

Microelectronics Catalogue

Ultra High Purity Product Range 2026

Filtration and Flow Control Solutions for
Wet and Dry High Purity Applications





Porvair Filtration Group
Microelectronics Catalogue
Complete Product Range



www.porvairfiltration.com

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	18-19	GasPro™ MFR	All 316L Construction	See Product Datasheet	110	450	
High Purity Teflon Filters	20-21	GasPro™ TEM 100	316L, ePTFE, Polypropylene, Viton®	8550	250	80	
	22-23	GasPro™ TEM 200	316L, ePTFE, Polypropylene, Viton®	5700	250	80	
	24-25	GasPro™ TEM 300	316L, ePTFE, Polypropylene, Viton®	330	250	80	
	26-27	GasPro™ TEM 400	316L, ePTFE, Polypropylene, Viton®	2100	250	80	
	28-29	GasPro™ TEM 500	316L, ePTFE, Polypropylene, Viton®	700	250	80	
	30-31	GasPro™ TEM 800	316L, Polypropylene, Viton®	300	750	121	
	32-33	GasPro™ TEM 900	316L, ePTFE, PTFE, PFA, Viton®	30	3000	150	
	34-35	GasPro™ TEM 1100	316L, ePTFE, Polypropylene, Viton®	8550	250	150	
	36-37	GasPro™ TEM 1200	316L, ePTFE, Polypropylene, Viton®	5700	250	150	
	38-39	GasPro™ TEM 1300	316L, PTFE, Polypropylene, FEP-Encapsulated Viton®	3300	250	150	
	40-41	GasPro™ TEM 1400	316L, PTFE, Polypropylene, FEP-Encapsulated Viton®	2100	250	150	
	42-43	GasPro™ TEM 1500	316L, PTFE, Polypropylene, FEP-Encapsulated Viton®	700	250	150	
	44-45	GasPro™ TEM 1800	316L, PTFE, Polypropylene, FEP-Encapsulated Viton®	300	750	121	
	46-47	GasPro™ TEM 1900	316L, ePTFE, PTFE, PFA, Viton®	100	3000	121	
	48	GasPro™ TEM PV1 1400					
	49-51	GasPro™ TEM 2100/3100	316L, ePTFE, Polypropylene, Viton®	17100/ 25650	250	80	
52-53	GasPro™ TEM 2260	316L, ePTFE, Polypropylene, Viton®	11400	250	80		
54-55	GasPro™ TEM 2500	316L, ePTFE, Polypropylene, Viton®	1500	250	80		

GasPro™ Series	Filtration Rating (nm)	Envelope Range (mm)	Fitting Options
GasPro™ IFR	Various	N/A	0.25" Male Face Seal
GasPro™ MFR	Various	N/A	1.125" Surface Mount
GasPro™ TEM 100	3nm	D: 76.2mm (3") L: 864 - 946.2mm (34 - 37.25")	Face Seal, Tube Stub, NPT and Tri-Clamp
GasPro™ TEM 200	3nm	D: 76.2mm (3") L: 637.5 - 658.4mm (25.1 - 25.92") <i>Flange Design Option Available</i>	Face Seal, Tube Stub, NPT and Flange
GasPro™ TEM 300	3nm	D: 76.2mm (3") L: 354.3 - 405.1mm (13.95 - 15.95")	Face Seal, Tube Stub, NPT and Compression
GasPro™ TEM 400	3nm	D: 63.5mm (2.5") L: 191.8 - 228.6mm (7.55 - 9")	Face Seal, Tube Stub, NPT and Compression
GasPro™ TEM 500	3nm	D: 63.5mm (2.5") L: 131.3 - 165.1mm (5.17 to 6.5")	Face Seal, Tube Stub, NPT and Compression
GasPro™ TEM 800	3nm	D: 50.8mm (2") L: 82.3 - 115.8mm (3.24 - 4.56")	Face Seal, Tube Stub and Compression
GasPro™ TEM 900	3nm	D: 22.2 - 22.5mm (0.875 - 1") L: 73.2-97.8mm (2.88-3.85")	Face Seal and Compression
GasPro™ TEM 1100	3nm	D: 76.2mm (3in) L: 864 - 946.2mm (24 -37.25")	Face Seal, Tube Stub, NPT and Tri-Clamp
GasPro™ TEM 1200	3nm	D: 76.2mm (3") L: 635 - 762mm (25 - 30")	Face Seal, Tube Stub and Compression
GasPro™ TEM 1300	3nm	D: 76.2mm (3") L: 386 - 403.9mm (15.19 - 15.9")	Tube Stub and Compression
GasPro™ TEM 1400	3nm	D: 76.2mm (3") L: 208.3 - 294.9mm (8.2 -11.61")	Face Seal, Tube Stub and Compression
GasPro™ TEM 1500	3nm	D: 76.2mm (3") L: 178 - 294.9mm (7 - 11.61")	Face Seal, Tube Stub and Compression
GasPro™ TEM 1800	3nm	D: 50.8mm (2") L: 116.5 - 141.9mm (4.585 - 5.585")	Face Seal, Tube Stub and Compression
GasPro™ TEM 1900	3nm	D: 25.4mm (1") L: 116.8 - 133.4mm (4.6 - 5.25")	Face Seal, Tube Stub and Compression
GasPro™ TEM 2100/3100	3nm	See Product Datasheet	Tri-Clover, Tube Stub and KF Flange
GasPro™ TEM 2260	3nm	See Product Datasheet	See Product Datasheet
GasPro™ TEM 2500	3nm	See Product Datasheet	See Product Datasheet

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	Page	GasPro™ Series	Construction	Flow Rate Capability (SLPM)	Operating Pressure (psig)	Max Operating Temperature (Celcius)
High Purity Metallic Filters	56-57	GasPro™ Ultra	All 316L Construction	200	3000	450
	58	GasPro™ GPUSM Surface Mount	All 316L Construction	50	3000	450
	60-61	GasPro™ SF/NF	All 316L Construction	200	3000	200
	62	GasPro™ TEM 717125	All 316L Construction	12	750	200
	63	GasPro™ TEM 737125	316L Housing, Nickel Media	12	750	200
	64	GasPro™ TEM 817125	All 316L Construction	12	750	200
	65	GasPro™ TEM 837125	316L Housing, Nickel Media	12	750	200
	66-67	GasPro™ 9120	All 316L Construction	20	NA	455
	68-69	GasPro™ TEM 1700	All 316L Construction	200	3000	200
	70-71	GasPro™ TEM 1760	All 316L Construction	2124	700	200
	72-73	GasPro™ TEM 1780	All 316L Construction	700	2000	200
	74-75	GasPro™ TEM 1790	All 316L Construction	400	3000	200
	76-77	GasPro™ TEM 3700	316L Housing, Nickel Media	150	3000	200
	78-79	GasPro™ TEM 3760	316L Housing, Nickel Media	2081	700	200
	80-81	GasPro™ TEM 3780	316L Housing, Nickel Media	700	3000	200
	82-83	GasPro™ TEM 3790	316L Housing, Nickel Media	400	3000	200
	84	GasPro™ PV1-1100	All 316L Construction	100	3000	200
	85	GasPro™ PV1-1200	All 316L Construction	250	3000	200

GasPro™ Series	Filtration Rating (nm)	Envelope Range (mm)	Fitting Options
GasPro™ Ultra	1.5nm	D: 25.4 - 50.8mm (1 - 2") L: 84mm (3.31")	Face Seal & Tube Stub
GasPro™ Ultra Surface Mount	1.5nm	See Product Datasheet	1.125" C-Seal
GasPro™ SF / NF	3nm	D: 25.4 - 50.8mm (1-2") L: 84mm (3.31")	Face Seal
GasPro™ TEM 717125	3nm	1.125"	1.125" C-Seal
GasPro™ TEM 737125	3nm	1.125"	1.125" C-Seal
GasPro™ TEM 817125	3nm	1.125"	1.125" C-Seal
GasPro™ TEM 837125	3nm	1.125"	1.125" C-Seal
GasPro™ 9120	0.3nm	D: 11.9mm (0.47") L: 26.1mm (1.03")	Not available
GasPro™ TEM 1700	3nm	D: 25.4 - 50.8mm (1-2") L: 44.5 - 84mm (1.75 - 3.31")	Face Seal, Tube Stub & Compression
GasPro™ TEM 1760	3nm	D: 152.4mm (6") L: 101 - 134.5mm (3.975 - 5.295")	Face Seal
GasPro™ TEM 1780	3nm	D: 101.6mm (4") L: 76.2 - 133.4mm (3 - 5.25")	Face Seal, Tube Stub & Compression
GasPro™ TEM 1790	3nm	D: 72.89mm (2.87") L: 76.2 - 153.9mm (3 - 6.06")	Face Seal, Tube Stub & Compression
GasPro™ TEM 3700	3nm	D: 25.4 - 50.8mm (1-2") L: 44.5 - 84mm (1.75 - 3.31")	Face Seal, Tube Stub & Compression
GasPro™ TEM 3760	3nm	D: 152.4mm (6") L: 101 - 136.5mm (3.975 - 5.375")	Face Seal & Tube Stub
GasPro™ TEM 3780	3nm	D: 101.6mm (4") L: 76.2 - 133.4mm (3 - 5.25")	Face Seal, Tube Stub & Compression
GasPro™ TEM 3790	3nm	D: 72.89mm (2.87") L: 76.2 - 153.9mm (3 - 6.06")	Face Seal, Tube Stub & Compression
GasPro™ PV1-1100	1µm	D: 25.4mm (1") L: 42.8 - 58.4mm (1.685 - 2.3")	Face Seal, Tube Stub, FNPT & Compression
GasPro™ PV1-1200	1µm	D: 38.1mm (1.5") L: 63.2 - 79mm (2.49 - 3.11")	Face Seal & Compression

Table of Contents, Liquid Filtration

Page	LiquiPro™ Series	Description	Flow Rate (SLPM)	Filtration	Max Operating Temperature (Celcius)
88-89	LiquiPro™ MX	UPE High Purity Filter Cartridge	16	1 - 10nm	60
90-91	LiquiPro™ BU	BOE (Buffered-Oxide Etch) Filter Cartridge	30	30 - 1000nm	80
92-93	LiquiPro™ CO	Electro Copper Plating Filter Cartridge	20	50 -100nm	80
94-95	LiquiPro™ F2	Chemical Delivery & Solvent Filter Cartridge	30	0.05 -10µm	120
96-97	LiquiPro™ SH	Chemical Delivery & Solvent Filter Cartridge	30	0.05 -10µm	120
98-99	LiquiPro™ FG	Flat Panel Manufacturing & Process Gas Filter Cartridge	7000	3 - 200nm	60
100-101	LiquiPro™ F3	Advanced Wafer Bumping & Etch Filter Cartridge	20	0.05 -10µm	90
102-103	LiquiPro™ DI	DI Water Filter Cartridge	20	0.5 - 1.2µm	80
104-105	LiquiPro™ PA	Electro Copper Plating & Multi-Purpose Filter Cartridge	40	0.1 - 40µm	90
106-107	LiquiPro™ PH	Ultrapure DI Water Filter Cartridge	30	0.1 - 0.45µm	80
108-110	LiquiPro™ SL	CMP Disposable Capsules and Filter Cartridges	-	0.7 - 5µm	80
112-113	LiquiPro™ MI	DI Disposable Capsule Filter	-	0.05 - 0.2µm	60
114-116	LiquiPro™ EZ	PFA Housing	-	-	100
118-119	LiquiPro™ YS	Stainless Steel Housing	-	-	75
120-123	LiquiPro™ YP	Polypropylene Housing	-	-	70

LiquiPro™ Liquid Filters

LiquiPro™ Series	Envelope	End Cap / Fitting Options	Materials
LiquiPro™ MX	Dia 70mm [2.76in] Length 10in to 20in	222/Flat	UPE Membrane, HDPE Support
LiquiPro™ BU	Dia 69mm [2.72in] and 83mm [3.26in] Length 4in to 30in	222/Flat 226/Fin 222/Fin 226/Flat DOE	HAPES Membrane, Polypropylene Support
LiquiPro™ CO	Dia 70mm [2.76in] Length 10in	222/Flat	PTFE Membrane, Polypropylene Hardware
LiquiPro™ F2	Dia 69mm [2.72in] Length 4in to 30in	222/Flat 226/Flat 226/Fin DOE	PTFE Membrane, PFA Hardware
LiquiPro™ SH	Dia 83mm [3.27in] Length 4in to 30in	222/Flat	PTFE Membrane, Dupont PFA Hardware
LiquiPro™ FG	Dia 70mm [2.76in] Length 10in or 20in	222/Flat 222/Fin 226/Flat 226/Fin DOE	PTFE Membrane, Polypropylene Hardware
LiquiPro™ F3	Dia 70mm [2.76in] and 83mm [3.26in] Length 5in to 30in	222/Flat 226/Flat DOE	PTFE Membrane, Virgin Grade Polypropylene Hardware
LiquiPro™ DI	Dia 70mm [2.76in] Length 5in to 30in	222/Flat 222/Fin 226/Flat 226/Flat DOE 213 Internal	PES Membrane, Polypropylene Hardware
LiquiPro™ PA	Dia 70mm [2.76in] Length 10in to 30in Dia 80mm [3.15in] Length 10"	222/Flat 222/Flat 226/Flat 226/Fin DOE	Polypropylene
LiquiPro™ PH	Dia 70mm [2.76in] Length 5in to 20in	222/Flat 222/Fin 226/Flat 226/Fin DOE	PVDF Membrane, Polypropylene Hardware
LiquiPro™ SL	See Product Datasheet		
LiquiPro™ MI	See Product Datasheet		
LiquiPro™ EZ	See Product Datasheet		
LiquiPro™ YS	See Product Datasheet		
LiquiPro™ YP	See Product Datasheet		

Gas Compatability Guide

Product Group	Filter Series	Type of Material
1	TEM-100, TEM-200, TEM-300, TEM-400, TEM-500, TEM-800	PTFE and Polypropylene
2	TEM-900, TEM-1300, TEM-1900, TEM-1800, TEM-1500, TEM-1400, TEM-1200, TEM-1100	All-Fluoropolymer
3	TEM-1700, 817125, 717125, GasPro Ultra, GasPro SF, GasPro Ultra Surface Mount	Stainless Steel
4	TEM-3700, 837125, 737125, GasPro TM NF	Nickel

Gas compatibility guide Gas	Recommended Product Groups
Air	1,2,3,4
Ammonia (NH3)	1,2,3,4
Argon(Ar)	1,2,3,4
Arsine (AsH3)	1,2,3,4
Boron Trichloride (BCl3)	1,2,4
Boron Trifluoride (BF3)	1,2,4
Carbon Monoxide (CO)	1,2,3
Carbon Dioxide (CO2)	1,2,3,4
Carbon Tetrachloride (CCl4)	2,3,4
Carbon Tetrafluoride (CF4)	2,3,4
Chlorine (Cl2)	2,4
Chlorine Trifluoride (ClF3)	2,4
Diborane (B2H6)	1,2,3,4
Dichlorosilane (SiH2Cl2)	2,4
Hexafluoroethane (C2F6)	2,3,4
Halocarbon 13 (CClF3)	1,2,3,4
Halocarbon 14 (CF4)	1,2,3,4
Halocarbon 23 (CHF3)	1,2,3,4
Halocarbon 115 (C2ClF5)	1,2,3,4
Halocarbon 116 (C2F6)	1,2,3,4
Germane (GeH4)	1,2,3,4
Helium (He)	1,2,3,4
Hydrogen (H2)	1,2,3,4
Hydrogen Bromide (HBr)	1,2,4
Hydrogen Chloride (HCl)	1,2,4
Hydrogen Fluoride (HF)	2,4

Gas compatibility guide Gas	Recommended Product Groups
Hydrogen Sulfide (H2S)	1,2,3,4
Neon (Ne)	1,2,3,4
Nitrogen (N2)	1,2,3,4
Nitrogen Trifluoride (NF3)	2,3,4
Nitrous Oxide (N2O)	1,2,3,4
Oxygen (O2)	2,3,4
Ozone (O3)	2
Phosphine (PH3)	1,2,3
Phosphorous Trifluoride (PF3)	1,2,4
Phosphorous Pentachloride (PCl5)	1,2,3,4
Phosphorous Pentafluoride (PF5)	2,3,4
Silane (SiH4)	2,3
Silicon Tetrachloride (SiCl4)	1,2,4
Silicon Tetrafluoride (SiF4)	1,2,4
Sulfur Hexafluoride (SF6)	1,2,3,4
Tetraethyl Orthosilicate (TEOS)	1,2,3,4
Trichlorosilane (SiHCl3)	1,2,4
Trimethyl Borane ((CH3)3B)	1,2,3,4
Trimethyl Phosphate ((CH3)3PO4)	1,2,3,4
Tungsten Hexafluoride (WF6)	2,4
Xenon (Xe)	1,2,3,4

Product Innovation, Manufacturing, Testing and Quality

We have a policy of continuous improvement in all areas of our business. Listening to customers' present and future requirements is a vital part of our operations and a key part of driving change.

We understand that product development involves building multidisciplinary teams, both within our company, and in partnership with our customers. This continuous development of products and materials is vital to enable us to offer new and better solutions. We have implemented various methodologies to drive out waste and process variance across the company to achieve our goal of zero defects.

Our dedicated team of scientists, engineers, production and quality professionals work towards the best possible filtration solutions for our customers. We have a fully equipped test house and laboratory, and our experienced design engineers use the latest technologies to give full structural assurance capability.

Research and Development

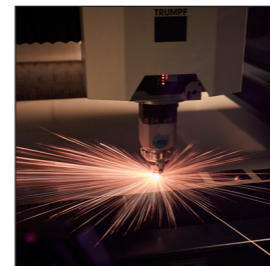
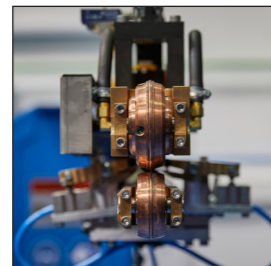
Development plays a fundamental part in our operations and has resulted in us developing a number of custom designed products based on our established porous polymeric materials (Vyon®) and sintered metal media (Sinterflo®), as well as developing a range of filters for fuel tank inerting applications.

We operate across many filtration and separation markets and there is significant interaction between each division in terms of product research and development. Our new product development team is drawn from scientists and engineers from across all divisions, encouraging new ideas and new solutions. The success of this approach has been in the interaction of chemists and engineers working together to find practical solutions to some extremely complex scientific challenges identified in the chosen market areas.

Manufacturing

Our filters, filtration systems and a range of porous materials are produced at our sites worldwide.

Our production capabilities include the complete element or cartridge construction, along with the build of entire tubeplate and vessel assemblies. We boast specialist fabrication skills and techniques in all of our manufacturing sites around the world and extensive ISO cleanroom facilities.



Engineering

From initial design concept through to manufacture and validation to in-service support, our highly experienced team of dedicated engineers work to develop the optimal filtration solution. Our knowledge and strong ethos of working closely with our customers, ensures that we supply filtration solutions that meet specific market requirements.

Testing and Laboratory

Our dedicated test, development and laboratory services underpin our design and development activity; from filtration media and material characterisation, product verification testing to customer system simulation trials and in service performance evaluation. Our capabilities include filtration characterisation, environmental testing and analysis.

Technical Support Services

- **Validation services:**
 - Filtration efficiency
 - Differential pressure flow mapping
 - Verification and qualification testing
 - Porous media characterisation
 - Contamination retention studies
 - Material compatibility and feasibility
 - Chemical analysis
- **On-site services:**
 - Customer facility surveys
 - Troubleshooting and investigative techniques
 - Root cause and corrective analysis
 - Failure mode effects analysis
- **Training:**
 - Filtration and contamination principles
 - Design considerations

Quality

Our policy is to provide products and services that consistently satisfy the commitments made to our customers by complying with their requirements, working together as a team and achieving continual improvement in our skills, systems, processes and performance.

We have a dedicated team of quality professionals with many years' experience in the definition, implementation and maintenance of quality management systems meeting multiple industry requirements. This extends across the workforce through a strong quality culture and a philosophy of 'getting it right first time' driven from the top of our organisation.



Gas Filters



Porvair manufactures a wide range of high purity porous media and reliable, high efficiency filtration products.

These products ensure extreme cleanliness in critical semiconductor and microelectronics gas handling and delivery applications.

- Engineered for ultra high purity performance in advanced manufacturing environments
- Designed to support next generation semiconductor process requirements
- Manufactured with materials selected for exceptional purity and consistency
- Optimized flow characteristics for stable, reliable operation, with minimal pressure loss
- Built to minimize contamination risks across critical process steps
- Compatible with a wide range of gas applications
- Developed to meet stringent industry standards for quality, efficiency and reliability
- Supported by comprehensive technical expertise and application guidance

We can custom engineer solutions for the most demanding applications using porous PTFE membrane, Sinterflo® F sintered metal fiber and Sinterflo® P sintered powder metal media.

GasPro™ IFR

Ultra High-Purity
Sintered Porous Media
In-line Flow Restrictors



When a set flow rate is required, Porvair's GasPro™ In-line Porous Metal Flow Restrictors are the low-cost alternative that can replace your flow controllers, needle valves, and calibrated orifices.

Flow limiting devices are often installed in compressed gas supply lines and gas distribution manifolds to prevent unintentional high gas flow caused by ruptured gas lines, or malfunctioning valves.

Features and Benefits

- Improved gas management**
 Porous metal flow restrictors are devices that precisely limit the gas flow rate given an inlet and outlet pressure. They can be used in a wide range of inert, highly toxic and pyrophoric gasses to reduce the handling risk.
- Semiconductor industry, building & fire code compliance**
 Porous metal flow restrictors can assist in complying with SEMI S5-0310 Safety Guidelines for sizing and identifying flow limiting devices for gas cylinder valves, NFPA 318 Standard for Protection of Semiconductor Fabrication Facilities, CGA G-13 Storage and Handling of Silane and other gas safety standards.
- Cost reduction of exhaust venting systems**
 With the option of installing porous metal flow restrictors, gas delivery systems can be designed with smaller, lower flow exhaust for significant capital investment savings.

- Reliable, tamper proof flow control**
 Porous metal flow restrictors have no moving parts and do not require any power. They will continue to provide accurate, fixed flow without adjustment over the product's lifespan.
- Sintered porous media provides laminar flow**
 Engineered to have enormous numbers of micro-scale, interconnected passageways that restrict and limit flow in a gas line. Unlike single bore orifice flow restrictors, porous metal flow restrictors have greater resistance to plugging, decrease flow turbulence, and reduce flow burden for a longer lasting product.
- Pressure stabilization**
 Prevention of pressure surges and pressure shock protects and improves dynamic flow control performance downstream.

Design flexibility

Porvair's porous metal flow restrictors accommodate a wide range of flow requirements. For technical data on a specific flow restrictor, or help on selecting the best flow restrictor for your application, contact the Porvair sales team with the following information, to discuss product availability:

- Gas type and operating temperature
- Inlet pressure
- Desired downstream flow rate
- Downstream pressure
- Fitting size, type, and material.

Specifications

All metal construction

A stainless steel porous element is fitted into a standard stainless steel face seal fitting. Other materials and fitting configurations are available. Standard 1/4" Male Face Seal Union.

Calibrated using N2, He, H2, Air, O2 or Ar. Other density gases will be calibrated using N2 as a correlation or can be tested upon request.

Wide range of operating conditions

Standard flow tolerance of +7.5% of the rated flow at the rated pressure and gas type.

Down stream flow rates from 60,000 SCCM down to 1 SCCM.

Operating pressures up to 1200 psig.

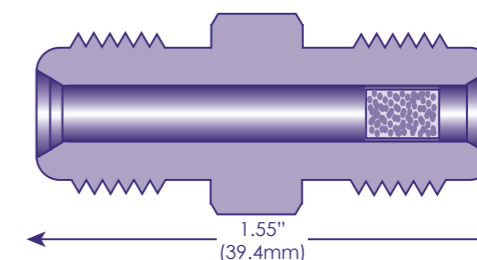
Sustained operating conditions in temperatures up to 450°C in inert gas applications.

Porvair Sinterflo® AP IFR Flow Restrictors

- Low gas approach velocity, virtually no effect on performance.
- Sinterflo® AP media with multiple pathway resists particulate fouling.
- Low velocity gas flow creates laminar downstream flow.

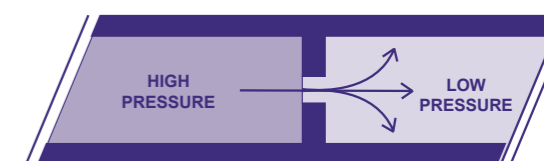
Cross Section Example

Example Hardware B: 1/4" x 1/4" VCR



Traditional Single Orifice Device

- High gas velocity, pressure, heat causing erosion.
- Particulate fowling changes gas flow volume.
- Downstream turbulent gas flow.



Ordering Guide

Product Code: 1 2 3 4 5 6 7 Eg: IFR4SS20N2-250

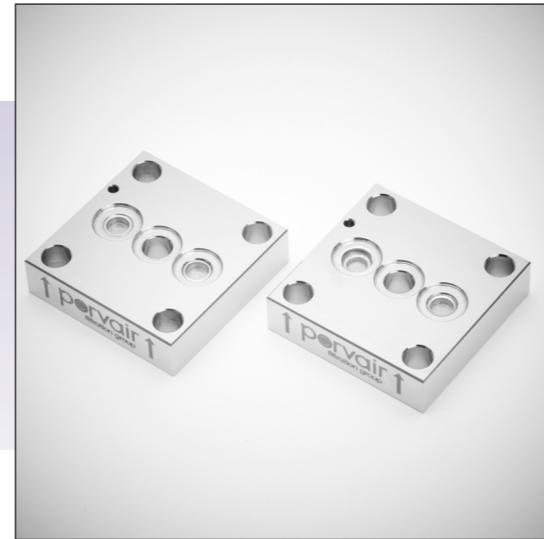
1. Part Number	2. Face Seal Size	3. Porous Material	4. Inlet Pressure (psig)	5. Calibration Gas Type	6. Flow Rate	7. Outlet Pressure *
IFR	4 1/4"	SS Stainless Steel 316L C22 C22 Alloy	Up to 1200 psig	N2 Nitrogen He Helium H2 Hydrogen O2 Oxygen Ar Argon CDA Air	1- 60,000 SCCM	None - XXX Atmosphere Custom*

Note: The following table does not represent all available flow restrictor options. Contact a Porvair sales representative for requests.

*Outlet pressure designated in psig. For Vacuum applications, contact a Porvair sales representative.

GasPro™ MFR

Ultra High-Purity Sintered Porous Media Surface Mount C-Seal Flow Restrictors



Porvair's GasPro™ Surface Mount Porous Metal Flow Restrictors are designed for Surface Mount C-Seal 1.125" gas systems.

Available in various configurations including Porvair's unique dual orifice restriction.

Features and Benefits

- Improved gas management**
 Porous metal flow restrictors are devices that precisely limit the gas flow rate given an inlet and outlet pressure. They can be used in a wide range of inert, highly toxic and pyrophoric gasses to reduce the handling risk.
- Reliable, tamper proof flow control**
 Porous metal flow restrictors have no moving parts and do not require any power. They will continue to provide accurate, fixed flow without adjustment over the product's lifespan.
- Sintered porous media provides laminar flow**
 Engineered to have enormous numbers of micro-scale, interconnected passageways that restrict and limit flow in a gas line. Porous metal flow restrictors have greater resistance to plugging, decrease flow turbulence, and reduce flow burden for a longer lasting product.
- Pressure stabilization**
 Prevention of pressure surges and pressure shock protects and improves dynamic flow control performance downstream.

