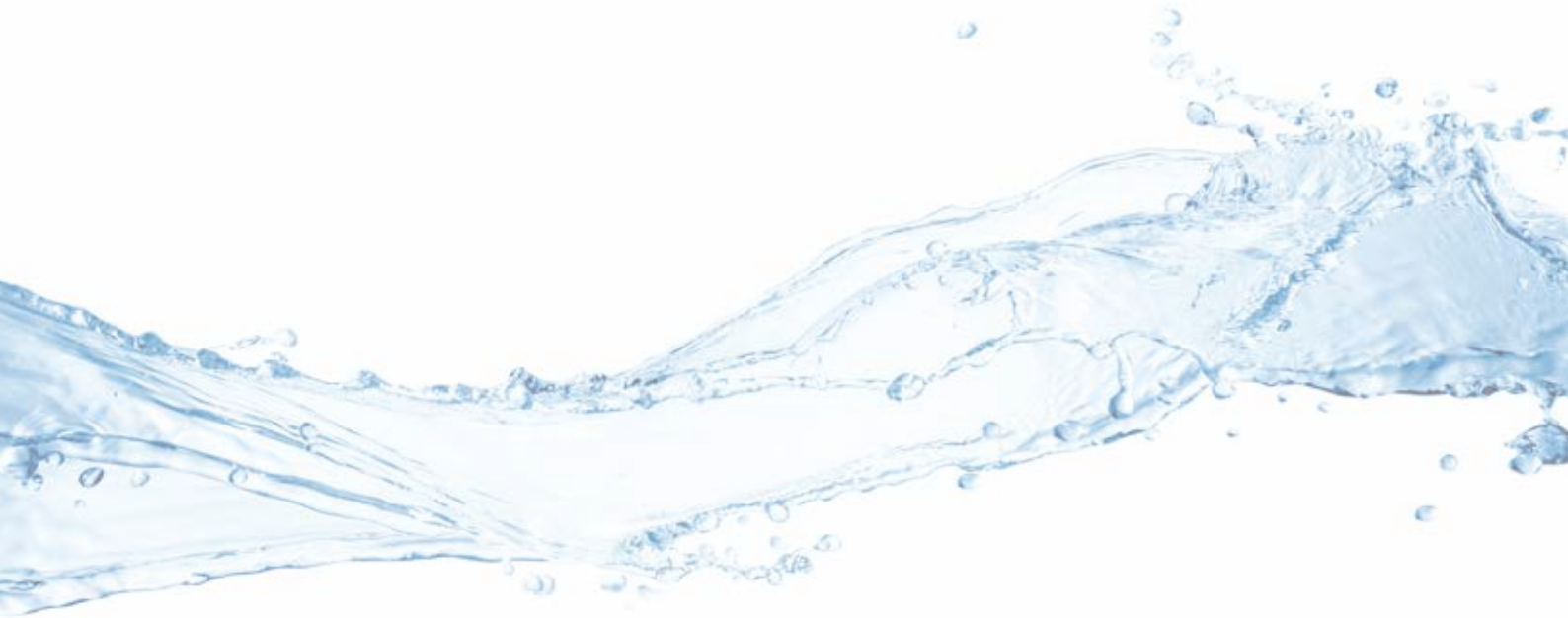
espro®

FILTRATION

INNOVATIVE PRODUCTS
FOR SEMICONDUCTOR PROCESSES

WWW.ESPROFLOW.COM



0520222REV

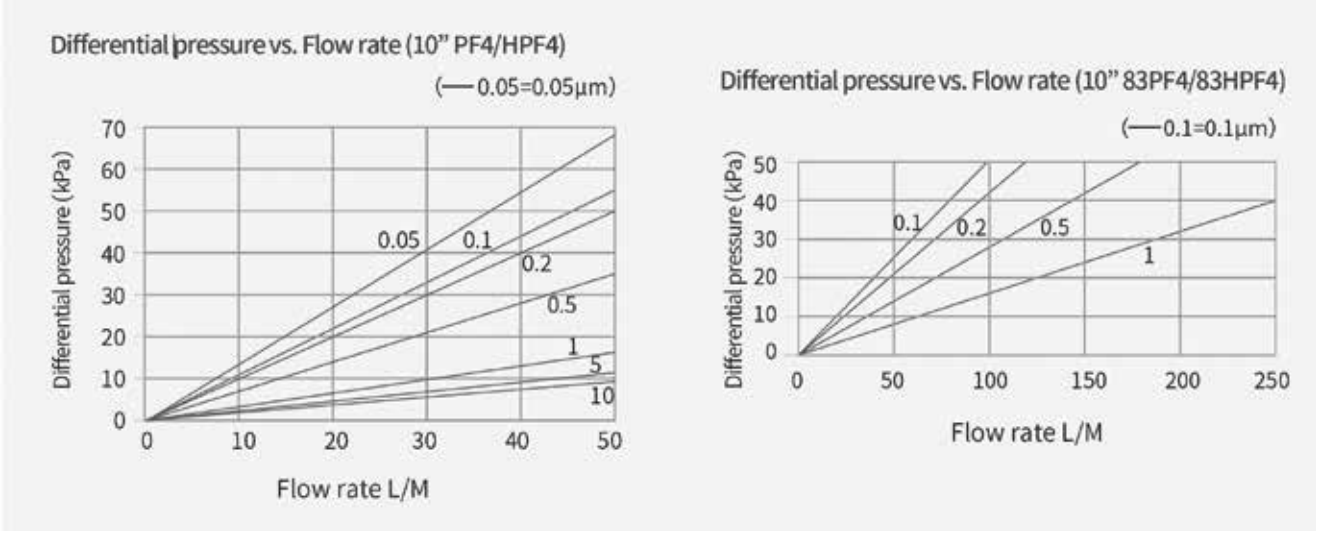
espro®

Contents

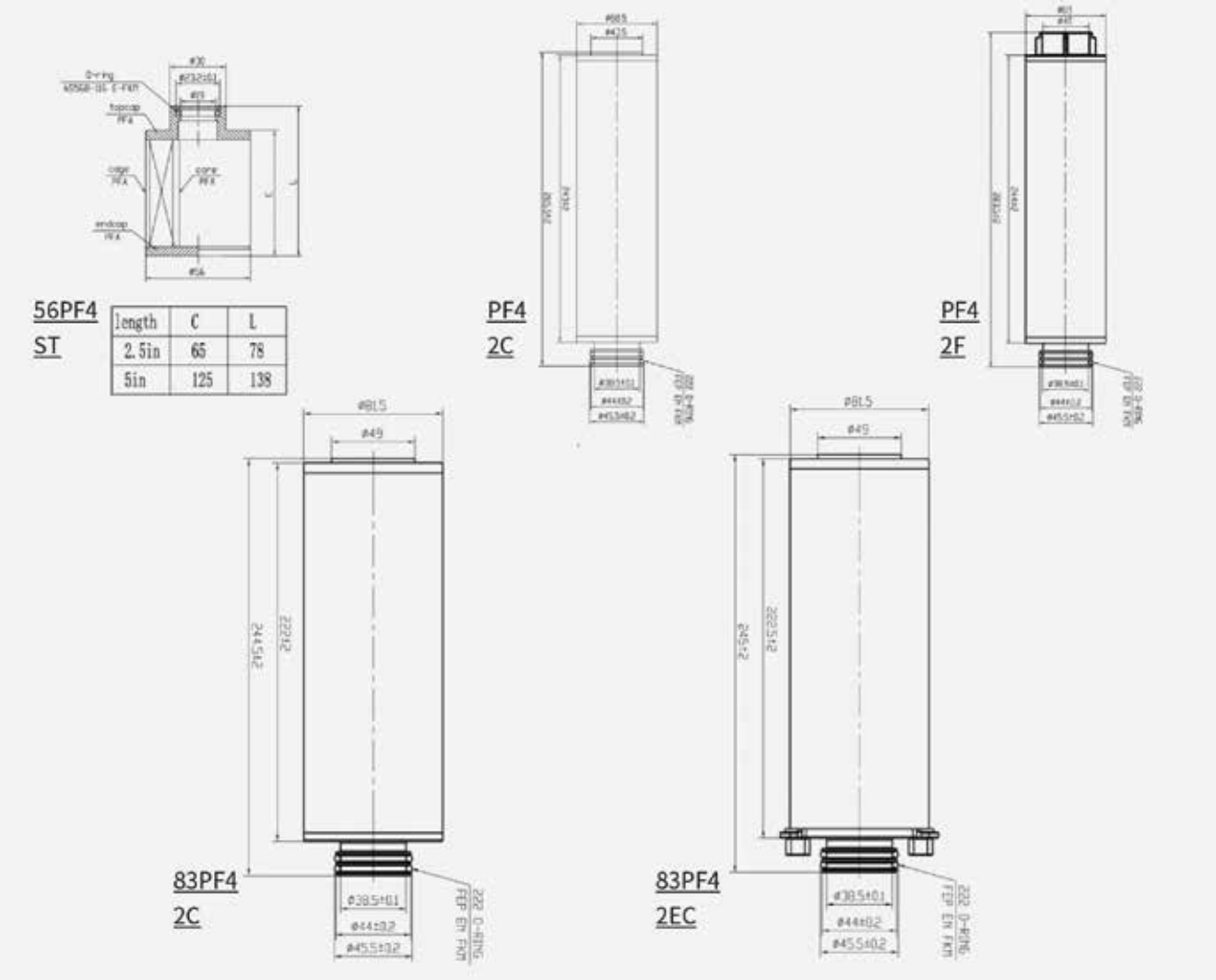
PF4/HPF4 series filter

PF4/HPF4 (Ø56, Ø69, Ø83) series filter cartridges feature the best chemical compatibility and could be used in the most aggressive chemicals including strong acids, bases, corrosive liquid and oxidant. All fluorine construction and superior cleaning standard effectively reduces metal, chlorides and other contaminants. High flow rate, long service life. Hydrophobic (PF4) and hydrophilic (HPF4) PTFE membranes are both available for liquid or gas applications.

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE/ Hydrophilic PTFE
Support	PFA
Endcaps/Cage/Core	PFA
Max. Working Temp.	180ºC
Membrane area	0.91 m²/10" , 1.21 m²/10"
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa



www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com



Ordering Information

ESPRO-12-PF4	005	2F	05	T	/
Code	**Removal Rating**	**Adaptor**	**Length**	**Sealing**	**Packaging**

Code
ESPRO-12-56PF4
ESPRO-12-56HPF4*
ESPRO-12-PF4
ESPRO-12-HPF4

Removal Rating	
002	0.02 µm
003	0.03 µm
005	0.05 µm
010	0.10 µm
022	0.22 µm
045	0.45 µm
10T	10 µm

Adaptor	
2F	222Fin
2C	222Flat
6F	226Spear
6C	226Flat
ST	1160-rings

Length	
02	2,5”
05	5”
10	10”
20	20”
30	30”

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

Packaging	
/	Without Prewet
W	< 25 ppb
CW	< 25 ppb

Code
ESPRO-12-83PF4
ESPRO-12-83HPF4

Adaptor	
2C	222Flat
2EC	222Flat with lock

Length	
08	8”
10	10”

Sealing	
E	EPDM
T	FEP/Viton

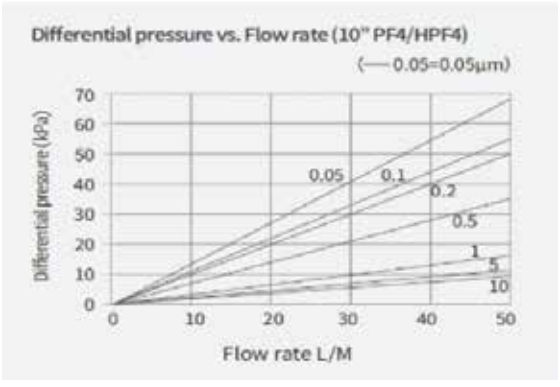
Packaging	
/	Without Prewet
W	< 25 ppb
CW	< 25 ppb

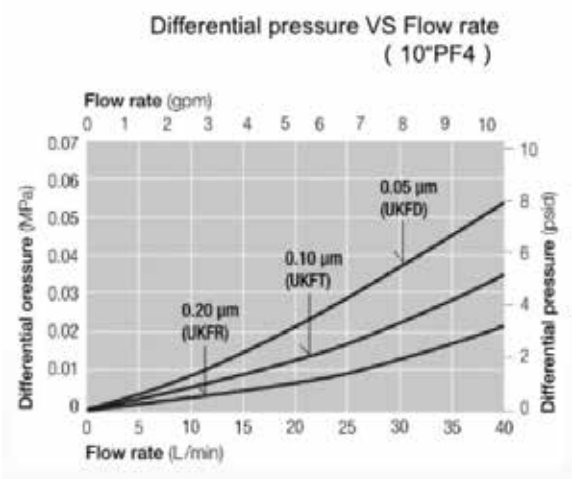
* ESPRO-12-56HPF4 series is only available in 5 inch with 116 o-rings.

