Balston LP Depth Filters:

The LP-Grades 10,20, and 30 depth filter cartridges are constructed entirely of polypropylene, and the LP-Grades 50, 60, 70, and 80 depth filter cartridges are constructed of polypropylene, borosilicate glass and polyethylene binder. Both types of cartridges provide excellent chemical and solvent resistance. All LP cartridges have a graded efficiency construction: the filtration efficiency increases from the inside surface to the outside surface. in the direction of flow. This construction provides exceptionally high solids holding capacity, which translates into a longer life of the filter cartridge. The seven retention efficiency grades offered cover the ranges from 75 micron to 0.22 micron (see table, on next page).

The Balston LP depth filter cartridges may be used for fine filtration of liquids with heavy dirt loading, when chemical or solvent resistance is required, or as prefilters to ultra-high efficiency or membrane filtration applications.



Product Features:

- Filtration to 0.22 micron with exceptional filter life, even for the dirtiest liquids
- Excellent chemical and solvent Seven retention efficiency resistance
- · Compliance with FDA regulations for food contact surfaces
- grades cover the range from 75 micron to 0.22 micron

Gas and Liquid Sample Filtration

Process Filtration

Specialized Chemical or Solvent Filtration



Filter Cartridge and Housing Selection

How To Select The Filter Cartridge

- Specify the level of final filtration required, within the range of 75 micron to 0.22 micron.
- Select the filter system using the Final Filter Selection Table below.

Note: The recommendations are based on the assumption that the initial liquid feed is relatively dirty. If the feed has been prefiltered to about 10 micron, the first stage of filtration may be omitted

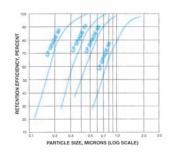
How To Select The Filter Housing

- Determine the number of LP Filter Cartridge stages and Grade of filter at each stage, using the Final Filter Selection Table below.
- Use the flow chart (next page) to determine the sizes of housings required based on the grade of filter cartridge and the liquid flow rate.
- 3 Select the housings of the correct size which are constructed of materials suitable for the application.

Retention Efficiency Ratings

LP Depth Filter Cartridges **Grade 80% Capture Rating** 10 75 micron 20 25 micron 30 10 micron 50 1 micron 60 0.6 micron 70 0.4 micron 80 0.22 micron

Retention efficiency v. particle size for the four finer grades of LP depth filters



Cross Section of LP-200-50 and LP-200-95 cartridges. Construction of LP-100-12 and LP-100-25 cartridges is similar, but without end caps and gaskets.

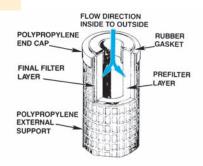


Table I Final Filter LP Depth Cartridge

If the Final Filtration Filtration Requirement is:	Use This LP Cartridge System 1st Stage	2nd Stage	3rd Stage
75 micron	LP Grade 10		
25 micron	LP Grade 20		
10 micron	LP Grade 10	LP Grade 30	
1 micron	LP Grade 20	LP Grade 50	
0.6 micron	LP Grade 10	LP Grade 30	LP Grade 60
0.4 micron	LP Grade 20	LP Grade 50	LP Grade 70
0.22 micron	LP Grade 20	LP Grade 50	LP Grade 80

Notes:

1 For a liquid with viscosity higher than the viscosity of water (1 centipoise), divide the flow rates in the above table by the viscosity of the liquid in centipoises. Example: for liquid with 10 centipoise viscosity, flow rate with C-0395 housing, Grade 20 cartridges at 10 psi (0.69 barg) drop will be 132/10 = 13.2 GPM.

