

DOMINIQUE DUTSCHER SAS

Simplifying Progress

Minisart® Syringe Filter Family

The Easy Choice –
Clean and Safe

SARTORIUS

Standard Minisart®-Help-to-Find

Please refer to Minisart® RC, NY or SRP Standard for the highest chemical compatibility, **page 8**.
Please refer to Minisart® NML Standard or Minisart® High Flow Standard on **page 14**.

Sample Composition

Aqueous		Aqueous | Solvents		
All Aqueous Solutions Buffers, Protein Analysis	All Aqueous Solutions Tissue Culture Media	Aqueous | Solvent Mixtures | Solvents	Solvent Mixtures | Solvents	Solvents | Gases | Acids | Bases
CA Cellulose Acetate	**PES** Polyethersulfone	**RC** Regenerated Cellulose	**NY** Polyamide, Nylon	**PTFE** Polytetrafluoroethylene
Hydrophilic				Hydrophobic

Pore Sizes

Sterilization		Sample Preparation | Clarification | Particle Removal					Prefiltration
Small Bacteria Mycoplasma Colloids >0.1 µm	UHPLC, etc. (Columns <3 µm Particles) Bacteria	HPLC, etc. (Columns >3 µm Particles) Particles	Particles Yeast Cells	Particles Yeast Cells	Particles Yeast Cells Platelets	Large Particles Cells	Glass Pre-Filter Glass + Membrane Highly Particle-laden Samples
0.1 µm	0.2 µm	0.45 µm	0.65 µm	0.8 µm	1.2 µm	5 µm	GF (Glass Fiber)

Sample Volume

			
1 – 200 mL	1 – 100 mL	0.5 – 15 mL	0.05 – 1 mL
28 mm for up to 200 mL	25 mm for up to 100 mL	15 mm for up to 15 mL	4 mm for up to 1 mL

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Minisart® Syringe Filter Family

A Full Range of Filters Dedicated for Various Filtration Applications



Minisart® PP Standard Syringe Filters

Sample Preparation HPLC | UHPLC | Analytics
Elimination of particles from your samples prior to HPLC or other chromatographic analysis is essential in order to maintain the integrity of your chromatography column and to maximize its operating life time.

Minisart® syringe filters optimized for sample preparation consist of a PP housing and membrane components featuring maximum chemical compatibility and minimum extractables to ensure excellent results. Due to the typical range of volumes from less than 1 mL to 100 mL these filters are available in three different diameters with an effective filtration area of 0.07 cm^2, 1.7 cm^2 and 4.8 cm^2.
See page 4.



Minisart® NML Standard Syringe Filters

Filtration of Aqueous Liquids | Clarification | Sterile Filtration
For optimal results Minisart® filters made of MBS housing provide a choice of membranes with pore sizes ranging from 0.1 µm to 5 µm for high flow rates and low adsorption characteristics. The effective filtration area of 6.2 cm^2 for fast filtration is the largest amongst premium syringe filters and the MBS housing is color-coded for easy pore size identification.
See page 10.

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Minisart® PP Standard Syringe Filters
Sample Preparation for Analytics

Reliable Removal of Particles from Liquids and Gases

Particle removal via filtration prior to analytics substantially increases the lifetime of your columns. Minisart® RC is optimized for aqueous liquids as well as solvents and is stable against DMSO, other amides, ketones, esters and ethers. Minisart® NY is exceptionally pure compared to other common polyamide (=nylon) filters and competitor products.

For this product raw materials are used which do not interfere with standard analytical methods. Our coating-free hydrophobic PTFE membrane used in Minisart® SRP is suitable for venting applications.

Minisart® Features

- Low adsorption of analytes
- Maximum chemical compatibility
- Minimum extractables



Male Spike Outlet



Male Luer Slip Outlet

12 mm housing diameter

4 mm effective filtration diameter



4 mm packs are colour-coded

24.5 mm housing diameter



15 mm effective filtration diameter



Minisart® SRP 15 mm



Minisart® NY 15 mm



Minisart® RC 15 mm

33 mm housing diameter

25 mm effective filtration diameter



Minisart® SRP 25 mm



Minisart® NY 25 mm



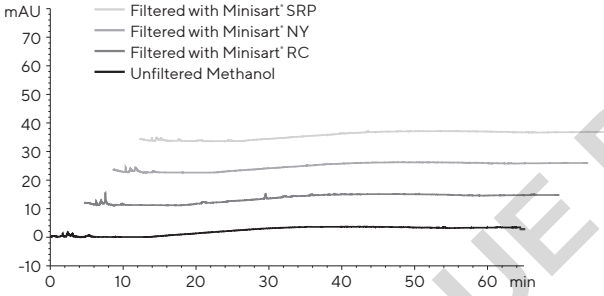
Minisart® RC 25 mm

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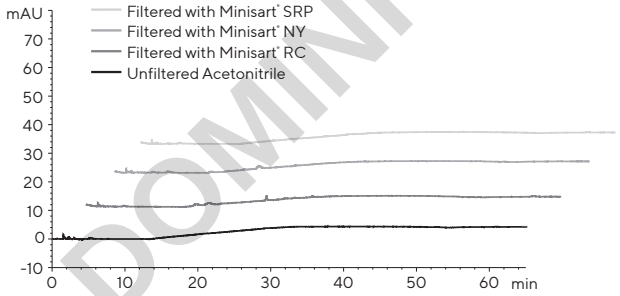


