



OPERATING & MAINTENANCE INSTRUCTIONS
FOR
BUTTERFLY DAMPERS

BULK HANDLING SPECIALISTS
www.ROTOLOK.com



BUTTERFLY DAMPERS




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FOR

BUTTERFLY DAMPERS

 Indicates relevance to manual operation


 Indicates relevance to pneumatic operation


Description

Butterfly Dampers are used to isolate products when conveying non-abrasive powders, pellets or granules from one discharge point to another.

The Rotolok butterfly damper is constructed of a flanged frame formed from rolled RSA and steel plate.

The unit is suitable for both manual and pneumatic operation as standard, electric actuators can be fitted in preference and constitutes specials.

 An operating lever with handle is fixed to the drive shaft.

 An air cylinder or actuator, complete with solenoid valve and piping, actuates the valve. Limit switches are fitted and positioned to indicate open/closed conditions.

The disc assembly consists of a circular or square damper plate complete with stub shafts that provide the pivot point. The plate seats against metal stops that are fabricated into the damper frame.

Construction

Body: Mild Steel as standard.

Disc Plate and Shaft: Mild Steel

Actuation: Manual lever or
VDMA Air cylinder or actuator with a single solenoid valve, 5 port 2 way spring return.

Limit Switches: Mechanical roller.
Alternative switches to suit application.

Group Accounts/Sales/Purchasing:

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Registered in England No. 2050400

Registered Office 1 Millennium Place, Tiverton Business Park, Tiverton, Devon. EX16 6SB



Actuation



A simple manual handle is fitted directly to the drive shaft and is used to move the disc from open to closed position.

Limit switches are not fitted as standard with manual actuation but can be specified.



Fitted with a single solenoid spring return valve with nylon piping feeding a double acting cylinder, front clevis/rear trunnion mounted type. All internal piping from the solenoid to the cylinder is supplied. The client needs to bring the air supply only to the solenoid valve. Limit switches are fitted as standard to indicate open and closed. The solenoid valve includes a manual override for testing and commissioning purposes.

The option of a pneumatic rotary actuator is also available and is fitted directly to the drive shaft.

Operation

It is important to ensure that the valve internals are free from product and any tramp materials before first operation and any subsequent reset or maintenance.

The operating lever is moved from side to side, either manually or by air cylinder, that moves an internal disc. This opens or closes to allow the product to flow.



The air cylinder requires a supply of clean, dry air at 80 psi.

Maintenance

Ensure the damper is completely free of product prior to carrying out any maintenance. Isolate the valve electrically and pneumatically prior to carrying out any maintenance.

The damper is basically maintenance free as the only moving internal part is the disc plate assembly. The butterfly damper usage, product handled, actuation time and frequency will obviously affect the preventative maintenance schedule.

Bearings are SKF (or equivalent) oval flanged fitted with a grease nipple; and re-grease in accordance with manufacturer's instructions.



Check the cylinder movement is smooth at twelve monthly intervals, more frequently if the atmosphere is dusty or at an elevated temperature. Check at six monthly intervals that the actuation arm strikes the limit switches to ensure that the switches are not being overloaded by over travel.

When a pneumatic rotary or electric actuator is fitted follow the manufactures instructions regarding maintenance and service intervals.

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Recommended Spares

When spare parts are required, always quote the valve serial number.

Bearings

Limit Switches

Handling

Lift valves using straps secured around the body of the unit. Avoid lifting from the shaft or actuation components. If fork trucks are used to move the valves, take care to prevent damage to the fabricated parts. Improper handling can cause distortion, misalignment and breakage, particularly on flanges.

Most valves, apart from the smaller manual units, will require the use of auxiliary lifting devices which must be operated in accordance with local health and safety regulations and site requirements.

Safety

In addition to standard safety regulations, the operator and maintenance personnel should be instructed to observe the following safety rules with pneumatic and electric actuated diverter valves.

1. Ensure the valve cannot be operated remotely before removing any guards or performing any maintenance.
2. Ensure adequate guarding of all exposed moving parts.
3. Isolate the valve electrically and pneumatically prior to any maintenance.
4. Do not put body parts or tools inside the valve while in operation.
5. Ensure a continuous and suitable electrical earth connection is fitted to the threaded stud provided and tested for grounding.

Ignoring the safety rules could result in serious injury.

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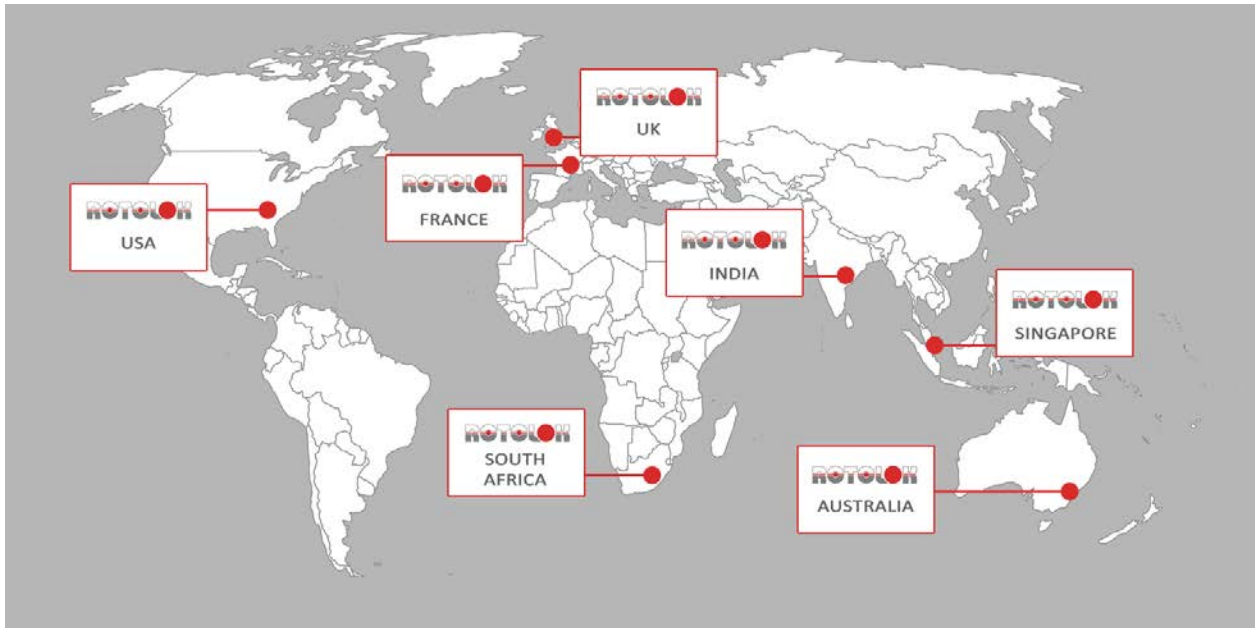
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