Flow Rates of Filter with LP Cartridges

Filter Housing Model	Number of Cartridges	Cartridge Length & Designation	Initial Pressure Drop	Water Flow I Grade 10	Rate, Gallons Grade 20	(Liters) per Mi Grade 30	nute LP Cartri Grade 50	dges Grade 60	Grade 70	Grade 80
2200 220	4	2 1/2"	5 psi (0.3 bar)	3.5 (13)	3.5 (13)	3.0 (11)	0.75 (2.8)	0.60 (2.3)	0.30 (1.1)	0.07 (0.3)
33S6, 33G 58P	1	LP-100-12	10 psi (0.7 bar)	4.3 (16)	4.2 (16)	3.9 (15)	0.95 (3.6)	0.80 (2.0)	0.37 (1.4)	0.10 (0.4)
4500	1	7"	5 psi (0.3 bar)	5.0 (19)	5.0 (19)	4.3 (16)	1.1 (4.2)	0.90 (3.4)	0.45 (1.7)	0.11 (0.4)
45S6 45G	1	LP-100-25	10 psi (0.7 bar)	6.2 (23)	6.2 (23)	5.4 (20)	1.4 (5.3)	1.2 (4.5)	0.60 (2.3)	0.15 (0.6)
53/18	1	5" LP-200-18	5 psi (0.3 bar)	6 (23)	6 (23)	6 (23)	3.2 (12)	1.3 (4.9)	0.6 (2.3)	0.5 (1.9)
33/10	1	LP-200-10	10 psi (0.7 bar)	11 (42)	11 (42)	11 (42)	6 (23)	2.5 (9.5)	1.0 (3.8)	0.9 (3.4)
27/50 53/50, 54/50	1 1 1	10" LP-200-50 20"	5 psi (0.3 bar) 10 psi (0.7 bar) 5 psi (0.3 bar)	12 (45) 22 (83) 24 (91)	12 (45) 22 (83) 24 (91)	12 (45) 22 (83) 24 (91)	6.4 (24) 12 (45) 13 (49)	2.5 (9.5) 5 (19) 5 (19)	1.2 (4.5) 2.0 (7.6) 2.4 (9.1)	1.0 (3.8) 1.7 (6.4) 2.0 (7.6)
53/95, 27/95	1	20" LP-200-95	5 psi (0.3 bar) 10 psi (0.7 bar)	24 (91) 44 (167)	24 (91) 44 (167)	24 (91) 44 (167)	13 (49) 24 (91)	5 (19) 10 (38)	2.4 (9.1) 4.0 (15)	2.0 (7.6) 3.4 (13)

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Filter Cartridge and Housing Selection

Chemical and Solvent Compatibility

Liquid	LP Cartridge	Liquid	LP Cartridge
Acetic Acid (Glacial)	NR	Hydrochloric Acid (35%)	R
Acetic Acid (5%)	R	Hydrofluoric Acid	NR
Acetone	R	Hydrogen Peroxide	NR
Acetonitrile	R	N-Methyl Pyrrolidone (NMP)	R
Alcohols	R	Methyl Ethyl Ketone (MEK)	R
Ammonia, Liquid or Gas	R (1)	Methyl Isobutyl Ketone (MIBK)	R
Amyl Acetate	N	Methylene Chloride	NR
Ammonium Hydroxide (6N)	R	Metal Etch (H ₃ PO ₄ /HAC/HNO ₃)	N
B.O.E. (NH ₄ F/HF)	NR	Nitric Acid (30%)	R
Butyl Acetate	N	Nitrobenzene	R
Carbon Tetrachloride	NR	Pentane	NR
Chlorine, Liquid or Gas	NR	Perchlorethylene	NR
Chloroform	NR	Phenol	NR
Cyclohexane	NR	Plating Solutions	R
Dimethyl Acetamide(DMAC)	R	Phosphoric Acid (50%)	R
Dimethyl Formamide(DMF)	R	Silicone Oils	R
Dimethyl Sulfoxide (DMSO)	R	Sodium Hydroxide	
Esters	NR	Below 20%	R
Ethanolamine	R	20-45%	R
Ethyl Acetate	R	Above 45%	NR
Ethylene Diamine	R	Steam	NR
Ethylene Glycol	R	Sulfuric Acid (50%)	R
Ethylene Oxide	R	Toluene	NR
Formaldahyde (37%)	R	Trichloroethane	NR
Freon TF	NR	Trichloroethylene	NR
Freon TMC	NR	Water to 180°F (82°C)	R
Hexane	NR	Xylene	NR

 $1\ \text{Grades}\ 10,\,20,\,30\ \text{large}\ \text{diameters}\ \text{only}.$ In LP200- sizes only.

