

Glassco Brand sintered glassware is used for the filtration of liquids and gases in the laboratory; it incorporates a porous glass disc as a filter media, which is non-corrosive and reusable. It is also used for gas washing, dispersion, and adsorption.

Sintered discs are manufactured by crushing borosilicate glass, powdering, cleaning, separating into various mesh sizes, and then fusing together in the form of a disc. The sintered disc is graded into 5 grades—G1, G2, G3, G4, and G5. The grades are classified by maximum pore size, which is obtained by measuring the pressure at which the first air bubble breaks away from the filter under certain conditions. The pressure differential is then used to calculate the equivalent capillary diameters in microns. The desired pore size is obtained by suitably controlling the grain size, firing time, temperature, and the thickness of the disc. Each disc is tested and graded individually.

The pore diameters are reasonably uniform, which ensures the required flow rate through the filter.

The flow rate further depends on the pressure differential between the two sides of the disc, the free area of the discs, the viscosity of the fluid being filtered, etc. Between different discs of the same size and grade, there is a fair amount of uniformity in pore size, and hence the results from two or more discs of the same size and grade will be uniform. This ensures reproducible analytical results.

The discs have maximum surface hardness, and hence glass powder does not get scraped off during cleaning or with chemicals. Filters do not shed particles during usage. The discs are sealed to tubing without blocking the pores. They are annealed properly in automatically controlled lehrs.

## POROSITY GRADES AND THEIR GENERAL USE

Porosity Grade	Pore Size (Microns)	General use
1	90-150	Filtration of coarse materials/precipitates, gas dispersion, gas washing, extractor bed, support for other filter materials.
2	40-90	Filtration of medium precipitates, gas dispersion, gas washing.
3	15-40	Filtration of fine grain precipitates. Analytical work with medium precipitates, mercury filtration.
4	5-15	Analytical work with fine and very fine precipitates. Non-return valves.
5	1-2	Bacteriological filtration.

### Chemical Durability

Glassco sintered ware is produced from the same high-quality material from which all Glassco Brand borosilicate laboratory glassware are manufactured and thus, have excellent resistance to chemical attack.

### Operating Pressure

The sintered discs and the glassco are incorporated; they are mainly designed for the application of vacuum for the passage of gases at a relatively low pressure. In all cases, the differential pressure must not exceed 100 kN/m<sup>2</sup> (15 psi).

### Thermal Characteristics

The resistance to thermal shock of sintered ware is comparatively less as compared to standard lab glassware. Therefore, articles of sintered ware should not be subjected to excessive temperature changes nor to direct flames.

Glassco sintered crucibles are particularly suited for drying to constant weight. Dry sintered crucibles at room temperature can be placed directly into a drying oven at 150°C, although customary practice is to dry at 110°C. Sintered ware may safely be heated in a furnace to 500°C without ill effect, provided that the cycle of heating and cooling is gradual, strains caused by excessive temperature of apparatus.

Sintered ware of porosity grades 4 and 5 when cold and damp should never be subjected to a sudden temperature change since the evolution of steam may set up sufficient pressure within the filter, to crack it.

Filtration apparatus should be kept on its rim (stem upwards) in an oven or sterilizer. A perforated support base is advantageous for air convection in case pipeline filters. Care should be taken by use of heat-insulating material such as asbestos to avoid premature near-filter seal. Apparatus should remain in the oven or sterilizer during cooling to avoid too fast cooling rate.

### Cleaning of Sintered Ware

New sintered filters should be washed carefully with hot hydrochloric acid and then rinsed with distilled water before they are used. This treatment will ensure that all loose particles are removed from the filter.

It is recommended that all sintered filters are thoroughly cleaned "immediately" after use. This is the most favorable time for ease of cleaning and will ensure less risk of contamination in subsequent use.

Many precipitates can be removed from the filter by backflushing with water. However, great care must be taken with large diameters and fine filter, as positive pressures on the reverse side may break the filter.

Under no circumstances should sintered apparatus be subjected to mains water pressure when backflushing, as in most instances a vacuum pump is also effective.

Filters clogged by dust and dirt during gas filtration can be restored by treatment with a warm detergent solution followed by blowing clean air from the clean side of the filter. Dirt particles are brought to the surface by the foam and removed by rinsing with water.

