

This document covers the instructions for changing internal pump elements on the axial piston pumps APP 1.5-2.5

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

Tools needed:

- Toolset (code no. 180B4148)
 - Shaft bush
 - Press bush
 - Allen key 5 mm
 - 2 screwdrivers

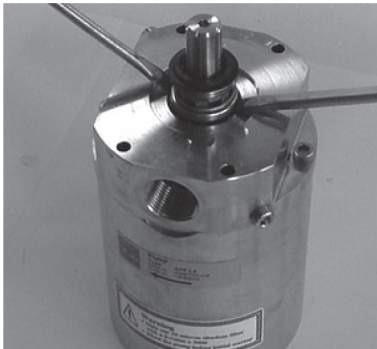
To understand the pump design better, please see exploded view on last page.

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.



3. Unscrew the 2 lower screws.



5. Remove the housing.



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



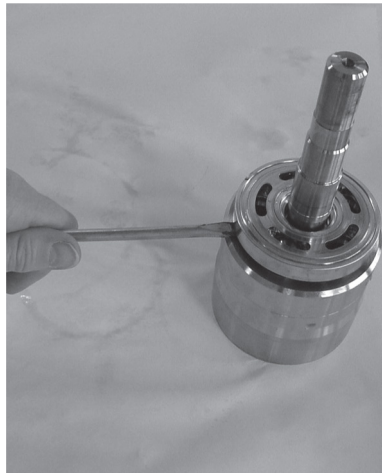
7. Remove the cylinder barrel.



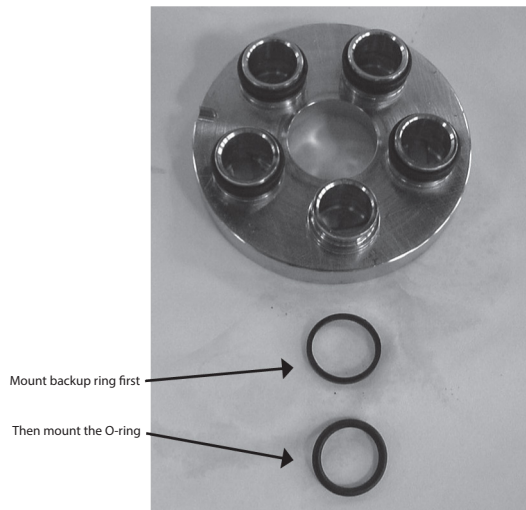
8. Remove the port plate.



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.

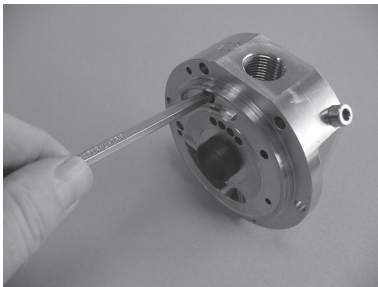


11. Wet the O-rings and back-up rings with clean (filtered) soap-water.

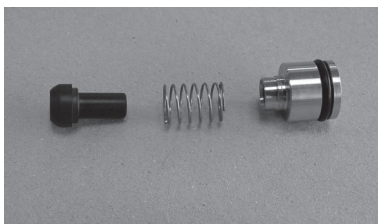
12. Gently press, by hand, the valve onto the cylinder barrel.



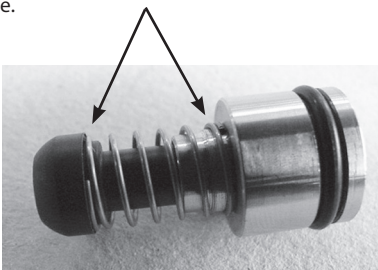
13. Gently push flushing valve out using the Allen key.



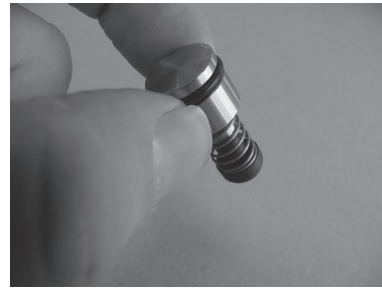
14. Remove spring from poppet and poppet guide and remove O-ring from poppet guide.



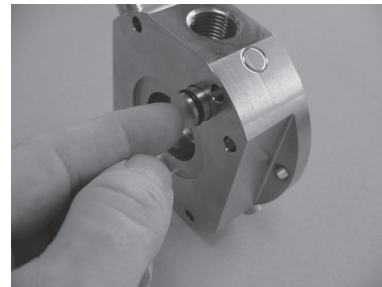
15. Press new spring onto shoulders of poppet guide and poppet so it is stuck on both collars. Then mount new O-ring on poppet guide.



