

**INSTALLATION AND MAINTENANCE INSTRUCTIONS**  
**SLIDE VALVE TYPE L**

- Note:** These valves are designed and supplied for incorporation with other equipment.
- Warning:** Ensure that any part of body is kept clear of valve internals at all times during operation, testing and servicing.

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Ensure mating flanges are flat. A soft gasket such as rubber should be used to take up irregularities in flanges with uneven surfaces. The slide plate is nearest the top flange of the valve. Valve must be mounted in the horizontal plane, i.e. flanges horizontal.

Valves are tested at the works, the slide plate/insert clearance being set. If this clearance is to be adjusted to suit product size and/or type, then the following procedure should be followed. The nuts securing the eccentric nylon supports should be slackened. The supports can be turned to increase or decrease the clearance by turning the pin using a hexagon key. The locknut is then re-tightened while holding the pin stationary.

**SCREW OPERATION TYPE LS** - The handwheel or chainwheel is sometimes supplied detached from the screw shaft for ease of packing. This should be secured by located and tightening the screw.

**PNEUMATIC OPERATION TYPE LP -**

Air supply should be approximately 5 Bar and free from moisture and should be piped to the port as per the enclosed pneumatic diagram. The standard solenoid valve supplied is a single solenoid type and is piped so that the slide valve opens on energising the solenoid and closes on de-energising the solenoid, this gives a 'fail safe' condition on electricity supply failure. (If fitted with optional inflatable seal) The seal will remain inflated in this condition. See page 2 for operation sequence of inflation of seal.

**MAINTENANCE** - After prolonged periods, wear may take place and cause the slide plate/insert clearance to increase. This can be reduced if required by adjustment as described above.

**NOTE:** ISOLATE AIR AND ELECTRICITY SUPPLY BEFORE WORKING ON VALVE.

**REPLACEMENTS -**

- (a) Should the inflatable seal need replacing, remove valve from situ, remove seal by pulling from its groove. Remove any sealant in bottom of groove and drilled hole for connector, apply small and continuous amount of sealant in bottom of groove and connector hole, press new seal into position and reconnect connector to tubing from 3/2 pilot valve.
- (b) The seals in the pneumatic cylinder can be replaced when worn. These are supplied in kit form.
- (c) The slide plate supports can be replaced by removing the valve from position, undoing pin, retaining nut washer, and replace using new 'O' ring as described above.

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## OPERATIONAL SEQUENCE OF INFLATION OF SEAL ON LP VALVE



### To Close

Assuming slide valve open and seal deflated.

- 1) When the system is pressurised with compressed air and no electrical signal on the main solenoid valve, air passes from port 1 to port 2 on the solenoid valve, which will extend the cylinder and close the slide valve.
- 2) As the cylinder is extending, the exhausting air from the front end will maintain a signal on Port 1 of the 'NOT' element - thus preventing any output from the 'NOT' element until the cylinder has stopped moving and all the air is exhausted.
- 3) When the cylinder is fully extended the magnetic piston activates the pneumatic proximity valve attached to the cylinder barrel, air is then passed to port 2 on the 'NOT' element.
- 4) With the air at port 2 and no signal at port 1, the 'NOT' element will output a signal to the 3/2 pilot valve which then inflates main slide valve seal. This condition will remain until an electrical signal is applied to the main solenoid valve.

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### To Open

A maintained electrical signal is required for the solenoid valve.

- 1) When the solenoid coil is energised, mains air passes from port 1 to port 4. This air signal is connected to port 1 on the 'NOT' element which immediately shuts down output from port 3 and exhausts the 3/2 pilot valve which in turn deflates the main seal.
- 2) Air is also present at the front end of the cylinder pushing the slide valve open. The speed of opening is controlled by the flow regulator in the exhausting cylinder line, (the cylinder can only move as fast as the escaping air).

N.B. The flow regulator serves a dual role.

- i) To control the cylinder speed
- ii) To allow the seal to deflate before the slide valve opens, (delay).

Once the flow control regulator is set it should be locked off, as incorrect adjustment will cause scuffing and accelerated wear to the main slide valve seal if the cylinder is allowed to move before the seal deflates.

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