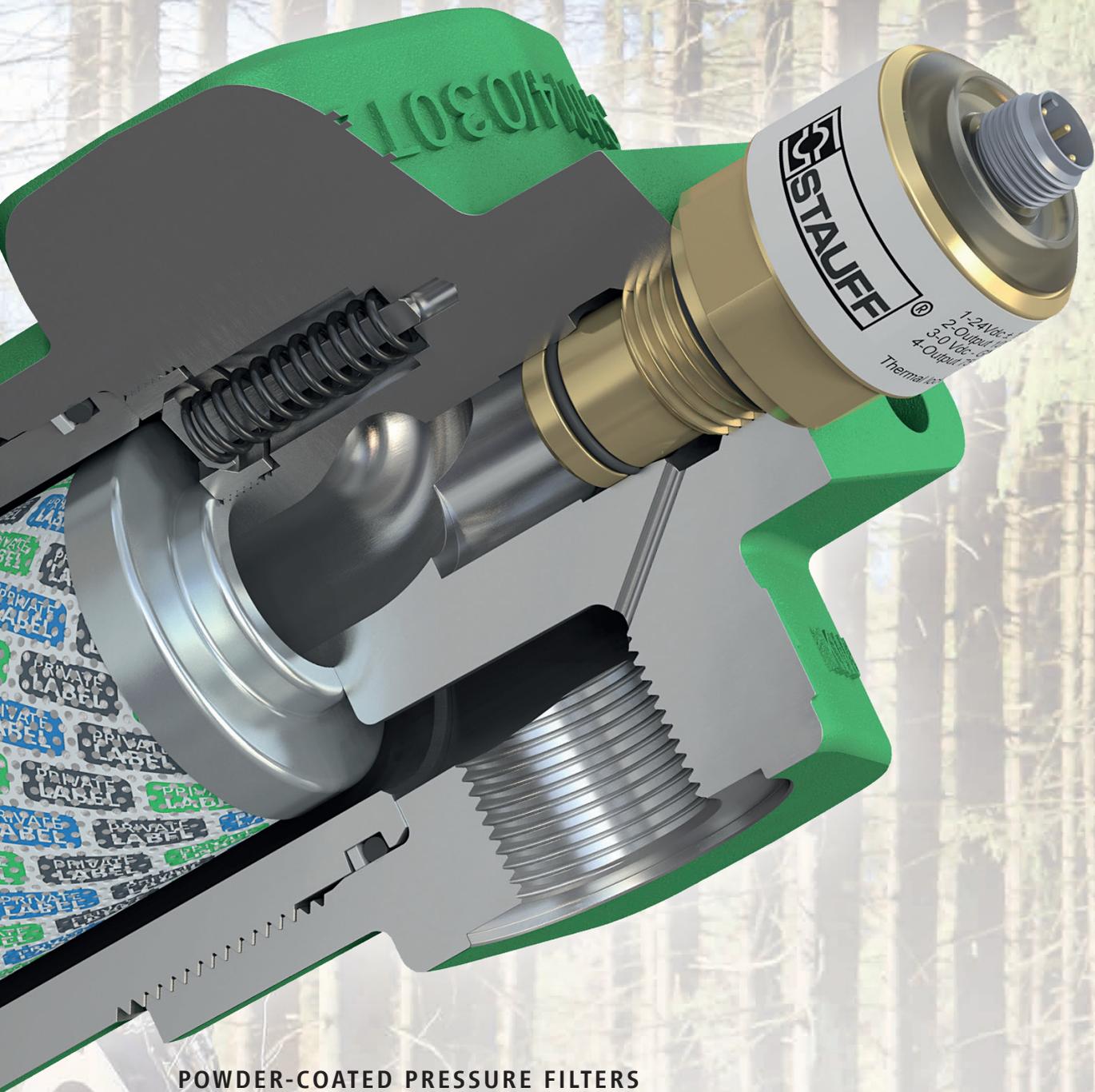


SPECIAL PART MOBILE MACHINERY





POWDER-COATED PRESSURE FILTERS

PAINT WILL NOT COME OFF THESE!

Contaminated hydraulic oil is one of the most common causes of machine failures. Filtration in the hydraulic circuit is therefore particularly important in heavy-duty applications, as is common in agriculture and forestry. Pressure filters are usually placed downstream of the pump and protect subsequent, sensitive components from wear caused by solid and fine particles. But how can the filter housings themselves be protected from severe environmental influences such as dirt, UV radiation or strong temperature changes? STAUFF recommends that manufacturers of agricultural machinery use powder-coated filter housings instead of painted filter housings.