Clean Materials for Lowest Background Levels

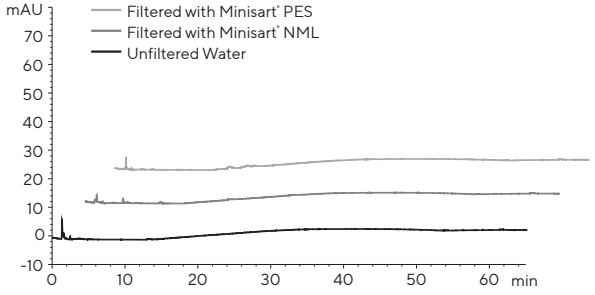
Methanol



Acetonitrile



Water



HPLC Procedure

Column

- C18: 250 × 4.6 mm
- Flow Rate: 1 mL/min
- Wavelength: 220 nm

HPLC

- Injection Volume: 20 µL
- Analysis Time: 65 min,
- Temperature: 40 °C,
- Mobile Phases:
  A) Acetonitrile
  B) Water, Gradient:
  Hold 60% A for 10 min,
  60% to 95% A in 20 min,
  95% to 100% A in 35 min

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Minisart® Standard Syringe Filters with PP Housing

Technical Specifications

Minisart® Standard RC | SRP | NY | PES with 4 | 15 | 25 mm accessible membrane filtration diameter

Minisart® PES – with 25 mm accessible membrane filtration diameter	
Housing material	Polypropylene (PP)
Membranes	RC = Regenerated Cellulose | NY = Polyamide | SRP = Hydrophobic PTFE = Polytetrafluoroethylene | PES = Polyethersulfone | PES- = Hydrophobic PES
Glass fiber pre-filter	NY Plus: Ultrapure quartz, 0.7 µm particle retention
Max. operating pressure	PES-: 2.0 bar | 29 psi (IN - OUT) or 0.5 bar | 14.5 psi (OUT - IN) RC | SRP | NY: 4.5 bar | 65 psi
Housing burst pressure	≥ 7 bar | 102 psi
Max. temperature	60 °C
Sterilization	Non-sterile Minisart® RC, SRP and NY can be can sterilized by autoclaving or by using ethylene oxide (EO). Non-sterile Minisart® PES- can be sterilized by ethylene oxide or gamma irradiation.

Minisart® type with regards to membrane	**RC 0.2 µm**	**RC 0.2 µm**	**RC 0.45 µm**	**SRP 0.2 µm**	**SRP 0.45 µm**
Non-sterile packs: 50 (K), 200 (S), 500 (Q), 1000 (R) | sterile packs: individually packaged, 50 (ACK)	K | S | Q | R	ACK	K | S | Q | R	K | S | Q | ACK	K | S | Q
Bubble point (≥)	with water 3.0 bar | 44 psi	with water 4.6 bar | 67 psi	with water 2.0 bar | 29 psi	with ethanol 1.1 bar | 16 psi	with ethanol 0.9 bar | 13 psi
Flow rate ((≥) mL/min), **4 mm** ∅ = 0.07 cm² filter area | Hold-up volume[1]: < 10 µl					
with water at 1 bar	0.5	–	1.5	–[2]	–[2]
with methanol at 1 bar	1.5	–	3.0	2.0	4.5
with air at 0.1 bar	–	–	–	30	60
Flow rate ((≥) mL/min), **15 mm** ∅ = 1.7 cm² filter area | Hold-up volume[1]: < 100 µl					
with water at 1 bar	20	10	40	–[2]	–[2]
with methanol at 1 bar	55	25	105	55	150
with air at 0.1 bar	–	–	–	800	1600
Flow rate ((≥) mL/min), **25 mm** ∅ = 4.8 cm² filter area | Hold-up volume[1]: < 200 µl					
with water at 1 bar	80	50	160	–[2]	–[2]
with methanol at 1 bar	160	90	325	160	260
with air at 0.1 bar	–	–	–	1800	3000
Water penetration point[2] (≥)	–	–	–	4.0 bar | 58 psi	3.0 bar | 44 psi
Sterile filtration capability acc. to BCT	no[4]	yes	no	yes	no
Cytotoxicity (17575-ACK)	No inhibition with MRC-5 (human lung cells) and L929				

[1] Hold-up volume after air purge.
[2] Hydrophobic membranes cannot be wetted with aqueous solutions unless you overcome their water penetration point or pre-wet them using an organic solvent (e.g. ethanol).
[3] PES is suitable for solutions only containing up to 30% MeOH.
[4] According to bacterial challenge test (BCT) with ≥ 1 × 10^7 cfu/cm² *Brevundimonas diminuta*. Non-sterile RC Minisart® types are optimized for sample preparation and are not suitable for sterile filtration according to the BCT. All other non-sterile Minisart® types with 0.2 µm pore size can be sterilized by autoclaving or EO before use for sterile filtration.
[5] For sterile packs ACK

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NY 0.2 µm	NY 0.45 µm	NY Plus 0.2 µm	NY Plus 0.45 µm	PES 0.2 µm	PES- 0.2 µm
K | Q | R | ACK	K | Q | R | ACK	K | Q	K | Q	K | Q | ACK	K | Q
with water 3.0 bar | 44 psi	with water 2.0 bar | 29 psi	with water 3.0 bar | 44 psi	with water 2.0 bar | 29 psi	with water 3.4 bar | 46 psi	with ethanol 0.95 bar | 13.8 psi
–	–	–	–	1.5	–
–	–	–	–	–[3]	–
–	–	–	–	–	–
20	40	–	–	40	–
40	110	–	–	–[3]	–
–	–	–	–	–	–
50	100	50	100	100	–
70	200	70	200	–[3]	3
–	–	–	–	–	1200
–	–	–	–	–	2.0 bar | 29 psi
yes	no	yes	no	yes	yes

Minisart® Standard Syringe Filters are not for medical use.

