

# Innovative Filtration Technology

## The new Filter Series

**110 LE(N)-2X**



**rexroth**  
A Bosch Company

# Three major Benefits: The New 110 LE(N)0040-0400-2X Filter Series

**With their impressive design, simple operation and inspired technology**



## **New Design: Filter Head**

The cyclone effect due to the redesigned filter head combine to offer the possibility of diverting the inlet flow in a specific direction. This action enhances flow properties and dirt absorption capacity.

## **New Molding: Filter Bowl**

The new filter bowl design improves filter element mounting and stability, keeping the element in place and at the same time ensuring constant pressure distribution.



## **New Technology: The Cyclone Effect**

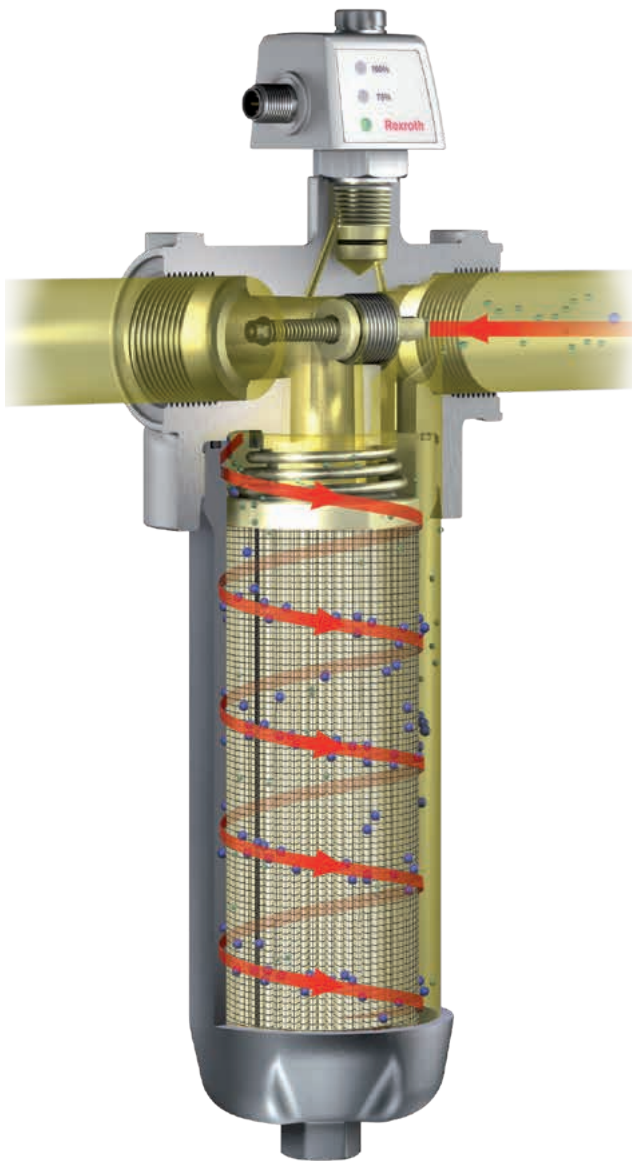
Increasing efficiency and decreasing costs with innovative ideas. The cyclone effect optimizes dirt absorption, while simultaneously lengthening the service life and change intervals of the filter.



## **Further Technical Developments:**

- ▶ Mechanical/electronic contamination indicator for filter monitoring.
- ▶ Light alloy construction, ideal for mineral oils, synthetic oils, bio oils and HFC-hydraulic fluids.

# Perfect Rotation with the Cyclone-Effect for more efficiency



The Cyclone-Effect brings a touch of pure innovation to our new 110 LE(N) 0040-0400 filter series: Instead of flowing directly against the filter element, the incoming fluid flows along a tangent and then moves toward the bottom of the filter in a spiral motion.

This patent pending feature ensures that heavy dirt particles are transported to the outside and that the filter pores do not become blocked prematurely. Depending on the speed of the flow, coarse particles of contamination residue may accumulate in the indentations of the filter bowl below the filter element.



