

Filter Elements

Disposable Type Binders

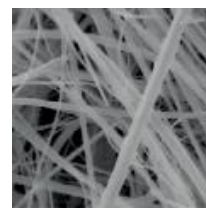
Disposable Filter Elements

Disposable bonded microfibre filter elements are manufactured from precise mixtures of borosilicate glass microfibres to the very highest standards of quality control. These elements offer exceptional filtration efficiency at very low pressure drops and being +90% void volume they give a very long service life.

The elements are bonded to impart high strength and eliminate fibre shedding and the choice between the different binders available will depend on each application. Disposable elements are self-sealing and sealed into a filter housing by axial compression.



Particulate Filter Element

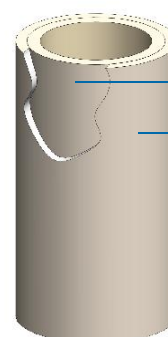


Glass Microfibres

Coalescing or Particulate Applications

There are two types of filter element available, particulate and coalescing. The particulate filter elements use a single layer of filter media whereas coalescing elements have a fine capture layer and a coarse drainage layer.

The coarsest grade that will adequately protect the application should be chosen as this will result in the most economical solution to the contamination problem by extending the service life. Disposable bonded microfibre filter elements are suitable for both gas and liquid applications.



Coalescing Filter Element

Fine inner capture layer

Coarse outer drainage layer

Binder Types

Particulate Applications

E	Epoxy ester binder suitable for all general purpose particulate removal applications in non-corrosive gases and liquids
K	PVDF binder has an excellent chemical resistance for use with corrosive gases and liquids. Very low levels of adsorption.
S	Silica binder giving a completely inorganic filter element. For high temperatures and solvent applications.
L	Silicone binder is hydrophobic and prevents the pores being filled with condensate. The maximum temperature is 200°C

Coalescing Applications

CE	Epoxy ester binder suitable for all general purpose aerosol and particulate removal applications in non-corrosive gases
CK	PVDF binder has an excellent chemical resistance for use with corrosive gases. Very low levels of adsorption
CR	PVDF binder as above with the addition of a reinforcing mesh embedded within the structure
CS	Silica binder giving a completely inorganic filter element. For high temperatures and solvent applications.
W	Silicone binder is hydrophobic and prevents the pores being filled with condensate. The maximum temperature is 200°C



Filter Elements

Disposable Type Binders

All disposable filter elements have a part number arranged in three sections, for example 25-64-70K

The first part refers to the inside diameter of the element in millimetres, the second figure refers to the overall length in millimetres and the third part is the designation for the grade and binder.

Standard Sizes

Filter Elements are available in a wide range of standard diameters and lengths. These are based on traditional industry standard sizes and allow the elements to be installed in other proprietary equipment.

12-32-□ 12-57-□ 25-64-□ 25-127-□ 25-178-□ 38-58-□ 38-152-□ 45-127-□ 51-230-□ 51-89-□ 51-476-□ 63-762-□

Replace the □ in the part numbers shown with the grade selected from the tables below. More information about the binder types can be found on page 2.0/021.

Efficiency

Each filter element type is available in a selection of grades covering a efficiency range from coarse bulk contamination removal and the essentially complete removal of submicron particles.

The standard grades are shown in the tables below.

Particulate Applications - Gas								
% Removal of 0.1 micron particles								
Binder		Max. Temp.	+99.99998%	+99.9999%	+99.99%	+99.5%	+95%	+75%
E	Epoxy Ester	150°C	30E	40E	50E	60E	70E	80E
K	PVDF Fluorocarbon	150°C	30K	40K	50K	60K	70K	80K
S	Silica Inorganic	500°C	30S	40S	50S	60S	70S	80S
L	Silicone	200°C		40L		60L		

Coalescing Applications - Gas						
% Removal of 0.1 micron particles & aerosols						
Binder		Max. Temp.	+99.99%	+99.5%	+95%	+75%
CE	Epoxy Ester	150°C	50CE	60CE	70CE	80CE
CK	PVDF Fluorocarbon	150°C	50CK	60CK	70CK	80CK
CR	PVDF Fluorocarbon	150°C	50CR	60CR	70CR	80CR
CS	Silica Inorganic	500°C	50CS	60CS	70CS	80CS
W	Silicone	200°C	50W	60W	70W	80W

Particulate Applications - Liquid								
+98% Removal of particles at stated size								
Binder		Max. Temp.	0.3 µm	1 µm	2 µm	8 µm	25 µm	75 µm
E	Epoxy Ester	150°C	3E	4E	5E	6E	7E	8E
K	PVDF Fluorocarbon	150°C	3K	4K	5K	6K	7K	8K
S	Silica Inorganic	500°C	3S	4S	5S	6S	7S	8S

Special Sizes

Special size filter elements can also be manufactured in a wide range of different diameters and lengths.

Inside Diameters: **7mm to 150mm**

Lengths: **9mm to 1000mm**

Please enquire with any specific requirements.

