Rebuild Kit Replacement Instructions

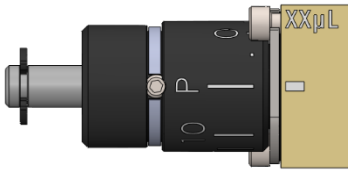
Unist 230 Pump 20µL Part Number 231-000-201

Item numbers in these instructions refer to the drawings found on the back of this sheet.
If any seals are not adequately greased Molykote 55 or equivalent is recommended.

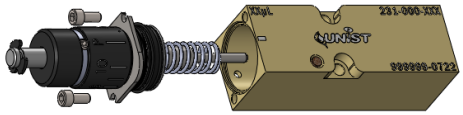
Tools Needed:

- 1/4” hex key
- 3/32” hex key
- 7/64” hex key
- A clean surface

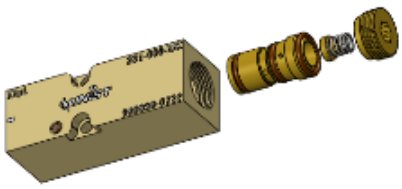
1. If necessary, remove the pump from the pump stack using a 7/64” hex key.
2. Record the current pump position and then adjust the pump to the prime position.



3. Remove the two bolts (item 16) that hold the adjustment knob to the pump body using an 3/32” hex key.
4. Remove adjustment knob (item 15), metering pin (item 14), and spring (item 13) from the air side. Set on a clean surface.

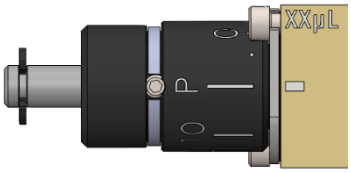


5. Use the 1/4” hex key to remove the brass plug (item 12) from the fluid side (bottom) of the pump.
6. Remove the check seal, spring, pump inserts and all seals (items 2-11). Depending how long the pump has been in service and what fluids have been ran through the pump this can be accomplished by either banging the bottom of the pump body on a hard smooth surface or pushing on the inserts from the opposite side to force the parts out.

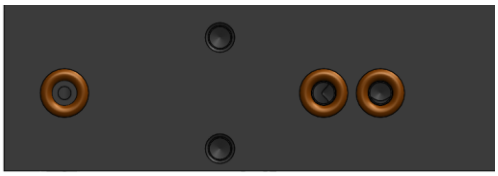


7. Discard all old seals and internal pump components. Clean any debris from the inside of the pump block to ensure contaminants do not interfere with pump performance upon re-assembly.
8. Drop the brass washer (item 2) into the fluid side of the pump body. Ensure it sits flat on the internal shelf
9. Ensure there is a light coat of grease on the -012 O-ring (item 3) and drop it on top of the washer. Ensure it sits flat on the washer.
10. The -005 X-ring (item 4) should be in the counter bore of the fluid inlet insert (item 5). Ensure this is assembled and lightly greased.
11. Insert the fluid inlet insert (item 5) into the pump body with the -005 X-ring (item 4) facing the washer.
12. Ensure there is an -012 O-ring (item 3) and -005 O-ring (item 6) installed on the fluid displacement chamber (item 7) and they are lightly greased. Install this assembly with the -005 O-ring facing the other insert.
13. Ensure the outlet check valve is assembled with the flat check seal (item 8) and the brass housing (item 9). Install this assembled with the seal facing the inside of the pump.
14. Install the outlet check valve spring (item 10) around the nub on the outlet check valve housing (item 9)

