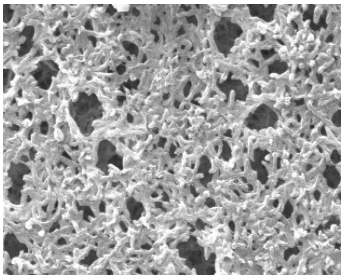
# GNC Filters

## Positively Charged Nylon 6,6 Membrane

*GNC filters are part of Critical Process Filtration's economical, general service product line that can be used to lower the total cost of filtration from simple to the most complex applications. Produced using the same quality materials and manufacturing excellence as our other product lines, you can be assured of their performance, dependability and scalability. While general service filters are not integrity tested or validated for retention, these highly efficient filters remove large amounts of contaminants early in the process to reduce the load on your expensive downstream filters. They are also useful as stand-alone clarifying or particle removal filters in less critical applications.*

GNC cartridge and capsule filters consist of a single layer, positively charged Nylon 6,6 membrane used for filtering aqueous and non-aqueous liquids that contain negatively charged contaminants. Having broad chemical compatibility and delivering high flow and throughput, GNC filters effectively and economically remove endotoxins and fine particles. Pore sizes range from 0.10 to 1.2 µm.

Critical Process provides unrivaled delivery times, technical consulting before purchasing, and very competitively priced high-performance products. Our comprehensive testing & analysis and validation services support your team whenever they need it. Your process experts partnering with our filtration experts is how we deliver your company's solution right the first time.



GNC filters are recommended for endotoxin and fine particle removal in:

- Process Water
- Chemicals
- DI Water
- Solvents
- Inks and Dyes

**Endotoxin Removal**

**Fine Particle Removal**

CARTRIDGES – Nominal Dimensions
Length: 5 to 40 in. (12.7 to 101.6 cm)
Outside Diameter: 2.75 in. (7.0 cm)

CAPSULES – Nominal Dimensions
Length: 2 to 30 in. (5.1 to 76.2 cm)
Outside Diameter: 3.50 in. (8.9 cm)

## Maximum Operating Parameters

| | CARTRIDGES | CAPSULES |
|---|---|---|
| **Liquid Operational Pressure** | N/A | 80 psi at 68 °F (5.52 bard at 20 °C) |
| **Gases Operational Pressure** | N/A | 60 psi at 68 °F (4.14 bar at 20 °C) |
| **Operating Temperature (water)** | 180 °F at 30 psid (82 °C at 2.07 bard) | 110 °F at 30 psid (43 °C at 2.07 bard) |
| **Forward Differential Pressure** | 80 psid at 68 °F (5.52 bard at 20 °C) (Liquid and Gas) | Liquid - 80 psid at 68 °F (5.52 bard at 20 °C) Gas - 60 psi at 68 °F (4.14 bar at 20 °C) |
| **Reverse Differential Pressure** | 50 psid at 68 °F (3.45 bard at 20 °C) | 50 psid at 68 °F (3.45 bard at 20 °C) |
| **Recommended Changeout Pressure** | 35 psid (2.41 bard) | 35 psid (2.41 bard) |

## Sanitization & Sterilization

| | | |
|---|---|---|
| **Filtered Hot Water*** | 90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow | N/A |
| **Inline Steam*** | 275 °F (135 °C), 30 min, 25+ cycles | N/A |
| **Autoclave*** | 250 °F (121 °C), 30 min, 25+ cycles | 250 °F (121 °C), 30 min, 25+ cycles |
| **Chemical Sanitization** | Performed using industry standard concentrations of hydrogen peroxide, peracetic acid and other selected chemicals. | |

*Cartridge Filters – For all elevated temperature procedures above, a stainless-steel support ring is required.

## Filtration Area (Nominal)

| | CAPSULES | CARTRIDGES AND CAPSULES | | | | CARTRIDGES |
|---|---|---|---|---|---|---|
| Length | 2” | 5” | 10” | 20” | 30” | 40” |
| | 5.08cm | 12.7cm | 25.4cm | 50.8cm | 76.2cm | 101.6cm |
| Area | 1.2 $ft^2$ | 3.3 $ft^2$ | 7.0 $ft^2$ | 14.0 $ft^2$ | 21.0 $ft^2$ | 28.0 $ft^2$ |
| | 0.11$m^2$ | 0.31$m^2$ | 0.65$m^2$ | 1.30$m^2$ | 1.95$m^2$ | 2.60$m^2$ |

## Construction Materials

| | |
|---|---|
| **Filtration Media** | Positively Charged Nylon 6,6 Membrane with Polyester support |
| **Media Support** | Polypropylene |
| **End Caps, Center Core, Outer Support Cage, Capsule Housing** | Polypropylene |
| **Sealing Method** | Thermal Bonding |
| **O-Rings/Gaskets** Cartridges only | Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM) |

## Extractables

GNC filters typically exhibit low levels of non-volatile residues.

