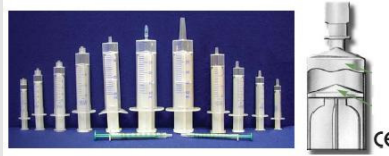


Filtration Equipment /Accessories : our webLINKs

PRODUCT LIST short form List

Plastic Syringes



Norm-Ject

Syringe Filters

Membrane Filters



Membrane Solutions

Glass Filtration Systems



BottleTop Filtration

Vac-uFill



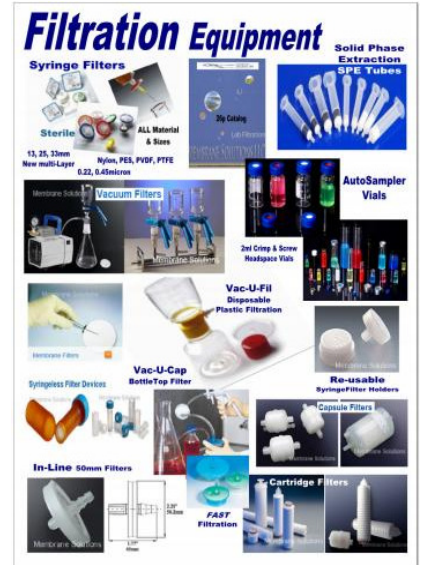
Vacu-CAP /FAST Caps



Pumps : Vacuum Pumps Hand Vac Pump



Motorised Vac Pump



Dispensing Syringe & Peristaltic Pumps

Syringe Heater Kit



New Era

Syringe Dispensers



MicroLIT

Double Check Valves



ValuePlastics

Single-Step MicroFILTRATION



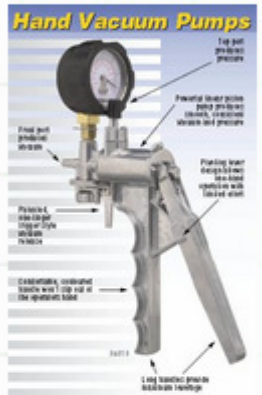
Thomson > RESTEK

Glass Filtration Equipment	Syringe Pump + Barrel heater	Syringe Dispenser
Oils (???) : Thin Oils or Aqueous-based	Oils : 60cc Syringe 0.45um SF Syringe Heater @ 55degC	10ml Only Extra leverage helps Thin Oils or Solvents/Aqueous
Motorised pumps run continuously 0.45um 1ml/min Use internal collection Test Tube	0.45um 25mm > 5ml/min New 33mm SFs 1.75x faster 8cc/min Heat to 55degC 2x faster 16cc/Min	See Double Check Valve (can be problematic with sticky oils ???)

Filtration Equipment



Hand VAC Pump
- OK for quick filtration
- a leak-free system is necessary
- can be a bit tedious
250mm Vac but 350 typical observed



OR ?

Vac-U-Fill
250mmHG
0.2um / 0.45um
47mm Membrane
1ml/min
new 90ml Diam 500ml



Oils : some tend to soften polystyrene containers
- can crack or tend to "implode"/squash under Vac

preferred for aqueous based mixes, more polar solvents

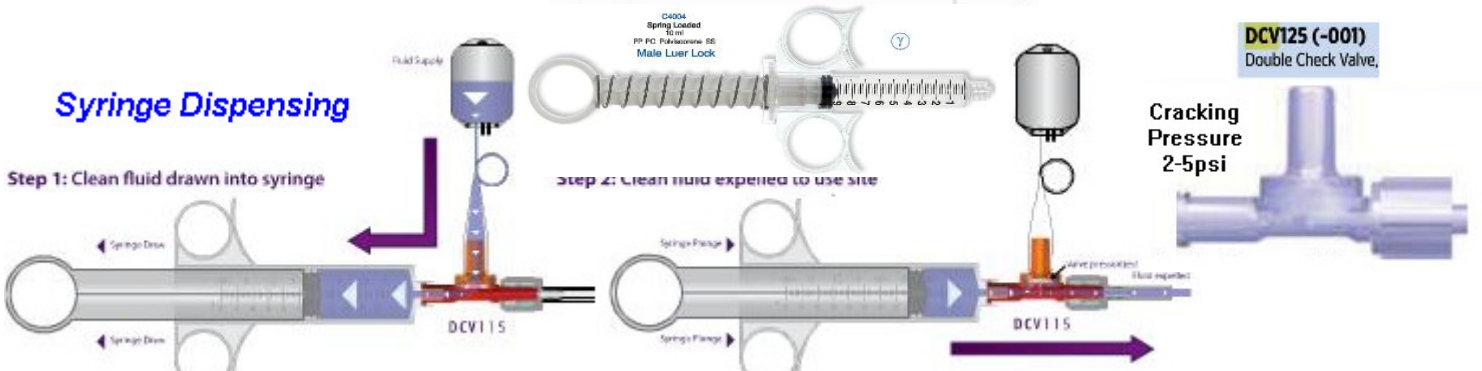
for OILS the BEST Filtration Answer
for speed thru'put

