

This document covers the instructions for changing internal pump elements on the axial piston pumps APP1.5-2.5.

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

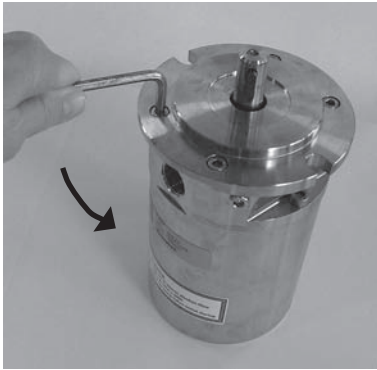
Tools needed:

- Shaft seal tool (code no. 180Z0231)
- Service set shaft seal (code no. 180B4013)
- Allen key (6 mm)
- 2 screwdrivers

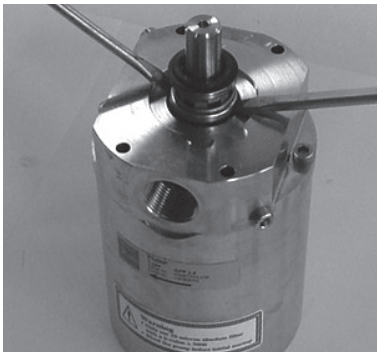
To understand the pump design better, please see exploded view on last page.

Carefully turn the whole pump over so that the shaft is facing down. Support the pump in a suitable hollow base so that the pump is not supported by the shaft.

1. Unscrew the 4 mounting screws and remove the seal SAE flange. **Do not yet unscrew the 2 lower screws.**



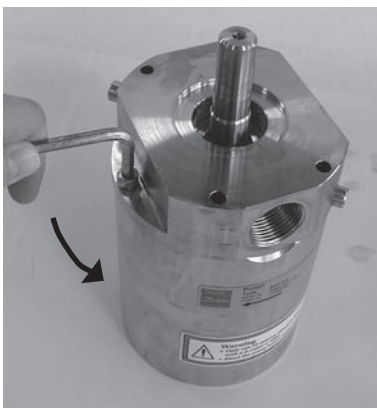
2. Wet the shaft and shaft seal with clean (filtered) soap-water. Gently lever the shaft seal assembly free using 2 screwdrivers.



5. Remove the housing.



3. Unscrew the 2 lower screws.



6. Remove the pistons, retaining plate, retaining ball, spring guide and spring from the cylinder barrel.



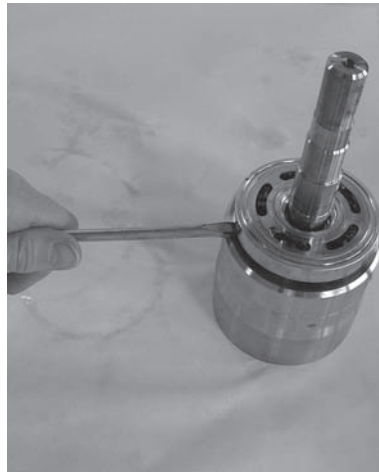
7. Remove the cylinder barrel.



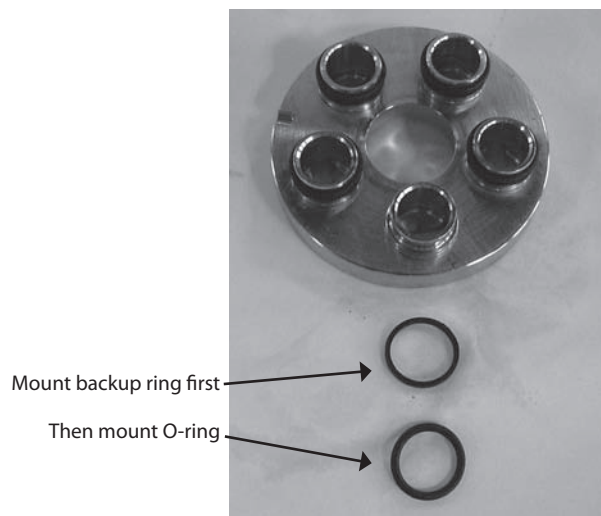
8. Remove the port plate.



9. Gently lever the valve plate assembly free with the aid of a screw-driver.

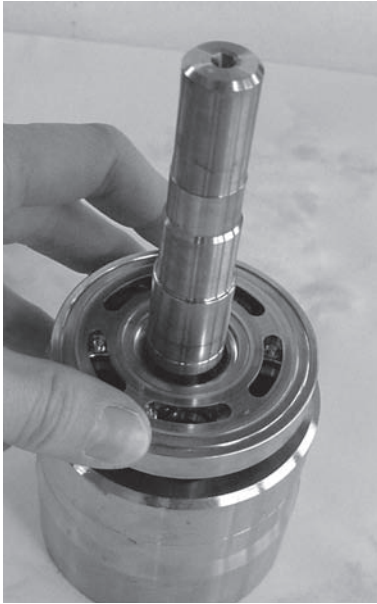


10. Replace the O-rings and the back-up rings on the valve plate. Mount the new back-up rings on the new valve plate first and then mount the new O-rings.



