



Pall Corporation

Multiple Application Capsule



Pall Ink Jet Team



Filtration. Separation. Solution.SM



Next generation capsule filter designed to ensure critical protection of ink jet printheads and optimum digital printer performance

The Multiple Application Capsule (MAC) is a self-contained filter assembly designed to meet the ever increasing needs of the digital ink jet printer. This unique capsule will provide a high level of printhead protection and long service life in ink jet applications. Both the standard and UV-resistant MAC filter assemblies offer flexibility in filter media and connector options that allow for easy customization of the product.

Correct media selection can impact filter performance characteristics such as pressure loss, gel retention and service life. The MAC filter offers four high-efficiency (β -5000 rated) Pall media to meet your digital printing filtration goals: HDC® II, pleated Profile® Star, Profile® II and Ultipor® GF Plus media.

Description and Key Features

- Compact Filter Capsule with Ink-Jet-Specific Features**
 The MAC filter is designed to meet the digital printing OEM's needs with several key features: a compact form to minimize internal ink volume and waste, an optional UV-resistant housing to prevent ink curing, and an anti-roll design to reduce ink spillage.
- Dual-Filtration Design**
 The MAC filter with pleated media features an integral high-performance last chance filter for the assurance of maximum cleanliness without a sacrifice in pressure loss.
- Robust Design and Construction**
 The MAC filter features a robust, thick-wall construction with integrally molded connectors to serve the needs of OEMs using solvent-based inks. This premium construction, in combination with high-capacity filter media will yield a long service life.
- User-Friendly Connector Options**
 A wide range of connector options are available on the MAC filter. For fast, clean filter changes, CPC* quick-release and standard Luer-Lok* compatible connections are available. In systems that use rigid tubing, two available sizes of Jaco* fittings are ideal compression fitting options. In addition, other standard connection types are available, such as NPT and hose barb.
- All-Polymeric Capsule Construction**
UL-Recognized Housing Material - The standard MAC filter housing components are manufactured using a polypropylene with a UL94HB classification.
UV-Resistant Housing Material - The UV-resistant MAC filter housing contains an additional carbon black filler for protection from UV light.

Features	Advantages	Benefits
Dual filtration capability	Can be used as part of a Total Cleanliness program	Maximum printhead protection
Choice of filter media options	Optimized ink filtration	Consistent, reliable printing performance
Opaque capsule option	Offers protection from UV light	Prevents curing of the UV fluids during filtration
No binders, glues or mould release agents are employed	Low extractables	Good chemical compatibility and economical disposal
Anti-roll design and quick release connections	Reduces ink spillage	Quick and easy filter changeouts

* CPC is a trademark of Colder Products Company; Luer-Lok is a trademark of Becton, Dickinson, and Company; Jaco is a trademark of Jaco Manufacturing Company; UL is a trademark of Underwriters Laboratories Inc.



Technical Information

Materials of Construction

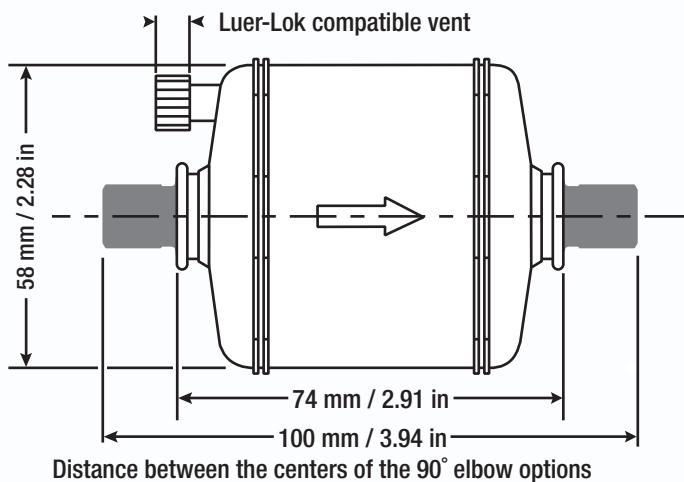
Filter media	Polypropylene (Profile II, Profile Star, HDC II) Resin-bonded microfiber on polyester substrate (Ultipor GF Plus media)
Core, housing and endcaps	Polypropylene / Polyethylene
Standard housing	Polypropylene (UL 94HB Classification)

Operating Conditions¹

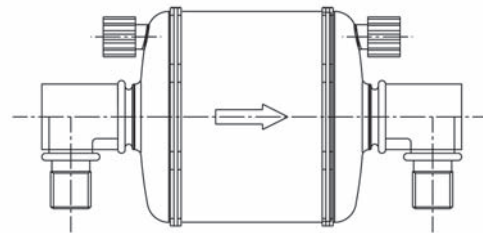
Maximum allowable pressure	6.5 barg / 94 psig
Maximum allowable temperature	50°C / 122°F

¹ Fluids that do not soften, swell or adversely affect the filter or materials of construction.

