

Hardware



Pall Life Sciences provides filter holders, filter funnels, products for pressure applications, and accessories in a range of materials to help you maximize your filtration efficiency and economy. Our durable stainless steel and aluminum filter funnels and holders are manufactured to provide years of continuous service. We also provide disposable funnels and holders in a variety of plastic materials for use with non-aggressive samples, or for convenient one-time use.

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Filter Funnel Application Selector

Pall offers a wide variety of filter funnels to meet the specific needs of your process. In laboratory applications, filter funnels are used to measure and concentrate particulate in a fluid sample onto a membrane filter or to purify the filtrate. When selecting a funnel, consider:

- **Materials of Construction**

Consider the temperature and chemical resistance of the funnel materials. For liquid clarification, particulate and microbial analysis, and situations requiring autoclaving, choose one of our plastic funnels. They are generally less expensive than stainless steel funnels and more durable than glass.

- **Sample Volume**

Match your sample volume to funnel capacity for maximum efficiency. Our filter funnels range in capacity from 50 mL to 1 liter and feature clearly marked calibrations for easy measurement.

- **Cleaning Requirements**

Pall funnels are provided non-sterile and most are autoclavable. Some microbiologists flame sanitize hardware when conducting microbial monitoring. Our stainless steel and glass funnels are ideal for these applications.

Selection Guide – Filter Funnels

Filter Size (mm)	25	25, 47	47	47	47
Part Number	4203, 4204	4240, 4221	4230	4011, 4012, 4013	4238, 4241, 4242, 4247
Description	Polysulfone	Stainless Steel	Parabola Stainless Steel ²	Glass	Polyphenylsulfone
Page Number	260	261 - 262	263	265	226
Autoclavable ¹	Yes ³	Yes	Yes	Yes	Yes ³
HPLC/IC/Mobile Phase/Degassing				•	
Microbiology, Pharmaceutical	•	•	•	•	•
Microbiology, Environmental	•	•	•	•	•
Microbiology, Beverage	•	•	•	•	•
Microbiology, Industrial Process Water	•	•	•	•	•
Solvent Filtration		•	•	•	
Water Sampling (Ground/Surface)	•		•	•	•

¹ Limited by filter type.

² Do not use funnel for filtration of high purity fuels as explosion may occur.

³ Repeated use of detergents containing polyoxyethylated alkyl phenols and alcohols, and/or anti-corrosion, anti-scaling boiler additives that may carry over in steam, may cause funnel material to crack, thereby reducing the life of the product. Do not autoclave rubber stoppers. Do not autoclave with aluminum foil; use autoclave paper.

Pressure Application Selector

Applications	Description	Part Number
Rapid batch filtration of bacteriological or cell culture media, food liquids, viscous oils, hydraulic oils, or lubricants	47 mm Pressure Filtration Funnel, Stainless Steel	4280
Rinse critical mechanical or electronic components, flush filter holders, and rinse laboratory glassware	Pressure Rinser	7074
Process batches of liquids for sterilization or clarification	Pressure Vessels, Stainless Steel	15203, 15207, 15220

Filter Holder Application Selector

Filter holders are designed for a variety of laboratory applications including sterile filtration, stack sampling, product sampling, and clarification of fluids or gases.

Filter Size (mm)	13	25	25	25, 47	47	47	47	25, 37, 47	142, 293
Part Number	4317	4320	1109	1209, 2220	1235	1119	4020	1107, 1219, 1220	11872, 11873
Description	Plastic and Stainless Steel Swinney	Easy Pressure Syringe	In-Line Delrin [†]	In-Line Stainless Steel	In-Line Aluminum	In-Line Polycarbonate	SolVac [®] Holder	Open-Face	Stainless Steel
Page Number	266	267	268	270	272	269	182	273	274
Autoclavable¹	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Ambient Air Monitoring	•		•	•	•	•		•	
Cell Harvesting	•	•		•	•				•
HPLC/IC Sample Preparation	•	•	•	•	•	•	•		
Industrial Hygiene Monitoring	•		•	•	•	•		•	
Liquid Sterilization	•	•	•	•	•	•			•
Nucleic Acid/Protein Purification/Concentration	•	•	•	•	•	•			•
Solvent Filtration	•	•	•	•	•	•	•		•
Venting/Gas Filtration	•		•	•	•	•		•	
Water Sampling (Ground/Surface)	•	•	•	•		•	•		•

¹Autoclavability may be limited by filter type or hose barb adapters. Please contact Pall Life Sciences technical service or consult product literature for the holder being used. Do not autoclave with aluminum foil; use autoclave paper.

25 mm Filter Funnels, Polysulfone

Economical, autoclavable funnels for vacuum filtration



- ▶ Transparent funnels with graduations permit easy visual measurement.
- ▶ Less expensive than stainless steel and more durable than glass.
- ▶ Tapered stem fits standard size #2 stoppers.
- ▶ Available in 50 and 200 mL capacities.
- ▶ Changing filters is easy. Twist-lock coupling minimizes filter tearing.

Applications

- ▶ Ideal for liquid clarification, vacuum filtration, and scintillation counting studies.

Specifications

Material of Construction

Polysulfone

Effective Filtration Area

2.9 cm²

Dimensions

Overall Length:

50 mL: 15.8 cm (6.2 in.)

200 mL: 20.1 cm (7.9 in.)

Diameter: 7.1 cm (2.8 in.)

Filter Size

Accepts 25 mm filter

Funnel Capacity

50 or 200 mL

Connections

Tapered funnel stem inserts into standard size No. 2 rubber stopper

Maximum Operating Temperature

Limited by membrane or 121 °C (250 °F)

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

25 mm Filter Funnels, Polysulfone

Part Number	Description	Pkg
4204	25 mm, 50 mL capacity	1/pkg
4203	25 mm, 200 mL capacity	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
79791	Support screen, Type 316 stainless steel	1/pkg
87265	Support screen, polysulfone	1/pkg

Related Products

25 mm Glass Fiber Filters	243 - 244
25 mm Membrane Disc Filters	111 - 115, 178 - 181, 213 - 214, 245, 247 - 249
Filter Funnel Manifolds	277 - 278
Vacuum/Pressure Pumps	279

25 mm Filter Funnel, Stainless Steel

High quality, corrosion-resistant funnel for vacuum filtration



- ▶ Stainless steel construction offers excellent chemical resistance.
- ▶ Threaded collar seals to base.

Applications

- ▶ Vacuum filtration of small volumes of solutions for particulate contamination analysis.

Specifications

Materials of Construction

Funnel, Base, Support Screen, Underdrain Disc, and Spiral Retaining Ring: Type 316 stainless steel
Cap: Type 303 stainless steel

Effective Filtration Area

2.8 cm²

Dimensions

Overall Length: 15.5 cm (6.1 in.)
Diameter: 4.45 cm (1.8 in.)

Funnel Capacity

50 mL

Connection

Stem inserts into standard size No. 2 rubber stopper

Maximum Operating Temperature

Limited by filter type

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Note: Not recommended for use with volatile liquids or high purity fuels as explosion may result from the static discharge.

Ordering Information

25 mm Filter Funnel, Stainless Steel

Part Number	Description	Pkg
4240	25 mm, 50 mL capacity	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
79791	Support screen, Type 316 stainless steel	1/pkg
79792	Underdrain disc, Type 316 stainless steel	1/pkg

Related Products

Filter Funnel Manifolds	277 - 278
Membrane Disc Filters	109 - 115, 177 - 181, 213 - 215, 245 - 249
Stainless Steel Forceps	230, 280
Vacuum/Pressure Pumps	279

47 mm Filter Funnel, Stainless Steel

Ultimate chemical resistance and easy assembly



- ▶ Quick, easy assembly. Funnel's weight seals filter to base.
- ▶ 100 mL capacity with 50 mL calibration facilitates easy measurement.
- ▶ Stainless steel construction offers excellent chemical resistance.