R - Recommended

NR - Not Recommended

N - No data available; consult factory

Chemical Compatibility:
The above compatibility data is for the filter cartridges only, at an operating temperature of 70°F (21°C). The filter housing is not necessarily compatible with the same chemicals and

Food Grade Applications:

All LP Filter Cartridges are constructed entirely of materials which are in compliance with FDA regulations for food contact surfaces. All stainless steel liquid filter in this bulletin comply with FDA regulations for food contact applications.



1/4" to 3/4" Line Size

Miniature Model 58P Housing

Has a nylon head, nylon internals, and a clear nylon bowl. The Model 58P Housing accepts a single LP cartridge, and may be used to filter water, mildly acidic, or caustic solutions.

Model 53 Housings

Are all-polypropylene, designed for a single LP-200 filter cartridge. Polypropylene construction provides excellent resistance to non-oxidizing acids, such as HCL in any concentration, sulfuric to 70% concentration, brines, hydrocarbon liquids, alcohols and concentrated caustic.

The Model 53 Housings may be used with certain ketones and chlorinated solvents. Please see page 105 or contact the Technical Services Dept. for specific recommendations.









Model 58P



1/4" to 3/4" Line Size

Ordering Information

Model	58P	53/18	53/50	53/95	54/50
Port Size (NPT)	1/4"	3/8"	3/4"	3/4"	3/4"
Material of Construction					
Head	Nylon	Polypropylene	Polypropylene	Polypropylene	Polypropylene
Bowl	Nylon	Polypropylene	Polypropylene	Polypropylene	SAN
Internals	Nylon				
Seals	EPR	EPR	EPR	EPR	EPR
Max. Temperature	150°F (66°C)	125°F (52°C)	125°F (52°C)	125°F (52°C)	125°F (52°C)
Max. Pressure	125 psig (8.6 barg)	125 psig (8.6 barg)	125 psig (8.6 barg)	125 psig (8.6 barg)	60 psig (4.1 barg)
Max. Differential Press.	60 psig (4.1 barg) (1)	60 psig (4.1 barg) (1)	60 psig (4.1 barg) (1)	60 psig (4.1 barg) (1)	60 psig (4.1 barg) (1)
Shipping Weight	1 lb. (0.5 kg)	3 lbs. (1.3 kg)	4 lbs. (1.8 kg)	6 lbs. (2.7 kg)	4 lbs. (1.8 kg)
Dimensions	2.7"D x 6.1"L (6.9cm x 15cm)	4.4"D x 6.6"L (11cm x 17cm)	5.0"D x 12"L (13cm x 30cm)	5.0"D x 22"L (13cm x 56cm)	5.0"D x 12"L (13cm x 30cm)

Ordering Information

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time							
Model LP Filter Cartridges,	58P	53/18	53/50	53/95	54/50		
Depth Filters (2)	LP-100-12-□	LP-200-18-□	LP-200-50-	LP-200-95-□	LP-200-50-□		
Number of Cartridges required	_	1	1	1	1		

Notes:

1 Inside-out flow, LP filter cartridges.



² To order filter cartridges, indicate grade by putting appropriate grade number after size designation. For example, to obtain 0.22 micron depth filter cartridges for the model 53/18, order LP-200-18-80.

1" Line Size

Model 27 Housings

Model 27 housings are constructed of 316 stainless steel. These models have 1" NPT ports and are rated to 800 psig (55 barg). The model 27 housings hold a single LP-200 filter cartridge, available in a 10" (25 cm) or 20" (50 cm) length.