Olive Oil; Canola, Palm oil, Cottonseed
- all approx the same viscosity at 25degC 40-80cps at 25C
20-25cps at 55C
PVDF preferred for "polyester" Oils
multi-Layer SF and pre-filters help preserve main and can improve flow

for auto-filling from sample reservoir - fast for thin low viscosity liquids



for thin aqueous Solutions
- Syringe Filter on Outlet of BTD
- Auto-filling
- extra pressure can be applied by palm-of-hand to increase speed
- with CARE as device is more delicate



BottleTop Filtration

2 Systems . . .

PALL Vacu-Cap and Nalgene FastCap

**Similar specs
Availability . . .
both from Chromtech
depends on Supplier Availability**

The PALL **VacuCap Filter** is used for sterilization or clarification of a wide variety of fluids. use for cell culture and serum-containing media liquids

have a Supor (hydrophilic PES polyethersulfone) membrane which provides fast flow rates.
can draw directly from mix vessel and filters directly into the desired containers, minimizing transfer steps.
accepts a variety of collection vessels.
VacuCap 90 Filter which is designed for volumes of 1–5L
have built-in prefilter that increases throughput of viscous or particulate solutions, such as serum-containing media.
Polyester membrane support. Acrylic housing.
VacuCap Filters are Sterile.
come with one piece of tubing per ten filter devices.
The feedline accessory kit includes tubing and a glass sinker.



How They WORK



use with Hand Vacuum Pump MityVac 12-MV8010 \$135		use with Motorised Vacuum Pump VPJ0332 \$535	
VacuCap 90 90mm Diam Cap	VC-4621	0.1um for critical sterilisation	\$375
10-pk	VC-4622	0.2um for sterilisation	\$350
Sterile/Fast	VC-4623	0.45um	\$350
1-5Liter volumes . . . Simple Glassware Accessory use			

The Nalgene **Fastcap Filter** works on any bottle that has a neck opening of up to 53mm. The Nalgene FastCap Filter eliminates the need to use threaded glass media bottles.

Place a Nalgene FastCap filter on bottle mouth, attach a vacuum line to the larger center vacuum hose link and your liquid media tube to the smaller tube link and start filtering.

The Nalgene FastCap. . .

filters up to 5 liters of liquid.
Housing is blue polystyrene; the 90mm filter is made of PES (polyethersulfone) with a 0.2um pore diameter.
Each filter is packaged in individual hermetically sealed plastic bags.
Nalgene FastCap filters are STERILE (gamma radiation sterilized).
Nalgene
FastCap filters are sold in individual units or a case of 10



VacuCap and Fast Cap are very similar in principle (supply and demand determine Supplier and Chromtech Stock at any time)
Accessory Glassware also available form Chromalytic - Enquire! see Glassware

Filtration Accessories : Filtration Hints

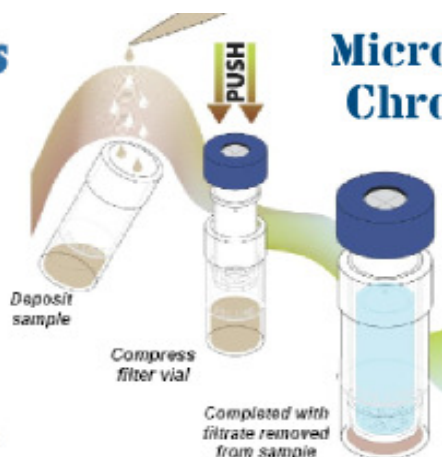
	Vac-u-Fill Bottles VacuCap fastFiltration(PALL) FastCap(Nalgene)	Liquid Dispensers Syringe Pump	Hand Vacuum Pump
Selection of Filter Media : by size Flow propl to (Diam) sqrd	0.45um : 0.22um 1.00 : 0.25 x speed	Syringe Filter : max Pressure 72psi (PP body)	on top of main fil- ter
Pre Filter : protects main filter from blocking extends lifetime and can improve speed	use coarser Glass Fibre	some have Class Fibre Multi-Layer	on top of main fil- ter
Relative speed based on Surface Area of Pore Size um	13 : 25 : 33mm 0.27 : 1.0 : 1.75 x speed		
Measured	Syringe Pump : Olive Oil 25C 30psi (PressGauge) 20ml 19mmID Syringe 0.5sqin > 1.0ml/min 0.45um PVDF	50ml syringe 29mmID > 2.3ml/min	
Vacuum vs Pressure 0.45um PVDF	HandPump Vacuum 350mm = - 7.0psi max developed Vac Flask Fil- tration Syringe Filter 25mmD Thumb Force ~10lb max = 20psi (but RSI problems ???)	47mm 25mm	47mm MF Calcula- ted Flow=0,66ml/min x { 47/25 }sqd = x 3.5 --= 2.30ml/min Measured 20ml/6.0min = 3.3ml/min
Olive Oil	Viscosity 43cps 37C 24cps 54C	Flow is propl to 1/ vis- cosity	heating speeds up flow