Some precipitates may clog the filter, which may be removed by chemical cleaning as given below.

Clean the porous glass fit of the filter support by backflushing with warm water & then soaking overnight in a chromic acid cleaning solution.

Follow the soaking with another backflushing. After cleaning thoroughly, rinse the components with clean water & air dry. Do not wipe with paper or cloth, which may leave traces of fibers & lint.

## Glass Microanalysis Filter Holders

For 25 mm Disc Filters

### Applications :

- Used to filter under vacuum/small volumes for particulate or biological contamination analysis
- Available in fritted glass or stainless steel
- Thick prefilters or laminated filters will not seal in this holder
- Use Durapore (PVDF) membrane or unlaminated PTFE for solvent applications with this apparatus.

### Specifications:

#### Materials

259.202.01 Borosilicate glass funnel and base; fritted glass filter support; anodized aluminum spring clamp; silicone stopper

259.202.03 Borosilicate glass funnel and base; removable stainless steel screen filter support; anodized aluminum spring clamp; silicone stopper

Filter Diameter, mm 25

Filtration Area, cm<sup>2</sup> 2.5

Funnel Capacity, ml 15

Outlet Fitting No. 5 perforated silicone stopper mounts in standard 125 ml filtering flask

#### Dimensions

Height, cm 15.2

Diameter, cm 2.5

### Ordering Information:

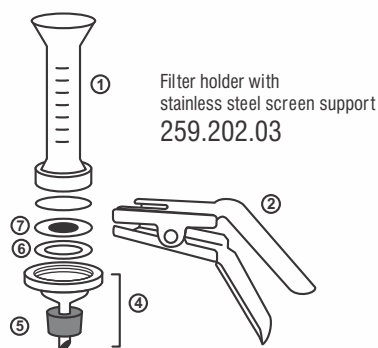
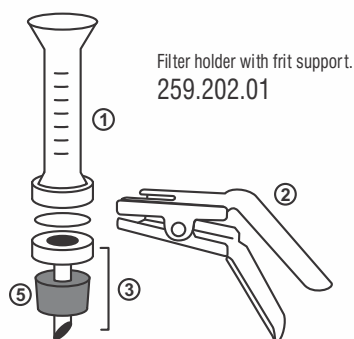
Cat No.	Description
259.202.01	Microanalysis Filter Holder, 25 mm, fritted glass support

Replacement Parts	
259.245.01	Funnel, 15 ml, borosilicate glass
259.245.02	Fritted Glass Base with stopper, 25 mm
259.245.03	Spring Clamp, 25 mm, aluminum
259.245.06	No. 5 perforated stopper, silicone

Cat No.	Description
259.202.03	Microanalysis Filter Holder, 25 mm, stainless steel support

Replacement Parts	
259.245.01	Funnel, 15 ml, borosilicate glass
259.245.03	Spring Clamp, 25 mm, aluminum
259.245.05	Base stopper & stainless steel screen
259.245.06	No. 5 perforated stopper, silicone
259.245.07	Gaskets, Teflon
259.245.08	Support Screen, 25 mm, stainless steel

Optional Accessories	
074.202.01A	Vacuum filtering flask, 125 ml



Filter Flask 125 ml



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## Glass Filter Holder For 47 mm Disc Filters

### Specifications:

Materials of Construction	Borosilicate glass funnel and base; anodized aluminum spring clamp; silicone stopper
260.202.01	Coarse-frit glass filter support
261.202.01	PTFE-faced funnel and base
262.202.01	Stainless steel screen filter support
Filter Diameter, mm	47
Filtration Area, cm <sup>2</sup>	9.6
Funnel Capacity, mL	300; accessory 1 L is available
Prefilter Diameter, mm	35 (thick depth prefilter) or 47 (membrane prefilter)
Outlet Fitting	No. 8 perforated silicone stopper mounts in standard 1 L and 4 L filtering flasks
Dimensions	
Height, cm	22.9
Diameter, cm	7.6
Sterilization Method	
260.202.01 and 261.202.01	30 UV sterilize or autoclave without filter in-place
262.202.01	Autoclave with filter in-place

