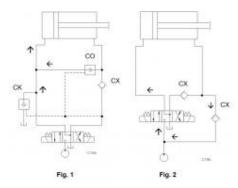


Regeneration - Continuous

Machine: | Actuator: Cylinder | Function: Regeneration

Prepared for : Prepared by :

Schematics



Related Products

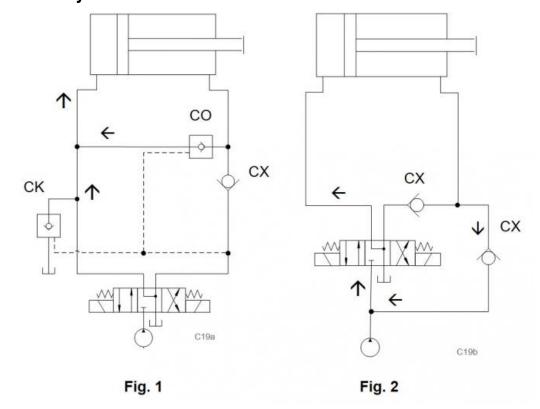
Cartridges

COBA - Pilot-to-close check valve

CXAA - Free flow nose to side check valve - pilot capacity

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

Summary



Cylinders can extend with full pressure being exerted on piston side and rod end side at the same time. The reduced area (rod diameter) results in a lower force but a faster extension speed.

Pilot-to-close check valve: CO*A-XEN CX*A;,CX*E
Pilot-to-open check valve: CK*B

Benefits of this circuit arrangement:

- Fig.1 shows fast extension of a cylinder by regeneration. The pilot-to-close CO*A valve allows oil to flow from the rod end side of the cylinder to join the pump flow on the piston side of the cylinder for fast cylinder extension. For retraction of the cylinder, the CO*A is piloted closed and the pump oil flows into the rod end side of the cylinder.
- Fig.2 shows an alternative lower cost circuit with regeneration. A larger capacity directional valve may be required.

Note: If the annulus area is very small due to a large rod diameter, the return flow from the full bore side of the cylinder may be larger. A larger directional control valve may be prevented by adding a pilot-to-open check valve as shown.

© 2025 Sun Hydraulics 1 of 1