



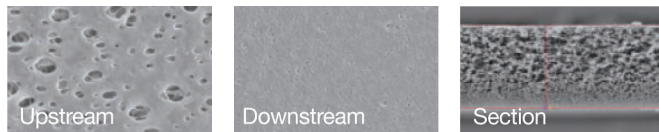
NOVACISE™ HIGHLY ASYMMETRIC PES FILTERS

ULTRA-HIGH PARTICLE REMOVAL EFFICIENCY, WITH HIGH FLOW RATE AND HIGH SURFACE ENERGY TO SUPPORT RAPID OPERATION

Cobetter Novacise™ Series is a cost-effective filtration alternative for dilute acids, bases and other process chemicals which are often used in certain high-purity wet etch and clean microelectronics applications.

The asymmetric PES membrane provides desirable characteristics including a high flux rate, high dirt holding capacity, and longer filter lifetime. In addition, the membrane structure reduces bubbles formation during flow.

Cobetter Novacise Filters have efficient particle retention and low metal extractables. In addition, these cartridges have high mechanical strength and are suitable for a wide variety of filtration applications.



FEATURE

BENEFIT

High surface energy highly asymmetric PES membrane

Very high flow rates and longer life
Excellent particle retention
Low surfactant binding
Shorter equipment pre-operation time

Polypropylene supports, cage, & core

Low extractables
Good chemical compatibility

Manufactured in a cleanroom environment

Meets high semiconductor manufacturing standards

100% integrity tested

Ensures fail-safe performance every time

SPECIFICATIONS

Filter media	Hydrophobic HAPES / Hydrophilic HAPES
Supports/core/cage/end caps	Polypropylene
O-rings (cartridge only)	TEV or EPDM
Shell (disposable only)	Polypropylene
Max. operating temperature	Cartridge: 90°C; Capsule: Please refer to ordering information
Capsule max. operating pressure	Please refer to ordering information
Cartridge max. differential pressure	Forward/Reverse: 0.34 MPa (3.4 bar, 49 psi) at 25°C

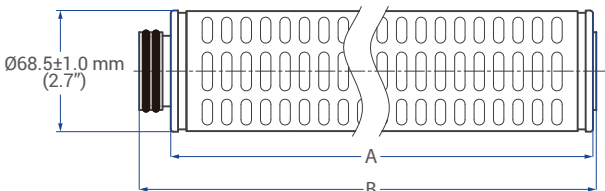


Typical Applications

- Process: Wet Etch and Cleans; chemical manufacturing
- Installation Point: Point of Tool, bulk filtration
- Chemistry: Dilute acids (such as BOE/DHF/SC2); Dilute bases (such as SC1/TMAH); DIW

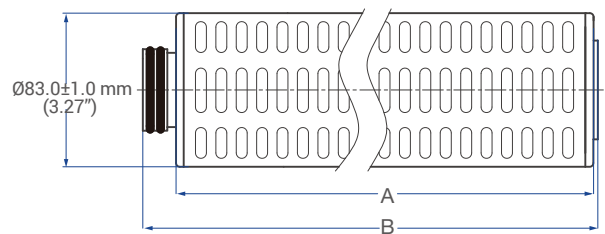
Effective filtration area	X1	Z1
		ø68 mm (2.7")
10"	0.8m ² (8.6ft ²)	1.4m ² (15.0ft ²)

NOVACISE X1 CARTRIDGE FILTERS (2-222/FLAT)



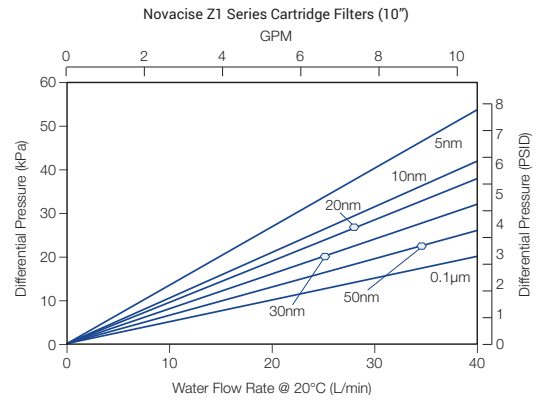
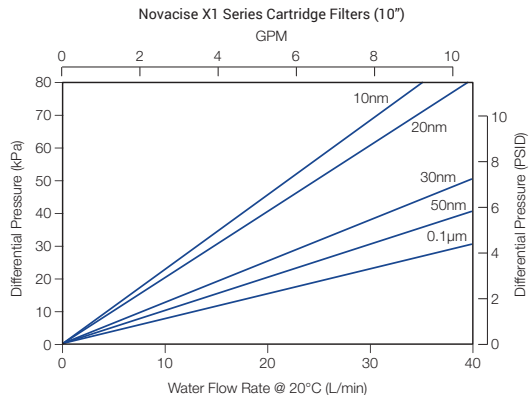
Length Code	A	B
04	102.5 ±1 mm (4")	122.0 ±1 mm (4.8")
10	242.5 ±2 mm (9.5")	262.5 ±2 mm (10.3")
20	488.0 ±3 mm (19.2")	508.0 ±3 mm (20.0")
20C	478.0 ±3 mm (18.8")	498.0 ±3 mm (19.6")
30	731.5 ±4 mm (28.8")	751.5 ±4 mm (29.6")