Design flexibility

Porvair's porous metal flow restrictors accommodate a wide range of flow requirements. For technical data on a specific flow restrictor, or help on selecting the best flow restrictor for your application, contact the Porvair sales team with the following information, to discuss product availability:

- Gas type
- Inlet pressure
- Downstream pressure
- Desired downstream flow rate
- Body size, number of ports, port location and porous material type

Porvair Sinterflo® MFR Flow Restrictors

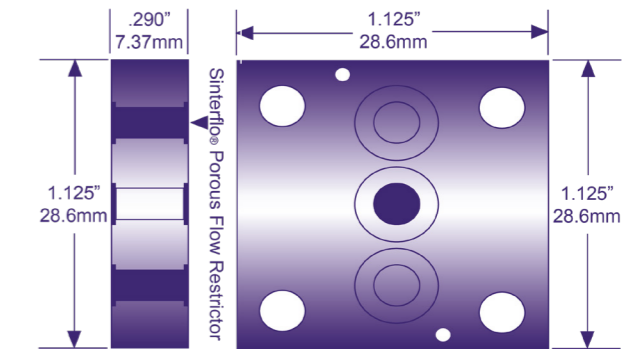
- Low gas approach velocity, virtually no effect on performance.
- Sinterflo® AP media with multiple pathways resist particulate fouling.
- Low velocity gas flow creates laminar downstream flow.



Specifications

- Material of construction: Sinterflo® AP 316L media Housing SS316L
 - 10 Ra surface finish on all wetted surfaces
 - 32 Ra surface finish on all non-wetted surfaces
 - Maximum operating pressure: 1200 psig
 - Maximum differential pressure: 1200 psid
 - Burst pressure: 20,000 psig
 - Operating temperature: up to 460°C (inert gases)
 - Rated flow: 60,000 SCCM
 - Flow tolerance ± 7.5%
 - Marking: Laser etched
 - Seal type: C-Seal
 - Calibrated in Nitrogen
- *SCCM at 0°C

Dimensions



Ordering Guide

Product Code: 1 2 3 4 5 6 7 8 9 Eg: MFR18SS3S30N2-500

1: Part Number	3: Porous Material	5: Port Location	7: Calibration Gas Type	8: Flow Rate	9: Outlet Pressure (psig)
MFR	SS Stainless Steel 316L	C (Centre) S (Side)	N2 Nitrogen He Helium H2 Hydrogen O2 Oxygen Ar Argon CDA Air	1- 60,000 SCCM	None Atmosphere -XXX Custom*
2: C-Seal Body Size	4: Ports	6: Inlet Pressure (psig)			
18 1.125"	2 (2 ports) 3 (3 ports)	Up to 1200 psig			

Note: The following table does not represent all available flow restrictor options. Contact a Porvair sales representative for requests.

*Outlet pressure designated in psig. For Vacuum applications, contact a Porvair sales representative.

GasPro™ TEM-100

High Flow ePTFE In-Line
Filter



GasPro™ TEM-100 series filters are designed for 3 nm particle retention up to flow rates of 300 scfm and temperatures up to 80°C (176°F).

An ePTFE membrane (2.04 m² / 22.0 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on resuest).

Applications

- General and process inert facilities gases for semiconductor, flat panel display and other high-purity applications.
- Gases used for critical flat panel processes, including substrate annealing.
- Clean-dry air for critical processes, including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

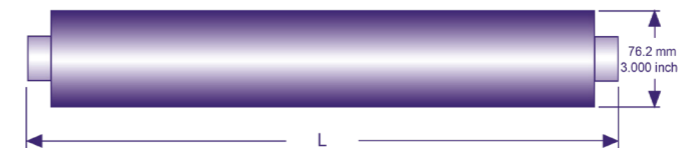
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0bar (87 psi)
80°C (176°F): 4.0bar (58 psi)

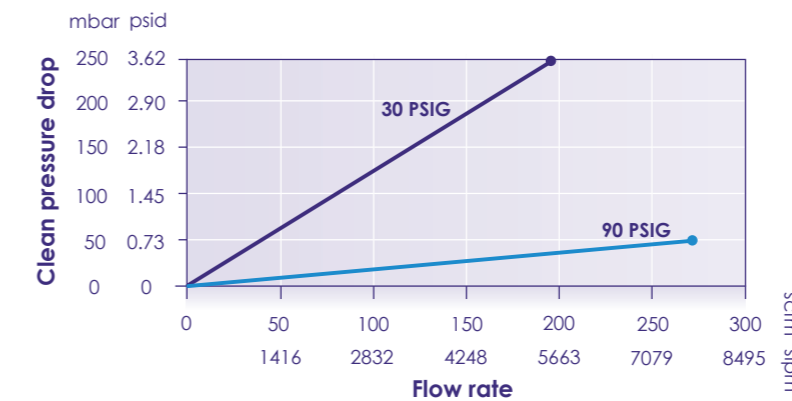
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-100 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-100 Part Numbers and Ordering Information

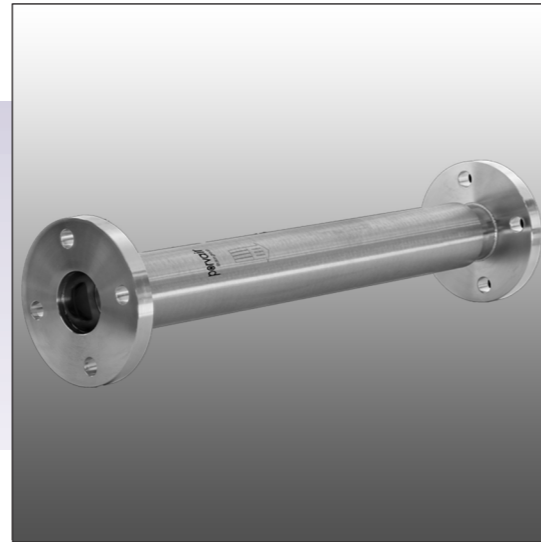
Part number	Inlet/outlet fittings	Filter media/housing	Other materials	Length (L)
TEM-115-16	1.0" face seal inlet/outlet	PTFE / 316L stainless steel	Polypropylene Viton® seal*	899.9 mm (35.43")
TEM-128-24	1.5" FNPT inlet/outlet			864 mm (34.0")
TEM-150-24	1.5" tube stub inlet/outlet			946.2 mm (37.25")
TEM-160-24	1.5" Tri-Clamp ends			889 mm (35.0")

* FEP encapsulated FKM O-rings are available upon request

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-200

High Flow ePTFE
In-Line Filter



GasPro™ TEM-200 series filters are designed for 3 nm particle retention up to flow rates of 200 scfm and temperatures up to 80°C (176°F).

An ePTFE membrane (1.36 m² / 14.6 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases.
- Clean-dry air (CDA*) for critical processes including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system

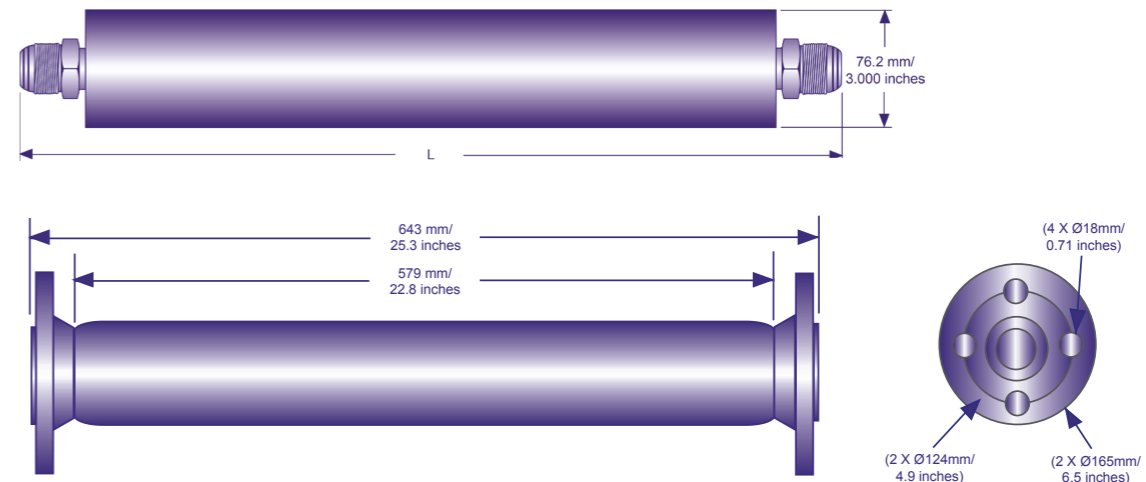
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

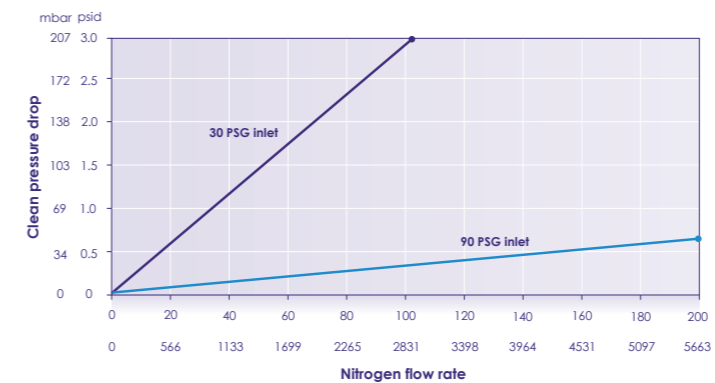
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-200 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-200 Part Numbers and Ordering Information

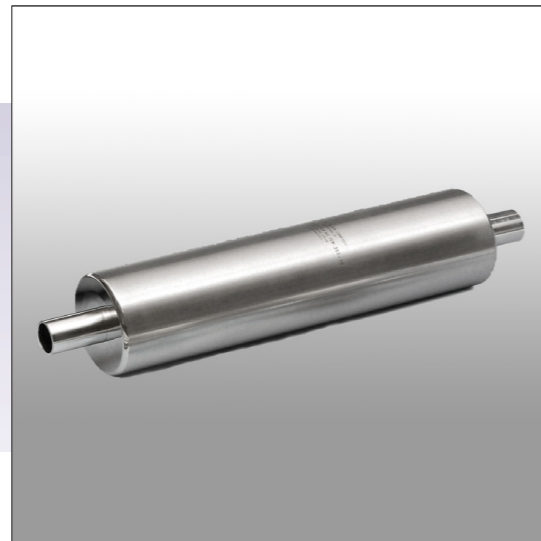
Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-215-16	1.0" male gasket seal inlet/outlet	PTFE / 316L stainless steel	Polypropylene Viton® seal*	658.4 mm (25.92")
TEM-228-16	1.0" female NPT inlet/outlet			640.1 mm (25.2")
TEM-250-24	1.5" tube stub inlet/outlet			637.5 mm (25.1")
TEM-250-32	2.0" tube stub inlet/outlet			637.5 mm (25.1")
TEM-260-DN50	Flange (see drawing for details)			643.1 mm (25.32")

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-300

High Flow ePTFE
In-Line Filter



GasPro™ TEM-300 series filters are designed for 3 nm particle retention up to flow rates of 120 scfm and temperatures up to 80°C (176°F).

An ePTFE membrane (0.68 m² / 7.3 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases for semiconductor, flat panel display and other high-purity applications.
- Gases used for critical flat panel processes, including substrate annealing.
- Clean-dry air for critical processes, including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient particle retention 3 nm.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

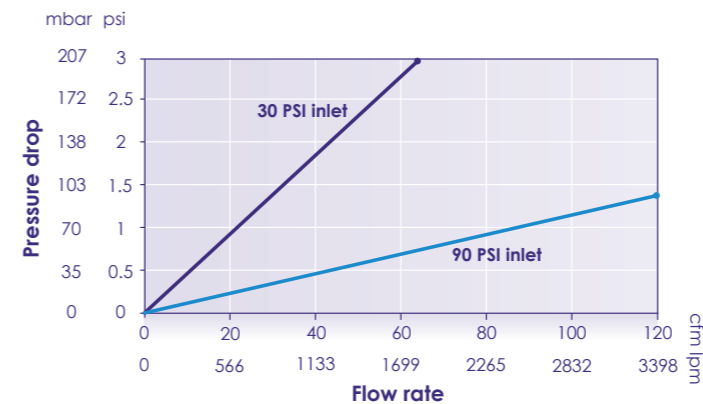
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-300 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-300 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-311-8	1/2" compression inlet/outlet	PTFE / 316L stainless steel	Polypropylene/Viton®	354.3 mm (13.95")
TEM-311-24	1.5" compression inlet/outlet			405.1 mm (15.95")
TEM-315-16	1.0" male face seal inlet/outlet			401.1 mm (15.79")
TEM-328-16	1.0" female NPT inlet/outlet			388.9 mm (15.31")
TEM-350-16	1.0" tube stub inlet/outlet			388.1 mm (15.28")
TEM-350-24	1.5" tube stub inlet/outlet			385.8 mm (15.19")

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-400

High Flow ePTFE
In-Line Filter



GasPro™ TEM-400 series filters are designed for **3 nm particle retention up to flow rates of 75 scfm and temperatures up to 80°C (176°F).**

An ePTFE membrane (0.21 m² / 2.3 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases for semiconductor, flat panel display and other high-purity applications.
- Clean-dry air for critical metrology, inspection and lithography applications.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

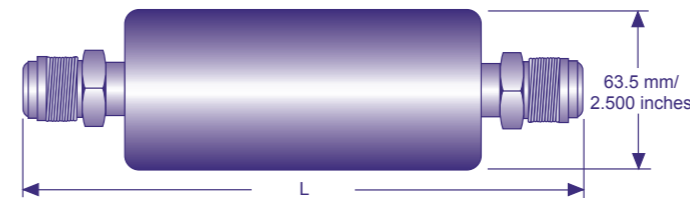
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient particle retention 3 nm.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0bar (87 psi)
80°C (176°F): 4.0bar (58 psi)

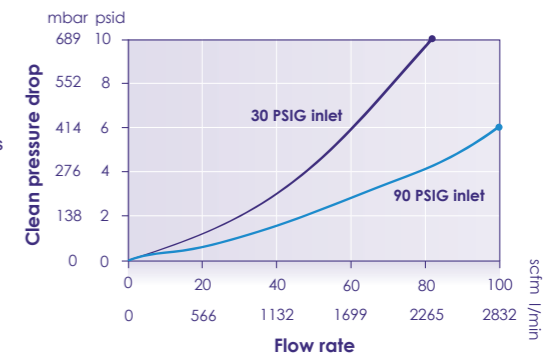
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-400 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-400 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-411-6	3/8" compression inlet/outlet	PTFE / 316L stainless steel	Polypropylene Viton®	7.67" (194.8 mm)
TEM-411-12	3/4" compression inlet/outlet			7.90" (200.7 mm)
TEM-415-6	3/8" male face seal inlet/outlet			8.60" (218.4 mm)
TEM-415-8	1/2" male face seal inlet/outlet			8.60" (218.4 mm)
TEM-415-12	3/4" male face seal inlet/outlet			9.00" (228.6 mm)
TEM-415-16	1" male face seal inlet/outlet			9.00" (228.6 mm)
TEM-428-6	3/8" FNPT inlet/outlet			7.55" (191.8 mm)
TEM-428-8	1/2" FNTP inlet/outlet			8.10" (205.7 mm)
TEM-428-16	1" FNPT inlet/outlet			8.54" (216.9 mm)
TEM-450-8	1/2" butt weld			7.70" (195.6 mm)
TEM-450-12	3/4" butt weld			7.70" (195.6 mm)
TEM-450-16	1" butt weld			8.70" (221.0 mm)

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-500

High Flow ePTFE
In-Line Filter



GasPro™ TEM-500 series filters are designed for 3 nm particle retention up to flow rates of 50 scfm and temperatures up to 80°C (176°F).

An ePTFE membrane (0.11 m² / 1.2 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases for semiconductor, flat panel display and other high-purity applications.
- Clean-dry air for critical metrology, inspection and lithography applications.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

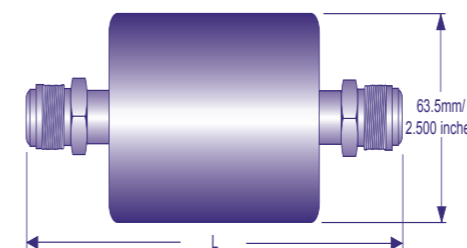
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient particle retention 3 nm.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

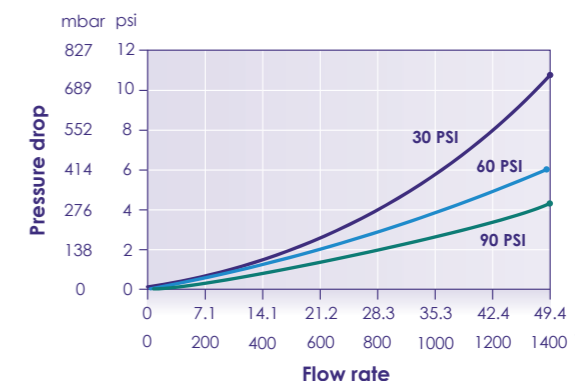
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-500 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-500 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-511	1/4" compression inlet/outlet	PTFE / 316L stainless steel	Polypropylene Viton®	131.3 mm (5.17")
TEM-511-6	3/8" compression inlet/outlet			131.3 mm (5.17")
TEM-511-8	1/2" compression inlet/outlet			129.0 mm (5.08")
TEM-511-12	3/4" compression inlet/outlet			142.2 mm (5.60")
TEM-513-8	1/2" face seal female inlet/male outlet			156.0 mm (6.14")
TEM-515	1/4" male face seal inlet/outlet			139.7 mm (5.50")
TEM-515-6	3/8" male face seal inlet/outlet			156.0 mm (6.14")
TEM-515-8	1/2" male face seal inlet/outlet			156.0 mm (6.14")
TEM-515-12	3/4" male face seal inlet/outlet			156.0 mm (6.14")
TEM-515-16	1" male face seal inlet/outlet			165.1 mm (6.50")
TEM-528-6	3/8" FNPT inlet/outlet			133.4 mm (5.25")
TEM-528-8	1/2" FNPT inlet/outlet			146.6 mm (5.77")
TEM-528-12	3/4" FNPT inlet/outlet			150.9 mm (5.94")
TEM-550-8	1/2" butt weld inlet/outlet			137.2 mm (5.4")
TEM-550-12	3/4" butt weld inlet/outlet			137.2 mm (5.4")

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-800

High-Purity PTFE-316L
In-Line Filter



GasPro™ TEM-800 series filters are designed for **3 nm particle retention up to flow rates of 10 scfm and temperatures up to 80°C (176°F).**

An ePTFE membrane with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases.
- Clean-dry air for critical metrology, inspection and lithography applications.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

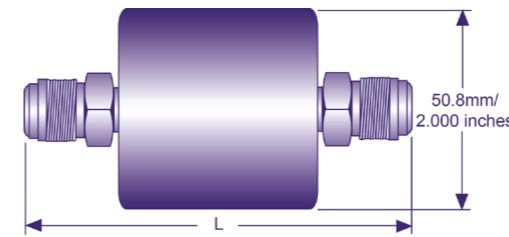
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient particle retention 3 nm.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (750 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

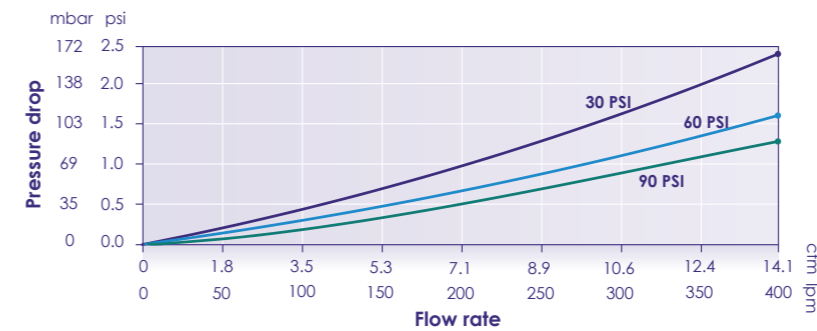
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-800 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-800 Part Numbers and Ordering Information

Part number	Inlet / outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-811	1/4" compression inlet/outlet	PTFE / 316L stainless steel	Polypropylene Viton® seal*	82.3 mm (3.24")
TEM-811-6	3/8" compression inlet/outlet			86.9 mm (3.42")
TEM-811-8	1/2" compression inlet/outlet			99.1 mm (3.90")
TEM-812	1/4" male/female face seal			94.7 mm (3.73")
TEM-812-6	3/8" male/female face seal			115.8 mm (4.56")
TEM-812-8	1/2" male/female face seal			115.8 mm (4.56")
TEM-813	1/4" female/male face seal			94.7 mm (3.73")
TEM-813-6	3/8" female/male face seal			115.8 mm (4.56")
TEM-814	1/4" female/female face seal			94.7 mm (3.73")
TEM-814-8	1/2" female/female face seal			115.8 mm (4.56")
TEM-815	1/4" male face seal inlet/outlet			94.7 mm (3.73")
TEM-815-6	3/8" male face seal inlet/outlet			115.8 mm (4.56")
TEM-815-8	1/2" male face seal inlet/outlet			115.8 mm (4.56")
TEM-825	1/4" male/male VCO			101.9 mm (4.01")
TEM-828	1/4" FNPT inlet/outlet			90.9 mm (3.58")
TEM-828-8	1/2" FNPT inlet/outlet			107.7 mm (4.24")
TEM-829	1/4" male NPT inlet/outlet	90.0 mm (3.58")		

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options

GasPro™

TEM-900

High Purity All-Fluoropolymer
316L In-Line Filter



GasPro™ TEM-900 series filters are designed for 3 nm particle retention up to flow rates of 30 slpm and temperatures up to 121°C (250°F)

Typical Applications

- Point-of-use semiconductor speciality gas filtration.
- Inert and speciality gas delivery.

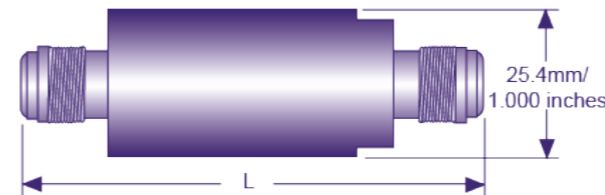
Specifications

- **Construction**
ePTFE membrane (9.82 cm² / 1.5 m²), with a PTFE support structure, within a 316L stainless steel housing. Various internal o-ring materials can be selected.
- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature**
121°C (250°F) in inert gas.
- **Maximum operating pressure**
207 bar (3000 psig) at 20°C (68°F).

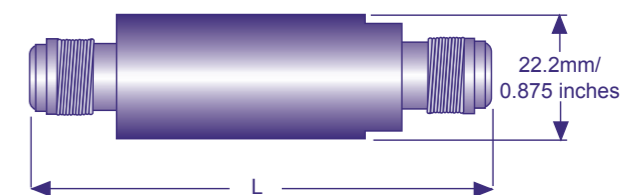
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-900 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

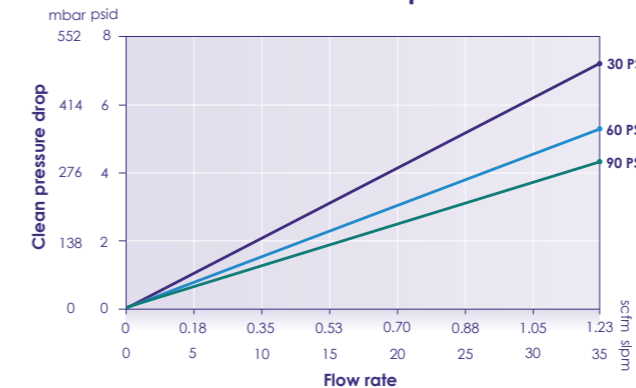
Specifications



S Option*



Gas flow rate vs Pressure drop



TEM-900 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-911	1/4" compression inlet/outlet	PTFE / 316L stainless steel	PTFE / FEP / FKM	73.2 mm (2.88")
TEM-911s	1/4" compression inlet/outlet			73.2 mm (2.88")
TEM-911-6	3/8" compression inlet/outlet			89.4 mm (3.52")
TEM-912	1/4" male/female face seal			91.4 mm (3.60")
TEM-913	1/4" female/male face seal			87.8 mm (3.46")
TEM-914	1/4" female/female face seal			97.8 mm (3.85")
TEM-915	1/4" male face seal inlet/outlet			84.1 mm (3.31")
TEM-915s*	1/4" male face seal inlet/outlet			84.1 mm (3.31")
TEM-915-8	1/2" male face seal inlet/outlet			92.71 mm (3.65")
TEM-925	1/4" male/male VCO			76.2 mm (3.0")

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

* S Denotes smaller diameter 0.875in.

GasPro™ TEM-1100

Ultra-High Flow
All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1100 Series filters are designed for 3 nm particle retention up to flow rates of 300 scfm and temperatures of 150°C (302°F).

A PTFE Membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- General and process inert facilities gases for semiconductor, flat panel display and other high-purity applications.
- Gases used for critical flat panel processes, including substrate annealing.
- Clean-dry air for critical processes, including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (100-130°C / 212-266°F), recommended filter change-out is one year after installation. Between 131-150°C / 286-302°F, the maximum recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

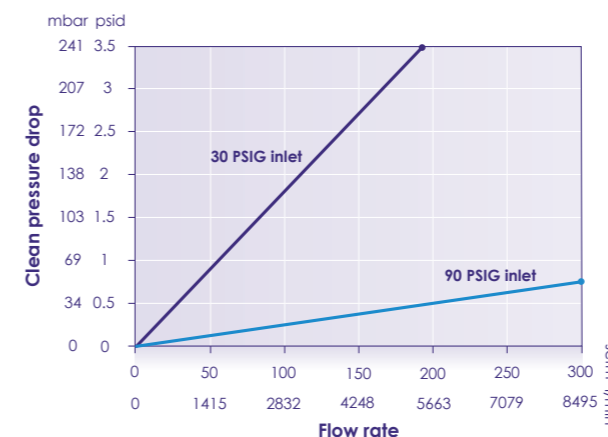
Features and Benefits

- **Filtration rating**
Our porous PTFE filters provide efficient 3nm particle retention.
- **Construction**
An ePTFE membrane (2.73 m² / 29.4 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-rings may be available upon request).
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Maximum differential pressure / temperature**
Forward:
80 psid (5.5 bar) @ 75°F (24°C)
55 psid (3.8 bar) @ 167°F (75°C)
30 psid (2.0 bar) @ 257°F (125°C)
15 psid (1.0 bar) @ 300°F (150°C)
- **Maximum operating pressure**
17.2 bar (250 psig)
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second
- **Out of package cleanliness**
Our GasPro™ TEM-1100 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

Specifications



Gas flow rate vs Pressure drop



TEM-1100 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-1115-16	1.0" male face seal inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer /FEP encapsulated Viton	35.43" (899.9 mm)
TEM-1128-24	1.5" FNPT inlet/outlet			34.0" (864 mm)
TEM-1150-24	1.5" tube stub inlet/outlet			37.25" (946.2 mm)
TEM-1160-24	1.5" Tri-Clamp ends			35.0" (889 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1200

High Flow
All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1200 Series filters are designed for 3 nm particle retention up to flow rates of 200 scfm and temperatures of 150°C (302°F).

A PTFE Membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- High-flow ultra-high purity inert and speciality gases.
- Semiconductor, TFT flat panel display, silicon wafer manufacturing, photovoltaic/solar process gases.

