Life Sciences

USD 2176

Kleenpak™ Nova Capsule Filters

Improving choice, flexibility and operation costs for the filtration of liquids

*Filtration. Separation. Solution.*SM

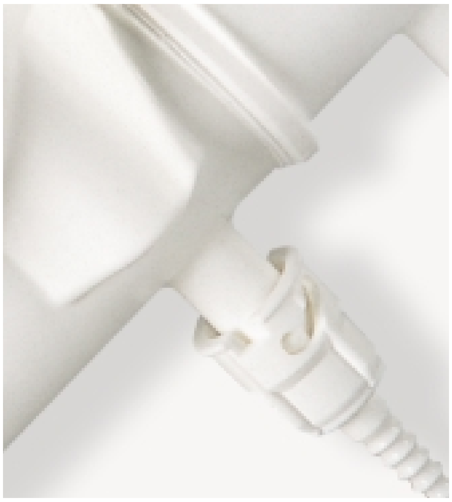
The Kleenpak Nova
Range of Capsule Filters

Kleenpak™ Nova Capsule Filters

Improving choice, flexibility and operation costs for the filtration of liquids

The issues of effective cleaning and cleaning validation result in disposable equipment being the preferred option for many processes. Disposable filters can help eliminate cleaning problems, especially where biological products are to be filtered. In applications where hazardous materials are being filtered, such as cytotoxic drugs, capsule filters can play an important role in helping protect operators. Kleenpak Nova capsule filters are designed to provide choice, cost effectiveness and flexibility, while ensuring ease of use for the operator.

Kleenpak Nova capsules are especially suited to pilot and process scale applications. They can be either autoclaved or sterilized by gamma irradiation and can be supplied as part of presterilized processing systems such as a filter/tubing/bag set. **Kleenpak** Nova filters are used in a wide range of critical applications including the sterilization of biopharmaceuticals, biologicals, diagnostic reagents, serum, tissue culture media, and culture media components.



Kleenpak™ Nova Capsule Filters

Designed to provide choice and flexibility

Designed to Provide Choice & Flexibility

Kleenpak Nova filters are available with either in-line or T-style configurations. The T-style configuration is ideal for manifolding multiple filters in series or in parallel configurations. **Kleenpak** Nova capsule filters incorporate either a 10, 20, or 30 inch length standard Pall cartridge filter which have traditionally been installed into stainless steel housings. In applications where a particular filter is already specified the user may be able to switch from a stainless steel housing to a fully disposable assembly with minimal requalification. This means the extensive range of prefilters and sterilizing grade filters currently available from Pall can easily be provided as a capsule filter. This range includes:

- Ultipor® VF DV50 and DV20 virus removal filters
- Low binding, high flow Fluorodyne® II PVDF filters
- **Ultipor** N66 and positively charged Posidyne® nylon filters
- Supor® polyethersulfone filters
- Preflow® prefilters
- Profile® prefilters
- **Ultipor** GF Plus prefilters
- Mustang™ Q Chromatography cartridges

Kleenpak Nova filter capsules are available with a variety of inlet and outlet connections

- 1-1/2" sanitary flange
- 13mm (1/2") single barb hose barb (for in-line only)
- 25mm (1") single barb hose barb (recommended for prefilters as well as larger sterilizing grade filters to avoid flow restrictions)

Kleenpak™ Nova Capsule Filters

Reducing operating costs

Kleenpak Nova Filters Reduce Operating Costs

Kleenpak Nova filters have a typical installation cost that is 80% lower than a similar sized stainless steel housing system. Therefore they offer an extremely cost effective alternative to housing/cartridge systems. **Kleenpak** Nova filters can also provide additional cost savings:

- No housing maintenance – *Lower maintenance costs*
- No housing cleaning or cleaning validation – *Lower labor costs*
- Filter is pre-assembled – *Lower labor costs*
- Filter can be provided pre-sterilized – *Lower energy costs*

Kleenpak Nova Filters meet industry requirements

Kleenpak Nova capsules have been engineered to meet industry requirements, including high resistance to gamma irradiation and autoclave sterilization, and low extractables. They offer high flow rates and throughputs and are designed to have minimal hold-up volumes ensuring maximum product recovery. The translucent shell makes venting and draining easier as liquid levels are visible.

