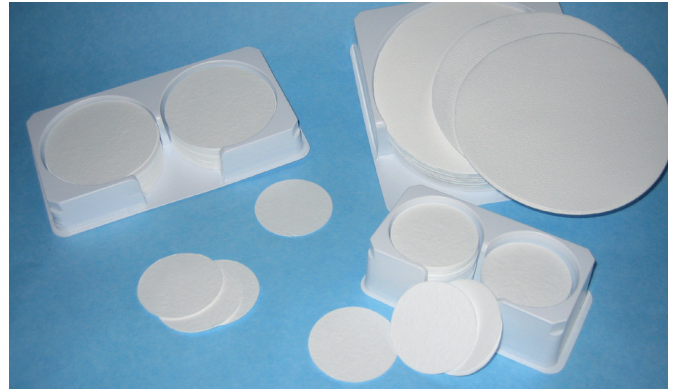


Quartz Fiber Filters

- Quartz Fiber Filters are made of 100% pure quartz and are binder-free.
- Quartz has an excellent temperature resistance, up to 900°C, and has low content of trace elements.



Applications

- Emission control
- Exhaust gas control
- Air pollution analysis

Specifications

Type	Weight [g/m ²]	Retention efficiency [%] 0,3 µm DOP
QF	85	99.998

Trace Elements, typical values [ppm]

Al	As	Cd	Co	Cr	Cu	Fe	Hg	Mg	Mn	Na	Ni	Pb	Sb	Sn	Ti	V	Zn
50	0.75	1.5	1	5	1.25	30	<0.05	25	1.25	40	2	0.75	1.25	0.5	2.5	0.5	5

Ordering information

Diameter / size [mm]	Packing [pcs.]	Cat. No.
25	50	QF.025
37	50	QF.037
45	50	QF.045
47	50	QF.047
55	50	QF.055
70	50	QF.070
80	50	QF.080
85	50	QF.085
90	50	QF.090
110	50	QF.110
118	50	QF.118
150	50	QF.150
203 x 254	25	QF.203254

Glass Fiber and Quartz Fiber filters are perhaps the most highly engineered fibrous filtration media available for research and industrial applications.

Glass microfibers, the starting raw material, are entirely man-made. Since the ultimate retention characteristics of the filter paper are determined by the microfiber diameter, rigid manufacturing controls are imposed to produce consistent, controlled diameter fibers. Typical diameters range from 0.5 to 1.0 μm .

Once compacted, these fibers form a dense, random fiber matrix. When used in aqueous filtration, high flow rates and high loading capacities are observed as particles are entrapped within the filter matrix.

Chemical resistance, pH resistance and biological inertness are maximized since the fibers are borosilicate glass. Thermal resistance can be increased from 500°C to 1000°C by reinforcing the fiber within alumina binder.

Glass fiber filters with binder are recommended for long duration filtrations under pressure.

Glass fiber filters without binder are recommended for analytical and gravimetric determinations.



Glass Fiber Filters



Quartz Fiber Filters

Quartz Fiber Filters

Characteristics

- **Highly resistant** to chemical attack, biologically inert
- **High purity:** Very low trace metal content, does not adsorb nitrous and sulfur dioxides; Grade QR-100 is pre-fired at 1000°C for 2 hours to reduce organic contamination
- **Easily sterilized:** Can be baked or autoclaved
- **Store indefinitely:** Unaffected by humidity

Applications

- Sample acidic gases at high (>500°C) temperatures
- Air pollution analysis



Specifications

Type	Applications/ Characteristics	Weight [g/m ²]	Thickness [mm]	Gas Collection Efficiency [%; 0.3 µm DOP]	Pressure Drop at 5 cm/sec. [kPa]	Binder	Max. Temp. [°C]
QR-100	Superior chemical resistance, does not absorb acid gases	85	0.38	99.9	0.45	None	1000
QR-200	Filtration at elevated temperatures Low adsorption Monitor airborne particulates	200	1.0	99.9	0.34	Inorganic	1000