PF4 & PALL UltiKleen™ -S comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		UltiKleen ™ -S	PF4 Series
Model No.		ABF	PF4
Type		PFA cartridge filter	PFA cartridge filter
Removal ratings		0.05 / 0.1 / 0.2 µm	0.05 / 0.1 / 0.2 µm
Material	Filter medium	PTFE	PTFE
	Media support	PTFE	PFA
	Core & Cage	PFA	PFA
	O-ring	FEP/Kalrez	FEP/FFKM
Connections	Diameter	68 mm	68 mm
	Endcaps	222Flat	222Flat
	Length	4/10/20/30 inch	4/10/20/30 inch
Filtration area		0.55 m^2 / 1.1 m^2 2.2 m^2 / 3.3 m^2	0.55 m^2 / 0.9 m^2 1.1 m^2 / 2.2 m^2 / 3.3 m^2
Filtration efficiency		As shown in the figure	
Differential pressure		0.69 MPa < 50ºC 100 psid < 120ºF	Forward 0.42 Mpa Reverse 0.21 Mpa
Maximum Operating Temperature		185ºC	180ºC

PF4



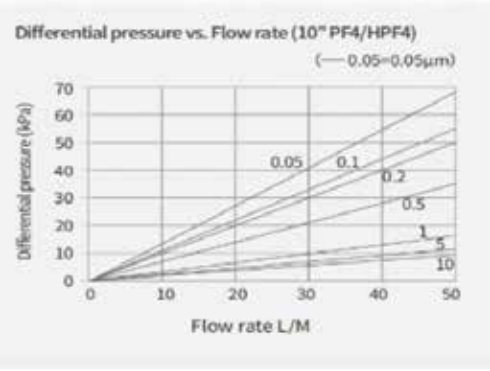


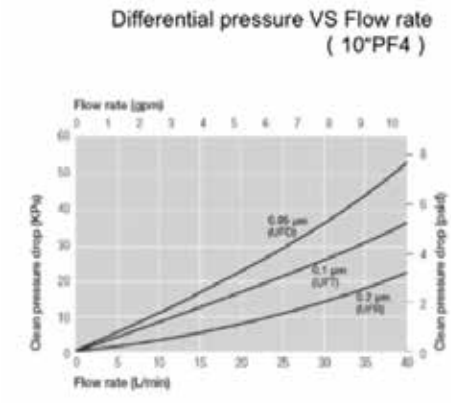
www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

PF4 & PALL UltiKleen™ -CDS comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		UltiKleen ™ -CDS	PF4 series
Model No.		ABF1UF	PF4
Type		PFA cartridge filter	PFA cartridge filter
Pore size		0.05 / 0.1 / 0.2 µm	0.05 / 0.1 / 0.2 µm
Material	Filter medium	PTFE	PTFE
	Media support	PTFE	PFA
	Core & Cage	PFA	PFA
	O-ring	FEP/Kalrez	FEP/FFKM
Connections	Diameter	68 mm	68 mm
	Endcaps	222Flat	222Flat
	Length	4/10/20/30 inch	4/10/20/30 inch
Filtration area		0.5 m^2/1 m^2/2 m^2/3 m^2	0.5 m^2/1 m^2/2 m^2/3 m^2
Filtration efficiency		As shown in the figure	
Differential pressure		0.69 MPa 50ºC 0.41 MPa 110ºC 0.24 MPa 170ºC 0.14 MPa 185ºC	Forward 0.42 Mpa Reverse 0.21 Mpa
Maximum Operating Temperature		185ºC	180ºC

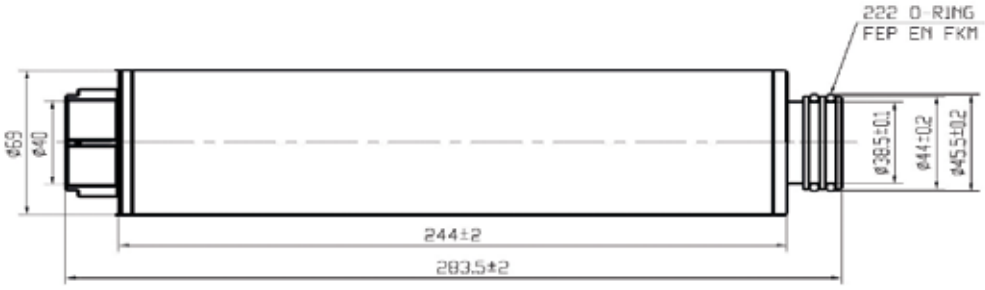
PF4





PF4 Deefine & PALL comparison

PALL



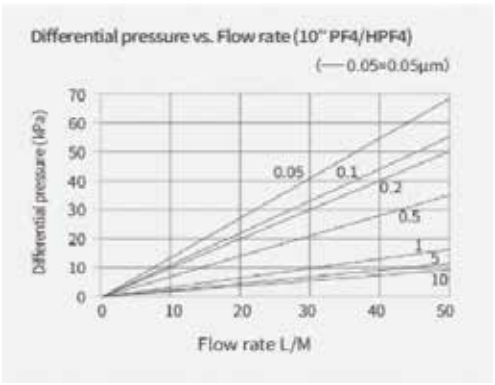
esPRO® BY DEEFINE

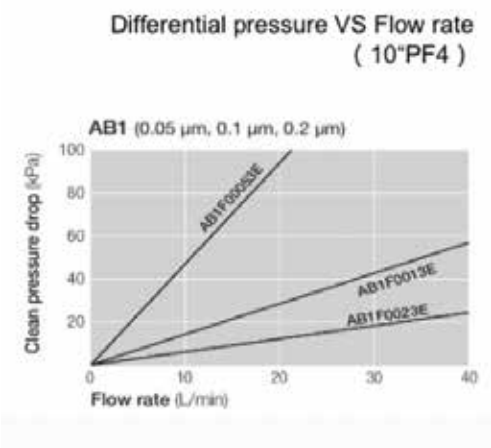
www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

PF4 & PALL Emflon® PF comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		Emflon ® PF	PF4 series
Model No.		AB1/AB04	PF4/PF4C
Type		PFA cartridge filter	PFA cartridge filter
Pore size		0.05 / 0.1 / 0.2 / 1.5 / 10 µm	0.05 / 0.1 / 0.2 / 1.5 / 10 µm
Material	Filter medium	PTFE	PTFE
	Media support	PTFE	PFA
	Core & Cage	PFA	PFA
	O-ring	FEP/Kalrez/ Chemraz	FEP/FFKM
Connections	Diameter	68 mm	68 mm
	Endcaps	222Flat	222Flat
	Length	4/10 inch	4/10 inch
Filtration area		0.56 m^2 / 0.24 m^2	0.56 m^2 / 0.24 m^2
Filtration efficiency		As shown in the figure	
Differential pressure		0.69 MPa 50ºC 0.41 MPa 110ºC 0.24 MPa 170ºC 0.14 MPa 185ºC	0.42 Mpa
Maximum Operating Temperature		185ºC	180ºC

PF4C Series





T-PFA & L-PFA disposable filters

T/L PFA filters are constructed of high purity PFA materials and PTFE membrane, designed for high-temperature and critical applications. Strict control of manufacturing process and cleanliness and all fluorine structure ensures T/F PFA filters feature the best chemical compatibility, ultra low metal extractables and longer life time.

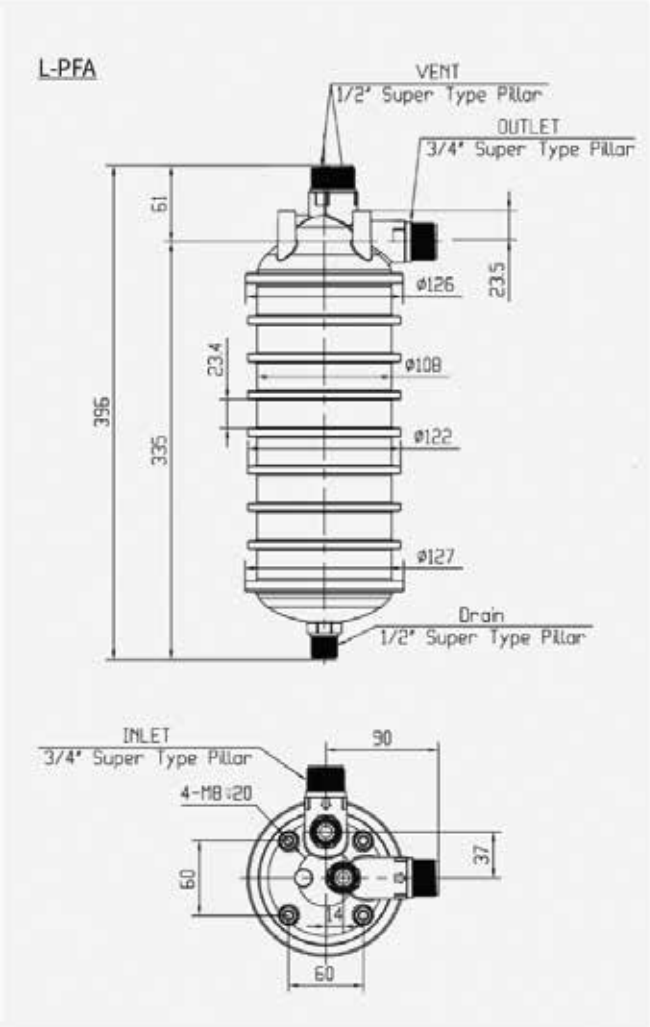
100% integrity tested to meet requirements of semiconductor. Prewet packaging reduces equipment pre-operation time. Disposable filter design features better leakproofness, convenient installation and changeout, reduce downtime and simplify system design.

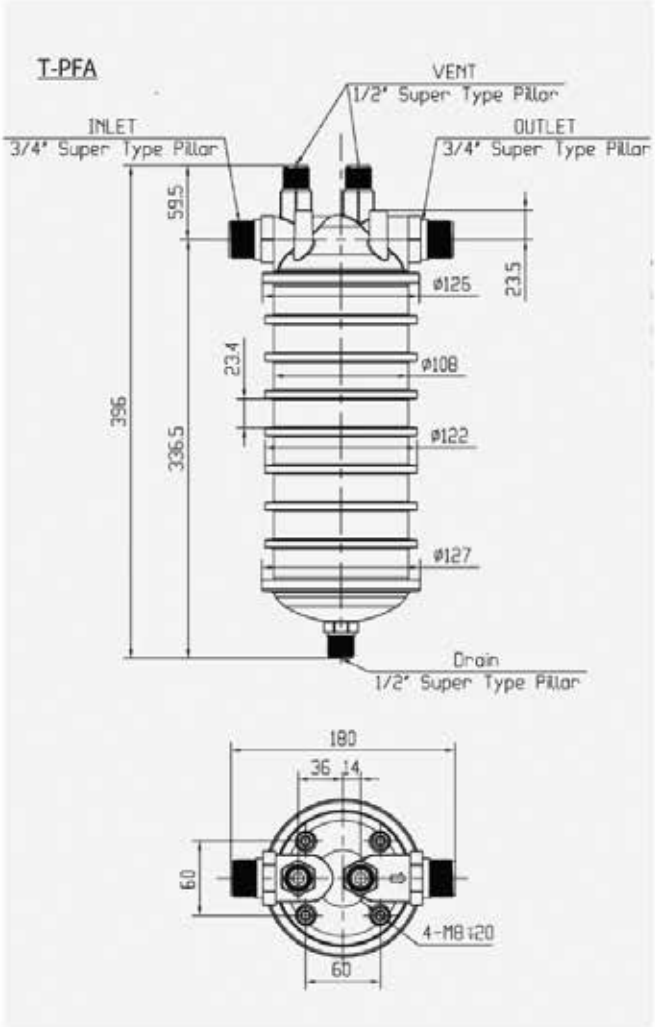
Applications

H_2SO_4, H_3PO_4, HNO_3, HCL, NH_4OH, H_2O_2, TMAH SC1, SC2, SPM, etc.

ITEM	SPECIFICATIONS			
Filter media	PTFE			
Capsule	PFA			
Endcaps/Cage/Core	PFA			
Max. working temp.	180ºC			
Max. working DP	0.42 MPa / 25ºC			
Membrane area	S1	S2	E1	E2
	0.7 m^2 /10”	1.1 m^2 /10”	1.3 m^2 /10”	2.2 m^2 /10”

www.sps-international.com | www.esproflow.com
sales@sps-international.com | sales@esproflow.com





Ordering Information

ESPRO-12-TPFA	S1	002	05	S64	S	/
Code	Filter Area	Removal Rating	Length	Inlet & Outlet	Cleanlines	Packaging

Code	
ESPRO-12-TPFA	
ESPRO-12-LPFA	

Filter Area	
S1	
S2	
E1	
E2	

Removal Rating	
002	0.02 µm
005	0.05 µm
010	0.1 µm
020	0.2 µm
050	0.50 µm

Length	
05	5”
10	10”
20	20”

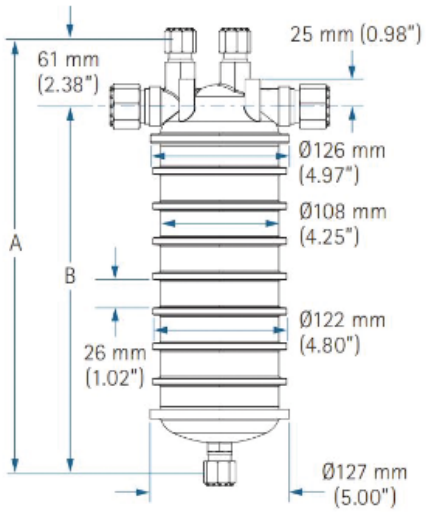
Inlet & Outlet	
S64	Inlet & Outlet 3/4” Pillar Super Vent & Drain 1/2” Pillar Super

Cleanlines	
S	Semiconductor grade
E	Electronic grade

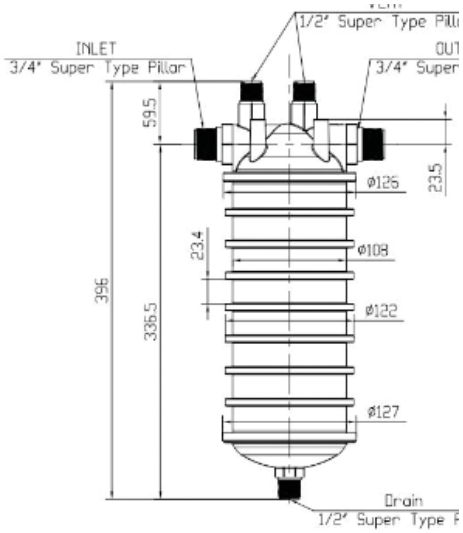
Packaging	
/	Without Prewet
W	< 25 ppb
CW	< 25 ppb

