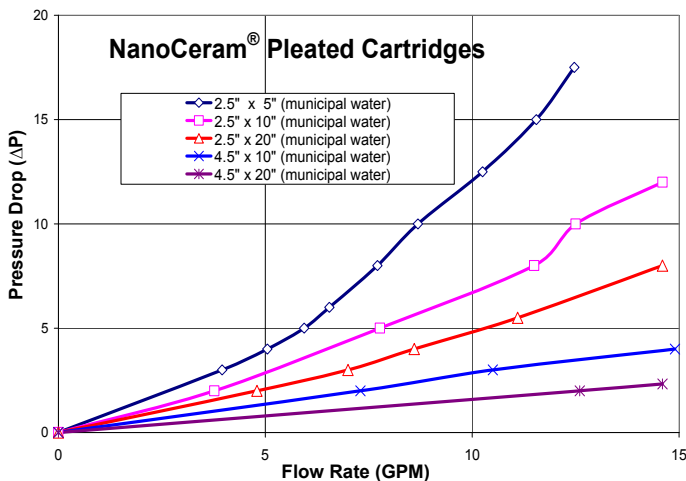


NanoCeram[®] "P" Series Pleated Filter Cartridges

Features and Benefits

Thermally bonded blend of microglass fibers & cellulose infused with nanoalumina fibers in a non-woven matrix creates an electropositively-charged depth filter media. When assembled into a pleated cartridge, NanoCeram[®] offers a unique combination of efficiency, capacity, flowrate & low pressure drop at levels unmatched in today's filtration marketplace.



- Silt Density Index (SDI): ≤ 0.5
- Turbidity Reduction: < 0.01 NTU until Terminal ΔP (40psi)
- Low ΔP: < 1.5psi @ 4gpm (Part No. P2.5-10)
- Efficiency: 99.9% reduction of 0.2μ particulate (monodispersed latex spheres)
- Flow Rate: 5mL/cm²/min @ 4gpm (Part No. P2.5-10)
- Dirt Holding Capacity (DHC): 572 mg/in² (A2 Fine Test Dust)
- Cyst Retention: > 5 LRV
- Bacteria (*Klebsiella terrigena*): > 5 LRV
- Temperature Range: 39 - 135° F (4 - 57°C)
- Maximum Pressure: 70 psi (4.83 bar)
- Effective pH Range: 5 - 10

Applications

◆ Primary filtration in lieu of ultraporous and microporous membranes

◆ Prefiltration/Polishing for:

- Reverse Osmosis (R.O.)
- Ultrafiltration
- Microfiltration
- Ultraviolet (UV)
- Ozonation
- Chlorination

◆ Industries

- | | |
|--------------------------------|-----------------------------|
| Food, Beverage & Bottled Water | Pharmaceutical & Biomedical |
| Cosmetics & Personal Care | Microelectronics |
| Power Generation | Machining (including EDM) |
| Potable: | Pool & Spa |

- Point-of-Use (POU)
- Point-of-Entry (POE)
- Municipal
- Personal

Each NanoCeram[®] pleated filter cartridge is designed to satisfy the most difficult requirements in water treatment. By using the scientific principal of electropositive attraction/capture, NanoCeram[®] technology leads to a rapid and highly efficient adsorption of virtually all particle sizes. NanoCeram[®]'s media has a high capacity for particles as large as tens of microns or as small as a few nanometers. Each NanoCeram[®] Filter Cartridge exhibits a rating of 0.2μ . . . a rating typically associated with ultraporous membranes. Yet NanoCeram[®] flow rates are hundreds of times greater than such membranes.

