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Up to 10 times longer running times with the new anti-sticking pump elements from Woodward L'Orange

Deposits in the barrel can significantly impede the pump's operation. Common measures such as the regular cleaning of the pump element is very time-consuming and far from ideal over the long run. Woodward L'Orange is committed to a sustainable solution to this problem. A new pump element with a special coating and a scraper ring can largely reduce the formation of lacquering and therefore increases the running times of pumps by four to ten times.

Lacquering is partly attributable to an incompatibility between fuel and lubricating oil – especially due to the low TBN (Total Base Number) of the engine oil. The TBN value describes the size of the so-called alkaline reserve of a motor oil. With its basic property, this serves to neutralize the fuel's harmful acids.

Due to the capillary effect – reinforced by the additional stroke movement of the plunger – the lubricating oil rises up on the plunger and mixes with the fuel. This results in lacquering in the barrel as well as in the grooves.

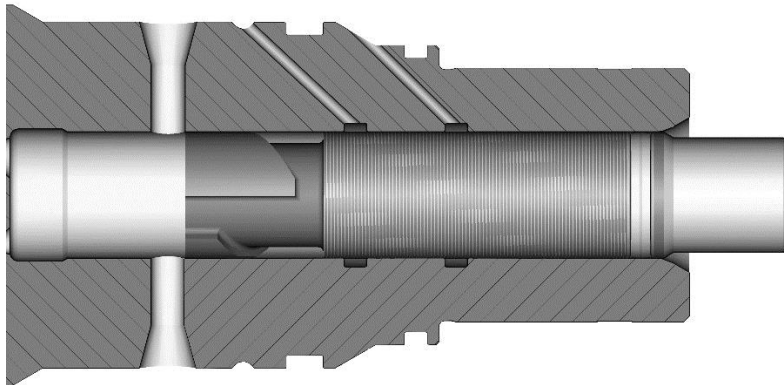
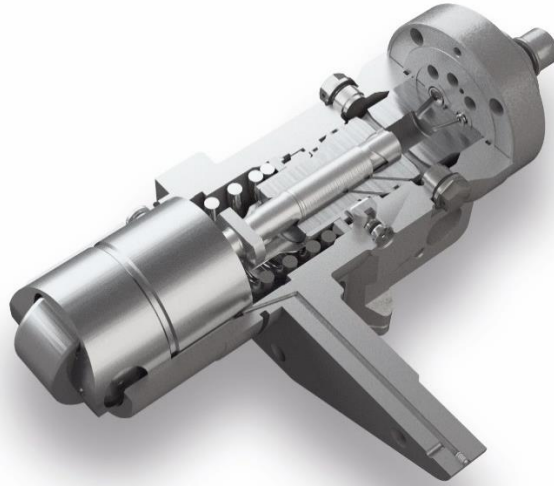
The clearance between plunger and barrel is reduced, which ultimately leads to plunger sticking. Other influencing factors are: the mixture incompatibility of different fuels (e.g. between HFO: Heavy Fuel Oil and MDO: Marine Diesel Oil/MGO: Marine Gas Oil), fuel temperatures of over 150°C in the pump element, too fast switching between the fuels, contamination with metal traces or the admixture of lubricating oils to HFO.

The common measures by which the operator can reduce the formation of lacquering are often time-consuming or not effective enough. This includes moving the control rack with the engine switched off, the elaborate cleaning of the pump elements, and the adherence to the permissible fuel viscosities and temperatures as per the OEM provision.

The innovative solution: the new anti-sticking pump elements from Woodward L'Orange.

With the new anti-sticking pump elements, it is possible to significantly reduce the formation of lacquering and therefore sustainably lower the risk of plunger sticking. For this purpose, Woodward L'Orange optimized the pump elements in terms of geometry, surface coating and scraper ring. Lubricating oil and fuel are separated which eliminates the main cause of the formation of lacquering. The scraper ring serves as protection if lacquering occurs in spite of the separation between lubrication oil and fuel. It effectively scrapes the lacquering off the barrel therefore preventing any increase in the lacquering layer in the barrel. The new special coating and the microgrooves do not allow the lacquering to even develop on the plunger. The innovative total solution extends the running time by four to ten times compared to standard products.

Product image:



Caption:

Cross-section: Woodward L'Orange anti-sticking pump elements

Woodward L'Orange anti-sticking pump elements have several advantages:

- Less lacquering mean longer service intervals and reduced service costs.
- The hydraulic properties of the new anti-sticking pump elements correspond exactly to those of the previous series pumps.
- The new Woodward L'Orange anti-sticking pump elements have already been used successfully in various applications. Anti-sticking pump elements are currently available for the following systems: 16/24 IMO II, 21/31 IMO I, 21/31 IMO II and 32/40 CD IMO I, II.

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