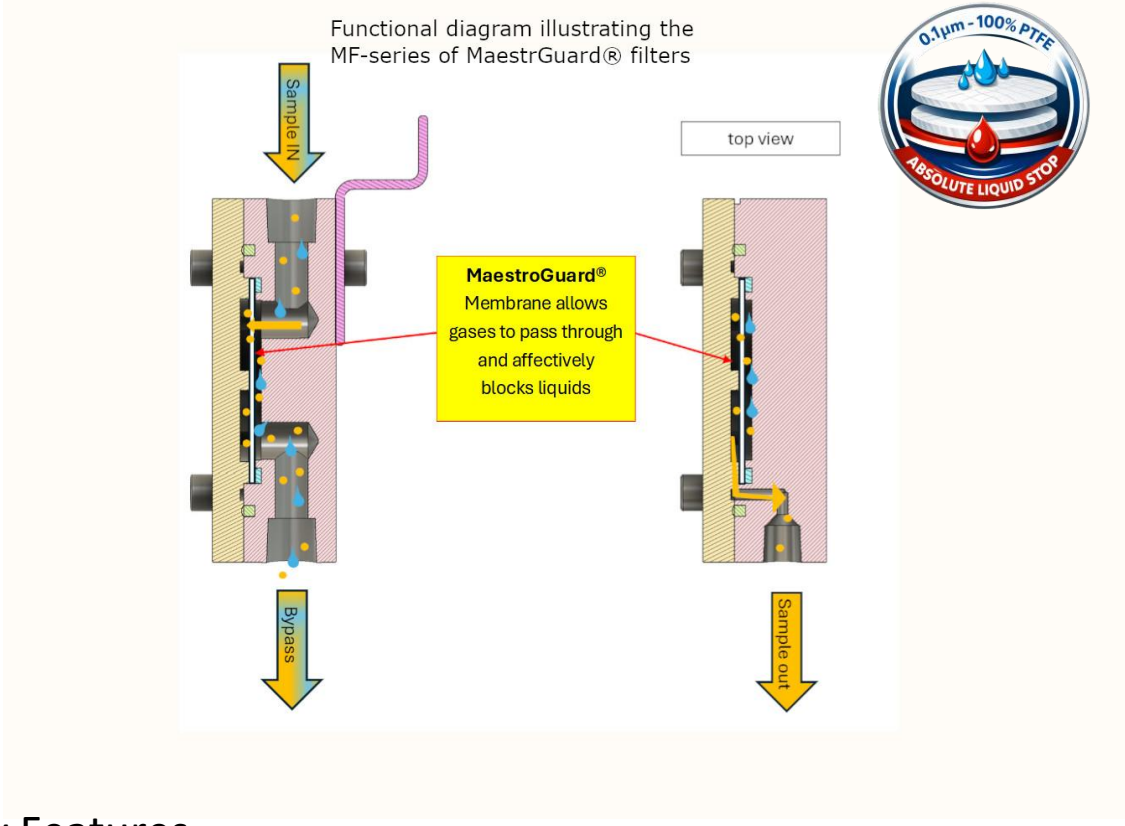
Product Brief – MaestroGuard® Filter

MF-100-316L-100

1. Product Overview

The MF-100-316L-100 is a high-efficiency gas filter equipped with the **MaestroGuard® Enhanced Membrane** – a dual-action liquid barrier engineered to block water, oil, liquid aerosols, and fine particles from entering sensitive analytical systems. Designed for advanced gas purification, it features a chemically resistant hydrophobic and oleophobic membrane that ensures the reliable delivery of **liquid-free, particle-free clean gas** in critical industrial and laboratory applications where measurement accuracy and system protection are paramount..



2. Key Features

- **MaestroGuard® Membrane** – Advanced multi-layer membrane system with ultra-high repellency to both polar (e.g. water, alcohols) and non-polar (e.g. hydrocarbons, oils) liquids.
- **Extremely Low Internal Volume** – Minimal dead space ensures fast response times and reduces purge gas consumption.
- **Chemical Resistance** – Suitable for aggressive gas compositions including solvents and corrosives.
- **Compact & Durable** – Designed in stainless steel 316L for rugged, high-pressure operation.
- **Easy Maintenance** – Tool-free membrane and element replacement; drain port optional.

