

## Filter Elements

# EXAPOR®SPARK PROTECT

For protection against electrostatic discharges



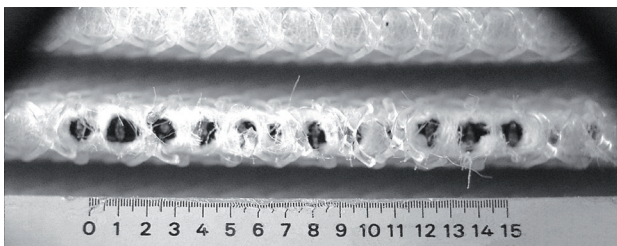
**The new EXAPOR®SPARK PROTECT filter elements combine the well-known high performance characteristics with 100% protection against electrostatic discharges.**

When using modern hydraulic oils as e.g. highly refined or biologically degradable oils, it should be taken into account that these oils are zinc and ash-free in most cases, so that they possess hardly any or just a low electrostatic conductivity, often a lot lower than 500 pS/m.

This can lead to a charge separation within the hydraulic system caused by friction, which allows an electrostatic charge in the filter element to increase to such dimensions that flashes of several thousand volts might appear.

### Consequences of electrostatic discharges

- › Sudden discharges which may destruct the filter material layers and also the electric components
- › High temperatures, caused by flashes, lead to increased oil aging, thus to a deterioration of the oil characteristics and to reduced oil lifetime
- › Earlier contamination of filter elements due to oil aging products
- › Higher wear and hydraulic components failures



Damages at the filter material caused by electrostatic discharges



Oil aging products at tube bundles of an oil cooler

### The new element technology

The filter elements with the designation EXAPOR®SPARK PROTECT have especially been developed for non-conductive or low-conductive hydraulic fluids and provide a controlled charge balance in the filter material, so that the oil within the filter element is not exposed to an additional electrostatic charge.

Regarding the construction no further measures are needed, merely the exchange of the standard filter element by the EXAPOR®SPARK PROTECT element.



### Availability and performance

The new technology is available for all filter elements of ARGO-HYTOS and does not have an influence on the performance data of the filter elements that are characterized by:

- › High dirt holding capacity
- › Excellent filter fineness
- › Low pressure loss
- › High flow fatigue resistance
- › Very good media resistance

#### Additional aspects:

- › 100% protection against electrostatic discharges in the filter and prevention of all related disadvantages.

#### Customer benefits:

- › No destruction of the filter material layers by electrostatic discharges
- › No premature oil aging due to electrostatic discharges
- › Protection of electronic components against destruction or failures
- › Optimum utilization of the filter life and hydraulic fluids
- › No rebuilding or additional measures at already installed filters
- › Higher operational safety

### ARGO-HYTOS recommends:

In case the electrostatic conductivity of the used hydraulic fluid should be

- › higher than 500 pS/m at 20 °C / 68 °F, e.g. the proven EXAPOR®MAX 2 filter elements
- › lower than 500 pS/m at 20 °C / 68 °F, the new EXAPOR®SPARK PROTECT filter elements