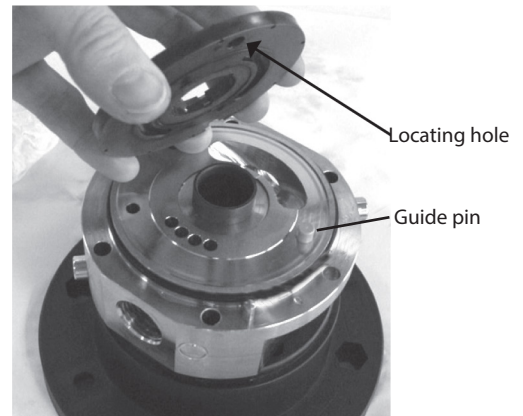
16. Turn flushing valve upside down. If not properly assembled, spring will fall off.



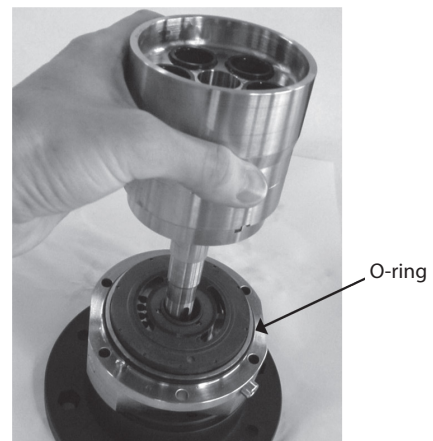
17. Mount flushing valve by pressing it into the hole.



18. Position the port plate over the guide pin.
IMPORTANT: Make sure that the guide pin is located in the locating hole in the port plate.)



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



20. Position the new spring, new spring guide, new retainer guide, new retainer plate and new pistons.



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



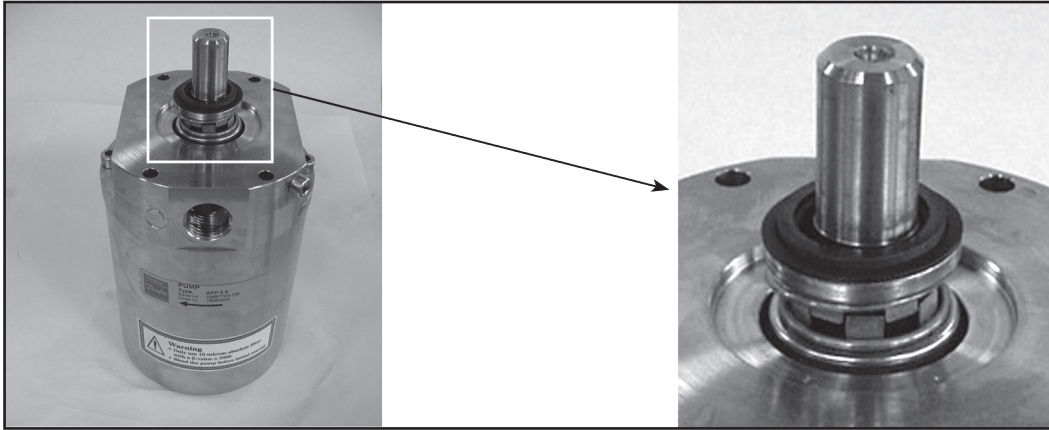
22. Hold the pump together and carefully turn it over to rest on the housing. To prevent seizing-up, lubricate the threads on the 2 screws and screw them into the port flange and the housing. Use Molykote D paste from Dow Corning or Klüber UH1 84-201 from Klüber Lubrication. Tighten the 2 flange screws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



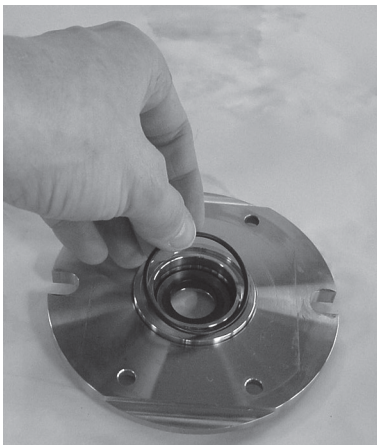
23. Mount the new shaft seal following the instructions in changing "Shaft seal - APP 1.5 - 2.5" (180R9089)

Wet the torpedo and new shaft seal with soap. Do not use silicone grease.