Applications

- ▶ For applications requiring the ultimate in chemical resistance.
- ▶ Designed for vacuum filtration to collect biological or particulate matter from liquids.
- ▶ For use with standard manifold systems or vacuum flasks.

Specifications

Material of Construction

Type 316 stainless steel

Effective Filtration Area

9.6 cm²

Dimensions

Overall Length: 16.3 cm (6.4 in.)

Diameter: 6.6 cm (2.6 in.)

Filter Size

Accepts 47 and 50 mm filters

Funnel Capacity

100 mL with 50 mL calibration

Connection

Stem fits into standard size No. 8 rubber stopper

Maximum Operating Temperature

Limited by filter type

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Note: Not recommended for use with volatile liquids or high purity fuels as explosion may result from the static discharge.

Ordering Information

47 mm Filter Funnel, Stainless Steel

Part Number	Description	Pkg
4221	47 mm, 100 mL capacity	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
81312	Support screen, Type 316 stainless steel	1/pkg

Related Products

Filter Funnel Manifolds	277 - 278
Membrane Disc Filters	109 - 115, 177 - 181, 213 - 215, 245 - 249
Stainless Steel Forceps	230, 280
Vacuum/Pressure Pumps	279

47 mm Parabola Filter Funnel, Stainless Steel

One-liter funnel with excellent chemical compatibility



- ▶ Bayonet twist-lock seal provides reliable sealing without an O-ring.
- ▶ Stainless steel construction offers excellent chemical resistance.

Applications

- ▶ For large-volume vacuum filtration of microbiological samples, oils, and solvents.

Specifications

Materials of Construction

Funnel Housing: Type 316 stainless steel
Support Screen, Retaining Ring Assembly, and Base: Type 304 stainless steel

Effective Filtration Area

9.6 cm²

Dimensions

Overall Length: 22.2 cm (8.7 in.)
Diameter: 15.2 cm (6.0 in.)

Filter Size

Accepts 47 mm filter

Funnel Capacity

1 L

Connection

Stem inserts into standard size No. 2 rubber stopper

Maximum Operating Temperature

Limited by filter type

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Note: Not recommended for use with volatile liquids or high purity fuels as explosion may result from the static discharge.

Ordering Information

47 mm Parabola Filter Funnel, Stainless Steel

Part Number	Description	Pkg
4230	47 mm Parabola	1/pkg

Accessories and Replacement Parts

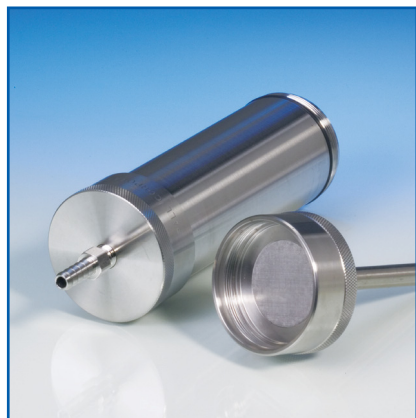
Part Number	Description	Pkg
4231	Type 304 stainless steel base	1/pkg
4235	Support screen, Type 304 stainless steel	1/pkg
4301	Funnel and retaining ring assembly	1/pkg

Related Products

AcroCap™ Positive Pressure Devices	124
Acrodisc® Syringe Filters with Supor® Membrane	117 - 118, 122 - 123, 195, 198
AcroPak™ Capsules with Supor Membrane	129, 132, 137
Stainless Steel Pressure Vessels	283
Supor Membrane Disc Filters	109, 111, 215
VacuCap® Vacuum Filtration Devices	127

47 mm Pressure Filtration Funnel, Stainless Steel

High quality, corrosion-resistant funnel for rapid batch filtration



- ▶ Stainless steel construction offers excellent chemical resistance.
- ▶ Convenient hand tightening makes filter changing easy.

Applications

- ▶ Best choice for rapid batch filtration of bacteriological or cell culture media, food liquids, viscous oils, hydraulic oils, or lubricants.

Specifications

Materials of Construction

Funnel Barrel, Support Screen, and Adapter Tube: Type 304 stainless steel

Cap and Base: Type 303 stainless steel

Hose Barb: Type 316L stainless steel

Gaskets: PTFE

O-Ring: Viton*

Effective Filtration Area

9.6 cm²

Dimensions

Housing Length: 16.4 cm (6.5 in.)

Diameter: 5.8 cm (2.3 in.)

Funnel Capacity

200 mL

Connection

1/8 in. -27 FNPT pipe thread; includes hose barb adapter for 6.4 mm (1/4 in.)

ID tubing; funnel stem accepts 10 mm (3/8 in.) ID tubing or standard stopper

Maximum Operating Temperature

Limited by filter type, by Viton O-ring 204 °C (399 °F), or PTFE gasket 288 °C (550 °F)

Maximum Operating Pressure

13.8 bar (1380 kPa, 200 psi) using compressed air or nitrogen

Sterilization

Provided non-sterile. Autoclavable at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min; dry heat if desired at 170 °C (338 °F) for a minimum of 1 hr.

Note: Not recommended for use with volatile liquids or high purity fuels as explosion may result from the static discharge.

Ordering Information

47 mm Pressure Filtration Funnel, Stainless Steel

Part Number	Description	Pkg
4280	47 mm, pressure filtration funnel	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
2110	Adapter tube, stainless steel	1/pkg
4235	Support screen, Type 304 stainless steel	1/pkg
4281	Type 303 stainless steel base	1/pkg
4282	Type 304 stainless steel center barrel	1/pkg
4284	PTFE gasket	1/pkg
4287	Spare seal kit contains 5 PTFE gaskets, 10 Viton O-rings, and 1 stainless steel hose barb adapter to 6.4 mm (1/4 in.) ID tubing	1/pkg
72833	Viton O-ring	1/pkg

Related Products

Membrane Disc Filters 109 - 115, 177 - 181, 213 - 215, 245 - 249
 Stainless Steel Forceps 230, 280

47 mm Filter Funnels, Glass

Ideal for vacuum filtration of liquids and degassing of HPLC solvents and mobile phases



- ▶ Made of 100% borosilicate glass, assures resistance to even the most aggressive solvents.
- ▶ One-liter 47 mm glass funnel/support assembly permits filtration of an entire liter at once.
- ▶ Support assembly's unique base design with integral vacuum connection prevents contamination of the vacuum line with filtrate.
- ▶ One-liter glass funnel is graduated from 300 to 1,000 mL in 50 mL increments.
- ▶ 300 mL glass funnel is graduated from 100 to 250 mL in 25 mL increments. Stepped stem fits into standard one-hole stoppers (9 mm).

Applications

- ▶ Ideal for filtration and degassing of HPLC solvents and aqueous mobile phase solutions and buffers.
- ▶ Offers excellent chemical compatibility, even with aggressive solvents.

Specifications

47 mm Glass Filter Funnel With Stopper Support Assembly

Materials of Construction

All parts are borosilicate glass except:

Stopper: Silicone No. 8

Clamp: Aluminum

Effective Filtration Area

9.6 cm²

Dimensions

Overall Height:

Base: 11.7 cm (4.6 in.)

Funnel: 11.1 cm (4.4 in.)