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Sample Preparation Chromatography

Ordering Information

Ø mm| EFD[1)]	Membrane	Housing	Pore Size	Connector Outlet	Color | Printing	Sterile*	Qty | Pk	Order No.
Minisart® RC (Regenerated Cellulose)								
25 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	Yes	50	17764--------ACK
25 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	17764----------K
25 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	No	200	17764----------S
25 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	17764----------Q
25 mm	RC	PP	0.45 µm	Male Luer Slip	White, Printed	No	50	17765----------K
25 mm	RC	PP	0.45 µm	Male Luer Slip	White, Printed	No	200	17765----------S
25 mm	RC	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	17765----------Q
15 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	Yes	50	17761--------ACK
15 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	17761----------K
15 mm	RC	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	17761----------Q
15 mm	RC	PP	0.45 µm	Male Luer Slip	White, Printed	No	50	17762----------K
15 mm	RC	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	17762----------Q
4 mm	RC	PP	0.2 µm	Male Luer Slip	Blue Tray	No	50	17821----------K
4 mm	RC	PP	0.2 µm	Male Luer Slip	Blue Tray	No	500	17821----------Q
4 mm	RC	PP	0.45 µm	Male Luer Slip	Yellow Tray	No	50	17822----------K
4 mm	RC	PP	0.45 µm	Male Luer Slip	Yellow Tray	No	500	17822----------Q
Minisart® SRP (Hydrophobic PTFE)								
25 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	Yes	50	S7575------FXOSK
25 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	17575----------K
25 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	No	200	17575----------S
25 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	17575----------Q
25 mm	PTFE	PP	0.45 µm	Male Luer Slip	White, Printed	No	50	17576----------K
25 mm	PTFE	PP	0.45 µm	Male Luer Slip	White, Printed	No	200	17576----------S
25 mm	PTFE	PP	0.2 µm	Hose Barb	White	No	500	1757A----------Q
25 mm	PTFE	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	17576----------Q
15 mm	PTFE	PP	0.2 µm	Male Spike	White, Printed	No	50	17558----------K
15 mm	PTFE	PP	0.2 µm	Male Spike	White, Printed	No	500	17558----------Q
15 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	Yes	50	17573--------ACK
15 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	17573----------K
15 mm	PTFE	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	17573----------Q
15 mm	PTFE	PP	0.45 µm	Male Spike	White, Printed	No	50	17559----------K
15 mm	PTFE	PP	0.45 µm	Male Spike	White, Printed	No	500	17559----------Q
15 mm	PTFE	PP	0.45 µm	Male Luer Slip	White, Printed	No	50	17574----------K
15 mm	PTFE	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	17574----------Q
4 mm	PTFE	PP	0.2 µm	Male Luer Slip	Blue Tray	No	500	17844----------Q
4 mm	PTFE	PP	0.45 µm	Male Luer Slip	Yellow Tray	No	50	17820----------K
4 mm	PTFE	PP	0.45 µm	Male Luer Slip	Yellow Tray	No	500	17820----------Q

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Ø mm| EFD[1)]	Membrane	Housing	Pore Size	Connector Outlet	Color | Printing	Sterile*	Qty | Pk	Order No.
Minisart® NY (Nylon) & NY25 Plus (Glass Fiber 0.7 µm[2)] + Nylon)								
25 mm	Nylon	PP	0.2 µm	Male Luer Slip	White, Printed	Yes	50	17845--------ACK
25 mm	Nylon	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	17845----------Q
25 mm	Nylon	PP	0.45 µm	Male Luer Slip	White, Printed	Yes	50	17846--------ACK
25 mm	Nylon	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	17846----------Q
15 mm	Nylon	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	1776B----------K
15 mm	Nylon	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	1776B----------Q
15 mm	Nylon	PP	0.45 µm	Male Luer Slip	White, Printed	No	50	1776C----------K
15 mm	Nylon	PP	0.45 µm	Male Luer Slip	White, Printed	No	500	1776C----------Q
25 mm	GF+Nylon	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	1784B----------K
25 mm	GF+Nylon	PP	0.2 µm	Male Luer Slip	White, printed	No	500	1784B----------Q
25 mm	GF+Nylon	PP	0.45 µm	Male Luer Slip	White, printed	No	50	1784C----------K
25 mm	GF+Nylon	PP	0.45 µm	Male Luer Slip	White, printed	No	500	1784C----------Q
Minisart® PES (Polyethersulfone) Aqueous Filtration								
15 mm	PES	PP	0.22 µm	Male Luer Slip	White	Yes	50	1776D--------ACK
Minisart® PES- (Hydrophobic PES) Venting & Gas Filtration, Gamma Stable								
25 mm	PES-	PP	0.2 µm	Male Luer Slip	White, Printed	No	50	1757H----------K
25 mm	PES-	PP	0.2 µm	Male Luer Slip	White, Printed	No	500	1757H----------Q
25 mm	PES-	PP	0.2 µm	Hose Barbs[c]	White, Printed	No	50	1757G----------K
25 mm	PES-	PP	0.2 µm	Hose Barbs[c]	White, Printed	No	500	1757G----------K

* Sterile Minisart® are individually packaged. If not stated otherwise, Minisart® have been sterilized by ethylene oxide. Non-sterile Minisart® RC, SRP and NY can be sterilized by autoclaving at 121 °C for 30 min or by using ethylene oxide (EO). Minisart® PES- can be sterilized by ethylene oxide or gamma irradiation.