NOVACISE Z1 CARTRIDGE FILTERS (2-222/FLAT)



Length Code	A	B
10	225.0 ±2 mm (8.9")	245.5 ±2 mm (9.7")
20	452.0 ±3 mm (17.8")	472.5 ±3 mm (18.6")

CARTRIDGE FLOW RATES



X1 Ø68 MM (2.7") CARTRIDGE ORDERING INFORMATION

EXAMPLE: **NVSX1NM10OTC10PMWH** = hydrophobic, 2.7"W, 10nm, 10" length, TEV O-rings, M grade, pre-wet

NVS X1 **OTC**

Membrane
Blank = Hydrophobic
H = Hydrophilic
50 nm, 0.1 µm

Removal Rating
NM10 = 10 nm
NM20 = 20 nm
NM30 = 30 nm

NM50 = 50 nm
0010 = 0.1 µm

Nominal Length O-ring
04 = 4"
10 = 10"
20 = 20"
30 = 30"

O-ring
P = TEV
E = EPDM

Package
D = Dry
W = Prewet, UPW

Cleanliness
M = < 25 µg/device 5/10/20/50nm
H = < 40 µg/device 50nm/0.1µm
E = Electronic grade

Z1 Ø83 MM (3.27") CARTRIDGE ORDERING INFORMATION

EXAMPLE: **NVSZ1NM1010PMWH** = hydrophobic, 3.27"W, 10nm, 10" length, TEV O-rings, M grade, pre-wet

NVS **Z1** **OTC**

Membrane
Blank = Hydrophobic
H = Hydrophilic
50 nm, 0.1 µm

Removal Rating
NM05 = 5 nm
NM10 = 10 nm
NM20 = 20 nm
NM30 = 30 nm
NM50 = 50 nm
0010 = 0.1 µm

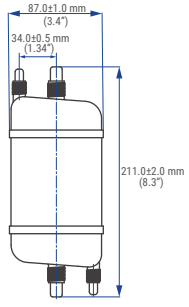
Nominal Length
10 = 10"
20 = 20"

O-ring
P = TEV
E = EPDM

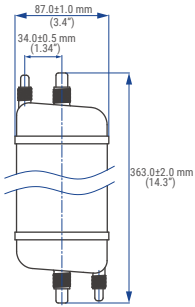
Package
D = Dry
W = Prewet, UPW

Cleanliness
M = < 25 µg/device 5/10/20/50nm
H = < 40 µg/device 50nm/0.1µm
E = Electronic grade

