**By-pass module E504 Series**

**Features**
- Fits under 62 & 760 Series valves
- By-passes servovalve
- Causes actuator to extend, retract or float
- Suitable for 4 or 5 port valves
- Fail-safe design for dirt resistance
- Optional coil voltages
- Port pattern to BS6494 Part 2, Type 4

**Typical applications**
Where an actuator piston must retract when the servovalve is disconnected, the module may be configured so that, say J1, is connected to P and J2 to R.

Where an actuator piston must extend when the servovalve is disconnected, the module may be configured so that, say J1, is connected to R and J2 to P.

Where an external mechanical force, such as a spring must move the actuator when the servovalve is disconnected, the module may be configured so that both J1 and J2 are connected to R.

Where external hydraulic force, derived from, say, a 4-way solenoid, must move the actuator when the servovalve is disconnected, the module may be configured so that I1 and I2 are not connected to P or R.

**Description**
This unit contains a spring loaded spool. This spool is moved against the spring by hydraulic pressure from a solenoid and orifice. When the solenoid is energised, the spool moves against the spring, connecting the servovalve control ports C1 and C2 to their respective actuator ports J1 and J2.

When the solenoid is de-energised, the spring moves the spool to block the servovalve control ports and to connect the actuator ports to their respective by-pass ports. By selecting the appropriate plugs (X,Y,Z and W) in the by-pass ports, each actuator port can be connected to either pressure or return.

The plugs are field accessible. Should it be necessary to limit speeds during by-pass, the plugs may be replaced by orifices. Because a sliding spool is used, the E504 Module should not be relied upon to lock an actuator. In this case, either the Moog E501 or E502 Modules should be used.

**Specification**
Operating pressure, 0 to ±10 bar standard. High and low pressure versions available on request.

Seal material, PTFE or with PTFE for petroleum based hydraulic oils, water/oil emulsions or water-glycol mixtures. Other seal materials available on request.

Coil rating, 24 V DC, 500 mA standard
12 V DC, 1 A
115 V AC, 100 mA
230 V AC, 50 mA optional

Coils are rated for continuous operation. (AC coil options incorporate full wave rectification rate at 1000 volts peak).

Connector, Hirose.

Operating sense (standard), servovalve is by-passed when coil is de-energised.

Optional operation, servovalve is by-passed when coil is energised.

Solenoid leakage (when servovalve is by-passed), 0.4 l/min. at 70 bar supply
0.7 l/min. at 210 bar supply.

Response time, Switch on (start-up function) < 200 ms
Switch off (abort function) < 75 ms.

Flow rating, in a 4-way configuration and normal operation, flow rating is 75 l/min. with a 10 bar pressure drop.
Installation

Plug removal: Remove access plug & seal.
Remove M15 plug & seal.
Replace access plug & seal.

Sth port through drilling
for optional pilot pressure
supply on E760 servovalves.

Dimensions in mm.

Ports
Ports P, R, J1 and J2
O-rings 1.78mm section x 10.82mm
ID.
Port P5
O-ring 1.78mm section x 9.25mm ID

Ordering information

PLUG CONFIGURATION

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is for guidance only and does not form part of a contract.

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