[c] Hose barbs, inlet and outlet, stepped 4.4 - 6 mm diameter

[1)] EFD – Effective Filtration Diameter

[2)] 0.7 µm = GF particle retention ≠ pore size!

Standard Minisart® Syringe Filters are not for medical use.

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Minisart® NML Standard Syringe Filters Clarification and Sterilization by Filtration

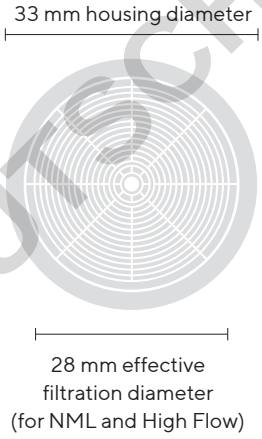
The Optimal Method for Clarification and Sterilization of Liquids and Gases

Sterilization by filtration is the fastest solution for bacterial cell removal from liquids. Minisart® NML with (surfactant-free) cellulose acetate ((SF)CA) is the best choice for all aqueous solutions with a pH of 4 – 8. It combines fast flow rates and is available in many different pore sizes also for the removal of larger particles. Minisart® High Flow with polyethersulfone (PES) is optimal for high flow rates and a pH of 1 – 13. Due to the asymmetric membrane structure, the PES surface almost behaves like a pre-filter.

Both Minisart® types NML and High Flow are available pre-sterilized by ethylene oxide (EO) or gamma irradiation. Hydrophobic PTFE filters like Minisart® SRP are suitable for venting purposes and are additionally available in special formats with activated carbon.

Minisart® Features

- Large effective filtration area (EFA) of 6.2 cm^2
- Low adsorption
- High flow rate
- High total throughput
- Low hold-up volume
- Gamma irradiated or EO sterilized



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Minisart® High Flow with PES



0.22 µm



0.45 µm



0.1 µm

Minisart® NML with SFCA



0.2 µm



0.45 µm

Minisart® HY with PTFE



0.2 µm

Minisart® NML with CA



0.65 µm



0.8 µm



1.2 µm



5 µm

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Minisart® Standard Syringe Filters with MBS Housing

Technical Specifications

Minisart® High Flow | NML | NML Plus with 28 mm accessible membrane filtration diameter, ≤ 150 µl hold-up volume[1]
Minisart® HY | Acticosart with 26 mm accessible membrane filtration diameter, ≤ 150 µl hold-up volume[1]
Minisart® Air with 15 mm accessible membrane filtration diameter, ≤ 100 µl hold-up volume[1]

Housing material	Methacrylate butadiene styrene (MBS)
Membranes	High Flow: PES = Polyethersulfone, NML: (SF)CA = (Surfactant-free) Cellulose Acetate, NML Plus: (SF)CA = (Surfactant-free) Cellulose Acetate, HY | Acticosart | Air: Hydrophobic PTFE = Polytetrafluoroethylene
Glass fiber pre-filter	NML Plus: Binder-free GF, 0.7 µm particle retention
Max. operating pressure	High Flow: 6.0 bar | 87 psi NML, NML Plus, HY, Air: 4.5 bar | 65 psi Acticosart: 1 bar | 14.5 psi
Housing burst pressure	≥ 7 bar | 102 psi (not determined for Acticosart)
Max. temperature	60 °C
Sterilization	Non-sterile Minisart® High Flow, NML, NML Plus can be sterilized by ethylene oxide (EO) or gamma irradiation. Non-sterile Minisart® HY, Acticosart, Air* can be sterilized by ethylene oxide (EO).

Minisart® type with regards to membrane	**PES 0.1 µm**	**PES 0.22 µm**	**PES 0.45 µm**	**SFCA 0.2 µm**	**SFCA 0.45 µm**	**CA 0.65 µm**	**CA 0.8 µm**
Non-sterile packs: 500 (Q, HYQ), 1000 (R), sterile packs: individually packaged: 50 (K, GUK, HNK)	K	K | GUK | Q	K | GUK | Q	K | GUK | Q	K | GUK | Q	K	K | GUK | Q
Bubble point (≥)	with water 5.0 bar | 73 psi	with water 3.4 bar | 46 psi	with water 2.0 bar | 29 psi	with water 3.2 bar | 46 psi	with water 2.0 bar | 29 psi	with water 1.3 bar | 19 psi	with water 0.8 bar | 12 psi
Flow rate ((≥) mL/min)							
28 mm ∅ with water at 1 bar	40	140	220	60	160	250	400
15 mm ∅ with air at 0.1 bar	–	–	–	–	–	–	–
26 mm ∅ with air at 0.1 bar	–	–	–	–	–	–	–
Water penetration point[4] (≥)	–	–	–	–	–	–	–
Sterile filtration capability[2] **acc. to BCT**	yes	yes	no	yes	no	no	no
Non-pyrogenic according to USP	yes[3]	yes[3]	yes[3]	yes[3]	yes[3]	yes[3]	yes[3]
Cytotoxicity	No inhibition with MRC-5 (human lung cells) and L929						

