

MC3: INTERNALLY-DESIGNED EQUIPMENT/JIGS/PRODUCTS

DFL7000s Chiller Unit Water Turbidity Sensor

BACKGROUND

Customer encountered “X-axis cooling water is abnormal. Please confirm the chiller.” on their DFL7360 Stealth Dicing machine.

E1420 X axis cooling water is abnormal. Please confirm the chiller.

Found out that distilled water inside chiller unit is contaminated and clogged the flowmeter.



Also as per checking, frequency of water replacement of chiller unit is not followed every 3 months.

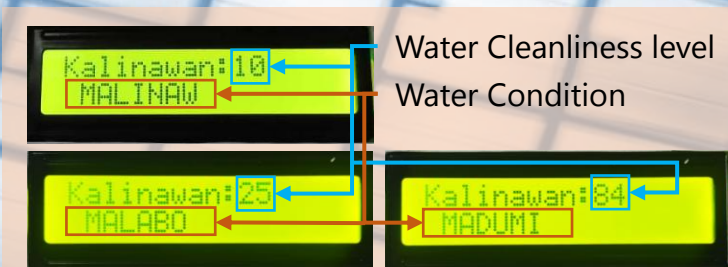
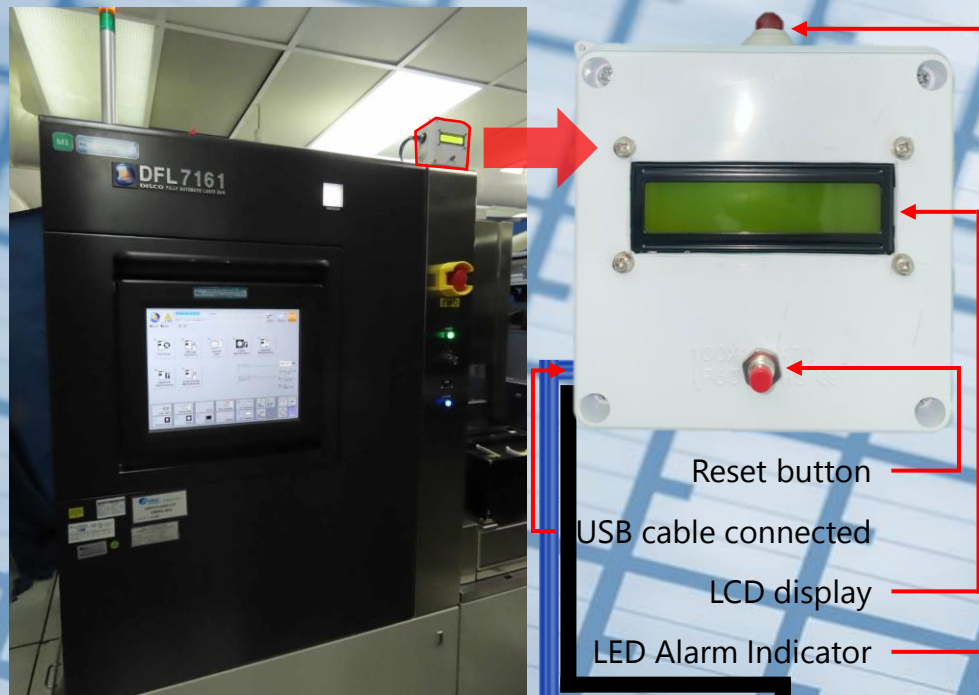
CAUSE & EFFECT

Dirty chiller unit water causes the following:

- Clogged fittings
- Stucked-up flow meter
- Flow restriction

Limitation on water flow causes:

- Temperature increase on laser head/X-axis
- Deterioration of laser head due to temperature change
- Damage on chiller unit



FUNCTIONALITY

1. Device powers on as machine powers on
2. Turbidity sensor detects water cleanliness (KALINAWAN)
3. Device analyzes and shows if water is clean as below:
 - MALINAW (Clean) – 0-15%
 - MALABO (Cloudy) – 16-50%
 - MADUMI (Dirty) – 50-100%
4. LED alarm will be lit once dirty water is detected
5. To reset alarm and detection, RESET button is pressed.

TEST RESULTS

Device was installed at customer's DFL7161 and tested its functionality. Overall, customer is satisfied with its function since there are at 14 laser groove machines and inspection for water condition is easier.

