



# Syringe Filters

# Whatman GD/X Syringe Filters

The Whatman GD/X range is specifically designed for high particulate-loaded samples. Constructed of a pigment-free polypropylene housing with a prefiltration stack of Whatman GMF 150 (graded density) and GF/F glass microfiber media, these filters allow you to filter even the most difficult samples with less hand pressure. Whatman GD/X Syringe Filters can process three to seven times more sample volume than a syringe filter containing a single filtration layer.



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GMF 150 and GF/F are produced from 100% borosilicate glass microfiber. The graded density GMF 150 filtration medium has a coarse top layer meshed with a fine bottom layer that retains particles to 1.0  $\mu\text{m}$ . A GF/F filter then retains particles down to 0.7  $\mu\text{m}$ . The prefilter stack ends with a final membrane filter.

Whatman GD/X filter construction facilitates exceptional loading capacity with fast flow rates.

This multilayer construction prevents the premature build up of back pressure typically associated with single filtration layer syringe filters.

## Features

- 13 mm and 25 mm diameter syringe filters
- 13 mm filters are recommended for samples up to 10 ml, and 25 mm filters for samples greater than 10 ml (however, the volume of sample that can be filtered through each filter depends on the characteristics of the sample)
- Sterile options
- Pigment-free polypropylene housing
- Prefiltration stack of Whatman GMF 150 (graded density) and GF/F glass microfiber media

## Benefits

- Requires less hand pressure, even with difficult samples
- Processes three to seven times more sample volume

## Applications

Whatman GD/X Syringe Filters are well suited for heavily particulate-laden samples found in:

- Dissolution testing
- Content uniformity
- Concentration analysis
- Food analysis
- Environmental samples
- Composite assay

*Please turn to page 12 for ordering information*

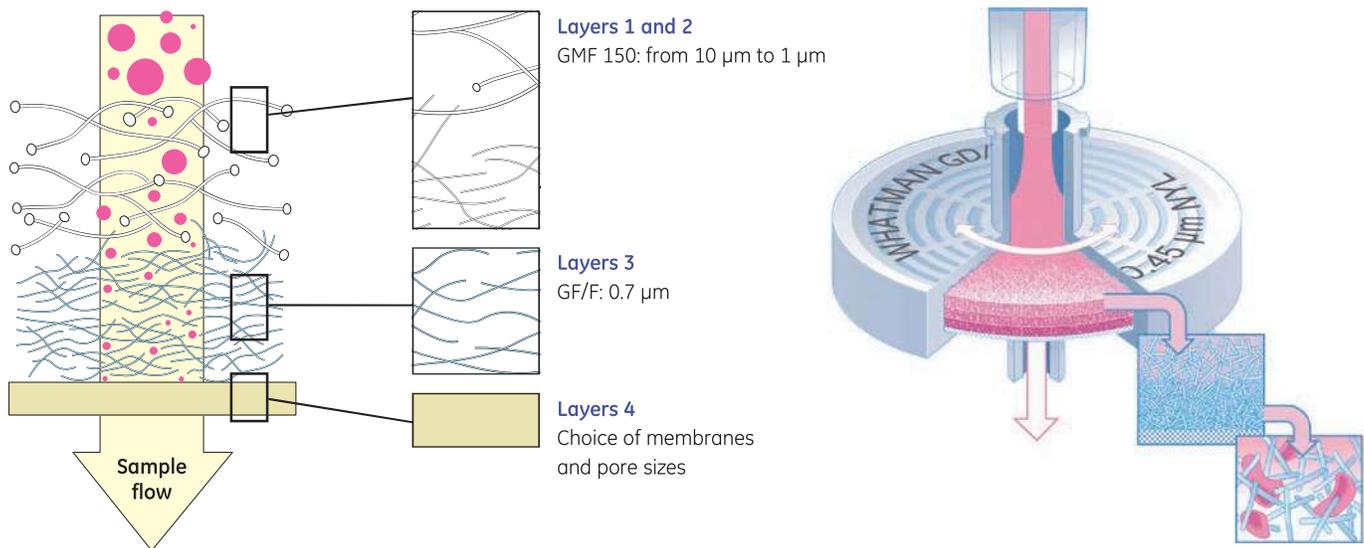


# Typical data

## Whatman GD/X Syringe Filters

| Membrane                                     | GD/X 13 mm  | GD/X 25 mm  |
|--|---|---|
| Housing                                      | Polypropylene (pigment-free)                            | Polypropylene (pigment-free)                            |
| Filtration area                              | 1.3 cm <sup>2</sup>                                     | 4.6 cm <sup>2</sup>                                     |
| Maximum pressure                             | 100 psi (6.9 bar)                                       | 75 psi (5.2 bar)  |
| Volume "hold-up" full housing with air purge | 0.5 ml<br>50 µl (approx)                                | 1.4 ml<br>250 µl (approx)                               |
| Dimensions                                   | 21.6 × 29.8 mm  | 20.8 × 29.8 mm  |
| Weight                                       | 3 g (approx)  | 3 g (approx)  |
| Flow direction                               | Flow should enter from the inlet                        | Flow should enter from the inlet                        |
| Inlet connection                             | Female Luer lock  | Female Luer lock  |
| Outlet connection                            | Male Luer   | Male Luer   |
| Sterilization*                               | Autoclave at 121°C at 15 psi for 20 min                 | Autoclave at 121°C at 15 psi for 20 min                 |
| Glass microfiber prefiltration media         | 100% borosilicate<br>GMF 150 10 µm: 1 µm<br>GF/F 0.7 µm | 100% borosilicate<br>GMF 150 10 µm: 1 µm<br>GF/F 0.7 µm |

\* Applies to nonsterile filters only. Do not autoclave sterile GD/X filters.