Filter Elements

Dimensions & Tolerances

Disposable Filter Element Dimensions & Tolerances

Filter elements are available in a wide range of standard diameters and lengths. These are based on traditional industry standard sizes and allow the element to be installed in other proprietary equipment.

This chart shows you a list of all our standard disposable filter elements, particulate and coalescing, along with their actual sizes in millimetres and the standard tolerances we use in manufacturing.

Particulate Types							Coalescing Types						
Element Code	Inside Ø	Tolerance	Outside Ø	Tolerance	Length	Tolerance	Element Code	Inside Ø	Tolerance	Outside Ø	Tolerance	Length	Tolerance
10-32-□	10.0	±0.25	14.0	±0.50	32.0	±0.25	10-57-□	10.0	±0.25	18.0	±0.50	32.0	±0.25
10-57-□	10.0	±0.25	14.0	±0.50	57.0	±0.25	10-57-□	10.0	±0.25	18.0	±0.50	57.0	±0.25
12-20-□	12.5	±0.25	17.0	±0.50	20.0	±0.25	12-32-□	12.5	±0.25	19.0	±0.50	32.0	±0.25
12-25-□	12.5	±0.25	17.0	±0.50	25.4	±0.25	12-57-□	12.5	±0.25	19.0	±0.50	57.0	±0.25
12-32-□	12.5	±0.25	17.0	±0.50	32.0	±0.25	25-35-□	25.5	±0.25	35.0	±0.50	35.0	±0.25
12-57-□	12.5	±0.25	17.0	±0.50	57.0	±0.25	25-64-□	25.5	±0.25	35.0	±0.50	64.0	±0.25
16-32-□	16.0	±0.25	22.0	±0.50	32.0	±0.25	27-64-□	27.0	±0.25	39.0	±0.50	64.0	±0.25
16-41-□	16.0	±0.25	22.0	±0.50	41.0	±0.25	25-127-□	25.5	±0.25	35.0	±0.50	127.0	±0.25
25-30-□	25.5	±0.25	31.0	±0.50	30.0	±0.25	25-178-□	25.5	±0.25	35.0	±0.50	178.0	±0.25
25-51-□	25.5	±0.25	31.0	±0.50	51.0	±0.25	38-58-□	38.5	±0.25	50.0	±0.50	58.0	±0.25
25-64-□	25.5	±0.25	31.0	±0.50	64.0	±0.25	38-89-□	38.5	±0.25	50.0	±0.50	89.0	±0.25
25-127-□	25.5	±0.25	31.0	±0.50	127.0	±0.25	38-115-□	38.5	±0.25	50.0	±0.50	115.0	±0.25
25-178-□	25.5	±0.25	31.0	±0.50	178.0	±0.25	38-152-□	38.5	±0.25	50.0	±0.50	152.0	±0.25
38-58-□	38.5	±0.25	45.0	±0.50	58.0	±0.25	38-178-□	38.5	±0.25	50.0	±0.50	178.0	±0.25
38-89-□	38.5	±0.25	45.0	±0.50	89.0	±0.25	51-89-□	51.5	±0.25	63.0	±0.50	89.0	±0.25
38-115-□	38.5	±0.25	45.0	±0.50	115.0	±0.25	51-230-□	51.5	±0.25	63.0	±0.50	230.0	±0.25
38-152-□	38.5	±0.25	45.0	±0.50	152.0	±0.25	51-476-□	51.5	±0.25	63.0	±0.50	476.0	±0.25
38-178-□	38.5	±0.25	45.0	±0.50	178.0	±0.25	63-476-□	63.5	±0.25	76.0	±0.50	476.0	±0.25
51-89-□	51.5	±0.25	59.0	±0.50	89.0	±0.25	63-762-□	63.5	±0.25	76.0	±0.50	762.0	±0.25
51-230-□	51.5	±0.25	59.0	±0.50	230.0	±0.25							
51-476-□	51.5	±0.25	59.0	±0.50	476.0	±0.25							
63-476-□	63.5	±0.25	72.0	±0.50	476.0	±0.25							
63-762-□	63.5	±0.25	72.0	±0.50	762.0	±0.25							

Special Sizes

Special size filter elements can also be produced that are not included on this chart. We can manufacture in a wide range of different diameters and lengths.

Please enquire if you have any specific requirements.

Air Flow Rates

Disposable Type Filter Elements

Air flow rates in Nm³/hr at stated line pressure with a 0.1 Bar pressure drop

Flow rates will depend on which filter element grade is installed in the filter housing. First check the size of the filter element installed using the housing data sheets and then use the charts below to read the flow rate at the desired pressure against the element grade. Replace the □ in the part number shown with the required grade, for example 12-57-70K would be a grade 7 on the charts below.

The maximum flow rate also depends on the flow path through the housing - for housings with a smaller port size please consult us for the exact figure.