3. Technical Specifications

Housing Material	Stainless Steel 316L (1.4404)
Filter Element	MaestroGuard® membrane
Filtration Efficiency	< 0.1 µm absolute - customizable
Max Operating Pressure	Up to 100 bar
Temperature Range	–200°C to 260°C
Flow Rate*	160 L/h air @ 100mBar - customizable
Internal volume	6ml in Bypass 4ml downstream MaestroGuard® membrane
Connections	NPT Female or on request
Seal Materials	FKM, FFKM, PTFE
Certificates / Compliance	EN 10204 3.1, CE, ATEX, PED 2014/68/EU, ISO 11114-4, ISO 15156 / NACE MR0175

No self-ignition hazard – compliant with requirements for explosive environments.
*Higher flow rates can be achieved by using a membrane with a larger pore size

4. Application Areas

- **Gas Analysis Systems** – Removal of free liquids and oil from corrosive or inert gases
- **Oil Analysis Systems –** Remove of free water and particles from oil sample
- **Hydrogen Fuel Systems** – Prevents contamination from droplets and aerosols
- **Environmental Monitoring** – Ensures accurate NOx, SO_2, VOC measurements
- **Industrial Process Control** – Reliable filtering in moist, oil-laden or high-particulate streams
- **Pharmaceutical & Chemical Plants** – Dry gas supply for sensitive instrumentation

5. Ordering Information

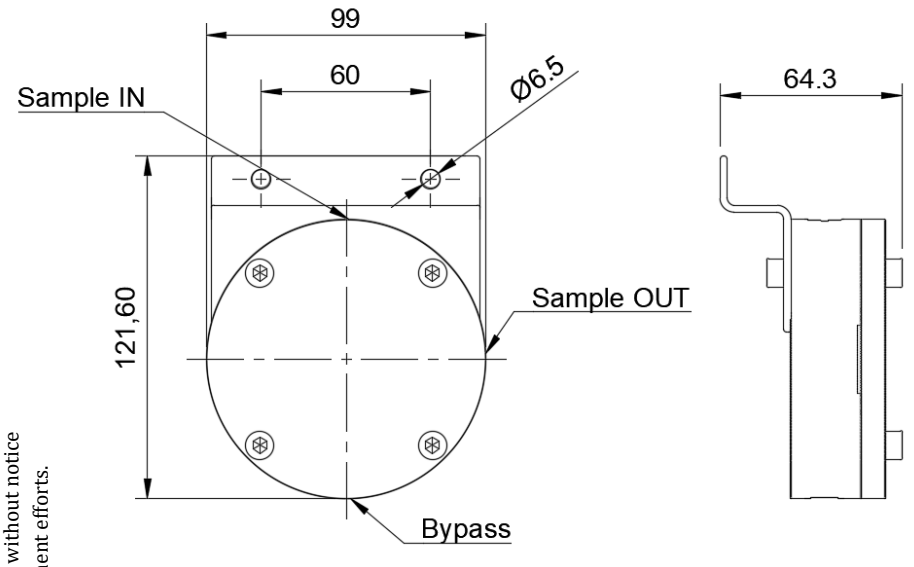
Order Number	Description
MF-100-316L-100-FKM-V1	MF-100 MaestroGuard® membrane Filter, 100 bar, O-ring FKM
MF-100-316L-100-FFKM-V1	MF-100 MaestroGuard® membrane Filter, 100 bar, O-ring FFKM
MF-100-316L-100-PTFE-V1	MF-100 MaestroGuard® membrane Filter, 100 bar, O-ring PTFE
Option	
MBMF/MCF-100-SS	MF / MCF-100 Mounting Bracket in Stainless Steel 316L
Spare Parts	
MK-MF-100-FKM-01-V1	MF-100 Service kit: MaestroGuard® Membrane Set 0,1µm, 2 x O-ring FKM
MK-MF-100-FFKM-01-V1	MF-100 Service kit: MaestroGuard® Membrane Set 0,1µm, 2 x O-ring FFKM
MK-MF-100-PTFE-01-V1	MF-100 Service kit: MaestroGuard® Membrane Set 0,1µm, 2 x O-ring PTFE
MCF/MF-100-SS-V1	MF / MCF-100 Support screen, 316L for MF and MCF-100

6. Benefits

- High protection for analyzers and sensors
- Extemely High Liquid Protection
- Self-Cleaning Effect
- Fast Loop / Bypass Flow Adjustable
- Fast response time – minimal dead volume
- Long service life and low maintenance
- High protection for analyzers and sensors
- Fast response time – minimal dead volume
- Designed for field and laboratory use
- Chemically resistant to wide range of compounds
- Optimized for analytical precision



7. Dimensions



Specifications are subject to change without notice
as part of our continuous improvement efforts.

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