Whatman GD/X Syringe filters contain several filtration layers that substantially reduce blockage and increase volume throughput.

# Ordering information

## Whatman GD/X Syringe Filters

| Membrane*                    | Pore size (µm) | Diameter (mm) | Nonsterile |           | Sterile   |           |
|------------------------------|----------------|---------------|------------|-----------|-----------|-----------|
|                              |                |               | 150/pack   | 1500/pack | 50/pack   | 500/pack  |
| Nylon high charge (positive) | 0.2            | 25            | 6869-2502  |           |           |           |
| Nylon high charge (positive) | 0.45           | 25            | 6869-2504  |           |           |           |
| Nylon                        | 0.2            | 13            | 6870-1302  | 6871-1302 |           |           |
| Nylon                        | 0.2            | 25            | 6870-2502  | 6871-2502 |           |           |
| Nylon                        | 0.45           | 13            | 6870-1304  | 6871-1304 |           |           |
| Nylon                        | 0.45           | 25            | 6870-2504  | 6871-2504 |           |           |
| Nylon                        | 5              | 25            | 6870-2550  | 6871-2550 |           |           |
| PVDF                         | 0.2            | 13            | 6872-1302  |           |           |           |
| PVDF                         | 0.2            | 25            | 6872-2502  | 6873-2502 | 6900-2502 |           |
| PVDF                         | 0.45           | 13            | 6872-1304  | 6873-1304 |           |           |
| PVDF                         | 0.45           | 25            | 6872-2504  | 6873-2504 | 6900-2504 |           |
| PTFE                         | 0.2            | 13            | 6874-1302  | 6875-1302 |           |           |
| PTFE                         | 0.2            | 25            | 6874-2502  | 6875-2502 |           |           |
| PTFE                         | 0.45           | 13            | 6874-1304  | 6875-1304 |           |           |
| PTFE                         | 0.45           | 25            | 6874-2504  | 6875-2504 |           |           |
| PES                          | 0.2            | 13            | 6876-1302  |           |           |           |
| PES                          | 0.2            | 25            | 6876-2502  | 6905-2502 | 6896-2502 | 6897-2502 |
| PES                          | 0.45           | 13            | 6876-1304  |           |           |           |
| PES                          | 0.45           | 25            | 6876-2504  | 6905-2504 | 6896-2504 | 6897-2504 |
| PP                           | 0.2            | 13            | 6878-1302  |           |           |           |
| PP                           | 0.2            | 25            | 6878-2502  |           |           |           |
| RC                           | 0.2            | 25            | 6887-2502  |           |           |           |
| RC                           | 0.45           | 25            | 6882-2504  | 6883-2504 |           |           |
| CA                           | 0.2            | 13            | 6880-1302  |           |           |           |
| CA                           | 0.2            | 25            | 6880-2502  |           | 6901-2502 |           |
| CA                           | 0.45           | 13            | 6880-1304  |           |           |           |
| CA                           | 0.45           | 25            | 6880-2504  |           | 6901-2504 |           |
| GF/A†                        | 1.6†           | 13            | 6882-1316  |           |           |           |
| GF/A†                        | 1.6†           | 25            | 6882-2516  | 6883-2516 |           |           |
| GF/B†                        | 1†             | 13            | 6884-1310  |           |           |           |
| GF/B†                        | 1†             | 25            | 6884-2510  |           |           |           |
| GF/C†                        | 1.2†           | 13            | 6883-1312  |           |           |           |
| GF/C†                        | 1.2†           | 25            | 6886-2512  |           |           |           |
| GF/D†                        | 2.7†           | 13            | 6888-1327  |           |           |           |
| GF/D†                        | 2.7†           | 25            | 6888-2527  |           |           |           |
| GF/F†                        | 0.7†           | 13            | 6890-1307  |           |           |           |
| GF/F†                        | 0.7†           | 25            | 6890-2507  | 6891-2507 |           |           |
| GF/F†                        | 0.45†          | 13            | 6894-1304  |           |           |           |
| 934-AH†                      | 1.5†           | 25            | 6892-2515  |           |           |           |
| GMF†                         | 0.45†          | 25            | 6894-2504  | 6895-2504 | 6902-2504 |           |

\* PP = Polypropylene; CA = Cellulose acetate; PES = Polyethersulfone; GF = Glass fiber; PVDF = Polyvinylidene difluoride; GMF = Glass microfiber; PTFE = Polytetrafluoroethylene

† Glass microfiber particle retention rating

‡ Contains GMF 150 without the GF/F prefilter