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## SWITCHED FLUSH VALVES

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## SWITCHED FLUSH VALVES

### **Technical task:**

Nach einer umfassenden Prüfstands Reparatur, oder nach einem Schlauchwechsel muss an Servo Hydraulischen Prüfanlagen das System mit Öl gespült werden. Dieser Vorgang dauert mehrere Stunden. Um die sehr schmutzempfindlichen Steuerventile vor Verunreinigungen die aus der Anlage gespült werden zu schützen, müssen die Servo Ventile ausgebaut und durch sogenannte Spülplatten ersetzt werden. Die Spülplatten erzeugen einen "Kurzschluss" zwischen der Druck- und der Rücklaufleitung. Um den Volumenstrom zu reduzieren sind dies Spülplatten mit einer einstellbaren Drossel ausgestattet.

### **Initial situation:**

The test bench is pressurized. It is important that the throttles of the flushing plates are closed, only then can the pressure in the system build up completely and only then does the main valve (floor valve) permanently activate the test stand. If the throttles on the flushing plates were open, the oil would flow off, the pressure could not build up and the floor valve would depressurize the system again. This is a protective function to prevent large quantities of hydraulic oil from escaping in the event of a hose rupture or other serious leakage.

### **Solution:**

This is no longer possible for the new test benches with CE marking. Access to the plant is no longer possible through a safety fence which is electrically monitored. If the safety fence is opened, the system is switched off in a fraction of a second. Therefore it is not possible to open the closed throttles at the flushing plates.

With the newly developed flushing plates, the flow rate is adjusted via "orifices". Orifices are exchangeable plates with different sized holes that limit the flow. To switch on the test stand, the flushing plates are closed by a switchable valve. Pressure can build up in the system and the floor valve releases the full flow. After reaching the operating pressure, the individual flushing plates can be opened via a remote control. The oil can flow through the orifice plate and thus flushes the system.

### **Advantages:**

This is the only way to ensure safe working in compliance with the safety regulations without interfering with the test bench control.