Principal Specifications

Model	27/50	27/95	
Port Size (NPT)	1" (1)	1" (1)	
Material of Construction			
Head	316 SS	316 SS	
Seals	Viton	Viton	
Max. Temperature	180°F (82°C) (2)	180°F (82°C) (2)	
Max. Pressure	800 psig (55 barg)	800 psig (55 barg)	
Max. Differential Press.	60 psi (4.1 bar) (3)	60 psi (4.1 bar) (3)	
Shipping Weight	16 lb. (7.3 kg)	20 lb. (9 kg)	
Dimensions	4.0"D X 16"L	4.0"D X 27"L	
	(10cm X 41cm)	(10cm X 69cm)	



Models 27/50, 27/95

Ordering Information

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time						
27/50	27/95					
LP-200-50-□	LP-200-95-□					
1	1					
	27/50	27/50 27/95				

Notes

- 1 Adaptors are available which convert threaded ports to sanitary type clamp connections.
- 2 Limited by maximum temperature of LP Filter Cartridges.
- 3 Inside-out flow, LP filter cartridge.
- 4 To order filter cartridges, indicate grade by putting appropriate grade number after size designation. For example, to obtain 0.22 micron depth filter cartridges for the model 27/50, order LP-200-50-80.

To order EU version that complies with PED, use "EU" as a prefix (Example: EU27/35). Consult your local distributor; see EU flow rates in table on page 85.



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1/2" to 2" Line Size

Model 33S6 and 45S6 Filters

All-stainless steel with 1/2" NPT inlet and outlet ports. Both filters are also available with clear Pyrex® glass bowl, 100 psig (6.9 barg) rating with breakage-protection external plastic shield.

Principal Specifications

Model	33S6	33G	45\$6	45G
Port Size (NPT)	1/2" (1)	1/2" (1)	1/2" (1)	1/2" (1)
Material of Construction				
Head	316SS	316SS	316SS	316SS
Bowl	316SS	Pyrex	316SS	Pyrex
Internals	316SS	316SS	316SS	316SS
Seals	Viton	Viton	Viton	Viton
Max. Temperature	180°F (82°C) (2)	160°F (71°C) (2)	180°F (82°C) (2)	160°F (71°C) (2)
Max. Pressure	425 psig (29 barg) (3)	100 psig (6.9 barg) (3)	250 psig (17 barg) (3)	100 psig (6.9 barg) (3)
Max. Differential Press.	60 psi (4.1 bar) (4)			
Shipping Weight	3 lb. (1.3 kg)	3 lb. (1.3 kg)	5 lb. (2.3 kg)	5 lb. (2.3 kg)
Dimensions	2.6"D x 4.8"L (7cm x 12cm)	2.6"D x 4.5"L (7cm x 11cm)	2.6"D x 9.0"L (7cm x 23cm)	2.6"D x 9.3"L (7cm x 23cm)



Models 33S6 and 45S6

Ordering Information

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time						
Model LP Filter Cartridges,	33\$6	33G	45\$6	45G		
Depth Filters (5) Number of	LP-100-12-□	LP-100-12-□	LP-100-25-□	LP-100-25-□		
Cartridges required	1	1	1	1		

Notes

- 1 Adaptors are available which convert threaded ports to sanitary type clamp connections
- 2 Limited by maximum temperature of LP Filter Cartridges.
- 3 Maximum pressure ratings are for temperatures to 200°F (93°C). Please consult the Technical Services Dept. for maximum pressure ratings at elevated temperatures.
- 4 Inside-out flow, LP filter cartridges.
- 5 To order filter cartridges, indicate grade by putting appropriate grade number after size designation. For example, to obtain 0.22 micron depth filter cartridges for the model 33S6, order LP-200-12-80.

Adaptor Ordering Information:

P/N 73803 1" NPT x 1" Sanitary P/N 73804 1 1/2" NPT x 1 1/2" Sanitary P/N 73805 2" NPT c 2" Sanitary



Disposable Filter Units for Liquids

Filter samples to on-line liquid analyzers

Prevent cross-contamination of samples

Pressure ratings up to 125 psig (8.6 barg)

Temperature to 275°F (135°C)

Completely disposable, constructed of recyclable plastics



Balston Microfibre® Disposable Filter Unit (DFU) consists of a Microfibre Filter Cartridge permanently bonded into a sealed plastic holder with 125 psig (8.6 barg) pressure rating. The economical DFU offers all the advantages of Microfibre Filter Cartridges for high efficiency liquid filtrations, combined with the convenience of complete disposability. The 1/4" O.D. ports permit pressure-tight connections using standard compression fittings. Slip-on 1/4" timbing or plastic barbs may be used for low pressure applications.