11. Wet the O-rings and back-up rings with clean (filtered) soap-water.

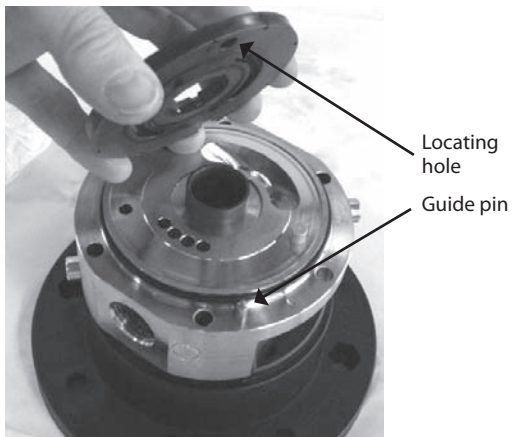
12. Gently press, by hand, the valve plate onto the cylinder barrel.



15. Position the new spring, new spring guide, new retaining ball, new retainer guide and new pistons.



13. Position the new port plate over the guide pin.

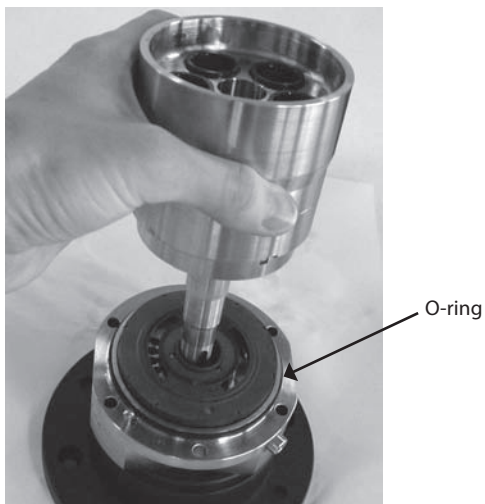


16. Position the housing on the port flange and over the guide pin.



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

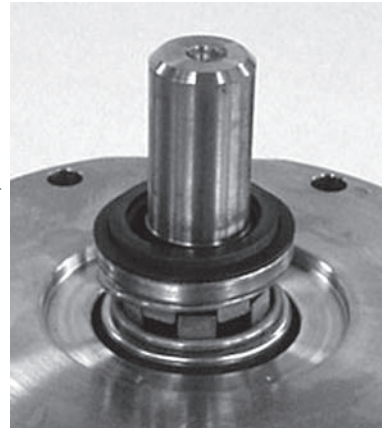
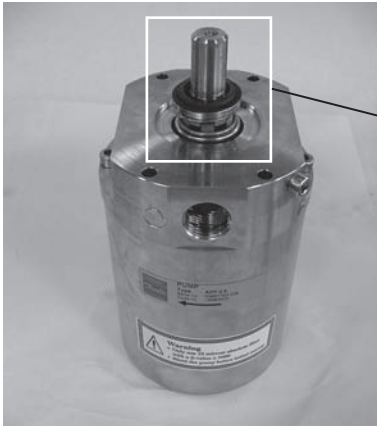
14. Replace the O-ring on the port flange and position the new cylinder barrel on the port plate.



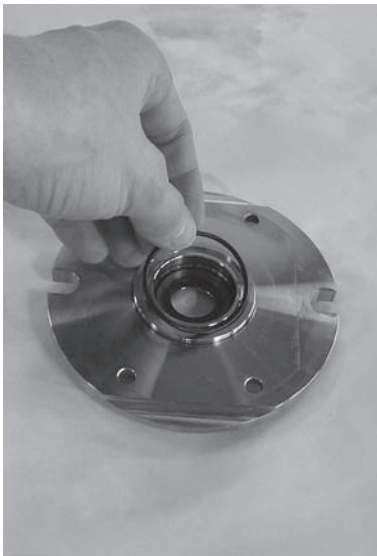
17. Hold the pump together and carefully turn it over to rest on the housing. To prevent seizing-up, lubricate the threads on the 2 screws and screw them into the port flange and the housing. Use Molykote® D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication. Tighten the 2 flange screws to a torque of 12 +1 Nm.



18. Mount the new shaft seal following the instructions in "Shaft Seal - APP1.5-2.5" (521B0737).



19. Replace the O-ring on the SAE flange.



20. Lubricate the threads on the 4 screws with grease and screw them into the pump and tighten by hand. Use Molykote® D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication.



