

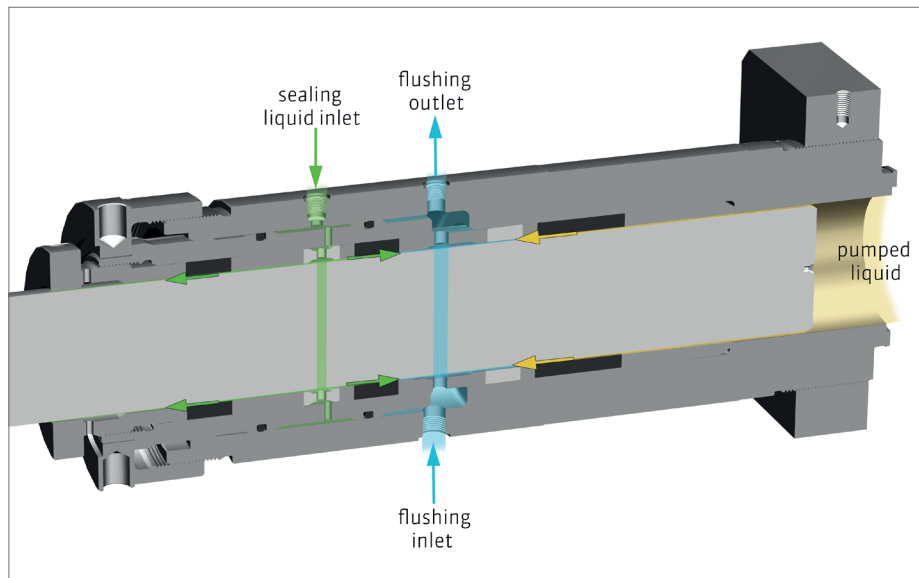
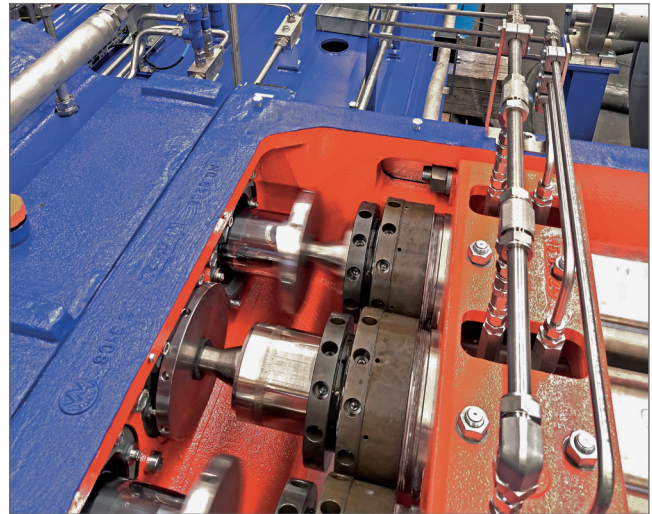
Liquid-sealing stuffing boxes make plunger pumps emission-free



Clean air for our world

Concept of the liquid-sealing stuffing box

Designing the liquid-sealing stuffing box, the developers at URACA focused on making the individual units of the liquid section suitable in accordance with TA-Luft. They did not see the entire pump unit as a closed system to be sealed. This sealing strategy has considerable advantages for the operator. For example, the emissions from the pumped medium are not distributed throughout the entire pump body. This is an advantage especially in the case of flammable substances and ignition hazards. The number of sealing systems that could potentially allow leakage currents due to malfunctions is also limited to a minimum.



Fluid flows in a fluid-sealed stuffing box.

The targeted control of the liquid flow to the flushing system prevents the pumped medium from escaping in the rear stuffing box area. Any leakage at the stuffing box thus consists only of the fluid from the barrier system. The pressure build-up of the sealing system is realized with the aid of a pump, from which the sealing medium is transported to the stuffing box and with which the sealing pressure is built up. Depending on the design of the pressure generator, this piping system is protected by an overflow or safety valve. There is no restriction to selected pumped media.

Powerful systems need up to 50 litres of cooling water per minute. The liquid-sealed plunger pump has only an additional consumption of less than 0.1% of sealing liquid to ensure the liquid sealing. The need to maintain the barrier system for the operator is hardly significant. At the same time the system makes a significant contribution to reducing emissions.

TÜV Süd has certified the systems' conformity with TA-Luft, which ensures the operating licence of the pump unit.

Sustainable use of resources

Not only new systems can be equipped with the liquid-sealing stuffing box system. Retrofitting existing systems is no problem. Looking at sustainable corporate behaviour, the resource-saving conversion of an existing plant is better than the construction of a new one.

In general all pump models from small to big can be equipped with this very special sealing method in order to achieve „technically tight status in the sense of TA Luft an VDI 2440“.