Diameter:

Base: 5.8 cm (2.3 in.)

Funnel: 7.9 cm (3.1 in.)

Filter Size

Accepts 47 mm filter

Funnel Capacity

300 mL

47 mm Glass Filter Funnel With Sidearm Support Assembly and Flask

Materials of Construction

All parts are borosilicate glass except:

Clamp: Aluminum

Support Base/Flask Connection:

Standard taper 40/35 ground joint

Effective Filtration Area

9.6 cm²

Dimensions

Overall Height:

PN 4012 and 4013 Base:

11.7 cm (4.6 in.)

PN 4012 Funnel: 16.7 cm (6.6 in.)

PN 4013 Funnel: 11.1 cm (4.4 in.)

Diameter:

PN 4012 and 4013 Base:

5.8 cm (2.3 in.)

PN 4012 Funnel: 12.0 cm (4.7 in.)

PN 4013 Funnel: 7.9 cm (3.1 in.)

Filter Size

Accepts 47 mm filter

Funnel Capacity

300 mL or 1 L

Flask Capacity

1 or 4 L

Ordering Information

47 mm Filter Funnels, Glass

Part Number	Description	Pkg
4011	Glass filter funnel with No. 8 silicone stopper support base (300 mL funnel, no flask)	1/pkg
4012	Glass filter funnel with sidearm support assembly and flask (1 L funnel with 4 L flask)	1/pkg
4013	Glass filter funnel with sidearm support assembly and flask (300 mL funnel with 1 L flask)	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
4014	Glass funnel, 300 mL	1/pkg
4015	Glass funnel, 1 L	1/pkg
4018	Glass flask, 1 L	1/pkg
4016	Glass flask, 4 L	1/pkg
4017	Fritted glass support base with sidearm	1/pkg
4019	Fritted glass support base/No. 8 silicone stopper	1/pkg
81595	Aluminum clamp, anodized	1/pkg

13 mm Swinney Filter Holders

Available in plastic and stainless steel



- ▶ Economical for small-volume (1 to 10 mL) filtration.
- ▶ Accepts 13 mm filter discs.
- ▶ Luer inlet and outlet fittings provide easy connections.

Applications

- ▶ Clarification of small volumes using a syringe.
- ▶ Useful in filtering biologicals, ophthalmics, GC and HPLC samples, and lubricants that must be applied dust-free to critical parts such as bearings.

Specifications

13 mm Swinney, Plastic

Materials of Construction

Inlet/Outlet Housing and Support
 Screen: Celcon* (acetal copolymer)
 Seal Washer: PTFE

Effective Filtration Area

0.8 cm²

Dimensions

Overall Length: 3.5 cm (1.4 in.)
 Diameter: 1.6 cm (0.6 in.)

Filter Size

Accepts 13 mm filter

Inlet/Outlet Connections

Female threaded luer inlet, male slip luer outlet

Maximum Operating Temperature

Limited by filter type

Maximum Operating Pressure

2.8 bar (280 kPa, 40 psi)

Sterilization

Provided non-sterile. Autoclavable at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 min.

13 mm Swinney, Stainless Steel

Materials of Construction

Body: Type 304 stainless steel
 Gaskets: PTFE
 Support Screen: Photoetched type 304 stainless steel

Effective Filtration Area

0.9 cm²

Dimensions

Overall Length: 3.9 cm (1.54 in.)
 Diameter: 1.6 cm (0.6 in.)

Inlet/Outlet Connections

Standard female luer lock inlet, male slip luer outlet

Maximum Operating Temperature

Limited by filter type

Maximum Operating Pressure

6.9 bar (690 kPa, 100 psi)

Ordering Information

13 mm Swinney Filter Holder, Plastic

Part Number	Description	Pkg
4317	13 mm Swinney	5/pkg

Accessories and Replacement Parts for 13 mm Swinney Filter Holder, Plastic

Part Number	Description	Pkg
83072	PTFE seal washer	1/pkg

13 mm Swinney Filter Holder, Stainless Steel

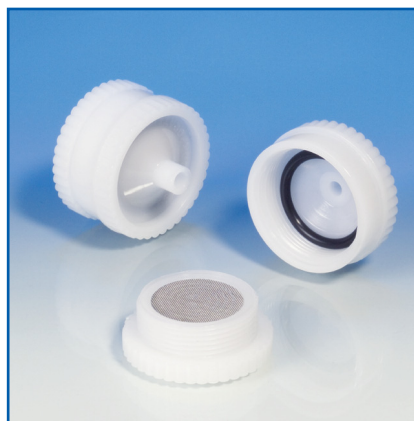
Part Number	Description	Pkg
4042	13 mm Swinney	1/pkg

Related Products

13 mm Glass Fiber Filters 243 - 244
 13 mm Membrane Disc Filters 111, 178 - 181, 213, 248

25 mm Easy Pressure Syringe Filter Holder, Delrin[®] Plastic

Large filtration area for easy operation and fast liquid flow



- ▶ Economical for small-volume (10 to 100 mL) filtration.
- ▶ Accepts 25 mm filter discs.
- ▶ Luer inlet and outlet fittings provide easy connections.
- ▶ Delrin (acetal resin) construction provides broad chemical compatibility and material strength.

Applications

- ▶ Designed for particulate filtration of small volumes using a syringe.
- ▶ Can be used as a final filter for gas systems.
- ▶ Delrin caps allow for easy sample storage and transportation.

Specifications

Materials of Construction

Body/Caps: Delrin (acetal resin)
Support Screen: Type 316 stainless steel
O-Ring: Viton[®]

Effective Filtration Area

3.7 cm²

Dimensions

Overall Length: 2.7 cm (1.1 in.)
Diameter: 3.5 cm (1.4 in.)

Filter Size

Accepts 25 mm filter

Inlet/Outlet Connections

Standard female luer inlet, male slip luer outlet

Maximum Operating Temperature

In Air: 85 °C (185 °F)
In Water: 66 °C (151 °F)

Maximum Operating Pressure

2.8 bar (280 kPa, 40 psi)

Sterilization

Provided non-sterile. Autoclavable at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

25 mm Easy Pressure Syringe Filter Holder, Delrin Plastic

Part Number	Description	Pkg
4320	25 mm, easy pressure	6/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
83475	O-ring, Viton ARP No. -117	1/pkg
86362	O-ring, PTFE encapsulated	1/pkg

Related Products

25 mm Glass Fiber Filters 243 - 244
25 mm Membrane Disc Filters 111 - 115, 178 - 181, 213 - 214, 245, 247 - 249
Stainless Steel Forceps 230, 280

25 mm In-Line Filter Holder, Delrin[®] Plastic

Lightweight filter holder for particulate sampling



- ▶ Domed inlet provides uniform sample distribution on the filter.
- ▶ Delrin plastic offers broad chemical compatibility and material strength.
- ▶ Accepts 25 mm filter discs.
- ▶ Lightweight for venting and air monitoring applications.

Applications

- ▶ Useful for low pressure, in-line air cleaning, liquid filtering, or sampling applications.
- ▶ Can be easily incorporated into liquid- or gas-carrying tubing systems at the point of use.

Specifications

Materials of Construction

Body: Delrin (acetal resin)
Hose Barb Adapters: Nylon
O-Ring: Viton[®]
Support Screen: Type 316 stainless steel

Effective Filtration Area

3.7 cm²

Dimensions

Overall Length: 2 cm (0.8 in.)
Diameter: 3.5 cm (1.4 in.)

