8381 Display Pressure Switch for hydraulic cylinder test equipment

Application Note

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Hydraulic cylinder tightness control – 30 pcs. batch testing

trafag
sensors controls

Application description

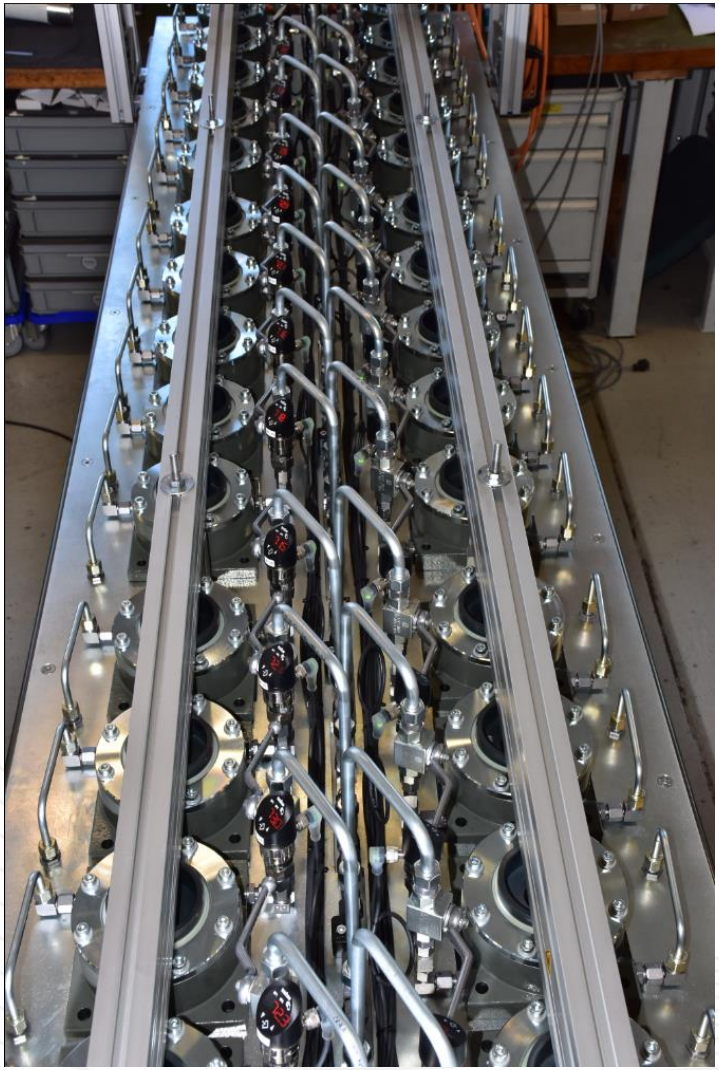
- Parallel testing of 30 hydraulic cylinders, pressure monitoring
- Each cylinder is controlled with one single DPS
- Monitored is the leakage of customer specific cast steel cylinder housings
- Logging of pressure cycle
- Data logging and protocol
- Surveillance of low pressure threshold with pressure switch
- Quality proof of cast housing

Application background?

- Cylinders are used in disc spring systems – elevator safety function
- In normal mode the cylinders are charged with pressure (74bar).
- In case of electrical power loss or malfunction the cylinders are discharged
- When discharged the disc springs come in use and activate the break

- Due to production faults in the casting process, micro cracks may have occurred in the cylinders. They can cause pressure loss and failures.
- The pressure test checks on this possible error.

Why the Trafag DPS?



- The DPS logging function was the key feature for this application
- 30 pressure monitoring's with data logging can be done parallel
- 30 cylinders are checked in one installation
- Log files can easily be e-mailed from mobile phone to pc
- Excel file for reediting the log files
- Excel file is used as quality certificate for the end customer.

How does the test process work?

- 74 bar pressure is loaded onto the cylinders.
- Cylinders are separated from the tubing system
- 74 bar pressure must be stable for 8 hours with a maximum deviation of +/-1bar
- If this is the case, its proven that the cylinder has no micro cracks.
- The DPS logs the pressure curve over 8 hours.
- Additional safety indication for heavy pressure loss during the test is the switching function
- Massive pressure loss would be indicated by red LED at low pressure threshold

Protocolling – Trafag excel sheet used as quality certificate

UNI	bar		
HI	6000		
LO	-2		
P_EP	6000		
P_NP	0		
FIRMWARE_VERSION	310		
SERIAL0_SILICONID	88271		
TX_ASIC_SERIAL1_2	33		
DEVICE_TYPE	8380		
HARDWARE_TYPE	500		
STIM	0.1s		
	VALUES	SP1	SP2
SAMPLE	0.005	0	0
SAMPLE	0.005	0	0
SAMPLE	0.004	0	0
SAMPLE	0.004	0	0
SAMPLE	0.005	0	0
SAMPLE	0.004	0	0
SAMPLE	0.004	0	0
SAMPLE	0.005	0	0
SAMPLE	0.005	0	0
SAMPLE	0.005	0	0
SAMPLE	0.005	0	0

sample 0.1

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