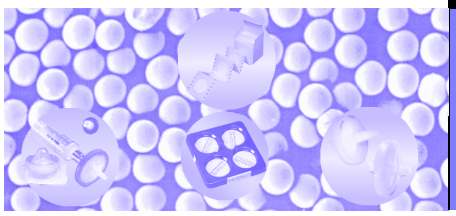
High purity laboratory consumables for advanced sciences.

EXAPURE™

Certified extractable and metal-free.

EXAPURE™ High purity laboratory consumables for advanced sciences.



DISPOSABLE FILTRATION DEVICES

Syringe filters, disc membrane filters, in-line filters

Whenever there is a need to filter a viscous solution, a high particulate medium or simply a precious sample, EXAPURE™ Filters provide easy, effective, and high purity devices.

No need to hesitate: EXAPURE™.

SPECIAL FEATURES

- **High purity / HPLC certified**
  High purity polymers (USP grade) assure that the filter will not create artifacts. Glues and sealants are excluded to minimise extractables.
- **Wide chemical compatibility**
  High chemical resistance for broader measurement methods.
- **Filtration efficiency & design**
  Optimised design minimises dead volume and optimised membrane structure reduces blockage and increases volume throughput.
- **Filtration efficiency**
  The microglass prefilter reduces blockage and increases flow.
- **Leak tight / Proven integrity**
  All connectors match with a variety of syringes and tubings. Each lot is 100% tested to ensure product integrity and reliability.
- **Proven compatibility**
  Devices are manufactured to standard dimensions.

SYRINGE FILTERS

13 mm diameter

25 mm diameter

sterile, 25 mm diameter individually packed

The EXAPURE™ Syringe Filters are specifically designed for purification, isolation and separation. The disposable syringe filters are made of carefully selected membranes to ensure the highest filtration reliability. Moreover, the filter design is optimised for the highest flow while minimising the dead volume. They are made with of a wide variety of different membranes with a polypropylene housing using the most advanced methods and design features available today. They are particularly appreciated for various applications in pharmaceutical, environmental, biotechnology, food, beverage and water analysis laboratories, among others.

The EXAPURE™ Syringe Filters are exclusively made of a high purity polymer housing and heat sealed without the use of glues or any contaminants ensuring absolute retention and extremely low extractables. The housing is made of a specifically selected polypropylene grade for sterile applications as well as against highly corrosive chemicals. All EXAPURE™ Syringe Filters are HPLC certified and metal-free.

The EXAPURE™ Syringe Filters PA are made of a high chemical resistant nylon (polyamide) membrane, which has been designed for applications as sensitive as the filtration of HPLC solutions.

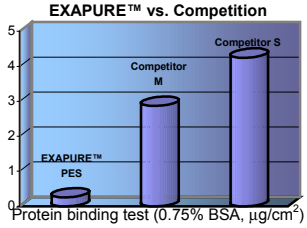
The EXAPURE™ Syringe Filters PTFE are made of a high chemical resistant Teflon (polytetrafluoroethylene) membrane, which has been designed for applications as sensitive as the filtration of HPLC and GC solutions.

The EXAPURE™ Syringe Filters PES have been designed for the filtration of sterile media, serums, buffers and other aqueous solutions. The glass microfiber prefilter ensures an economical filtration of serums while maintaining the filtration capacity of the PES membrane, which is specifically selected for its low protein binding properties. In addition, the individual packaging ensures the filter sterility until utilisation. EXAPURE™ Syringe Filters PES are pyrogen and metal-free.

Technical Specifications

Membrane diameter (mm)	4	13	25
Effective filtration area (cm^2)	0.07	0.8	4.15
Hold-Up volume with purge (µl)	< 5	< 20	< 50
Max. operating pressure	≥ 5 kg/cm^2 @ 30°C		
Biosafety	All materials pass USP Class VI test for plastics		
Materials of construction	Virgin Polypropylene housing with pure and metal-free membrane		
Connectors	Female Luer Lock (FLL) Male Slip Luer (MSL)		
Flow direction	Flow from inlet to outlet (FLL to MSL)		
Sterilisation	ETO or autoclavable at 121°C for 30 minutes		