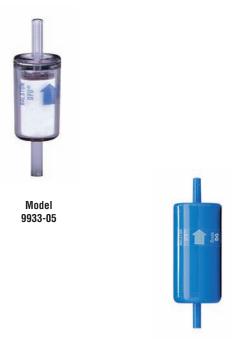
The housings are available in two different materials of construction: clear nylon or corrosion-resistant (opaque) PVDF. The nylon DFU's are designated with the prefix 9933, and the PVDF DFU's are designated with the prefix 9922.

Model 9922-05

The Model 99XX-05 DFU's are the smallest DFU's available. They have an internal volume of less than 12 ml. the DFU's may be used in low flow liquid applications or sampling systems which require short retention times.

Model 9933-11

The Model 99XX-11 DFU's are similar in construction to the Model 99XX-05 DFU's, but they have approximately twice the solids holding capacity. The 99XX-11 DFU's may be used in higher flow liquid applications or in sampling applications where longer retention times are acceptable.



Retention Efficiency Ratings

DFU Grade	98% retention particle size
DQ	25 micron
CQ	8 micron
BQ	2 micron
AQ	0.9 micron
AAQ	0.3 micron

Model

9922-11

To order EU version that complies with PED, use "EU" as a prefix (Example: EU27/35). Consult your local distributor; see EU flow rates in table on page 85.



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Disposable Filter Units for Liquids

Flow Rates

DFU Model	Volume of F Gallons	lousing Liters	Initial Pressure Drop	Water Flow Grade DQ, DX	Rate, Gallons Grade CQ, CX	(Liters) per Ho Grade BQ, BX	Grade AQ	Grade AAQ
9922-05 4433-05	0.003	0.01	1 psi (0.07 barg)	12 (45)	10 (38)	3 (11)	1.5 (5.7)	0.4 (1.5)
9933-05	0.000	.003 0.01	5 psi (0.34 barg)	30 (114)	25 (95)	15 (57)	7.3 (28)	1.9 (7.2)
9922-11	0.005	0.02	1 psi (0.07 barg)	18 (68)	15 (57)	5 (19)	2.5 (9.5)	0.6 (2.3)
9933-11	0.003	0.02	5 psi (0.34 barg)	45 (170)	37 (140)	26 (98)	12 (45)	3.1 (12)

Notes: 1 At 0 psig

2 At 110°F (43°C)

Installation Information:

Please contact the Technical Services Department for manufacturers of compression and brass fittings.

To Pressure Pipe or Tubing:Connector 1/4" tubing to 1/4"NF

ector 1/4" tubing to 1/4"NPT female P/N 11970 (1 per pkg)

Connector 1/4" tubing to 1/4"

tubing P/N 11971 (1 per pkg)

To Low Pressure Plastic Tubing:

Tubing with 1/4" ID may be slipped over the DFU and fittings and held with tubing clamps. Parker supplies plastic barbs to connect the DFU to smaller diameter plastic tubing. The connection is suitable for pressures to 50 psig (3.4 barg).

DFU to 1/16" ID tubing P/N 14000 (bag of 20 barbs)

DFU to 1/8" ID tubing P/N 14001 (bag of 20 barbs)

Principal Specifications

Model	9922-05	9933-05	4433-05	9922-11	9933-11
Inlet and Outlet Ports	1/4" Tubing	1/4" Tubing	1st Tier/Barb 1/4"Tubing 2nd Tier/Barb 3/8"Tubing	1/4" Tubing	1/4" Tubing
Construction Material	PVDF	Nylon	Nylon	PVDF	Nylon
Max. Temperature (1)	275°F (135°C)	230°F (110°C)	230°F (110°C)	275°F (135°C)	230°F (110°C)
Max. Pressure	125 psig (8.6 barg) (2)	125 psig (8.6 barg) (2)	125 psig (8.6 barg) (2)	125 psig (8.6 barg) (2)	125 psig (8.6 barg) (2)
Dimensions	1.0"D x 3.25"L (2.5cm x 6cm)	1.0"D x 3.25"L (2.5cm x 6cm)	1.0"D x 3.43"L (2.5cm x 8.72cm)	1.4"D x 4.6"L (3.6cm x 12cm)	1.4"D x 4.6"L (3.6cm x 12cm)