T-PFA & L-PFA disposable filters

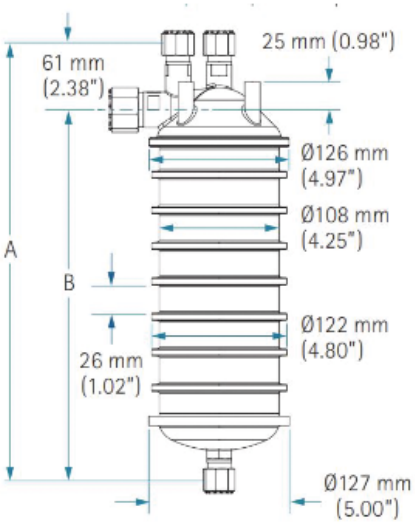
Product Drawings



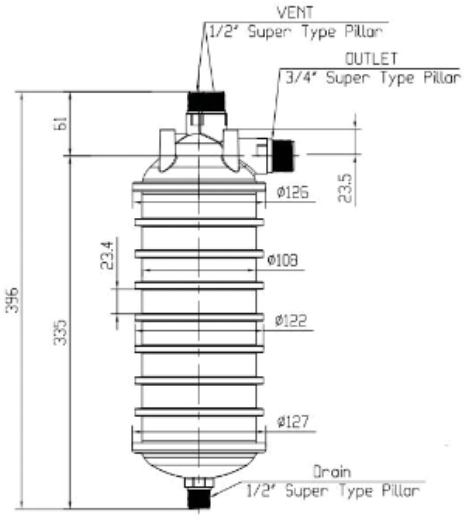
Entegris T-flow
396mm



Deefine T-flow
396mm



Entegris L-flow
395mm



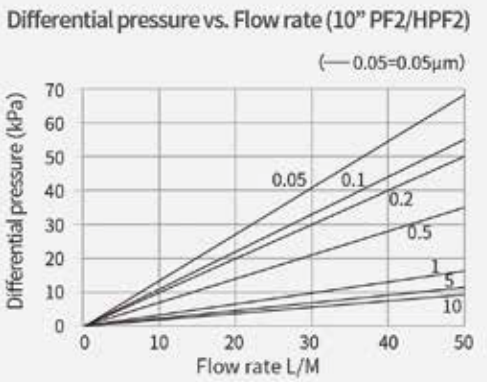
Deefine L-flow
396mm

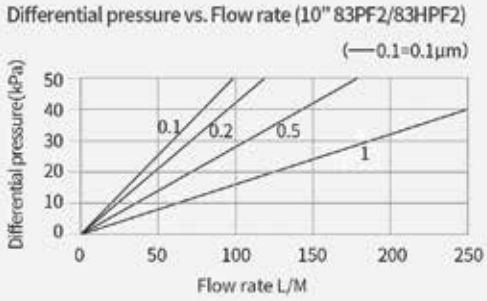
PTFE membrane filter, PVDF Cage

HPF2 (Ø69, Ø83) series filters provides excellent chemical compatibility, which could resist strong acids, bases, solvents and corrosive liquids

Hydrophobic (PF2) and hydrophilic (HPF2) PTFE membranes are both available for liquid or gas applications.

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE/ Hydrophilic PTFE
Support	ECTFE
Endcaps/Cage/Core	PVDF
Max. Working Temp.	120ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa





Ordering Information

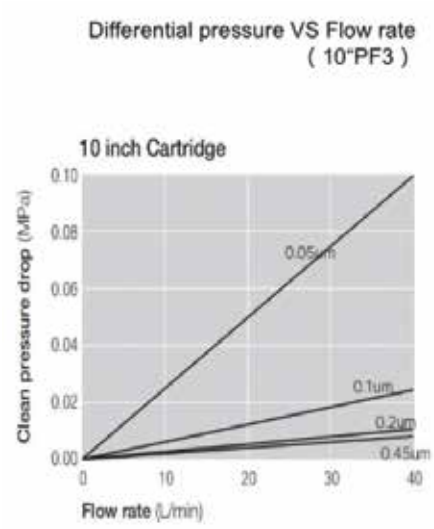
ESPRO-12-PF2	005	2F	05	T	/
Code	Removal Rating	Adaptor	Length	Sealing	Packaging

Code	Removal Rating		Adaptor		Length		Sealing		Packaging	
ESPRO-12-PF2	005	0.05 μm	OD	DOE	05	5"	E	EPDM	/	Without Prewet
ESPRO-12-HPF2	010	0.10 μm	2F	222Spear	10	10"	V	Viton	W	Prewet Filter
	022	0.22 μm	2C	222Flat	20	20"	S	Silicone		
	045	0.45 μm	6F	226Spear	30	30"	T	FEP/Viton		
	10T	10 μm	6C	226Flat	40	40"				
ESPRO-12-83PF2			2C	222Flat	30	40"	E	EPDM	/	Without Prewet
ESPRO-12-83HPF2			6C	226Flat	40	40"	T	FEP/Viton	W	Prewet Filter

PF3 & PALL P Emflon comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		P Emflon	PF3 SERIES
Model No.		ABD1	PF3
Type		HDPE cartidge filter	HDPE cartidge filter
Pore size		0.05 µm / 0.1 µm 0.2 µm / 5 µm / 10 µm	0.05 µm / 0.1 µm 0.2 µm / 5 µm / 10 µm
Material	Filter medium	PTFE	PTFE
	Media support	HDPE	HDPE
	Core & Cage	HDPE	HDPE
	O-ring	Silicone / FEP / Kalrez / EPDM	Silicone / FEP / Kalrez / EPDM
Connections	Diameter	68 mm	68 mm
	Endcaps	222Flat / 226Flat	222Flat / 226Flat
	Length	10 / 20 / 30 inch	10 / 20 / 30 inch
Filtration area		1.1 m^2	1.1 m^2
Filtration efficiency		As shown in the figure	
Differential pressure		0.34 MPa @ 60ºC	Forward 0.42 Mpa Reverse 0.21 Mpa
Maximum Operating Temperature		60ºC	70ºC

PF3



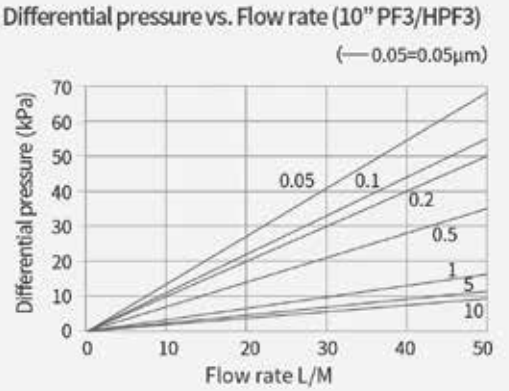
www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

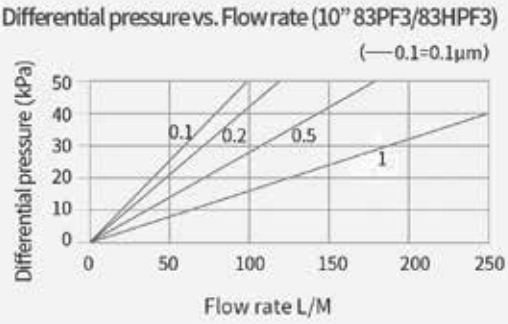
PTFE membrane filter, HDPE Cage

PF3/HPF3/UPE (Ø69, Ø83) series filters feature extremely low metal extractables. Suitable for benzene, toluene organic solvents, corrosive liquids and wet process chemicals.

Hydrophobic (PF3) and hydrophilic (HPF3) PTFE membranes are both available for liquid or gas applications.

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE/UPE Hydrophilic PTFE/UPE
Support	HDPE
Endcaps/Cage/Core	HDPE
Max. Working Temp.	70ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa





Ordering Information

ESPRO-12-PF3	005	2F	05	T	/
Code	Removal Rating	Adaptor	Length	Sealing	Packaging

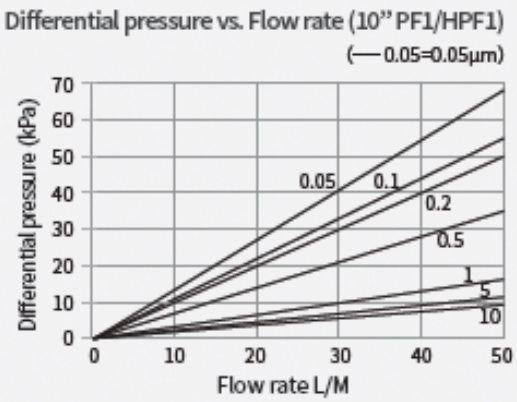
Code	Removal Rating		Adaptor		Length		Sealing		Packaging	
ESPRO-12-PF3	005	0.05 μm	OD	DOE	05	5"	E	EPDM	/	Without Prewet
ESPRO-12-HPF3	010	0.10 μm	2F	222Spear	10	10"	V	Viton	W	Prewet Filter
ESPRO-12-UPE	022	0.22 μm	2C	222Flat	20	20"	S	Silicone		
	045	0.45 μm	6F	226Spear	30	30"	T	FEP/Viton		
	10T	10 μm	6C	226Flat	40	40"				
ESPRO-12-83PF2			2C	222Flat	08	8"	E	EPDM	/	Without Prewet
ESPRO-12-83HPF3			6C	226Flat	10	10"	T	FEP/Viton	W	Prewet Filter
ESPRO-12-83UPE										

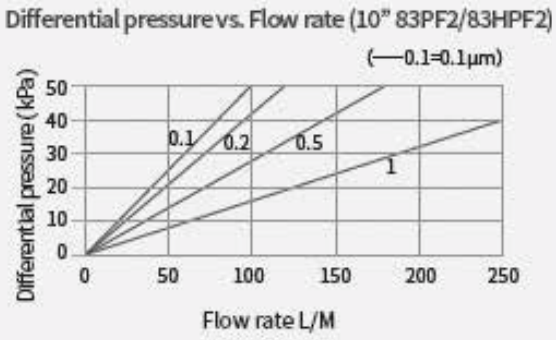
PTFE membrane filter

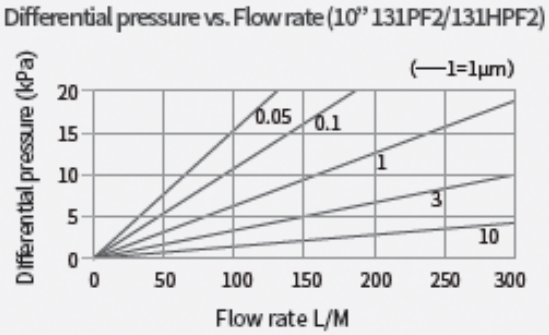
PF1/HPF1 (Ø69, Ø83, Ø131) series filter cartridges have stable porosity. 100% integrity tested. Hydrophobic (PF1) and hydrophilic (HPF1) PTFE membranes are both available for liquid or gas applications. PF1 series feature high flow rate, low pressure drop, wide chemical compatibility, long service life and high temperature resistance. HPF1 series hydrophilic PTFE filter cartridge feature great hydrophilicity, low extractables and high filtration efficiency. No prewetting requirement. Dry environment storage.

ITEM	SPECIFICATIONS
Filter Code	PF1 / HPF1
Filter Media	Hydrophobic PTFE/ Hydrophilic PTFE
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

PTFE membrane filter







Ordering Information

ESPRO-12-HPF1	005	2F	05	T	/
Code	**Removal Rating**	**Adaptor**	**Length**	**Sealing**	**Packaging**

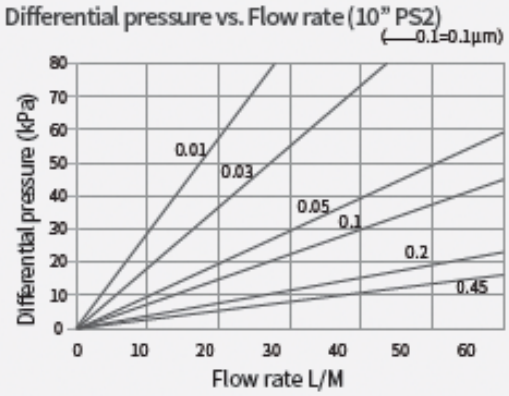
Code	Removal Rating		Adaptor		Length		Sealing		Packaging	
ESPRO-12-PF1	005	0.05 μm	OD	DOE	05	5"	E	EPDM	/	Without Prewet
ESPRO-12-HPF1	010	0.10 μm	2F	222Spear	10	10"	V	Viton	W	Prewet Filter
	022	0.22 μm	2C	222Flat	20	20"	S	Silicone		
	045	0.45 μm	6F	226Spear	30	30"	T	FEP/Viton		
	10T	10 μm	6C	226Flat	40	40"				
ESPRO-12-83PF1			2C	222Flat			E	EPDM	/	Without Prewet
ESPRO-12-83HPF1			6C	226Flat			T	FEP/Viton	W	Prewet Filter
ESPRO-12-131PF1			4C	334Flat	10	10"	E	EPDM	/	Without Prewet
ESPRO-12-131HPF1							T	FEP/Viton	W	Prewet Filter

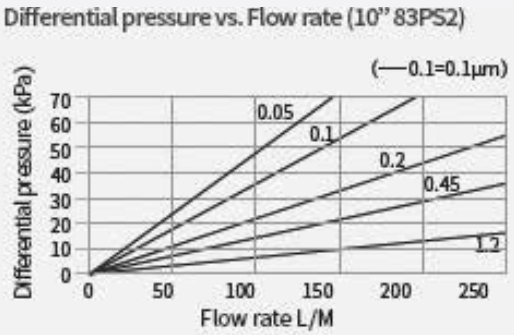
PES membrane filter

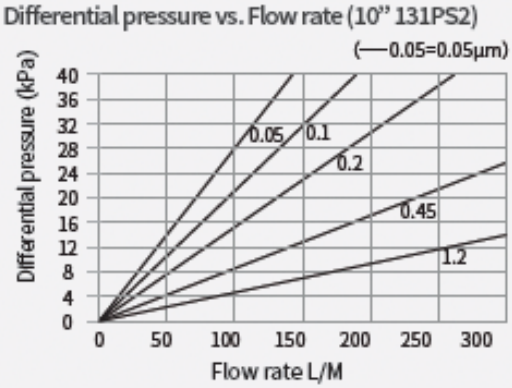
PS2 (Ø69, Ø83, Ø131) series filters utilize asymmetric PES membrane, which feature graded interception, high contamination holding capacity and long service life. The unique structure of PS2 ensures lower replacement frequency and reduce total cost. Each filter is 100% integrity tested.