NanoCeram® P Series:

Part No.		P2.5-5 2.5" x 5"	P2.5-10 2.5" x 10"	P2.5-20 2.5" x 20"	P2.5-30 2.5" x 30"	P2.5-40 2.5" x 40"	P4.5-10 4.5" x 10"	P4.5-20 4.5" x 20"	P4.5-40 4.5" x 40"
Filter Surface Area	(in ²)	200	490	1020	1530	2030	1,195	2,450	5,040
	(ft ²)	1.4	3.4	7.1	10.6	14.1	8.3	17	35
	(cm ²)	1,290	3,160	6,600	9,870	13,100	7,710	15,800	32,500
	(m ²)	0.129	0.316	0.66	0.99	1.31	0.771	1.58	3.25
Dirt Holding Capacity**	(mg)	114400	280280	583440	875160	1161160	683540	1401400	2882880
Electroadsorptive (active) Surface Area	(in ²)	8.8 x 10 ⁶	2.16 x 10 ⁷	4.88 x 10 ⁷	6.73 x 10 ⁷	8.93 x 10 ⁷	5.26 x 10 ⁷	1.08 x 10 ⁸	2.22 x 10 ⁸
	(ft ²)	61,000	149,700	339,000	467,000	620,000	356,000	750,000	1,540,000
	(cm ²)	5.70 x 10 ⁷	1.39 x 10 ⁸	3.15 x 10 ⁸	4.34 x 10 ⁸	5.76 x 10 ⁸	3.31 x 10 ⁸	6.97 x 10 ⁸	1.43 x 10 ⁹
	(m ²)	5,700	13,900	31,500	43,400	57,600	33,100	69,700	143,000
Diameter x Length	(in) (cm)	2.75 x 4.8 7 x 12.2	2.75 x 9.75 7 x 24.8	2.75 x 20 7 x 50.8	2.75 x 30 7 x 76.2	2.75 x 40 7 x 101.6	4.45 x 9.75 11.3 x 24.8	4.45 x 20 11.3 x 50.8	4.45 x 40 11.3 x 101.6
Suggested Flow Rate	(GPM)	2	4	8	12	16	10	20	40
	(LPM)	7.5	15	30	45	60	38	76	152
Peak Flow Rate *	(GPM)	5	10	20	30	40	25	50	100
	(LPM)	19	38	76	114	151	95	189	380

*Peak Flow Rate based on initial flow using new filter cartridge and clean water during laboratory testing.

** Dirt holding capacity is based on A2 Fine Test Dust

Turbidity Reduction & Silt Density Index (SDI₃₀):

Manufacturer	Type	Flow Rate (GPM)	Type of water	Turbidity, NTU		SDI ₃₀ ^a
				in	out	
Argonide (NanoCeram®)	P2.5-10 2.5" x 10"	4	A2 dust ^b in RO water	252.00	<0.01	0.2 ± 0.3 ^c
			Municipal tap water	0.87	<0.01	0.5 ± 0.1 ^d
"A"	1µ Absolute 2.5" x 10"	4	A2 dust ^b in RO water	239.00	60.00	ND ^e
			Municipal tap water	0.54	0.10	4.4 ± 0.2 ^f
	0.35µ Standard 2.5" x 10"	4	A2 dust ^b in RO water	239.00	55.00	ND ^e
			Municipal tap water	0.57	0.14	4.6 ± 0.2 ^f
"B"	1µ Standard 2.5" x 20"	4	Municipal tap water	1.3 ± 0.1 ^g	0.4 ± 0.1 ^g	N/A
	1µ Absolute 2.5" x 10"	4	A2 dust ^b in RO water	243.00	23.00	ND ^e
			Municipal tap water	1.3 ± 0.3 ^g	<0.01 ^h	5.5 ± 0.2 ^f
	5µ Standard 2.5" x 20"	4	Municipal tap water	1.5 ± 0.7 ^g	1.1 ± 0.4 ^g	ND ^e
"C" *	0.1µ Hollow Fiber Membrane 6.5" x 85" Module	22	N/A	N/A	<0.08	< 2.0 - 3.0

* Manufacturer's published specifications.

Notes:

- Silt Density Index (SDI₃₀);
- ISO 121030-1, A2 Fine Test Dust available from PTI technology Inc.;
- Average of six measurements;
- Average of four measurements;
- Not done since turbidity of filtered water is unacceptable high (expected to be less than 1 NTU);
- Average of three measurements;
- Average over 3 hrs test;
- During first 30 minutes of run;
- After 30 minutes of continuous water run.