### Applications :



Use 260.202.01 for

- Bacteriological analysis of water (using 47 mm sterile membrane filters) Analysis of suspended solids in water (using 47 mm depth filters)



Use 261.202.01 for

- Bacteriological analysis applications where autoclaving filter holder with membrane in place needed



Use 262.202.01 for

- Particulate contamination analysis of oils and hydraulic fluids by gravimetric or particulate counting methods Exfoliative cytology applications



Use 258.202.01 for

- Used in vacuum filter aqueous, organic or corrosive liquids for particulate contamination analysis  
Recommended for HPLC solvent filtration

## Glass Filter Holders For 47 mm Disc Filters

### Ordering Information:

Cat No.	Description
260.202.01	Glass filter holder assembly with funnel, fritted base, stopper, clamp, 47 mm

### Replacement Parts:

258.245.01	Glass funnel, 300 ml, borosilicate
260.245.02	Base for 47 mm glass/filter holder
258.245.02	Spring clamp, 47 mm, aluminum
260.245.05	No. 8 perforated stopper, silicone

Cat No.	Description
261.202.01	Glass filter holder assembly, PTFE- coated, with PTFE coated funnel and PTFE coated base, stopper clamp no. 8, 47 mm, Frit

### Replacement Parts:

PTFE-faced Glass Filter Holder	
261.245.01	Funnel, PTFE-faced, 300 ml
258.245.02	Spring clamp, 47 mm, aluminum
261.245.03	Glass base, PTFE-faced, 47 mm
260.245.05	No. 8 perforated stopper, silicone

Cat No.	Description
262.202.01	Glass filter holder with stainless steel screen, 47 mm

### Replacement Parts:

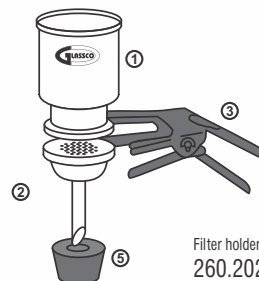
Stainless Screen Glass Filter Holder	
258.245.01	Glass funnel, 300 ml, borosilicate
258.245.02	Spring clamp, 47 mm, aluminum
262.245.03	Glass base, 47 mm
262.245.04	Support screen, 47 mm, stainless steel
262.245.05	Gasket, PTFE
260.245.05	No. 8 perforated stopper, silicone

### Optional Accessories

074.202.04	Vacuum filtering flask, 1 Ltr
074.202.05	Vacuum filtering flask, 2 Ltr
074.202.07	Vacuum filtering flask, 4 Ltr
074.202.08	Vacuum filtering flask, 5 Ltr
258.245.01A	Glass funnel, 500 ml, borosilicate

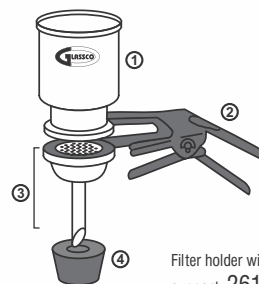


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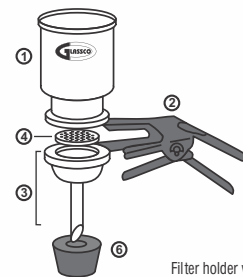
Filter holder with glass filter support, 260.202.01

Replacement Parts:  
 1. Funnel 300 ml  
 2. Base 47 mm Frit  
 3. Clamp 47 mm  
 5. Stopper 8 No.



Filter holder with PTFE-faced filter support, 261.202.01

Replacement Parts:  
 1. Funnel 300 ml Teflon Coated  
 2. Clamp 47 mm  
 3. Base 47 mm Frit Teflon Coated  
 4. Stopper 8 No.