ITEM	SPECIFICATIONS
Filter Code	PS2
Filter Media	Asymmetric PES
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

PES membrane filter







Ordering Information

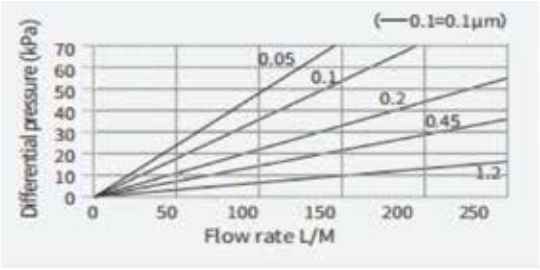
ESPRO-12-PS2	005	2F	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-PS2	001	0.01 μm	OD	DOE	05	5"	E	EPDM
	003	0.03 μm	2F	222Spear	10	10"	V	Viton
	005	0.05 μm	2C	222Flat	20	20"	S	Silicone
	010	0.1 μm	6F	226Spear	30	30"	T	FEP/Viton
	022	0.22 μm	6C	226Flat	40	40"		
	045	0.45 μm						
	100	1 μm						
ESPRO-12-83PS2			2C	222Flat	08	8"	E	EPDM
			6C	226Flat	10	10"	T	FEP/Viton
ESPRO-12-131PS2			4C	334Flat	10	10"	E	EPDM
							T	FEP/Viton

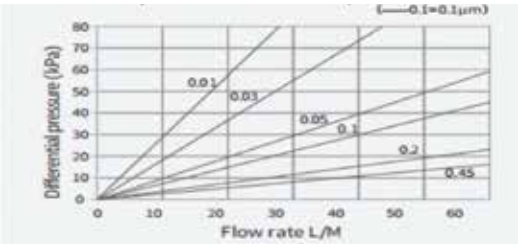
PS2 & PALL Water-Fine Series comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		Water-Fine Series	PS2 Series
Model No.		WFN	PS2
Type		Cartridge filter	Cartridge filter
Pore size		0.05 µm / 0.1 µm / 0.2 µm / 0.45 µm / 0.65 µm / 0.8 µm / 1.2 µm	0.05 µm / 0.1 µm / 0.2 µm / 0.45 µm / 0.65 µm /0.8 µm / 1.2 µm
Material	Filter medium	Highly asymmetric polysulfone	Asymmetric PES
	Media support	PP	PP
	Core & Cage	PP	PP
	O-ring	Silicone, EPDM, Viton, Nitrile, FEP	Silicone, EPDM, Viton, Nitrile, FEP
Connections	Diameter	66 mm	69 / 83 / 131 mm
	Endcaps	222Flat/Fin, 226Flat/Fin, DOE	222Flat/Fin, 226Flat/Fin, DOE
	Length	4/10/20/30/40 inch	4/10/20/30/40 inch
Filtration area		/	/
Filtration efficiency		As shown in the figure	
Differential pressure		/	/
Maximum Operating Temperature		95ºC	90ºC

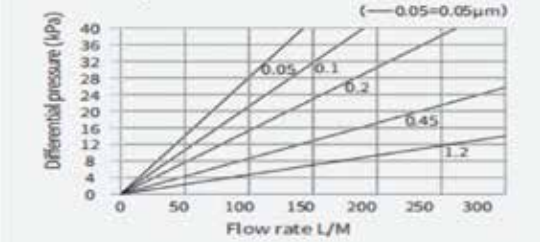
Differential pressure vs. Flow rate (10”83PS2)



Differential pressure vs. Flow rate (10”PS2)



Differential pressure vs. Flow rate (10”131PS2)



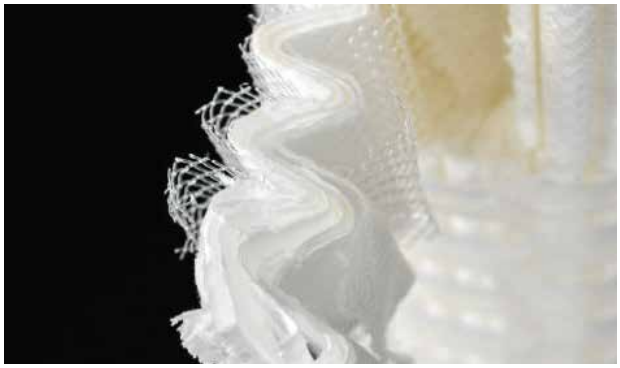
PP pleated filter cartridges

PP3 (Ø69, Ø83, Ø131) series pleated PP filter cartridges utilize multi-layer of graded PP membrane. The unique material structure ensures high contamination holding capacity and high filtration efficiency. Suitable for gels, colloids and high viscosity fluids.

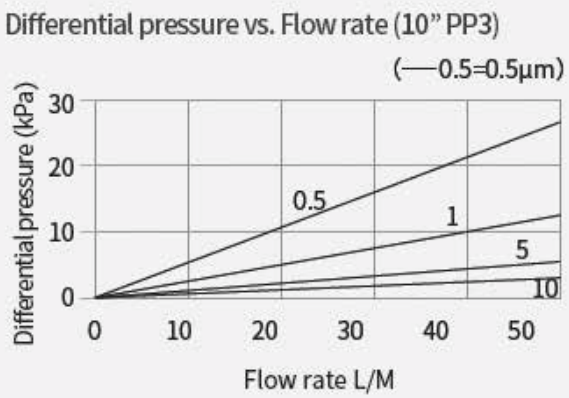
Filtration efficiency

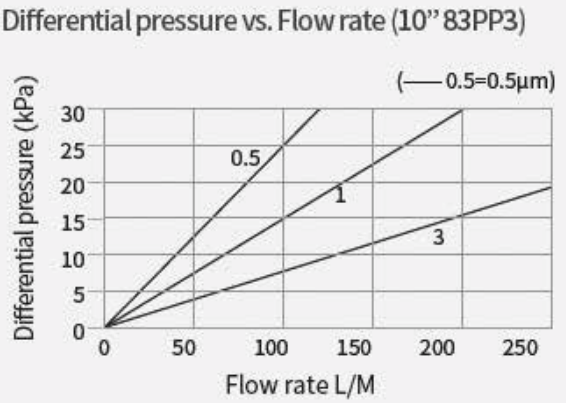
PORE SIZE	PARTICLE SIZE 0.5	PARTICLE SIZE 1.0	PARTICLE SIZE 1.5	PARTICLE SIZE 2.0	PARTICLE SIZE 5.0
0.5 µm	98.86				
1.0 µm	99.65	98.91			
3.0 µm	100	99.98	99.96	98.60	
5.0 µm	100	100	99.99	100	98.88

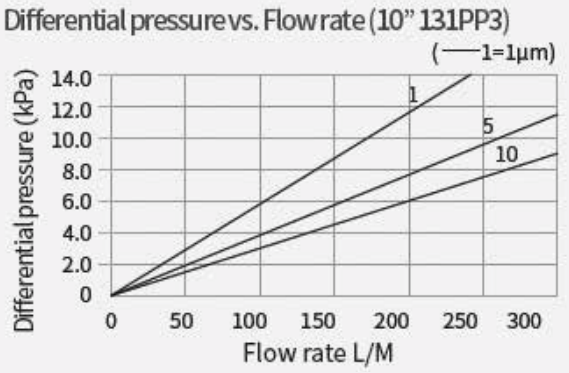
ITEM	SPECIFICATIONS
Filter Code	PP3
Filter Media	Asymmetric PES
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa



PP pleated filter cartridges







Ordering Information

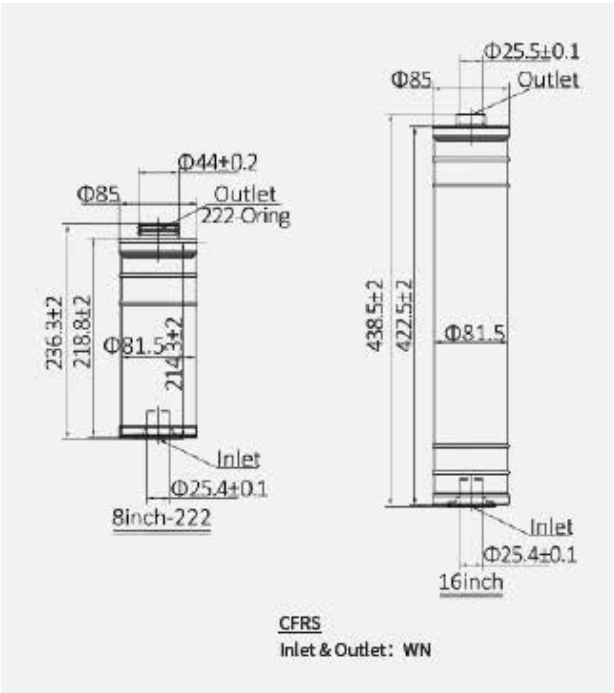
ESPRO-12-PS2	050	2F	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-PP3	050	0.5 μm	OD	DOE	05	5"	E	EPDM
	100	1 μm	2F	222Spear	10	10"	V	Viton
	150	1.5 μm	2C	222Flat	20	20"	S	Silicone
	200	2 μm	6F	226Spear	30	30"	T	FEP/Viton
	300	3 μm	6C	226Flat	40	40"		
	500	5 μm						
	10T	10 μm						
ESPRO-12-83PP3			2C	222Flat	08	8"	E	EPDM
			6C	226Flat	10	10"	T	FEP/Viton
ESPRO-12-131PP3			4C	334Flat	10	10"	E	EPDM
							T	FEP/Viton

CFRS filter for removing metal ions

CFRS capsule filter effectively removes metal ions and ensures a stable output of ultrapure water.

ITEM	SPECIFICATIONS
Filter Code	CFRS
Filter Media	Ion Exchange Resin
Capsule	PP
Length	438.5 mm / 236.3 mm
Outer Diameter	81.5 cm
Inlet & Outlet	222 / 226 / WN
Max. Working Temp.	40ºC
Max. Operating DP	0.6 Mpa



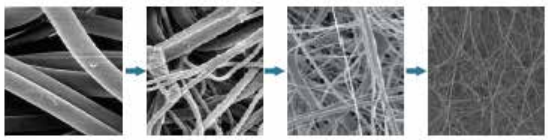
Ordering Information

ESPRO-12-CFRS	08	2C	E
Code	Length	Adaptor	Sealing

Code	Length		Adaptor	Sealing	
ESPRO-12-CFRS	08	8”	2C	E	EPDM
	16	16”	6C	V	Viton
			WN	S	Silicone
				T	FEP/Viton

CMP-RF depth filter

MP-RF depth filter is rolled with multilayer graded PP membrane. These PP media have a continuously tapered pore structure. Economical for polishing solutions.



Deefine Nanofiber

ITEM	SPECIFICATIONS
Filter media	Deefine Nanofiber
Core	PP
Max. working temp.	80°C / 176°F
Max. working DP	0.4 Mpa / 25°C

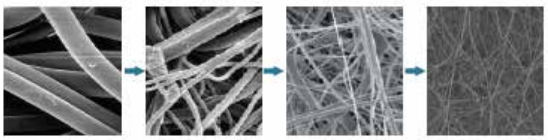
Ordering Information

ESPRO-12-CMP-RF	010	2F	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-CMP-RF	010	0.1 μm	OD	DOE	05	5”	/	No Seal
	020	0.2 μm	2F	222Spear	10	10”	E	EPDM
	030	0.3 μm	2C	222Flat	20	20”	V	Viton
	050	0.5 μm	6F	226Spear	30	30”	S	Silicone
	100	1 μm	6C	226Flat	40	40”	T	FEP/Viton
	500	5 μm						
	10T	10 μm						

CMP-PP Pleated Filter Cartridge

The CMP-PP series utilize multi-layer PP membranes as filter media. The advanced folding technology guarantees the dirt holding capacity, and all-polypropylene structure ensures the stable performance, which is an ideal choice for polishing solution filtration.



Deefine Nanofiber

ITEM	SPECIFICATIONS
Filter media	multi-layer PP
Support	PP
Endcaps/Cage/Core	PP
Max. working temp.	80°C / 176°F
Max. working DP	0.4 Mpa / 25°C; 0.2 Mpa / 80°C

Ordering Information

ESPRO-12-CMP-PP	010	2F	05	T
Code	Removal Rating	Adaptor	Length	Sealing

ESPRO-12-CMP-PP

010	0.1 μm
020	0.2 μm
030	0.3 μm
050	0.5 μm
100	1 μm
500	5 μm
10T	10 μm

OD	DOE
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

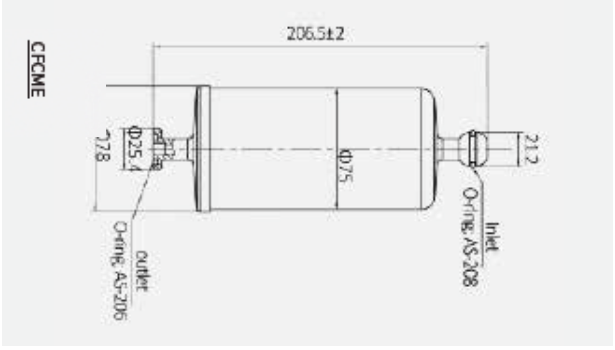
05	5”
10	10”
20	20”
30	30”
40	40”

E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

CFCME & CFCMP Capsule Filter

The CFCME/CFCMP series is designed for CMP applications with compact structure and easy operation. It has an excellent filtering effect on impurities and gels in the CMP slurry. All polypropylene structure, hot-melt welding, no adhesive.

ITEM	SPECIFICATIONS
Filter Media	PP
Capsule	PP
Length	206 mm
Max. Working Temp.	55ºC
Max. Operating DP	0.6 Mpa



esPRO® -CFCME

esPRO® -CFCMP

esPRO® -CFCMC

Ordering Information

ESPRO-12-CFCM	E	PP	020	1	V
Code	Capsule	Filter media	Removal Rating	Inlet & Outlet / Vent/Drain	Sealing

Code	Capsule	Filter media	Removal Rating		Inlet & Outlet		Vent/Drain	Sealing	
ESPRO-12-CFCM	E	PP	010	0.1 μm	010	O-ring	/	E	EPDM
	P	NF	020	0.2 μm	020	3/8" Flare	1/4" flare	V	Viton
	C		030	0.3 μm					
			050	0.5 μm					
			100	1 μm					
			300	3 μm					
			500	5 μm					

N6/N66 series

N6/N66 series filter cartridges are made of nylon microporous membrane and processed by advanced fusion welding process. Each filter element has been integrity tested.

