



NOVACON™ HIGHLY ASYMMETRIC PES SEMICONDUCTOR PROCESS FILTERS

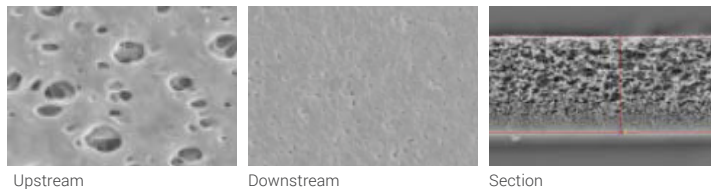
HIGH RETENTION EFFICIENCY, FLOW RATES, AND SURFACE ENERGY, FOR PROCESS CYCLE TIME IMPROVEMENT.

Novacon® Series filters are specially designed for dilute acids, bases, and other process chemical mixtures as a cost-effective alternative for lower temperature wet etch and clean applications.

The asymmetric PES (polyethersulfone) membrane provides significant retention of particles (down to 1nm) with additional beneficial characteristics including high flow rates, high particle holding capacity, and longer filter lifetime. In addition, the membrane structure and high surface energy is effective in reducing bubble formation during flow.

The HDPE (High-Density Polyethylene) supports and cartridge structure ensure low metal extractables during filtration.

Novacon disposable filters fluoropolymer shell and one-piece structural design provides high mechanical strength and makes installations easier.



Upstream

Downstream

Section



FEATURE

BENEFIT

Highly asymmetric PES membrane

Combines excellent retention and high flow

Ultra-clean performance out-of-box results in faster start up, reduces equipment pre-operation time

Low surfactant binding

High purity HDPE structure and PFA (for disposables) shell

Good chemical compatibility

Low metal extractables

High membrane surface area

High flow rate and longer life

Industry standard connections

Ease of installation and replacement

Higher cleanliness option

Meets stringent process requirements for metals, anions, and organic contaminants

Prewet option

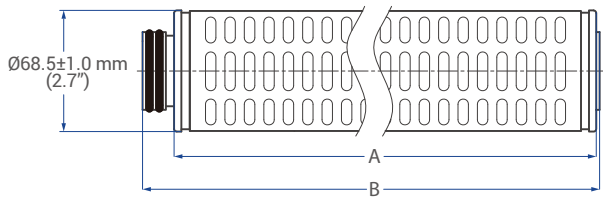
Provides convenience and decreases the chances of product contamination

SPECIFICATIONS

Filter media	Hydrophilic HAPES ¹ /Hydrophobic HAPES
Supports/core/cage/end caps	HDPE
O-rings (cartridge only)	Cartridge: TEV or EPDM; Disposable: TEV
Shell (disposable only)	PFA
Max. operating temperature	70°C
Disposable max. operating pressure	Disposables: 0.58 MPa (5.8 bar, 84 psi) at 25°C Small In-Line X Type Disposable: 0.40 MPa (4.0 bar, 58 psi) at 25°C
Cartridge max. differential pressure	Forward/Reverse: 0.34 MPa (3.4 bar, 49 psi) at 25°C
	X1 Z1 Z2 X1 X-Type
Effective filtration area	Ø68 mm (2.7") Ø83 mm (3.27") Ø83 mm (3.27") Ø68 mm (2.7")
	0.8m ² (8.6ft ²) 1.4m ² (15.0ft ²) 1.7m ² (18.3ft ²) 0.42m ² (4.5ft ²)

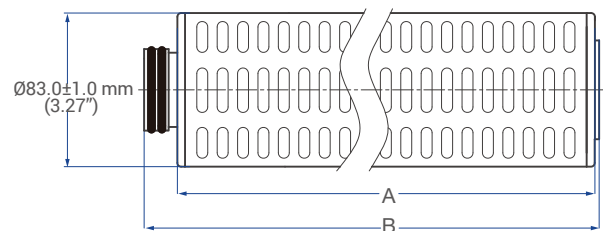
¹ Hydrophilic option available for 50nm, 0.1µm, and 0.2µm removal ratings

NOVAACON X1 CARTRIDGE FILTERS (2-222/FLAT)