EXAPURE™ vs. Competition



Article	Reference	Diam./pore (mm) / (µm)	Packaging	Quantity	Colour	Sterile	Note
EXAPURE™ Syringe Filters PA 0.45-13, HPLC	ATSY25NN4	13 / 0.45	bag	100	green	no	∅ 13 mm polyamide membrane (Nylon), pore size 0.45 µm, non sterile
EXAPURE™ Syringe Filters PA 0.2-25, HPLC	ATSY25NN2	25 / 0.2	bag	100	blue	no	∅ 25 mm polyamide membrane (Nylon), pore size 0.2 µm, non sterile
EXAPURE™ Syringe Filters PA 0.45-25, HPLC	ATSY25NN4	25 / 0.45	bag	100	green	no	∅ 25 mm polyamide membrane (Nylon), pore size 0.45 µm, non sterile
EXAPURE™ Syringe Filters PTFE 0.2-13, GC	ATSY13TF2	13 / 0.2	bag	100	red	no	∅ 13 mm PTFE membrane (Teflon), pore size 0.2 µm, non sterile, ultra-low extractables
EXAPURE™ Syringe Filters PTFE 0.45-13, GC	ATSY13TF4	13 / 0.45	bag	100	black	no	∅ 13 mm PTFE membrane (Teflon), pore size 0.45 µm, non sterile, ultra-low extractables
EXAPURE™ Syringe Filters PTFE 0.2-25, GC	ATSY25TF2	25 / 0.2	bag	100	red	no	∅ 25 mm PTFE membrane (Teflon), pore size 0.2 µm, non sterile, ultra-low extractables
EXAPURE™ Syringe Filters PTFE 0.45-25, GC	ATSY25TF4	25 / 0.45	bag	100	black	no	∅ 25 mm PTFE membrane (Teflon), pore size 0.45 µm, non sterile, ultra-low extractables
EXAPURE™ Syringe Filters PTFE 1.0-25, GC	ATSY25TF10	25 / 1.0	bag	100	cyan	no	∅ 25 mm PTFE membrane (Teflon), pore size 1.0 µm, non sterile, ultra-low extractables
EXAPURE™ Syringe Filters PES 0.2-25, PF-GF, sterile	ATSY25PGS2	25 / 0.2	individual	100	white	yes	∅ 25 mm polyethersulfone membrane (PES), pore size 0.2 µm, ETO sterilisation, with glass microfiber prefilter, pyrogen and metal-free
EXAPURE™ Syringe Filters PES 0.45-25, PF-GF, sterile	ATSY25PGS4	25 / 0.45	individual	100	white	yes	∅ 25 mm polyethersulfone membrane (PES), pore size 0.45 µm, ETO sterilisation, with glass microfiber prefilter, pyrogen and metal-free
EXAPURE™ Syringe Filters GF 1.0-25, GC	ATSY25GF10	25 / 1.0	bag	100	white	no	∅ 25 mm glass microfiber membrane, pore size 1.0 µm, non sterile, ultra-low extractables

MEMBRANE DISC FILTERS

47 mm diameter

sterile, 47 mm diameter
individually packed

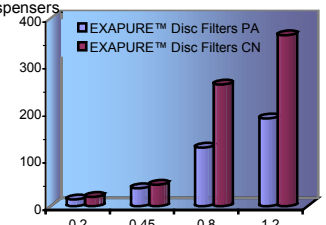
The EXAPURE™ Disc Filters bring to the laboratory user a range of membrane filters whose advanced technical specifications ensure today's most advanced filtration performance for a wide range of applications. The membrane disc filters offer accurately controlled pore size distribution and higher strength and flexibility which ensure reproducibility and consistency. Moreover, the membrane material is carefully selected to release the lowest extractable. Sterile and individually packed membranes disc filters as well as coloured and gridded types are available for specialised applications. The EXAPURE™ Disc Filters pass the biological test for Class VI plastics as described in USP and the oxidizable matters are systematically controlled to be within limits specified in USP. All EXAPURE™ Disc Filters are metal-free.

The EXAPURE™ Disc Filters PA are made of a high chemical resistant nylon (polyamide) membrane, which has been designed for applications as sensitive as the filtration of HPLC solutions. They are are hydrophilic, non-media migrating, biologically inert, designed for aqueous as well as organic solvent filtration. EXAPURE™ Disc Filters PA are HPLC certified and metal-free.

The EXAPURE™ Disc Filters CN gridded are specifically developed for water microbiology and validated to ASTM D4200-82 and D3508-78. They are made of a high grade cellulose nitrate membrane, hydrophilic, presterilised and individually packed in a form of roll which is compatible with most disc membrane dispensers.

Technical Specifications

Pore size (µm)	0.2	0.45	0.8
Water flow rate 10 psi / 20°C (ml/min.cm^2)	≥ 14.5	≥ 38.5	≥ 125
Retention efficiency (LRV/cm^2)	≥ 7 for Br. diminuta	≥ 7 for Sr. marcescens	≥ 7 for yeast
Max. operating pressure	5 kg/cm^2 @ 30°C		
Biosafety	All materials pass USP Class VI test for plastics		
Materials of construction	High purity and metal-free membrane		
Sterilisation	ETO or autoclavable at 121°C for 30 minutes		



Water flow rate (ml/min·cm^2) vs. pore size (µm)

