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# Filtration Accessories : Filtration Hints

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> Cat.#s

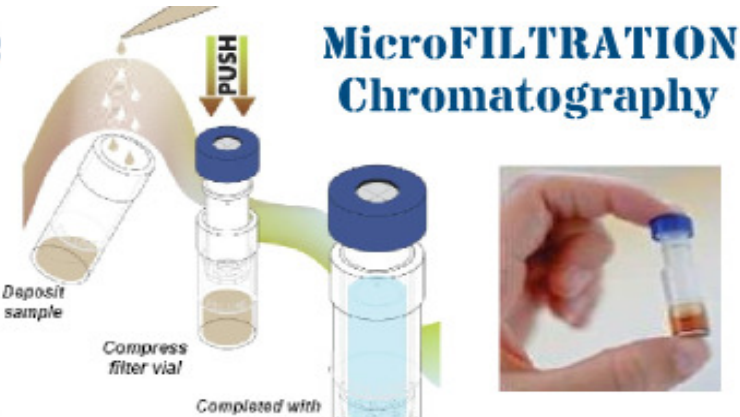


	Vac-u-Fill Bottles VacuCap fastFiltration(PALL) FastCap(Nalgene)	Liquid > Current System Syringe Pump	AUD Prices Pump
Selection of Filter Media : by size Flow propl to (Diam) sqrd	0.45um : 0.22um 1.00 : 0.25 x speed	Syringe Filter : max Pressure 72psi (PP body )	on top of main fil- ter
Pre Filter : protects 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 Calcu- lated 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



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