** In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.*

In elevated CDA temperatures (100-130°C / 212-266°F), recommended filter change-out is one year after installation. Between 131-150°C / 286-302°F, the maximum recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

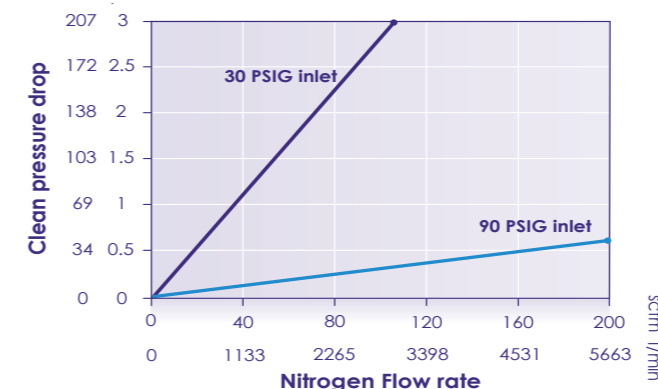
Features and Benefits

- **Filtration rating**
Our porous PTFE filters provide efficient 3 nm particle retention.
- **Construction**
An ePTFE membrane (1.3m² / 14ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-rings may be available upon request).
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Maximum differential pressure / temperature forward:**
80 psid (5.5 bar) @ 75°F (24°C)
55 psid (3.8 bar) @ 167°F (75°C)
30 psid (2.0 bar) @ 257°F (125°C)
15 psid (1.0 bar) @ 300°F (150°C)
- **Maximum operating pressure**
17.2 bar (250 psig)
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second
- **Out of package cleanliness**
Our GasPro™ TEM-1200 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

Specifications



Gas flow rate vs Pressure drop



TEM-1200 part numbers and ordering information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-1211-16	1.0" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer/FEP encapsulated Viton®	25.0" (635 mm)
TEM-1215-16	1.0" male face seal inlet/outlet			25.92" (658.4 mm)
TEM-1250-16	1.0" butt weld inlet/outlet			26.64" (676.7 mm)
TEM-1250-24	1.5" butt weld inlet/outlet			30.0" (762 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1300

High Flow
All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1300 Series filters are designed for 3 nm particle retention up to flow rates of 120 scfm and temperatures of 150°C (302°F).

A PTFE Membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- High-flow ultra-high purity inert and speciality gases.
- Semiconductor, TFT flat panel display, silicon wafer manufacturing, photovoltaic/solar process gases.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (100-130°C / 212-266°F), recommended filter change-out is one year after installation. Between 131-150°C / 286-302°F, the maximum recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

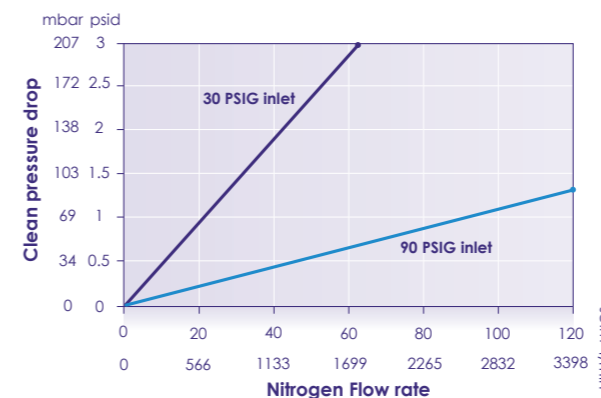
Features and Benefits

- **Filtration rating**
Our porous PTFE filters provide efficient 3 nm particle retention.
- **Construction**
An ePTFE membrane (0.63 m² / 6.8 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-rings may be available upon request).
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Maximum differential pressure / temperature**
Forward:
80 psid (5.5 bar) @ 75°F (24°C)
55 psid (3.8 bar) @ 167°F (75°C)
30 psid (2.0 bar) @ 257°F (125°C)
15 psid (1.0 bar) @ 300°F (150°C)
- **Maximum operating pressure**
17.2 bar (250 psig)
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second
- **Out of package cleanliness**
Our GasPro™ TEM-1300 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

Specifications



Gas flow rate vs Pressure drop



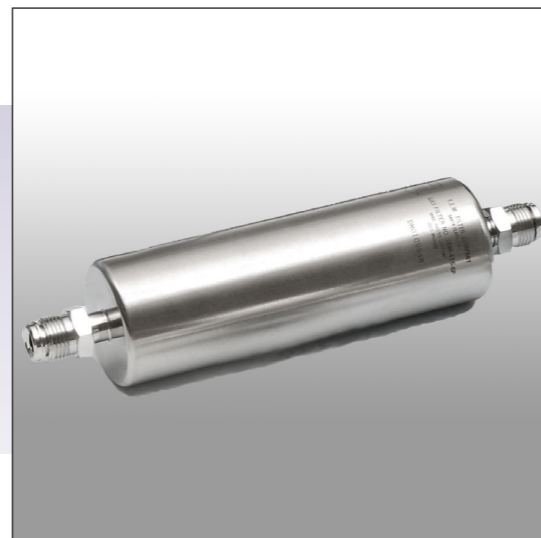
TEM-1300 part numbers and ordering information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-1315-12	3/4" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer/ FEP encapsulated Viton*	15.90" (403.9 mm)
TEM-1350-16	1.0" tube stub inlet/outlet			15.28" (388.1 mm)
TEM-1350-24	1.5" tube stub inlet/outlet			15.19" (386 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1400

All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1400 Series filters are designed for 3 nm particle retention up to flow rates of 75 scfm and temperatures of 150°C (302°F).

A PTFE Membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- High-flow ultra-high purity inert and speciality gases.
- Semiconductor, TFT flat panel display, silicon wafer manufacturing, photovoltaic/solar process gases.

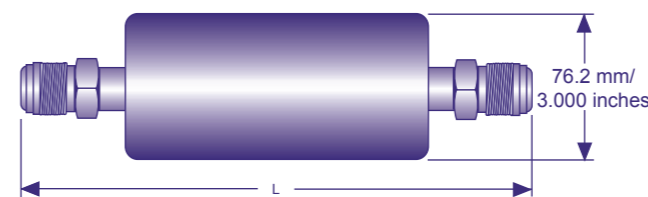
* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (100-130°C / 212-266°F), recommended filter change-out is one year after installation. Between 131-150°C / 286-302°F, the maximum recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

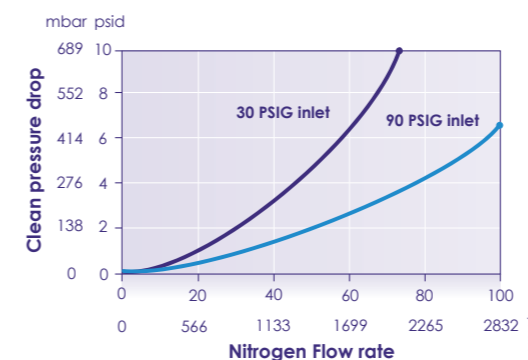
Features and Benefits

- **Filtration rating**
Our porous PTFE filters provide efficient 3nm particle retention.
- **Construction**
An ePTFE membrane (0.45 m² / 4.8 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-rings may be available upon request).
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Maximum differential pressure / temperature forward:**
80 psid (5.5 bar) @ 75°F (24°C)
55 psid (3.8 bar) @ 167°F (75°C)
30 psid (2.0 bar) @ 257°F (125°C)
15 psid (1.0 bar) @ 300°F (150°C)
- **Maximum operating pressure**
17.2 bar (250 psig)
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second
- **Out of package cleanliness**
Our GasPro™ TEM-1400 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

Specifications



Gas flow rate vs Pressure drop



TEM-1400 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-1411-12	3/4" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer/FEP encapsulated Viton*	8.20" (208.3 mm)
TEM-1414-8	1/2" female face seal inlet/outlet			10.14" (257.6 mm)
TEM-1415-8	1/2" male face seal inlet/outlet			8.86" (225.0 mm)
TEM-1415-12	3/4" male face seal inlet/outlet			8.86" (225.0 mm)
TEM-1415-16	1.0" male face seal inlet/outlet			8.86" (225.0 mm)
TEM-1450-8	1/2" butt weld inlet/outlet			11.61" (294.9 mm)
TEM-1450-12	3/4" butt weld inlet/outlet			11.61" (294.9 mm)
TEM-1450-16	1.0" butt weld inlet/outlet			9.14" (232.2 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1500

High Flow
All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1500 Series filters are designed for 3 nm particle retention up to flow rates of 25 scfm and temperatures of 150°C (302°F).

A PTFE Membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- High-flow ultra-high purity inert and speciality gases.

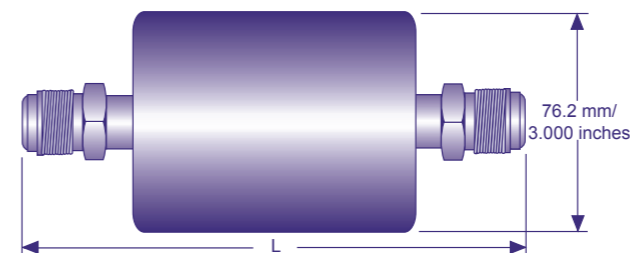
* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (100-130°C / 212-266°F), recommended filter change-out is one year after installation. Between 131-150°C / 286-302°F, the maximum recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

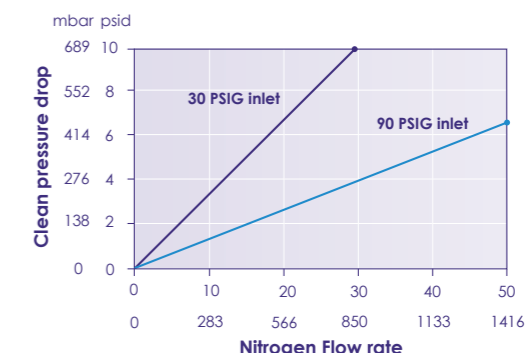
Features and Benefits

- Filtration rating**
Our porous PTFE filters provide efficient 3 nm particle retention.
- Construction**
A PTFE membrane (0.45 m² / 4.8 ft²) provides excellent chemical resistance.
- Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- Maximum differential pressure / temperature forward:**
80 psid (5.5 bar) @ 75°F (24°C)
55 psid (3.8 bar) @ 167°F (75°C)
30 psid (2.0 bar) @ 257°F (125°C)
15 psid (1.0 bar) @ 300°F (150°C)
- Maximum operating pressure**
17.2bar (250 psig)
- 100% helium leak tested**
All units tested to 1x10⁹ atm cc/second
- Out of package cleanliness**
Our GasPro™ TEM-1500 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

Specifications



Gas flow rate vs Pressure drop



TEM -1500 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials*	Length (L)
TEM-1511-8	1/2" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer/FEP encapsulated Viton*	7.00" (178 mm)
TEM-1515-8P	1/2" male face seal inlet/outlet			7.75" (197 mm)
TEM-1515-12	3/4" male face seal inlet/outlet			8.59" (218 mm)
TEM-1550-12P	3/4" butt weld inlet/outlet			11.61" (294.9 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1800

High Purity All-Fluoropolymer
In-Line Filter



GasPro™ TEM-1800 Series filters are designed for **3 nm particle retention up to flow rates of 10 scfm and temperatures of 121°C (250°F).**

A PTFE membrane and all-fluoropolymer support structure is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- Point-of-use filtration of process specialty gases.
- Low pressure to vacuum delivery of silicon precursors via vapour or inert carrier gas.

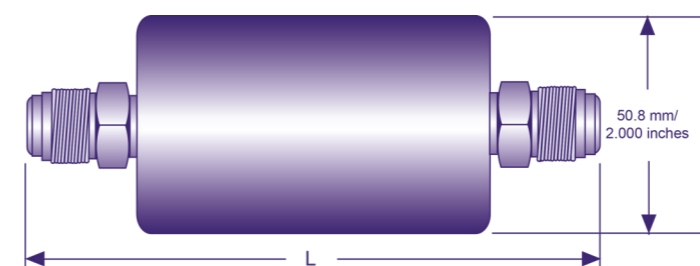
Specifications

- **Filtration rating**
Our porous PTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature**
121°C (250°F) in inert gas.
- **Maximum operating pressure**
51.6 bar (750 psig) at 20°C (68°F).

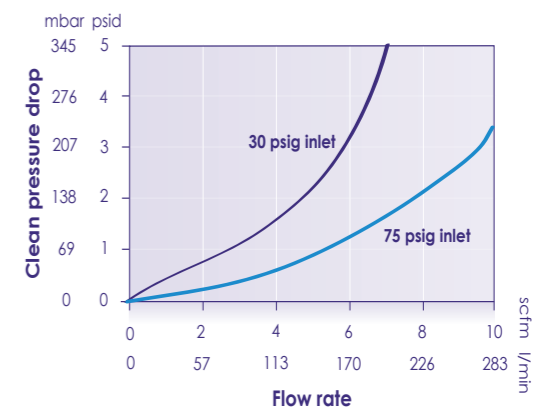
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-1800 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-1800 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-1811	1/4" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer / FEP encapsulated FKM	141.9 mm (5.585")
TEM-1811-6	3/8" compression inlet/outlet			116.5 mm (4.585")
TEM-1811-8	1/2" compression inlet/outlet			143.9 mm (5.665")
TEM-1812-P	1/4" male face seal inlet/female outlet			141.2 mm (5.561")
TEM-1815-6	3/8" male face seal inlet/outlet			132.6 mm (5.22")
TEM-1850-6	3/8" butt weld inlet/outlet			143.9 mm (5.665")
TEM-1850-8	1/2" butt weld inlet/outlet			143.9 mm (5.665")

* Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1900

High Purity All-Fluoropolymer 316L In-Line Filter



GasPro™ TEM-1900 Series filters are designed for 3 nm particle retention up to flow rates of 100 slpm and temperatures of 121°C (250°F).

A variety of fitting types are offered for easy installation.

Applications

- Point-of-use filtration of process speciality gases.
- Low pressure to vacuum delivery of silicon precursors via vapour or inert carrier gas.

Specifications

- **Filtration rating**
Our porous PTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature**
121°C (250°F) in inert gas.
- **Maximum operating pressure**
207 bar (3000 psig) at 20°C (68°F).

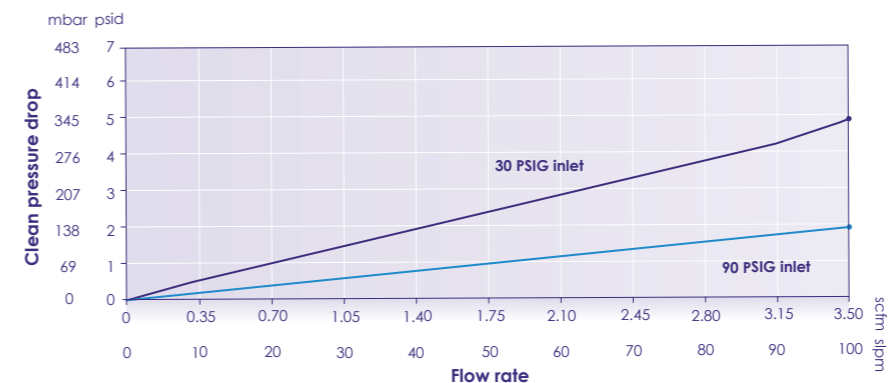
Features and benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-1900 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-1900 Part Numbers and Ordering Information

Part number	Inlet / outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-1911	1/4" compression inlet/outlet	PTFE / 316L stainless steel	All fluoropolymer / FEP encapsulated FKM	116.8 mm (4.6")
TEM-1911-6	3/8" compression inlet/outlet			122.2 mm (4.81")
TEM-1911-8	1/2" compression inlet/outlet			122.7 mm (4.83")
TEM-1915	1/4" male face seal inlet/outlet			127 mm (5.00")
TEM-1915-6	3/8" male face seal inlet/outlet			133.4 mm (5.25")
TEM-1915-8	1/2" male face seal inlet/outlet			133.4 mm (5.25")
TEM-1950-8	1/2" butt weld inlet/outlet			130.3 mm (5.13")

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM PV1-1400

316L-Polypropylene Media
1 Micron In-Line Gas Filter



GasPro™ PV1-1400 series filters are designed for photovoltaic/solar and other microelectronic gas applications where 1 µm particle retention is acceptable. Standard industry fittings are offered for easy installation.

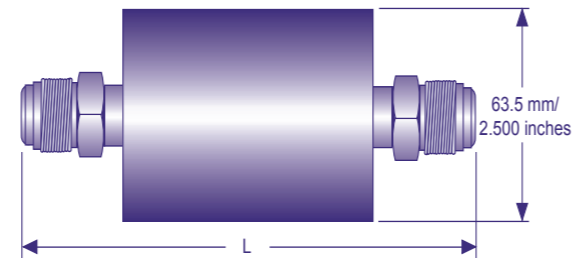
Specifications

- **Filtration Rating**
Efficient particle retention at 1.0 µm
- **Maximum operating temperature**
80°C (176°F) in inert gas
- **Maximum operating pressure**
17.2 bar (250 psig) at 20°C (68°F)

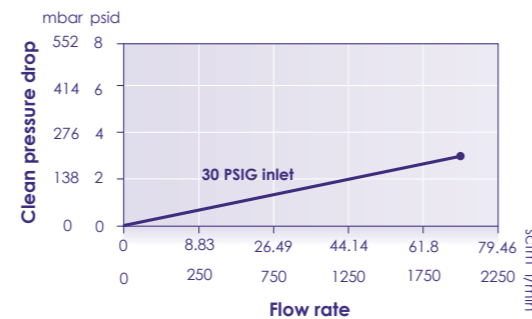
Features

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ PV1-1400 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face/gasket seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.
- **Construction**
Polypropylene filtration media enclosed in a 316L stainless steel housing.

Specifications



Gas flow rate vs Pressure drop



PV1-1400 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/hardware	Length (L)
PV1-1411-12	3/4" compression inlet/outlet	Polypropylene / 316L	6.14" (156 mm)
PV1-1415-8	1/2" face seal inlet/outlet		6.14" (156 mm)
PV1-1415-12	3/4" face seal inlet/outlet		6.50" (165.1 mm)
PV1-1415-16	1" face seal inlet/outlet		6.50" (165.1 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

PFG93/Oct121/Rev4/Apr125

GasPro™ TEM-2100/3100

High Flow PTFE In-Line Filter
Assemblies



GasPro™ TEM-2100/3100 Series filters are designed for the filtration of semiconductor grade inert gases and CDA (clean dry air). This all-welded in-line multi-tube assembly will deliver 3 nm particle retention where high flow rate is required.

These filter assemblies can easily be designed inside a cabinet, be placed under the cleanroom floor or anywhere in the subfab.

A PTFE membrane and polypropylene supported cartridge is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

Applications

- General and process inert facilities gases for semiconductor, flat panel display, and other high-purity applications.
- Microelectronics clean dry air.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

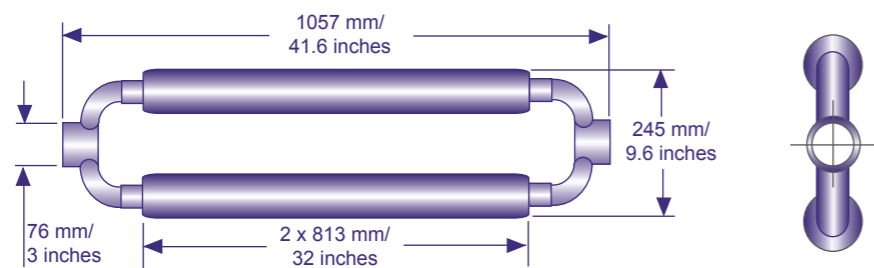
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-2100/3100 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package particulate and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

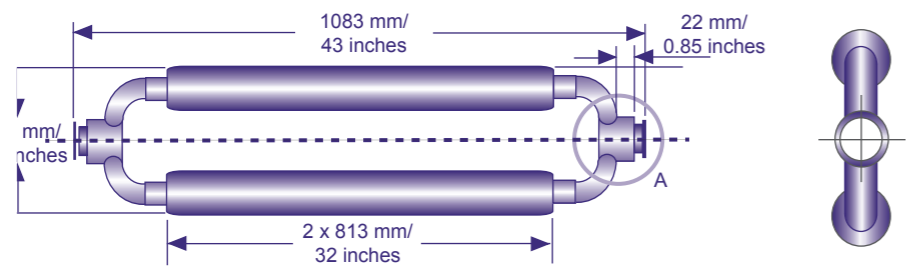
PFG934/Rev4/May26

Specifications

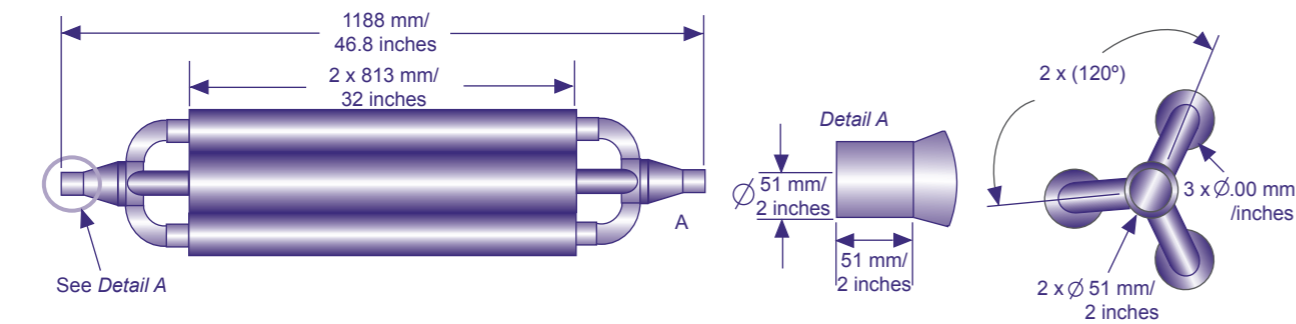
TEM-2150-48 3" butt weld



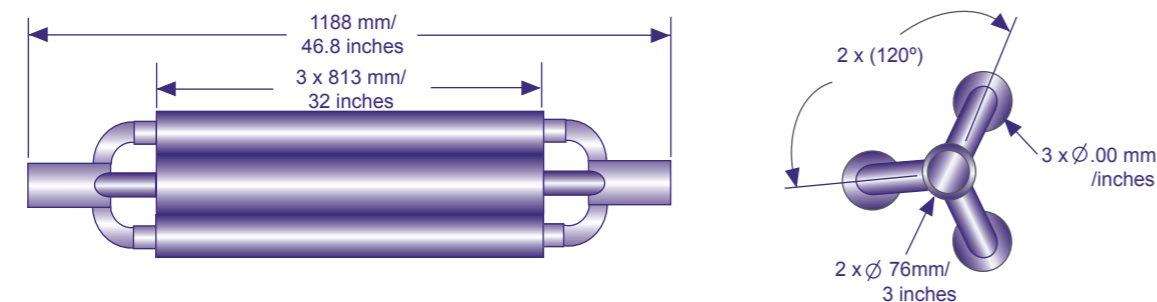
TEM-2160-32TCKA 2" Tri-Clover



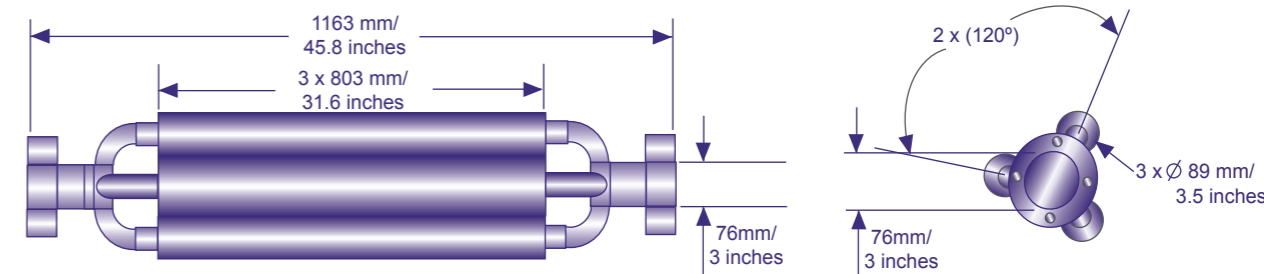
TEM-3150-32 2" butt weld



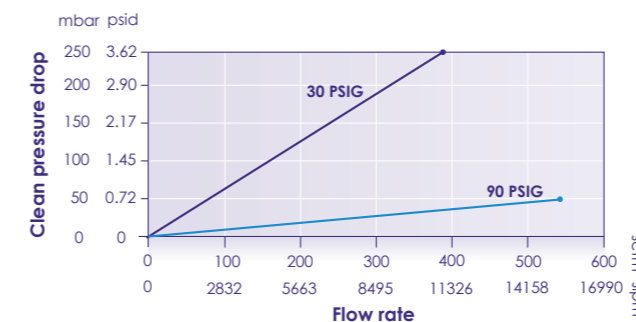
TEM-3150-48 3" butt weld



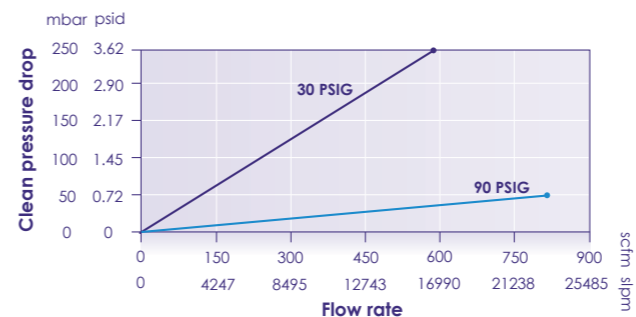
TEM-3360-32KF 2" flange



TEM-2100 series



TEM-3100 series



TEM-2100/3100 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Other materials	Length (L)
TEM-2150-48	3" butt weld inlet/outlet	PTFE / 316L Stainless Steel	Polypropylene Viton® seal*	1057.1 mm (41.62")
TEM-2160-32TCKA	2" Tri-Clover (Clamp) inlet/outlet			1088.6 mm (42.86")
TEM-3150-32	2" butt weld inlet/outlet			1188 mm (46.77")
TEM-3150-48	3" butt weld inlet/outlet			1188 mm (46.77")
TEM-3360-32KF	2" KF flange inlet/outlet			1163 mm (45.80")

* FEP encapsulated FKM O-rings are available upon request

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-2260

High Flow PTFE 316L In-Line Filter



GasPro™ TEM-2260 series filters are specifically designed for the filtration of semiconductor gases when ultra-high flow rates are required. This all-welded assembly will deliver 0.003 micron particle retention where a high flow rate is required and space is limited.

A PTFE membrane and polypropylene supported cartridge is enclosed in a 316L stainless steel electro-polished welded housing. Final assembly is purged with filtered nitrogen for initial cleanliness.

A variety of fitting types are offered for easy installation.

Applications

- General and process inert facilities gases.
- Clean-dry air (CDA*) for critical processes including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system process.

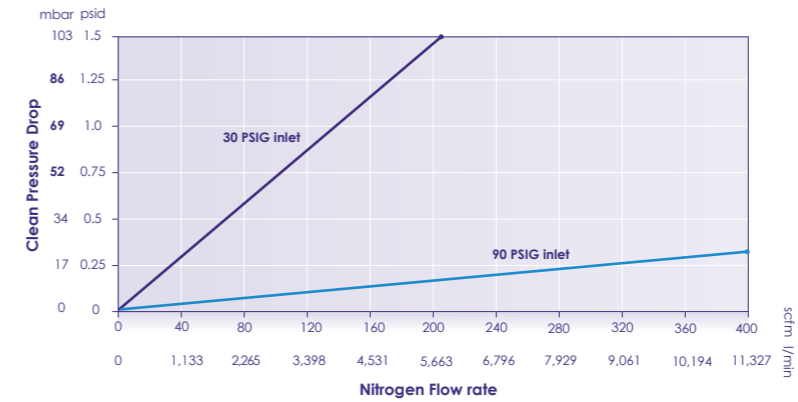
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

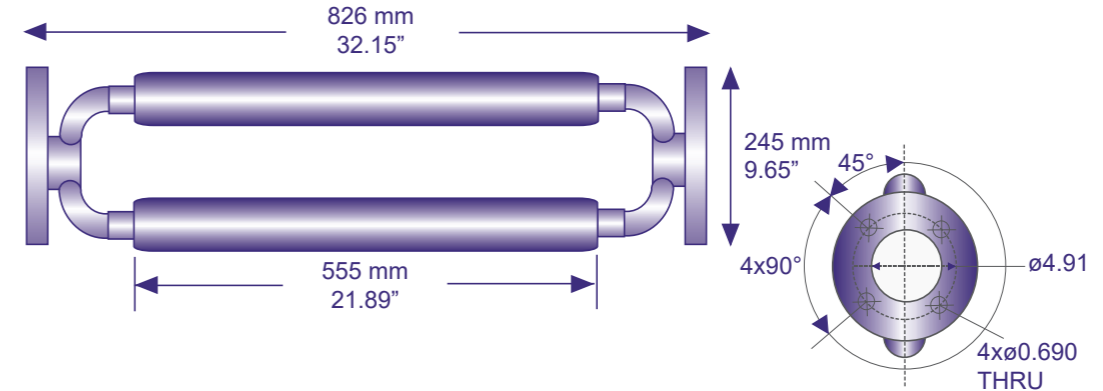
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-2260 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Gas flow rate vs Pressure drop



Dimensions



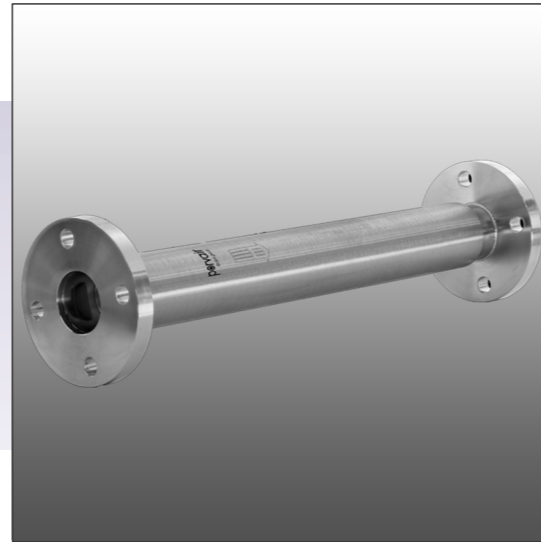
TEM-2260 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-2260-DN50	Flange (see drawing for details)	PTFE/ 316L stainless steel	Polypropylene Viton® seal*	826 mm (32.15")

* FEP encapsulated FKM O-rings are available upon request. Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-2500

High Flow ePTFE
In-Line Filter



GasPro™ TEM-2500 series filters are designed for 3 nm particle retention up to flow rates of 250 scfm and temperatures up to 80°C (176°F).

