
# MANN-FILTER oil filters

## For long service life – for higher engine performance and less wear

MANN FILTER

MANN-FILTER – Perfect parts. Perfect service.


**The benefits of MANN-FILTER oil filters:**

- **optimum protection for the engine**
- **housing is pressure-resistant and protected against corrosion**
- **long-life filter media made of mixed fibres**
- **long-life seal**
- **anti-drain valve made of high-quality silicone**
- **teflon-coated bypass valve**
- **quick to replace with wrench removal tools**

# MANN-FILTER oil filters: New standards for the technology of tomorrow

**Engine oil lubricates all the moving and functional parts in the engine. As a result of combustion, particles of dirt and combustion residue such as soot escape into the engine oil. They contaminate the oil and make it more viscous. This means that the oil supply is not adequate and protection from corrosion can no longer be ensured. As a result, engine performance is impaired and fuel consumption increases. In the worst case, the engine could be damaged.**

Increasing engine performance and at the same time reducing fuel consumption places high demands on engine building. Only clean oil can ensure that engine performance remains consistent. This is where the full effectiveness of MANN-FILTER is really brought to bear.

**Safe protection with MANN-FILTER oil filters**
MANN-FILTER oil filters reliably purify oils from dirt and solid particles such as dust, abraded metal, carbon deposits, soot particles etc. They are used with engine oil, hydraulic oil and gear oil.

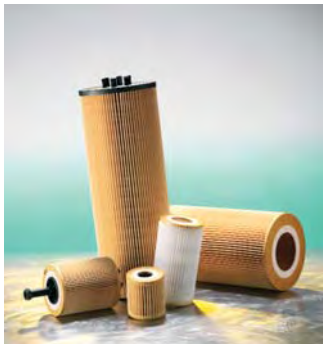
**The functions of engine oil:**
- reduces friction in bearings, in lubrication gaps and between moving parts
- dissipates heat
- cleans the engine compartment
- protects against corrosion

**It's always worth changing the filter**
If the oil filter is changed regularly, only clean oil circulates through the system. This increases engine output considerably and affords reliable protection against wear. MANN-FILTER oil filters reliably prevent increased fuel consumption and associated high emissions.

# MANN-FILTER oil filter shapes

**As oil filters are used in different areas and must fulfil different requirements, a variety of shapes are available:**
- **oil filter elements**
- **spin-on oil filters**
- **special designs for specific applications such as transmission filters**


Oil filter elements


Metal-free filter elements


Spin-on oil filters


Cross-section of an oil filter

**Oil filter elements**
MANN-FILTER oil filter elements are either situated in their own housing or they are integrated directly into the engine oil circulation system. They are particularly kind to the environment as only the filter element is replaced. Housing and valves remain on the engine block. The exact fit in the housing ensures that MANN-FILTER oil filter elements are completely leak-free.

The MANN-FILTER EVOTOP® is particularly eco-friendly, as it is metal-free. It is made of one material and does not create any ash when disposed of in a thermal process.

**Benefits of EVOTOP®:**
- reduced use of raw materials
- kinder to the environment with less waste during maintenance
- waste disposal problems are eased

**Versions of oil filter elements:**
- element with foil end caps
- element with foil end caps and plastic centre tube
- element with plastic end caps
- element with plastic end caps and plastic centre tube

**Spin-on oil filters**
Spin-on oil filters form one unit consisting of housing and filter element. The whole unit is replaced during maintenance.

The following can be integrated:

Anti-drain valve: Ensures that the filter and oil channels do not empty when the engine is switched off and that oil is readily available when the engine is started.

Bypass valve: Ensures that oil is available when the engine is cold started and when a service is long overdue, if the oil filter is very dirty.

Wrench removal tools ensure that you can remove and fit a spin-on oil filter quickly and efficiently.

**Primary flow filter**
Primary flow filters are built into the circulation system so that all the oil needing to be cleaned flows through the filter with each circuit.

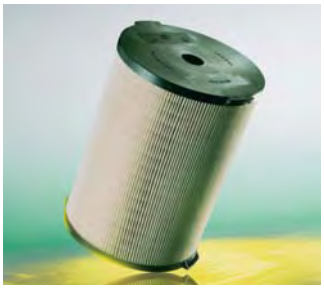
**Combined primary and secondary flow filters**
90–95 % of the fluid is conveyed through the star-pleated media of the main flow filter, 5–10 % through the bypass filter or oil pressure powered centrifuge. This provides precise, fine filtration.

# MANN-FILTER secondary flow filters

**High concentrations of soot particles in diesel engines reduce the quality of the engine oil.**

**Dangerous to the engine**
As the oil becomes dirtier, its viscosity increases and it becomes less effective. The contaminated lubricating oil increases wear on the engine, reducing its service life. Damage to the bearings cannot be ruled out, as over-used oil does not provide adequate lubrication.

**MANN-FILTER secondary**



Secondary flow filter

Centrifuge products

**flow filters**
To deal with increased soot content in lubricating oil and at the same time extending service intervals, MANN-FILTER offers the secondary flow filter.

In the bypass system, 5–10 % of the lubricating oil passes through very fine raw cotton or paper media, or filtered by an oil pressure powered centrifuge with a rotor made of steel and/or plastic. Thus the amount of soot in the oil circuit is reduced. Depending on the size of the centrifuge, the oil pressure and the viscosity, it will achieve speeds of more than 10.000 rpm. The centrifuge processes around 10 % of the oil. It effectively removes particles of all sizes with a higher density than the lubricating oil. This means that it can trap soot particles smaller than one thousandth of a millimeter.

You can order more product brochures, catalogues (also on CD-ROM), a cross-reference list and a dimension table under www.mann-filter.com or by telephone. Or you can use our internet catalogue.

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