

This document covers the instructions for changing internal pump elements on the axial piston pumps APP6.5.

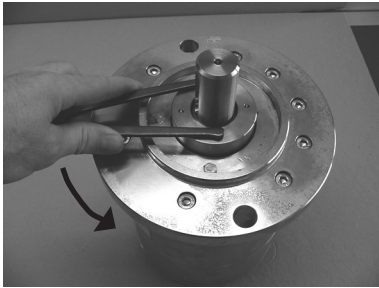
**Note: It is essential that the pump is serviced in conditions of absolute cleanliness.**

Tools needed:

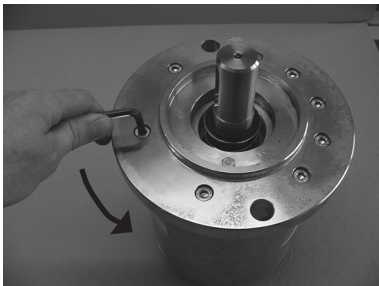
- Shaft seal tool (code no. 180Z0232)
- Service seal set (code no. 180B4031)
- Allen key (6 mm)
- Screwdriver

To understand the pump design better, please see exploded view on last page.

1. Unscrew the seal-retaining ring counterclockwise and remove it.



2. Unscrew the 8 screws in the mounting flange.



3. Carefully remove the mounting flange from the housing.



4. Wet the shaft and shaft seal with clean (filtered) soap-water.
5. Carefully remove the shaft seal assembly using the shaft-seal extractor supplied. The extractor must fit underneath the shaft seal.



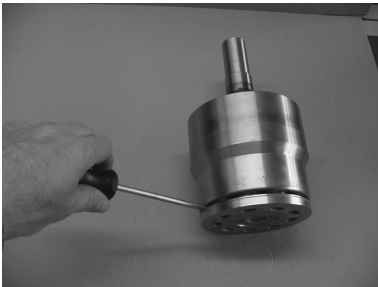
6. Remove the whole cylinder barrel and carefully place it on a suitable clean surface.



7. Remove the pistons, retaining plate, distance ring and retaining ball from the cylinder barrel.



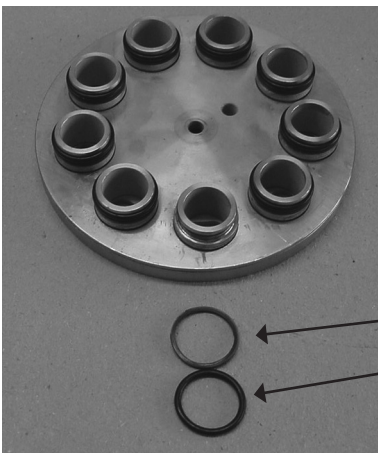
8. Carefully remove the valve plate assembly using a screwdriver.



9. Remove the O-rings and back-up rings from the valve plate.

10. Mount the new back-up rings on the new valve plate.

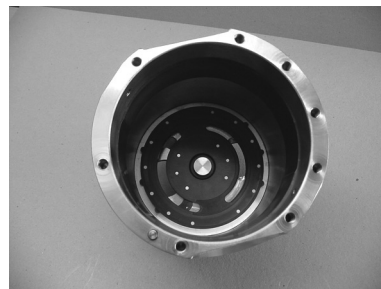
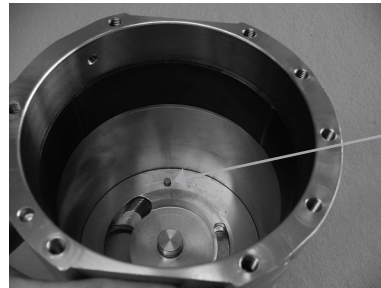
11. Mount the new O-rings.