[1] Hold-up volume after air purge.
[2] According to bacterial challenge test (BCT) with ≥ 1 × 10^7 cfu/cm^2 *Brevundimonas diminuta*.
All non-sterile Minisart® types listed above can be sterilized according to the sterilization recommendation in this table. Not autoclavable.
[3] For sterile packs K | GUK
[4] Hydrophobic membranes cannot be wetted with aqueous solutions unless you overcome their water penetration point.
* Minisart® Air can be sterilized by Gamma irradiation according to the following parameters: Range 25 – 45 kGy (validated with 50 kGy).

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CA 1.2 µm	CA 5.0 µm	GF+SF CA 0.2 µm	GF+SF CA 0.45 µm	GF+CA 1.2 µm	GF 0.7 µm	PTFE 0.2 µm	PTFE 1.0 µm	PTFE (Acticosart)	PTFE (Air) 0.2 µm
K | Q	K | Q	K | Q	K | Q	Q	K | Q	K | Q	HYQ	Q	Q | HNK
with water 0.7 bar | 10 psi	with water 0.4 bar | 6 psi	with water 3.2 bar | 46 psi	with water 2.0 bar | 29 psi	with water 0.7 bar | 10 psi	with water 0.5 bar | 7 psi	with ethanol 1.1 bar | 16 psi	with ethanol 0.5 bar | 7 psi	with ethanol 0.9 bar | 13 psi	with ethanol 1.0 bar | 14.1 psi
500	600	60	160	350	450	–	–	–	–
–	–	–	–	–	–	–	–	–	800
–	–	–	–	–	–	2000	4000	2300	–
–	–	–	–	–	–	4.0 bar | 58 psi	1.5 bar | 22 psi	n.a.	3.2 bar | 46 psi
no	no	yes	no	no	no	yes	no	n.a.	yes
yes[3]	yes[3]					yes[3]			

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Preparation of Aqueous Liquids

Ordering Information

Ø mm | EFD[1)]	Membrane	Housing	Pore Size	Connector Outlet	Color | Printing	Sterile*	Qty | Pk	Order No.
Minisart® High Flow (PES – Polyethersulfone)								
28 mm	PES	MBS	0.1 µm	Male Luer Lock	Dark Red	Yes	50	16553----------K
28 mm	PES	MBS	0.22 µm	Male Luer Lock	Royal Blue	Yes	50	16532----------K
28 mm	PES	MBS	0.22 µm	Male Luer Lock	Royal Blue	Yes#	50	16532--------GUK
28 mm	PES	MBS	0.22 µm	Male Luer Lock	Royal Blue	No	500	16532----------Q
28 mm	PES	MBS	0.22 µm	Male Luer Slip	Royal Blue	Yes	50	16541----------K
28 mm	PES	MBS	0.22 µm	Male Luer Slip	Royal Blue	No	500	16541----------Q
28 mm	PES	MBS	0.45 µm	Male Luer Lock	Amber	Yes	50	16537----------K
28 mm	PES	MBS	0.45 µm	Male Luer Lock	Amber	No	500	16537----------Q
28 mm	PES	MBS	0.45 µm	Male Luer Slip	Amber	Yes	50	16533----------K
28 mm	PES	MBS	0.45 µm	Male Luer Slip	Amber	Yes#	50	16533--------GUK
28 mm	PES	MBS	0.45 µm	Male Luer Slip	Amber	No	500	16533----------Q
Minisart® NML ((SF)CA – (Surfactant-free) Cellulose Acetate)								
28 mm	SFCA	MBS	0.2 µm	Male Luer Lock	Blue	Yes	50	S6534------FMOSK
28 mm	SFCA	MBS	0.2 µm	Male Luer Lock	Blue	Yes#	50	S6534------FMGUK
28 mm	SFCA	MBS	0.2 µm	Male Luer Lock	Blue	No	500	S6534------FM-Q
28 mm	SFCA	MBS	0.2 µm	Male Luer Slip	Blue	Yes	50	S7597------FXOSK
28 mm	SFCA	MBS	0.2 µm	Male Luer Slip	Blue	No	500	S7597------FX--Q
28 mm	SFCA	MBS	0.45 µm	Male Luer Lock	Yellow	Yes	50	S6555------FMOSK
28 mm	SFCA	MBS	0.45 µm	Male Luer Lock	Yellow	Yes#	50	S6555------FMGUK
28 mm	SFCA	MBS	0.45 µm	Male Luer Lock	Yellow	No	500	S6555------FM--Q
28 mm	SFCA	MBS	0.45 µm	Male Luer Slip	Yellow	Yes	50	S7598------FXOSK
28 mm	SFCA	MBS	0.45 µm	Male Luer Slip	Yellow	No	500	S7598------FX--Q
28 mm	CA	MBS	0.65 µm	Male Luer Slip	Pink	Yes	50	16569----------K
28 mm	CA	MBS	0.8 µm	Male Luer Lock	Green	Yes	50	16592----------K
28 mm	CA	MBS	0.8 µm	Male Luer Lock	Green	Yes#	50	16592--------GUK
28 mm	CA	MBS	0.8 µm	Male Luer Lock	Green	No	500	16592----------Q
28 mm	CA	MBS	1.2 µm	Male Luer Lock	Red	Yes	50	17593----------K
28 mm	CA	MBS	1.2 µm	Male Luer Lock	Red	No	500	17593----------Q
28 mm	CA	MBS	5 µm	Male Luer Lock	Brown	Yes	50	S7594------FMOSK
28 mm	CA	MBS	5 µm	Male Luer Lock	Brown	No	500	17594----------Q

