

Operating Manual Seat Lift Actuator for Double Seat Valves DELTA D2 / DFplus2



Read and understand this manual prior to operating or servicing this product.

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 Seat Lift Actuator	RN01.053.3

1. General Terms

This operating manual must be read carefully and observed by all operating and maintenance personnel.

Please note that APV will not accept any liability for damage or malfunctions resulting from non-compliance with this operating manual.

Descriptions and data given in this manual are subject to technical changes.

2. Safety Instructions



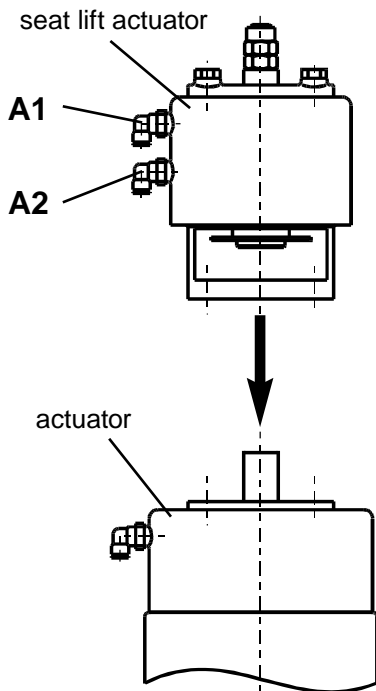
WARNING!

- The assembly and disassembly of the seat lift actuator may only be carried out if compressed air at the valve and seat lift actuator are cut off.



- Do not touch movable parts when the actuator is installed.
- **Risk of injury by sudden valve actuation!**
- Observe service instructions to ensure safe maintenance of the seat lift actuator.

3. Mode of Operation



Cleaning of DELTA D2 / DFplus2 valves generally depends on the product, CIP cleaning liquids, operating processes and process engineering of the plant!

Seat lift actuators are used to clean the contact surfaces of the seat seals.

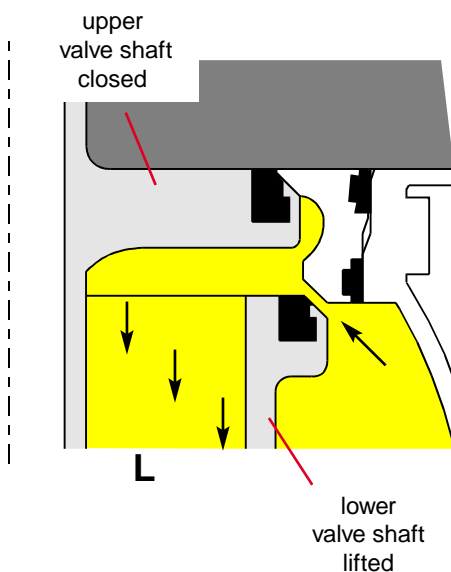
The valve seats are lifted by the seat lift actuator which is additionally installed on the actuator. The seat lift actuator is equipped with two actuating pistons with appertaining air connections. The lower valve shaft is lifted via the upper air connection **A1** and the upper valve shaft is lifted via the lower air connection **A2**.

Cleaning liquid flushes the seal and seat area and drains off via the leakage chamber **L** to the bottom into the atmosphere. Flushing quantities must be determined by the user who adjusts opening stroke and cycle times.

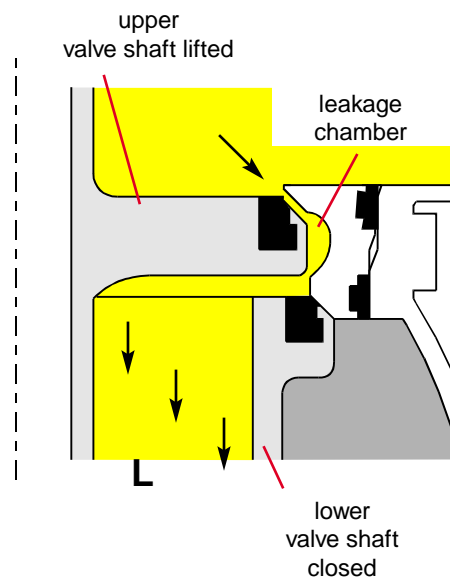
connection A1 = lifting of lower valve seat
connection A2 = lifting of upper valve seat

INFO **Cleaning recommendation**
see operating manual Delta D2
and DFplus2 section "Cleaning"