Comprehensive Technical Documentation

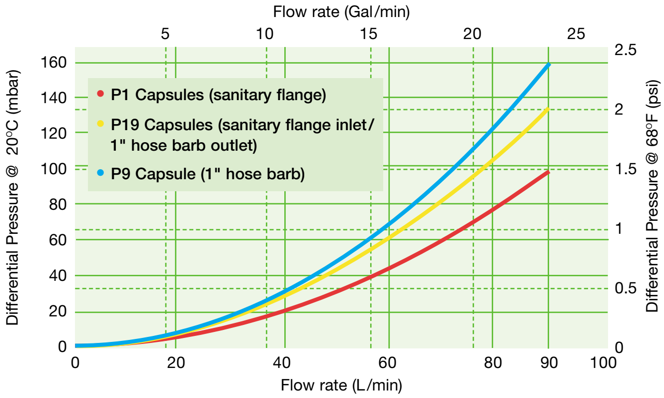
Kleenpak Nova capsule filter assemblies have been extensively tested to ensure reliable performance in the most demanding process conditions. This testing included radiation sterilization testing, burst testing, creep rupture testing, shelf life testing, extractables testing, biological safety testing, and bacterial challenge testing. This information is available from your local Pall representative.

Kleenpak™ Nova Capsule Filters

Technical Information

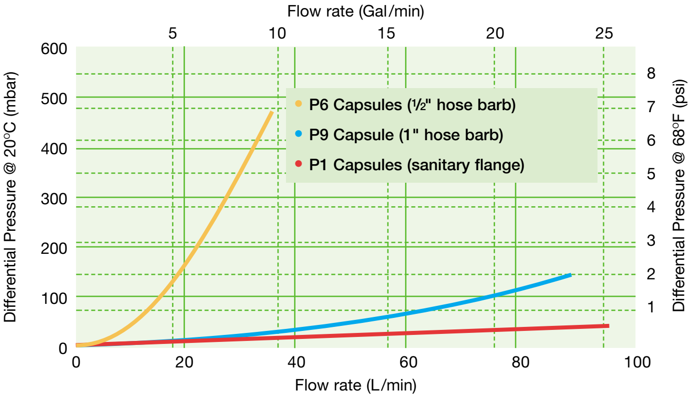
Kleenpak Nova NT P1, P9, P19 Empty Capsule

Water Flow vs. Differential Pressure



Kleenpak Nova NP P1, P6 & P9 Empty Capsule

Water Flow vs. Differential Pressure



Note: Empty **Kleenpak** Nova capsule housings for water at 20°C (68°F), 1 cP. For other liquids, multiply pressure drop by the viscosity in centipoise. For complete assembly including AB style filter cartridge, add housing and cartridge media pressure drop values. Please contact your local Pall representative for assistance.

Operating Characteristics*

Maximum Operating Temperature:	40°C
Maximum Operating Pressure:	3 bar g (44 psi g) at 40°C. [6.2 bar g (90 psi g) at 40°C for up to a maximum of 10 hours, for integrity test purposes only].

*with compatible fluids which do not soften, swell or adversely affect the product or its materials of construction.

Capsule materials of construction

Housing Bowl:	Polypropylene
Housing Head*:	Polypropylene
O-rings:	Silicone elastomer

*Formulated with TiO_2 Whitener which does not contribute to organic extractables

Sterilization

Autoclave:	Maximum temperature of 135°C, for 1 hour
Gamma irradiation:	Maximum of 50 kGy

Consult Pall for procedures

Nominal Dimensions

In-line

	NP6	NP7	NP8
Maximum Diameter (D) including valves	154 mm (6.1")	154 mm (6.1")	154 mm (6.1")
Length (L) with hose barb inlet/outlet	397 mm (15.6")	644 mm (25.4")	895 mm (35.2")
Length (L) with sanitary inlet/outlet	335 mm (13.2")	584 mm (23.0")	834 mm (32.8")

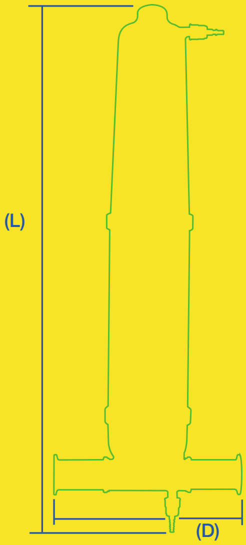
T-style

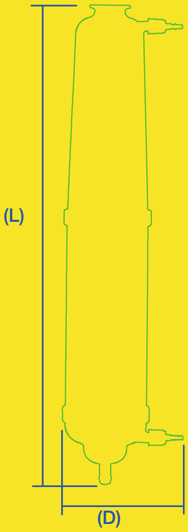
	NT6	NT7	NT8
Maximum Diameter (D) including valves	240 mm (9.5")	240 mm (9.5")	240 mm (9.5")
Length (L)	349 mm (13.7")	598 mm (23.5")	848 mm (33.4")

