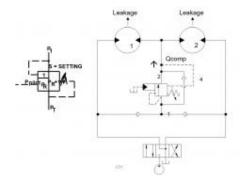


Motors in Series with Leakage Compensation

Machine: | Actuator: Motor | Function: Counterbalance, Load/Force

Prepared for : Prepared by :

Schematics

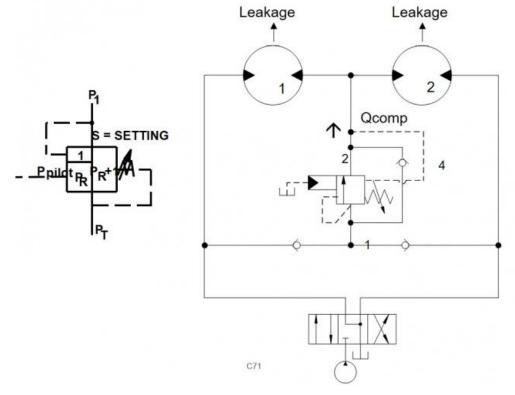


Related Products

Cartridges

CWCK - 1:1 pilot ratio, vented counterbalance valve

Summary



In this circuit, two motors in series are mechanically connected (not shown). Since motors have internal leakage, the motor downstream would tend to rotate slower and will then be driven by the external mechanical force. As a result, the first motor exerts a higher torque than the second motor and there is a loss in efficiency.

• Vented counterbalance valve: <u>CW*K</u>

Benefits of this circuit arrangement:

- The circuit compensates for the leakage in the motor upstream, allowing both motors to deliver the same torque.
- The counterbalance valve is used as a relief valve. Port 4 of the valve connected to port 2 the downstream pressure is additive to the setting with a factor of 2x. With a low setting of the CW*K, the pressure on port 1 is 2x the pressure on port 2: The valve will open when pressure between both motors falls below the pressure upstream the motor. Ensuring the inlet pressure of motor 1 is double the pressure between motor 1 & 2 guarantees the torque is evenly spread.

For Sun technical support, contact Bernd Zaehe.

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