

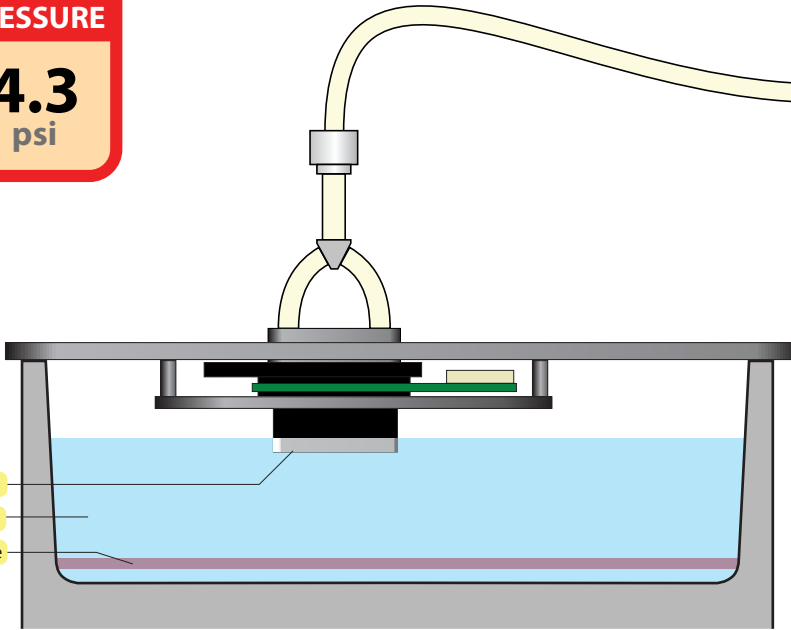
Epson DX4 Print Head Recovery with Print Head Doctor 4

1. Install the print head on the adapter. Place the adapter on the tank. Do not connect any tubing yet.
2. Fill the tank with clean fluid 1W (for water-based heads) or 1DX (for eco-solvent heads) so that the print head is submerged by about 5mm into the fluid.
3. Cap both output ports A. Ports B should be capped, too.
4. Open the relief valve fully.
5. Set temperature to 15°C.
6. Run the forward flushing cycle (F1) for 5 minutes and manually turn on the ultrasound using the buttons on the tank. This will recycle the fluid and clean the tank. Temperature will increase a bit.
7. Install the adapter on the tank and connect the print head to one of the ports A, while ports B should be capped.
8. Start a Reverse Flushing cycle: use Reverse Easy (R2).
9. You don't need to run it for an entire cycle time. 10 minutes will be enough.
10. Start a Forward (Easy) Flushing Cycle (F2). **Pressure setting: 4.5 psi maximum.**
11. After the cycle has finished, check the nozzles:
 - a. For water-based heads: check nozzles with distilled water. Remove the print head adapter from the tank and disconnect it from the machine. Then push some distilled water through the head using a syringe. Do not apply too much pressure. Slowly increase the pressure until you start seeing the nozzles forming a shower of jets. Be careful: a syringe can develop enough pressure to damage a print head! Use warm water (30°C) for the tests. Purge the print head with air before and after the nozzle test, slowly and without applying much pressure.
 - b. For eco-solvent heads: nozzle checking should be done only with fluid 1DX. Other fluids are too viscous for this. If fluid 1DX is currently in the machine, you can slowly increase pressure up to 7 psi while running F2 cycle, until you start seeing jets coming out of the print head. If your current fluid isn't 1DX, disconnect a print head, remove it from the tank. Purge a print head with a syringe full of air. Then push 1DX using a syringe, slowly increasing pressure until you start seeing the jets. When you're done testing nozzles, purge the head with some air and re-install it on the tank.
12. If the nozzles condition is not satisfactory, repeat the forward flushing cycle at 4.5 psi with no ultrasound, but turn the ultrasound on for **10 seconds** manually during the cycle.
13. If you don't see any flow through the nozzles at all, you may need to flush the mesh inside the plastic adapter on top of the head. Remove this adapter and flush it separately using the F1 or R1 cycle, with the printhead removed. Then re-attach it to the print head and try doing the R2 cycle on the print head.
14. Check the nozzles and if they are not recovered yet, proceed to changing the fluid.
15. To change the fluid, disconnect the printhead from the ports A.
16. Connect a tubing to one port A and cap the other port A.
17. Put the other end of the tube into the bottle with recovery fluid that you used.
18. Start DR cycle.
19. Close the Relief Valve.
20. The fluid will be pumped back into the bottle. To pick up the last bits of fluid, tilt the machine.
21. Turn on "R1" cycle for 10 seconds to purge out the fluid trapped in the internal tubes.
22. Run "AR" cycle for 10 seconds to empty the machine even better.
23. Put the end of the tube into the tank.
24. Pour in the next recovery fluid (2W after 1W for water-based ones, or 2DX after 1DX for eco-solvent).
25. Run the "DR" cycle with an open Relief Valve for 1 minute.
26. Install the print head adapter on the tank, reconnect the print head and repeat the forward flushing cycle F2 without any ultrasound.
27. You may turn on the ultrasound manually for 10 seconds, but remember that the ultrasound may damage the print head!
28. Check the nozzles as described above. If no progress has been made, move on to the next fluid.
29. If you can see progress but the recovery wasn't full, try repeating the same cycle and adding some ultrasound.
30. After you're done cleaning the Epson head, purge it with air using a syringe. Then flush it with a distilled water (if it's a water-based head), or fluid 1DX (if it's a solvent head). Then purge it with air again.
31. Allow the print head to dry for 24 hours before installing it on a printer.

**Print Head Doctor 4 Connections
for Epson DX4 Print Head**

**MAX
PRESSURE**
**4.3
psi**

DX4 Printhead
Recovery Fluid
Dampening Plate



A

A

B

B

Maximum pressure
0.03 Mpa / 4.3 psi

Adjust pressure
with Relief Valve