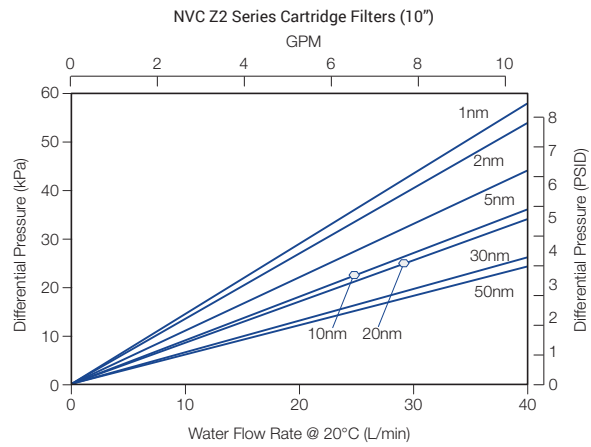
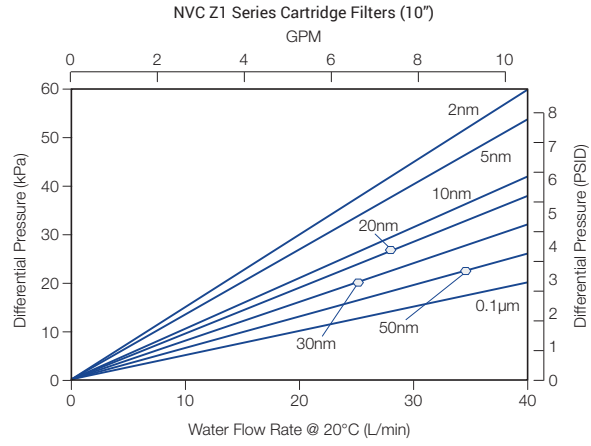
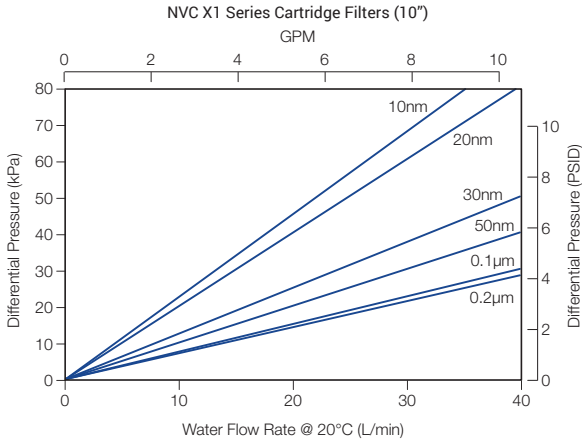
Length Code	A	B
04P	102.0 ±1 mm (4.0")	122.0 ±1 mm (4.8")
09P	229.0 ±2 mm (9.0")	249.0 ±2 mm (9.8")
10P	254.0 ±2 mm (10.0")	274.0 ±2 mm (10.8")
20P	508.0 ±3 mm (20.0")	528.0 ±3 mm (20.8")
10	242.5 ±2 mm (9.5")	262.5 ±2 mm (10.3")
20	488.0 ±3 mm (19.2")	508.0 ±3 mm (20.0")
20C	478.0 ±3 mm (18.8")	498.0 ±3 mm (19.6")
30	734.0 ±4 mm (28.9")	754 ±4 mm (29.7")

NOVAACON Z1, Z2 CARTRIDGE FILTERS (2-222/FLAT)



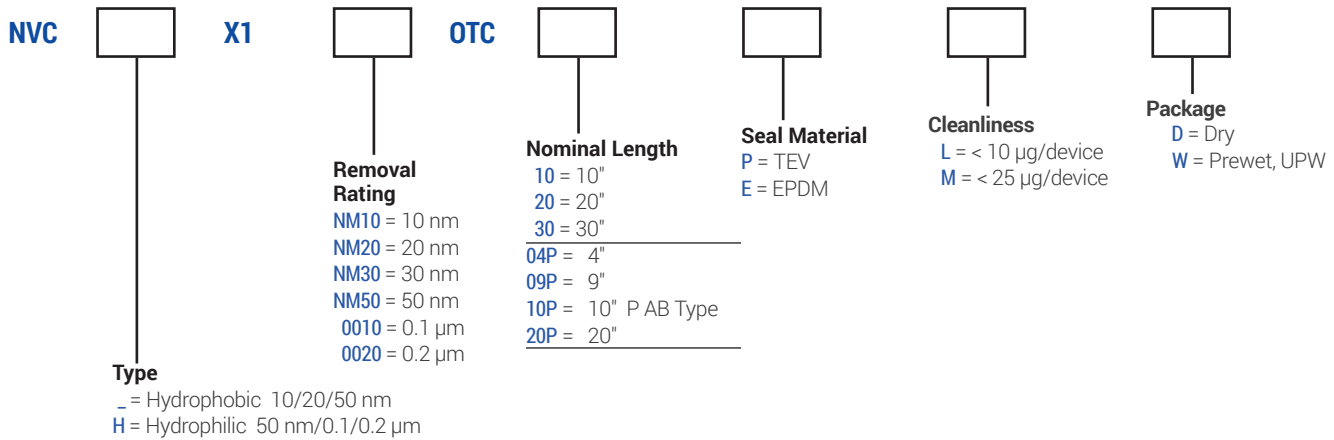
Length Code	A	B
04	110.0 ±1 mm (4.3")	130.5 ±1 mm (5.1")
10	225.0 ±2 mm (8.9")	247.0 ±2 mm (9.7")
20	452.0 ±3 mm (17.8")	472.0 ±3 mm (18.6")