ALL filters tend to block up depending on particulates that actually tend to fill the filter pores
 - use of coarser pre-filter (glass Fibre) helps speed and the total sample throughput
 for best results - match the polarity of the Membrane material with the polarity of the liquid
 hydrophillic : PES > Nylon > PVDF > PTFE Hydrophobic
 water-based polar solvents polyester Oils Hydrocarbon-based Oils
 these are but generalisations - & it's very much "trial and error" for each application

Single-Step Filter Vials

- Simple Protection solution for sample prep.
- Chromatography sample clean up protect Injection ports and columns from dirt.

- 0.2um and 0.45um filter
- Nylon, PTFE, PVDF, PES
- PP body 0.45ml
- 12x32mm format Agilent autosampler compatible



MicroFILTRATION Chromatography



Typical Filtration **PRODUCT LIST**

prices as per June 2014
XR AUD/USD=0.94

Norm-Ject Syringes Plastic Syringes All PP; Robust : LuerLok and Slip in 1ml, 3ml, 5ml, 10ml, 20ml, 30,ml, 50ml		AUD
22766	Normject Plastic Syringes 1ml Tuberculin; Slip; 100-pk	48.00
22773	Normject Plastic Syringes 3ml; LuerLok; 100-pk	56.00
22775	Normject Plastic Syringes 5ml; LuerLok; 100-pk	88.00
22776	Normject Plastic Syringes 10ml; LuerLok; 100-pk	56.00
22777	Normject Plastic Syringes 30ml; LuerLok; 50-pk	78.00
22778	Normject Plastic Syringes 50ml; LuerLok; 30-pk	78.00
Syringe Filters SF/MAT/Diam/PoreuM MAT = PTFE, PVDF, PolyProp, Nylon, PES, 25mmD ;100-pk (also 13mm)		
SFPVFD025022N	0.22um (or 0.45um, non-sterile)	96.00
SFPVDF025022NG	Nonsterile PVDF Syringe Filters 0.22(um) 25(mm) GF prefilter	169.00
SFPVDF025045SM	Sterile G-MP Multi Layer PVDF 25mm 0.45um 1-/7/1/0.45um	195.00
6900-2502	Whatman GD/X : Sterile PVDF 0.22um multilayer. 25mm	420.00
6900-2504	Whatman GD/X : Sterile PVDF 0.45um multilayer, 25mm	420.00
Membrane Filters MF/MAT/Diam/PoreuM MAT = PVDF, PolyProp, Nylon, PES; GlassFiber		
MFPVDF047022N	0.22um or 0.45um; 47mmDiam; 200-pk	139.00
MFGF047100B	Glass Fiber Membrane Filter With Binder 1.00(um) 47(mm)	48.00
12-MV8010	Vacuum Pump : Hand Pump MityVAC	135.00
VPJ0332	Vacuum Pump /Motorised : Diaphragm 220VAC; 300mmHg 20L/Min	535.00
Filtration Systems : use separate MFs on top as needed		
VFG030010	GlassFiltration System 47mm MF, Frit, Clamp, 300mlFunnel; 000ccBottle	295.00
	PES, PVDF (also MCE, CA, Nylon)	
VFPPVDF145250	Vac-uFill 47mmD, 250mlFunnel/250ml Bottle;10-pk	198.00
VFPPVDF222500	Vac-uFill 90mmD, 1.8umGF preFilter; 500mlFunnel/500ml Bottle, 10-pk	360.00
Cap Filtration Vac-uCap, = Nalgene FAST Cap		
CT-4622	VacuCAP;Pall; Filter 90mm/10pk Hydrophillic PES 0.2um; 10-pk	368.00
Liquid Pumps		
NE-300AS	SyringePump Infusion Only NE-300AS	465.00
NE-1000AS	Syringe Pump Programmable NE-1000AS	825.00
Heater-Kit-1LG	Syringe Heater Kit ; PAD/controller & 120V 33W heating; inc transformer	545.00
NE-9000AS	Peristaltic Pump (Low Pressure Dispensing) NE-9000AS	725.00
Bottle Top Dispensers : also.5, 5.9. 10. 50, 50ml Max		
BTDR-3	Microlit BottleTop Dispense 0.5to10ml Research Grade	215.00
Syringe Dispenser		
CT-FDS-10	10ml SyringeDispenser Gun (Sterile)	45.00
C-4004	10ml Spring-loaded Syringe	18.00
DCV115-001	DoubleCheck Valve, Tubing Chimney Port RLL Exit CP2-5	3.95
Microfiltration : SingleStep Filtration; 200-pk Nylon; PES, PVDF, PTFE 0.2um, 0.45um		
23964	0.45um PES	648.00
23960	0.45um PVDF	648.00

Ask for current prices - Only part of Complete Filtration Products



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