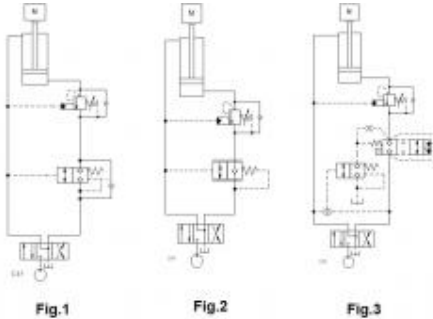


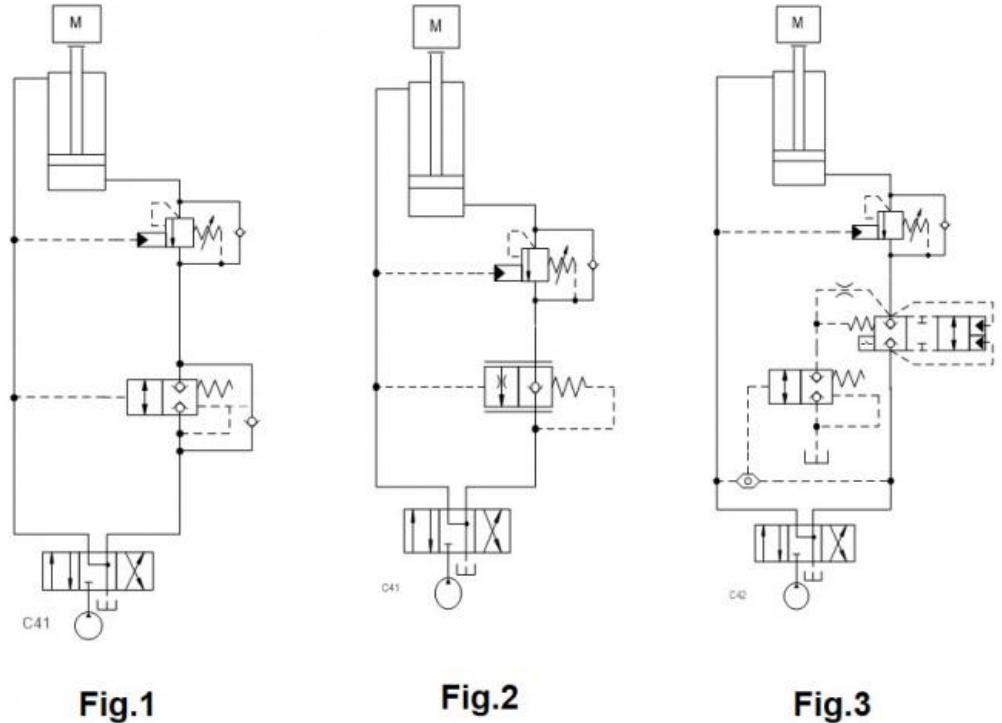
Prepared for :

Prepared by :

## Schematics



## Summary



## Related Products

### Cartridges

- CBAA - 3:1 pilot ratio, ultra-restrictive counterbalance valve
- DKDC - Normally closed, balanced poppet, logic element - pilot-to-open
- MWCA - Vented, 3:1 pilot ratio, load reactive, load control valve
- LODD - Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2

The circuits show three examples for redundancy in load-holding applications with counterbalance valves using balanced logic valves.

- Load-sensitive counterbalance: **CB\*\***
- Balanced logic element: **DK\*S**
- Load-insensitive counterbalance : **MB\*M, MW\*M**
- Logic element with position indicator: **LO\*C-Z\*\***

Benefits of this circuit arrangement:

- **Fig.1** shows a CBV with a balanced logic valve in the return line. The DK\*S opens at 200 psi regardless of trapped pressure between counterbalance and DK\*S. An additional reverse free flow check is required for lifting the load.
- **Fig.2** shows a CBV valve with a balanced load control valve MB\*M that incorporates the reverse free-flow check.
- **Fig.3** shows a CBV with an unbalanced logic valve LO\*C-Z\*\* with position indication for safety indication. The LO\*C is pilot operated via a balanced logic element ( DK\*S ) which in turn is also piloted via a shuttle valve CS\*\* for flow in both directions.

For Sun technical support, contact Steve Weber.