



# Dual-Check® Holding a Double Acting Cylinder



## Additional Control System Design Considerations

When selecting and placing components in the control system, the internal air piloting function of the Dual-Check valve needs to be considered. Both the V1 and V2 inlet ports must be vented for both check valves to be engaged, since the pilot air for overriding each check valve is supplied through the opposite inlet port. (Refer to the "Dual-Check Information" PDF file for more information on the Dual-Check operation.) The pilot air venting requirements particularly affects some of the direction control valve and flow control valve options.

- To provide proper pilot air venting for both normal operation and safety conditions, a three position, open center direction control valve works for most applications. A three position, closed center valves should not be used.
- Flow control valves (if used) should be placed between the cylinder and the Dual-Check valve, where they would not restrict the release of the piloting pressure.

Combining the Dual-Check® valve with a glandless spool and sleeve type of direction control valve can result in a long lasting, low maintenance control system. Glandless spool and sleeve direction control valves are long lasting, but do not seal tightly. The long lasting Dual-Check® valve provides tight sealing when needed by the control system.

The best control sensitivity is obtained by minimizing the internal volume of lines and components between the Dual-Check® valve and the cylinder.

## Applications

A Dual-Check® valve can be used in the control system of a wide variety double acting cylinder applications. The applications can involve work holding, clamping and positioning, and material or equipment lifting and moving in a wide variety of manually operated and automated machinery.

Specific circuit design and switching valve selection is application-dependant. Your ALADCO distributor or ALADCO can be contacted to provide assistance with answering application questions.