NN6/NN66 Series

NN6/NN66 series filter cartridge adopts nylon membrane as filter medium. The support, drainage, inner core, cage, endcaps are all made of nylon material. All nylon structure makes it more resistant to high temperature and solvents. Each filter element has been integrity tested.

ITEM	ESPRO-12-N6, N66	ESPRO-12-NN6, NN66
Filter Media	Nylon	Nylon
Support	PP	Nylon
Endcaps/Cage/ Core	PP	Nylon
Max. Working Temp.	80ºC	120ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-N6/N66	010	2F	05	T	1
Code	Removal Rating	Adaptor	Length	Sealing	Core

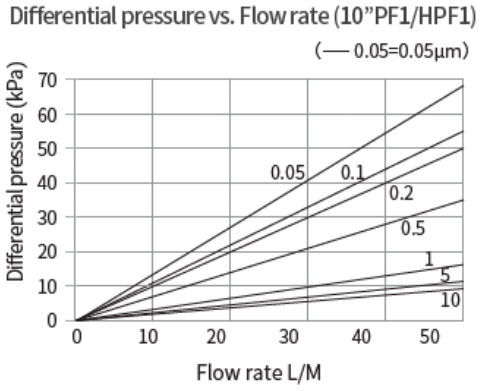
Code	Removal Rating		Adaptor		Length		Sealing		Core	
ESPRO-12-N6/N66	010	0.10 μm	OD	DOE	05	5”	E	EPDM	1	PP
ESPRO-12-NN6/NN66	022	0.22 μm	2F	222Spear	10	10”	V	Viton	2	Nylon
	045	0.45 μm	2C	222Flat	20	20”	S	Silicone		
	065	0.65 μm	6F	226Spear	30	30”	T	FEP/Viton		
	100	1 μm	6C	226Flat	40	40”				

PF1/HPF1 Series

PF1/HPF1 series filter cartridge has uniform pore size and small diffusion flow. The hydrophobic and hydrophilic PTFE membrane can be used for both gas and liquid filtration.

Hydrophobic PF1 filter cartridges are characterized by inherent hydrophobicity, high flow rate, high filtration accuracy, no fiber shedding, chemical resistance, high temperature resistance and long service life. Hydrophilic HPF1 filter cartridges are characterized by strong hydrophilicity, high flow rate, high filtration accuracy, no fiber shedding, chemical resistance, high temperature resistance, no need for pre-wetting, dry storage.

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE/ Hydrophilic PTFE
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa



Ordering Information

ESPRO-12-PF1	005	2F	05	T	/
Code	Removal Rating	Adaptor	Length	Sealing	Packaging

Code	
ESPRO-12-PF1	
ESPRO-12-HPF1	

Removal Rating	
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
10T	10 μm

Adaptor	
OD	DOE
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5”
10	10”
20	20”
30	30”
40	40”

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

Packaging	
/	Without Prewet
W	Prewet Filter

PF3 015 Series

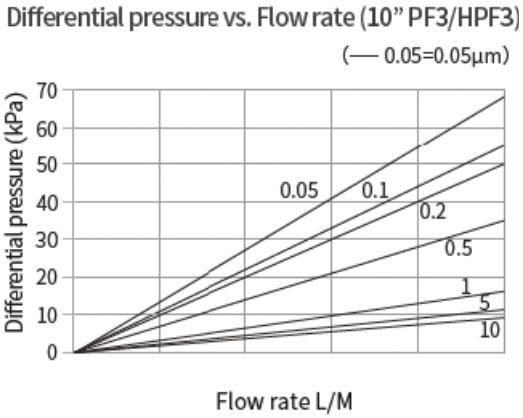
PF3 015 series filter cartridges are ideal for organic solvents (benzene, dimethylbenzene), corrosive fluids and wet process chemicals, with extremely low extractable.

This Photoresist filter has been designed specifically to filter point-of-use photoresist.

Recommended applications

1) G-line, I-line photoresists
2) Polyimide coatings

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE / UPE Hydrophilic PTFE / UPE
Support	HDPE
Endcaps/Cage/Core	HDPE
Max. Working Temp.	70ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa



Ordering Information

ESPRO-12-PF3	010	015	05	T	/
Code	Removal Rating	Adaptor	Length	Sealing	Packaging

Code	Removal Rating		Adaptor		Length		Sealing		Packaging	
ESPRO-12-PF3	005	0.05 μm	015	Flat End	02	2"	E	EPDM	/	Without Prewet
	010	0.10 μm			05	5"	V	Viton	W	Prewet Filter
ESPRO-12-015series	022	0.22 μm					S	Silicone		
	045	0.45 μm					T	FEP/Viton		
	10T	10 μm								

GF/GP/GN Series

GF Series use glass microfiber as filter medium, which features high absorption and high efficiency.

GP Series filter is designed with glass microfiber medium and PP melt-blown membrane. The multi-layer gradient membrane structure has high contamination loading capacity, especially suitable for gels, condensed blocks and other impurities.

GN Series combine glass microfiber medium and nanofiber medium, which feature high dirt holding capacity. With homogeneous pore size, GN filter could intercept impurities and protect the useful particles to flowthrough. No fiber shedding during using. Each piece has been 100% integrity tested.

FILTER	FILTER MEDIA	ENDCAPS/CAGE/ SUPPORT/CORE	MAX. WORKING TEMP.	MAX. OPERATING DP
GF Series	Glass microfiber	PP	80ºC	Forward 0.42 Mpa, Reverse 0.21 Mpa
GP Series	Glass microfiber + PP	PP	80ºC	Forward 0.42 Mpa, Reverse 0.21 Mpa
GN Series	Glass microfiber + nano fiber	PP	80ºC	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-GF	050	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code
ESPRO-12-GF
ESPRO-12-GP
ESPRO-12-GN

Removal Rating	
050	0.5 μm
100	1.0 μm
150	1.5 μm
200	2 μm
300	3 μm
500	5 μm
10T	10 μm

Adaptor	
OD	Flat End
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5”
10	10”
20	20”
30	30”
40	40”

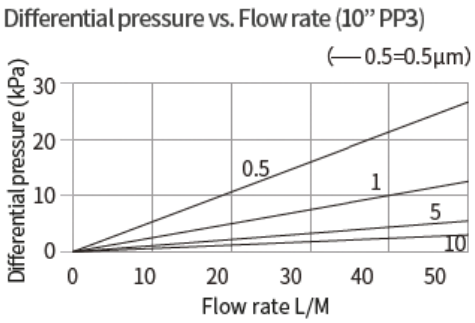
Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

PP3/PP3N/PP3H series

Continuously graded pore structure and multi-layer filter media. High contaminant loading capacity and long service life. Specially designed for suspended particulate, colloids and high viscosity fluids.

Filtration efficiency

PORE SIZE	PARTICLE SIZE 0.5	PARTICLE SIZE 1.0	PARTICLE SIZE 1.5	PARTICLE SIZE 2.0	PARTICLE SIZE 5.0
0.5 µm	98.86				
1.0 µm	99.65	98.91			
3.0 µm	100	99.98	99.96	98.60	
5.0 µm	100	100	99.99	100	98.88



ITEM	SPECIFICATIONS
Filter Media	multi-layer PP/multi-layer PP+Nano fiber
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	80ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-PP3	050	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code
ESPRO-12-PP3

Removal Rating	
050	0.5 µm
100	1.0 µm
150	1.5 µm
200	3 µm
300	3 µm
500	5 µm
10T	10 µm

Adaptor	
OD	Flat End
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5"
10	10"
20	20"
30	30"
40	40"

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

Three-hole lithography capsule filter

The CFTH series is especially suitable for flat panel and lithography applications. The CFTH series provide critical particle removal performance for pigment-dispersed color resists. The built-in filter structure can minimize pollution.

The compact and stable design makes it easy to install or modify existing tools. It can be replaced in less than one minute, without any tools or draining, minimizing dripping and leakage.

ITEM	SPECIFICATIONS
Filter Media	PTFE/PP
Support	PP, HDPE
Sealing	FEP/Viton, EPDM
Capsule	HDPE
Max. Working Temp.	0.39 Mpa (25°C)
Max. Operating DP	0.27 Mpa (25°C)

Ordering Information

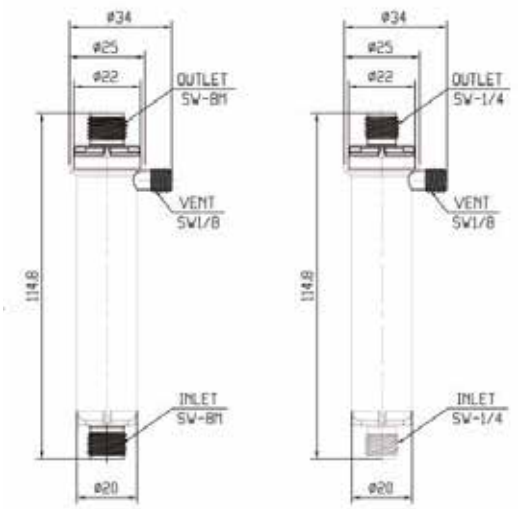
ESPRO-12-CFTHE	02	PTFE	010	442

Code	Length		Filter media	Removal Rating		Inlet & Outlet		Vent
ESPRO-12-CFTHE	05	5”	PTFE	005	0.05 µm	442	12.70 mm	6.35 mm
ESPRO-12-CFTHP	10	10”	PP3	010	0.10 µm	332	9.53 mm	6.35 mm
	20	20”		022	0.22 µm	222	6.35 mm	6.35 mm
	30	30”		045	0.45 µm	884	8 mm	4 mm
	40	40”		060	0.60 µm	664	6 mm	4 mm
				120	1.2 µm			
				500	5 µm			

CFPR Capsule filter

The CFPR series is a disposable capsule filter designed for photoresist processing. It is designed to remove particles generated during the use of photoresist and improve product yield. It has a compact space structure, which reduces the residual material and liquid, and the integral design makes the replacement safer and faster.

Manufacturing, testing and packaging in a clean room to ensure product cleanliness. Suitable for filtering in small flow occasions. There are a variety of materials to choose to meet a variety of needs.



ITEM	SPECIFICATIONS
Filter Media	PP/PTFE/NF
Support	PP/PVDF
Max. Working Temp.	40ºC
Max. Operating DP	0.4 Mpa (25ºC)

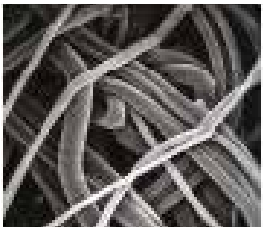
Ordering Information

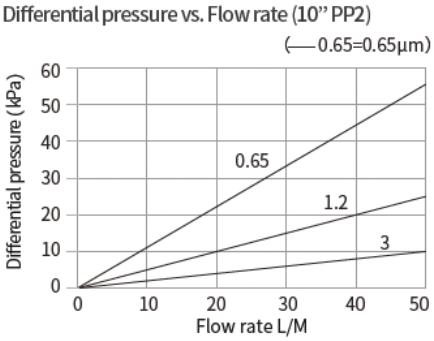
ESPRO-12-CFPR	V	PTFE	010	442	
Code	Capsule	Filter media	Removal Rating	Inlet & Outlet	Vent

Code	Capsule		Filter media		Removal Rating		Inlet & Outlet		Vent
ESPRO-12-CFPR	/	PP	P	PP	005	0.05 µm	1	8 mm Swagelok	1/8” Swagelok
	V	PVDF	F	PTFE	010	0.10 µm	2	1/4” Swagelok	1/8” Swagelok
			N	NF (PVDF capsule only)	050	0.50 µm			
					100	1 µm			

PP2 Series

Absolute rated filtration efficiency, gradient membrane structure and large surface area provide excellent dirt holding capacity. The characteristics of high flow rate and high precision make PP2 especially suitable for occasions that require high filtration performance.





Filtration efficiency

PORE SIZE	PARTICLE SIZE 0.5	PARTICLE SIZE 1.0	PARTICLE SIZE 3.0	PARTICLE SIZE 5.0
0.5 μm	99.64	95.68	85.56	76.45
1.0 μm	99.98	99.75	90.40	84.15
3.0 μm	100	99.98	99.80	93.45
5.0 μm	100	100	99.92	99.15
10 μm	100	100	100	99.99

ITEM	SPECIFICATIONS
Filter Media	Efficient PP
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	80°C
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-PP2	030	2C	05	T

Code	Removal Rating				Adaptor		Length		Sealing	
ESPRO-12-PP2	030	0.30 μm	120	1.20 μm	OD	Flat End	05	5"	E	EPDM
	050	0.50 μm	300	3 μm	2F	222Spear	10	10"	V	Viton
	065	0.65 μm	500	5 μm	2C	222Flat	20	20"	S	Silicone
	100	1 μm	10T	10 μm	6F	226Spear	30	30"	T	FEP/Viton
					6C	226Flat	40	40"		

PS2 series

PS2 series are asymmetric PES membrane filters with gradient interception structure. The structure ensures high dirt loading capacity, high flux and long service life. Each filter has been 100% integrity tested before leaving the factory.

ITEM	SPECIFICATIONS
Filter Media	Asymmetric PES
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-PS2	050	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

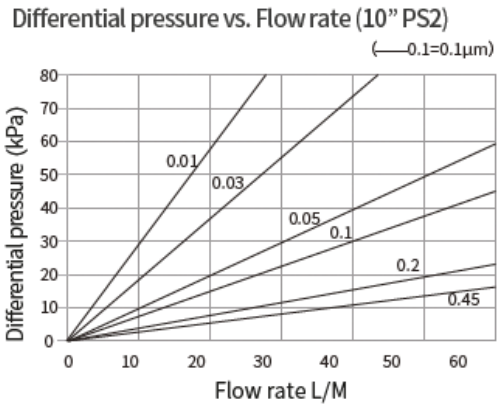
Code
ESPRO-12-PS2

Removal Rating	
001	0.01 μm
003	0.03 μm
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
065	0.65 μm
100	1 μm

Adaptor	
OD	Flat End
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5”
10	10”
20	20”
30	30”
40	40”

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/ Viton

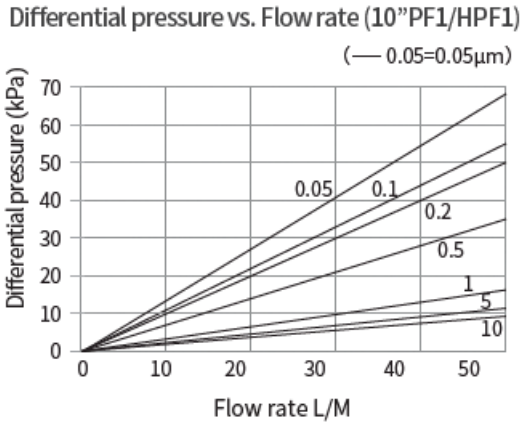


PF1/HPF1 series

PF1/HPF1 series filter cartridge has uniform pore size and small diffusion flow. The hydrophobic and hydrophilic PTFE membrane can be used for both gas and liquid filtration.

