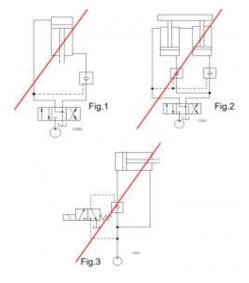


Pilot-to-Open Check Valves on Cylinders

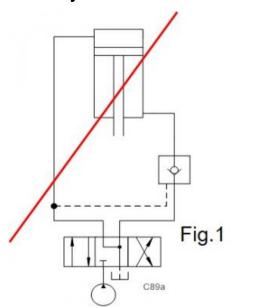
Machine: | Actuator: Cylinder | Function: Counterbalance, Lift/Lower

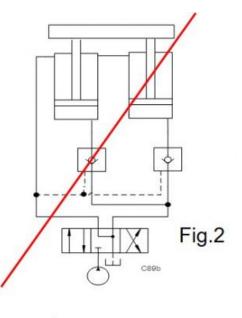
Prepared for : Prepared by :

Schematics



Summary



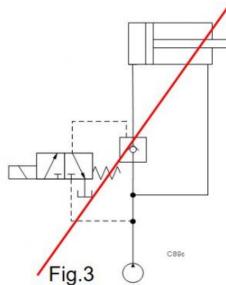


Related Products

Cartridges

CKBB - Pilot-to-open check valve with standard pilot

CBAA - 3:1 pilot ratio, ultra-restrictive counterbalance valve



The following circuits are presented to illustrate potential problems. In some cases, available pilot pressure cannot open a PO check against load induced pressure and/or intensified cylinder pressure.

Pilot-to-open check valves 3:1: CK*B
Standard counterbalance valve: CB**

Caution Notes:

© 2024 Sun Hydraulics

- Fig 1. It may not be possible to open the check valve on the rod side of the cylinder due to pressure intensification.
- Fig 2. In cases where cylinders are rigidly coupled, the P.O. check valves do not open simultaneously. As one valve opens, the load shifts and prevents the second valve from opening.
- Fig 3. In regen applications, a P.O. check valve may not open completely. Since the pressure differential across the P.O check valve is very low, a standard pilot-to-open check valve may not fully open.

Note: If the compression of oil moves a cylinder like an overrunning load, consider using a counterbalance valve. In many cases, counterbalance valves and P.O. check valves have the same cavity and porting.

For Sun technical support, contact Bernhard Kristen.

© 2024 Sun Hydraulics 2 of 2