

## **CORRECT USAGE**

### **Circuit Placement and Connection**

Careful consideration must be given to suitable circuit placement and care must be taken not to pressurise the tank port of the monitored valve. Pressurisation of the tank ports can cause damage to the valve. Outlet ports of control valving must not be connected the 'T' port of the monitored valves. For example where a monitored block and bleed function is to be performed in conjunction with a directional control valve (DCV), the monitored valve would be typically placed in circuit prior to the DCV. The 'T' or tank ports must be plumbed directly to tank without any other interconnection or restriction.

### **Cleanliness**

Fluidsentry recommends 10 micron absolute filtering for the hydraulic supply to monitored valving.

### **Connection of Tank Lines**

Return line filtering must not be used on 'T' or 'T1' tank lines.

### **Silting**

Silting occurs when hydraulic valves are left in the actuated position for long periods of time and in conjunction with dirty or contaminated oil this can cause valves to seize in a dangerous state. The only remedy for such a situation is maintained oil filtering systems and periodic operation of valves. Valves should be cycled a minimum once every 8 hours of continual operation. Silting may also be overcome by cycling each valve at some idle time when there is no requirement for access by operators and there is no operation of the hydraulics.

### **Power Supply**

A power supply providing the total current consumption of each coil energised at any one time is required. If an inadequate power supply exists, valves may fail to energise and solenoid coils could be subject to damage.

### **Cooling**

The solenoid coils of the HBV series monitored valves are cooled via recirculation of the hydraulic oil. Solenoid coils should not be energised for an extended period without an active hydraulic oil flow.

### **Gravity Loads**

Due to spool seepage and or drainage orifices where applied, monitored spool valves are not recommended for gravity loads.

### **Monitoring**

Each Fluidsentry monitored valve provides a normally closed mechanically linked positive opening high precision switch for the safety function (de-energised state). To prevent undetected faults the monitoring contacts should not be series connected in a feedback circuit. For safety applications the normally closed contacts must be connected to individual electrical safety monitoring system inputs. Each valve has an additional normally open contact for process control signaling purposes.