Hydrophobic PF1 filter cartridges are characterized by inherent hydrophobicity, high flow rate, high filtration accuracy, no fiber shedding, chemical resistance, high temperature resistance and long service life. Hydrophilic HPF1 filter cartridges are characterized by strong hydrophilicity, high flow rate, high filtration accuracy, no fiber shedding, chemical resistance, high temperature resistance, no need for pre-wetting, dry storage.

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE/ Hydrophilic PTFE
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa



Ordering Information

ESPRO-12-EL-PF1	010	2C	05	T	/
Code	Removal Rating	Adaptor	Length	Sealing	Packaging

Code
ESPRO-12-EL-PF1
ESPRO-12-EL-HPF1

Removal Rating	
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
10T	10 μm

Adaptor	
OD	Flat End
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5”
10	10”
20	20”
30	30”
40	40”

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton

Packaging	
/	Without Prewet
W	Prewet Filter

Depth filters

MBC Depth Filter

MBC depth filter is constructed of several bi-component fibers, high temperature and high pressure resistance. MBCG adds a layer of glass fiber to achieve an absolute efficiency of 0.5 μm. MBCF adds a layer of hydrophilic PTFE to achieve an absolute efficiency of 0.1 μm

ITEM	ESPRO-MBC	ESPRO-MBCG	ESPRO-MBCF
Filter Media	PP+PE	PP+PE+GF	PP+PE+PTFE
Max. Working Temp.	80ºC	80ºC	80ºC
Max. Operating DP	0.48 Mpa / 25ºC	0.48 Mpa / 25ºC	0.48 Mpa / 25ºC

Ordering Information

ESPRO-12-MBC	050	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-MBC	050	0.50 μm	OD	Flat End	05	5”	E	EPDM
	100	1 μm	2F	222Spear	10	10”	V	Viton
	150	1.50 μm	2C	222Flat	20	20”	S	Silicone
	200	2 μm	6F	226Spear	30	30”	T	FEP/ Viton
	300	3 μm	6C	226Flat	40	40”		
ESPRO-12-MBCG	500	5μm						
	10T	10 μm						
ESPRO-12-MBCF	010	0.10 μm						
	020	0.20 μm						
	045	0.45 μm						

RFC Depth Filter

RFC series is made of carbon fiber filter material, suitable for solution decolorization, odor removal and chlorine removal occasions.

The 69RFC series comes with housing and has an external diameter of 69 mm.

ITEM	ESPRO-RFC / -69RFC
Filter Media	Carbon fiber
Support	PP
Outer Diameter	64/69 mm
Max. Working Temp.	90ºC

Ordering Information

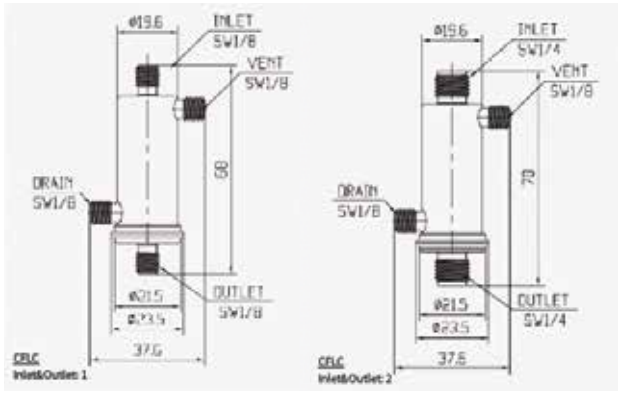
ESPRO-12-RFC	005	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-RFC	005	0.05 μm	OD	Flat End	05	5”	E	EPDM
			2F	222Spear	10	10”	V	Viton
			2C	222Flat	20	20”	S	Silicone
			6F	226Spear	30	30”	T	FEP/ Viton
			6C	226Flat	40	40”		

CFLC series

The CFLC series is a disposable capsule filter designed to remove gelatinous substances and particles in liquid crystal materials. Suitable for the manufacture of thin film transistor displays. Perfluoropolymer makes it excellent chemical compatibility and low precipitation. Manufacturing, testing and packaging in a clean room to ensure product cleanliness.

ITEM	SPECIFICATIONS
Filter Media	PTFE
Support, Cage, Core	PFA
Max. Working Temp.	120ºC
Max. Operating DP	0.42 Mpa



Ordering Information

ESPRO-12-CFLC	010	S2
Code	Removal Rating	Inlet & Outlet / Vent/Drain

Code	Removal Rating		Inlet & Outlet		Vent/Drain
ESPRO-12-CFLC	005	0.05 μm	S2	1/8” Swagelok	1/8” Swagelok
	010	0.10 μm	S4	1/4” Swagelok	/-No vent
	020	0.20 μm			

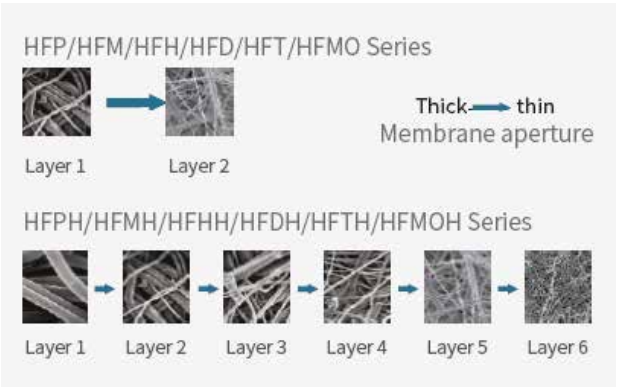
HFx series

HFP/HFPH Series are high flow water filter cartridges with handle and inside to outside flow pattern. It has large 152 mm (6”) diameter. The flow rate is up to 70 m³/h per 40” cartridge.

HFM/HFMH Series are high flow filter cartridges with single open-ended and outside to inside flow pattern. It has a large 165 mm (6.5”) diameter. The flow rate is up to 80 m³/h for one 40” cartridge.

HFH/HFHH Series are high flow filter cartridges with single open-ended and outside to inside flow pattern. It has a large diameter of 152 mm (6”). The flow rate is up to 70 m³/h for one 40” cartridge.

ITEM	SPECIFICATIONS
Filter Media	PP/Glass fiber
Max. Operating Temp.	80ºC
Max. differential pressure	0.3 MPa (60ºC)



www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

PS2 series

PS2 series are asymmetric PES membrane filters with gradient interception structure. The structure ensures high contamination loading capacity, high flux and long service life. Each filter has been 100% integrity tested.

ITEM	SPECIFICATIONS
Filter Media	Asymmetric PES
Support	PP
Endcaps/Cage/Core	PP
Max. Working Temp.	90ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

Ordering Information

ESPRO-12-PS2	001	2C	05	T
Code	Removal Rating	Adaptor	Length	Sealing

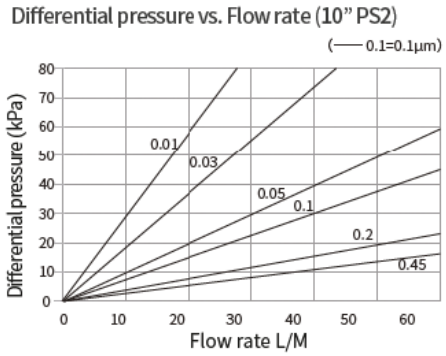
Code
ESPRO-12-PS2

Removal Rating	
001	0.01 μm
003	0.03 μm
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
065	0.65 μm
100	1 μm

Adaptor	
OD	Flat End
2F	222Spear
2C	222Flat
6F	226Spear
6C	226Flat

Length	
05	5”
10	10”
20	20”
30	30”
40	40”

Sealing	
E	EPDM
V	Viton
S	Silicone
T	FEP/Viton



GSSM and GSS series

The GSSM and GSS gas filter housing are made of electronic grade stainless steel and designed for gas filtration at high temperature and pressure in semiconductor processes.The filters feature high flow rates, low pressure drop and excellent chemical compatibility.

Applications

Compressed air, process gas, toxic gas, dry gas, dewatering

ITEM	SPECIFICATIONS
Filter Media	Hydrophobic PTFE
Housing	316L stainless steel
Support	PFA
Max. Working Temp.	170ºC
Max. Operating DP	Forward 0.55 Mpa, Reverse 0.34 Mpa

Ordering Information

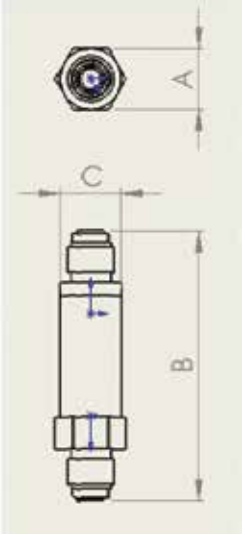
ESPRO-12-GSSM	300	VMM4

Code	Removal Rating		Inlet & Outlet		Length
ESPRO-12-GSSM	300	0.0030 μm	VMM4	1/4” Gasket Steal(VCR).Male/Male	84 mm
	150	0.0015 μm	SMM4	1/4” Compression Steal(Swagelok).Male inlet/outlet	73 mm
			VFM4	1/4” Gasket Steal(VCR).Female inlet/Male outlet	88 mm
			VMF4	1/4” Gasket Steal(VCR).Male inlet/Female outlet	100 mm
ESPRO-12-GSS	300	0.0030 μm	VMM4	1/4” Gasket Seal (VCR or Compatible) Male/Male	141 mm
	150	0.0015 μm	VMM8	3/8” Gasket Seal (VCR or Compatible) Male/Male	148 mm
			VFM4	1/4” Gasket Seal (VCR or Compatible) Female/Male	148 mm
			VFM4	1/4” Compression Seal (Swagelok or Compatible) Male/Male	141 mm
			SMM8	3/8” Compression Seal (Swagelok or Compatible) Male/Male	147 mm
			SMM2	1/2” Compression Seal (Swagelok or Compatible) Male/Male	111 mm
			NF4	1/4” Female NPT	132 mm

GSSM & PALL Mini-Gaskleen® 3000 Series comparison

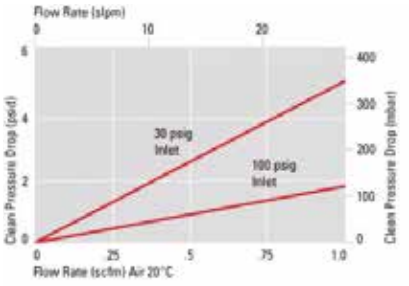
COMPARISON TABLE

Brand		PALL	esPRO® BY DEEFINE
Series		Mini-Gaskleen® 3000 Series	GSSM Series
Type		Gas filter	Gas filter
Pore size		0.003 µm	0.003 µm
Material	Filter medium	PTFE	PTFE
	Housing	Electropolished 316L stainless steel housing 20 in Ra internal surface finish	Electropolished 316L stainless steel housing 20 in Ra internal surface finish
	Core	PFA	PFA
	O-ring	Teflon encapsulated Viton/TEV	Teflon encapsulated Viton/TEV
Connections	Diameter	22 mm	22 mm
	Inlet&Outlet	1/4" Gasket Steal (VCR) Male/Male	1/4" Gasket Steal (VCR) Male/Male
	Length	84 mm	84 mm
Max. Operating DP		Forward 5.5 bar @ 120ºC Reverse 3.4 bar @ 21ºC	Forward 0.55 Mpa, Reverse 0.34 Mpa
Max. Operating Temperature		/	90ºC