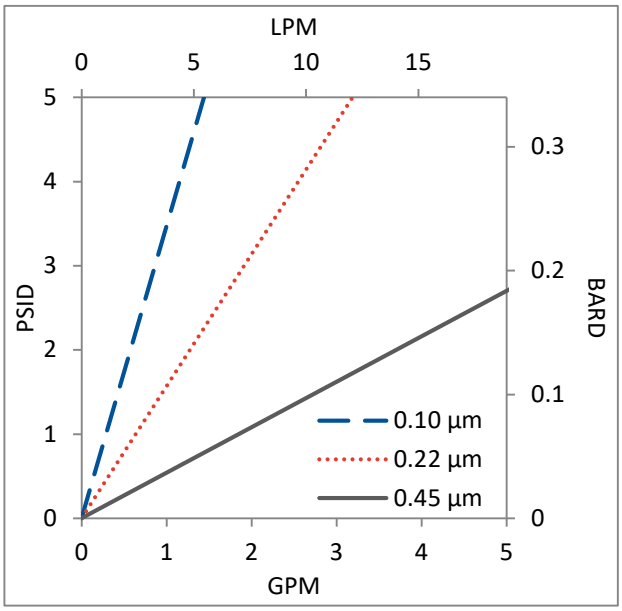
## Non-Fiber Releasing

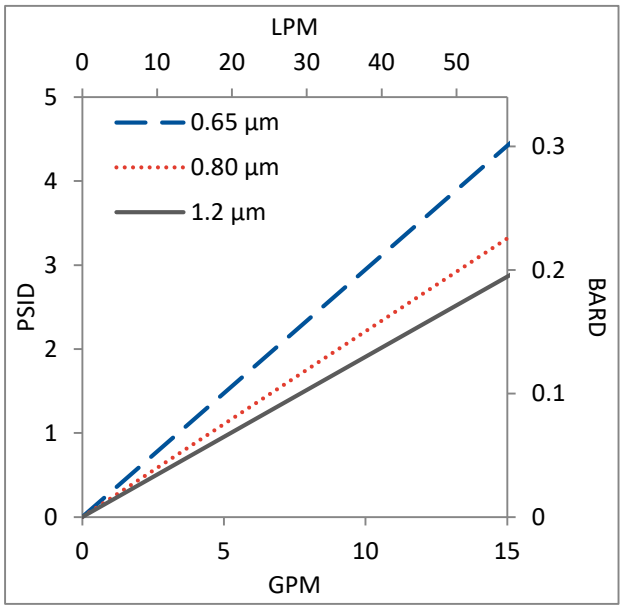
The GNC filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

## FDA and EC Compliance

Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.

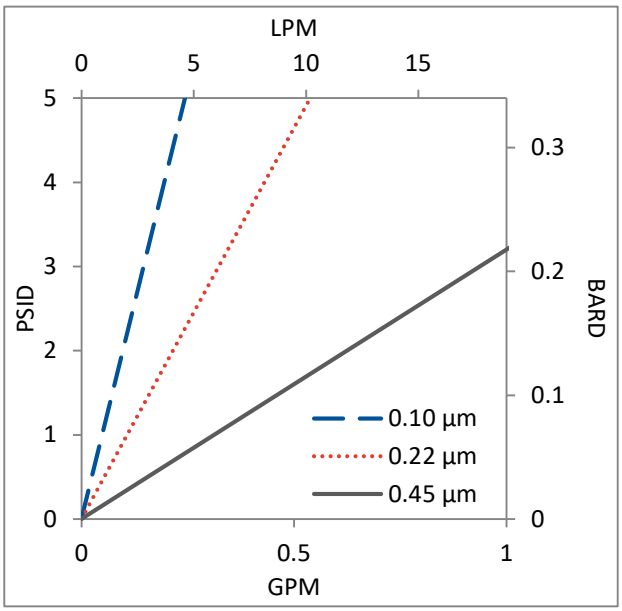
## Flow Rates for GNC Cartridges by Pore Size

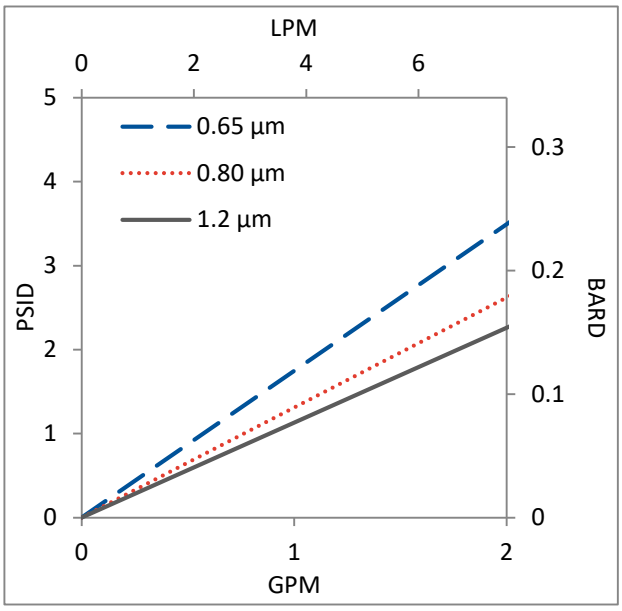



Flow rates for Cartridge filters are per 10-inch length. The test fluid is water at ambient temperature.