Ordering Information

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time					
Model	9922-05	9933-05	4433-05	9922-11	9933-11
Box of 10 DFUs	9922-05-🗆	9933-05-□	4433-05-□	9922-11-🗆	9933-11-□
Grades supplied	DQ, CQ, BQ, AQ, AAQ				

Chemical Compatibility

Models 9922-05, 9922-11

Suitable: Water or steam to 275°F (135°C); concentrated nitric, sulfuric, and hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); hydrogen peroxide (all concentrations); bromine (dry and aqueous solutions); all chlorinated solvents except methylene chloride; all aromatic and aliphatic solvents; all alcohols and glycols; aniline; phenol.

Limited Use: Acetone, MEK, dioxane, furfural, methylene chloride.

Unsuitable: Water above 275°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Models 9933-05, 9933-11, 4433-05

Suitable: Water to 158°F (70°C); benzene, toluene, other aromatic hydrocarbons; hydrocarbon solvents and fuels, perchloroethylene; trichloroethylene, nitric acid (to 10%); sulfuric acid (to 40%); hydrochloric acid (to 10%); most salt solutions; sodium and potassium hydroxide (to 50%).

Limited Use: Water at 176°F (80°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 158°F (70°C). alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Water Filter

Remove contaminants to 5 micron

Prevent fixture discoloration

Materials comply with USFDA regulations

Constructed of non-corrosive materials

Ideal for drinking water systems

Inexpensive replacement filter cartridges

Transparent bowl for visual monitoring



Model 57-501

Balston Water Filter

The Balston 57-501 Series water filters provide economical, efficient liquid filtration in a one-step filter. These filters are designed to fit most 3/4" water supply lines and are available in three different efficiency ranges.

Retention Efficiency Ratings

	Retention efficiency	Water Flow	Rate
Model	Nominal m rating	5 psi	10 psi
57-501-C	80 (course grade)	15 GPM (57 lpm)	30 GPM (114 lpm)
57-501-M	30 (medium grade)	10 GPM (38 lpm)	20 GPM (76 lpm)
57-501-F	5 (fine grade)	8 GPM (30 lpm)	16 GPM (61 lpm)

Principal Specifications

Model	Materials Head		struction Cartridge	Max. Press. (1)	Max. Temp.	Port Size	Shipping Weight	Dimensions
57-501-C	Polypro.	SAN	Polypro.	150 psi (10.3 bar)	125°F (52°C)	3/4" NPT	3.5 lbs. (1/6 kg)	5.5"D x 17"L (14cm x 43cm)
57-501-M	Polypro.	SAN	Polypro.	150 psi (10.3 bar)	125°F (52°C)	3/4" NPT	3.5 lbs. (1/6 kg)	5.5"D x 17"L (14cm x 43cm)
57-501-F	Polypro.	SAN	Polypro.	150 psi (10.3 bar)	125°F (52°C)	3/4" NPT	3.5 lbs. (1/6 kg)	5.5"D x 17"L (14cm x 43cm)

Notes:

1 Maximum pressure at 70°F (21°C)

Ordering Information

For assistance, call toll-free at 1-80	0-343-4048 8AM to 5PM Eastern Time			
Model	Replacement Filter Cartridges			
	Box of 3	Box of 10		
57-501-C (Course grade)	WF-3/200-50-C	WF-200-50-C		
57-501-M (Medium grade)	WF-3/200-50-M	WF-200-50-M		
57-501-F (Fine grade)	WF-3/200-50-F	WF-200-50-F		
Mounting Bracket Kit	P/N 11057			

To order EU version that complies with PED, use "EU" as a prefix (Example: EU27/35). Consult your local distributor; see EU flow rates in table on page 85.



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