



## Genuine BMW Microfilters

- **Triple filtering: mechanical, electrostatic, activated carbon**
- **200,000 sqm mechanical filter surface**
- **Electrostatically optimised filter**
- **Activated carbon against harmful gases**
- **Measurably improved filter performance**
- **Much-improved air quality in passenger compartment**
- **Constant quality**

### Function in detail

- BMW Microfilters are integrated as standard equipment in the fresh air intake area of the heating/ventilation or air conditioning system. Air is filtered mechanically and electrostatically before reaching the vehicle interior.
- The smallest particles and gaseous pollutants (ozone, nitrogen oxide and hydrocarbons including toluol, benzol etc.) are absorbed. When driving in heavy city traffic, tunnels or in traffic jams, high concentrations of dust and pollutants become unpleasantly noticeable. The microfilter must therefore be carefully matched to the ventilation system so that filter performance and air quality remain unaffected for as long as possible in low noise operation.

### Benefits

#### Triple filtering: mechanical, electrostatic, activated carbon

The high performance of a Genuine BMW Microfilter is not only based on mechanical filtering processes but also on the electrostatic filtering principle and the use of activated carbon.

#### 200,000 sqm mechanical filter surface

The entire flow of fresh air passes through a non-woven fabric of plastic fibres. The unique structure and folds of the non-woven fabric creates a highly effective filter despite its compact outer dimensions, with a total surface area of around 200,000 sqm. This is equivalent in area to a 5 mm wide strip right around the Equator!

#### Electrostatically optimised filter efficiency

The BMW microfilter's non-woven fabric is also electrostatically charged. Through the electrostatic charge of the fibres, particulate air pollution is absorbed and held as if by a magnet. The particles are deposited throughout the entire filter medium and not just the outer surface, thus the filter's loading capacity is increased and air flow rate stays constant longer.

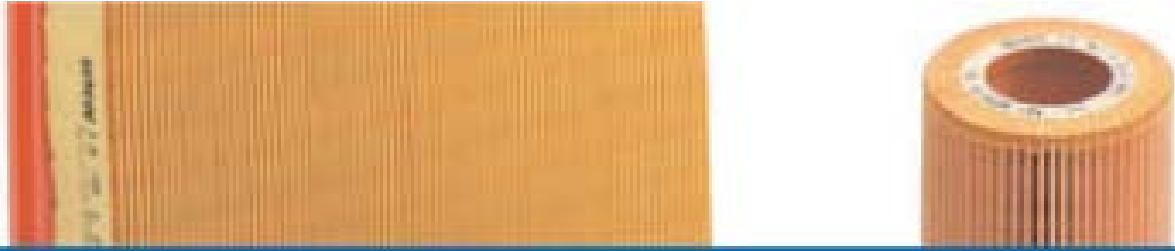
#### Activated carbon against harmful gases

The combination of non-woven fabric and active carbon effectively filters out hazardous gases like ozone, or nitrogen and hydrocarbons including toluol and benzol, dramatically improving the air quality inside the vehicle.

#### Measurably improved filter performance

Genuine BMW Microfilters have a high filter performance range. Particles such as dust, pollen or asbestos with a size of up to 5 µm (0.005 mm) are almost completely filtered out. Up to 60% of smaller particles like diesel soot or bacteria are filtered out depending on their size. Up to 98% of the ozone is converted, and hydrocarbons like toluol or benzol and various nitrogen oxides are largely contained.





### **Much-improved air quality in passenger compartment**

Genuine BMW Microfilters reduce the concentration of pollutants and dirt particles in the vehicle interior. Compared to the air in the immediate vicinity of the vehicle, the air inside the vehicle is many times cleaner.

### **Constant quality**

The quality of a Genuine BMW Microfilter is also demonstrated by the quality of the materials used, which do not allow bacteria, fungus or germs to grow. The filters are resistant to chemicals like windshield washer fluid, road salt or detergent water mixes and temperature-resistant from -40 °C to +90 °C. The non-woven fabric, frame and supports are made of polypropylene or polyester and thus can be disposed of in an environmentally friendly way.

### **Quality assurance**

Genuine BMW Microfilters conform to strict quality standards. They contribute to the well-being of vehicle passengers and make an active contribution to safety in road traffic. To fulfil these tough requirements, BMW has developed a specialised testing system:

### **Comprehensive laboratory tests**

The microfilters used by BMW are tested using a proprietary system: extensive data is acquired via several measuring points, which corresponds to real-life conditions in the vehicle interior. Precisely measured air-particle mixtures flow through the filter at various speeds and temperatures. A separate dust concentration measuring device, thermometer and hygrometer and particle counter all record the performance of the filter.

### **From the Arctic Circle to the desert**

During vehicle testing, the ventilation system or air conditioning system is tested under the greatest variety of climatic conditions. Emphasis is placed on matching the components of the entire system: incoming flow behaviour, air flow rate and air volume are tested and optimised where necessary. This means that under 'normal' road conditions a Genuine BMW Microfilter is well within its operating tolerances.

### **Advantages of Genuine BMW Microfilters**

- Combination of non-woven fabric and active carbon against hazardous gases
- 200,000 sqm mechanical filter surface
- Electrostatically optimised filter efficiency
- Measurably better through triple filtering
- Virtually complete filtering of particles up to 5 µm
- Much-improved air quality in passenger compartment
- Robust, harmless materials
- Resistant to chemicals and temperature
- Consistent quality