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Ø mm | EFD[1)]	Membrane	Housing	Pore Size	Connector Outlet	Color | Printing	Sterile*	Qty | Pk	Order No.
Minisart® NML Plus (Glass Fiber 0.7 µm[2)] + ((SF)CA)								
28 mm	GF+SFCA	MBS	0.2 µm	Male Luer Lock	Blue	Yes	50	17823----------K
28 mm	GF+SFCA	MBS	0.2 µm	Male Luer Lock	Blue	No	500	17823----------Q
28 mm	GF+SFCA	MBS	0.45 µm	Male Luer Lock	Yellow	Yes	50	17829----------K
28 mm	GF+SFCA	MBS	0.45 µm	Male Luer Lock	Yellow	No	500	17829----------Q
28 mm	GF+CA	MBS	1.2 µm	Male Luer Lock	Red	No	500	17825----------Q
28 mm	GF	MBS	0.7 µm[2)]	Male Luer Lock	White	No	50	17824----------K
28 mm	GF	MBS	0.7 µm[2)]	Male Luer Lock	White	No	500	17824----------Q
Minisart® HY (Hydrophobic PTFE), for Venting and Gas Filtration								
26 mm	PTFE	MBS	1 µm	Male Luer Lock	Clear	No	500	1659A--------HYQ
26 mm	PTFE	MBS	0.2 µm	Male Luer Lock	Clear	Yes	50	S6596------FMOSK
26 mm	PTFE	MBS	0.2 µm	Male Luer Lock	Clear	No	500	S6596------FM--Q
Minisart® High Flow (PES – Polyethersulfone) Aqueous Filtration and Mycoplasma Removal								
28 mm	PES	MBS	0.1 µm	Male Luer Lock	Dark Red	Yes	50	16553----------K
Minisart® Air (Hydrophobic PTFE) Venting								
15 mm	PTFE	MBS	0.2 µm	Male Luer Slip	Yellow	No	500	1751A----------Q
15 mm	PTFE	MBS	0.2 µm	Male Luer Slip + Needle	Yellow	Yes#	50	16596--------HNK
Minisart® Acticosart with Dome Reservoir + Hydrophobic PTFE Venting & Ultracleaning of Gases								
26 mm	Active carbon	MBS	0.45 µm	Male Luer Slip	Blue	No	500	17840----------Q

* Sterilized Minisart® are individually packaged. If not stated otherwise, Minisart® are sterilized by ethylene oxide.
#-mark indicates sterilization by gamma irradiation.
Non-sterile Minisart® High Flow, NML, NML Plus can be sterilized by ethylene oxide (EO) or gamma irradiation. Non-sterile Minisart® HY, Acticosart can be sterilized by ethylene oxide (EO).
Minisart® Air can be sterilized by ethylene oxide (EO)or by Gamma irradiation according to the following parameters: Range 25 – 45 kGy (validated with 50 kGy).

[1)] EFD – Effective Filtration Diameter
[2)] 0.7 µm = GF particle retention ≠ pore size!

Minisart® Standard Syringe Filters are not for medical use.

DOMINIQUE DUTSCHER SAS

Chemical Compatibility

	Material								Minisart® Types								
	PES membrane	(SF)CA membrane	PTFE membrane	RC membrane	Nylon membrane	GF depth filter	Housing MBS	Housing PP	Minisart® HighFlow	Minisart® NML Ophthalsart	Minisart® NML Plus	Minisart® NML GF	Minisart® HY Minisart® Air	Minisart® RC	Minisart® NY	Minisart® NY Plus	Minisart® SRP	Minisart® PES
Filter Membrane	PES	(SF) CA	PTFE	RC	PA				PES	(SF) CA	(SF) CA		PTFE	RC	PA	PA	PTFE	PES
Pre-Filter						GF			-	-	GF	GF	-	-	-	GF	-	-
Housing Material							MBS	PP	MBS	MBS	MBS	MBS	MBS	PP	PP	PP	PP	PP
Sterilization																		
Ethylene oxide	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Gamma irradiation	++	++	-[1]	++	-	++	++	-	++	++	++	++	-[1]	-	-	-	-	-
Autoclaving 121 °C, 30 min	++	++	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	++
Solvents																		
Acetone	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Acetonitrile	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Benzene	+	+	-	++	++	++	-	++	-	-	-	-	-	++	++	++	-	+
Benzyl alcohol	+	+	++	++	++	++	-	+	-	-	-	-	-	++	++	++	++	+
n-Butyl acetate	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
n-Butanol	++	++	++	++	++	++	+	++	+	+	+	+	+	++	++	++	++	++
Cellosolve	+	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	+
Chloroform	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Cyclohexane	-	-	++	++	++	++	+	+	-	-	-	-	+	+	+	+	+	-
Cyclohexanone	-	-	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Diethylacetamide	-	-	-	++	++	++	-	++	-	-	-	-	-	++	++	++	-	-
Diethyl ether	-	+	-	++	++	++	-	++	-	-	-	-	-	++	++	++	-	-
Dimethyl formamide	-	-	++	+	+	++	-	++	-	-	-	-	-	+	+	+	++	-
Dimethylsulfoxide	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Dioxane	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Ethanol, 98%	++	++	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	++
Ethyl acetate	-	-	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Ethylene glycol	++	+	++	++	++	++	+	++	+	+	+	+	+	++	++	++	++	++
Formamide	++	-	+	+	++	++	++	++	++	-	-	-	+	+	++	++	++	++
Glycerin	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Isobutanol	++	+	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	++
Isopropanol	++	++	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	++
Isopropyl acetate	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-

