

Service guide

APP pumps

APP 0.6 - 1.0

Disassembling and assembling



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Introduction

NOTE: If the pump is disassembled within the warranty period, the pump is no longer covered by the warranty.

This document covers the instructions for disassembling and assembling the axial piston pump APP 0.6-1.0

Tools needed:

- Shaft seal tool (code no. 180B4142)
- Seal set (code no. 180B4141)
- 2 Screwdrivers

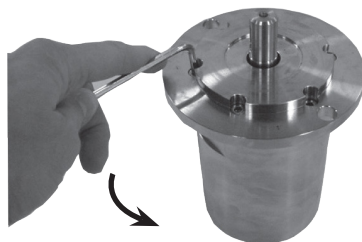
Important: It is essential that the pump is serviced in conditions of absolute cleanliness.

WARNING: Do not reuse disassembled O-ring or shaft seal as they might be damaged.

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



1. Disassembling and assembling the pump



1. Unscrew the 4 mounting screws and remove 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.



4. 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.



5. Remove the housing.



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



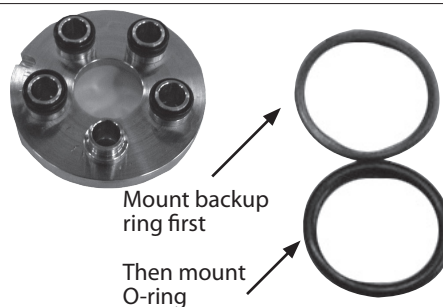
7. Remove the cylinder barrel.



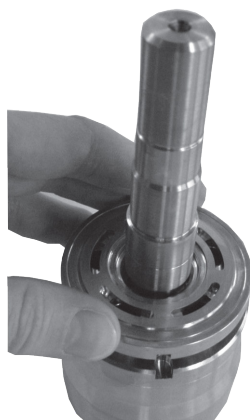
8. Remove the port plate and guide pin.



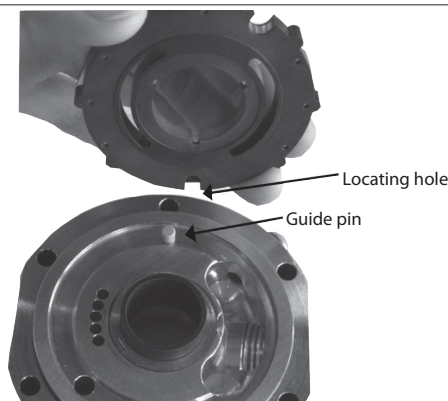
9. Gently lever the valve plate assembly free with the aid of a screwdriver.



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



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



12. 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



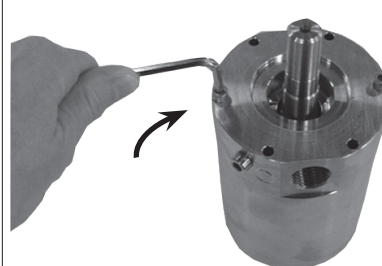
13. Replace O-ring on the port flange and position the new cylinder barrel on the port plate.



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



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



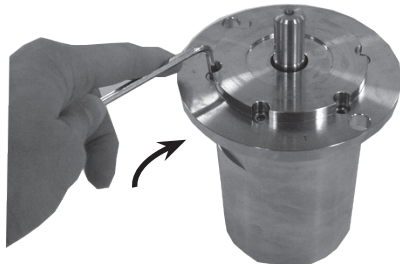
16. Hold the pump together and carefully turn it over to rest on the housing. To prevent seizing-up, lubricate the threads on the 2 screws and screw them into the port flange and the housing. Use Molykote D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication. Tighten the 2 flange screws according to exploded view.



17. Mount the new shaft seal following the instructions on page

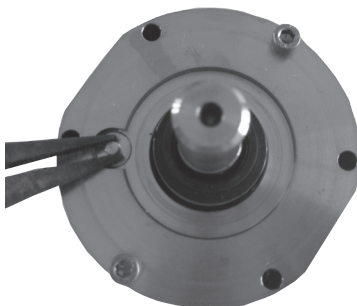


18. Replace the O-ring on the SAE flange.

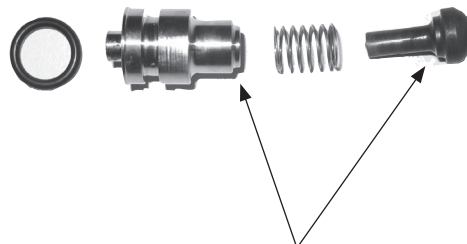


19. Lubricate the threads on the 4 screws with grease and screw them into the pump and tighten by hand. Use Molykote D paste from DOW Corning or Klüber UH1 84-201 from Klüber lubrication. Tighten screws according to exploded view.