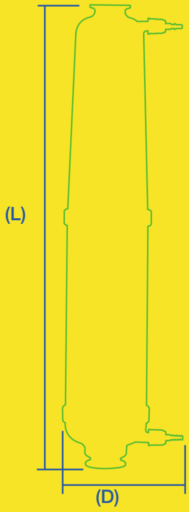
Kleenpak™ Nova Capsule Filters

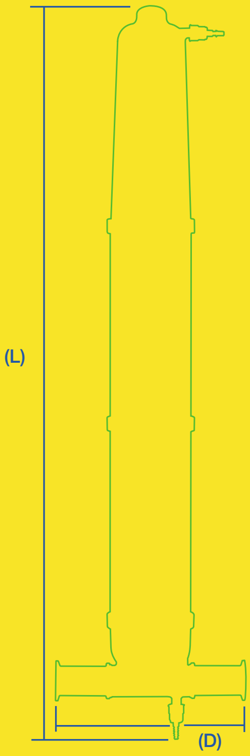
Dimensions

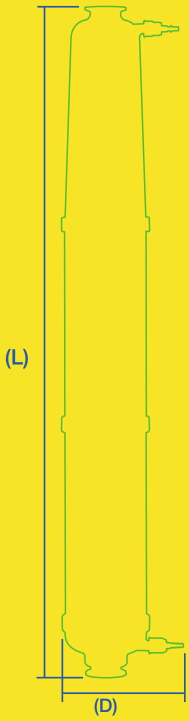
The Kleenpak Nova
Range of Capsule Filters











Part Number Ordering Information

N ✷▲★●■♥

✷ Code	Housing style
P	In-line
T	T-style

▲ Code	Filter Size
6	AB1 (10")
7	AB2 (20")
8	AB3 (30")

★ Code	Cartridge Type
	Sterilizing grade filters
DFLP	0.2 µm rated **Fluorodyne** II filter
DJLP	0.1 µm rated **Fluorodyne** II filter
NFP	0.2 µm rated **Ultipor** N66 filter
NTP	0.1 µm rated **Ultipor** N66 filter
NFZP	0.2 µm rated **Posidyne** filter
NTZP	0.1 µm rated **Posidyne** filter
EBVP	0.2 µm rated **Supor** filter
92DP	0.2 µm rated SuporLife® filter
	Prefilter grades
UUA/UUAP	0.2 µm rated **Preflow** filter
UB/UBP	0.45 µm rated **Preflow** filter
U010Z/U010ZP	1.0 µm rated **Ultipor** GF Plus filter
U2-20Z/U2-20ZP	2.0 µm rated **Ultipor** GF Plus filter
A015P	1.5 µm rated **Profile** Star filter
A030P	3.0 µm rated **Profile** Star filter
A050P	5.0 µm rated **Profile** Star filter
UY045P	4.5 µm rated **Profile** filter with Ultipleat® construction
	Virus filters
LUDV50P*	**Ultipor** VF grade DV50 virus filter
LDV20P*	**Ultipor** VF grade DV20 virus filter
	Chromatography cartridges
LMSTGQP*	**Mustang** Q Chromatography cartridge filter

*-L included in part number for in-line (NP) filters; omitted for T style filters (NT)

● Code	Connection Options
1	1-1½" sanitary flange inlet and outlet
9	25 mm (1") single barb hose barb inlet and outlet
19	1-1½" sanitary flange inlet and 25 mm (1") single barb hose barb outlet
	Connection options for in-line only
6	13 mm (½") single barb hose barb inlet and outlet
16	1-1½" sanitary flange inlet and 13 mm (½") single barb hose barb outlet
	Connection options for T-style only
1H1	1-1½" sanitary flange inlet and outlet, with ½" sanitary port on inlet
1H9	1-1½" sanitary flange inlet and 1½" single barb hose barb outlet, with ½" sanitary port on inlet

■ Code	Sterilization grade
G	Non-sterilized
S	Pre-sterilized

♥ Code	Vent/Drain
"Blank"	Stäubli* vent & stepped hose barb drain
A	Stäubli vent & drain

* Stäubli is a trademark of Stäbli AG.

Specifications and availability: The information provided is a guide to the part number structure and possible options. Product availability may be subject to change without notice. All specifications are nominal. This literature was reviewed for accuracy at the time of the publication. For current information on the product and test methodologies, consult your local Pall distributor.

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