An ePTFE membrane (1.8 m² / 19.3 ft²) with a polypropylene support structure is enclosed within a stainless steel 316L housing for excellent flow and chemical resistance. A standard Viton® o-ring is used (other o-ring materials available on request).

Applications

- General and process inert facilities gases.
- Clean-dry air (CDA*) for critical processes including front opening unified pod (FOUP) cleaning and photolithography.

* In CDA and other facility gas filtration applications, flow, temperature, particle challenge, and other differences unique to each system, can affect overall filtration performance, and may affect the useful filtration period for each filter.

In elevated CDA temperatures (50-69°C / 122-156°F), recommended filter change-out is one year after installation. Between 70-80°C / 158-176°F, the recommended change-out is 6 months after installation. Filter lifetime can vary due to flow, particle challenge and other differences which are unique to each system, so it is up to the user to verify product life within their system

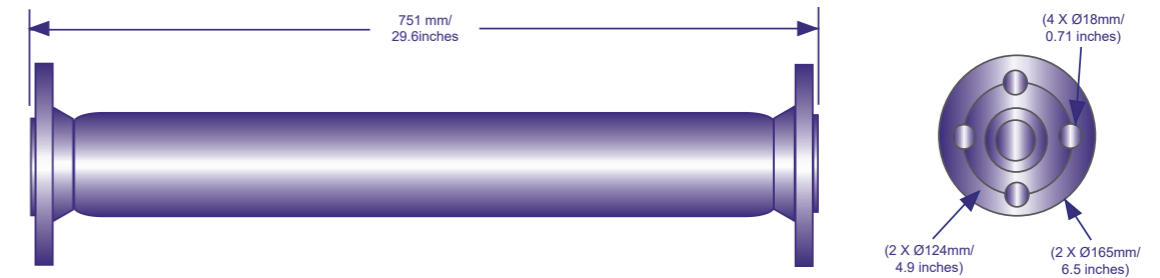
Specifications

- **Filtration rating**
Our porous ePTFE filters provide efficient 3 nm particle retention.
- **Maximum operating temperature***
80°C (176°F).
Recommended changeout:
6 months when operating above 69°C (156°F).
- **Maximum operating pressure**
17.2 bar (250 psig) @ 20°C (68°F).
- **Maximum forward flow differential pressure**
20°C (68°F): 6.0 bar (87 psi)
80°C (176°F): 4.0 bar (58 psi)

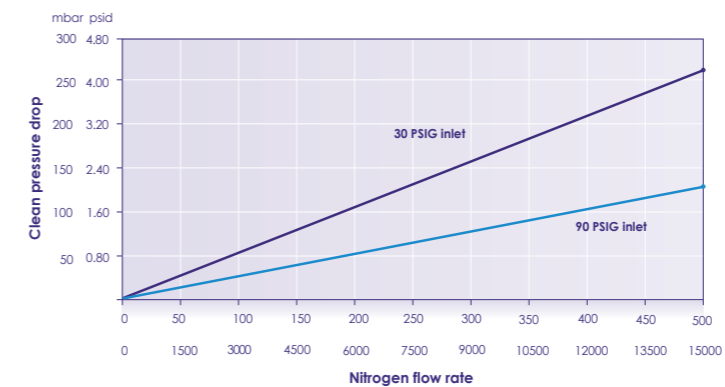
Features and Benefits

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-2500 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-2500 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media / housing	Other materials	Length (L)
TEM-2560-DN50	Flange (see drawing for details)	PTFE/316L Stainless Steel	Polypropylene Viton® seal*	751 mm (29.6")

* FEP encapsulated FKM O-rings are available upon request.

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ Ultra

1.5nm, LRV9
UHP Gas Filters



GasPro™ Ultra is a range of ultra-high-purity gas filters for use throughout the microelectronics and semiconductor industries.

GasPro™ Ultra ensures 9 LRV (log reduction value) of particles down to 0.0015µm.

Applications

- UHP gas sticks for semiconductor, LED, Photovoltaic
- UHP filtration in valve manifold boxes, gas cabinets
- Ultra high-purity particle removal

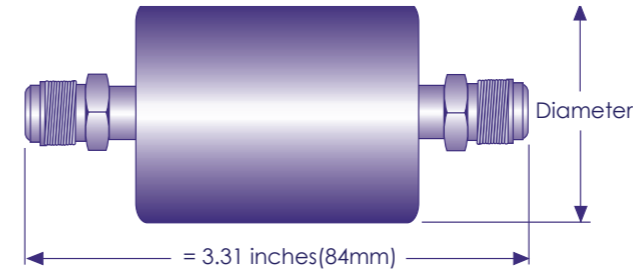
Features and Benefits

- **Ultra High Purity**
9 LRV (log reduction value) of particles down to 0.0015µm.
- **Electro-polished housing**
The filter assemblies have a 5Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ Ultra filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

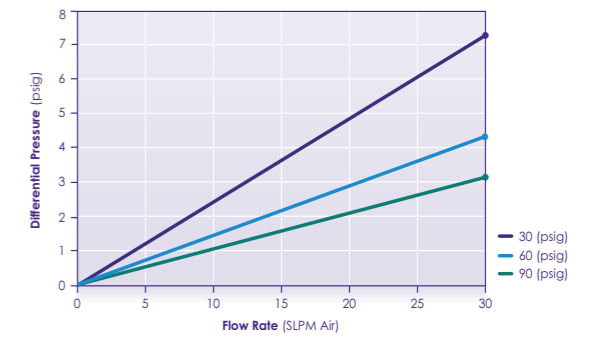
Specifications	
Particle Removal Size	≥ 0.0015 µm
Filter Efficiency (Log Reduction Value)	9 LRV (99.9999999% reduction in particles). Confirmed at the most penetrating particle size of 0.08 µm per SEMI F38-0699 test method
Helium Leak Rating	1 x 10 ⁻⁹ atm cc/sec
Materials of Construction Housing	Stainless Steel 316L
Internal Wetted Surface Finish	5Ra µin
Moisture Contribution	Below acceptable limits per SEMASPEC 90120396-STD test method
Total Hydrocarbons	Below acceptable limits per SEMASPEC 90120397-STD test method

Operating Conditions	
Maximum Operating Pressure	206.8 barg (3000 psig)
Maximum Operating Temperature	450 °c
Maximum Differential Pressure	68.9 barg (1000psid)

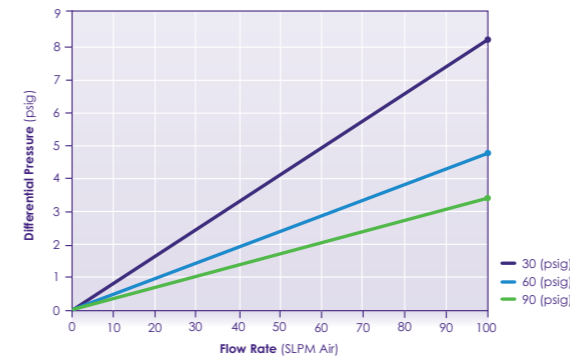
Specifications



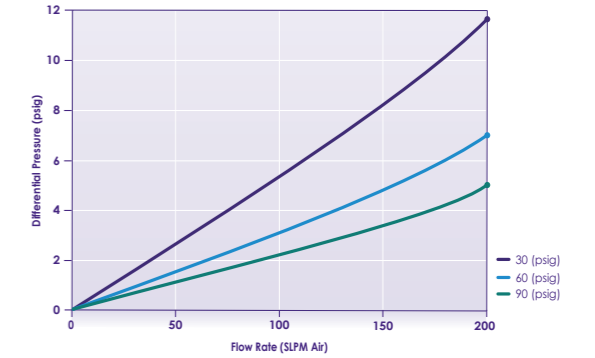
Typical Gas flow rate vs Pressure drop characteristics
Part Number: GPU-SF-030-FS-4



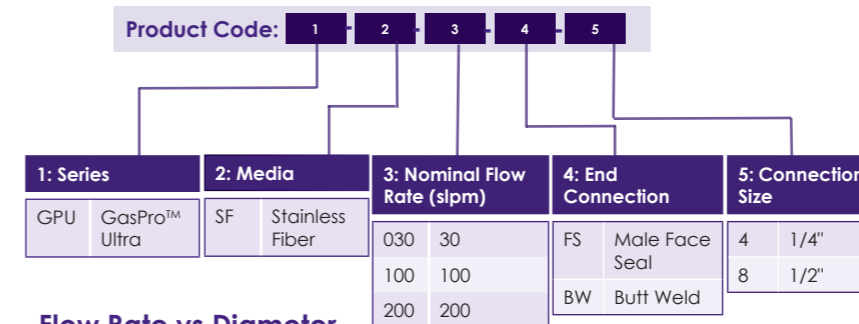
Typical Gas flow rate vs Pressure drop characteristics
Part Number: GPU-SF-100-FS-4



Typical Gas flow rate vs Pressure drop characteristics
Part Number: GPU-SF-200-FS-4



Part Numbers and Ordering Information



Flow Rate vs Diameter

Flow Rate	Diameter
030	1"
100	1.5"
200	2"

Example part configuration:

Part No.	Specifications
GPU-SF-030-FS-4	30 slpm, 1/4" male thread face seal fitting, Stainless fiber filter media

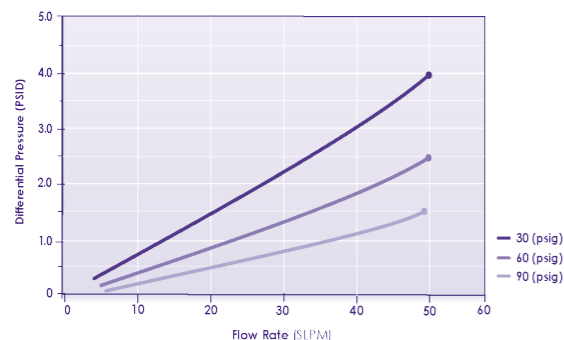
GasPro™ GPUSM

Metal Fiber Media Surface
Mount Filter, C-Seal



Porvair's GasPro™ high purity gas filtration products are optimised for the protection of critical valves, pressure regulators, mass flow controllers and other IGS and gas panel components used in microelectronics gas delivery equipment.

GasPro™ cleanroom-packaged compact filters are designed to handle high pressure and high temperature, safeguarding critical components against particle damage.



Specifications

Part number	Flow Rating	Filter rating*	Housing and Filter Material	Connects Into	Filter Overall Length
GPUSM-SF-050-C-18	50 slpm	1.5nm	316L Stainless Steel	1.125" C-Seal	3" (76mm)

GasPro™ Surface Mount Filter Specification

All GasPro™ surface mounts have a <10Ra wetted surface finish.

Features and Benefits

- Compact Design**
Footprint designed to accommodate small IGS tools.
- 100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.
- Filtration Rating**
1.5nm
9 LRV (99.9999999% reduction in particles).
Confirmed at the most penetrating particle size of 0.08 μm per SEMI F38-0699 test method.
- Robust Construction**
All Electropolished 316L stainless steel make this design robust in many applications.
- Out of package cleanliness**
Our GasPro™ GPUSM-1.125 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.

PFG902/Sept2025

GasPro™ SF/NF

Ultra High Purity All 316L
In-Line Filter



GasPro™ SF/NF range of ultra-high purity 316L stainless steel fiber In-Line filters utilize the same proven, reliable high performance filter media as provided in our TEM-1700 series used throughout the microelectronics and semiconductor industries. The GP SF/NF is housed in our GasPro™ Ultra bodies resulting in improved performance capabilities, production efficiency and reduced weld points.

Specifications

- **Filtration rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
206.8 bar (3,000 psig) at 20°C (68°F).

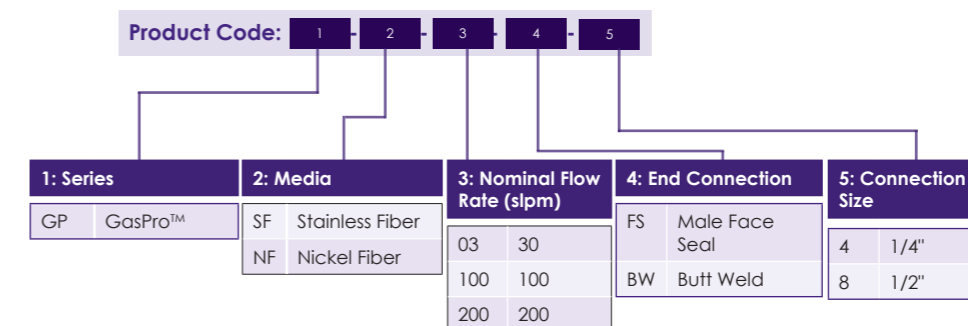
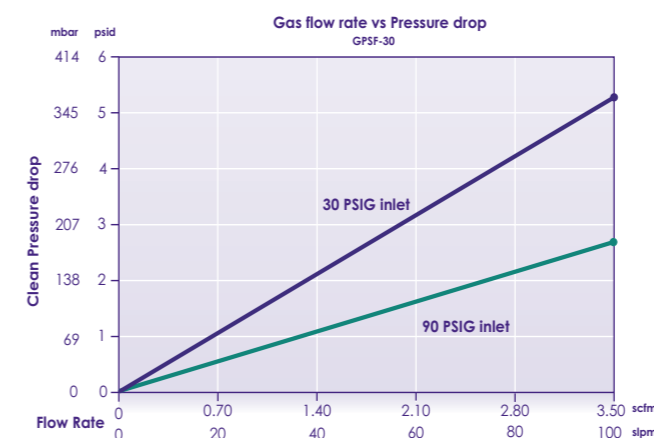
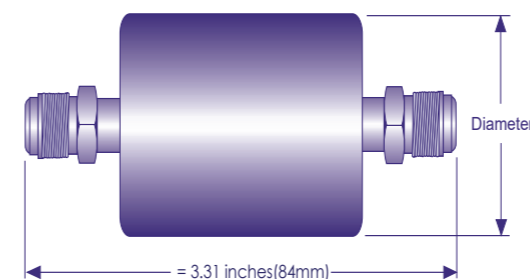
Typical Applications

- UHP gas sticks for semiconductor, LED, Photovoltaic.
- UHP filtration in valve manifold boxes, gas cabinet.
- UHP particle removal.

Features and Benefits

- **Construction**
316L or Nickel sintered fibre media and 316L stainless steel housing.
- **Electro-polished housing**
The filter assemblies have a 10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ SF/NF filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Specifications



Flow Rate vs Diameter

Flow Rate	Diameter
030	1"
100	1.5"
200	2"

Example part configuration:

Part No.	Specifications
GP-SF-030-FS-4	30 slpm, 1/4" male thread face seal fitting, Stainless fiber filter media

GasPro™ TEM-717125

1.125" C-seal Sintered
316L Media Surface Mount
Sandwich Filter



GasPro™ TEM-717125 is a unique filter for surface mount gas delivery systems, designed to be placed under another component. Placing under a valve or regulator eliminates one substrate and effectively shortens the system and reduces its cost.

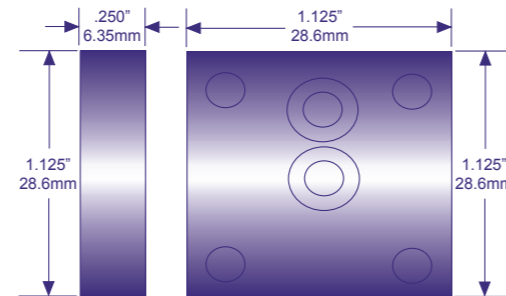
Specifications

- **Filtration rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas
- **Maximum operating pressure**
750 PSI at 250°F (51.7 bar at 121.1°C)

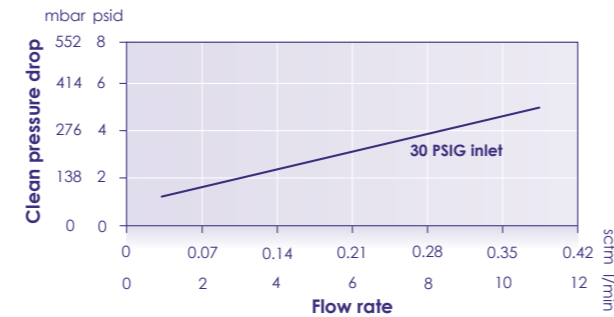
Features

- **All welded sintered 316L stainless hardware**
Good corrosion resistance; excellent bake-out characteristics for fast dry downs and in-line qualification.
- **Electro-polished 316L housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle formation.
- **Out of package cleanliness**
Our GasPro™ TEM-717125 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Dimensions



Gas flow rate vs Pressure drop



Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/hardware
TEM-717125	1.125" C-Seal	Sintered 316L / 316L

PFG944/Rev4/May26

GasPro™ TEM-737125

1.125" C-seal Sintered
Nickel Media Surface Mount
Sandwich Filter



GasPro™ TEM-737125 is a unique filter for surface mount gas delivery systems, designed to be placed under another component. Placing under a valve or regulator eliminates one substrate and effectively shortens the system and reduces its cost.

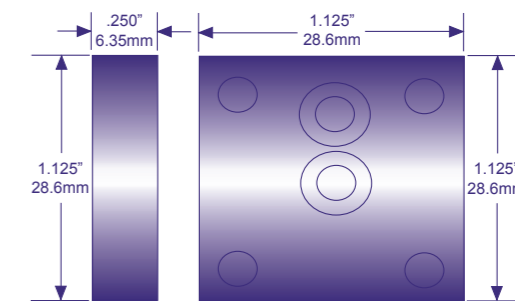
Specifications

- **Filtration rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas
- **Maximum operating pressure**
750 PSI at 250°F (51.7 bar at 121.1°C)

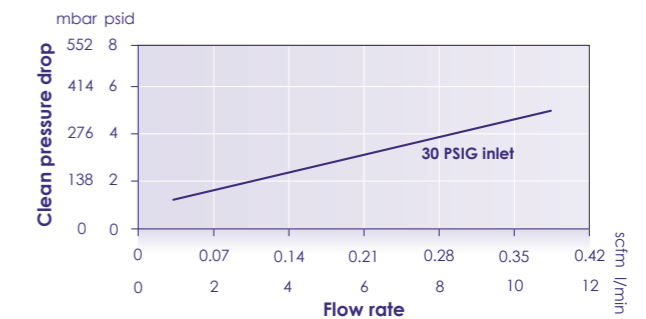
Features

- **All welded sintered nickel media-316L stainless hardware**
Good corrosion resistance; excellent bake-out characteristics for fast dry downs and in-line qualification.
- **Electro-polished 316L housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle formation.
- **Out of package cleanliness**
Our GasPro™ TEM-737125 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Dimensions



Gas flow rate vs Pressure drop



Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/hardware
TEM-737125	1.125" C-Seal	Sintered Nickel / 316L

PFG943/Rev4/May26

GasPro™ TEM-817125

Stainless Steel Surface
Mount Sandwich Filter



GasPro™ TEM-817125 is a unique filter for surface mount gas delivery systems, designed to be placed under another component. Placing under a valve or regulator eliminates one substrate and effectively shortens the system and reduces its cost.

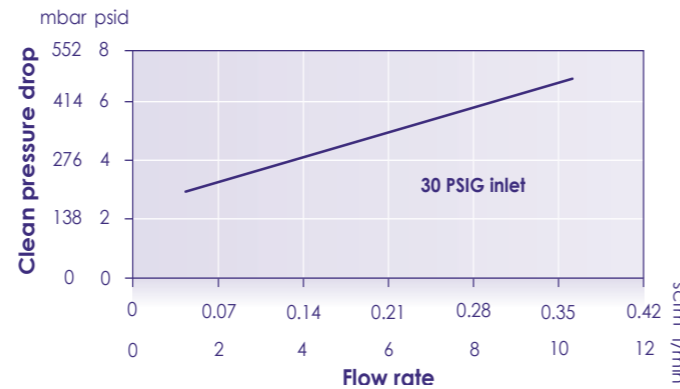
Specifications

- Efficient @ 3 nm particle retention.
- High flow sintered Stainless Steel fiber media.
- Max operating pressure 750 PSI @ 250°F.
- 100% Helium leak tested to 1×10^{-9} cc/ second.
- 316L stainless steel.
- 1 1/8" base, 0.875" high.
- Internal finish <10Ra.

Features

- **All welded sintered nickel media-316L stainless hardware**
Good corrosion resistance; excellent bake-out characteristics for fast dry downs and in-line qualification.
- **Electro-polished 316L housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle formation.
- **Out of package cleanliness**
Our GasPro™ TEM-817125 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested to greater than 1×10^{-9} atm cc/second**

Gas flow rate Vs Pressure drop



PFG947/March2026

GasPro™ TEM-837125

Nickel Surface Mount
Sandwich Filter



GasPro™ TEM-837125 is a unique filter for surface mount gas delivery systems, designed to be placed under another component. Placing under a valve or regulator eliminates one substrate and effectively shortens the system and reduces its cost.

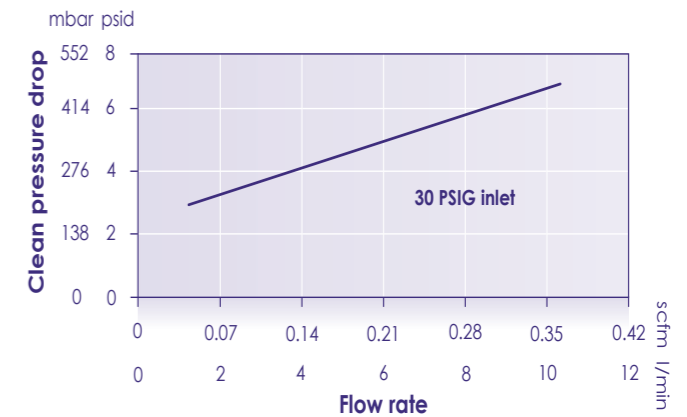
Specifications

- Efficient @ 3 nm particle retention.
- High flow sintered Nickel fiber media.
- Max operating pressure 750 PSI @ 250°F.
- 100% Helium leak tested to 1×10^{-9} cc/ second.
- 316L stainless steel.
- 1 1/8" base, 0.875" high.
- Internal finish <10Ra.

Features

- **All welded sintered nickel media-316L stainless hardware**
Good corrosion resistance; excellent bake-out characteristics for fast dry downs and in-line qualification.
- **Electro-polished 316L housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle formation.
- **Out of package cleanliness**
Our GasPro™ TEM-837125 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested to greater than 1×10^{-9} atm cc/second**

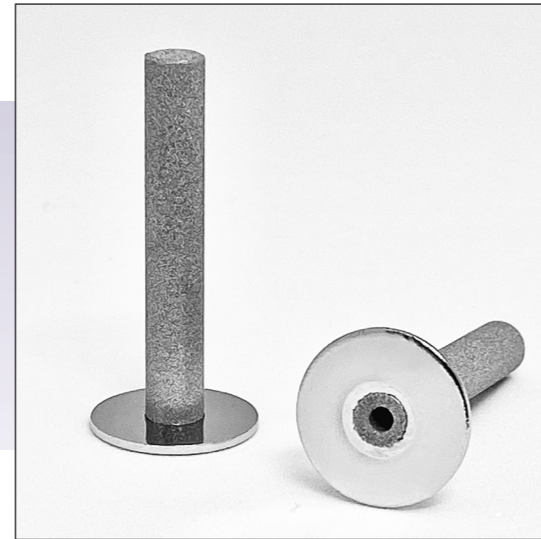
Gas flow rate vs Pressure drop



PFG946/Rev4/May26

GasPro™

9120 In-Line Gasket Filters



Porvair's GasPro™ Gasket Filters are designed for the protection of critical valves, pressure regulators, mass flow controllers and other gas panel components used in microelectronics gas delivery equipment.

Features and Benefits

- **Compact, in-line design**

Suitable for retrofitting into gas panels while maintaining the overall gas panel footprint. Easily installed inside of standard face seal fittings by replacing existing gaskets.

- **Filtration efficiency removal rating**

97% efficient particle retention at >0.3 µm
99.9% efficient particle retention at >0.4 µm

- **Maximum Temperature**

Elevated temperature resistance (850°F (455°C)) for inert gas applications.

- **Out-of-package cleanliness**

Our GasPro™ filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package particulate and chemical free cleanliness. Additional pre-conditioning is optional.

- **Best in class quality**

Manufacturing in a state of the art cleanroom using ISO 9001 Certified Quality System.

- **Construction**

Stainless Steel 316L hardware and filtration media.

PF902a/ Rev4/May26

Specifications

GasPro™ Part Number*	Flow Rating (@90psig Inlet/2psid)	Filter Rating	Casket and Filter Material	Connects Into	Filter Outside Diameter	Filter Overall Length	Casket Outside Diameter
9120	20 slpm	0.3 µm	316L Stainless Steel	¼" Tube	0.16" (4 mm)	1.03" (26.1 mm)	0.47" (11.9 mm)

* Add 9120-R if the gas retainer option is going to be added.

GasPro™ Gasket Filter Specification

All GasPro™ gaskets have a <10Ra, or better, surface finish and are electropolished.

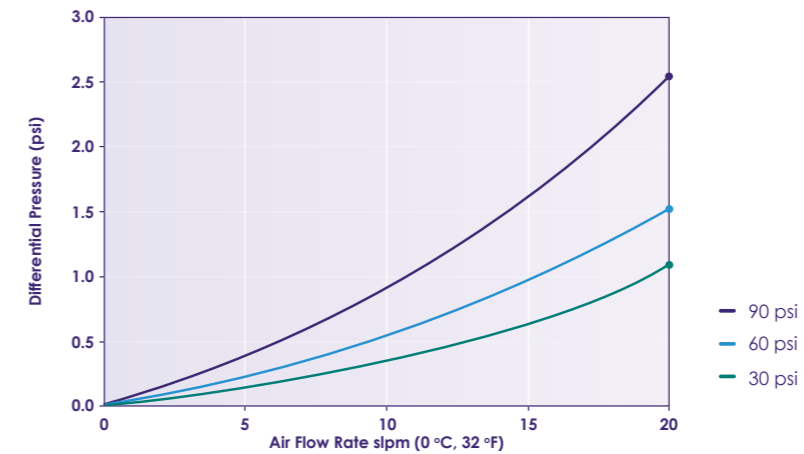
Gasket Clip Retainer

Gasket clip retainers are available for some of our products, please contact a Porvair Filtration Group representative for further information.

Maximum Differential Pressure

1000 psid forward or reverse.