12. Carefully press, by hand, the cylinder barrel onto the valve plate.



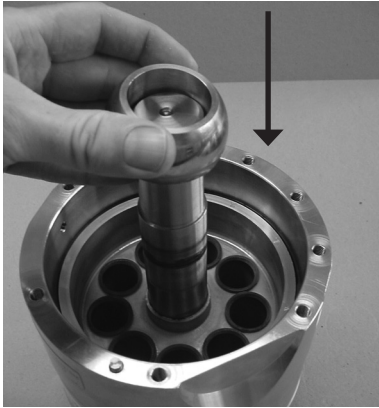
13. Position the new port plate over the guide pin. **IMPORTANT: Make sure that the guide pin is located in the locating hole in the port plate.**



14. Carefully slide the cylinder barrel into the housing.



15. Fit the retaining ball onto the shoulder of the shaft.



16. Carefully position all the pistons into the retaining ring.

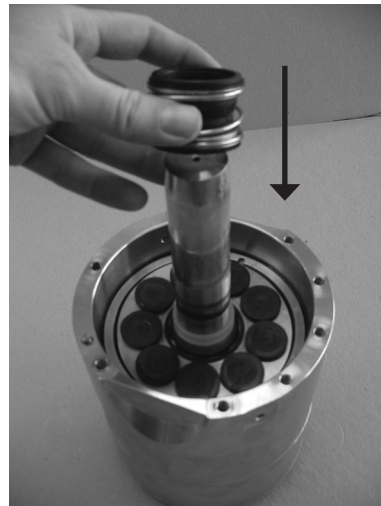
17. Position all the pistons, one in each piston bore, in the cylinder barrel. It may be necessary to tilt the retaining ring to allow the pistons to fit into the piston bores.



18. Position the new white spacer on top of the retaining ball.



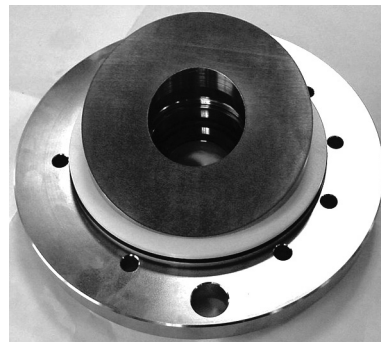
19. Mount the new shaft seal following the instructions in "Shaft Seal - APP 5.1 - 10.2" (521B0738).



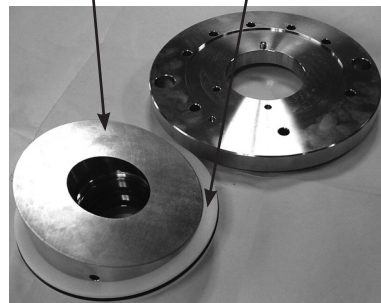
20. Unscrew the screw.



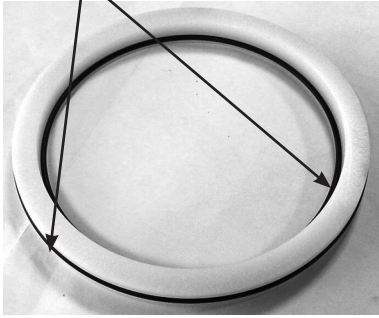
21. Turn the mounting flange upside down.



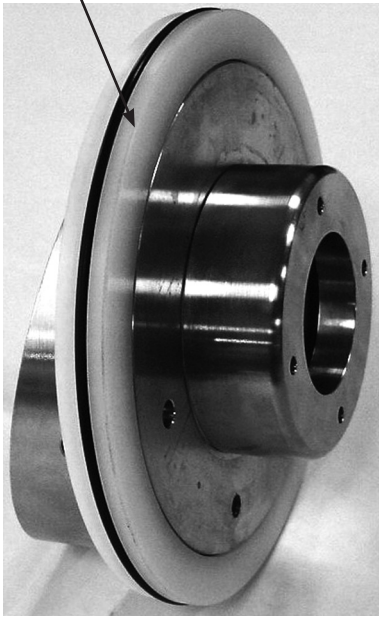
22. Remove the swash plate and the spacer.



23. Replace the O-rings.



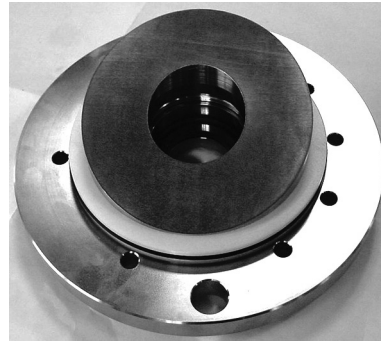
24. Mount the spacer on the swash plate.