**Entry of the medium**



**Tangential alignment of the medium**

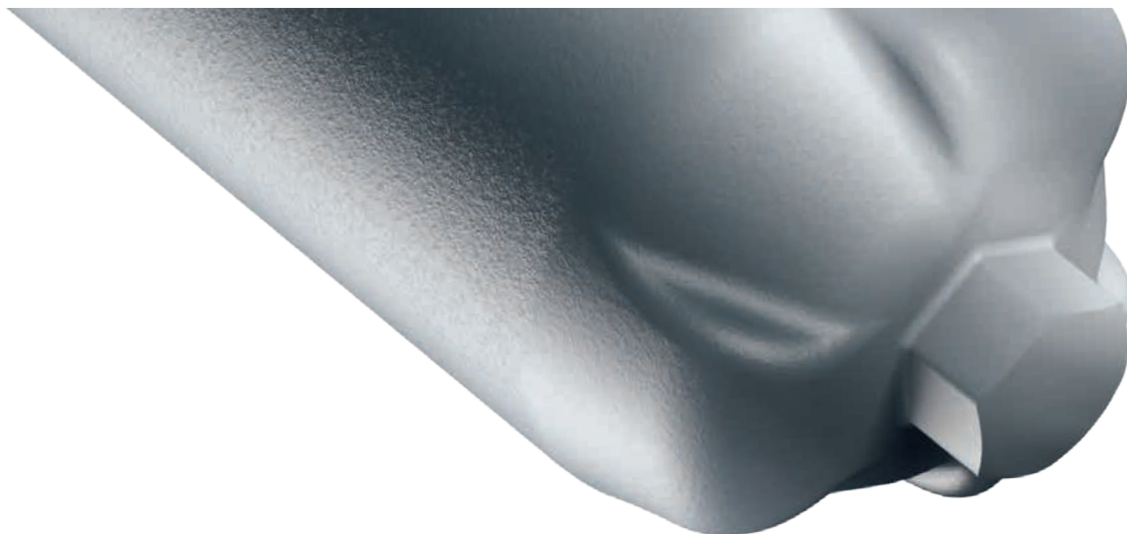


**Positively-driven flow on a path similar to that of a cyclone**



<https://www.youtube.com/watch?v=QTKOu51wNxQ>

# Optimum Filter Bowl Design



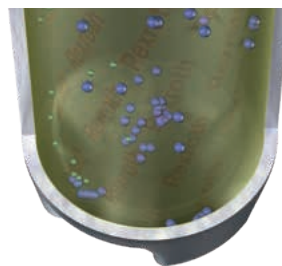
The filter bowl design is another highlight of our new filter series. This innovative blueprint makes it easier to remove the filter element from the filter head.

The filter head is fitted with a pressure spring, fixing the filter element's position inside the filter bowl. This ensures that the filter element is protected against flow influences and vibrations. In addition, the medium is prevented from flowing upward and out of the filter. The spin created by the Cyclone-Effect is decreased in this area.

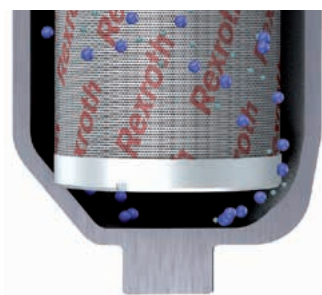
The medium can now also flow underneath the filter element at the areas of the filter bowl that curve out (in contrast to a conventional hydraulic filter design), consistent pressure is distributed around the filter element. Therefore the risk of the filter being overloaded when subjected to changing operating conditions is prevented.



**Pressure spring**



**Cyclone-Effect**



**Crimping for equal subflow**



# New Direction in Filter Technology

Our new filter series offers the approved filter technology of Rexroth in combination with innovative concepts.

The filter element is located inside the filter housing. The differential pressure is monitored constantly throughout the filtration process and a new, modular maintenance indicator on the top of the housing alerts you to the fact that the

filter element needs changing as soon as the dirt absorption capacity of the filter is reached.

A pressure spring feature involving automatic positioning and centering of the filter element on the mounting pins in the filter housing ensures that the element is easy to install and remove.

## The Filterelement with PURE POWER

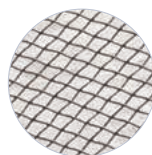
The filter element consists of six highly engineered layers so the fluid is filtered in three successively finer fiberglass layers. The layers are designed to work together to achieve a high retention rate and dirt holding capacity, combined with a low clean pressure drop.

This increased performance is achieved by three effective micro glass layers as standard in combination with an electrically conductive layer and a supporting mesh. The filter material is pleated and wrapped cylindrically round the support tube and glued so it is impermeable to liquid along the material seam and top and bottom end caps.

The cross-section diagram shown here illustrates the fan-shaped structure of the filter element.



① Supporting mesh



② Pre-filter



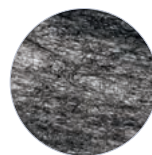
③ Intermediate-filter



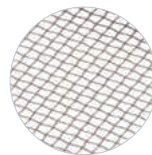
④ Main-filter



⑤ Electrically conductive layer



⑥ Supporting mesh



<https://www.youtube.com/watch?v=XIBRCLLTj1U>



**Bosch Rexroth AG**

Hardtwaldstrasse 43  
68775 Ketsch, Deutschland  
Tel.: +49(0)6202/603-0  
Fax: +49(0)6202/603-199  
info-ket@boschrexroth.de  
www.boschrexroth.com

You can find your local contacts at:  
**[www.boschrexroth.com/adressen](http://www.boschrexroth.com/adressen)**

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