Slide the shaft seal over the torpedo with the carbon seal face pointing upwards. **Be careful not to damage the carbon seal face on the shaft seal.**



24. Replace the O-ring on the SAE flange

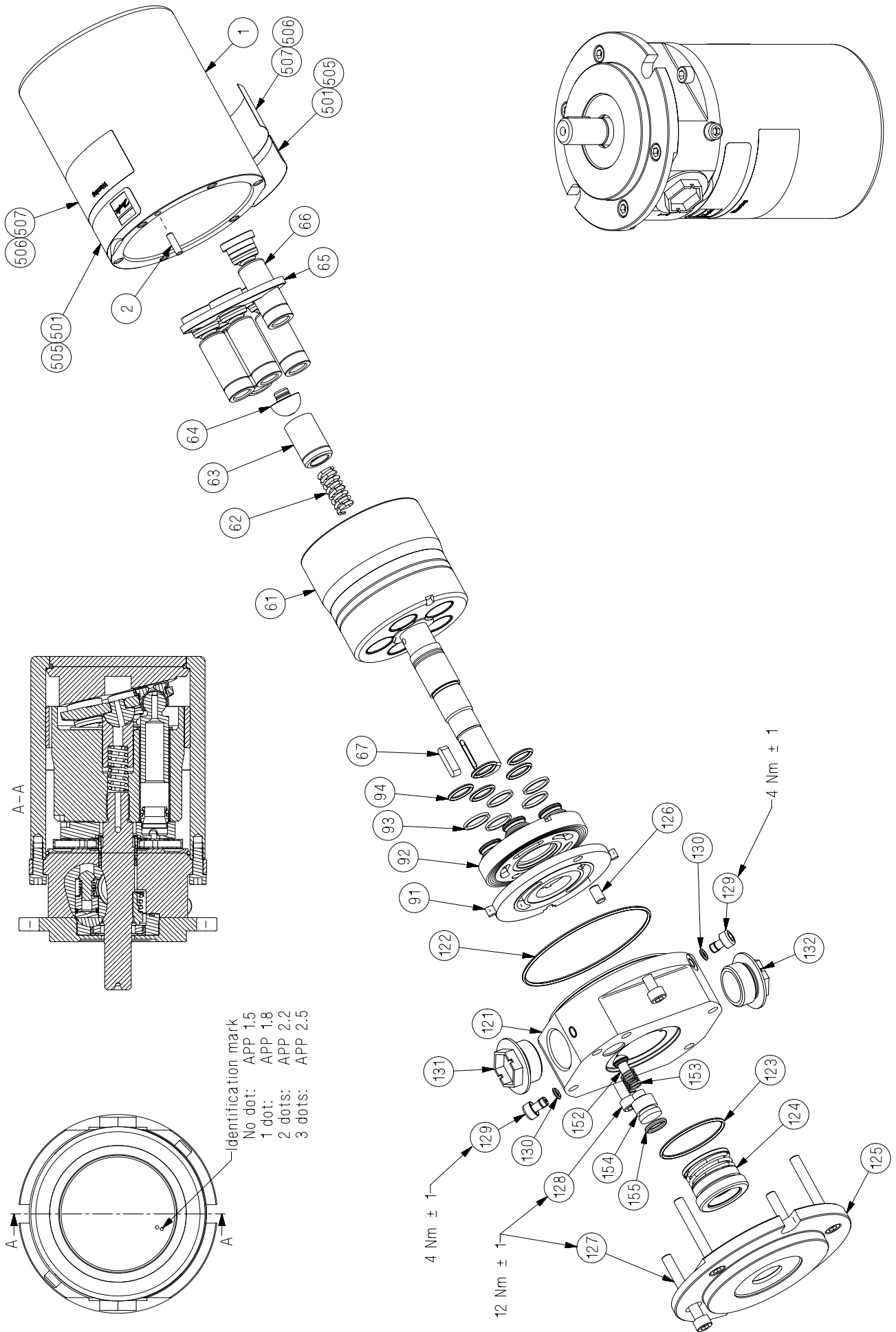


25. Lubricate the threads on the 4 screws with grease and screw them into the pump and tighten by hand. Use Molykote D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication



**Selection of spare parts
Please find our APP part list 521B0941 on www.ro-solutions.com**

Exploded view



— identification mark
 No dot: APP 1.5
 1 dot: APP 1.8
 2 dots: APP 2.2
 3 dots: APP 2.5