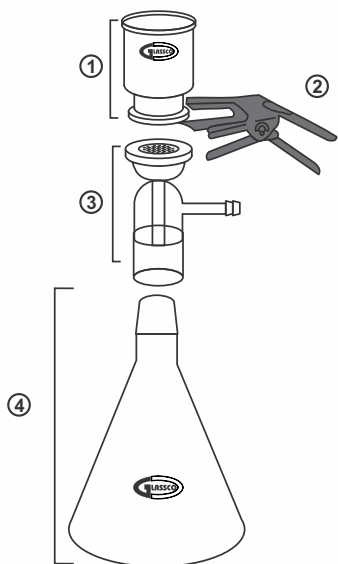


Filter holder with stainless steel screen filter support, 262.202.01

Replacement Parts:  
 1. Funnel 300 ml  
 2. Clamp 47 mm  
 3. Base 47 mm  
 4. Screen 47 mm  
 5. PTFE Gasket  
 6. Stopper No. 8



VACUUM FILTERING FLASK



## All-Glass Filter Holder For 47 mm Disc Filters

### Specifications:

Materials  
258.202.01

Filter Diameter, mm  
Filtration Area, cm<sup>2</sup>  
Funnel Capacity, ml  
Outlet Fitting

Borosilicate glass funnel, base and tubulated cap;  
anodized aluminum spring clamp; fritted glass filter  
support  
47  
9.6  
Funnel: 300 ml; flask: 1 l  
6 mm (1/4 in.) O.D. tubulated cap sidearm to vacuum



### Ordering Information:

Cat No.	Description
258.202.01	All-Glass Filter Holder Assembly with funnel, fritted-base & cap, clamp 47 mm, ground joint flask 1 Ltr.



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Cat No.	Description
258.284.01	All-Glass Filter Holder Assembly with funnel, fritted-base & cap, clamp 47 mm, ground joint flask 2 Ltr.

### Replacement Parts

Cat No.	Description
258.245.01	Glass funnel, 300 ml, borosilicate
258.245.02	Spring clamp, 47 mm, aluminum
258.245.03	Glass Base & Cap, 47 mm
258.245.04	Ground Joint Flask, 1000ml
258.245.04A	Ground Joint Flask, 2000ml

Cat No.	Description
258.248.01	All-Glass Filter Holder Assembly with glass funnel, base support with Stainless Steel 47mm, gasket, anodized aluminium clamp 47 mm, ground joint flask 1 Ltr.

### Replacement Parts

Cat No.	Description
258.245.01	Glass funnel, 300 ml, borosilicate
258.245.02	Spring clamp, 47 mm, aluminum
262.245.03	Glass Base 47 mm
258.245.04	Ground Joint Flask, 1000ml
262.245.04	Support screen, 47 mm, stainless steel
262.245.05	Gasket, PTFE



263.245.07



263.245.06

### Optional Accessories:

Cat No.	Description
263.245.06	Bottles 2 L
263.245.07	Bottles 5 L
258.245.04A	Ground Joint Flask, 2000ml



## All-Glass Filter Holder (90 mm)

### Applications :

- Used in vacuum filter aqueous, organic or corrosive liquids for particulate contamination analysis
- Recommended for HPLC solvent filtration.

### Specifications:

Materials	Borosilicate glass funnel, base and tubulated cap; PTFE-coated stainless steel screen; anodized aluminum spring clamp
Filter Diameter, mm	90
Funnel Capacity, L	1
Outlet Fitting	6 mm (1/4 in.) O.D. tubulated cap sidearm to vacuum

### Ordering Information:

Cat. No.	Description
263.202.01	Glass Filter Holder with stainless steel screen, 90 mm

### Replacement Parts

Cat. No.	Description
263.245.01	Funnel, 1L, 90 mm, ground glass seal
263.245.02	Vacuum Base and Cap, 90 mm
263.245.03	Stainless Steel Screen, PTFE coated, 90 mm
263.245.04	Gasket, PTFE 90 mm
263.245.05	Spring Clamp, 90 mm anodized aluminum

### Ordering Information:

Cat. No.	Description
263.202.02	Glass Filter Holder with fritted disc

### Replacement Parts

Cat. No.	Description
263.245.01	Funnel, 1L, 90 mm, ground glass seal
263.248.02	Cap glass base with fritted disc
263.245.05	Spring Clamp, 90 mm anodized aluminum

### Optional Accessories

Cat. No.	Description
258.245.04	Ground Joint Flask, 1 L
263.245.06	Bottle 2 L
263.245.07	Bottle 5 L
258.245.09	Ground Joint Flask 5 L
263.245.08	1 Litre Funnel, 47mm



258.245.04



263.245.07



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