CARTRIDGE FLOW RATES



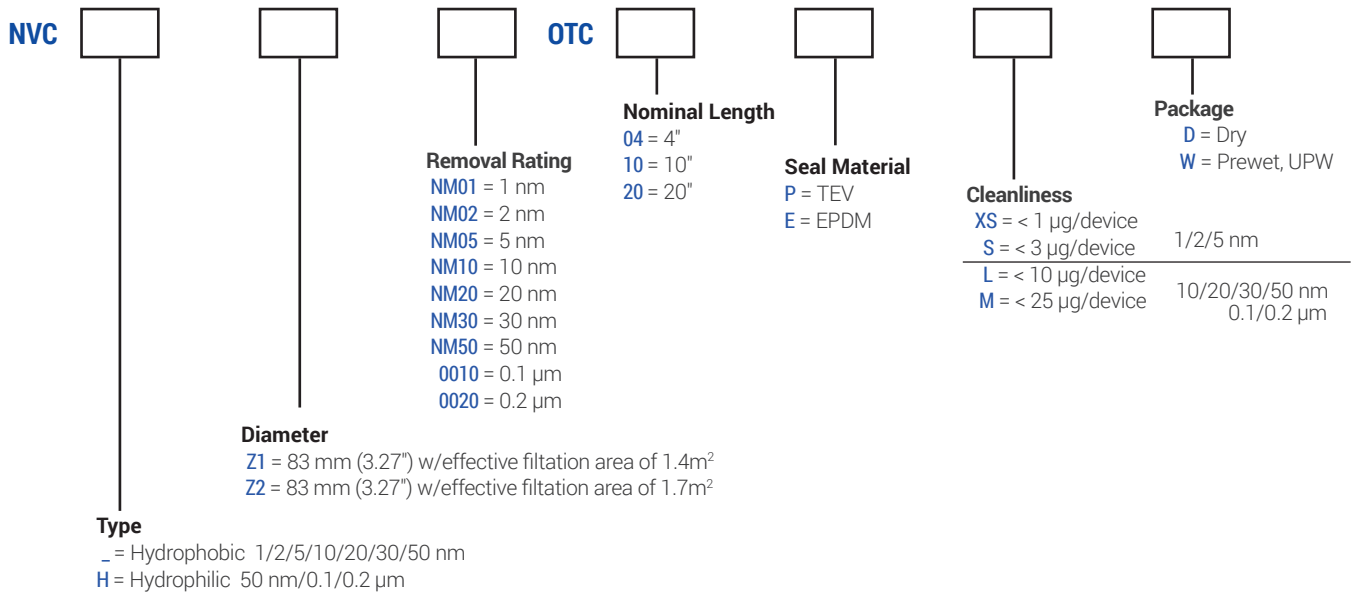
NVC X1 CARTRIDGE ORDERING INFORMATION (2.7" DIAMETER)

EXAMPLE: **NVCX1NM500TC20EMWH** = Hydrophobic 50 nm, 20", EPDM seal, < 25 µg/device, prewet

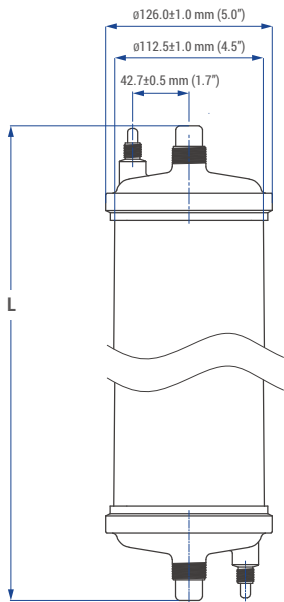


NVC CARTRIDGE ORDERING INFORMATION (3.27" DIAMETER)

