

# High Efficiency Media Filter Cartridges

## FOS Series

### DESCRIPTION

Parker Velcon FOS Series synthetic media cartridges provide excellent filtration performance for a wide variety of industrial applications. They excel in applications where water or chemicals cause softening or degradation of conventional resin impregnated cellulose (pleated paper) filter media.

Due to the finer synthetic fibers used, FOS cartridges have a low pressure drop. Replacing an equivalent size paper filter will, in many cases, result in improved filtration efficiency, higher flow rates, longer service life, and significant cost savings.

A selection of FOS Series cartridges, suitable for a wide variety of applications, is offered:

FOS-512PL25 and FOS-718PL25 have a nominal 25 micron filtration rating. They are especially effective with cutting oils, and in some cases have had five times the life of equivalent size paper filters.

FOS-618PL05 and FOS-636PL05 have a nominal 5 micron filtration rating. They provide improved filtration for synthetic-based compressor lube oil applications.

The 0.8 micron rated FOS-618PLP8 and FOS-636PLP8 are excellent "fine particle removal" filters and frequently are installed in existing lube oil filtration systems to upgrade system cleanliness.

FOS-618PL1/2 and FOS-636PL1/2 have a nominal 0.5 micron

filtration rating. These models provide efficient removal of extremely fine particles without sacrificing cartridge life. They are used where tough ISO code oil cleanliness is needed.

### FEATURES

- Superior Filtration Efficiency
- Long-Life Durability
- Low Pressure Drop
- High Flow Rates
- No New Hardware Required

### APPLICATIONS

- All Hydrocarbon Fuels
- Cutting Oils
- Insulating Oils
- Glycols
- Toluol
- Naphtha
- Diesel Fuel
- Lube Oils
- Hydraulic Oils
- Water Emulsion Coolants
- Biodiesel Fuel
- Synthetic Oils
- Ethyl Alcohol
- Degreasing Fluids



FOS-636PLP8 , FOS-618PL1/2,  
FOS-618PL8, FOS-512PL25



ENGINEERING YOUR SUCCESS.

## GENERAL SPECIFICATION

- Collapse strength 75 psi
- Max. Operating temperature 250°F (121.1°C)
- pH operating range 3 - 9
- Recommended change-out at 25 psid differential pressure or after one year, whichever occurs first
- Buna-N gasket material
- Filter media are glass micro-fibers backed by spun-bonded polyester and metal screen. Twenty-five micron designs are spun-bonded polyester only.
- Metal components are aluminized steel.
- FOS-512PL25 end caps are aluminum.
- End cap bonding material is urethane.

## CARTRIDGE SELECTION TABLE

Cartridge Model	O.D. (in.)	I.D. (in.)	Length (in.)	Surface Area (in. <sup>2</sup> )	Nominal Rating (µm)	Beta	Size <sup>(2)</sup> where Beta=75	ACFTD Capacity (GMS)
FOS-512PL25	5 <sup>5</sup> / <sub>8</sub>	n.a.	12 <sup>1</sup> / <sub>4</sub>	2390	25	n.a.	60	210
FOS-718PL25	6 <sup>1</sup> / <sub>4</sub>	2 <sup>9</sup> / <sub>16</sub>	18	3970	25	n.a.	60	360
FOS-618PL05	6	2 <sup>9</sup> / <sub>16</sub>	18	2000	5	3.5	37	172
FOS-618PLP8	6	2 <sup>9</sup> / <sub>16</sub>	18	2000	0.8	90	8	87
FOS-618PL1/2	6	2 <sup>9</sup> / <sub>16</sub>	18	2000	1/2	250	4	71
FOS-636PL05	6	2 <sup>9</sup> / <sub>16</sub>	36	4160	5	3.5	37	358
FOS-636PLP8	6	2 <sup>9</sup> / <sub>16</sub>	36	4160	0.8	90	8	180
FOS-636PL1/2	6	2 <sup>9</sup> / <sub>16</sub>	36	4160	1/2	250	4	148

NOTES: (1) Nominal gravimetric filter micron rating.