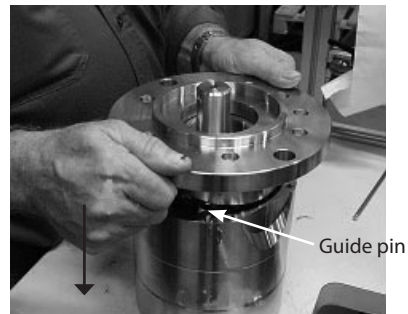
25. Position the swash plate on the mounting flange using the guide pins and fix it with the screw.



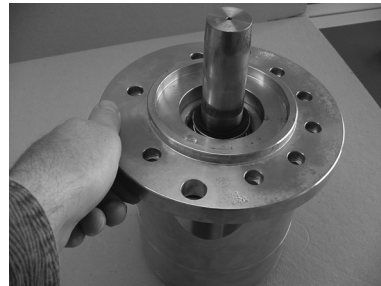
26. The mounting flange is now ready to be mounted on the housing.



27. Position the guide pin in the housing.



28. Position and carefully press, by hand, the combined flange and swash plate into the housing.  
**IMPORTANT: Ensure not to cut the O-ring.**



29. Screw the 8 screws into the flange and the housing.



30. **To prevent seizing-up, lubricate the threads on the 8 screws with grease**, screw them into the pump and tighten by hand. Use Molykote® D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication.

31. Tighten the screws to a torque of  $30 \pm 3$  Nm.

## Parts list for APP6.5 - special

Pos.	Qnt.	Unit	Designation	Material
4	1	Pc.	Shaft seal	Hasteloy/NBR
5	1	Pcs.	Housing	Duplex
6	1	Pcs.	Swash plate	Super duplex
7	4	Pcs.	Pin	AISI316 (Ø6 x 10 mm)
8	1	Pc.	Pin	PEEK (Ø6 x 10 mm)
9	1	Pc.	Adapter	Plastic
10	1	Pc.	Retaining plate	Super duplex
11	9	Pcs.	Piston	Super duplex
12	9	Pcs.	O-RING	NBR (ID 18.3 x 2.4 mm)
13	9	Pcs.	Back-up ring	PEEK
14	1	Pc.	Valve plate	Super duplex
15	1	Pc.	O-RING	NBR (ID 117 x 2.5 mm)
16	1	Pc.	Retaining ball	Super duplex
17	1	Pc.	Cylinder barrel	Super duplex
18	1	Pc.	Spring	Duplex
19	1	Pc.	Spring guide	Super duplex
20	1	Pc.	Circlip	Duplex
21	1	Pc.	Port plate	Super duplex
22	1	Pc.	Guide pin	Super duplex
24	2	Pcs.	O-RING	NBR (ID 135 x 3.0 mm)
25	1	Pc.	Port flange	Super duplex
26	16	Pcs.	Screw	AISI316 (M8 x 20 CS)
27	1	Pc.	Hose pipe	Duplex (1/2")
28	1	Pc.	Hose pipe	Duplex (3/8")
30	1	Pc.	Key	AISI302 (10 x 8 x 45 mm)
34	1	Pc.	Screw	AISI316 (M6 x 22 mm)
35	1	Pc.	Flange	AISI316
36	2	Pcs.	O-RING	NBR (ID 4.5 x 1.5 mm)
37	1	Pc.	Bush	Duplex
38	1	Pc.	O-RING	NBR (ID 58 x 2.0 mm)
39	1	Pc.	Stop-bush	PEEK
41	2	Pcs.	O-RING	NBR (ID 40 x 2.5 mm)
42	2	Pcs.	Port adapter	Duplex
100	1	Pc.	Instruction	
101	2	Pc.	Identification label	
105	2	Pc.	Transparent	
107	2	Pc.	Warning	
110	1	Pc.	Right & Wrong	
200	1	Pc.	Packing	

# Exploded view