Flow Rate Versus Pressure



GasPro™ TEM-1700

Ultra-High Purity All 316L
In-Line Filter



GasPro™ TEM-1700 Series filters are designed for 3 nm particle retention up to flow rates of 200 slpm and temperatures of 200°C (392°F).

The all 316L steel welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

Standard semiconductor industry fittings are offered for easy installation.

Specifications

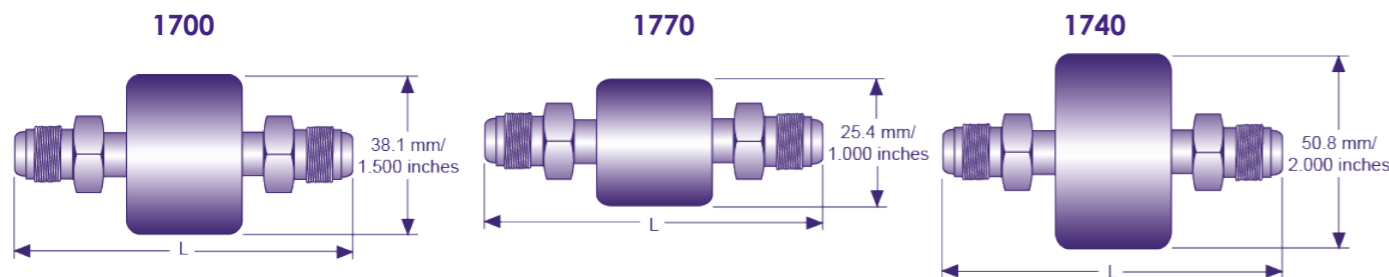
- Filtration rating**
Efficient 3 nm particle retention.
- Maximum operating temperature**
200°C (392°F) in inert gas.
- Maximum operating pressure**
1700, 1740 and 1770 Series: 206.8 bar (3,000 psig) at 20°C (68°F).

Typical Applications

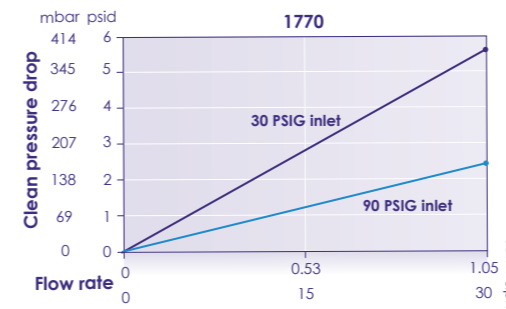
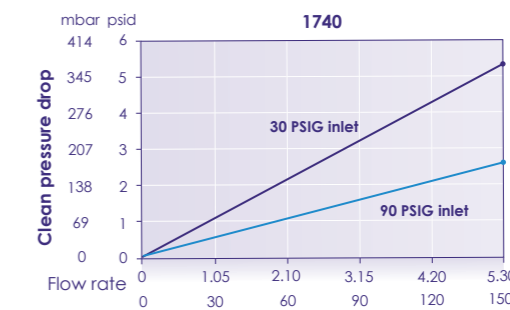
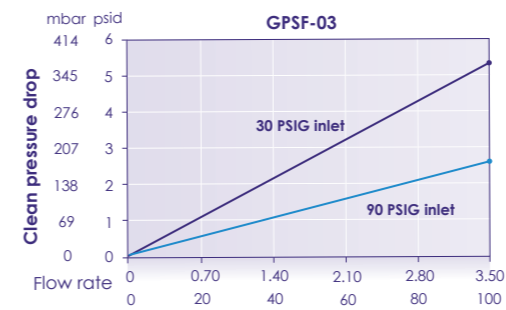
- Gas cabinet and stick specialty gas filtration.
- Gas panel point-of-use process gas filtration.

Features and Benefits

- Construction**
All 316L stainless steel sintered fibre media and hardware.
- Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- Out of package cleanliness**
Our GasPro™ TEM-1700 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- 100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.



Specifications



TEM-1700 Part Numbers and Ordering Information

Part number	Rated flow	Description*	Filter media / housing	Filter housing OD	Length (L)
TEM-1771	30 slpm	1/4" compression	All 316L	25.4mm / 1.00"	73 mm (2.88")
TEM-1772		1/4" M/F face seal			84 mm (3.31")
TEM-1773		1/4" F/M face seal			84 mm (3.31")
TEM-1774		1/4" F/F face seal			84 mm (3.31")
TEM-1775		1/4" M/M face seal			84 mm (3.31")
TEM-1711	100 slpm	1/4" compression	All 316L	38.1 mm / 1.50"	73 mm (2.88")
TEM-1712		1/4" M/F face seal			84 mm (3.31")
TEM-1713		1/4" F/M face seal			84 mm (3.31")
TEM-1714		1/4" F/F face seal			84 mm (3.31")
TEM-1715		1/4" M/M face seal			84 mm (3.31")
TEM-1750		1/4" butt weld			50.8 mm (2.00")
TEM-1741	200 slpm	1/4" compression	All 316L	50.8 mm / 2.00"	73 mm (2.88")
TEM-1742		1/4" M/F face seal			84 mm (3.31")
TEM-1743		1/4" F/M face seal			84 mm (3.31")
TEM-1744		1/4" F/F face seal			84 mm (3.31")
TEM-1745		1/4" M/M face seal			84 mm (3.31")
TEM-17450		1/4" butt weld			44.5 mm (1.75")

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1760

High-Flow Ultra-High Purity
All-316L In-Line Filter



GasPro™ TEM-1760 Series filters are designed for 3 nm particle retention up to flow rates of 2150 slpm and temperatures of 200°C (392°F).

The all-316LSS welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

Typical Applications

- Filtration in semiconductor processes.
- High-flow ultra-high purity inert and specialty gases.

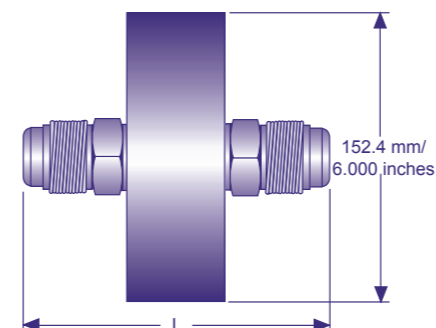
Specifications

- **Filtration Rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
42.2 bar (700 psig) at 20°C (68°F)

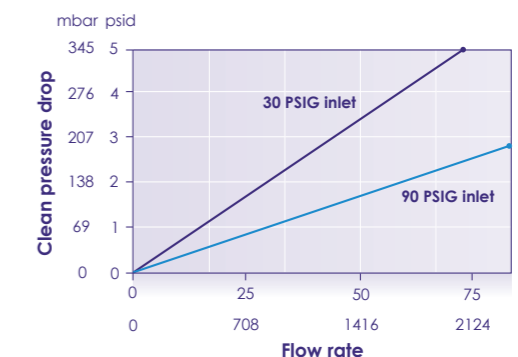
Features and benefits

- **Construction**
All 316L stainless steel sintered fibre media and hardware.
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-1760 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
All units tested to 1×10^{-9} atm cc/second.
- **100% helium leak tested**
All units tested to 1×10^{-9} atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-1760 Part Numbers and Ordering Information

Part number	Description*	Filter media/housing	Filter Housing OD	Length (L)
TEM-1765-8	1/2" M/M face seal	All 316L SS	6.0" (152.4 MM)	3.975" (101 mm)
TEM-1765-12	3/4" M/M face seal			5.15" (130.8 mm)
TEM-1765-16	1.0" M/M face seal			5.295" (134.5 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.



GasPro™ TEM-1780

Ultra-High Purity All-316L
In-Line Filter



GasPro™ TEM-1780 Series filters are designed for 3 nm particle retention up to flow rates of 700 slpm and temperatures of 200°C (392°F).

The all-316LSS welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

Typical Applications

- Filtration in semiconductor processes.
- High-flow ultra-high purity inert and specialty gases.

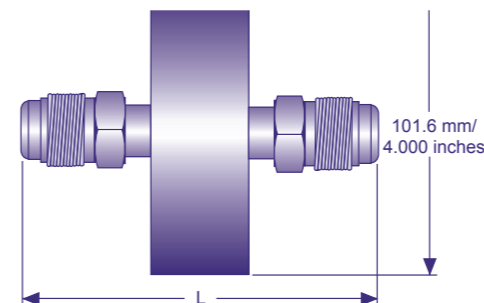
Specifications

- **Filtration Rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
137.9 bar (2,000 psig) at 20°C (68°F).

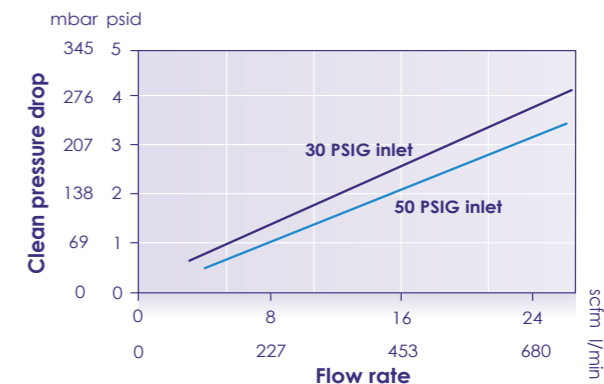
Features and benefits

- **Construction**
All 316L stainless steel sintered fibre media and hardware.
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-1780 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-1780 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Length (L)
TEM-1781-6	3/8" compression inlet/outlet	All 316L	3.00" (76.2 mm)
TEM-1781-8	1/2" compression inlet/outlet		3.00" (76.2 mm)
TEM-1782-16	1.0" Male face seal inlet, Female face seal outlet		5.25" (133.4 mm)
TEM-1785-8	1/2" male face seal inlet/outlet		3.85" (97.8 mm)
TEM-1785-12	3/4" male face seal inlet/outlet		4.65" (118 mm)
TEM-1785-16	1.0" male face seal inlet/outlet		5.25" (133.4 mm)
TEM-17850-8HP*	1/2" butt weld		4.25" (108 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-1790

Ultra-High Purity All-316L
In-Line Filter



GasPro™ TEM-1790 Series filters are designed for 3 nm particle retention up to flow rates of 700 slpm and temperatures of 200°C (392°F).

The all-316LSS welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

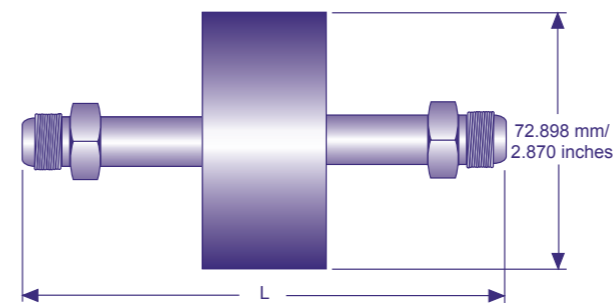
Specifications

- **Filtration Rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
206.8 bar (3,000 psig) at 20°C (68°F).

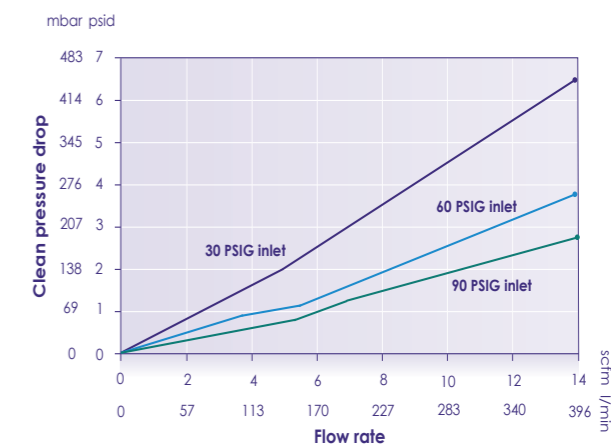
Features and benefits

- **Construction**
All 316L stainless steel sintered fibre media and hardware.
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-1790 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM -1790-GB Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Length (L)
TEM-1791-8	1/2" compression inlet/outlet	All 316L	3.0" (76.2 mm)
TEM-170-8BW	1/2" butt weld		5.0" (127 mm)
TEM-1793-8L	1/2" femal face seal inlet. 1/2" male face seal outlet		4.5" (114.3 mm)
TEM-1795	1/4" M/M face seal		4.0" (101.6 mm)
TEM-1795-6	3/8" M/M face seal		3.85" (97.8mm)
TEM-1795-8	1/2" male face seal inlet/outlet		3.6" (91.4 mm)
TEM-1795-8MO	1/2" male face seal inlet/outlet		5.0" (127 mm)
TEM-1795-8P	1/2" male face seal inlet/outlet		6.06" (153.9 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-3700

Ultra-High Purity Nickel 316L
In-Line Filter



GasPro™ TEM-3700 series filters are specifically designed for the filtration of UHP semiconductor gases when a compact, all-metal, corrosion tolerant design is required. This all-welded assembly will deliver 3nm particle retention where low pressure drop is required and space limited.

Nickel media enclosed in a 316L stainless steel all-welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

Standard semiconductor industry fittings are offered for easy installation.

Specifications

- Filtration rating**
Efficient 3 nm particle retention.
- Maximum operating temperature**
200°C (392°F) in inert gas.
- Maximum operating pressure**
3700, 3740, 3770 series:
206.8 bar (3,000 psig) at 20°C (68°F).

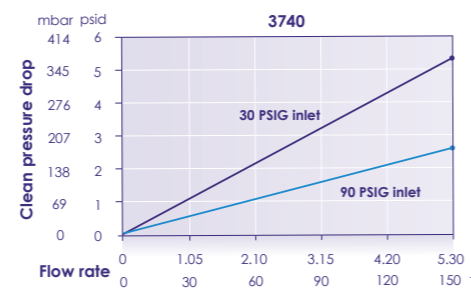
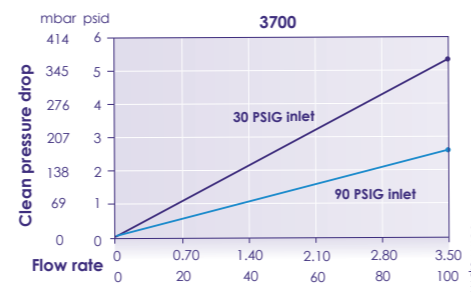
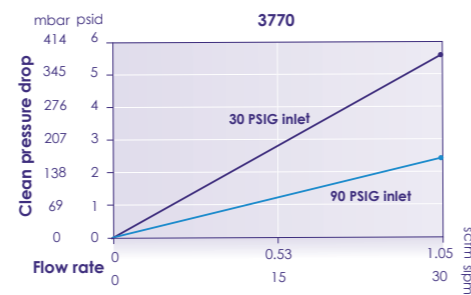
Features and benefits

- Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build-up on interior surfaces.
- Out of package cleanliness**
Our GasPro™ TEM-3700 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- Construction**
Sintered nickel fiber media enclosed in a 316L stainless steel housing.
- 100% helium leak tested**
All units tested to 1x10⁻⁹ atm cc/second.

Applications

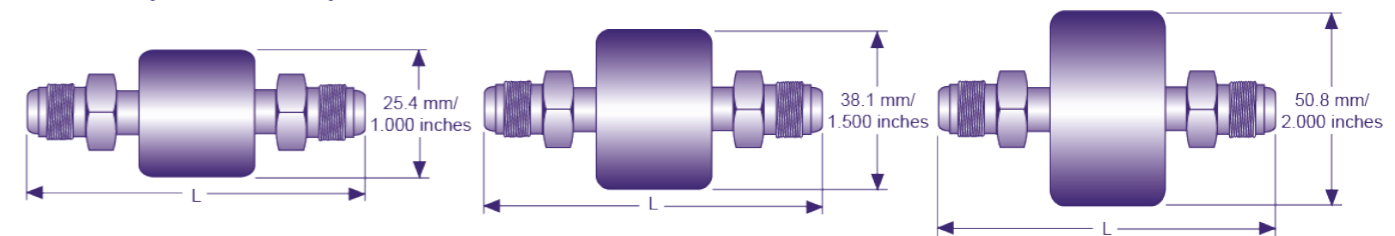
- Gas cabinet and stick specialty gas filtration.
- Gas panel point-of-use process gas filtration.

Gas flow rate / Pressure drop (3770 / 3700 / 3740)



Specifications

Dimensions (3770 / 3700 / 3740)



TEM-3700 Part Numbers and Ordering Information

Part number	Rated flow	Description*	Filter media / housing	Filter housing OD	Length (L)
TEM-3771	30 slpm	1/4" compression	Nickel media 316L housing	25.4 mm / 1.00"	73 mm (2.88")
TEM-3772		1/4" M/F face seal			84 mm (3.31")
TEM-3773		1/4" F/M face seal			84 mm (3.31")
TEM-3774		1/4" F/F face seal			84 mm (3.31")
TEM-3775		1/4" M/M face seal			84 mm (3.31")
TEM-37750		1/4" butt weld			38 mm (1.50")
TEM-3711	100 slpm	1/4" compression	Nickel media 316L housing	38.1 mm / 1.50"	73 mm (2.88")
TEM-3712		1/4" M/F face seal			84 mm (3.31")
TEM-3713		1/4" F/M face seal			84 mm (3.31")
TEM-3714		1/4" F/F face seal			84 mm (3.31")
TEM-3715		1/4" M/M face seal			84 mm (3.31")
TEM-3715-8		1/2" M/M face seal			86.4 mm (3.4")
TEM-3750	1/4" butt weld	50.8 mm (2.00")			
TEM-3741	150 slpm	1/4" compression	Nickel media 316L housing	50.8mm / 2.00"	73 mm (2.88")
TEM-3742		1/4" M/F face seal			84 mm (3.31")
TEM-3743		1/4" F/M face seal			84 mm (3.31")
TEM-3744		1/4" F/F face seal			84 mm (3.31")
TEM-3745		1/4" M/M face seal			84 mm (3.31")
TEM-3745-8		1/2" M/M face seal			84 mm (3.31")
TEM-37450	1/4" butt weld	44.5 mm (1.75")			

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-3760

Ultra-High Purity Nickel-316L In-Line Filter



GasPro™ TEM-3760 Series filters are designed for higher flow filtration of UHP semiconductor gases when an all-metal design is required. This all-welded assembly will deliver 3 nm particle retention where a good flow rate and low pressure drop is required and space is limited.

Nickel media is enclosed in a 316L stainless steel all-welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

Standard semiconductor industry fittings are offered for easy installation.

Applications

High flow delivery of Ultra-High purity corrosive gases, including semiconductor epitaxy and silicone water manufacturing.

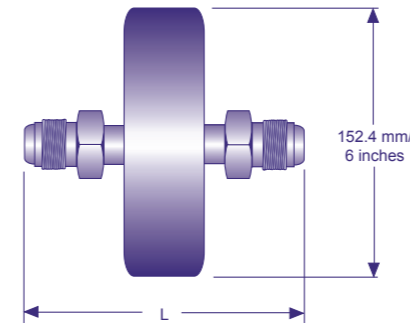
Specifications

- Filtration rating**
Efficient 3 nm particle retention
- Maximum operating temperature**
200°C (392°F) in inert gas.
- Maximum operating pressure**
48.2 bar (700 psig) at 20°C (68°F).

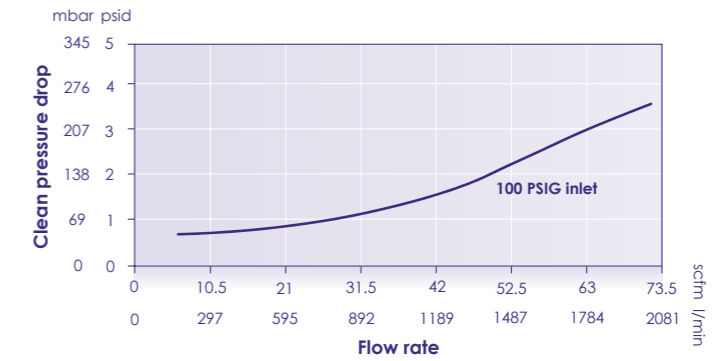
Features

- Construction**
Sintered Nickel fiber media enclosed in a 316L stainless steel housing.
- Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- Out of package cleanliness**
Our GasPro™ TEM-3760 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- 100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-3760 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Length (L)
TEM-3765-8	1/2" male/male face seal	Nickel media 316L housing	101 mm (3.975")
TEM-3765-12	3/4" male face seal		130.8 mm (5.15")
TEM-3765-16	1.0" male/male face seal		134.5 mm (5.295")
TEM-37650-8	1/2" butt weld		136.5 mm (5.375")
TEM-37650-24	1.5" butt weld		136.5 mm (5.375")

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-3780

Ultra-High Purity Nickel-316L
In-Line Filter



GasPro™ TEM-3780 Series sintered nickel media filters are designed for filtration of UHP semiconductor gases where a compact, all-metal, corrosion tolerant design is required. This all-welded assembly will deliver 3 nm particle retention, where a high flow rate and low pressure drop is required and where space is limited. Standard semiconductor industry fittings are offered for easy installation.

The Nickel Media-316LSS all-welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

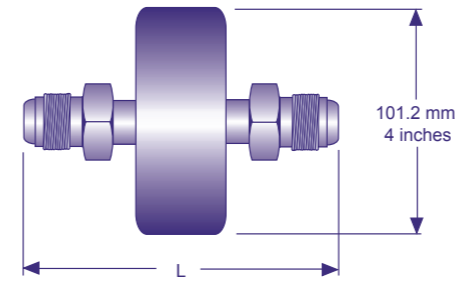
Specifications

- **Filtration rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
137.9 bar (2,000 psig) at 20°C (68°F).

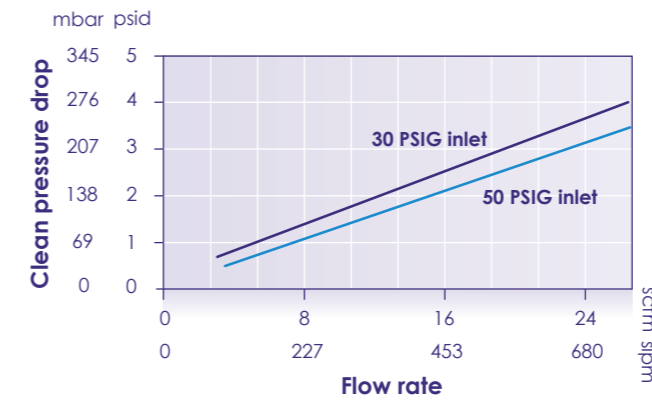
Features

- **Construction**
Sintered Nickel fiber media enclosed in a 316L stainless steel housing.
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-3780 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM-3780 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Length (L)
TEM-3781-8	½" compression inlet/outlet	Nickel media 316L housing	76.2mm (3.0")
TEM-3782-16	1" male face seal inlet, Female face seal outlet		133.4mm (5.25")
TEM-3785-8	½" m/m face seal		97.8mm (3.85")
TEM-3785-12	¾" m/m face seal		118mm (4.65")
TEM-3785-16	1.0" male face seal inlet/outlet		133.4mm (5.25")
TEM-37850-8HP*	½" butt weld		108mm (4.25")

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ TEM-3790

Ultra-High Purity Nickel-316L
In-Line Filter



GasPro™ TEM-3790 Series sintered nickel media filters are designed for filtration of UHP semiconductor gases where a compact, all-metal, corrosion tolerant design is required. This all-welded assembly will deliver 3 nm particle retention, where a high flow rate and low pressure drop is required and where space is limited. Standard semiconductor industry fittings are offered for easy installation.

The Nickel Media-316LSS all-welded filter offers excellent bake-out characteristics for fast dry downs and in-line qualification.

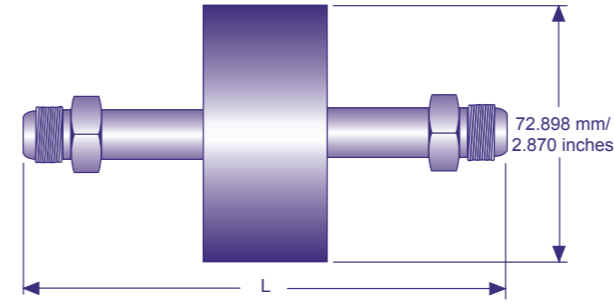
Specifications

- **Filtration rating**
Efficient 3 nm particle retention.
- **Maximum operating temperature**
200°C (392°F) in inert gas.
- **Maximum operating pressure**
206.8 bar (3,000 psig) at 20°C (68°F).

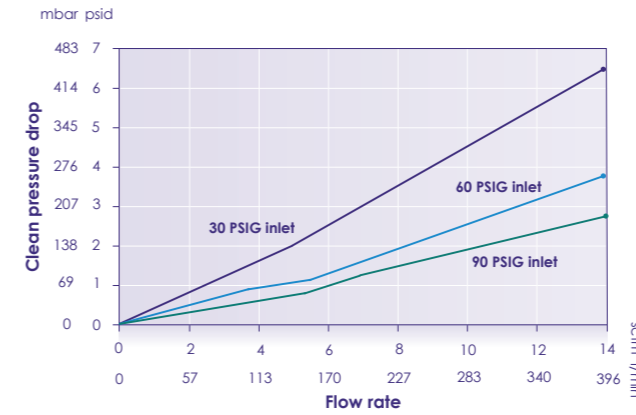
Features

- **Construction**
Sintered Nickel fiber media enclosed in a 316L stainless steel housing.
- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ TEM-3790 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.

Specifications



Gas flow rate vs Pressure drop



TEM -3790 Part Numbers and Ordering Information

Part number	Inlet/outlet fittings	Filter media/housing	Length (L)
TEM-3791-8	1/2" compression inlet/outlet	Nickel Media 316L Housing	3.0" (76.2 mm)
TEM-3790-8BW	1/2" butt weld		5.0" (127 mm)
TEM-3793-8L	1/2" female face seal inlet, 1/2" male face seal outlet		4.5" (114.3 mm)
TEM-3795	1/4" male/male face seal		4.0" (101.6 mm)
TEM-3795-6	3/8" male/male face seal		3.85" (97.8 mm)
TEM-3795-8	1/2" male face seal inlet/outlet		3.6" (91.4 mm)
TEM-3795-8MO	1/2" male face seal inlet/outlet		5.0" (127 mm)
TEM-3795-8P	1/2" male face seal inlet/outlet		6.06" (153.9 mm)
TEM-3795-12	3/4" male face seal inlet/outlet		4.80" (121.9 mm)

Not all fittings, lengths, and part numbers are shown on the chart. Please contact your Porvair representative or an approved Porvair distributor for special length and fitting options.

GasPro™ PV1-1100

All-316L Stainless Steel
1 micron In-Line Gas Filter



GasPro™ PV1-1100 Series filters are designed for photovoltaic/solar and other microelectronic gas applications where 1 µm particle retention is acceptable. Standard industry fittings are offered for easy installation.

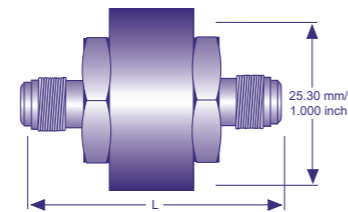
Specifications

- **Filtration Rating**
Efficient particle retention at 1.0 µm
- **Maximum Operating Temperature**
200°C (392°F) in inert gas
- **Maximum Operating Pressure**
206.8 bar (3,000 psig) at 121°C (250°F)

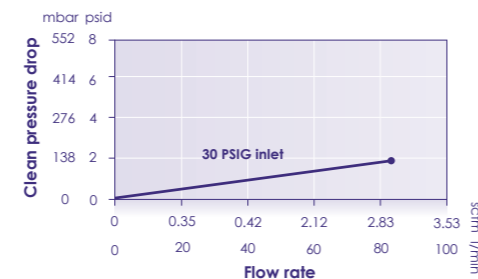
Features

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ PV1-1100 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package, particle free, and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type, may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.
- **Construction**
Stainless steel media and hardware.