(2) Particle size (microns) where Beta equals 75. Often referred to as the "absolute" rating of the cartridge.

## FILTER SIZING INFORMATION

### CARTRIDGE FLOW RATE (US GPM) VS. VISCOSITY DATA

#### FOR 2 PSI AND 5 PSI INITIAL PRESSURE DROPS

CARTRIDGE	33 SUS 2 CS		46 SUS 6 CS		59 SUS 10 CS		98 SUS 20 CS		142 SUS 30 CS		187 SUS 40 CS		233 SUS 50 CS	
	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi
FOS-718PL25	100	100	100	100	100	100	100	100	100	100	100	100	92	100
FOS-614PL05	95	100	91	100	87	100	75	100	62	100	49	100	36	90
FOS-618PL05	100	100	100	100	100	100	100	100	100	100	80	100	64	100
FOS-618PLP8	100	100	100	100	100	100	52	100	34	85	26	65	20	51
FOS-618PL1/2	100	100	100	100	68	100	34	185	22	55	17	43	13	34
FOS-636PL05	200	200	200	200	200	200	200	200	200	200	184	200	160	200
FOS-636PLP8	200	200	200	200	200	200	104	200	68	170	52	130	41	102
FOS-636PL1/2	200	200	200	200	136	200	68	170	44	110	34	86	27	68

CARTRIDGE	348 SUS 75 CS		463 SUS 100 CS		927 SUS 200 CS		1390 SUS 300 CS		1853 SUS 400 CS		2316 SUS 500 CS		4632 SUS 1000 CS	
	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi	2 psi	5 psi
FOS-718PL25	62	100	46	100	23	58	15	38	11	29	9	23	5	11
FOS-614PL05	30	70	23	56	11	28	7	17	6	14	4	11	2	6
FOS-618PL05	42	100	32	80	16	40	10	25	8	20	6	15	3	8
FOS-618PLP8	14	35	10	25	5	13	3	8	3	8	2	5	1	3
FOS-618PL1/2	9	23	7	18	3	8	2	5	2	5	1	3	1	2
FOS-636PL05	84	200	64	160	32	80	21	53	16	40	12	30	6	15
FOS-636PLP8	28	70	21	53	10	25	7	18	5	13	4	10	2	5
FOS-636PL1/2	18	45	14	35	7	18	4	10	3	8	3	8	1	3

Notes:

1. Figures in table are flow rates (US GPM) that will cause a pressure drop of 2 or 5 psi across the cartridge.
2. These flow curves are for the cartridges only. To determine additional pressure losses caused by vessel components, see Form VEL1711

**CONTAMINANT CAPACITY**

Parker recommends filter cartridges be changed when they reach 25 psi differential or in accordance with your company’s fuel handling procedures. The amount of contaminant a cartridge will hold before that point depends on many factors, the key one being the nature of the contaminant itself. A hard, particulate contaminant has very different filtration characteristics than a soft, gel-like contaminant.

Accurately estimating the life of a cartridge in a given application, therefore, is extremely difficult. However, when a cartridge has been sized for an initial pressure drop of 2 psi, the following rule of thumb is often employed for particulate contaminants: A 1 or 2 micrometer cartridge will hold up to 3 pounds of contaminant, and a 5 micrometer or greater cartridge will hold up to 5 pounds.

**REDUCED FLOW RATE EFFECTS**

The filter sizing above is based on a 2 psi initial pressure differential which is a widely accepted industry standard. However, where heavy contaminant loads are anticipated, a substantial savings in operating costs for cartridges and filter change labor can be achieved by over-sizing the filter. Reducing the flow rate per cartridge in half will increase the contaminant capacity of each cartridge by 30 to 50 percent. This means that doubling the size of the filter will increase the total throughput between cartridge changeouts by as much as three times.

