KEM Automotive

Application Spotlight

Oil quantity measurement in fixtures

AUTOMATIC DETECTION OF THE CLOSING AND DISSOLVING PROCESS IN MACHINE TOOLS

Technical Data

Medium:	Hydraulic oil VG46
Temperature:	+20 °C up to +40°C [+68 °F up to +104 °F]
Pressure:	max. 200 bar [2,900 psi]

Application

When machining workpieces in fully automated CNC milling centres, the correct positioning of these is an essential aspect in order to guarantee accuracy and prevent machine damage. For this reason, the position of the workpiece clamps must be reliably and automatically determined at all times. This can be guaranteed by the precise and reproducible oil quantity measurement in multi hydraulic fixtures. The usual position monitoring by means of measuring probes or compressed air significantly increases the cycle time or occupies otherwise required control lines. A more reliable, simpler and more cost-effective solution is to measure the volume of the hydraulic fluid in almost real time.

Solution

The gear flow meters of the GFM High Resolution Series are particularly recommended for this type of volume flow measurement. Thanks to their absolute measuring accuracy and repeatability, they are ideally suited for active monitoring of the position of hydraulic clamps. Due to the high resolution measuring signal, extremely short response times and direction detection, even the smallest differences during clamping and release processes can be detected and evaluated.

Advantages

- High measurement accuracy and resolution
- Excellent repeatability
- Direction detection
- Reliable status check of the clamping process
- Shorter cycle times

Certificates:

- *Pressure Equipment Directive 97/23/EC, 2014/68/EU*
- *HP0 - Certificationy*
- *Explosion protection according to 2014/34/EU*
- *CSA/UL - Certification*
- *Accreditation according to ISO 17025*

KEM Gear Flow Meter (GFM High Resolution Series)

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