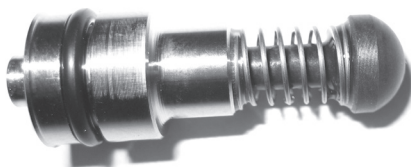
2. Removal of flushing valve



1.. Use a pointed plier to remove flushing valve. Gently grab the pin with the plier and pull it out.



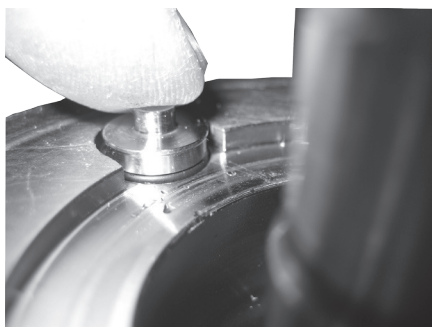
2. Assemble the new flushing valve, or replace parts that are worn (shoulders)



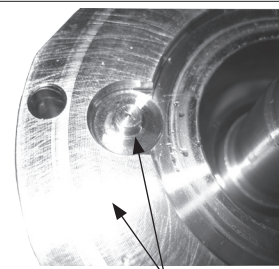
3. To assemble the valve, press new spring onto shoulders of poppet guide and poppet so it is stuck on both shoulders. Then mount the new O-ring on poppet guide.



4. Turn flushing valve upside down. If it is not properly assembled spring will fall off.



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

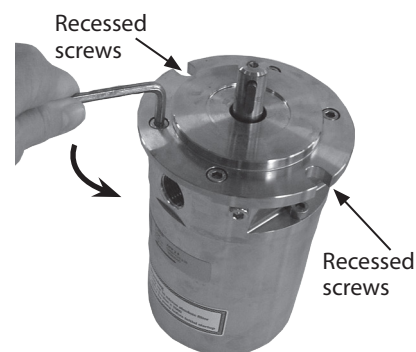


6. It must be pressed down so it levels with the surface of the port flange (same level). In order to find out if the valve is working correctly, the pump needs to be further dismantled. To work correctly a small flat edged wire is pushed against the flushing valve. You should be able to move it a couple of mm and feel the load of the spring pressing backwards.

3. Change of shaft seal



Tools needed



1. Unscrew the 4 mounting screws and remove the seal SAE flange.
Do not unscrew the 2 recessed screw at this time.



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



3. Fit the hollow bush (torpedo) to the shaft. **Wet the torpedo and replacement shaft seal with soap. Do not use silicone grease.**



4. 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.**



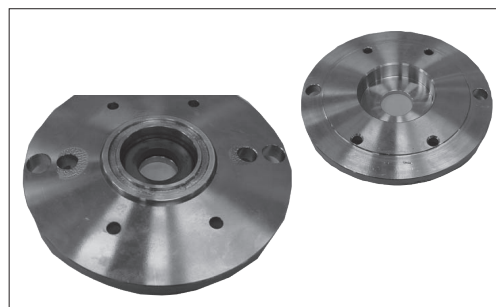
5. Using the plastic tool provided, large diameter first, press the seal home against the shoulder, by hand.



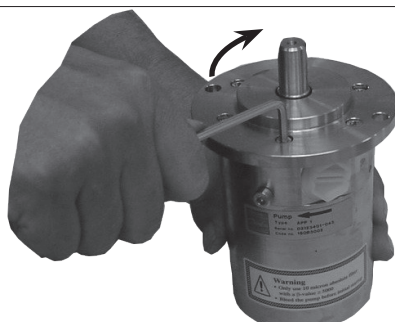
6. Remove ceramic ring from the flange.



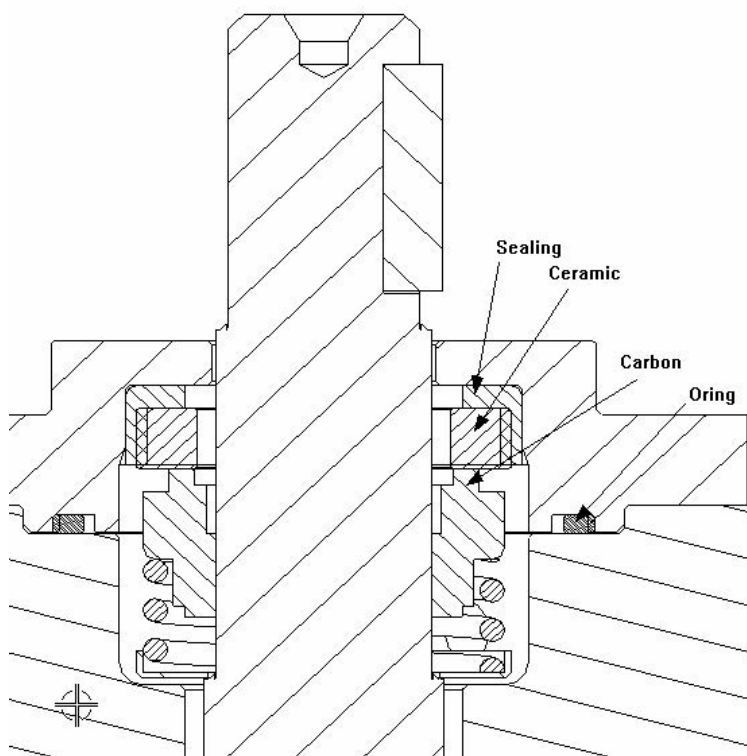
7. Push the new ceramic ring into the flange using the plastic tool provided. Make sure the face with the rubber seal is positioned against the shoulder in the flange. **Wet the parts with clean (filtered) soap-water before assembly.**



