

Installation of new low level ink sensor

This document describes how to install the new low level ink measurement in HSA printers. The update will work with all automatic inkjet printers using the "pump5" controller board.

The new sensor is based on a principle, in which the sensor is heated up a bit, then cooled down by the environment it is placed in. The time it takes to cool down the sensor will be different in fluids compared to free air. The measurement takes 4-5 minutes.

The kit consists of the following items. Notice that the kit will be delivered mounted as shown.

There are 3 steps to mount the kit:

- 1. Mount PCB on top of the existing pump controller board
- 2. Drill hole in printer metal casing please see drawing for placement.
- 3. Mount new bottle thread adapter, sensor and filter on ink suction pipe.



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Mount the new PCB

The PCB mounts on top of the current pump controller print. Notice the last jumper which must be set if the printer is the XaarJet 500 type.

The illustration on the following page shows the mounted PCB.



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The pump controller board with the new board mounted on top (shown in color).

Do the following to mount the new PCB

- 1. Turn power off. Do not repair the printer with power on.
- 2. Remove the side panel of the printer
- 3. Remove the connections from the LEDs and buttons on K6.
- 4. Replace the micro processor. You should mount LEVEL100 or bigger.
- 5. The new board mounts on top of K6 and K14.
- 6. Reconnect the LEDs and buttons, according to illustration in picture of the board. They are connected to the new board in the *same order*. Notice that for LEDs, red / black wire placement is important. Black wires to the LEFT in the picture above.



Mount new bottle thread and sensor

You need to replace the original bottle thread to allow room for the signal wires coming from the bottle. The wire mounted in the thread adapter must be put through a drilled hole in the metal box, as illustrated below (red arrow)

Notice that the bottle thread and sensor are delivered pre-mounted, and both slide onto the steel pipe in the same operation.



Do the following to mount the new thread adapter

- 1. Empty the printer completely.
- 2. Dismount the ink bottle and ink filter.
- 3. Unscrew the 3 hex screws in the existing thread adapter (1 visible in picture above, see arrow), and remove it.
- 4. Mount the new adapter, wire should be towards the 25-pin SUB-D connectors.
- 5. Screw in the 3 hex screws. **Notice**: Do not over-tighten the screws, or you will break the thread.
- 6. Mount the wire as illustrated by the arrow above. See later for placement details.



Mount the sensor

The sensor is connected to a small ring that fits around the ink tube and is fastened with 2 screws. It is mounted before the filter is mounted, in the same operation as the thread adapter.



Do the following to mount the sensor

- 1. Push the ink pipe through the hole in the sensor ring as you mount the thread adapter.
- 2. Replace the ink filter. *A new filter is supplied with the new sensor.* Tighten the screw in the side after mounting.
- 3. Adjust the sensor to be 1-2 mm above the filter, as illustrated
- 4. Tighten the 2 screws in the side of the ring of the sensor

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Recommended hole placements

These are the recommended placement for the drilled wire through-holes. All measurements are in mm.

As the ink chambers are of different size, the holes are placed differently depending on the type of printer.

In the drawings below, the ink supply is viewed from below, in the direction indicated by the arrow.



For XaarJet 128 / 126 printers

Recommended placement 76 mm from connector side, 42 mm from backside (opposite cover). Ø7 mm hole.



For XaarJet 500 printers

Recommended placement 97 mm from connector side, 45 mm from backside. Ø7 mm hole.



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