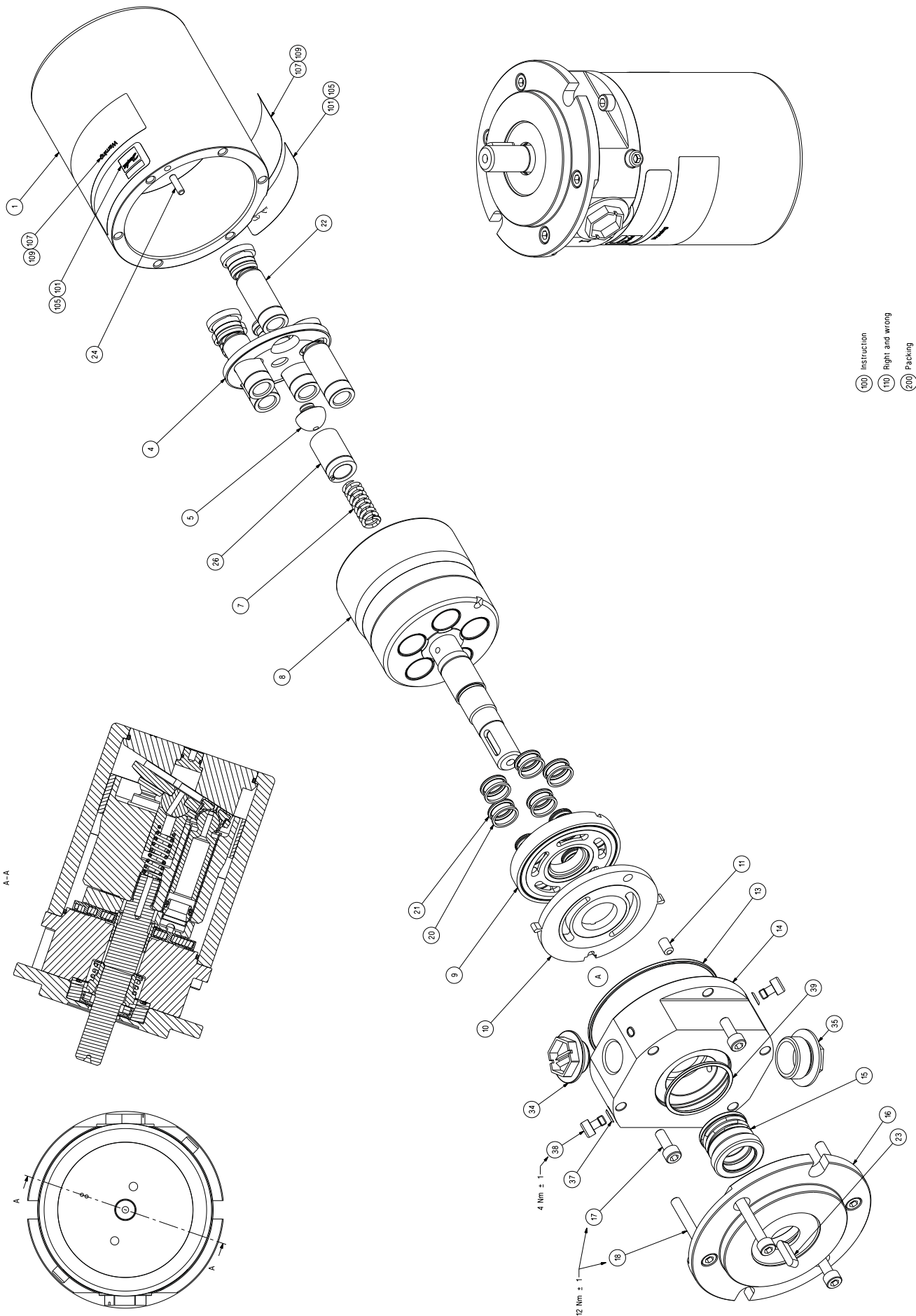
21. Tighten the screws to a torque of  $12 \pm 3$  Nm.

## Parts list for APP1.5-2.5

Pos.	Qty.	Unit	Designation	Material
1	1	Pc.	Housing	Duplex
4	1	Pc.	Retaining plate	Super duplex
5	1	Pc.	Retainer guide	Super duplex
7	1	Pc.	Spring	Duplex
8	1	Pc.	Cylinder barrel	Super duplex
9	1	Pc.	Valve plate	Super duplex
10	1	Pc.	Port plate	Super duplex
11	1	Pc.	Pin	PEEK
13	1	Pc.	O-ring	NBR
14	1	Pc.	Port flange	Super duplex
15	1	Pc.	Shaft seal	AISI316/NBR
16	1	Pc.	Mounting flange	Wetted part: Duplex Dry parts: AISI316
17	2	Pcs.	Screw	AISI316
18	4	Pcs.	Screw	AISI316
20	5	Pcs.	Back-up ring	PEEK
21	5	Pcs.	O-ring	NBR
22	5	Pcs.	Piston	Super duplex
23	1	Pc.	Key	AISI302
24	1	Pc.	Pin	AISI316
26	1	Pc.	Spring guide	Super duplex
37	2	Pcs.	O-ring	NBR
38	2	Pcs.	Bleed screw	Duplex
39	1	Pc.	O-ring	NBR
100	1	Pc.	Instruction	
101	2	Pcs.	Identification label	
105	2	Pcs.	Transparent	
107	2	Pcs.	Warning	
110	1	Pc.	Right & Wrong	
200	1	Pc.	Packing	



# Exploded view



- (00) Instruction
- (10) Right and wrong
- (20) Packing