EXAMPLE: **NVCHZ1NM500TC10EMD** = Hydrophilic, Z1, 50 nm, 10", EPDM seal, < 25 µg/device, dry



NOVACON IN-LINE DISPOSABLE FILTERS



FLARE CONNECTION TYPE NOMINAL DIMENSIONS

Code	Inlet/Outlet	Vent/Drain	5" Filter L	10" Filter L
F32	3/8"	1/4"	240.0±2.0 mm (9.5")	359.0±3.0 mm (14.1")
F42	1/2"	1/4"	240.0±2.0 mm (9.5")	359.0±3.0 mm (14.1")
F62	3/4"	1/4"	240.0±2.0 mm (9.5")	359.0±3.0 mm (14.1")
F82	1"	1/4"	257.0±2.0 mm (10.1")	376.0±3.0 mm (14.8")

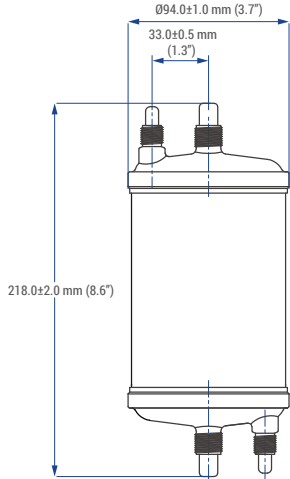
NVC DISPOSABLE ORDERING INFORMATION¹

EXAMPLE: **NVCHZ1NNM5010F42MD** = Hydrophilic, Z1, Inline, 50 nm, 10", F42 CFL (flare type), < 25 µg/device, dry

<p>NVC</p> <p>Type</p> <p>_ = Hydrophobic H = Hydrophilic</p>	<p>Diameter</p> <p>Z1 = 83 mm (3.27") Z2 = 83 mm (3.27")</p>	<p>N</p> <p>Flow Type</p> <p>N = Inline</p>	<p>Removal Rating</p> <p>NM01 = 1 nm NM02 = 2 nm NM05 = 5 nm NM10 = 10 nm NM20 = 20 nm NM30 = 30 nm NM50 = 50 nm 0010 = 0.1 µm 0020 = 0.2 µm</p>	<p>Nominal Length</p> <p>05 = 5" 10 = 10"</p>	<p>Connection</p> <p>CFL (Flare Type): F32 F42 F62 F82</p>	<p>Cleanliness</p> <p>XS = < 1 µg/device S = < 3 µg/device L = < 10 µg/device M = < 25 µg/device</p>	<p>Package</p> <p>D = Dry W = Prewet, UPW</p>
			<p>1/2/5/10/20/30/50 nm</p>			<p>1/2/5 nm</p>	<p>10/20/30/50 nm 0.1/0.2 µm</p>

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

NOVACON SMALL IN-LINE X-TYPE DISPOSABLE FILTERS



FLARE CONNECTION TYPE CONNECTIONS

Code	Inlet/Outlet	Vent/Drain
F32	3/8" male	1/4" male
F42	1/2" male	1/4" male

SMALL IN-LINE X-TYPE DISPOSABLES ORDERING INFORMATION

EXAMPLE: **NVCX1XNM5004F42MW** = 50nm, F42 flare, < 25ug/device, prewet

NVC	<input type="text"/>	X	<input type="text"/>	04	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Filter Area		Removal Rating	Connection		Package
		X1 = 0.42m ² (4.5ft ²)		NM01 = 1 nm NM02 = 2 nm NM05 = 5 nm NM10 = 10 nm NM20 = 20 nm NM30 = 30 nm NM50 = 50 nm 0010 = 0.1 µm 0020 = 0.2 µm	CFL (Flare Type): F32 F42		D = Dry WH = Prewet, UPW + 1% H ₂ O ₂
						Cleanliness	
						XS = < 1 µg/device S = < 3 µg/device L = < 10 µg/device M = < 25 µg/device	1/2/5 nm 10/20/30/50 nm 0.1/0.2 µm
		Type					
		_ = Hydrophobic 1/2/5/10/20/30/50 nm/0.1 µm H = Hydrophilic 50 nm/0.1/0.2 µm					



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CBBPP1033 Rev. 10202020
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