A1= lifting of lower valve shaft



A2= lifting of upper valve shaft



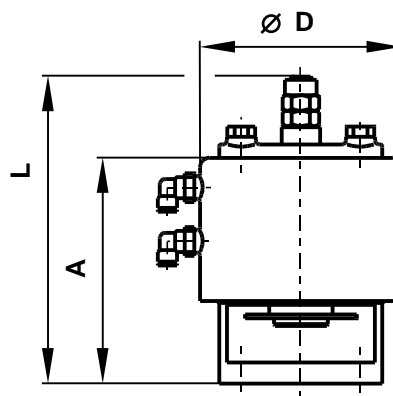
4. Installation

- The seat lift actuator is mounted direct on top of the actuator.
- Assembly of seat lift actuator, see service instructions.

5. Materials

- shaft, screws, housing body 1.4301
- seals NBR
- air connections, cover PA 6.6

6. Dimensions / Weights



dimensions in mm

designation	A	Ø D	L	weight in Kg
A 100	120,5	105	156	2,7
A 125	120,5	130	156	3,5
A 180	143,5	184	183	6,8

7. Technical Data

- Air connection for hose 6 x 1,
Use dry and clean pneumatic air, only.
- Control pressure : min. 6 bar
 max. 10 bar.
- Stroke : max. 3mm
 progressively adjustable

Air consumption depending on size of cylinder

seat lift actuator	air consumption / connection
A 100	0,8 NL / stroke
A 125	1,8 NL / stroke
A 180	2,2 NL / stroke

Standard allocation depending on valve actuator			
	designation		
seat lift actuator	A 100	A 125	A 180
actuator	D 100	D 180	D 220
	B 100	B 125	D 220
	D 125		D 255
	D 150		B 180

8. Maintenance

- Maintenance intervals depend on application. Temporary checks and functional tests should be determined by the user.
- Inner seals are maintenance-free.
- Assembly, disassembly and change of wear parts (*), follow the service instructions.

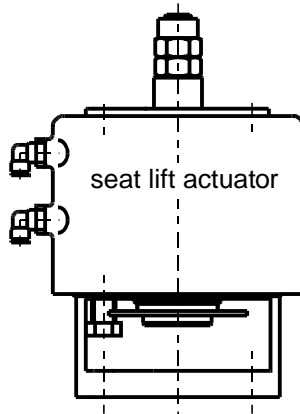
* **o-ring 20,2-3 below the plastic cover, only**

9. Service Instructions

Use corresponding spare parts list for assembly and disassembly.
Seat lift actuator RN 01.053.3

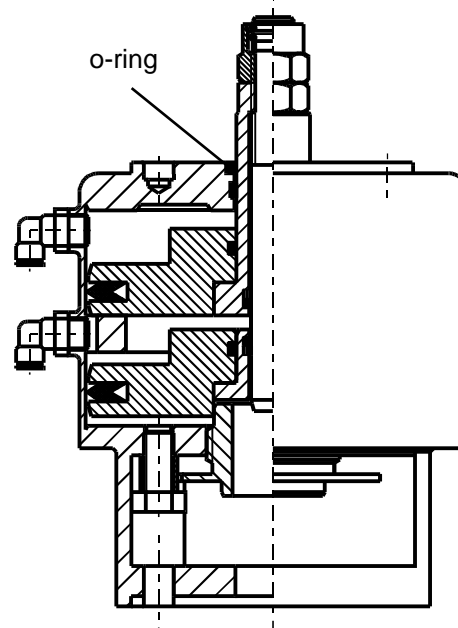
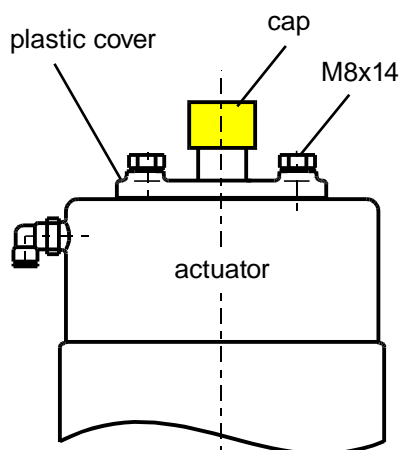
I. Assembly and disassembly

- a. Remove yellow cap on actuator rod.
- b. Remove hex. screws, holding the black plastic cover, from acuator.
- c. Pull off plastic cover and fasten it with hex. screws (M8x14) at seat lift actuator.
- d. Fasten seat lift actuator with the hex. screws (M8x14) on valve actuator (air connections are in line with each other).
- e. Attach air connections.
- f. For disassembly, procede in reverse order.