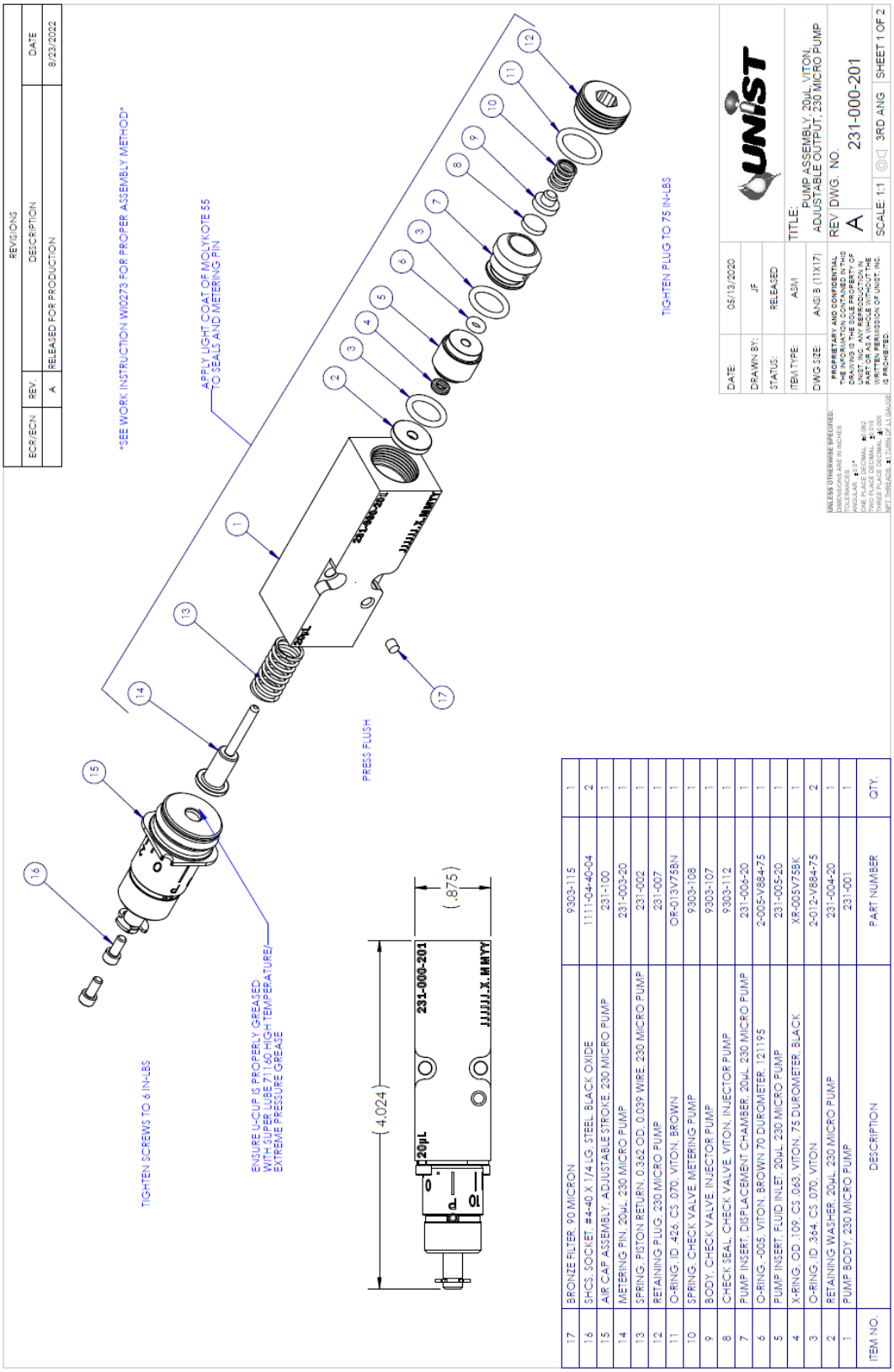
15. Ensure the -013 O-ring (item 11) is lightly greased and install on the chamfer of the displacement chamber (item 7)
16. Install and tighten the brass plug (item 12) to 75 in-lbs [8.5 Nm]
17. If replacing the air piston, refer to page 3 “Replacing the Air Piston” before moving to the next step.
18. Flip the pump over and install the metering pin return spring (item 13) and metering pin (item 14). Ensure the metering pin has a light coat of grease around the smaller diameter shaft.



19. Install adjustment knob (item 15) making sure the P is lined up with the mark on the pump body.
20. Tighten screws (item 16) to 6 in-lbs using 3/32” hex key
21. Replace the 3 O-rings on the pump manifold block with the 3 -007 O-rings that were shipped with the rebuild kit.



22. Reinstall the pump onto the manifold



ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
17	BRONZE FILTER, 90 MICRON	9303-115	1
16	SHCS, SOCKET, #4-40 X 1/4 LG, STEEL, BLACK OXIDE	1111-04-40-04	2
15	AIR CAP ASSEMBLY, ADJUSTABLE STROKE, 230 MICRO PUMP	231-100	1
14	METERING PIN, 20µL, 230 MICRO PUMP	231-003-20	1
13	SPRING, PISTON RETURN, 0.362 OD, 0.039 WIRE, 230 MICRO PUMP	231-002	1
12	RETAINING PLUG, 230 MICRO PUMP	231-007	1
11	O-RING, ID .426, CS .070, VITON, BROWN	OR-013V758N	1
10	SPRING, CHECK VALVE, METERING PUMP	9303-108	1
9	BODY, CHECK VALVE, INJECTOR PUMP	9303-107	1
8	CHECK SEAL, CHECK VALVE, VITON, INJECTOR PUMP	9303-112	1
7	PUMP INSERT, DISPLACEMENT CHAMBER, 20µL, 230 MICRO PUMP	231-006-20	1
6	O-RING, -005, VITON, BROWN 70 DUROMETER, 121195	2-005-V884-75	1
5	PUMP INSERT, FLUID INLET, 20µL, 230 MICRO PUMP	231-005-20	1
4	X-RING, OD .109, CS .063, VITON, 75 DUROMETER, BLACK	XR-005V758K	1
3	O-RING, ID .364, CS .070, VITON	2-012-V884-75	2
2	RETAINING WASHER, 20µL, 230 MICRO PUMP	231-004-20	1
1	PUMP BODY, 230 MICRO PUMP	231-001	1

Replacing the Air Piston

1. Remove E-clip (item 3).
2. Remove the air piston (item 2) from the adjustment knob (item 1).
3. Clean the internal bore of the adjustment knob and discard the old air piston and any debris.
4. Ensure seals are lightly greased on new air piston and use a twisting motion to install it into the adjustment knob.
5. Re-install the e-clip. This can be achieved by pressing the e-clip into the groove using a hard surface.