CLAIMS

1. A reservoir for use in a nanoimprinting process, comprising:

a printing medium receptacle for containing a nanoimprinting medium, an internal surface of the printing medium receptacle comprising a printing medium contact surface that, in use, contacts the nanoimprinting medium;

one or more printhead outlets for delivering the nanoimprinting medium to one or more printheads, the one or more printhead outlets being in fluid communication with the printing medium receptacle at a base region of the printing medium receptacle; and

an inlet coupled to the printing medium receptacle for receiving the nanoimprinting medium and filtering the nanoimprinting medium before it passes into the printing medium receptacle,

wherein the printing medium receptacle is substantially cylindrical and the printing medium contact surface is substantially smooth including no sharp transitions such as grooves, pits, sharp corners, or edges to reduce a likelihood that the nanoimprinting medium will remain in corners of the printing medium receptacle.

2. A reservoir according to claim 1, wherein the printing medium receptacle is substantially cylindrical in a longitudinal direction.

3. A reservoir according to claim 1 or 2, wherein the printing medium receptacle is seamless.

4. A reservoir according to any preceding claim, wherein an internal surface of the reservoir comprises a non-shedding or low particle-generating material.

5. A reservoir according to claim 4, wherein the printing medium receptacle is formed from a transparent material.

6. A reservoir according to claim 4, wherein the printing medium receptacle comprises an outer layer and an internal layer, the internal layer comprising a non-shedding or low particle-generating coating.

7. A reservoir according to any preceding claim, having fixed shape and configuration such that, in use, all parts of the reservoir remain in a fixed relative position.

8. A reservoir according to any preceding claim, further comprising a printing medium outlet through which excess nanoimprinting medium can be drained after completion of a nanoimprinting process.

9. A reservoir according to any preceding claim, wherein the reservoir is designed to have a predetermined length and number of printhead outlets depending on a desired nanoimprint width.

10. A reservoir according to any preceding claim wherein the printing medium contact surface is formed of glass.

11. A reservoir according to any preceding claim wherein ends of the printing medium receptacle have a radius applied around a periphery.

12. A reservoir according to any preceding claim wherein the printing medium receptacle includes a reservoir cleaning bypass line to drain cleaning solution from the reservoir and one or more cleaning solution inlets, wherein at least one of the one or more cleaning solution inlets is configured to connect to a pressure source so the printing medium receptacle can be positively pressurized while either cleaning solution, or the nanoimprinting medium is contained therein to push the cleaning solution or the nanoimprinting medium from the printing medium receptacle.

13. A reservoir according to claim 12 wherein the at least one of the one or more cleaning solution inlets is further configured to connect to the pressure source to negatively pressurize the printing medium receptacle to prevent the nanoimprinting medium from descending through the one or more printhead outlets.