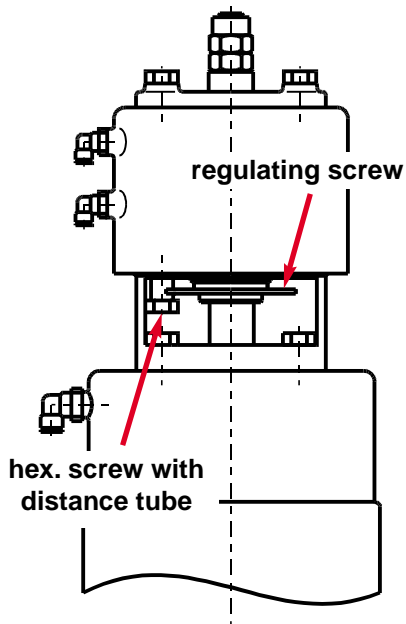
II. Dismantling of wear parts

The o-ring (see below) can be changed after removal of the plastic cover.



9. Service Instructions

adjustment for
upper valve shaft



III. Adjustment of lifting stroke

INFO:

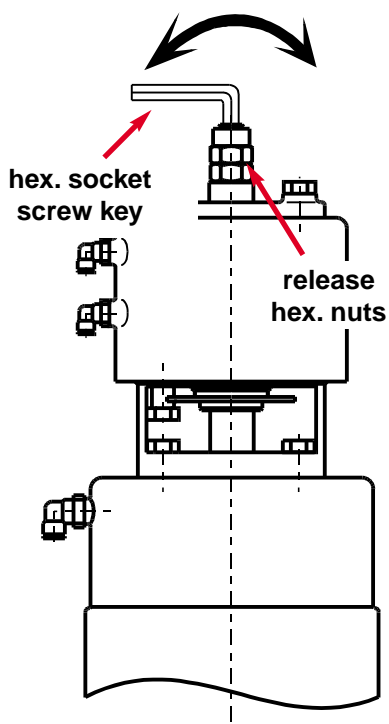
The required cleaning effect in the seat area is determined by the user who adjusts the lifting stroke and the number and cycle of lifting. The lifting stroke for the upper and lower valve shaft should be adjusted with imminent cleaning pressure and at the highest cleaning temperature (hot cleaning) in order to consider linear heat expansion.

III.1. Adjustment of upper valve shaft

- a. Remove hex. screw and distance tube.
- b. By turning of the adjusting screw, the stroke of the upper valve shaft is adjusted.

Turn left	=	increase stroke
Turn right	=	decrease stroke.
- c. By fastening of the hex. screw with distance tube the adjusted stroke is fixed.

adjustment for
lower valve shaft



III.2. Adjustment of lower valve shaft

- a. Release hex. nut. To prevent the shaft from turning, hold up the shaft with a wrench of the same size.

INFO: Hold fast the two wrenches during the adjusting procedure.
- b. Insert the hex. socket screw key in the hexagon of the shaft.
- c. By turning of the hex. socket screw key, the stroke of the lower valve shaft is adjusted.

Turn left	=	decrease stroke
Turn right	=	increase stroke.
- d. By fastening of the counternut the adjusted stroke is fixed.

10. Trouble Shooting

Failure	Remedy
No flushing quantity during control	Check adjustment of strokes
<i>Air connection at A1</i> Air escapes permanently at the top of the piston rod	Change o - ring
<i>Air connection at A2</i> Air escapes permanently at the bottom of the piston rod or from connection A1	Replace complete seat lift actuator
Both shafts are lifted simultaneously or air escapes permanently from connection A2	Replace complete seat lift actuator

11. Spare Part Lists

(see annex)

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Translation of original manual



rev. 2



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02/94

Ersatzteilliste: spare parts list:

Anlüftzylinder

Seat lifting device

Ausführung / design :

- 000 16-30-.../17
- 1.4301-außen matt-glänzend
 - external surface satin finish
- 3A0 16-30-.../13
- 1.4301-außen 3A-blank
 - external surface 3A- shift

Besteht aus 2 Blatt Blatt 1

Datum	9/92	01/00	10/02
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RN 01.053.3

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