Comparison Table and Metal Content Table, see page 31

Grade QR-100

Diameter [mm]	Packing	Cat. No.
25	100	QR100.025
37	100	QR100.037
45	100	QR100.045
47	100	QR100.047
55	100	QR100.055
70	100	QR100.070
90	100	QR100.090
110	100	QR100.110
125	100	QR100.125
150	100	QR100.150
Sheets, size		
203 x 254	50	QR100.810

Grade QR-200

Diameter [mm]	Packing	Cat. No.
25	50	QR200.025
37	50	QR200.037
45	50	QR200.045
47	50	QR200.047
55	50	QR200.055
70	50	QR200.070
90	50	QR200.090
110	50	QR200.110
125	50	QR200.125
150	50	QR200.150
Sheets, size		
203 x 254	50	QR200.810

Glass Fiber & Quartz Fiber Filters

Comparison Table

Binder Free Glass Fiber Filters

Advantec	Whatman	Millipore	Munktell	Macherey-Nagel	ALBET-Hahnemuehle
GA-55	GF/A	APFA	MGA	GF-1	FPGF 50
GB-140	GF/B	APFB	MGB	GF-2	FPGF 51
GC-50	GF/C	APFC	MGC	GF-3	FPGF 52
GD-120	GF/D	APFD	MGD	GF-4	FPGF 53
GF-75	GF/F	APFF	MGF	GF-5	FPGF 55

Quartz Fiber Filters

QR-100	QM-A	AQFA	MK 360	QF-10	FQT

Note:

This table should be considered as alternatives rather than equivalents. When comparing depth filters like glass fiber filters it is impossible to obtain an exact equivalent. The comparison is based on filters made of the same type of raw material giving similar filtration properties. Filtration speed can differ between types with the same retention efficiency because of the thickness of the filter. Thin filters filter faster than thick filters.

Metal Content Table

Glass Fiber Filters [µg/g]

Grade	Pb	Cd	Mn	Zn	Cu	Ni	Cr	Fe
GA-55	1	<0.5	3.8	14000	<1	<1	3	100
GA-100	<1	<0.5	<0.5	<1	<1	<1	<1	10
GA-200	<1	<0.5	<0.5	<1	<1	<1	<1	8
GB-100R	3	<0.5	<0.5	<1	<1	<1	<1	10
GB-140	<1	<0.5	1.6	8700	<1	<1	1	57
GC-50	<1	<0.5	2.6	7600	<1	<1	7	73
GC-90	<1	<0.5	<0.5	<1	<1	<1	<1	9
GD-120	<1	<0.5	<0.5	1200	<1	<1	<1	10
GF-75	2	<0.5	4	1800	<1	<1	6	180
GS-25	<1	<0.5	<0.5	<1	<1	<1	<1	11
DP-70	<1	<0.5	1.4	4200	<1	<1	2	37

Analysis Method: Flame atomic absorption spectrophotometry

- Pre-treatment:
1. Extracting by heated HCl-HNO₃ mixed acid
 2. Condensing the extracted solution
 3. Re-extracting by heated H-Cl-HNO₃ mixed acid
 4. Analyzing the re-extracted solution

Quartz Fiber Filters [µg/g]

Grade	Pb	Cd	Mn	Zn	Cu	Ni	Cr	Fe
QR-100	<1	<0.5	<0.5	<1	<1	<1	1	8
QR-200	<1	<0.5	<0.5	<1	<1	1	3	45

Analysis Method except for Zn: Electric heating atomic absorption spectrophotometry

Analysis Method for Zn: Flame atomic absorption spectrophotometry

- Pre-treatment:
1. Extracting to dryness
 2. Evaporating to dryness
 3. Dissolving by HNO₃(conc.)
 4. Filtrating by Filter paper No. 5C
 5. Analyzing