Dimensions



Gas flow rate vs Pressure drop



PV1-1100 part numbers and ordering information

Part number	Inlet/Outlet Fittings	Filter media/hardware	Length (L)
PV1-1111	1/4" compression inlet/outlet	All 316L	1.685" (42.8 mm)
PV1-1112	1/4" female NPT	All 316L	2.30" (58.4 mm)
PV1-1115	1/4" male face seal inlet/outlet	All 316L	2.00" (50.8 mm)
PV1-1150	1/4" butt weld inlet/outlet	All 316L	1.88" (47.8 mm)

PFG931/Rev3/May26

GasPro™ PV1-1200

All-316L Stainless Steel
1 micron In-Line Gas Filter



GasPro™ PV1-1200 Series filters are designed for photovoltaic/solar and other microelectronic gas applications where 1 µm micron particle retention is acceptable.

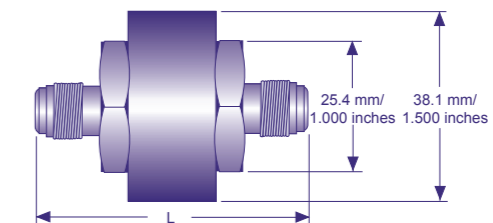
Specifications

- **Filtration Rating**
Efficient particle retention at 1.0 µm
- **Maximum Operating Temperature**
200°C (392°F) in inert gas
- **Maximum Operating Pressure**
206.8 bar (3,000 psig) at 121°C (250°F)

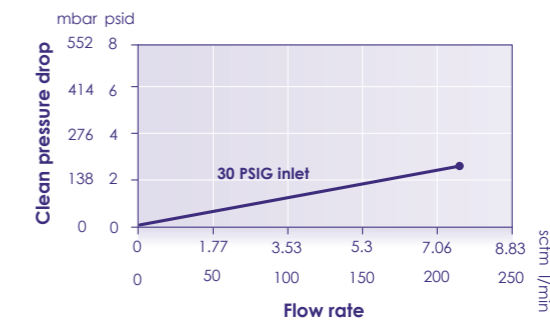
Features

- **Electro-polished housing**
The filter assemblies have a <10Ra electro-polished 316L stainless steel housing to prevent corrosion and particle build up on interior surfaces.
- **Out of package cleanliness**
Our GasPro™ PV1-1200 filters are cleaned and packaged in a cleanroom with organic free handling for out-of-package particulate and chemical free cleanliness. Final assembly is purged with filtered nitrogen for initial cleanliness. Additional preconditioning is optional.
- **Multiple fitting options for ease of installation**
Standard fitting options include face seal, compression, butt weld and NPT. Special fittings, including tri-clamp (clover) sanitary and flange type may be available upon request.
- **100% helium leak tested**
All units are tested to 1x10⁻⁹ atm cc/second.
- **Construction**
Stainless steel media and hardware.

Dimensions



Gas flow rate vs Pressure drop



PV1-1200 part numbers and ordering information

Part number	Inlet/Outlet Fittings	Filter media/hardware	Length (L)
PV1-1211-8	1/2" compression inlet/outlet	All 316L	79 mm (3.11")
PV1-1215-8	1/2" male face seal inlet/outlet	All 316L	63.2 mm (2.49")

PFG932/Rev3/May26

Liquid Filters



Porvair Filtration Group supply a range of disposable micro-contamination control products and solutions suitable for the semi-conductor and related micro-electronics industries.

We also supply a range of stainless steel and polypropylene housings to compliment these filters.

LiquiPro™ MX

UPE Cartridge Filters



LiquiPro™ MX series of UPE liquid filters deliver superior cleanliness and high retention capabilities for photochemical manufacturing and for chemical systems. Photoresist and photochemical solvents would spontaneously wet LiquiPro™ MX UPE membrane filter and provide high flow, excellent particle removal and low extractables chemical filtration applications.

Features and Benefits

- For advanced photo chemical and ultra-high-purity chemicals, LiquiPro™ MX is an effective and economical filtration solution for bulk photochemical, solvent, or aqueous chemical applications. UPE membrane's uniform pore structure is effective for soft gel and hard particle removals, and it offers better particle retention performance compared to PTFE membrane. The high purity treatment ensures low metallic contaminants. A high purity performance and reliable filtration is assured.
- Eliminates microbubble generation.** LiquiPro™ MX series has a critical surface energy similar to many photo-chemicals. When used with photoresists, common photochemical solvent is conveniently used without prewetting to maximise process up-time, it reduces the potential for microbubble generation to prevent particle formation and other related defects.
- All UPE/PE construction provides lower metallic and ionic contamination compared to those that can be leached from PP and PFA materials. Pre-cleaned with photo-chemicals such as PGME, PGMEA. LiquiPro MX < 2.0 ng/L (PPT).

- Ultra-high purity processing ensures no detectable contamination, as confirmed via ICP-MS analysis of 31 elements, after filter soaked in 1.5 litres of PGMEA for 72 hours at 30°C.
- Excellent particle retention. Benchmarking test with gold nano particles yielded excellent and comparable particle retention performance vs industry leading competitors.

Typical Applications

- Advanced photochemical filtration.
- Photochemical solvent filtration, e.g. OK73, IPA, MeOH, PGMEA etc.
- Formulated cleaner or post CMP clean solution with DIW and polymer.
- Dilute acid and base filtration (without H₂O₂ or ozone) at or below 40°C (104°F)

External Certification

Non-dewet when used with dilute and weak acids and bases filtration. Customer must follow an IPA-prewet procedure. In the near future, prewet packaged LiquiPro™ MX will be offered to provide customer quick start-up without the need to carry out on-site IPA wetting procedure.

PTFE Poor Wetting



UPE Good Wetting

Specifications

Materials of construction:

Filter media: UPE membrane
End caps: HDPE
Core, cage, support: HDPE
Gaskets/O-rings: EPDM, E-FKM.

Membrane:

Hydrophobic UPE

High flow hydrophobic UPE on 1nm only

Surface Area:

15,500 cm² (16.1ft²)

Pore size rating:

1,2,3,5,10 nanometer (nm)

Maximum differential pressure:

3.4 bard (3.4kg/cm2d, 50 psid) @25°C (77°F)
1.7 bard (1.7kg/cm2d, 24 psid) @60°C (176°F)

Operating Temperature:

Recommended at 40°C (104°F), maximum 60°C

Compatibility and purity:

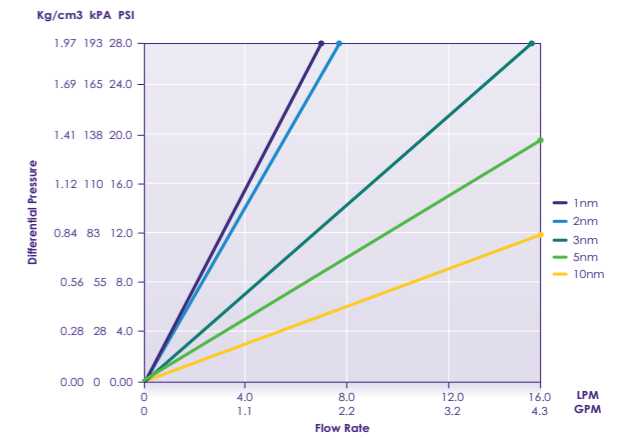
Filters do not use any binders, surfactants, or adhesives for broad usage compatibilities.

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **6** **7** **MX01AAU10**

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Packaging Option
MX LiquiPro MX UPE	01 1nm 02 2nm 03 3nm 05 5nm 10 10nm	A 222 / flat	A EPDM T E-FKM	U Ultra High Purity (< 40ppb)	10 10" 20 20"	- Dry W IPWET Prewet Autoclave (NSR)



* Flow rate is for a 25°C and a 25.4cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

LiquiPro™ BU

High Purity Hydrophilic PES Membrane Filters



LiquiPro™ BU is a superior advanced duo-retention filtration mechanism for dilute HF and BOE cleaning applications.

Final assembly is purged with filtered nitrogen for initial cleanliness. A variety of end fittings are offered for easy installation.

Features and Benefits

- Optimised highly asymmetric polyethersulfone (HAPES) high flow, low pressure drop membrane provides sieving and absorption particle retention mechanisms down to 50 nm.
- LiquiPro™ BU filter is hydrophilic and can be used without pre-wetting to maximise process up-time.
- LiquiPro™ BU eliminates pre-wetting and micro-bubbles to reduce downtime. Manufactured from HAPES membrane which has superior wetting properties compared with polyethylene. If spontaneously wet, it remains fully wet and eliminates micro-bubble generation which is critical for advanced node processing.
- Fast rinse up time as filters has been pre-flushed with Ultrapure DI water (18.2 Megaohm-cm, TOC less than 100 ppb).
- Certificate of quality enclosed with each product lot for quality assurance that ensures filter-to-filter and lot-to-lot performance. Manufactured in cleanroom environment.

Typical Applications

- BOE (Buffered-Oxide Etch) and Dilute HF recirculation bath applications.
- Megasonic cleaning DHF, NH₄OH filtration.
- DI Water cleaning application in semiconductor wafer fabs.

Performance Specifications

Pore size rating

0.03, 0.05, 0.1, 0.2, 0.45 and 1.0 μm

Maximum differential pressure:

5.2 bar (75.4 psi) @ 25°C (77°F)
1.9 bar (27.5 psi) @ 80°C (176°F)

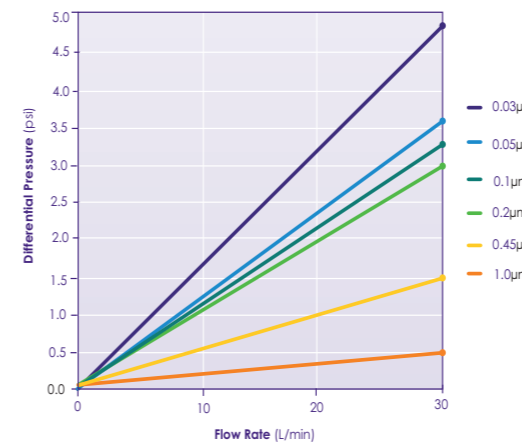
Compatibility and purity

Only HAPES membrane and 100% virgin polypropylene used. No binders, surfactants or adhesives used, to ensure compatibility with a broad range of solutions.

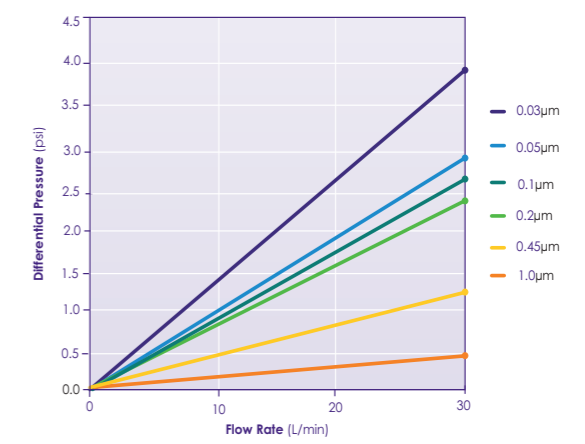
Materials of construction

Filter media: Highly asymmetric polyethersulfone (HAPES) hydrophilic membrane
Support: Polypropylene (PP)
End caps: Polypropylene (PP)
Core, cage: Polypropylene (PP)
O-rings: E-FKM, FFKM, FEP encapsulated Silicone
Gaskets: PTFE (as supplied with DOE cartridges)

Flow Rates: LiquiPro™ BU



Flow Rates: LiquiPro™ BUX



* Flow rate is for a 25.4 cm (10in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Diameter	Code-A	Code-M
4in (Dia: 69 mm)	123 mm +/- 2	
10in (Dia: 69 mm)	266 mm +/- 2	254 mm +/- 2 default. Customer to specify length
10in (Dia: 83 mm)	243mm +/-2	
20in (Dia: 69 mm)	506 mm +/- 4	508 mm +/- 2 default. Customer to specify length
30in (Dia: 69 mm)	750 mm +/- 4	

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: 1 2 3 4 5 6 7 **BU003AGE04K**

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option
BU LiquiPro BU (69mm Dia)	003 0.03μm	A 222 / flat	G FEP Encap Silicone	E E-Grade	04 4"	K EZ Key compatible to use with ChemLock® cartridge housing
	005 0.05μm	B 226 / fin	K FFKM	U Ultra High Purity (< 40ppb)	10 10"	
	010 0.1μm	C 222 / fin	T E-FKM		20 20"	
	020 0.2μm	K 226 / flat	J PTFE Gasket (Code M)		30 30"	
	045 0.45μm	M DOE				
	100 1.0μm					

Product Code: 1 2 3 4 5 6 7 **BUX003AGE10K**

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option
BUX LiquiPro BU HPX (83mm Dia)	003 0.03μm	A 222 / flat	G FEP Encap Silicone	E E-Grade	10 10"	K EZ Key compatible to use with ChemLock® cartridge housing
	005 0.05μm		K FFKM	U Ultra High Purity (< 40ppb)		
	010 0.1μm		T E-FKM			
	020 0.2μm					
	045 0.45μm					
	100 1.0μm					

PFG951/Rev3/Jan26

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LiquiPro™ CO

High Purity Hydrophilic PTFE Membrane Filters



LiquiPro™ CO is a highly hydrophilic, high flow PTFE membrane with excellent particle removal and low extractables for electro-copper plating applications.

LiquiPro™ CO is specially designed for LAM SABRE Tools.

Features and Benefits

- LiquiPro™ CO is highly effective and economical in electro-copper plating applications. The proprietary PTFE membrane is non-interactive with plating chemistry. The E-grade extraction treatment ensures an extremely low level of organics and metallic contamination control to prevent pitting or poor adhesion. A high purity performance and reliable Cu plating processes is assured.
- The optimised PTFE high-flow, low pressure drop membrane provides sieving particle retention mechanisms.
- The highly hydrophilic surface can be used without prewetting to maximise process uptime, whilst reducing the potential for micro-bubble generation, in order to prevent streaks and other related defects.
- Certificate of quality enclosed with each product lot for quality assurance that ensures filter-to-filter and lot-to-lot performance.
- Fast rinse-up time as filters have been pre-flushed with Ultrapure DI water (18.2 Megaohm-cm, TOC less than 50 ppb).

Typical Applications

- Electro-copper plating filtration.

Performance Specifications

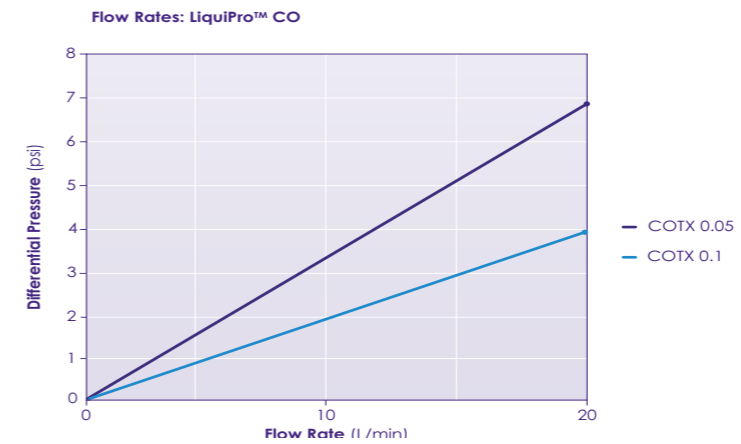
Pore size rating
0.05, 0.1µm

Maximum differential pressure:
4.9 bar (71.1 psi) @ 25°C (77°F)
2.2 bar (31.9 psi) @ 80°C (176°F)

Compatibility and purity
Only HAPES membrane and 100% virgin polypropylene used. No binders, surfactants or adhesives used, to ensure compatibility with a broad range of solutions.

Materials of construction
Filter media: PTFE hydrophilic membrane
Support: Polypropylene (PP)
End caps: Polypropylene (PP)
Core, cage: Polypropylene (PP)
O-rings: FEP Encap. FKM

Flow Rates: LiquiPro™ CO



* Flow rate is for a 25.4 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **6** **7** **CO005ATE10K**

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option
CO LiquiPro CO	005 0.05µm 010 0.1µm	A 222 / flat	T E-FKM	E E-Grade U Ultra High Purity (< 40ppb)	10 10"	K EZ Key compatible to use with ChemLock® cartridge housing

LiquiPro™ F2

Fluoropolymer, Pleated
PTFE Filters



LiquiPro™ F2 are superior pleated PTFE membrane filters with PFA support for chemical inertness across a broad range of microelectronics process chemical applications.

A variety of end fittings are offered for easy installation.

Features and Benefits

- Optimised 80-95% porosity, uniform pore size distribution and filtration area with low pressure drop, high flow rate and long service life.
- Manufactured without the use of additives, surface modification agents or post-treatments, to ensure purity is not compromised.
- Certificate of quality enclosed with each product lot for quality assurance that ensures filter-to-filter and lot-to-lot performance.
- High purity application filters manufactured in a clean room environment.
- Fast rinse-up time as filters have been pre-flushed with Ultrapure DI water (18.2 Megaohm-cm, TOC less than < 10 ppb).

Total Metals (13 elements, ICP-MS)	UHP < 25 ppb / device Ultra low metal < 10 ppb / device
Particle Shedding cleanliness	< 5 particles / 1ml ≥ 0.15µm @10LPM UPW flow
TOC Recovery (per 10" equivalent)	< 5ppb of feed DI water after 120L @ 5LPM
Resistivity recovery (per 10" equivalent)	< 0.5MΩ of feed DI water after 120L @ 5LPM

Typical Applications

- Chemical delivery system filtration of strong acid and base solution at room temperature for semiconductor manufacturing.
- Solvent filtration.
- Aggressive chemical processes in the photovoltaic and data storage industries.

Performance Specifications

Materials of Manufacture

Filter media: Hydrophobic PTFE Membrane
 End caps: PFA
 Centre core: PFA
 Outer hardware: PFA
 Gaskets/O-rings: FEP Encap Silicone, FFKM, E-FFKM, PTFE

Pore Size Rating

0.05, 0.1, 0.2, 0.45, 1, 5, 10 µm

Cartridge Dimensions (Nominal)

Diameter: 69mm (2.716")
 Length: Dimensions vary for different connector types therefore please check with us before ordering to ensure correct fitment.

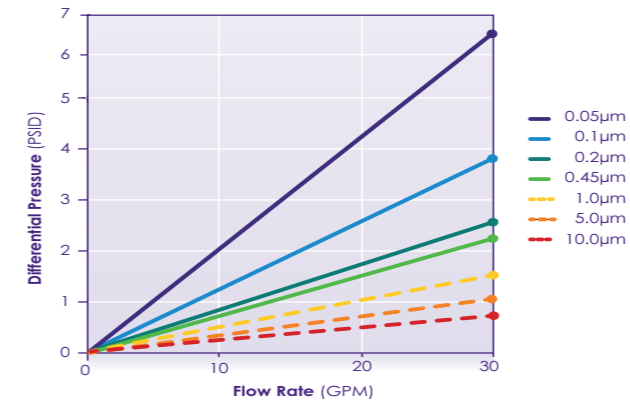
Differential Pressure

Maximum forward differential pressure:
 5.1bar (75psi) @ 25°C (77°F)
 5.1bar (75psi) @ 120°C (248°F)

Operating Temperature

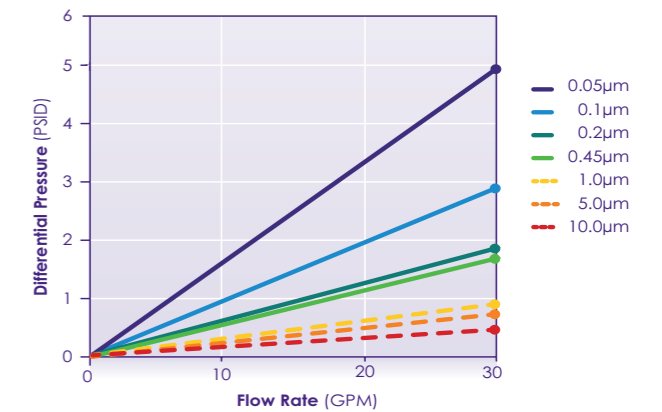
Maximum operating temperature:
 180°C (356°F) at the above conditions.

Flow Rates: LiquiPro™ F2 FL series



* Flow rate is for a 25.4 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Flow Rates: LiquiPro™ F2 FLX series



Element Dimensions

Length	Code A/K	Code B	Code C	Code M
4"	125.5mm +/-2	-	-	-
10"	262.5mm +2.5/-2.0	311.7mm +/-2.0	310.2mm +/-2.0	247.0mm +/-2.0
20"	503.0mm +5.0/-4.0	553.5mm +/-4.0	552.0mm +/-4.0	491.0mm +/-3.0
30"	746.1mm +4	795.3mm +/-4.0	793.8mm +/-4.0	-

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **6** **7** **8** **LP005AGB04K**

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option	Packaging Option
LP LiquiPro F2 AT (69mm Dia) Area 0.7m ²	005 0.05µm	A 222 / flat	G FEP Encap Silicone	B Basic Purity TOC < 50ppb	04 4"	K EZ Key compatible to use with ChemLock® cartridge housing	- Standard Dry
LPX LiquiPro F2 FLX (69mm Dia) Area 1.1m ²	010 0.1µm	B 226 / fin	K FFKM	U Ultra High Purity (< 25ppb)	10 10"		W pre-wetted
	020 0.2µm	C 222 / fin	T E-FFKM		20 20"		
	045 0.45µm	K 226 / flat	J PTFE Gasket (Code M)		30 30"		
	100 1µm	M DOE					
	300 3µm						
	500 5µm						
	1000 10µm						

LiquiPro™ SH

Superior pleated PTFE membrane filters



LiquiPro™ SH are superior pleated PTFE (Polytetrafluoroethylene) membrane filters with PFA support for chemical inertness across a broad range of microelectronics process and chemical applications.

Features and Benefits

- Ultra Clean PPB Grade. LiquiPro™ SH all PTFE filters are manufactured from the highest purity grade PFA for support hardware, in order to achieve superior total metal extractables <30 PPB per device.
- LiquiPro™ EZ key option available and universally compatible with industry standard 2-222 filter housings.
- Ultra clean manufacturing. Assembled, cleaned, tested in class 1000 and 100 manufacturing centre.
- PFOA-Free cartridge. PFOA is not used in the PFA resins or in the manufacturing process.
- 100% Successful Cartridge Installation. The cartridge locking feature prevents the cartridge from falling out or being pushed out by back pressure. Vertical installation ensures that O-rings will not roll.

Typical Applications

- Chemical delivery system for the filtration of strong acid and base solutions at room temperature for semiconductor manufacturing.
- Solvent filtration.
- Aggressive chemical processes in the photovoltaic and data storage industries.

Performance Specifications

Pore size rating

0.05, 0.1, 0.2, 0.45, 1.0, 5.0, 10.0µm

Maximum differential pressure:

5.1 bar (74 psid) @ 25°C (77°F)

2.0 bar (29 psid) @ 120°C (248°F)

Compatibility and purity

Filters do not use any binders, surfactants and adhesives for broad usage compatibilities. Only 100% high purity virgin polypropylene is used.

Materials of construction

Filter media: Hydrophobic PTFE membrane
 Support: Dupont PFA 440 HP-J
 End caps: Dupont PFA 440 HP-J
 Core, cage: Dupont PFA 440 HP-J
 O-rings: FEP Encap. FKM, E-FKM

Cartridge Dimension

83mm (3.25") diameter

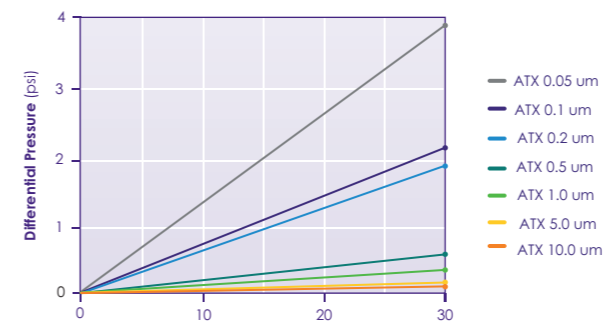
Metallic Cleanliness

<30 µg per device. Ultra-High-Purity. Cleaner and lower than semi industry benchmark filters.

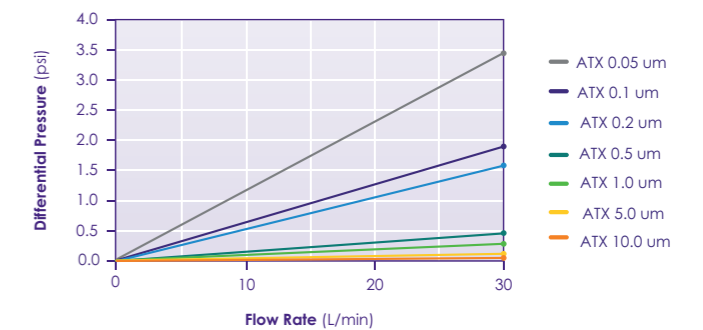
Maximum operating temperature

180°C (356°F) at the above conditions

Flow Rates: LiquiPro™ SH-ATX (1.3m²) series



Flow Rates: LiquiPro™ SH-ATM (1.8 m²) series



*Flow rate is at 20°C, and for a 24 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Element Dimensions

Type	Filter Area (m ²)	Nominal Length	Diameter (mm)	Length (mm)
ATX	1.3	10"	83.0mm +/-0.5	246.0mm +/-2
ATM	1.8	10"	83.0mm +/-0.5	246.0mm +/-2
ATE	2.2	10"	83.0mm +/-0.5	246.0mm +/-2

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: 1 2 3 4 5 6 7 8 SH-ATX005AGB04

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option	Packaging Option
SH-ATX LiquiPro SH-ATX Area 1.3m ²	005 0.05µm	A 222 / flat	G FEP Encap Silicone	B Basic Purity TOC < 50ppb	04 4"	- n/a	- Standard Dry
SH-ATM LiquiPro SH-ATM Area 1.8m ²	010 0.1µm		K FFKM	M Ultra Low Metal (< 10ppb)	10 10"	K EZ Key compatible to use with ChemLock® cartridge housing	W pre-wetted
SH-ATE LiquiPro SH-ATE Area 2.2m ²	020 0.2µm		T E-FKM	U Ultra High Purity (< 30ppb)	20 20"		
	045 0.45µm						
	100 1µm						
	500 5µm						
	1000 10µm						

LiquiPro™ FG

Gas Cartridge Filters



LiquiPro™ FG is designed to remove particles from process and bulk gas filtration for flow rates up to 7000slpm (247scfm) per 10-inch cartridge filter. Made of high quality PTFE media with low pressure drop, high flow rate and long service life.

Features and Benefits

- Proprietary expanded PTFE media used within the LiquiPro™ FG filter ensures a high-purity gas filter with a large surface area to ensure high flow rate and high dirt-holding capacity.
- Certificate of quality enclosed with each product lot for quality assurance that ensures filter-to-filter and lot-to-lot performance.
- Manufactured in a facility with class 1000 and 100 clean room with ISO9000 certification to ensure high-purity performance.

Typical Applications

- Flat panel manufacturing CDA, bulk and process gas applications.
- Ultra-high-purity tank venting (to ensure sterility or contamination control).
- Advanced wafer level packaging.
- Photovoltaic water, chemical and gas applications.
- Data storage industries.

Performance Specifications

Pore size rating

0.003, 0.01, 0.02, 0.1, 0.2µm

Maximum differential pressure:

4.1 bard (69.69 psid) @ 20°C (68°F)

2.75 bard (39.83 psid) @ 60°C (140°F)

Compatibility and purity

Filters do not use any binders, surfactants and adhesives for broad usage compatibilities. Only 100% high purity virgin polypropylene is used.

