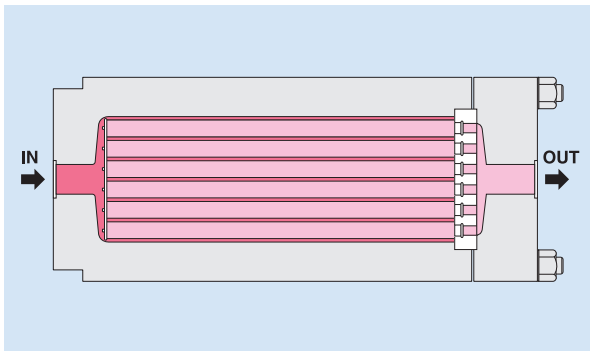
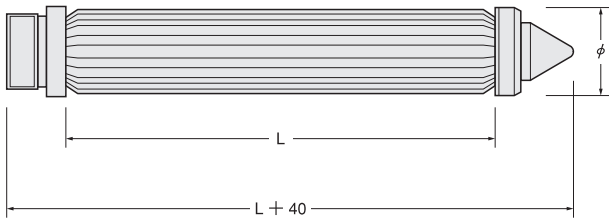
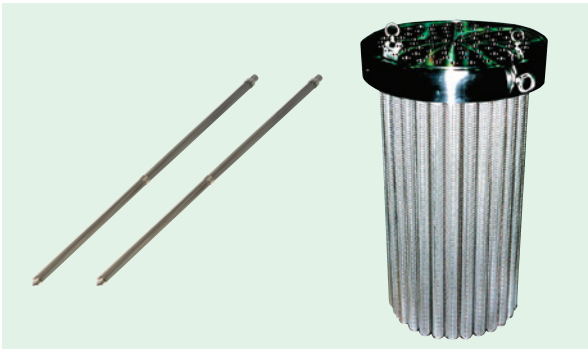
Thickness(t) depends on Filtration Efficiency

● Other than the above soft hub type, hard hub type is available



Type	φA (mm)	φB (mm)	φC (mm)	Filtration area (cm <sup>2</sup> )
FL-3	78	36	30	73
FL-4.4	111	50	38.1	120
FL-5.9	149	50	38.1	264
FL-7A	178	59.6	47.6	386
FL-7B	178	75.5	63.5	352
FL-8.8A	222	59.6	47.6	649
FL-8.8B	222	75.5	63.5	615
FL-10	250	97	85	756
FL-12A	305	75.5	63.5	1200
FL-12B	305	97	85	1170
FL-15	380	113.6	101.6	1900
FL-18	457	113.6	101.6	2900

## Pleated Type



φ	L	Filtration area (m <sup>2</sup> )			
		250	500	750	1,000
35		0.072	0.146	0.221	0.295
50		0.129	0.263	0.397	0.531
60		0.209	0.427	0.644	0.862

● The above mention filtration area will be changed slightly by the filter grade


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