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Methanol, 98%	+	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	+
Methyl acetate	-	-	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Methylene chloride	-	-	-	++	++	++	-	++	-	-	-	-	-	++	++	++	-	-
Methyl ethyl ketone	-	+	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Methyl isobutyl ketone	-	-	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Monochlorobenzene	+	+	-	++	++	++	-	+	-	-	-	-	-	+	+	+	-	+
Nitrobenzene	-	-	++	++	+	++	-	+	-	-	-	-	-	+	+	+	+	-
n-Heptane	+	+	+	++	++	++	++	+	+	+	+	+	+	+	+	+	+	+
n-Hexane	+	+	+	++	++	++	++	+	+	+	+	+	+	+	+	+	-	+
n-Pentane	++	++	-	++	++	++	+	+	+	+	+	+	+	+	+	+	-	+
Perchloroethylene	-	-	-	++	++	++	-	+	-	-	-	-	-	+	+	+	-	-
Petroleum ether	+	++	-	++	++	++	+	++	+	+	+	+	-	++	++	++	-	+

Legend

++ High Resistance
+ Limited Resistance
- Not Resistant
[1] Gamma irradiation feasible for Minisart® Air

DOMINIQUE DUTSCHER SAS

Chemical Compatibility

	Material								Minisart® Types								
	PES membrane	(SF)CA membrane	PTFE membrane	RC membrane	Nylon membrane	GF depth filter	Housing MBS	Housing PP	Minisart® HighFlow	Minisart® NML Ophthalsart	Minisart® NML Plus	Minisart® NML GF	Minisart® HY Minisart® Air	Minisart® RC	Minisart® NY	Minisart® NY Plus	Minisart® SRP	Minisart® PES
Filter Membrane	PES	(SF) CA	PTFE	RC	PA				PES	(SF) CA	(SF) CA		PTFE	RC	PA	PA	PTFE	PES
Pre-Filter						GF			-	-	GF	GF	-	-	-	GF	-	-
Housing Material							MBS	PP	MBS	MBS	MBS	MBS	MBS	PP	PP	PP	PP	PP
Solvents (continued)																		
Pyridine	-	-	++	++	++	++	-	++	-	-	-	-	-	++	++	++	++	-
Tetrahydrofuran	-	-	-	++	++	++	-	++	-	-	-	-	-	++	++	++	-	-
Toluene	-	+	-	++	++	++	-	+	-	-	-	-	-	+	+	+	-	-
Trichloroethylene	-	+	++	++	++	++	-	+	-	-	-	-	-	+	+	+	+	-
Xylene	-	+	-	++	++	++	-	+	-	-	-	-	-	+	+	+	-	-
Acids																		
Acetic acid, 25%	+	+	++	++	-	++	+	++	+	+	+	+	+	++	-	-	++	+
Acetic acid, 80%	-	-	++	+	-	++	-	+	-	-	-	-	-	+	-	-	+	-
Hydrochloric acid, 20%	++	-	++	-	-	++	+	+	+	-	-	-	+	-	-	-	+	+
Hydrofluoric acid, 50%	+	-	++	+	-	++	-	+	-	-	-	-	-	+	-	-	+	+
Perchloric acid, 25%	-	-	++	-	-	++	-	+	-	-	-	-	-	-	-	-	+	-
Phosphoric acid, up to 10%	+	+	++	-	-	++	+	+	+	+	+	+	+	-	-	-	+	+
Phosphoric acid, 86%	+	+	++	-	-	++	-	+	-	-	-	-	-	-	-	-	+	+
Nitric acid, 30%	+	-	++	-	-	++	+	+	+	-	-	-	+	-	-	-	+	+
Nitric acid, conc.	-	-	++	-	-	++	-	-	-	-	-	-	-	-	-	-	-	-
Sulfuric acid, 25%	+	-	++	+	-	++	++	++	+	-	-	-	++	+	-	-	++	+
Sulfuric acid, 98%	-	-	++	-	-	++	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroacetic acid, 25%	-	-	++	++	-	++	-	+	-	-	-	-	-	+	-	-	+	-
Bases																		
Ammonia, 1N	++	+	++	+	++	++	+	++	+	+	+	+	+	+	++	++	++	++
Ammonium hydroxide, 25%	+	+	++	+	++	+	-	+	-	-	-	-	-	+	+	+	+	+
Potassium hydroxide, 32%	++	-	++	-	+	+	-	++	-	-	-	-	-	-	+	+	++	++
Sodium hydroxide, 1N	++	-	-	+	++	+	-	++	-	-	-	-	-	+	++	+	-	++
Sodium hydroxide, 32%	++	-	-	-	+	-	-	+	-	-	-	-	-	-	+	-	-	+
Aqueous solutions																		
Formaldehyde, 30%	+	++	++	+	++	++	+	+	+	+	+	+	+	+	+	+	+	+
Sodium hypochlorite, 5%	++	-	++	-	-	++	+	+	+	-	-	-	+	-	-	-	+	+
Hydrogen peroxide, 35%	++	-	++	-	-	++	+	++	+	-	-	+	+	-	-	-	++	++