Materials of construction

Filter media: PTFE membrane
 Support: Polypropylene / PFA
 End caps: Polypropylene / PFA
 Core, cage: Polypropylene / PFA
 O-rings: EPDM, FKM and E-FKM
 Gasket: PTFE

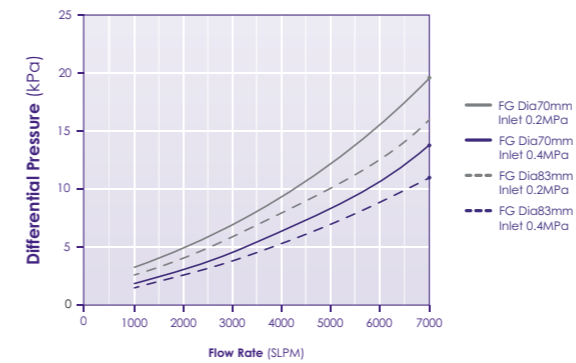
Recommended change-out differential pressure

1bard (14.5 psid)

Maximum operating temperature

70°C (158°F)

Flow Rates: LiquiPro™ FG



Element Dimensions

Length	Code A/K	Code M	
10"	Code A = 266mm +/-2	254mm +/-2	Default - Customer to specify length
20"	Code A = 512mm +/-4	508mm +/-2	Default - Customer to specify length
10"	Code K = 266mm +/-2	-	

Ordering Information: LiquiPro™ FG

To form a part number, please choose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **FG0003AG10**

Product Name	Micron Rating	Adaptor code	Seals	Length
FG LiquiPro FG PTFE / PP	0003 0.003µm	A 222 / flat	G FEP Encap Silicone	10 10"
FGAT LiquiPro FGAT PTFE / PFA	001 0.01µm	B 226 / fin	K FFKM	20 20"
	002 0.02µm	C 222 / fin	T E-FKM	
	010 0.1µm	K 226 / flat	J PTFE Gasket (Code M)	
	020 0.2µm	M DOE		

LiquiPro™ F3

Hydrophobic PTFE Membrane Filters



LiquiPro™ F3 is recommended for a wide range of chemical filtration. LiquiPro™ F3 series filters have enhanced cleanliness and are made of Hydrophobic PTFE membrane for high chemical inertness. Suitable for strong acidic and base solutions.

Features and Benefits

- Enhanced cleanliness from cleanroom manufacturing, cleaning technologies with on-line process QC monitoring and class 100 cleanroom packaging to achieve a cleanliness level previously only achievable with all-Teflon filters.
- Optimised high-porosity, uniform pore-size distribution, large filtration area, low pressure-drop, high flow rate and long service life.
- Hydrophobic filter cartridges made with a thermal bonded PTFE membrane, with virgin grade polypropylene support and hardware without adhesives or binders.
- Certificate of quality enclosed with each product lot for quality assurance that ensures filter-to-filter, lot-to-lot performance.
- Fast rinse up time of UHP and E-Grade filters, which has been pre-flushed with UP DI water (18.2 Megaohm-cm, TOC <100 ppb).

Typical Applications

- Advanced wafer bumping, ultra-high-purity chemical manufacturing and OEM using ultra high-purity strong acidic solution and base solutions filtration.
- Solvent, photo chemical and DI water filtration.
- Hot DI Water ≤ 80°C for facility or cleaning bath in semiconductor wafer fabs.
- Etch chemical applications in TFT-LCD and data storage manufacturing.
- Stripper filtration application.
- Electroless copper plating solutions.

Performance Specifications

Pore size rating

0.05, 0.1, 0.2, 0.45, 1, 3, 5, 10 µm

Maximum differential pressure:

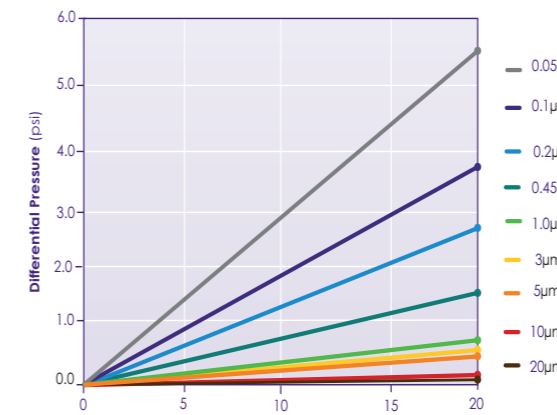
1.37 bard (19.91psid) @ 90°C (194°F)

5.49 bard (79.65 psid) @ 20°C (68°F)

Materials of construction

Filter media: Polytetrafluoroethylene (PTFE) Hydrophobic membrane
 Support: Virgin grade polypropylene
 End caps: Polypropylene
 Core, cage: Polypropylene
 O-rings: FEP Encapsulated Silicone, FFKM, E-FKM
 Gaskets: PTFE (DOE only)

Flow Rates: LiquiPro™ F3 (FC) Series



*Flow rate is for a 25.4 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Dimensions FC / FCX

Diameter	Code A	Code M
5in	Code A = 123 mm +/- 2	
10in	Code A = 266 mm +/- 2	Code M = 254mm +/- 2 default. Customer to specify length
20in	Code A = 506 mm +/- 4	Code M = 508mm +/- 2 default. Customer to specify length
30in	Code A = 750 mm +/- 4	

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: 1 2 3 4 5 6 7 8 FC005AGE05K

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option	Packaging Option
FC LiquiPro F3 (70mm OD)	005 0.05µm	A 222 / flat	G FEP Encap Silicone	E E-Grade High Purity TOC<50ppb	05 5"	K EZ Key compatible to use with ChemLock® cartridge housing	- Standard Dry
	010 0.1µm	B 226 / fin	K FFKM	U Ultra High Purity (< 40ppb)	10 10"		W pre-wetted
	020 0.2µm	C 222 / fin	T E-FKM		20 20"		
	045 0.45µm	K 226 / flat	J PTFE Gasket (Code M)		30 30"		
	100 1µm	M DOE					
	300 3µm						
	500 5µm						
	1000 10µm						

Product Code: 1 2 3 4 5 6 7 8 FCX005AGE10K

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length	Key Option	Packaging Option
FCX LiquiPro F3 (83mm OD)	005 0.05µm	A 222 / flat	G FEP Encap Silicone	E E-Grade High Purity TOC<50ppb	10 10"	K EZ Key compatible to use with ChemLock® cartridge housing	- Standard Dry
	010 0.1µm		K FFKM	U Ultra High Purity Metal(< 40ppb)			W pre-wetted
	020 0.2µm		T E-FKM				
	045 0.45µm						
	100 1µm						
	300 3µm						
	500 5µm						
	1000 10µm						

LiquiPro™ DI

PES Membrane Cartridge Filters



Superior filters made of high quality PES (Polyethersulfone) membrane with low pressure drop, high flow rate and long service life for direct DI water, TMAH developer, weak acids and base solutions.

Features and Benefits

- Optimised mirrored asymmetric PES membrane structure and support materials that ensure low pressure drop, high flow rate and long service life.
- Permanent hydrophilic membrane without the use of additives, surface modification agents or post-treatments to ensure purity is not compromised.
- Certificate of quality enclosed with each lot of product for quality assurance that ensures filter-to-filter, lot-to-lot performance.
- High purity application filters with double-bag packaging and manufactured in cleanroom environment.
- Fast rinse up time as filters has been pre-flushed with Ultrapure DI water (18.2 Megaohm-cm, TOC less than 40ppb).

Typical Applications

- General direct DI and recirculation DI water bath applications.
- Direct DI Water application for flat panel display manufacturing.
- Direct DI water application for solar and wafer bumping.
- Recommended for TMAH 2.38%.

Performance Specifications

Pore size rating

0.05, 0.1, 0.2, 0.45, 1.2µm

Maximum differential pressure:

5.39 bard (78 psid) @20°C (68°F)

1.7 bard (24psid) @80°C (176°F)

Recommended change-out differential pressure

2.0 bard (30 psid)

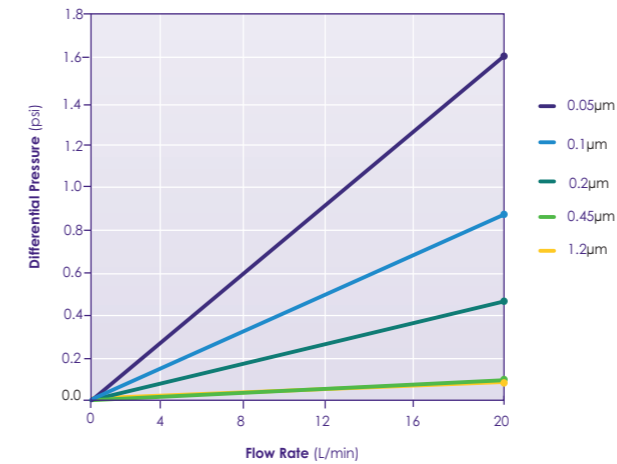
Compatibility and purity

Filters do not use any binders, surfactants and adhesives for broad usage compatibilities.

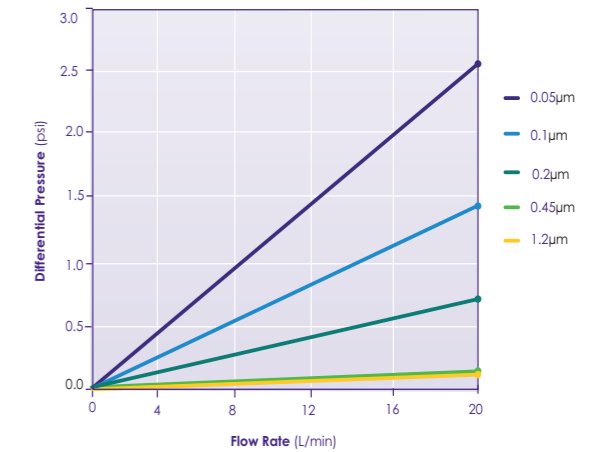
Materials of construction

Filter media: Polyethersulfone (PES)
 Support: Polypropylene
 End caps: Polypropylene
 Core, cage: Polypropylene
 O-rings: FEP Encapsulated Silicone, FFKM, E-FKM
 Gaskets: PTFE (DOE only)

Flow Rates: LiquiPro™ DI 226 series



Flow Rates: LiquiPro™ DI 222 series



*Flow rate is for water at 20°C through a 10 in cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Element Dimensions

Adaptor	Nominal length	Diameter	Length
222 - Code A	10"	70mm	266 +/- 2
222 - Code A	20"	70mm	506 +/- 4
222 - Code A	30"	70mm	750 +/- 4
213 - Code J	20"	70mm	494 +/- 4

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: 1 2 3 4 5 6 DG005AGA05

Product Name	Micron Rating	Adaptor code	Seals	Diameter	Length
DG LiquiPro DI	005 0.05µm	A 222 / flat	G FEP Encap Silicone	A 70mm	05 5"
DGX LiquiPro DI Xtra Life	010 0.1µm	B 226 / fin	K FFKM		10 10"
DGU LiquiPro DI Ultra Life	020 0.2µm	C 222 / fin	T E-FKM		20 20"
	045 0.45µm	F 213 internal / flat	J PTFE Gasket (Code M)		30 30"
	120 1.2µm	K 226 / flat			
		M DOE			

LiquiPro™ PA

Polypropylene Pleated Cartridge Filters

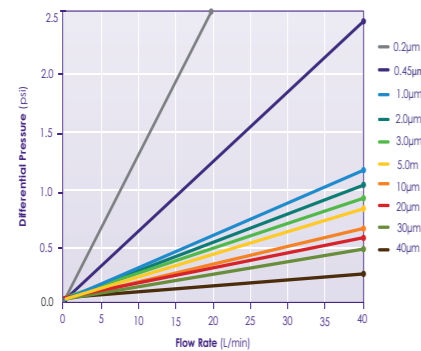


Superior high retention performance filters made of high quality Polypropylene (PP) media with low pressure drop, high flow rate and long service life.

Features and Benefits

- Optimised graded density with fine pore sizes in inner layers and larger pore sizes in the outer layers for high removal efficiency for improved protection of downstream final filters or for improved effluent quality with excellent long service life.
- LiquiPro™ PA technology - Patented, proprietary and continuous co-located precision pore formation technology that ensures filter-to-filter, lot-to-lot performance.
- Certificate of quality enclosed.
- 100% virgin polypropylene construction without the use of binders, adhesive or surfactants to ensure purity is not compromised.

Flow Rates: LiquiPro™ PA (diameter: 70mm)



* Flow rate is for a 25.4 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Typical Applications

- Electro-Copper plating filtration.
- Silica and Ceria slurries filtration at facilities, point of tool.
- DI water cleaning, developing, wet etching and stripping process for flat panel.
- Advanced PCB manufacturing.
- Photovoltaic water, chemical and gas applications.
- Chemical manufacturing.
- Data storage industries.

Performance Specifications

Pore size rating

0.1, 0.2, 0.45, 1, 2, 3, 5, 10, 20, 30, 40 µm

Maximum forward differential pressure:

4.81 bard (69.69 psid) @ 20°C (68°F)
2.75 bard (39.83 psid) @ 60°C (140°F)
1.37 bard (19.91 psid) @ 90°C (194°F)

Recommended change-out differential pressure

2.45 bard (35.56 psid)

Compatibility and purity

Filters do not use any binders, surfactants and adhesives for broad usage compatibilities. Only 100% virgin polypropylene is used.

Materials of construction

Filter media: Polypropylene (PP)
Support: Polypropylene
End caps, core, cage: Polypropylene
O-rings: FEP Encapsulated Silicone, FFKM
Gaskets: PTFE (DOE only)

Maximum operating temperature

90°C (194°F)

Element Dimensions

Length	Diameter	Code A	Code R	Code M	
10"	70mm	266mm +/-2	-	254mm +/-2	Default - Customer to specify length
20"	70mm	506mm +/-4	-	508mm +/-2	Default - Customer to specify length
30"	70mm	750mm +/-4	-	-	
10"	80mm	240mm +/-2	-	-	

Ordering Information

To form a part number, please choose one option for each column below.

Product Code: 1 2 3 4 5 PA010AG10

Product Name	Micron Rating	Adaptor code	Seals	Length
PA LiquiPro PA (70mm Dia)	010 0.1µm	A 222 / flat	G FEP Encap Silicone	10 10"
	020 0.2µm	B 226 / fin	K FFKM	20 20"
	045 0.45µm	C 222 / fin	T E-FKM	30 30"
	100 1µm	K 226 / flat	J PTFE Gasket (Code M)	
	200 2µm	M DOE		
	300 3µm			
	500 5µm			
	1000 10µm			
	2000 20µm			
	3000 30µm			
4000 40µm				

Product Code: 1 2 3 4 5 PAL010AG10

Product Name	Micron Rating	Adaptor code	Seals	Length
PAL LiquiPro PA (80mm Dia)	010 0.1µm	A 222 / flat	G FEP Encap Silicone	10 10"
	020 0.2µm		K FFKM	
	045 0.45µm		T E-FKM	
	100 1µm			
	200 2µm			
	300 3µm			
	500 5µm			
	1000 10µm			
	2000 20µm			
	3000 30µm			
4000 40µm				

LiquiPro™ PH

UHP Hydrophilic PVDF Membrane Filter



LiquiPro™ PH is a proprietary high-performance hydrophilic PVDF membrane with high efficiency and high capacity to remove particles and microorganisms.

Features and Benefits

- Optimised high-flow hydrophilic PVDF membrane structure and support materials that ensure high particle retention efficiency along with low pressure drop, high flow rate and long service life.
- Permanent hydrophilic membrane without the use of additives, surface modification agents or post-treatments to ensure purity is not compromised.
- Certificate of quality enclosed with each lot of product for quality assurance that ensures filter-to-filter, lot-to-lot performance.
- High purity application filters manufactured in cleanroom environment.
- Fast rinse up time as filters has been preflushed with Ultrapure DI water (18.2 Megaohm-cm, TOC less than 15ppb).

Typical Applications

- Ultrapure DI water facilities.
- Dilute acids and DI water cleaning bath in semiconductor wafer fabs.
- Detergent, DI water cleaning bath in hard disk, media and substrate manufacturing.
- Cleaning and rinsing processes in the photo-electric and flat panel display.
- Point of use food and beverage filtration.

Performance Specifications

Pore size rating

0.1, 0.2, 0.45 µm

Maximum differential pressure:

5.39 bard (78 psid) @ 20°C (68°F)
1.7 bard (24psid) @ 80°C (176°F)

Recommended change-out differential pressure

2.0 bard (30 psid)

Compatibility and purity

Filters do not use any binders, surfactants and adhesives for broad usage compatibilities. Only 100% virgin polypropylene is used.

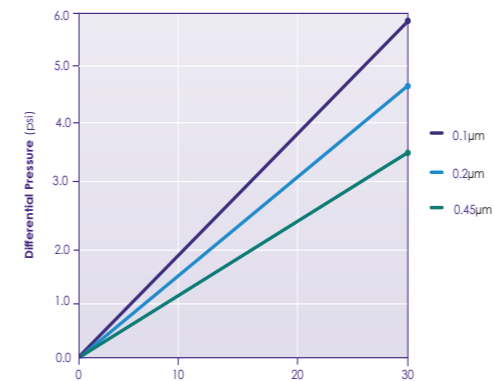
Food, Drug and Water Contact Use

Meets the requirement of the FDA Title 21 of the Code of Federal Regulations. Comply with EU Directive 2002/72/EC for plastic in food contact.

Materials of construction

Filter media: Hydrophilic PDVF membrane
Support: Polypropylene
End caps, core, cage: Polypropylene
O-rings: FEP Encapsulated Silicone, FFKM, E-FKM
Gaskets: PTFE (DOE only)

Flow Rates: LiquiPro™ PH series



* Flow rate is for a 25.4 cm (10 in) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Element Dimensions

Length	Code A	Code M	
5"	130mm +/-2		
10"	266mm +/-2	254mm +/-2	Default - Customer to specify length
20"	506mm +/-4	508mm +/-2	Default - Customer to specify length

Ordering Information

To form a part number, please choose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **6** PH010AGE5

Product Name	Micron Rating	Adaptor code	Seals	Cleanliness	Length
PH LiquiPro PH	010 0.1µm	A 222 / flat	G FEP Encap Silicone	E E-Grade High Purity TOC<100ppb	5 5"
	020 0.2µm	B 226 / fin	K FFKM		10 10"
	045 0.45µm	C 222 / fin	T E-FKM	U Ultra High Purity Metal (< 40ppb)	20 20"
		K 226 / flat	J PTFE Gasket (Code M)		
		M DOE			

LiquiPro™ SL

Chemical Mechanical Polishing (CMP) Filters



LiquiPro™ SL Series filters are the next generation of pre-cleaned slurry filters designed for advanced chemical mechanical polishing (CMP).

This filter series is built using an outer melt blown media in combination with an inner nanofiber media. This is a departure from the tradition CMP filters that have either all wrapped layers, all pleated layers, or all melt blown layers. These SL Series filters are cost competitive with higher performance over traditional CMP filters.

LiquiPro™ SL

- These filters remove particles, aggregates, agglomerates, and microgels that are disruptive to the CMP process. These filters provide excellent capacity and have a sharp filtration cut off curve, so the particle size distribution of the desired slurry particles does not change after filtration.
- The nano-fiber media used in these filters are reliable and have excellent performance with colloidal, cerium oxide and alumina slurries.

Specifications

Pore sizes rating for SL Series: (µm)

0.07, 0.1, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, 3, 5.

Maximum differential pressure:

2.4 bard (35 psid) @ 21°C (70°F)

4.0 bard (58 psid) @ 80°C (176°F)

Maximum operating temperature

80°C (176°F)

Materials of construction:

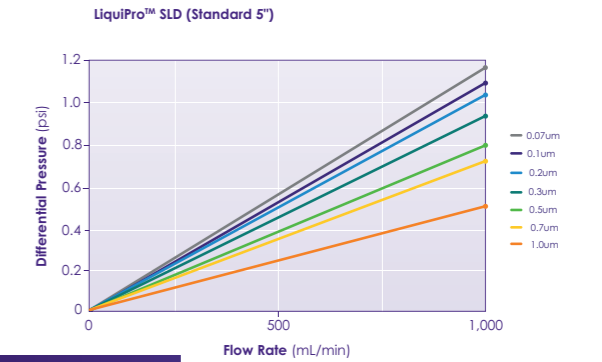
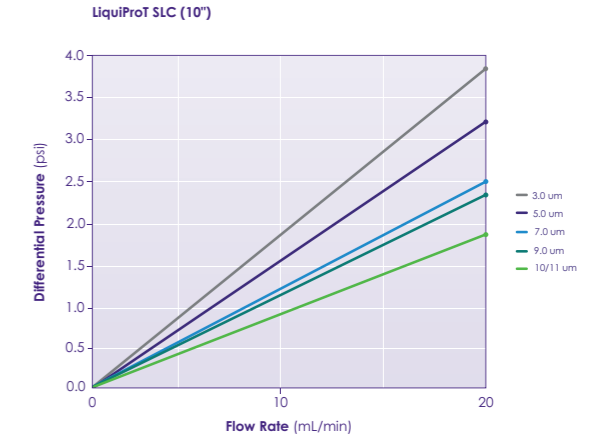
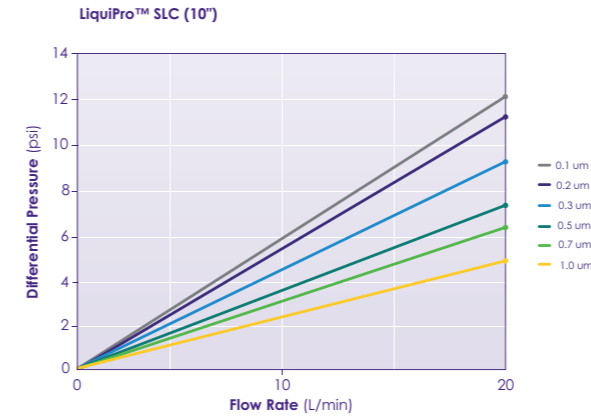
Materials: Polypropylene construction

Filter Media: Polypropylene

Filter Core/Cage/Endcap: Polypropylene

Cartridge O-rings/gasket: EPDM

Flow Charts



Element Dimensions

Product	Diameter	Length
5"	69mm +/-1mm (2.72" +/-1.04)	130mm +/-1
10"	69mm +/-1mm (2.72" +/-1.04)	264mm +/-1
20"	69mm +/-1mm (2.72" +/-1.04)	512mm +/-1

Capsule Dimensions

Product	Connections	Length	Diameter
Short	Flaretek 3/8" I/O, 1/4" V/D	154mm (6.14")	83.8mmm (3.3")
	Flaretek 3/8" I/O, 1/8" V/D	154mm (6.14")	83.8mmm (3.3")
Standard	3/8" Flaretek I/O	212mm (8.35")	93mmm (3.66")
	EZ Connect	202mm (7.95")	93mmm (3.66")
	Flaretek 3/8" I/O, 1/4" V/D	214mm (8.43")	83.8mmm (3.3")
Long	3/8" Flaretek	351mm (13.82")	93mmm (3.66")

Ordering Information

To form a part number, please chose one option from each column below.

Product Code: 1 2 3 4 5 6 7 SLCQ07A10G1K

Product Name	Micron Rating	Adaptor code	Length	Seals	Packaging	Key Option
SLC LiquiPro SLC Element Cartridge	Q07 0.07µm	A 222 / flat	5 5"	G FEP Encap Silicone	1 1 / pack	K EZ Key compatible to use with ChemLock® cartridge housing
	01 0.1µm	M DOE with gaskets	10 10"	K FFKM	W IPWET Patented Prewet / Disinfect	- n/a
	02 0.2µm		20 20"	T E-FKM		
	03 0.3µm			J PTFE Gasket (Code M)		
	05 0.5µm					
	07 0.7µm					
	10 1µm					
	15 1.5µm					
	30 3.0µm					
	50 5µm					

Product Code: 1 2 3 4 5 SLDQ07F6021

Product Name	Micron Rating	Connections	Length	Packaging
SLD LiquiPro SLD Disposable Capsule	Q07 0.07µm	F6 3/8" Flaretek I/O	02 Short	1 1 / pack
	01 0.1µm	EC EZ Connect	05 Standard	2 IPWET Patented Prewet disinfectant
	02 0.2µm	F6F4 3/8" Flaretek I/O 1/4" Flaretek V/D	10 Long	
	03 0.3µm	F6N2 3/8" Flaretek I/O 1/8" NPT V/D		
	05 0.5µm			
	07 0.7µm			
	10 1µm			
	15 1.5µm			
	30 3.0µm			
	50 5µm			

PFG964/Rev4/May26

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LiquiPro™ MI

Disposable Capsule Filters



LiquiPro™ MI are high purity disposable filters offered with 3 different types of high-performance membranes: hydrophobic PTFE membrane; Nylon membrane and PES membrane with UHP virgin grade PP support materials for critical high purity photochemical point-of-use filtration applications.

Features and Benefits

- Ultra-clean filter design. Filter design, materials selection and UHP decontamination procedure are optimised to eliminate shedding and extractables to ensure reliable downstream cleanliness.
- LiquiPro™ MI provide excellent chemical compatibility to make these filters ideal for point-of-use photochemical filtration applications, including a broad range of photoresists and solvent.
- LiquiPro™ MIDF PTFE series uses high performance PTFE membrane for removal of hard and small particles from aggressive solvent based photochemicals.
- LiquiPro™ MIDH Nylon series helps to eliminate micro-bridging defects in photoresist and cone defects in the anti-reflective coatings.
- LiquiPro™ MIDB PES series uses the highest quality PES membrane which is hydrophilic to positive developers such as TMAH and DI to eliminate the formation of bubbles and micro-bubbles during the spin rinse process.

Typical Applications

- MIDB: Point of use developer (KOH, TMAH) and DI water.
- MIDF: Point of use IPA, acetone and other solvents.
- MIDH: Point of use Photoresist.

Performance Specifications

Pore size rating

0.05, 0.1, 0.2 µm

Maximum operating pressure:

6.0 bard (87 psid) @ 25°C (77°F)

Membrane area:

Short Series: 1000-1150 cm² (155-178 in²)

Long Series: 2000-2300 cm²(310-356 in²)

Maximum operating temperature

60°C (140°F)

Capsule Dimensions

Length code	Connections	Diameter (Housing) mm / +/- 1mm	Diameter (Max.) mm / +/- 1mm	Length mm / " +/- 1mm
Short	S44	67.5 +/- 2.66	71.0 +/- 2.79	114.0 +/- 4.49
	N42			116.0 +/- 4.57
	N62			124.0 +/- 4.88
	N84			127.0 +/- 5.00
	P44			121.7 +/- 4.79
	PM64			
Long	S84			179.0 +/- 7.05
	P64			193.2 +/- 7.61
	P84			
	PM84			
	F64			209.8 +/- 8.26
	N82			186.0 +/- 7.32

Ordering Information

To form a part number, please chose one option from each colour column below.

Product Code: 1 2 3 4 5 MIDFS005S2P

Product Name	Length	Micron Rating	Connections	Cleanliness
MIDF LiquiPro MI Disposable Capsule PTFE / PP	S Short	005 0.05µm	S2 1/2" Compression I/O 1/4" Compression Vent	P UPW Pre-Flushed
	L Long	010 0.1µm	S4 1/4" Compression I/O 1/4" Compression Vent	U Ultra High Purity
		020 0.2µm		
MIDH LiquiPro MI Disposable Capsule Nylon / PP		Other options available	N2 1/2" NPT male I/O 1/8" NPT Male Vent	
			N4 1/4" NPT male I/O 1/8" NPT Male Vent	
			P2 1/2" Super Pillar I/O 1/4" Super Pillar Vent	
			P4 1/4" Super Pillar I/O 1/8" Super Pillar Vent	
MIDB LiquiPro MI Disposable Capsule PES / PP			P8 3/8" Super Pillar I/O 1/4" Super Pillar Vent	
			M6 6mm Super Pillar I/O 4mm Super Pillar Vent	
			M8 8mm Super Pillar I/O 4mm Super Pillar Vent	
			F6 3/8" Flaretek I/O 1/4" Flaretek Vent	

LiquiPro™ EZ

Ultra High Purity PFA Cartridge Housing



Ultra-High-Purity and patented LiquiPro™ EZ PFA Cartridge Housing offers an excellent space-saving solution. This housing locks the cartridge into the bowl, allowing the bowl and cartridge to be installed or removed as a single unit. Thus ensuring that contamination and chemical contact is minimised.