Inlet/Outlet Connections

1/8 in. FNPT; hose barb adapter accepts 6.4 mm (1/4 in.) ID tubing

Maximum Operating Temperature

In Water: 66 °C (151 °F)
In Air: 85 °C (185 °F); will perform effectively with intermittent use up to 121 °C (250 °F)

Maximum Operating Pressure

2.8 bar (280 kPa, 40 psi)

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

25 mm In-Line Filter Holder, Delrin Plastic

Part Number	Description	Pkg
1109	25 mm, in-line	6/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
73179	Hose barb adapter, nylon, 1/8 in. MNPT to 6.4 mm (1/4 in.) tubing	1/pkg
83475	Viton O-ring, ARP No. -117	1/pkg

Related Products

25 mm Glass Fiber Filters	243 - 244
25 mm Membrane Disc Filters	111 - 115, 178 - 181, 213 - 214, 245, 247 - 249
Vacuum/Pressure Pumps	279

47 mm In-Line Filter Holder, Polycarbonate

Sturdy, lightweight unit for monitoring particulate in gases or liquids



- ▶ Lightweight plastic construction.
- ▶ Luer-Lok[®] vent plug facilitates removal of air bubbles in liquid filtration.

Applications

- ▶ Designed for in-line liquid or gas filtration.
- ▶ Indoor and outdoor air monitoring or sampling.
- ▶ Ideal for venting.

Specifications

Materials of Construction

Body: Polycarbonate
 Hose Barb Adapters: Nylon
 Support Screen: Polyphenylsulfone
 O-Ring: Silicone
 Vent Cap: Polypropylene

Effective Filtration Area

9.6 cm²

Dimensions

Overall Length (Includes Vent Cap, Excludes Hose Barb): 5.8 cm (2.3 in.)
 Diameter: 6.4 cm (2.5 in.)

Inlet/Outlet Connections

1/4 in. -18 FNPT; hose barb adapters accept 6.4 mm (1/4 in.) ID tubing

Maximum Operating Temperature

Limited by filter type or by hose barb
 121 °C (250 °F)

Maximum Operating Pressure

3.4 bar (340 kPa, 50 psi)

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

47 mm In-Line Filter Holder, Polycarbonate

Part Number	Description	Pkg
1119	47 mm, in-line polycarbonate	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
4235	Support screen, type 304 stainless steel	1/pkg
BB-9651-1D106	Polypropylene Luer-Lock vent plug	1/pkg
81314	Hose barb adapter, nylon, 1/4 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
87264	Support screen, polyphenylsulfone	1/pkg
86366	Silicone O-ring	1/pkg

Related Products

AcroCap™ Positive Pressure Devices	124
Acrodisc® Syringe Filters with Supor® Membrane	117 - 118, 122 - 123, 195, 198
AcroPak™ Capsules with Supor Membrane	129, 132, 137
Stainless Steel Pressure Vessels	283
Supor Membrane Disc Filters	109, 111, 215
VacuCap® Vacuum Filtration Devices	127

25 and 47 mm In-Line Filter Holders, Stainless Steel

High quality, corrosion-resistant holders for stack sampling



- ▶ Stainless steel construction offers excellent chemical resistance.
- ▶ Holders open and close easily. Filter remains undisturbed for particulate analysis.
- ▶ Upstream threaded vent on 47 mm holder allows release of trapped gas during liquid filtration.
- ▶ Convenient in-line opening and closing capability.

Applications

- ▶ Designed for in-line liquid or gas filtration.
- ▶ Durable construction for stack sampling.
- ▶ Capable of continuous processing of fluids at high pressure.

Specifications

25 mm In-line Stainless Steel

Materials of Construction

Body, Underdrain Disc, and Support

Screen: Type 316 stainless steel

Hose Barb Adapters: Nylon

Center Ring Collar:

Type 303 stainless steel

O-ring: Viton*

Effective Filtration Area

3.7 cm²

Dimensions

Overall Length (Excluding Hose Barb):

4.0 cm (1.6 in.)

Diameter: 3.7 cm (1.5 in.)

Inlet/Outlet Connections

1/8 in. FNPT; hose barb adapters

accept 6.4 mm (1/4 in.)

ID tubing

Maximum Operating Temperature

Limited by filter type or by Viton O-ring

204 °C (399 °F) or by Nylon adapter

121 °C (250 °F)

Maximum Operating Pressure

14 bar (1400 kPa, 200 psi)

Sterilization

Provided non-sterile; autoclavable at

121 to 123 °C (250 to 253 °F) at

1.0 bar (100 kPa, 15 psi) for 15 to

20 minutes.

47 mm In-line Stainless Steel

Materials of Construction

Body: Type 316 stainless steel

Hose Barb Adapters: Polyethylene

Support Screen and Underdrain Disc:

Electropolished type 316

stainless steel

O-Ring: Viton

Thrust Ring: PTFE

Center Ring Collar: Type 303

stainless steel

Effective Filtration Area

9.6 cm²

Dimensions

Overall Length (Excluding Hose Barb):

5.7 cm (2.2 in.)

Diameter: 5.9 cm (2.3 in.)

Inlet/Outlet Connections

3/8 in. FNPT; hose barb adapters

accept 6.4 mm (1/4 in.) ID tubing

Maximum Operating Temperature

Limited by filter type or by hose barb

93 °C (199 °F)

Maximum Operating Pressure

14 bar (1400 kPa, 200 psi)

Sterilization

Provided non-sterile; autoclavable at

121 to 123 °C (250 to 253 °F) at

1.0 bar (100 kPa, 15 psi) for 15 to

20 minutes.

Ordering Information

25 mm In-Line Filter Holder, Stainless Steel

Part Number	Description	Pkg
1209	25 mm stainless steel	1/pkg

47 mm In-Line Filter Holder, Stainless Steel

Part Number	Description	Pkg
2220	47 mm stainless steel	1/pkg

Accessories and Replacement Parts, 25 mm In-Line Filter Holder

Part Number	Description	Pkg
73179	Hose barb adapter	1/pkg
73336	Viton* O-ring, ARP No. -020	1/pkg
79759	Base outlet, Type 316 stainless steel	1/pkg
79760	Collar, Type 303 stainless steel	1/pkg
79761	Cover inlet, Type 316 stainless steel	1/pkg
79791	Support screen, Type 316 stainless steel	1/pkg
79792	Underdrain disc, Type 316 stainless steel	1/pkg

Accessories and Replacement Parts, 47 mm In-Line Filter Holder

Part Number	Description	Pkg
71242	Viton O-ring	1/pkg
71243	PTFE thrust ring	1/pkg
71244	Center ring collar, Type 303 stainless steel	1/pkg
71245	Outlet, Type 316 stainless steel	1/pkg
72970	Support screen, Type 316 stainless steel	1/pkg
72971	Underdrain disc, Type 316 stainless steel	1/pkg
73184	Hose barb adapter, polyethylene, 3/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
76901	O-ring, EPR-008	1/pkg
81377	Hose barb adapter, Type 316 stainless steel, 3/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
82536	Vent screw, Type 304 stainless steel	1/pkg
82537	Inlet with vent, Type 316 stainless steel	1/pkg
82762	PTFE flat vent washer	1/pkg

Related Products

Membrane Disc Filters 109 - 115, 177 - 181, 213 - 215, 245 - 249
 Stainless Steel Forceps 230, 280

47 mm In-Line Filter Holder, Aluminum

Lightweight, anodized aluminum filter holder



- ▶ Convenient design allows opening and closing without disrupting membrane.

Applications

- ▶ Designed for in-line liquid or gas filtration.
- ▶ Durable construction for stack sampling.