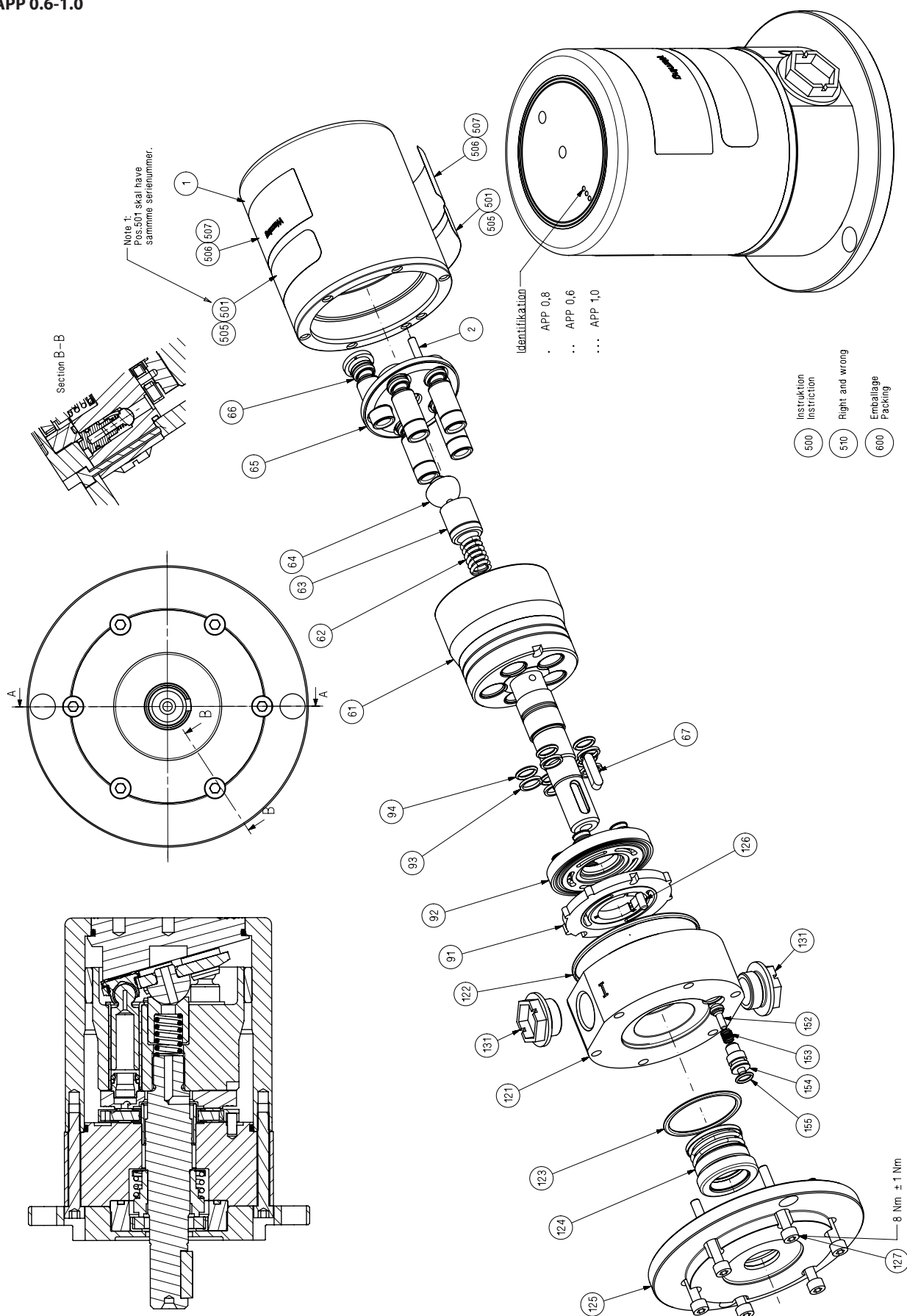
8. Position the O-ring on the seal SAE flange.



9. **To prevent cold welding, lubricate 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. Tighten the 4 flange screws according to exploded view.



4. Exploded view APP 0.6-1.0



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