Features

- Universal Filter Grade Compatibility**
 Compatible with industry standard 2-222 / Flat single-open-end filter cartridges, as well as industry standard and EZ key filter elements.
- Easy and Fool-proof Filter Installation / Changeout**
 When using the Chemlock® EZ Key. The LiquiPro™ EZ cartridge housing bowl is used as a tool when installing and removing a cartridge. After insertion into the bowl, a 1/4 turn locks the cartridge into place. The bowl and cartridge are easily installed into the head, by turning the locking ring, the cartridge is pushed vertically, ensuring perfect alignment and double O-ring engagement every time.
- Rigorous Qualification ASTM, ASME, NSF / ANSI42**
 Hydrostatic pressure tested 0.75MPa (110psi) at room temperature ; Cyclic pressure tested from 0-0.5MPa (72psi) for 100,000 cycles at room temperature. 100°C high temperature leak tested at 0.43MPa (62psi).

- Mass Production**
 > 1000 units installed in Taiwan, US, Japan, Europe, China for UHP semiconductor applications. Chemical delivery system, process equipment as well as retrofitted on Lam Research Sabre, SEZ, SCREEN tools.
- Ultra Clean Manufacturing**
 Assembled, cleaned, tested in class 1000 and 100 manufacturing center.
- PFOA-Free**
 PFOA is not used in the manufacturing process.
- Choice of Inlet / Outlet fittings available**
 Pillar S300 1", Super Pillar 3/4", Flare 1" and 3/4" inlet / outlet fittings available to meet semiconductor applications requirements.

Benefits

- Tremendous Tool Space Saving**
 Compared with traditional housings, saving a minimum of 20-45cm of vertical space for cartridge changeout.
- No touch Cartridge Changeout**
 Operators do not have to touch the cartridge body during cartridge changeout, which minimizes exposure to chemicals for maximum safety and eliminate possibility of process contamination.

Performance Specifications

Materials of construction

Connector nuts:	PVDF or PFA
Locking ring:	PVDF or PP (With glass fibre)
Head, Bowl & Molded-on fittings:	Dupont PFA 440 HPJ
O-rings:	FEP Encapsulated Silicone, FFKM, E-FKM

Fluid connections:

See ordering Information

Cartridge connections:

Dual 2-222 O-rings

AT (70mm Dia), ATX (83mm Dia)

EzeLock™ and industry standard equivalents.

Maximum inlet pressure:

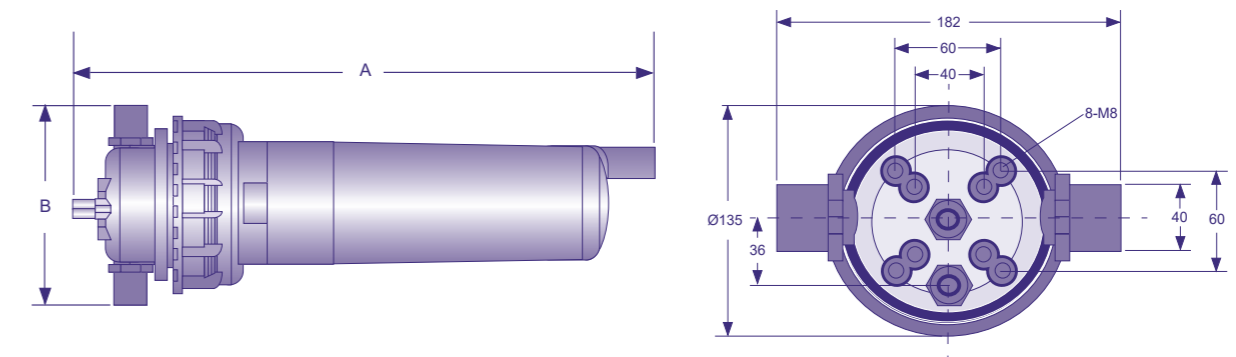
3.0 bar (43 psi) @100°C

7.5 bar (110 psi) @ 25°C

Maximum operating temperature

100°C (212°F)

Dimensions



Inlet / Outlet	Vent / Drain	B	A (5" Housing)	A (10" Housing)	A (20" Housing)	A (30" Housing)
1" Flare	1/2" Flare	202mm (8.0")	351mm (13.9")	481mm (18.9")	710mm (28")	957mm (37.7")
3/4" Flare	1/2" Flare	192mm (7.6")	351mm (13.9")	481mm (18.9")	710mm (28")	957mm (37.7")
1" S300***	1/2" S300***	182mm (7.2")	329 (12.9")	459mm (18.0")	688mm (27.0")	935mm (36.8")
3/4" Super Pillar	1/2" Super Pillar	180mm (7.1")	328mm (12.9")	458mm (18.0")	687mm (27.0")	934mm (36.8")

*** Super 300 Type Pillar® Fitting

Ordering Information

To form a part number, please chose one option from each column below.

Product Code: **1** **2** **3** **4** **5** **6** **7** **8** **9** **EZ1FL1288GVN**

Product Name	Length	Fitting	Inlet / Outlet	Vent	Drain	Seals	Locking Ring	connection
EZ LiquiPro EZ PFA Housing Ultra High Purity	1 10"	FL Flare	12 3/4"	8 1/2"	8 1/2"	G FEP Encap Silicone	V PVDF	N PVDF Union Nuts
	2 20"	FL Flare	16 1"	4* 1/4"	4* 1/4"	K FFKM	P PP	NPF PFA Union Nuts
	3 30"	PL Super Pillar	12 3/4"	* = Non standard option.		G E-FKM		Assembled with I/O & V/D union units
	A 5"	S3 S300	16 1"					
	E 9.5"							

Accessories

Part Numbers	Description
EZ-OR-344-T-1	Spare o-ring, 2-344, E-FKM, 1/PK
EZ-OR-344-K-1	Spare o-ring, 2-344, FFKM, 1/PK
EZ-OR-344-K4-1	Spare o-ring, 2-344, FFKM Kalrez 4079, 1/PK
EZ-OR-344-K6-1	Spare o-ring, 2-344, FFKM Kalrez 6375, 1/PK
EZ-OR-344-B-1	Spare o-ring, 2-344, Viton® Extreme ETP, 1/PK
EZ-OR-344-V-1*	Spare o-ring, 2-344, FKM, Viton® equiv, 1/PK
EZ-OR-344-E-5*	Spare o-ring, 2-344 EP, 5/PK
EZ-OR-222-K6-1	Spare o-ring, 2-222, FFKM Kalrez 6375, 1/PK
EZ-WR-H-1	Wrench head, 1/PK
EZ-UCLM-V	U Clamp Mounting, PVDF, 2/PK
EZ-SC-HS-20-4	PVDF Screw M8x1.25 External Hex L20mm 4/PK
EZ-SC-HS-35	Screw, Hex Socket, L35mm, PVDF, 4/PK
EZ-MP-PP-10-1	Mount Plate for MYC-Exx CL PFA, PP 110X105X10mm, 1/PK
EZ-MP-PP-05-1	Mount Plate for MYC-Exx CL PFA, PP 110X105X5mm, 1/PK
EZ-MP-SUS-110105-02-1	Mount Plate for MYC-Exx CL PP, 304 Stainless Steel 110X105X2mm, 1/PK
EZ-MP-SS-110105PFA-02-1	Mount Plate for MYC-Exx CL PFA, 304 Stainless Steel 110X105X2mm, 1/PK

PFG961/Rev6/May26

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LiquiPro™ YS

High Quality Stainless Steel Filter Housing



LiquiPro™ YS stainless steel housing is a high quality and cost effective for demanding chemical filtration applications, and for semiconductor “conductive” solvent filtration applications.

Features and Benefits

- Designed to use with LiquiPro™ F2, LiquiPro™ PA, LiquiPro™ DI, LiquiPro™ SL as well as most compatible 70mm diameter and 83mm diameter cartridge filters available in the market.
- High grades stainless steel: 316L, 316 or 304.
- Available in PM grade: interior and exterior of filter housing bowl mechanical polished to reflective mirror finish (#400 mesh) suitable for most chemical and solvent filtration applications. Also available in EP grade option: Interior and exterior of filter housing bowl are electro-polished to achieve matted non-directional finish with low Ra for the most demanding advanced semiconductor solvent and chemical filtration applications.
- Available options to use with SOE (single open end) with 2-222 O-ring adaptor filter; and DOE (double open end) filters.
- Easy to operate clamp design. No tool is required to change filter.

Typical Applications

- Semiconductor and wafer bumping industry solvent, stripper, etching, plating fluids.
- Pre-filtration for Reverse Osmosis for F&B, pharmaceutical and high purity industries.
- Water filtration.
- Filtration of low and up to medium viscosity fluids (up to 200 centipoises).

Performance Specifications

Maximum operating pressure:

10.50 bard (10 kg/cm²d, 152 psid) @25°C (77°F)
21.72 bard (22 kg/cm²d, 315 psid) @25°C (77°F)

Maximum operating temperature:

75°C (140°F)

Materials of construction:

Materials: Clamp(1):304, Head(2), Rod(3) , Nut(4), Bowl(6): 316L, 316 or 304

O-ring: FEP Encapsulated Silicone, FFKM, E-FKM

Finish: EP Grade: Interior and exterior electro-polish, PM grade: Interior and exterior mechanical-polish.

Inlet/Outlet: 3/4" or 1" NPTF 3/4" or 1" TC Fitting

Flow Specifications

Model	Housing Length	Diameter	Filter Length	Typical Flow Rate	
YS_-1	392mm	106mm	10in	1.1m ³ /hr	5 GPM
YS_-2	642mm	106mm	20in	2.3m ³ /hr	10 GPM
YS_-3	892mm	106mm	30in	3.4m ³ /hr	15 GPM

Model	Housing Length	Diameter	Filter Length	Typical Flow Rate	
YPSYH_-1	391 mm	89 mm	10in	3.4m ³ /hr	15 GPM
YPSYH_-2	641 mm	89 mm	20in	4.5m ³ /hr	20 GPM
YPSYH_-3	891 mm	89 mm	30in	5.7m ³ /hr	25 GPM

Package Specifications

Model	Dimension (cm)	Weight (kg)
YS_-1	18(L) x 18(W) x 45(H) cm	4.0
YPSYH_-1		5.5
YS_-2	18(L) x 18(W) x 70(H) cm	5.5
YPSYH_-2		6.5
YS_-3	18(L)x18(W) x 94(H) cm	7.0
YPSYH_-3		7.5

Accessories

Part Number	Descriptions
EZ-OR-344-T-1	Spare O-ring, 2-344, E-FKM, 1/PK
EZ-OR-344-V-1	Spare O-ring, 2-344, FKM, Viton® equiv, 1/PK
EZ-OR-344-G-5	Spare O-ring, 2-344 EP, FEP Encap Silicone, 5/PK
EZ-OR-344-K-1	Spare o-ring, 2-344, FFKM, 1/PK

Product Code: 1 2 3 4 5 6 7 YSA1PMNP16G

Product Name	Filter Code	Length	Steel	Surface Finish	Inlet / Outlet	Seals
YS YS Series Single round Housing	A 222/Flat	1 10"	316	PM Inside/outside 400 mesh polish	NP16 NPTF 1"	G FEP Encap Silicone
	M DOE	2 20"	316L		NP12 NPTF 3/4"	K FFKM
	B Bowl	3 30"	304		TC16 TC 1"	T E-FKM
LPYSH High Pressure SS with locking ring				EP Inside/outside Electropolish	TC12 TC 3/4"	
					AM Inside acid/outside polish	PF16 PTF 1"
						PF8 PTF 1/2"

LiquiPro™ YP

High Purity Polypropylene Filter Housing EZ Key



LiquiPro™ YP is a high purity virgin-grade polypropylene filter housing that is applicable for use in the semiconductor industry. It is assembled, cleaned and tested in an ultra clean manufacturing centre of Class 100 and Class 1000.

LiquiPro™ YP is an excellent space saving solution. The cartridge filter can be locked into the bowl allowing the installation of both the cartridge filter and housing bowl to be installed as a single unit, thereby minimizing contamination and chemical contact.

Features

- Universal Filter Grade Compatibility**
Compatible with industry standard 2-222 / Flat single-open-end filter cartridges.
- Internal Fluid Fully Drains During Drain Cycle**
The filter housing design prevents dead-legs and stagnation points to allow internal fluid to drain fully during the drain cycle to minimize cross contamination and ensure fast flush up.
- Easy and Fool-proof Filter Installation / Changeout**
When using the Chemlock® compatible EZ Key. The LiquiPro™ YP cartridge housing bowl is used as a tool when installing and removing a cartridge. After insertion into the bowl, a 1/4 turn locks the cartridge into place. The bowl and cartridge are easily installed into the head, by turning the locking ring, the cartridge is pushed vertically, ensuring perfect alignment and double O-ring engagement every time.

- Rigorous Qualification ASTM, ASME, NSF / ANSI42**
Hydrostatic pressure tested 0.75MPa (110psi) at room temperature ; Cyclic pressure tested from 0-0.75MPa (110psi) for 100,000 cycles at room temperature.
- Tremendous Tool Space Saving**
Compared with traditional housings, saving a minimum of 20-45cm of vertical space for cartridge changeout.

Benefits

- No Touch Cartridge Changeout**
Minimising exposure to chemicals for maximum safety and eliminates process contamination.
- Ultra Clean Materials**
Manufactured from high-purity virgin grade polypropylene PC-366-5.
- 100% Successful Cartridge Installation**
The cartridge locking feature prevents the cartridge from falling out or being pushed out by back pressure. Vertical installation ensures that the O-rings will not roll.

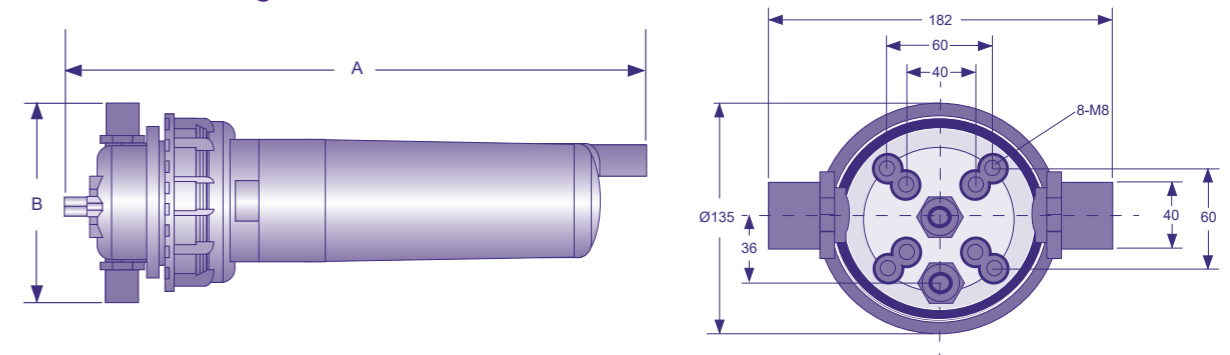
YP Series PP Housing

Table 1: Specifications

Materials	Head, molded fittings, bowl, O-ring Locking Ring (non wetted part) Mounting Screw	Polypropylene FKM, EPDM PP (Glass fibre reinforced)
Mounting Connections	See Ordering Information	SUS304 M8 x 1.25
Cartridge Connections	Code 0 (dual 2-222 O-rings)	AT (70mm dia.), ATX (83mm dia.), EZ Lock, Or Pxx
Operating Conditions (Water Service)	Maximum Inlet Pressure	0.3MPa (3.0bar, 43psi) @ 70°C 0.75MPa (7.5bar, 110psi) @ 25°C
	Maximum Operating Temperature	70°C (212°F)

For CDA gas service, contact a member of the Sales Team.

Table 2: PP Housing Dimensions



Inlet / Outlet	Head Vent / Drain	Bowl Vent / Drain	B	A (5" Housing)	A (10" Housing)	A (20" Housing)
1" Flare	1/2", 1/4" Flare	1/2", 3/8", 1/4" Flare	193mm (7.6")	NA	466mm (18.3")	710mm (27.9")
3/4" Flare	1/2", 1/4" Flare	1/2", 3/8", 1/4" Flare	183mm (7.2")	NA	466mm (18.3")	710mm (27.9")
1" NPT Female	1/4" NPT Female	1/2", 3/8", 1/4" Flare	154mm (6.0")	NA	436mm (17.2")	680mm (26.8")
3/4" NPT Female	1/4" NPT Female	1/2", 3/8", 1/4" Flare	154mm (6.0")	NA	436mm (17.2")	680mm (26.8")
1" NPT Female	1/4" NPT Female	1/4" NPT Female	154mm (6.0")	NA	421mm (16.4)	655mm (26.2")
3/4" NPT Female	1/4" NPT Female	1/4" NPT Female	154mm (6.0")	NA	421mm (16.4)	655mm (26.2")
3/4" NPT Female	1/4" NPT Female	1" NPT Female	154mm (6.0")	NA	NA	655mm (26.2")
1" Flare	No Vent	1/2", 3/8", 1/4" Flare	193mm (7.6")	350mm (13.7")	NA	NA

Table 4: Housing Kit (Head and Bowl)

Part Numbers	Description
YPZ-2-FL-16-F4-F8-E-P	LiquiPro™ HSG 20", Head IO FL 1", V/D FL 1/4", Bowl VD FL 1/2", EPDM OR, PP lock-ring
YPZ-2-FL-12-F4-F8-E-P	LiquiPro™ HSG 20", Head IO NPTF 3/4", V/D FL 1/4", Bowl VD FL 1/2", EPDM OR, PP lock-ring
YPZ-2-FL-12-N4-F8-E-P	LiquiPro™ HSG 20", Head IO NPTF 3/4", V/D NPTF 1/4", Bowl VD FL 1/2", EPDM OR, PP lock-ring
YPZ-2-FL-12-N4-N16-E-P*	LiquiPro™ HSG 20", Head IO NPTF 3/4", V/D NPTF 1/4", Bowl VD NPTF 1", EPDM OR, PP lock-ring
YPZ-2-FL-16-F8-F8-E-P	LiquiPro™ HSG 20", Head FL IO 1", FL V/D 1/2", Bowl VD 1/2", EPDM OR, PP lock-ring
YPZ-1-FL-16-F8-F8-E-P	LiquiPro™ HSG 10", Head FL IO 1", FL V/D 1/2", Bowl VD 1/2", EPDM OR, PP lock-ring
YP2-FL-16-F8-F8-V-P	LiquiPro™ HSG 20", Head FL IO 1", FL V/D 1/2", Bowl VD 1/2", FKM OR, PP lock-ring
YP-2-FL-12-F4-F8-E-P	LiquiPro™ HSG 20", Head IO 3/4", V/D FL 1/4", Bowl VD FL 1/4", EPDM OR, PP lock-ring
YP-1-NP-12-N4-N8-E-P	LiquiPro™ HSG 10", Head IO NPTF 3/4", V/D 1/4", Bowl VD NPTF 1/2", EPDM OR, PP lock-ring
YP-1-FL-12-F8-F8-V-P	LiquiPro™ HSG 10", Head IO FL 3/4", V/D FL 1/2", Bowl VD FL 1/2", FKM OR, PP lock-ring
YP-1-NP-12-N4-N4-E-P-MW	LiquiPro™ HSG 10", Head IO NPTF 3/4", V/D 1/4", Bowl VD 1/4", EPDM OR, PP lock-ring, JY MT Plate, M8x4, JY WR
YP-A-FL-12-F4-F8-V-P-NC	LiquiPro™ HSG 5", Head IO FL 3/4", VD FL 1/4", Bowl VD FL 1/2", FKM OR, PP lock-ring
YP-A-FL-12-X-N4-V-P	LiquiPro™ HSG 5", Head IO FL 3/4", NO VD, Bowl VD NPTF 1/4" (incl. 1/4 plug), FKM OR, PP lock-ring

Table 4A: Housing Heads

Part Numbers	Description
YPEZH-FL-16-F4	LiquiPro™ HSG, Head IO FL 1", V/D FL 1/4"
YPEZH-FL-16-F8	LiquiPro™ HSG, Head IO FL 1", V/D FL 1/2"
YPEZH-FL-12-F4	LiquiPro™ HSG, Head IO FL 3/4", V/D FL 1/4"
YPEZH-FL-12-F8	LiquiPro™ HSG, Head IO FL 3/4", V/D FL 1/2"
YPEZH-NP-12-N4	LiquiPro™ HSG, Head IO NPTF 3/4", V/D FL 1/4"

Table 4B: Housing Bowls

Part Numbers	Description
YPEZB-1-F8-E-P	LiquiPro™ HSG Bowl 10", V/D FL 1/2", EPDM OR, PP lock-ring
YPEZB-1-F4-E-P	LiquiPro™ HSG Bowl 10", V/D FL 1/4", EPDM OR, PP lock-ring
YPEZB-2-F8-E-P	LiquiPro™ HSG Bowl 20", V/D FL 1/2", EPDM OR O-ring, PP lock-ring
YPEZB-2-F8-V-P	LiquiPro™ HSG Bowl 20", V/D FL 1/2", FKM OR O-ring, PP lock-ring
YPEZB-2-F6-E-P	LiquiPro™ HSG Bowl 20", V/D FL 3/8", EPDM OR O-ring, PP lock-ring
YPEZB-2-F4-E-P	LiquiPro™ HSG Bowl 20", V/D FL 1/4", EPDM OR O-ring, PP lock-ring
YPB-1-F8-V-P	LiquiPro™ HSG Bowl 10", V/D FL 1/2", FKM OR O-ring, PP lock-ring
YPB-1-N4-E-P	LiquiPro™ HSG Bowl 10", V/D FL 1/4", EPDM OR O-ring, PP lock-ring
YPB-2-F8-V-P	LiquiPro™ HSG Bowl 20", V/D FL 1/2", FKM OR O-ring, PP lock-ring
YPB-2-F4-E-P	LiquiPro™ HSG Bowl 20", V/D FL 1/4", EPDM OR O-ring, PP lock-ring

Note: YPEZB Housing Bowl uses EZ Key. YPB does not.

Table 5: Accessories

Part Numbers	Description
YP-WR-JY-1	YPL HSG JY Wrench w O-Ring removal hook 1/pk
YP-MP-JY-1	YPL HSG JY Mount Plate 1/PK
YYEZL-OR-345-V-1	Spare O-ring, 2-345, FKM, Viton® equiv, 1/PK
YYEZL-OR-345-E-5	Spare O-ring, 2-345, FKM, 5/PK
YYEZL-OR-345-T-1	Spare O-ring, 2-345, E-FKM, 1/PK
YYEZL-WR-TQ1	EZ Lock Housing Digital Torque Wrench Assembly
YYEZL-WR-HEADHOOK	Wrench Head with O-ring removal hook
YYEZL-SC-LS-20-4	PVDF Screw M8X1.25 EXT, Ext HEX, L20mm, 4/PK
YYEZL-SC-HS-20-4	SUS304 Screw M8X1.25 EXT, Ext HEX, L20mm, 4/PK
YYEZL-MP-SUS-110105-02-1	Mount plate for MYC-Exx CL PP, Stainless Steel 110X105XX2mm, 1/PK

Table 6: Compatibilities

Part Number	O-ring	Torque (N•m)	Temp (°C)	Solvents	Acid	Base	Oxidisers	Notes
YYEZL-OR-345-V-1	Viton®	28.5	<100	A	A	A	B	Avoid polar solvents, amines and anhydrous ammonia.
YYEZL-OR-345-E-1	EPDM	28.5	<100	A	A	A	B	Good resistance to mild acids, detergents. Fair to poor resistance to solvents.
YYEZL-OR-345-T-1	E-FKM	45	<100	C	A	C		Teflon® encapsulation provides better excellent cleanliness and compatibility; however due to diffusion, avoid polar solvents, amines, and anhydrous ammonia.

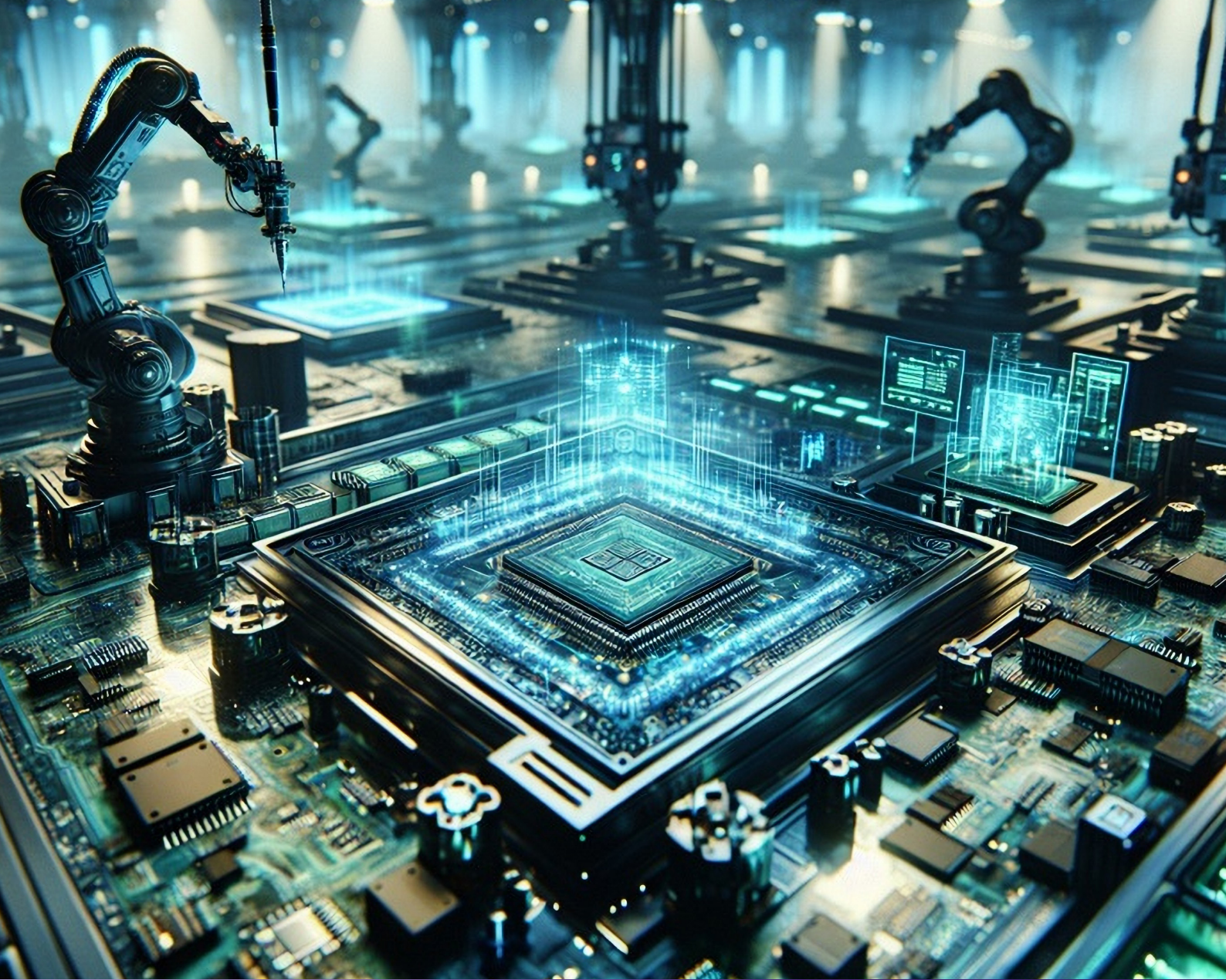
Ordering Information

To form a part number, please chose one option from each column below.

Product Code: **1 2 3 4 5 6 7 8** **YP5F12F8F8GP**

Product Name	Length	Head Fitting	Inlet / Outlet	Vent/Drain (HEAD)	Vent Drain (BOWL)	Seals	Locking Ring
YP LiquiPro YP Series Single round Housing	5 5" 10 10" 20 20"	F Flare N NPTF	12 3/4" 16 1"	F8 FL 1/2" F4 FL 1/4" N8 N 1/2"	F8 FL 1/2" F4 FL 1/4" N8 N 1/2"	G FEP Encap Silicone K FFKM T E-FKM	P PP
YPZ LiquiPro YP Series Single round Housing EZ Key feature	30 30"			N4 N 1/4" N4 N 1/4"	N4 N 1/4" N4 N 1/4"		





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filtration group

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