Specifications

Materials of Construction

Inlet-Cover, Base, and Collar Cap:
Anodized aluminum
Hose Barb Adapters: Polyethylene
Support Screen and Underdrain Disc:
Electropolished type 316 stainless steel
O-Ring: Viton*
Thrust Ring: PTFE

Effective Filtration Area

9.6 cm²

Dimensions

Overall Length (Excluding Hose Barbs):
5.7 cm (2.2 in.)
Diameter: 5.9 cm (2.3 in.)

Inlet/Outlet Connections

3/8 in. FNPT; hose barb adapters accept 6.4 mm (1/4 in.) ID tubing

Maximum Operating Temperature

Limited by filter type, hose barb adapters 93 °C (199 °F), or O-ring 204 °C (399 °F)

Maximum Operating Pressure

14 bar (1400 kPa, 200 psi)

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

47 mm In-Line Filter Holder, Aluminum

Part Number	Description	Pkg
1235	47 mm, in-line aluminum	1/pkg

Accessories and Replacement Parts

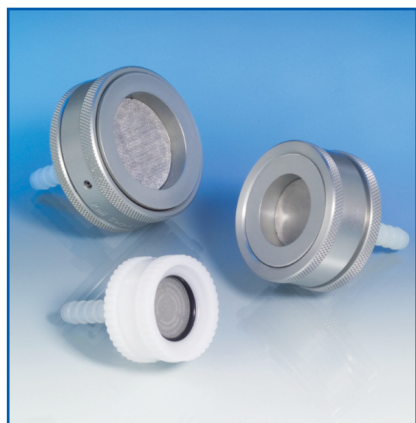
Part Number	Description	Pkg
71242	Viton O-ring	1/pkg
71243	PTFE thrust ring	1/pkg
71735	Base, aluminum	1/pkg
71736	Collar cap, aluminum	1/pkg
71737	Inlet cover, aluminum	1/pkg
72970	Support screen, Type 316 stainless steel	1/pkg
72971	Underdrain disc, Type 316 stainless steel	1/pkg
73184	Hose barb adapter, polyethylene, 3/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
81377	Hose barb adapter, Type 316 stainless steel, 3/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg

Related Products

47 mm Membrane Disc Filters 109 - 115, 177 - 181, 213 - 215, 245 - 249
Stainless Steel Forceps 230, 280

Open-Face Filter Holders

Lightweight, corrosion-resistant filter holders for routine air sampling



- ▶ 25 mm holder is autoclavable. Can be used for bacterial monitoring and particulate analysis.
- ▶ 37 and 47 mm holders include a plastic cap that protects samples after filtration.

Applications

- ▶ 25 mm holder is designed for clean room sampling and collection of breathing-zone air samples.
- ▶ 37 and 47 mm holders can be used for trapping airborne particles, fluorescent tracers, and other contaminants.

Specifications

Materials of Construction

Holder
 25 mm: Delrin* (acetal resin)
 37 and 47 mm: Aluminum
 Hose Barb Adapter: Nylon

Support Screen

25 mm: Type 316 stainless steel
 37 and 47 mm: Type 304 stainless steel

O-Ring: Viton*

Cap, 37 and 47 mm: Polyethylene

Effective Filtration Area

25 mm: 3.7 cm²
 37 mm: 4.9 cm²
 47 mm: 9.6 cm²

Dimensions

Overall Length

25 mm: 2 cm (0.8 in.)
 37 and 47 mm: 2.4 cm (0.9 in.)

Diameter

25 mm: 3.5 cm (1.4 in.)
 37 mm: 4.4 cm (1.7 in.)
 47 mm: 5.4 cm (2.1 in.)

Inlet/Outlet Connections

1/8 in. -27 FNPT; includes 6.4 mm (1/4 in.) ID hose barb adapter

Sterilization

Provided non-sterile. Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min. Polyethylene cap not autoclavable.

Ordering Information

25 mm Open-Face Filter Holder, Delrin Plastic

Part Number	Description	Pkg
1107	25 mm, open-face Delrin plastic	6/pkg

37 and 47 mm Open-Face Filter Holders, Aluminum

Part Number	Description	Pkg
1219	37 mm, open-face aluminum	1/pkg
1220	47 mm, open-face aluminum	1/pkg

Accessories and Replacement Parts, 25 mm Open-Face Filter Holder, Delrin Plastic

Part Number	Description	Pkg
73179	Hose barb adapter, nylon, 1/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
83475	O-ring, ARP No. -117, Viton	1/pkg

Accessories and Replacement Parts, 37 and 47 mm Open-Face Filter Holders, Aluminum

Part Number	Description	Pkg
1222	47 mm aluminum collar	1/pkg
245	47 mm plastic cap plug	1/pkg
4235	47 mm support screen, Type 304 stainless steel	1/pkg
4239	47 mm wave washer	1/pkg
73179	Hose barb adapter, nylon, 1/8 in. MNPT to 6.4 mm (1/4 in.) ID tubing	1/pkg
96406	37 mm aluminum collar	1/pkg
99121	37 mm support screen, Type 304 stainless steel	1/pkg
99122	37 mm wave washer	1/pkg

142 and 293 mm Disc Filter Holders, Stainless Steel

Convenient sizes and durable materials for filtration of all your laboratory samples



- ▶ Design optimizes use of filter area with 15% more EFA than most competitive units, giving higher flow rates and extending the filter's service life.
- ▶ Sanitary connections are easy to use and suitable for pharmaceutical applications.
- ▶ Corrosion-resistant type 316 stainless steel construction provides broad chemical resistance.

Applications

- ▶ Can be used with a variety of aggressive chemicals, solvents, reagents, and solutions (gases and liquids).
- ▶ Recommended for filtration of products such as laboratory solvents, cell culture media, ophthalmics, pharmaceuticals, vitamins, process water, antibiotics, and photoresists.

Specifications

Materials of Construction

Body: Electropolished type 316 stainless steel
 O-Rings: Viton*
 Legs: Type 316 stainless steel with copper threads
 Knob Assembly: Aluminum with copper threads

Effective Filtration Area

142 mm: 126 cm²
 293 mm: 587 cm²

Dimensions

Clearance between flange and benchtop: 29 cm (11.4 in.)

Prefilter Size

142 mm: 127 mm if used with a final filter, 142 mm if used alone
 293 mm: 265 mm if used with a final filter, 293 mm if used alone

Inlet/Outlet Connections

Sanitary 3.8 cm (1.5 in.) fittings

Maximum Operating Pressure

6.9 bar (690 kPa, 100 psi)

Weight

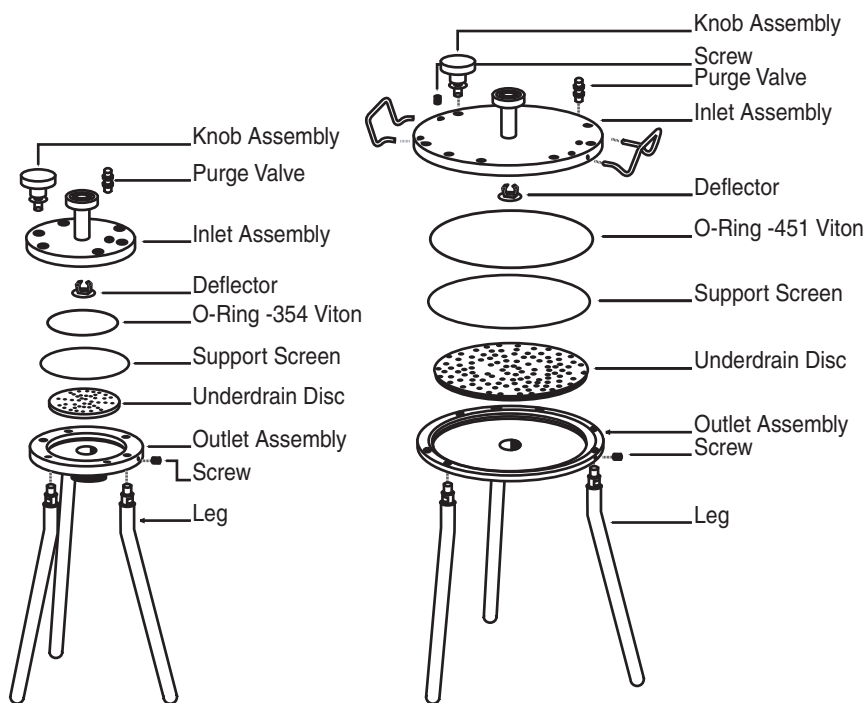
142 mm: 7 kg (15 lb.)
 293 mm: 17 kg (38 lb.)