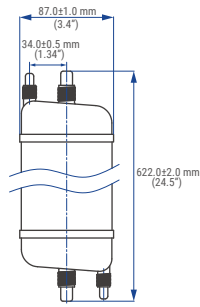
NOVACISE CAPSULE FILTERS



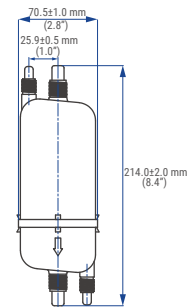
BFL64-4



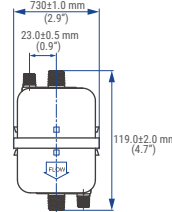
BFL64-10



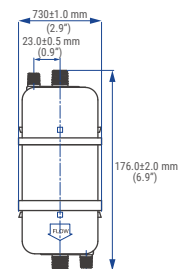
BFL64-20



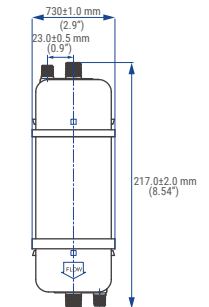
FL64



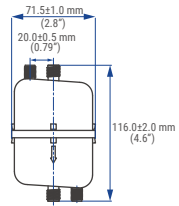
NPT42



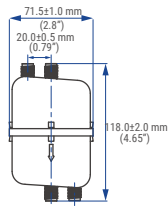
NPT742



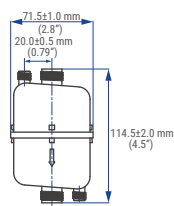
NPT942



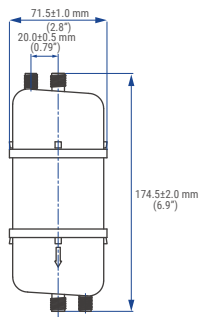
SW43



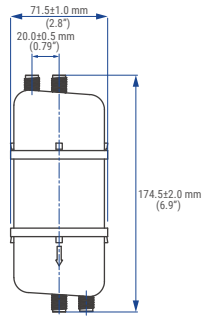
SW4



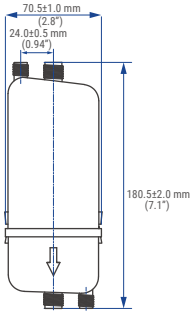
SW84



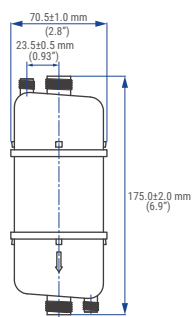
SW743



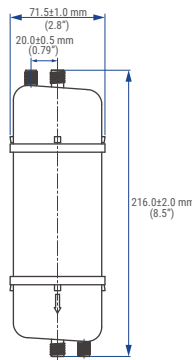
SW744



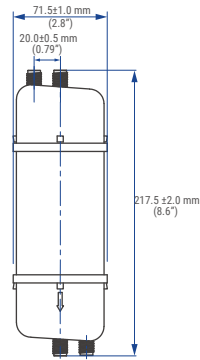
SW764



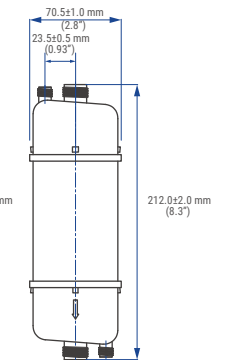
SW784



SW943



SW944



SW984

NOVACISE CAPSULE ORDERING INFORMATION¹

EXAMPLE: **NVSHNM50SW44ED** = Hydrophilic, 50 nm, compression 1/4" IO, 1/4" VD, electronics grade, dry

NVS

Membrane
 _ = Hydrophobic
 H = Hydrophilic
 50 nm, 0.1 μm

Removal Rating
 NM05 = 5 nm
 NM10 = 10 nm
 NM20 = 20 nm
 NM30 = 30 nm
 NM50 = 50 nm
 0010 = 0.1 μm

Cleanliness
 M = < 25 μg/device 5/10/20/50nm
 H = < 40 μg/device 50nm/0.1μm
 E = Electronic grade

Package
 D = Dry
 W = Prewet, UPW

Connection Type	Inlet/Outlet	Vent/Drain	Lengths	Max. Operating Temp.	Max Operating Pressure
BFL64-4 = Flare Type	3/8"	1/4"	211 mm (8.3")	40°C	0.41 MPa@40°C
BFL64-10 = Flare Type	3/8"	1/4"	363 mm (14.3")		
BFL64-20 = Flare Type	3/8"	1/4"	622 mm (24.5")		
FL64 = Flare Type	3/8"	1/4"	214 mm (8.4")	60°C	0.51 MPa@38°C
NPT42 = NPT	1/4"	1/8"	119 mm (4.7")		
NPT742 = NPT	1/4"	1/8"	176 mm (6.9")		
NPT942 = NPT	1/4"	1/8"	217 mm (8.5")		
SW43 = Compression	1/4"	4 mm	116 mm (4.6")		
SW743 = Compression	1/4"	4 mm	174.5 mm (6.9")		
SW943 = Compression	1/4"	4 mm	216 mm (8.5")		
SW44 = Compression	1/4"	1/4"	118mm (4.6")		
SW744 = Compression	1/4"	1/4"	174.5 mm (6.9")		
SW944 = Compression	1/4"	1/4"	217.5 mm (8.6")		
SW84 = Compression	1/2"	1/4"	114.5 mm (4.5")		
SW784 = Compression	1/2"	1/4"	175 mm (6.9")		
SW984 = Compression	1/2"	1/4"	212 mm (8.3")		
SW764 = Compression	3/8"	1/4"	180.5 mm (7.1")		

¹ Not all combinations of surface area options and removal ratings are available. Please contact Banner Industries with any questions about part number availability.



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