

OPERATING & MAINTENANCE INSTRUCTIONS



ROTARY CONTROL VALVES (BUTTERFLY)

Series 63 Standard and Rotrol

Koso Kent Introl
Armytage Road
Brighouse
West Yorkshire
England
Phone: +44 (0) 1484 710311
Fax: +44 (0) 1484 407407

Series 63 Rotary Control Valve (Butterfly) – Operating & Maintenance Instructions

INSTALLATION and MAINTENANCE INSTRUCTIONS

SERIES 63 – INTROSEAL VALVES

Standard and Rotrol

Introduction

The Rotary valve has been developed by Kent Introl to give a flexible range of valves with many interchangeable parts. The construction of the valves is simple and therefore a minimum of maintenance is required.

Installation

- 1 Before installation both the pipe flanges and the valve flanges are to be free from any foreign matter.
- 2 Check that the mating flange faces are parallel and in line and the gap between them is wide enough to accept the valve and gaskets.
- 3 Make sure the valve is in the closed position to avoid damage to the disc edge whilst being installed.
- 4 Once the valve is in position and all the flange bolts and gaskets are in place, hand tighten the nuts evenly.
- 5 Open the valve slowly so that a check can be made that the disc does not foul the inside mating flanges.
- 6 Fully tighten all the flange bolts in a diametrically opposed sequence.

Maintenance

Before commencing any maintenance refer to publication 'Control Valve Safe Working Practices'.

Maintenance on the actuator and gland packing can be done without removing the valve from the line. It is recommended that any maintenance on the valve be carried out in a workshop and these instructions are based on that work being done in a workshop

Actuator

Before any work is carried out whilst the assembly is in the line it is essential to ensure that the valve is isolated, depressurised and at ambient temperature.

Disconnect all air and or power supplies from the actuator

Remove the actuator from the valve by firstly supporting the weight of the actuator then unscrewing the 4 / 6 setscrews from the bracket holding the actuator to the valve and withdrawing the whole actuator assembly from the valve.

Refer to relevant instructions for details of actuator and instrumentation maintenance.

Valve

Packing Replacement

- 1 Remove the gland nuts and washers, remove the gland flange and slide the gland follower (9) off the valve shaft (3).
- 2 Taking great care not to scratch or damage the housing bore and the valve shaft, remove the gland packing (8) from the housing.
- 3 Ensure that all traces of packing are removed and the housing is clean. Inspect all components for wear or damage, if any is noted these parts should be replaced or refurbished.
- 4 Install each packing ring individually ensuring that each scarf cut joint is staggered at 90°. Push each ring fully down and pre-compress using a suitable tool.
- 5 Refit the gland (9), and the gland flange place the washers on the gland studs and the nuts. Tighten the gland nuts hand tight then utilizing a spanner tighten a further 180 degrees. Note when the valve is fitted in the pipeline and under pressure further adjustment of the gland nuts may be required to prevent leakage.

Valve Disassembly

- 1 Remove the gland packing arrangement see Packing Replacement 1-3 above.
- 2 Rotate valve disc and shaft through 180 degrees anti-clockwise.
- 3 Locate and remove the disc pins (4) using a pin extractor.

Series 63 Rotary Control Valve (Butterfly) – Operating & Maintenance Instructions

- 4 While supporting the disc (2) carefully remove the shaft (3) taking care not to scratch or damage it. When the shaft is fully withdrawn remove the disc (2) from the body (1)
- 5 Remove the spacers (5) from the valve body
- 6 Remove the packing box washer (7) and the bearing (6) from the gland end of the body.
- 7 Unscrew the cover plate setscrews (15) and remove the cover plate (13), the cover plate joint (12) and the bearing (6)
- 8 Remove the cap screws holding the seal retainer (11) in position
- 9 Remove the seal retainer (11) and the seal (10) from the valve body.
- 10 The valve is now fully disassembled all components should be cleaned and inspected, should any show signs of wear or damage these should be refurbished or replaced.

ITEM	DESCRIPTION
1	BODY
2	DISC
3	SHAFT
4	DISC PINS
5	SPACER
6	BEARINGS
7	GLAND WASHER
8	GLAND PACKING
9	GLAND FOLLOWER
10	SEAL
11	SEAL RETAINER
12	COVER JOINT
13	COVER
14	SPRING WASHER
15	HEX. HD. SETSCREW
16	KEY

Valve assembly

- 1 Fit new bearings (6) by pressing into the valve body (1).
- 2 Place the spacers (5) into the recesses in the valve body
- 3 Noting orientation support the vane (2) in the body (1) and taking great care not to damage the stem (3) or bearings (6) slide the stem through the body, the vane and spacers from the gland side. Line up the pin holes and refitting the pins (4).
- 4 Refit a new cover plate joint (12), the cover plate (13), the set screws (15) and spring washers. Fully tighten the set screws.
- 5 Place the packing washer (7) in the base of the packing box and complete the packing box assembly following Packing Replacement 4 & 5 see page 2.
- 6 Rotate the valve disc (2) and shaft (3) so it is in its correct position in relation to the seal (10).
- 7 Place the seal (10) into the valve body (1).
- 8 Place the seal retainer (11) into the recess of the valve body and align the cap screw holes in the retainer to the holes in the valve body
- 9 Insert all the cap screws and washers into the holes in the retainer and tighten them going from opposite to opposite.

The valve is now fully assembled and is ready for the fitting of the actuator.