Sterilization

Provided non-sterile. Autoclavable if desired:

142 mm: 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 45 min
 293 mm: 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 60 min
 (Do not autoclave with aluminum foil; use autoclave paper or other permeable wrap such as Tyvek*.)

Components



142 mm Filter Holder

293 mm Filter Holder

Ordering Information

142 and 293 mm Disc Filter Holders, Stainless Steel

Part Number	Description	Pkg
11872	142 mm, stainless steel	1/pkg
11873	293 mm, stainless steel	1/pkg

Accessories and Replacement Parts for 142 mm Disc Filter Holder

Part Number	Description	Pkg
72978	Support screen, Type 316 stainless steel	1/pkg
72989	Viton® O-ring, ARP No. -354	1/pkg
72994	Underdrain disc, Type 316 stainless steel	1/pkg
73045	O-ring, Buna®-N, PTFE coated, ARP No. -354	1/pkg
76425	O-ring, ethylene polypropylene, ARP No. -354	1/pkg

Accessories and Replacement Parts for 293 mm Disc Filter Holder

Part Number	Description	Pkg
70975	Viton O-ring, ARP No. -451	1/pkg
72161	Support screen, Type 316 stainless steel	1/pkg
72191	293 mm underdrain disc, Type 316 stainless steel	1/pkg
72220	O-ring, Buna-N, PTFE coated, ARP No. -451	1/pkg

Related Products

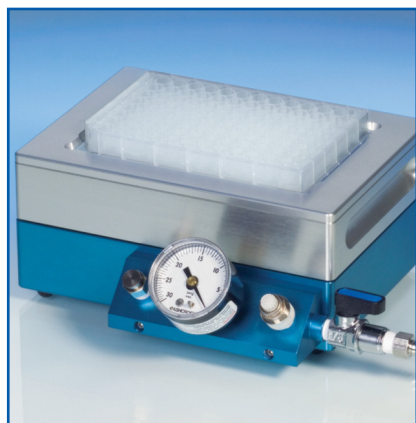
Membrane Disc Filters 109 - 115, 177 - 181, 213 - 215, 245 - 249
 Stainless Steel Forceps 230, 280

Accessories and Replacement Parts for 142 and 293 mm Disc Filter Holder

Part Number	Description	Pkg
15206	Hose assembly kit includes clamp and PTFE gasket, Type 316 stainless steel inlet/outlet adapter, 3.8 cm (1.5 in.) sanitary to 9.5 mm (3/8 in.) hose barb	1/pkg
70638	Purge valve, 1/8 in. threaded MNPT Type 316 stainless steel	1/pkg
72197	Inlet/outlet adapter, Type 316 stainless steel, 3.8 mm (1.5 in.) sanitary to 3/4 in. -14 FNPT	1/pkg
72202	Inlet/outlet clamp, 38 mm, Type 304 stainless steel	1/pkg
72215	Anodized aluminum hand knob	1/pkg
76441	Bottom screw	1/pkg
83191	Type 316 stainless steel deflector	1/pkg
72204	Inlet/outlet gasket, PTFE	1/pkg
72205	Inlet/outlet gasket, Viton	1/pkg

Vacuum Manifold and Accessories

Designed to perfectly fit SBS-conforming filter plates



Specifications

Materials of Construction

Vacuum Manifold: Anodized aluminum
 Gasket: EDPM (ethylene propylene)
 O-Ring: Silicone
 Spacer Block: Delrin plastic
 Adapter Collar: Stainless steel

Dimensions

Length: 17.48 cm (6.88 in.)
 Width: 12.37 cm (4.87 in.)
 Height: 8.05 cm (3.17 in.)
 Weight: 2.85 kg (6.27 lb.)

Maximum Operating Vacuum

71.12 cm Hg (28 in. Hg)

Note: Pall's vacuum manifold can be used with multi-well filter plates that meet the specifications set forth by the ANSI/SBS X-2004.

- ▶ Comes complete with the necessary O-ring and gasket. The control block includes the vacuum pressure gauge, vacuum metering valve, vacuum release valve, and 1/4 in. hose barb for vacuum line attachment.
- ▶ Includes a Delrin* spacer block designed for standard 350 μ L receiver plates. The spacer block has been optimized to reduce the space between the receiver plate and the filter plate during vacuum filtration.
- ▶ Optional spacer block available for use with 1 mL receiver plates.
- ▶ Adapter collar holds filter plates tightly to receiver plates for centrifugation.

Applications

- ▶ For vacuum filtration specifically using AcroPrep™ Advance and AcroPrep multi-well filter plates.

Methodology



1. Place plate on vacuum manifold or hold the plate so the outlets on the bottom of the plate are not touched.



2. Add sample and incubate. Apply vacuum.



3A. Release vacuum from the manifold. Remove filter plate and retained sample for further processing.



3B. Release vacuum from the manifold. Remove filter plate. Remove collection (receiver) plate and utilize collected filtrate in downstream applications.

Ordering Information

Vacuum Manifold and Accessories

Part Number	Description	Pkg
5017	Multi-well plate vacuum manifold	1/pkg
5014	1 mL receiver plate spacer block	1/pkg
5015	350 μ L receiver plate spacer block	1/pkg
5016	Replacement accessory kit (includes O-ring, gasket, and allen wrench)	1/pkg
5028	Waste drain adapter	1/pkg

Filter Funnel Manifolds for MicroFunnel™ Filter Funnels

Perfect fit vacuum manifolds for use with the MicroFunnel filter funnel



- ▶ No adapters or rubber stoppers required to hold the filter funnel in place.
- ▶ Works with all Pall Life Sciences MicroFunnel filter funnels including the 100 mL and 300 mL sizes.
- ▶ Durable aluminum and stainless steel construction for easy clean-up and compatibility with many chemicals.
- ▶ Single-place manifold has a small footprint which reduces the need for large counter space.
- ▶ Single-place manifold is easily portable for moving around a lab or offsite, and easy to store out of the way.

Applications

- ▶ Designed to work with the MicroFunnel filter funnel when performing the MF Technique for microbial analysis. The filter funnel is placed directly onto the manifold, the liquid is added, and the vacuum is turned on to begin filtration.
- ▶ Process multiple samples simultaneously or use the 1-place manifold when infrequent or minimal numbers of samples are tested each day.