Article	Reference	Diam./pore (mm) / (µm)	Packaging	Quantity	Colour	Sterile	Note
EXAPURE™ Disc Filters PA 0.2-47	AT47HNN2	47 / 0.2	box	100	white	no	∅ 47 mm polyamide membrane (Nylon), pore size 0.2 µm
EXAPURE™ Disc Filters PA 0.45-47	AT47HNN4	47 / 0.45	box	100	white	no	∅ 47 mm polyamide membrane (Nylon), pore size 0.45 µm
EXAPURE™ Disc Filters CN 0.45-47, gridded, sterile	AT47GCNS4	47 / 0.45	individual	6 x 100	white	yes	∅ 47 mm cellulose nitrate membrane, pore size 0.45 µm, ETO sterilisation, gridded
EXAPURE™ Disc Filters Pack CN212, 100 ml Funnels, CN 0.45-47, gridded, sterile	ATFM47GCNS4	47 / 0.45	individual	212	white	yes	212 x ∅ 47 mm cellulose nitrate membrane, pore size 0.45 µm, ETO sterilisation, gridded 212 x absorbent pad 12 x autoclavable 100 ml PP funnel with cover

IN-LINE FILTERS

50 mm diameter

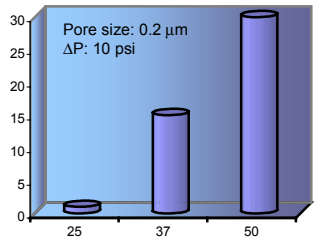
The EXAPURE™ In-Line Filters feature a housing made out of a specifically selected high purity polypropylene grade to maintain sample purity and for sterile applications as well as against highly corrosive chemicals. They are available with a choice of filtration membrane to suit a broad range of applications with aqueous, gaseous and organic samples. The most advanced technologies have been used to ensure convenience and performance for inline sterilisation of gases and bacterial air venting in various pharmaceutical and biotechnology processes. The large 50 mm in-line filters are designed for larger volume sample filtration in the laboratory, at a pilot plant or in manufacturing. The EXAPURE™ In-Line Filters pass the biological test for Class VI plastics as described in USP, the extractables with isopropyl alcohol and oxidizable matters are both systematically controlled to be within limits specified in USP. IPF Filters are specifically designed to connect directly into an HPLC line to simultaneously filter and degas the mobile phase as it is being used. Smaller in-line filters in 37 mm and 25 mm diameters are also available for specific applications. ITF Filters are outstanding for sterilisation or air venting applications, are microbially validated as per ASTM 838-83, complies with USFDA 21 CFR 211.72 and USDFA 21 CFR 177.1520. All EXAPURE™ In-Line Filters are autoclavable, individually packed and metal-free.

The EXAPURE™ In-Line Filters ITF feature a PTFE (Teflon) membrane which is specifically designed for chemically aggressive solutions, reagents and organic solvents. This lightweight device is particularly suitable for protective vents and for in-line filtration and isolation purposes.

The EXAPURE™ In-Line Filters IPF feature a PP (polypropylene) which provides excellent flow rate characteristics and is ideal for filtering large volumes to 1 litre or more of aqueous and solvent samples. They possess a high-flow polypropylene membrane for mobile phases containing organic solvents or other highly corrosive liquids such as acids or bases. The 1/8" MNPT filter connection is designed to match the most difficult specifications for leak-free applications. The EXAPURE™ In-Line Filters IPF filter with ease highly loaded as well as viscous solutions without leaking, unlike filters with horse-barb connections. The 5 µm pore size membrane filters particularly well the coarser particles that would rapidly obstruct conventional 0.2 or 0.45 µm filters. The EXAPURE™ In-Line Filters PP 5-50 fulfil the most demanding requirements in the chemical, but also in the food and ink industry.

Technical Specifications

Membrane diameter (mm)	25	37	50
Effective filtration area (cm^2)	4.15	9.6	18
Max. operating pressure	≥ 3 kg/cm^2 @ 30°C		
Biosafety	All materials pass USP Class VI test for plastics		
Materials of construction	Virgin Polypropylene housing with pure and metal-free membrane		
Connectors	Stepped hose barb Female Luer Lock (FLL) Male Slip Luer (MSL)		
Flow direction	Flow from inlet to outlet (FLL to MSL)		
Sterilisation	ETO or autoclavable at 121°C for 20 minutes		



Air flow rate (dm^3/min) vs. diameter (mm)

Article	Reference	Diam./pore (mm) / (µm)	Packaging	Quantity	Colour	Sterile	Note
EXAPURE™ In-Line Filters ITF 0.2-50, sterile	AT50ITF2	50 / 0.2	bag	10	white	yes	∅ 50 mm PTFE membrane (Teflon), pore size 0.2 µm, hose barb connection, ETO sterilisation
EXAPURE™ In-Line Filters ITF 0.4-50, sterile	AT50ITF4	50 / 0.45	bag	10	white	yes	∅ 50 mm PTFE membrane (Teflon), pore size 0.45 µm, hose barb connection, ETO sterilisation
EXAPURE™ In-Line Filters IPF 5-50	AT50IPF50	50 / 5	bag	10	white	no	∅ 50 mm Polypropylene membrane (PP), pore size 5 µm, 1/8" MNPT connection

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