## Flow Rates for GNC Capsules by Pore Size




Flow rates for Capsule filters are tested using a 2" capsule filter with 1" sanitary inlet and outlet ports. The test fluid is water at ambient temperature. Flow rates for larger capsules will scale with filtration area. Rates will vary based on end configuration of the capsule.

# GNC Filters Ordering Information

Fill in the corresponding codes in the boxes below to build your Part Number.

To consult with one of our technical team members, request a quote or place an order:
call (603) 880-4420 or contact us here.

**Please note this product is not designed or approved for use in Hemodialysis applications**

## Cartridge Filters

GNC [ ] [ ] 000 [ ] [ ] [ ]

**Pore Size Code**
-10 = 0.10 µm
-20 = 0.22 µm
-40 = 0.45 µm
-60 = 0.65 µm
-80 = 0.80 µm
1-2 = 1.2 µm

**SS Ring**
S = Ring
N = No Ring

**Length**
05 = 5 in. (12.7 cm)
97 = 9.75 in. (24.8 cm)
01 = 10 in. (25.4 cm)
02 = 20 in. (50.8 cm)
03 = 30 in. (76.2 cm)
04 = 40 in. (101.6 cm)

**O-Ring/Gasket Code**
S = Silicone
B = Buna
V = Viton (or FKM)
T = FEP Encapsulated Viton (or FKM)
E = EP
R = FEP Encapsulated Silicone

**End Cap Code***
0 = Flat Gasket, DOE
1 = Flat Gasket/Plug
2 = 2-222 O-ring/Plug
3 = 213/119 Internal O-ring DOE
4 = 213/119 Internal O-ring/Plug
5 = 2-222 O-ring/Flat
6 = 2-226 O-ring/Flat
7 = 020 O-ring/Plug
8 = 2-222 O-ring/Spear
9 = 2-226 O-ring/Spear
21 = 2-223 O-ring/Flat
22 = 2-223 O-ring/Spear
23 = 2-222 O-ring 3 Tab/Flat
24 = 2-222 O-ring 3 Tab/Spear
25 = Short 2-222/Plug

*Additional End Configurations Available

## Capsule Filters

CP GNC [ ] [ ] 000 [ ] [ ] [ ] - [ ] [ ]

**Pore Size Code**
-10 = 0.10 µm
-20 = 0.22 µm
-40 = 0.45 µm
-60 = 0.65 µm
-80 = 0.80 µm
1-2 = 1.2 µm

**Pre-Sterilized or Not**
S = Pre-Sterilized
G = Gamma Stable
N = Not Sterilized

*Fits hoses/tubes with inner diameter 11/32 to 9/16 inches

**Length**
A = 2”
B = 5”
1 = 10”
2 = 20”
3 = 30”

**Inlet**
A = 1/4” Female NPT
B = 1/4” Male NPT
C = 3/8” Female NPT
D = 1/2” Female NPT
E = 1/2” Male NPT
F = 1” Sanitary
G = Hose Barb*
H = 1 ½” Sanitary with side vent
I = ½” Single Stepped Barb with side vent
J = ¾” Single Step Barb with Side Vent
Y = 3/8” Compression (JACO©) (Top Luer lock vent only)
Z = 6mm Quick Disconnect (Top Luer lock vent only)

**Outlet**
A = 1/4” Female NPT
B = 1/4” Male NPT
C = 3/8” Female NPT
D = 1/2” Female NPT
E = 1/2” Male NPT
F = 1” Sanitary
G = Hose Barb*
H = 1 ½” Sanitary with side vent
I = ½” Single Stepped Barb with side vent
IB = ½” Single Stepped Barb with filling bell and side vent
J = ¾” Single Step Barb with Side Vent
Y = 3/8” Compression (JACO©) (Top Luer lock vent only)
Z = 6mm Quick Disconnect (Top Luer lock vent only)

**Side Vent Options**
1 = Luer Lock
2 = 1/8” Bleed Valve
3 = 1/4” Bleed Valve

**O-Ring**
(Bleed Valves Only)
S = Silicone
E = EP
V = Viton
B = Buna
K = FFKM

CRITICAL PROCESS FILTRATION, INC.

One Chestnut Street
Nashua, NH 03060
603.880.4420
FAX: 603.880.4536

CriticalProcess.com