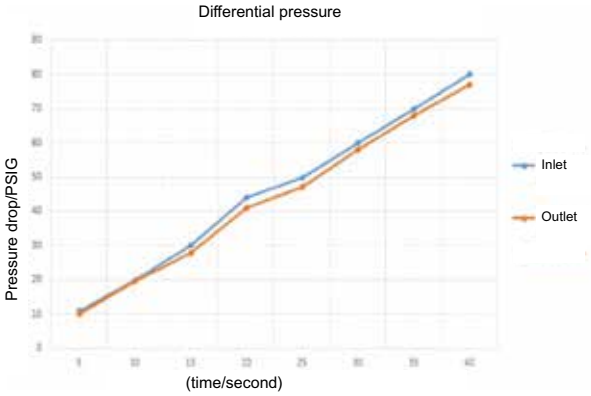


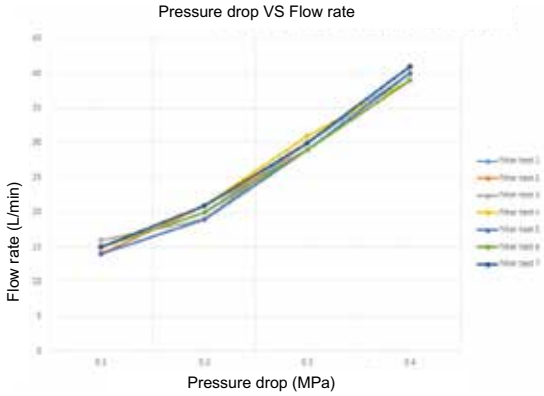
Pressure Drop vs. Gas Flow Rate

1) Pall Mini-Gaskleen® 3000 Series



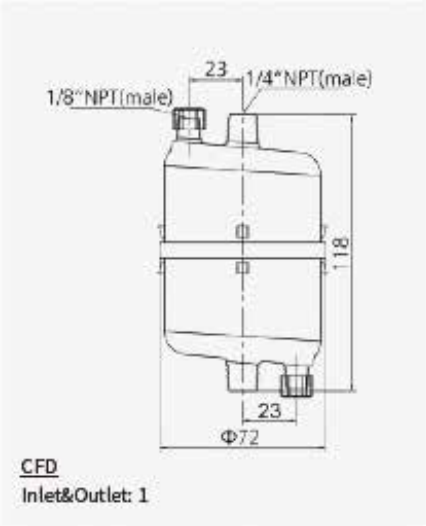
2) GSSM Series

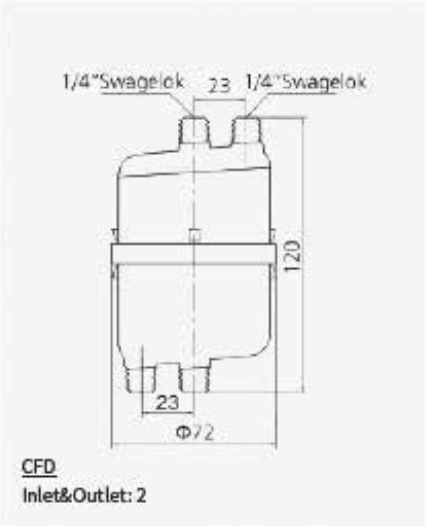


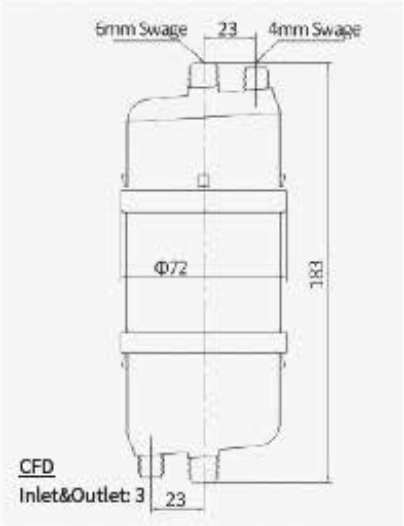


CFD series

The CFD capsule filter is a perfect combination of filter element and housing for quick installation and direct use. It has a compact space structure, with little residue in the filter element when replaced, and is ideal for laboratory or small batch production lines. Depending on the filtration situation, the filter material has a variety of different materials to choose from. 2 length sizes are available, both with large caliber import and export connections, to minimize pressure loss.







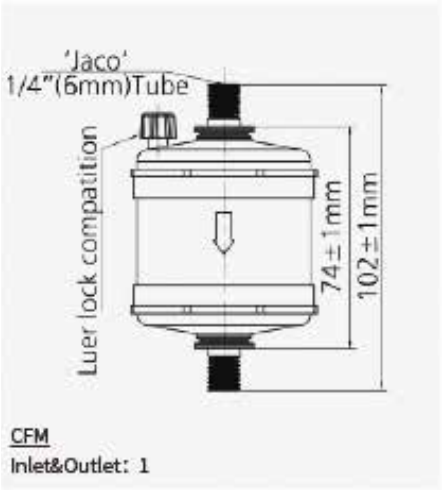
Ordering Information

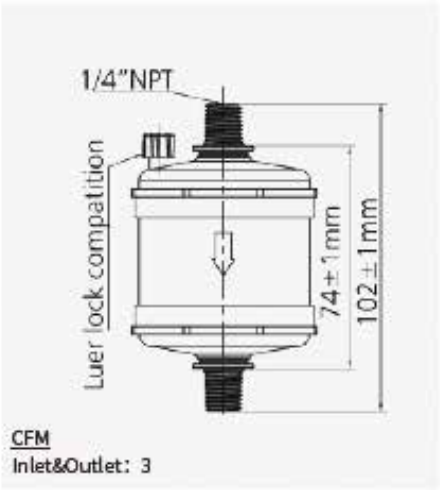
ESPRO-12-CFD	NF	010	1

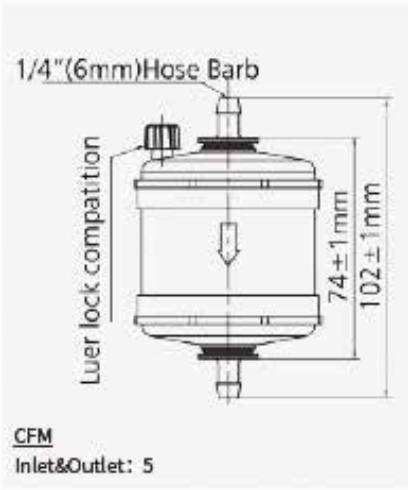
Code	Filter Media	Removal Rating		Inlet & Outlet		Vent/Drain
ESPRO-12-CFD	PP2	005	0.05 µm	1	1/4" NPT	1/8" NPT
	PP3	010	0.10 µm	2	6 mm Swagelok	4 mm Swagelok
	NF	022	0.22 µm	3	1/4" Swagelok	1/4" Swagelok
	PF1	045	0.45 µm			
	PS1	100	1 µm			

CFM series

The CFM series filters contain an anti-fiber shedding filter element to prevent secondary contamination. Proper membrane selection affects the performance characteristics of the filter, such as gel removal and service life.







Ordering Information

ESPRO-12-CFM	NF	010	1
Code	Filter Media	Removal Rating	Inlet & Outlet

Code
ESPRO-12-CFM

Filter Media
PP2
PP3
NF
PF1
PS1

Removal Rating	
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
060	0.60 μm
100	1 μm

Inlet & Outlet	
1	'Jaco' 1/4" - 6 mm tube
2	1/4" NPT
3	1/4" Hose Barb

CFRK series

The unique design of the CFRK series filters avoids direct human contact with the slurry and is particularly suitable for filtering harmful solvents such as corrosive and volatile.

The CFRK filter reduces the gap between the filter housing and the filter element, reduces the residue of the fluid, saves material and minimizes customer costs.

ITEM	SPECIFICATIONS
Filter Media	HCB/PP3/Glass Fiber, etc.
Capsule	PP
Length	5” / 10” / 20”
Max. Working Temp.	80ºC
Max. Operating DP	0.8 Mpa

Ordering Information

ESPRO-12-CFRK	HCB	050	10	/
Code	Filter Media	Removal Rating	Length	Inlet & Outlet

Code	Filter Media	Removal Rating		Length		Inlet & Outlet	
ESPRO-12-CFM	HCB	050	0.5 μm	05	5”	/	G 1/4”
	PP3	300	3 μm	10	10”	1	No air vent
	GF	500	5 μm	20	20”		
		25T	25 μm				
		50T	50 μm				
		75T	75 μm				
		10H	100 μm				

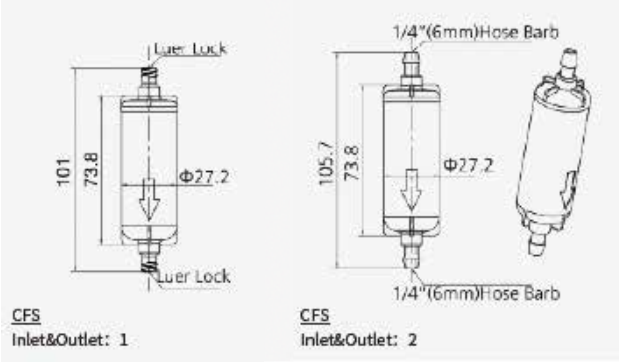
www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

CFS series

The CFS series is a compact capsule filter designed for fine filtration and low residual equipment, with a unique fast-loading structure for easy removal.

The series features a high-area folding filter structure with a long service life and reduced initial pressure, making it ideal for small-dose filtration.

ITEM	SPECIFICATIONS
Filter Media	PP/PES/PTFE, etc.
Capsule	PP
Length	105.7 mm / 101 mm
Max. Working Temp.	80ºC
Max. Operating DP	0.6 Mpa



Ordering Information

ESPRO-12-CFS	NF	010	1
Code	Filter Media	Removal Rating	Inlet & Outlet

Code
ESPRO-12-CFS

Filter Media
PP2
PP3
NF
PF1
PS1

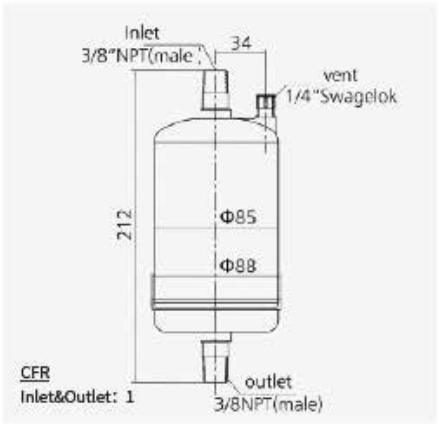
Removal Rating	
005	0.05 μm
010	0.10 μm
022	0.22 μm
045	0.45 μm
060	0.60 μm
100	1 μm
300	3 μm

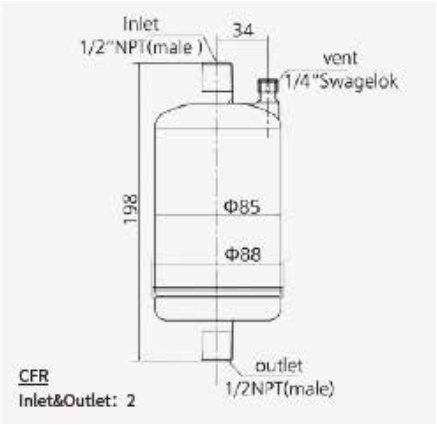
Inlet & Outlet	
1	Luerlock
2	1/4” Hose Barb

CFR series

CFR series are designed with 3/8 inch NPT and 1/2 inch NPT connections, ideal for big flow lab testing.

ITEM	SPECIFICATIONS
Filter Media	PP/PES/PTFE, etc.
Capsule	PP
Length	212 mm / 198 mm
Max. Working Temp.	80ºC
Max. Operating DP	0.6 Mpa





Ordering Information

ESPRO-12-CFR	NF	010	1
Code	Filter Media	Removal Rating	Inlet & Outlet

Code
ESPRO-12-CFR

Filter Media
PP2
PP3
NF
PF1
PS1

Removal Rating	
005	0.05 μm
010	0.1 μm
022	0.22 μm
045	0.45 μm
060	0.6 μm
100	1 μm
300	3 μm

Inlet & Outlet	
1	3/8" NPT
2	1/2" NPT

CFCAP series

CFCAP series is a one-piece structure that is more sealed and causes less leakage. CPC connectors are directly connected to the pipe, making the installation easier and saving replacement time and cost. Suitable for toxic and harmful liquid filtration, which can prevent leaking fluid and the pollution of the environment when the filters are replaced. The one piece structure reduces the remaining space of the filter to reduce the residue and waste of the liquid. Different filter materials and sizes are available.

Characteristics

- Compact space structure to reduce material waste when replacing filter elements.
- It is possible to set up a multi-stage fast-mount, with a wide range of filter materials for an optimal filtering effect.
- The replaced filter element can be scrapped as a whole, free of liquid leakage.

ITEM	SPECIFICATIONS
Filter Media	PP/PES/PTFE, etc.
Capsule	PP
Inlet & Outlet	CPC 1”
Max. Working Temp.	90ºC
Max. Operating DP	0.4 Mpa

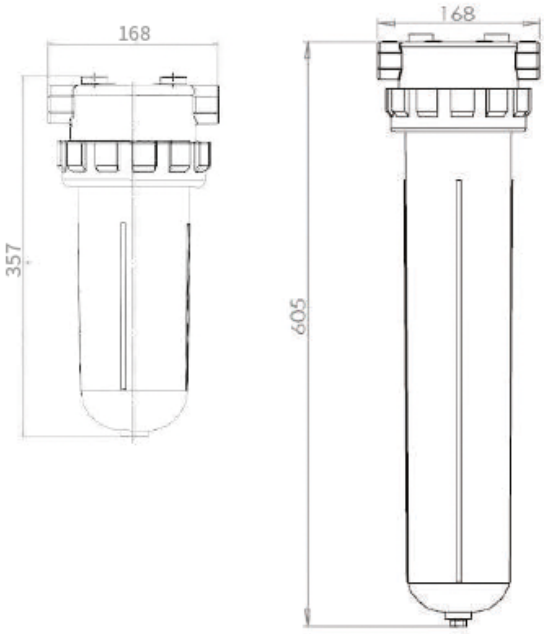
Ordering Information

ESPRO-12-CFCAP	HCB	050	10
Code	Filter Media	Removal Rating	Length
ESPRO-12-CFCAP	PP2	005 0.05 µm	05 5”
	PP3	010 0.10 µm	10 10”
	PS2	020 0.20 µm	20 20”
	PF1	050 0.50 µm	30 30”
		100 1 µm	40 40”

HPP series

HPP filtration is composed of pure polypropylene material, with low precipitation and good chemical compatibility features. Suitable for general water cleaning or chemical filtration.

Compact design, simple and lightweight housing, easy to install, suitable for all generations of line equipment.



Ordering Information

ESPRO-12-HPP	10	2C	N6	1/4" NPT	6bar/25°C

Code	Length		Adaptor		Inlet & Outlet		Vent/Drain	Max. Operating DP
ESPRO-12-HPP	10	10"	2C	222Flat	N6	1/4" NPT	1/4" NPT	6 bar / 25°C
	20	20"			N8	6 mm Swagelok	1/4" NPT	
ESPRO-12-83HPP	10	10"	6C	226Flat	U40		1/4" NPT	6 bar / 25°C
	20	20"			DN40		1/4" NPT	
ESPRO-12-131HPP	10	10"	4C	334Flat	U40		3/8" PTF	6 bar / 25°C
	20	20"			U50		3/8" PTF	

www.sps-international.com
sales@sps-international.com
www.esproflow.com
sales@esproflow.com

PFA filter housing

HPFA-series filter housing has the option to lock the cartridge into the bowl, so that the cartridge and the bowl can be installed and disassembled as a whole, which greatly reduces the contact between the human body and the chemical, and reduces the risk of contamination.

High purity PFA raw material

Use the highest purity grade Dupont PFA-440 HPJ Japanese PFA resin.

