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PRINTER INK TANKS WITH BRIGHTER INK LEVEL DISPLAY WINDOWS

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Printer Ink Tanks with Brighter Ink Level Display Windows

Abstract: Controllable LED backlighting in an inkjet, ink tank, assists users in correctly assessing the tank's ink level when filling or refilling the ink tank.

This disclosure relates to the field of inkjet printers

Many inkjet printers have a continuous ink delivery system (CIDS) which includes a set of ink tanks. Users refill ink into the tanks when any ink level in the ink tanks is lower than desired. Up to now, however, the display of the ink level is reliant on the small windows on the individual ink tanks. Peering through these small windows into the ink tank can be difficult. As a result, users may not identify the correct level of ink remaining in the tank. For example, they may believe that a tank contains more ink than it actually does, and as a result run out of ink in the middle of print job. Or, when refilling the tank, the user may overfill it due to an inability to properly see the ink level, wasting ink and causing a mess.

A technique is disclosed that provides an intuitive and accurate ink refilling interface.

According to the present disclosure, and as understood with reference to the Figure, an ink tank 10 is provided with back lighting to brighten up the ink level display window 20 of the tank 10.

In one example, the ink tank 10 has an opaque casing 30. A body 40 of the ink tank 10 may be made of a transparent material such as polycarbonate. An LED and light pipe assembly 50 is disposed in the casing 30 and controlled by a back lighting module 60.

The lighting module 60 can be activated when certain events occur. One example is during the printer's initial setup for ink filling. Another example is when the printer is in use and it determines that an ink tank 10 has become low on ink (LoI). The LED and light pipe 50 are illuminated to assist the user in determining the present ink level in the tank body 40 during filling or refilling. In some examples, opening the door (not shown) to the ink tank may turn on the LED 50. To add ink 70, a tank cap 80 is removed to allow the user to fill 90 the tank 10. Closing the ink tank door may turn the LED 50 off.

The disclosed technique advantageously improves visibility of the ink level status through the ink tank window 20 during the filling and refilling procedures.

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