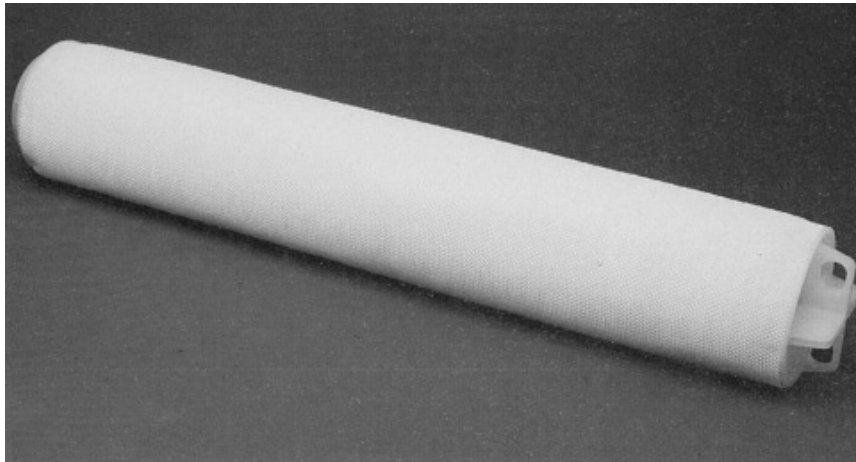




# High Flow Filter Cartridges

## Series 740KF

### Technical Data



### Features, Advantages and Benefits

The 3M™ High Flow Filter Cartridge, 740KF puts an extraordinary amount of surface area into a single cartridge. This results in the following:

- High loading capacity for long life and lower cost filtration.
- Fewer cartridges for fewer change-outs, thus less labor cost.
- Fewer seals, reduced risk of bypass, thus high quality.
- Extremely low disposal costs, less than a tenth of some cartridges.

Designed to fit in a range of vessels that holds from one to over 37 filters for a wide range of flow rates in competitively priced hardware.

Double O-ring seals in a variety of material options means:

- Extremely low risk of bypass for high quality fluids.
- No loose parts to assemble for easy installation, thus less labor cost.
- No springs and caps to lose reduces the risk of bypass.
- Broad chemical compatibility for many applications.
- Convenient handle for easy manual or mechanical removal.

### Materials of Construction

#### Filter Media:

Meltblown FDA compliant polypropylene microfiber filter media provides high particle removal efficiency for high quality filtration with broad chemical compatibility and is silicone free.

The filter complies with FDA regulations governing food grade materials allowed for direct food contact in food and beverage processing.

#### Inner Core, Outer Sleeve and End Caps:

FDA compliant polypropylene

#### O-rings:

Product Number	Material
7010	FDA Buna N (standard)
7011	Ethylene Propylene Rubber
7012	PTFE encapsulated Silicone
7013	FDA Silicone
7014	Fluoroelastomer

### Applications

#### Prefilters or final filters for:

- Acids and bases
- Amines
- Beer and wine
- Carbon beds
- Completion fluids
- Deep wells
- Desalination
- DI resins
- Edible oils
- EDM fluids
- Fructose
- Glycol
- Groundwater clean-up
- Laundry water
- Liquor
- Machine coolants
- Magnetic media
- Makeup water
- Organic solvents
- Photo chemicals
- Plating solutions
- RO membranes
- Storm water
- UF membranes
- Ultrapure water
- Wastewater
- Waterflood
- Workover fluids

## Performance Data

### Loading Capacity

Product Number	743KF	744KF	745KF	746KF	747KF	748KF	749KF
Pounds at 40 gpm	14.7	13.7	14.8	14.2	14.6	13.5	15.5
Kilograms at 9 cu m/hr	6.2	6.2	6.4	6.4	6.4	6.1	7.0

**Loading:** Loading capacity is extremely high due to the large amount of surface area available. The data above shows typical loading capacities of the different micron rated filters. Loading capacity is determined by challenging a filter with a dispersion of silica test dust in water at the recommended flow rate. Pressure drop is monitored and testing is terminated at 50 psid (3.4 bar). The loading capacity reported is the dry weight gain of the cartridge.

### Particle Removal Efficiency

Product Number	743KF	744KF	745KF	746KF	747KF	748KF	749KF
Efficiency @ 99%	2.0	5.0	10	15	25	40	70
Efficiency @ 95%	1.1	2.5	8	9	13	24	43
Efficiency @ 90%	0.9	1.7	6	8	10	19	35
Efficiency @ 75%	0.7	1.5	3.5	6	8	13	24
Efficiency @ 50%	<0.7	1.1	1.5	4.0	4.5	8	14

**Efficiency:** The 3M™ High Flow Filter Cartridges are rated using a silica test challenge in water at 40 gpm (9 cu m/hr). The results reported are typical initial efficiencies taken within ten minutes of the start of the test. For more information on how 3M conducts its filter efficiency testing, please see "Defining Filter Efficiency", a 3M Technical Report available from your local distributor.

### Clean Pressure Drop Versus Flow Rate (psid)

Product Number	743KF	744KF	745KF	746KF	747KF	748KF	749KF
$\Delta p$ @ 20 gpm	0.5	0.2	0.1	0.1	0.1	0.10	0.07
$\Delta p$ @ 40 gpm	1.0	0.5	0.4	0.2	0.2	0.19	0.16
$\Delta p$ @ 60 gpm	1.3	0.6	0.5	0.4	0.4	0.30	0.24
$\Delta p$ @ 80 gpm	1.8	0.8	0.7	0.5	0.5	0.40	0.32

**Pressure Drop:** The 3M High Flow Filter Cartridges have low initial pressure drop ( $\Delta p$ ) in water as the chart indicates. The chart does not include the pressure drop of the vessel, which must be added in when sizing your filter system.

## Product Specifications

### Micron Ratings:

Product Number	Initial Efficiency
743KF	2 micron @ 99%
744KF	5 micron @ 99%
745KF	10 micron @ 99%
746KF	15 micron @ 99%
747KF	25 micron @ 99%
748KF	40 micron @ 99%
749KF	70 micron @ 99%

### Dimensions (Nominal):

<b>Outer Diameter:</b>	
6.5 inches	16.5 cm
<b>Inside Diameter:</b>	
1.6 inches	4 cm
<b>Length:</b>	
39 inches	100 cm
<b>226 O-ring Inside Diameter:</b>	
2 inches	5 cm
<b>226 O-ring Thickness:</b>	
0.14 inches	0.35 cm

### Operating Condition:

<b>Maximum Operating Temperature:</b>	
160F	70C
<b>Recommended Flow:</b>	
(for normal loading in water)	
40 gpm	9 cu m/hr
<b>Suggested Maximum Flow:</b> (in water)	
743KF – 60 gpm	14 cu m/hr
744KF-749KF – 80 gpm	18 cu m/hr
<b>Suggested Maximum Differential Pressure:</b>	
50 psid	3.4 bar

### Order Information

To order contact your local 3M Filtration Products distributor or call toll free 1-800-648-3550.

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