Easy and safe for cartridge installation & changeout

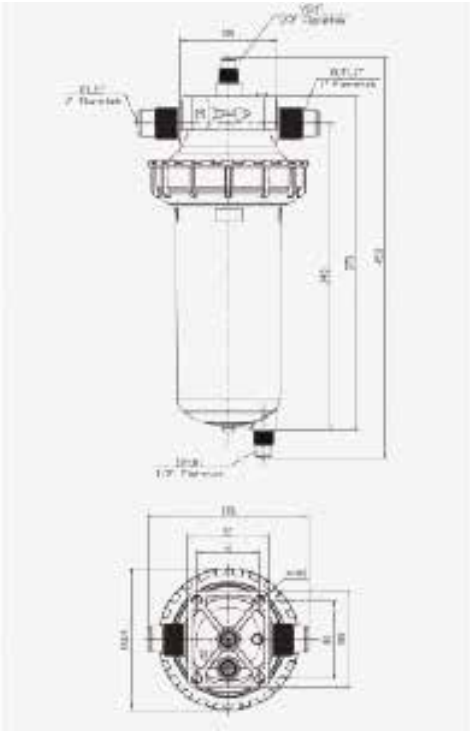
Insert the cartridge into the bowl, turn 1/4 of the circle to lock the cartridge in place, and the bowl and cartridge can be quickly and easily installed to the head.
By turning the lock ring, the cartridge is pushed vertically into the head of the housing, ensuring perfect alignment and double O-ring engagement each time.

Non-contact cartridge changeout

No need to touch the cartridge when replacing, which minimizes human contact with chemicals, ensures safety and reduces the possibility of contamination in the process.

Compatible with industry standard 2-222/flat

single-open-end filter cartridges from all major filter manufacturers.



Excellent space-saving:

saves a minimum of 20 cm to 45 cm of vertical space for cartridge changeout.

Ultra clean manufacturing

Products are manufactured, assembled, cleaned and tested in class 1000 and class 100 dust-free cleanroom.

4”, 10” and 20” lengths are available,

suitable for different lengths of cartridges.

Pillar S300 1”, Super Pillar 3/4”, Flare 1” and 3/4” inlet/outlet

are optional to meet the different applications in the semiconductor industry.

ITEM	SPECIFICATIONS
Head, molded-on fitting, bowl	PFA 440 HPJ or equivalent
O-ring	E-FKM
Locking ring (nonwetted part)	PVDF or PP
Mounting hardware-nuts and bolts (nonwetted parts)	PF4 (Ø70 mm) 83PF4 (Ø83 mm, Ezelock, Exx Chemlock or Pxx)
Max. Working Temp.	100ºC
Max. Operating DP	0.3 Mpa (100ºC); 0.75 Mpa (25ºC)

Ordering Information

ESPRO-12-HPFA	010	2C	F644	T	V	E	
Code	Length	Filter Connection	Inlet & Outlet	Vent	Drain	Sealing	Lock Ring	Cleanliness	Cartidges Lock
ESPRO-12-HPFA	10 10” 20 20”	2C 222Flat	F844 1” Flare F644 3/4” Flare F624 1” Flare F824 3/4” Flare F842 1” Flare F642 3/4” Flare F822 1” Flare F622 3/4” Flare S844 1” Super Pillar S644 3/4” Super Pillar	1/2” Flare 1/2” Flare 1/4” Flare 1/4” Flare 1/2” Flare 1/2” Flare 1/4” Flare 1/4” Flare 1/2” Super Pillar 300 1/2” Super Pillar 300	1/2” Flare 1/2” Flare 1/2” Flare 1/2” Flare 1/4” Flare 1/4” Flare 1/4” Flare 1/4” Flare 1/2” Super Pillar 300 1/2” Super Pillar 300	T E-FKM	V PVDF P PP	S Semiconductor grade E Electroning grade	-K Yes No

Accessories

Note: The following accessories need to be ordered separately.

1	PVDF screw (with nut) 4p/PK M10*65
2	PVDF wrench head
3	PP/PVDF clamp mounting
4	Union nuts (with plug) Flare 1”
5	Union nuts (with plug) Flare 3/4”
6	Union nuts (with plug) Flare 1/2”

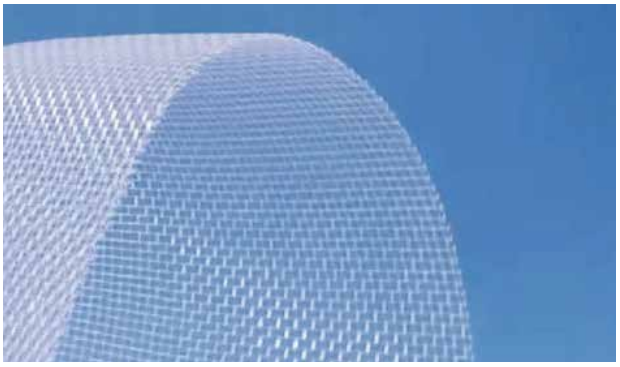
7	Union nuts (with plug) Flare 1/4”
8	Union nuts (with plug) Pillar 1”
9	Union nuts (with plug) Pillar 3/4” Union
10	Nuts (with plug) Pillar 1/2”
11	Union nuts (with plug) Pillar 1/4”
12	E-FKM/F-Fkm O-ring

PFA OEM

In partnership with DEEFINE, esPRO® offers professional PFA processing services such as weaving PFA mesh, silicon cleaning baskets, PFA TANK tanks, etc. Pure PFA materials have the best chemical compatibility, which could resist strong acids, alkali, organic solvents and other highly corrosive fluids, widely used in the semiconductor.

PFA filter mesh

Deefine PFA woven net utilize 100% PFA raw materials. Widely used as membrane support/ drainage layers, PFA net could increase effective membrane area, ensure low flow resistance and optimize performance of all fluoropolymer cartridge filter.



ITEM	SPECIFICATIONS	
	402	604
Pore size	40 mesh	60 mesh
PFA line diameter	0.2 mm	0.1 mm
Thickness	0.4 mm	0.2 mm

T-TYPE TANK

All-PFA storage tank can be used as a buffer device for chemicals.

PVDF membrane pleated filter cartridges

PV series filter cartridges utilize PVDF membrane as filter media and PP non-woven as support layer. PVDF membrane has low protein adsorption and is ideal for biological products.

Features and advantages

- Strengthened structure and high porosity
- High flow speed
- Ultra-low extractable
- Excellent chemical compatibility
- Low protein adsorption
- Great temperature resistance
- Retention rate: >99.99%

PVDF

ITEM	SPECIFICATIONS
Filter Media	PVDF
Support/drainage	PP
Endcaps/Cage/Core	PP
Max. operating Temp.	80ºC
Max. Operating DP	Forward 0.42 Mpa, Reverse 0.21 Mpa

Applications

- Semiconductor process ultrapure water preparation
- Food and beverage industry sterilization filtration
- Corrosive acid or solvent filtration Biological product virus removal, etc.
- Biological product virus removal, etc.

Ordering Information

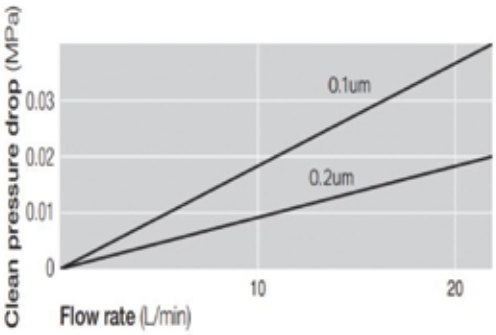
ESPRO-12-PVDF	010	2F	05	T
Code	Removal Rating	Adaptor	Length	Sealing

Code	Removal Rating		Adaptor		Length		Sealing	
ESPRO-12-PVDF	010	0.10 μm	OD	Flat End	05	5”	E	EPDM
	022	0.22 μm	2F	222Spear	10	10”	V	Viton
	045	0.45 μm	2C	222Flat	20	20”	S	Silicone
	100	1 μm	6F	226Spear	30	30”	B	NBR
	500	5 μm	6C	226Flat	40	40”	T	FEP/Viton

PVDF & PALL Fluorodyne comparison

COMPARISON TABLE			
Brand		PALL	esPRO® BY DEEFINE
Series		Fluorodyne	PVDF series
Model No.		AB1VA	PVDF
Type		Cartidge filter	Cartidge filter
Pore size		0.2 µm / 0.1 µm / 40 nm	0.2 µm / 0.1 µm
Material	Filter medium	Hydrophilic PVDF	Hydrophilic PVDF
	Media support	Polypropylene	Polypropylene
	Core & Cage	Polypropylene	Polypropylene
	O-ring	Silicone/FEP/ EPDM	Silicone/FEP/EPDM
Connections	Diameter	68 mm	68 mm
	Endcaps	222Flat/226Fin/ 222Fin	222Flat/226Fin/ 222Fin
	Length	10/20/30/40 inch	10/20/30/40 inch
Filtration area		0.7 m^2 / 10 inch	0.7 m^2 / 10 inch
Filtration efficiency		As shown in the figure	
Differential pressure		0.55 MPa@50ºC 0.34 MPa@70ºC	Forward 0.42 Mpa Reverse 0.21 Mpa
Maximum Operating Temperature		70ºC	80ºC

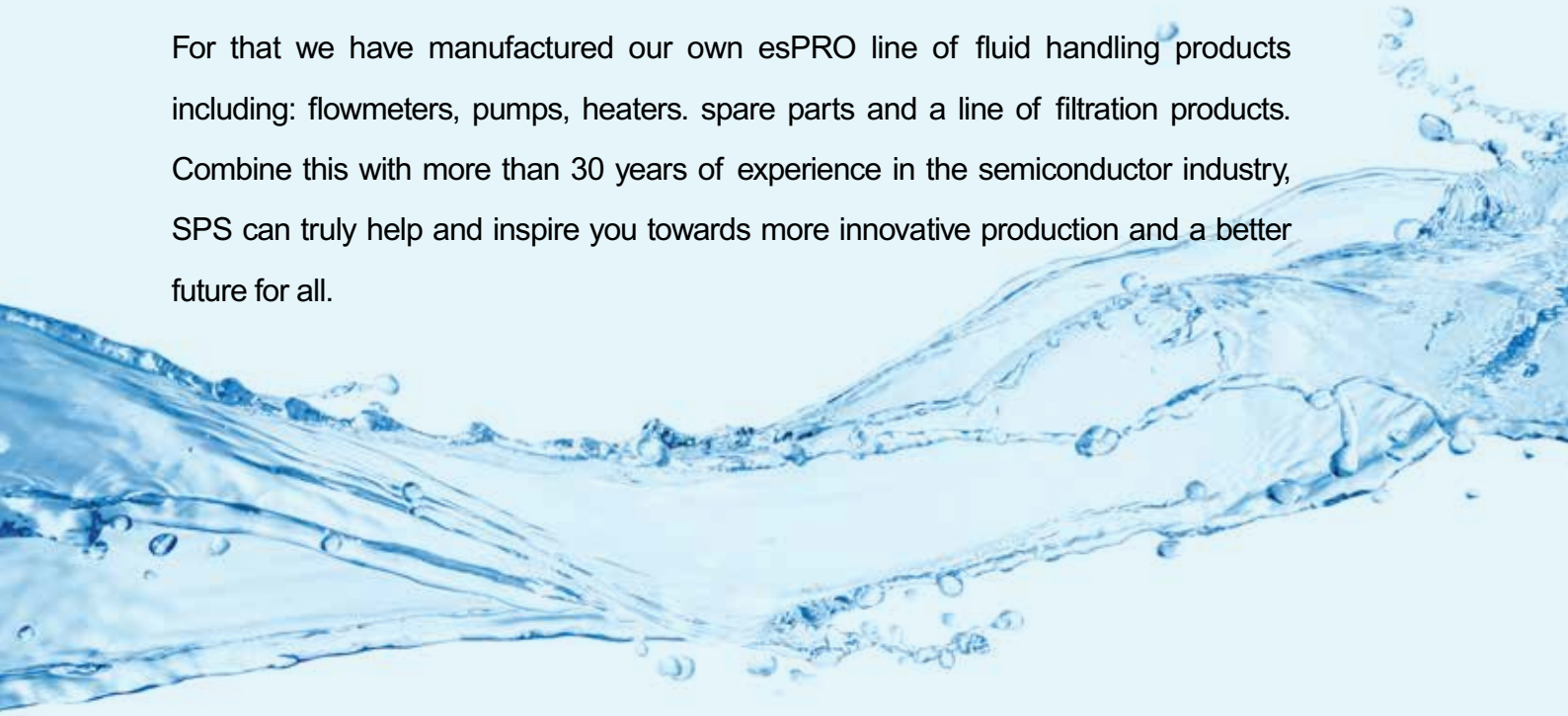
Differential pressure VS Flow rate
(10"PVDF)



HIGH QUALITY FLUID HANDLING SOLUTIONS

At SPS we believe technology moves the world forward. Not only in terms of growth, but also in terms of efficiency and sustainability. We are proud to be a part of an industry that holds the key to a better future for all. And we are extremely driven to help you innovate and improve your semiconductor production processes with innovative products, advice and service.

For that we have manufactured our own esPRO line of fluid handling products including: flowmeters, pumps, heaters. spare parts and a line of filtration products. Combine this with more than 30 years of experience in the semiconductor industry, SPS can truly help and inspire you towards more innovative production and a better future for all.



OFFICES

SPS-Europe B.V.
Midden Engweg 41
NL-3882 TS Putten
The Netherlands
Tel.: (31) 341 360 590

SPS-Europe GmbH
Ferdinand-Braun-Strasse 16
D-85053 Ingolstadt
Germany
Tel.: (49) 841 370 530

SPS-United Kingdom
Aghmhor Annex Whitmuir
Selkrik TD7 4PZ
United Kingdom
Tel.: (44) 1750 725 712

SPS-France
9, Rue du Pont
69390 VOURLES
France
Tel.: (33) 4 72 31 78 35

SPS-Italy
Via Pietro Mascagni
3120122 Milano
Italy
Tel.: (39) 3 457 357 177

SPS-America Inc.
16064 SE Engert Ridge Dr
Damascus Oregon 97089
U.S.A
Tel.: (001) 503 502 5722

SPS-Asia Technology Pte. Ltd.
10 Ubi Crescent
Ubi Techpark Lobby B, #06-18
Singapore 408564
Tel.: (65) 911 30 172