12-32-□	Air Pressure (Bar), 1/4" Port Size										
Grade	1	2	4	7	10	16	34	100	200	350	700
40	1.6	2.6	3.7	5.3	6.3	7.9	11.8	18.4	28.9	36.8	52.5
50	3.2	5.3	7.4	10.5	12.6	15.8	23.6	36.8	57.8	73.5	105.0
60	5.5	9.2	12.9	18.4	22.1	27.6	41.3	64.3	101.1	128.6	183.8
70	6.3	10.5	14.7	21.0	25.2	31.5	47.3	73.5	115.5	147.0	210.0
80	7.1	11.8	16.5	23.6	28.4	35.4	53.2	82.7	129.9	165.4	236.3

12-57-□	Air Pressure (Bar), 1/4" Port Size										
Grade	1	2	4	7	10	16	34	100	200	350	700
40	2.6	4.3	6.0	8.5	10.2	12.8	19.1	29.8	46.8	59.5	85.0
50	5.1	8.5	11.9	17.0	20.4	25.5	38.3	59.5	93.5	119.0	170.0
60	8.9	14.9	20.8	29.8	35.7	44.6	66.9	104.1	163.6	208.3	297.5
70	10.2	17.0	23.8	34.0	40.8	51.0	76.5	119.0	187.0	238.0	340.0
80	11.5	19.1	26.8	38.3	45.9	57.4	86.1	133.9	210.4	267.8	382.5

25-64-□	Air Pressure (Bar), 1/2" Port Size										
Grade	1	2	4	7	10	16	34	100	200	400	700
40	5.6	9.3	13.0	18.5	22.2	27.8	41.6	64.8	101.8	138.8	185.0
50	11.1	18.5	25.9	37.0	44.4	55.5	83.3	129.5	203.5	277.5	370.0
60	19.4	32.4	45.3	64.8	77.7	97.1	145.7	226.6	356.1	485.6	647.5
70	22.2	37.0	51.8	74.0	88.8	111.0	166.5	259.0	407.0	555.0	740.0
80	25.0	41.6	58.3	83.3	99.9	124.9	187.3	291.4	457.9	624.4	832.5

25-178-□	Air Pressure (Bar), 3/4" Port Size										
Grade	1	2	4	7	10	16	34	100	200	400	700
40	15.8	26.3	36.8	52.5	63.0	78.8	118.1	183.8	288.8	393.8	525.0
50	31.5	52.5	73.5	105.0	126.0	157.5	236.3	367.5	577.5	787.5	1050.0
60	55.1	91.9	128.6	183.8	220.5	275.6	413.4	643.1	1010.6	1378.1	1837.5
70	63.0	105.0	147.0	210.0	252.0	315.0	472.5	735.0	1155.0	1575.0	2100.0
80	70.9	118.1	165.4	236.3	283.5	354.4	531.6	826.9	1299.4	1771.9	2362.5

38-152-□	Air Pressure (Bar), 1" Port Size										
Grade	1	2	4	7	10	16	34	100	200	400	
40	20.3	33.8	47.3	67.5	81.0	101.3	151.9	236.3	371.3	506.3	
50	40.5	67.5	94.5	135.0	162.0	202.5	303.8	472.5	742.5	1012.5	
60	70.9	118.1	165.4	236.3	283.5	354.4	531.6	826.9	1299.4	1771.9	
70	81.0	135.0	189.0	270.0	324.0	405.0	607.5	945.0	1485.0	2025.0	
80	91.1	151.9	212.6	303.8	364.5	455.6	683.4	1063.1	1670.6	2278.1	

51-230-□	Air Pressure (Bar), 2" Port Size										
Grade	1	2	4	7	10	16	34	100	200	400	
40	41.9	69.8	97.7	139.5	167.4	209.3	313.9	488.3	767.3	1046.3	
50	83.7	139.5	195.3	279.0	334.8	418.5	627.8	976.5	1534.5	2092.5	
60	146.5	244.1	341.8	488.3	585.9	732.4	1098.6	1708.9	2685.4	3661.9	
70	167.4	279.0	390.6	558.0	669.6	837.0	1255.5	1953.0	3069.0	4185.0	
80	188.3	313.9	439.4	627.8	753.3	941.6	1412.4	2197.1	3452.6	4708.1	

51-476-□	Air Pressure (Bar), 2" Port Size										
Grade	1	2	4	7	10	16	34	100	200	400	
40	86.9	144.8	202.7	289.5	347.4	434.3	651.4	1013.3	1592.3	2171.3	
50	173.7	289.5	405.3	579.0	694.8	868.5	1302.8	2026.5	3184.5	4342.5	
60	304.0	506.6	709.3	1013.3	1215.9	1519.9	2279.8	3546.4	5572.9	7599.4	
70	347.4	579.0	810.6	1158.0	1389.6	1737.0	2605.5	4053.0	6369.0	8685.0	
80	390.8	651.4	911.9	1302.8	1563.3	1954.1	2931.2	4559.6	7165.1	9770.6	

Notes (1) The above flow rates are for air at 20°C. Flow rates for other gases can be derived from relative viscosity data.

(2) Flow rates are generally proportional to pressure drop. If an initial drop of 0.2 bar can be tolerated flow rates can be doubled.