Specifications

1-Place Manifold

Materials of Construction

Body: Anodized aluminum
Check Valve: 316 stainless steel with ethylene propylene O-ring
Hose Barb Adapter: Stainless steel
1/4 in. straight, 1/8 in. MNPT

Dimensions

Height: 5.9 cm (2.4 in.)
Diameter (Without Hose Barb):
7.5 cm (3.0 in.)

Sterilization

Autoclave if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

3- and 6-Place Manifolds

Materials of Construction

Body: Anodized aluminum
Drain Plug: Stainless steel 1/4 in. MNPT
Check Valve: 316 stainless steel with ethylene propylene O-ring
Valves: Chrome-plated brass
Valve O-Rings: Viton*
Hose Barb Adapter: Nylon 6.4 mm (1/4 in.)

Dimensions

3-Place Manifold

Height: 14.2 cm (5.6 in.)
Width: 40.6 cm (16.0 in.)
Depth: 15.2 cm (6.0 in.)

6-Place Manifold

Height: 14.2 cm (5.6 in.)
Width: 82.6 cm (32.5 in.)
Depth: 15.2 cm (6.0 in.)

Sterilization

Autoclave if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Ordering Information

Filter Funnel Manifolds for MicroFunnel Filter Funnels

Part Number	Description	Pkg
15408	1-place aluminum	1/pkg
15411	3-place aluminum	1/pkg
15413	6-place aluminum	1/pkg

Accessories and Replacement Parts (Aluminum Manifold)

Part Number	Description	Pkg
15412	Funnel holder	1/pkg
96430	End stand	1/pkg
99130	Valve, 2-way	1/pkg
99132	Hose barb adapter, nylon, 1/4 in. MNPT to 9.5 mm (3/8 in.) ID tubing	1/pkg
99238	Stainless steel end plug	1/pkg
88160	O-ring kit for valves, includes: 3 O-rings, ARP No. -006; 6 O-rings, ARP No. -010	1/pkg
15415	Check valve for 3- or 6-place aluminum manifolds	3/pkg

Filter Funnel Manifolds

The most convenient way to filter multiple samples



- ▶ Independent operation. Each funnel location has individual port control valves.
- ▶ Lightweight and durable for easy handling.
- ▶ Saves money. Less costly than stainless steel filter funnel manifolds.
- ▶ Large port opening makes sanitizing easy.
- ▶ Versatile. Accommodates both 25 and 47 mm filter funnels.
- ▶ Aluminum manifolds available with either 3 or 6 places.

Applications

- ▶ Designed for use in the vacuum filtration of liquids for analysis of microbiological or particulate contamination. Increase laboratory productivity by processing multiple samples simultaneously.
- ▶ Polyurethane manifold is ideal for small work areas. Only 27.9 cm (11.0 in.) wide, it still holds three funnels.
- ▶ Aluminum manifold is especially suited for applications where chemical compatibility is critical and easy clean-up is desired. Lightweight aluminum is easier to handle and less expensive than stainless steel, while retaining the strength of an alloy.

Specifications

Aluminum Manifolds

Materials of Construction

Body: Anodized aluminum
 Drain Plugs: Stainless steel
 1/4 in. MNPT
 Valves: Chrome-plated brass
 Valve O-Rings: Viton*
 Adapter: Nylon 6.4 mm (1/4 in.)

Dimensions

3-place
 Height: 15.7 cm (6.2 in.)
 Width: 40.6 cm (16.0 in.)
 Depth: 15.2 cm (6.0 in.)

6-place

Height: 15.7 cm (6.2 in.)
 Width: 82.6 cm (32.5 in.)
 Depth: 15.2 cm (6.0 in.)

Sterilization

Autoclavable if desired at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min.

Polyurethane Manifold

Materials of Construction

Body: High impact polyurethane
 Drain Plugs: Nylon 1/4 in. MNPT
 Valves: Glass-filled polypropylene
 Valve O-Rings: Buna*-N

Dimensions

Height: 10.2 cm (4.0 in.)
 Width: 27.9 cm (11.0 in.)
 Depth: 15.2 cm (6.0 in.)

Ordering Information

Filter Funnel Manifolds

Part Number	Description	Pkg
4205	3-place polyurethane	1/pkg
15402	3-place aluminum	1/pkg
15403	6-place aluminum	1/pkg

Accessories and Replacement Parts (Aluminum Manifold)

Part Number	Description	Pkg
96429	Funnel holder	1/pkg
96430	End stand	1/pkg
99130	Valve, 2-way	1/pkg
99132	Hose barb adapter, nylon, 1/4 in. MNPT to 9.5 mm (3/8 in.) ID tubing	1/pkg
99238	Stainless steel end plug	1/pkg
82728	No. 8 rubber stopper	1/pkg
88160	O-ring kit for valves, includes: 3 o-rings, ARP No. -006; 6 O-rings, ARP No. -010	1/pkg
15415	Check valve for 3- or 6-place aluminum manifolds	3/pkg

Accessories and Replacement Parts (Polyurethane Manifold)

Part Number	Description	Pkg
81308	No. 2 stopper for manifold	1/pkg
39961	Manifold rebuild kit, includes 3 stainless steel retaining rings; 6 O-rings, ARP No. -016; 3 O-rings, ARP No. -015; 6 O-rings, ARP No. 009; 1 1/4 in. MNPT plug; 2 1/4 in. MNPT to 6.4 mm (1/4 in.) hose barb adapters; 4 foot pads; and 1 each knob and valve	1/pkg

Vacuum/Pressure Pumps

Cost-effective, reliable pumps now smaller and lighter weight



- ▶ Reduces the risk of sample contamination. An air seal between the pump and cylinder provides oil- and dust-free vacuum/pressure delivery.
- ▶ Compact design saves laboratory space.
- ▶ Features a diaphragm for cleaner, quieter operation.

Applications

- ▶ Ideal addition to any busy laboratory that requires a vacuum and/or pressure source for various applications.
- ▶ Oil- and dust-free delivery helps maintain a clean laboratory environment in which to produce reliable, reproducible data.

Specifications

Materials of Construction

Body: Die-cast aluminum
 Diaphragm: Neoprene*
 Seals: Stainless steel
 Filter Elements: Polyurethane foam

Dimensions

Overall Length: 20 cm (7.9 in.)
 Overall Height: 27.5 cm (10.8 in.)
 Width: 16.5 cm (6.5 in.)

Weight

6.54 kg (14.4 lb.)

Free Air Flow

115 V: 519 cm³/s (1.1 cfm) (60 Hz)
 230 V: 472 cm³/s (1.0 cfm) (50 Hz),
 613 cm³/s (1.3 cfm) (60 Hz)

Vacuum

61 cm Hg (24 in. Hg)

Pressure

4.2 kg/cm² (60 psig)

Motor

1/8 hp

Current

115 V: 4.2 A (60 Hz)
 230 V: 1.9 A (50 Hz), 2.2 A (60 Hz)

Vacuum/Pressure Connection

3/8 in. hose barb

Warranty

Unlimited one year warranty

Ordering Information

Vacuum/Pressure Pumps

Part Number	Description	Pkg
13157	115 V, 60 Hz, single phase	1/pkg
13158	230 V, 50/60 Hz, single phase (interchangeable powercords accommodate European 2 round-pin sockets and UK 3 flat-blade sockets) CE	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
13159	Cover gasket, filter/muffler element (2), filter element, valve screw (2), valve limiter, leaf valve (2), valve retainer, and instructions	1/pkg

Related Products

Filter Funnel Manifolds	228 - 229, 277 - 278
Magnetic Filter Funnels	226
SolVac® Filter Holder	182
Stainless Steel Pressure Vessels	283
Vacushield™ Vent Device	165
Vacuum Manifold and Accessories	276

Stainless Steel Forceps

Make filter handling easy



- ▶ Tips have a flat, smooth surface to avoid membrane filter damage.
- ▶ Polypropylene finger grips provide a comfortable and secure hold.
- ▶ Choose traditional black or multi-colored finger grips. Bright colors make forceps easy to identify, track, and see on the lab bench.

