MICRO-EPSILON

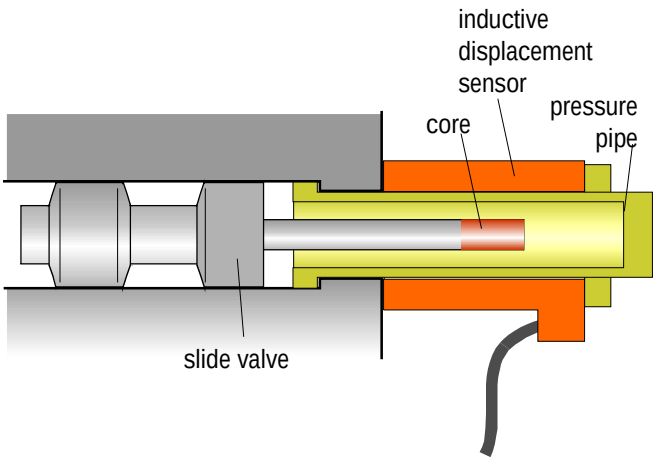
Piston position in hydraulic valves

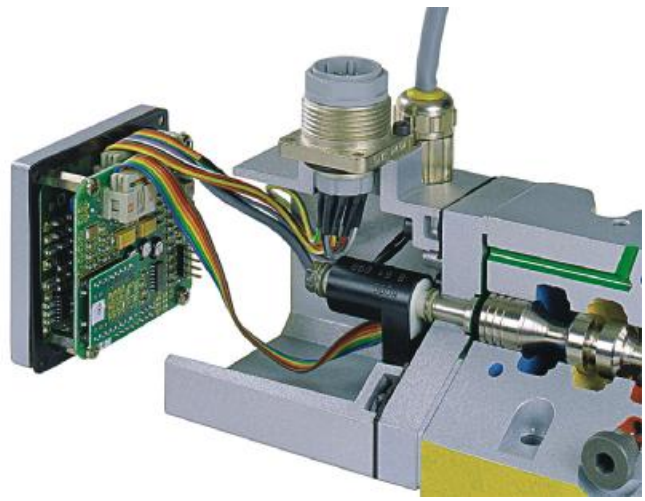
In hydraulic drives proportional and servo valves control the volume flow of hydraulic oil. In order that an exact dosage, and therefore a controlled movement is possible, displacement sensors are integrated into the valves. These sensors acquire the position of the control piston to regulate the volume flow. An accurate, non-contact and, above all, dynamic position acquisition is required for this. An inductive displacement sensor from MICRO-EPSILON best fulfills these requirements.The sensor is mounted on a pressure tube outside of the pressurized section.

Inside the pressure tube there is a movable core which is permanently joined to the control piston. This core serves as a passive position transmitter. This type of design produces decisive advantages: The measurement occurs without contact and is therefore wear-free. The sensor is not subject to pressures and can therefore be of plastic construction. This means that the sensor is optimized for the main functions. Despite the high technical demands, the measurement task can be realized for very low cost.

Reasons for choosing the system

- Economic sensor with plastic housing and flat cable
- Customized design in high volumes (20,000/year)
- Control loop of piston in hydraulic propotional valves
- LVDT princple DTA-6D-20 and DTA-1D-DDV
- High resolution and precision





Pic. MOOG company