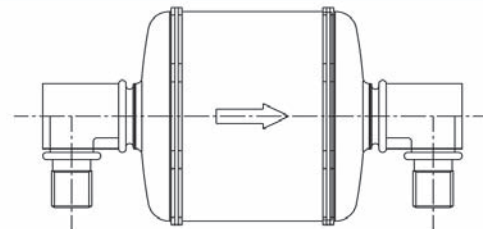
Dimensional Drawing – Standard Configuration



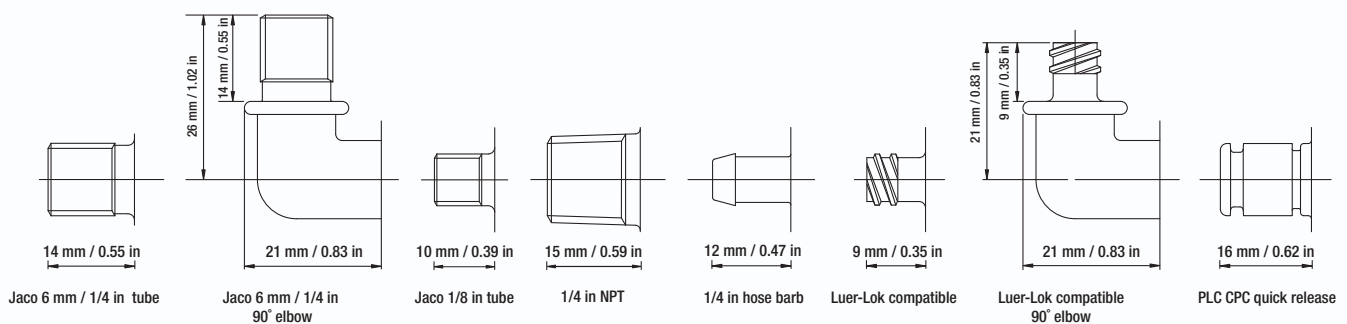
Sample Drawing with Dual Vent Option



Sample Drawing with No Vent Option



The Multiple Application Capsule is available with the following connector configurations.





Technical Information

Differential Pressure Calculation

The estimated differential pressure (ΔP) for any MAC filter can be calculated using the following formula:

$$\Delta P \text{ (psid)} = ([\text{flow (lpm)}]^2 \times \text{Factor 'A'} + [\text{flow (lpm)}] \times \text{Factor 'B'} \times \text{viscosity [cps]})$$

$$\Delta P \text{ (mbar)} = \Delta P \text{ (psid)} \times 68.9$$

Connector Code	Housing Factor A
1	0.16
1R	0.50
2	1.61
3	0.05
5	0.23
7	1.20
7R	1.90
8	0.13

Media Grade	Cartridge Factor B
A015	0.98
A030	0.67
A050	0.35
A100	0.19
J012	0.89
J025	0.39
J045	0.25
J060	0.09
Y050	0.89
Y100	0.25
Y200	0.09

Filter Media Options

Profile II Media

- Depth filter structure
- Continuously tapered for exceptional service life
- Most economical option



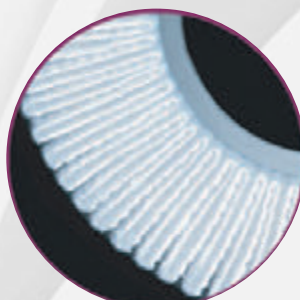
Profile Star Media

- Hybrid pleated depth filter
- Excellent gel removal and retention
- Primary recommendation for digital printing systems



HDC II Media

- High-area pleated construction
- Low pressure loss
- High flow rate capacity



Ultipor GF Plus Media

- Good compatibility with many ink types
- Fine filtration with low pressure loss
- Pleated construction





Ordering Information / Part Numbers²

M A C ■ ● ▼ ◆ ★

Code ■	
W	Standard
C	UV resistant (black)

Code ●	Removal Rating ³
Profile Star Media	
A010	1µm
A015	1.5µm
A030	3µm
A050	5µm
A100	10µm
A200	20µm
A400	40µm

Profile II Media	
Y005	0.5µm
Y010	1µm
Y030	3µm
Y050	5µm
Y100	10µm

HDC II Media	
J006	0.6µm
J012	1.2µm
J025	2.5µm
J045	4.5µm
J060	6µm
J100	10µm

Ultipor GF Plus Media	
U030Z	3µm

Code ▼	Connector
1	Jaco 6mm / ¼ in tube
1R	Jaco 6mm / ¼ in tube, 90° elbow
2	Jaco ½ in tube
3	¼ in NPT
5	¼ in hose barb
7	Luer-Lok compatible
7R	Luer-Lok compatible, 90° elbow
8	¼ in CPC quick release (PLC 12 series)

Code ◆	Seal Option ⁴
J	EPR

⁴ Only required for Code 8 connector option.

Code ★	Vent Option
None	Single vent (standard)
D	Dual vent
N	No vent

² This is a guide to the part numbering structure only. For availability of specific options, please contact your local Pall representative.

³ Based on the modified OSU-F2 test in water.



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May 2020