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pH range									
pH 1 – 14	-	-	++	-	-	++	-	++	
pH 1 – 13	++	-	++	-	-	++	-	++	
pH 3 – 14	+	-	++	+	++	++	-	++	
pH 3 – 12	++	-	++	++	++	++	+	++	
pH 4 – 8	++	++	++	++	++	++	++	++	

The chemical compatibility guide was established either by a literature review or by laboratory tests. Please consider that compatibilities can be influenced by various factors. Therefore, we recommend that you confirm compatibility with the liquid you want to filter by performing a trial filtration run before you start your actual filtration.

Legend

++ High Resistance
+ Limited Resistance
- Not Resistant

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Sartolab® RF | BT Vacuum Filtration Units

Sartolab® RF | BT vacuum filtration units are convenient filtration units designed for the filtration of volumes from 50 mL to 1 L. Sartolab® RF as a complete system includes a receiver flask or a conical tube to the filtration funnel. Sartolab® BT is a bottle top filter (filtration funnel) without a receiver flask, enabling customers to use their own receiver flasks and | or to expand the filtration capacity, depending on the particle load of the filtered liquid, by filling more than one receiver flask. All filtration units can be used as stand-alone system or with the Sartolab® Multistation, which allows parallel filtration of up to 6 samples.





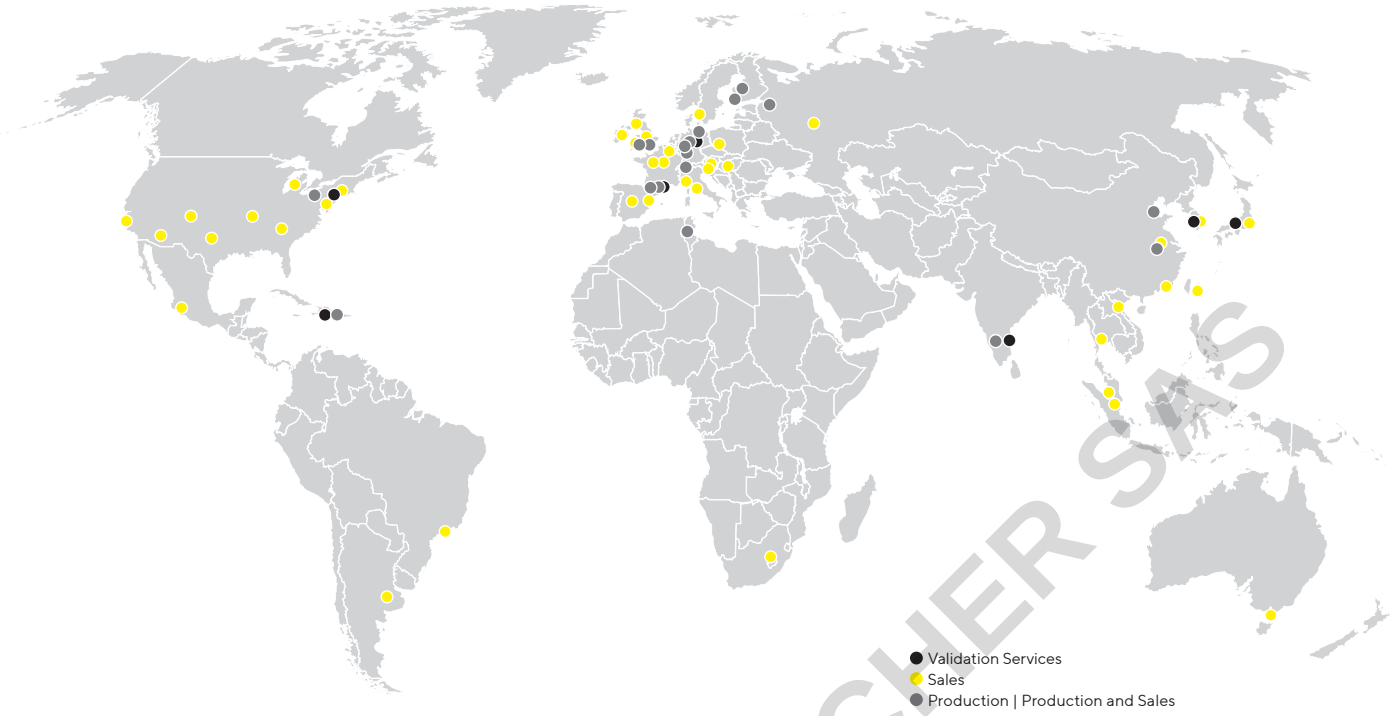
Sartolab® P20 Pressure Filtration Devices

Sartolab® P20 filtration devices are ready-to-use filters for the clarification and sterile filtration of media and aqueous solutions in batches from 100 mL to 10 L. They are available either with 0.2 µm or 0.45 µm PES membranes, with or without a prefilter made of high purity quartz microfibers. An additional version containing the quartz microfiber prefilter only is also available for clarification purposes.



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