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01 The filter housings are intricately powder coated to prevent wear and corrosion

02 A pressure filter in use in a mobile machine

03 It is possible to coat the housings in different RAL colours, but also in special colours

Stauff powder-coated high-pressure filters pick up on several trends in agricultural technology: a compact, lightweight design, excellent functionality and a long service life under heavy-duty environmental conditions, and environmentally friendly production.

HIGH-PRESSURE FILTERS PROTECT THE HYDRAULIC CIRCUIT

Pressure filters are designed for control block mounting or in-line assembly in hydraulic and lubricating oil systems. Their main function is to protect sensitive components in the hydraulic circuit. They are placed downstream of the pump and re-

move wear particles from the hydraulic oil before it flows through subsequent components, such as valves and cylinders, and comes into contact with other components in the line system such as tube and hose connections. Alongside their function as protective filters, pressure filters also serve to maintain the required oil purity class.

Due to their location directly downstream of the pump, they must withstand the maximum system pressure. This also applies to the internal, replaceable filter element. Filter elements for pressure filters are therefore more complex than filter elements for return-line filters.

SF SERIES: COMPACT, LIGHTWEIGHT, EXPANDABLE

Hartmut Reich is Product Manager Filtration at Stauff and explains the development of the SF pressure filter series: „A few years ago, we picked up on the trend toward lighter, more compact components in mobile hydraulics and revised this series.“ Since then, the housings have been significantly narrower and the weight has been reduced by about a fifth. For example, the SF-090 size saves on up to 2 kg. „We achieve this weight reduction by using a special filter head.

A lot of detail is behind its development, so that the filters are not only lighter, but also offer optimum flow conditions without the filtration performance decreasing,” explains Hartmut Reich. The option of integrating additional functions is typical for the SF series. The filter head is either made with a pin that is used ex-



clusively to hold the filter element, or with a tapped hole that can be used as a holder for different valves.

„The most common option is for users to integrate a bypass valve, which is activated at a differential pressure of 6 bar and allows the oil to flow past the filter element when dirt is absorbed.“ Alter-

” THE OPTION OF INTEGRATING ADDITIONAL FUNCTIONS IS TYPICAL FOR THE SF SERIES

natively, a check valve can be installed that prevents the downstream line from running empty when the element is replaced. The third option is a non-return valve that allows the filter element to be bypassed in the reverse flow direction. Fourthly, the user can choose a multi-function valve that combines the three functions mentioned – bypass, check and non-return valve – in one compact valve.

POWDER COATING: SUSTAINABLE AND ROBUST

The latest upgrade to the SF series is dedicated to the surface of the pressure filter housings. Dirt, exposure to UV and ozone, extreme temperature differences and high humidity subject outdoor surfaces to particularly high levels of stress.

Stauff supplies standard filter housings with a phosphate coating, which protects against corrosion during transport and storage and improves the adhesion of the final coating.

In most cases, this is a wet paint that the customer applies themselves once the housing is installed. Alternatively, Stauff offers filter housings with an individual powder coating. Powder coating is an innovative coating process in which an electrically charged powder is applied to the phosphate-coated surface of the filter housing and then cured in a furnace. This results in a uniform, resistant layer, optionally in a coarse or fine textured design. The durability of the Stauff coatings was confirmed in a cross-cut test in accordance with DIN EN ISO 2409.

ENVIRONMENTALLY FRIENDLY AND INDIVIDUAL

„Powder coating is pioneering in various respects,“ explains Hartmut Reich. „It offers special protection against wear and corrosion and increases the service life of the filter housings.“ It is also more environmentally friendly than conventional paint, because the solvent-free process releases less volatile organic compounds (VOCs) and hardly any waste is produced. It is also attractive for OEMs in mobile hydraulics to have the pressure filter housings coated in an individual colour. You can choose from a wide range of standard colours (RAL and NCS), but you can also request special colour tones so that the filter housing fits visually into the overall appearance of the machine.

Hartmut Reich: „The appearance plays a role that should not be underestimated in our assessment of high quality. It seems unprofessional if the paint literally comes off individual components after a short time.“ Stauff also offers the option of designing filter elements with individual markings, labels and packaging as white label products.

Images: Stauff

www.stauff.com

TO THE POINT



SF PRESSURE FILTER SERIES WITH ABOUT ONE FIFTH LESS WEIGHT

A SPECIAL FILTER HEAD ENABLES THE WEIGHT REDUCTION

OPTIMAL FLOW CONDITIONS WITHOUT LOSS OF FILTRATION PERFORMANCE

POWDER COATING INCREASES THE SERVICE LIFE OF THE FILTER HOUSINGS