Applications

- ▶ Ideal for handling and moving membrane to and from filter holders and Petri dishes.

Specifications

Materials of Construction

Stainless steel with polypropylene finger grips

Sterilization

Provided non-sterile. "Flame" the tips prior to use, or autoclave at 121 - 123 °C (250 - 253 °F) at 1.0 bar (100 kPa, 15 psi) for 15 - 20 min. Do not autoclave in aluminum foil.

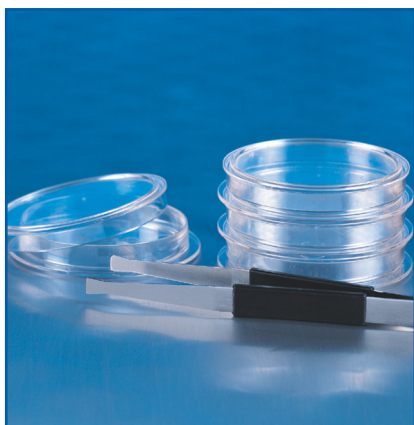
Ordering Information

Stainless Steel Forceps

Part Number	Description	Pkg
51147	Stainless steel forceps, black grips	1/pkg
4690	Stainless steel forceps, multi-colored grips (1 each of orange, blue, chartreuse)	3/pkg

Petri Dishes

Unique patented design for easy handling and storage



- ▶ Easy to use. Opens easily with one hand, yet closes to a tight seal.
- ▶ Uses less space on the lab bench or in the incubator with easy stacking base.
- ▶ Gamma-irradiated. No EtO residuals to impede microbial growth.
- ▶ Available with or without absorbent pads.
- ▶ Bulk packaging offers additional value.

Applications

- ▶ Ideal for microbiological analysis when performing the Membrane Filter (MF) Technique.
- ▶ Petri dishes with absorbent pads can be used with broth media, or users can pour agar into dishes without absorbent pads.

Specifications

Petri Dish

Material of Construction

Polystyrene

Dimensions

Height: 9.0 mm (0.35 in.)
Diameter: 50.0 mm (1.97 in.)

Filter Size

Accepts 47 mm membrane filter

Sterilization

Gamma-irradiated

Absorbent Pads

Composition

Cellulose

Typical Thickness

0.9 mm (35 mils)

Ordering Information

Petri Dishes

Part Number	Description	Pkg
7242	Petri dishes, without absorbent pads	100/pkg
7232	Petri dishes, bulk pack, without absorbent pads	500/pkg
7245	Petri dishes, with absorbent pads	100/pkg

Absorbent Pad Kits

One-handed dispensing of cellulose absorbent pads



Specifications

Pad Composition

Cellulose

Typical Thickness

0.9 mm (35 mils)

Diameter

45.5 mm

Ordering Information

Absorbent Pad Kits

Part Number	Description	Pkg
66025	Absorbent pads, gamma-irradiated	1,000/pkg
66190	Absorbent pads, non-sterile	1,000/pkg

Related Products

47 mm Membrane Disc Filters	109 - 115, 177 - 181, 213 - 215, 245 - 249
Ampoule Media for Microbiological Analysis	217
Petri Dishes	230, 280

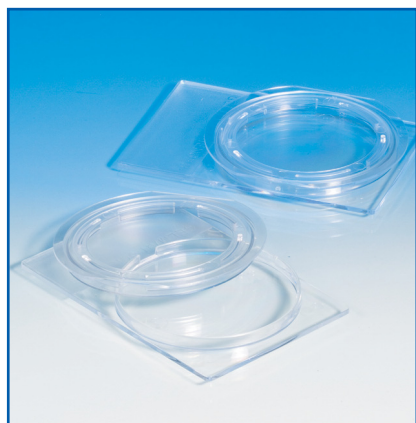
- ▶ Enables user to dispense a clean cellulose pad into a Petri dish whenever needed without touching the pad.
- ▶ Handy dispenser kit holds 1 tube of 100 absorbent pads (10 tubes included). Each tube drops quickly into the hand dispenser for easy use.
- ▶ Available non-sterile or gamma-irradiated. No EtO residuals to impede microbial growth.

Applications

- ▶ Absorbent pads are ideal for absorbing broth media to culture colonies in accordance with the Membrane Filter (MF) Technique.

Analyslide® Petri Dish

For transport, storage, and viewing membrane samples



- ▶ Rectangular base fits most microscope stages.
- ▶ Inner cover ring for secure closure.
- ▶ Clear lid does not interfere with viewing sample.
- ▶ Frosted area on base permits identification of the sample with pencil or marker.
- ▶ Convenient box simplifies collection and storage of samples.

Applications

- ▶ Protect the integrity of sample membrane during microscopic examination.
- ▶ Store and protect membrane filters for reference.

Specifications

Material of Construction
Base and Lid: Polystyrene

Filter Size
Accepts 47 mm filter

Ordering Information

Analyslide Petri Dish

Part Number	Description	Pkg
7231	Analyslide Petri dish	100/pkg

Related Products

Membrane Disc Filters 109 - 115, 177 - 181, 213 - 215, 245 - 249
Stainless Steel Forceps 230, 280

Stainless Steel Pressure Vessels

Highest quality stainless steel pressure vessels



- ▶ Long vessel life. Materials are corrosion resistant, with broad chemical compatibility.
- ▶ Wide-mouth opening makes clean-up easy.
- ▶ Multiple ports allow for temperature probes, pressure gauges, or other monitoring devices.
- ▶ Provided with pressure gauge, safety relief valve, flow shut-off valve, and hose barb connectors.
- ▶ Resists baking. Electropolished finish provides ultra-smooth walls.
- ▶ American Society of Mechanical Engineers (ASME) coded.

Applications

- ▶ Designed for processing of batches of liquids for sterilization or clarification.

Specifications

Materials of Construction

Housing: Electropolished type 316 stainless steel
O-ring: Ethylene propylene
Base: Vinyl

Dimensions

Housing Length:
PN 15220: 21.1 cm (8.3 in.)
PN 15207: 38.4 cm (15.1 in.)
PN 15203: 56.6 cm (22.3 in.)
Housing Diameter:
23.3 cm (9.2 in.)

Inlet/Outlet Connections

Accepts 9.5 mm (3/8 in.) ID tubing

Minimum Operating Temperature

-29 °C (-20 °F) at 10.7 bar
(1,070 kPa, 155 psi)*

Maximum Operating Temperature

38 °C (100 °F) at 10.7 bar
(1,070 kPa, 155 psi)*

Recommended Operating Pressure

7.0 bar (700 kPa, 100 psi)*

Sterilization

Provided non-sterile. Autoclaving is not recommended due to vinyl base and pressure gauge.

*For safety, the supplied pressure relief valve is preset at 7 bar (700 kPa, 100 psi).

Ordering Information

Stainless Steel Pressure Vessels

Part Number	Description	Pkg
15220	3.8 L (1 gallon) capacity	1/pkg
15207	11 L (3 gallon) capacity	1/pkg
15203	19 L (5 gallon) capacity	1/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
15214	Pressure vessel replacement parts kit (pressure gauge, safety relief valve, and all necessary connections)	1/pkg