



Malfunction Coatron A4: Defect Cooling Function:

Error description

Temperature on reagent block is close to environmental condition or more than 20°C.

General

The cooling function can't be adjusted. It is always switched on with maximum power. The power of cooling is around 8°C (+/-2°C) below environmental conditions .

At room temperature 20°C it cools down to 12°C

At room temperature 24°C it cools down to 16°C

At room temperature 30°C it cools down to 22°C

The cooling element heats up the inner parts of instruments, which is contra productive to the cooling function. So after 2h of operation the

After switch on of device and at room temperature 24°C it cools down to 14°C

After 1h operation of device and at room temperature 24°C it cools down to 16°C

After more than 2h operation of device and at room temperature 24°C it cools down to 18°C

Corrective Actions:

(1) Check peltier element

Check cool temperature with finger 5-10min after first switch on in the morning.

If you can feel cold temperature, then cooling element is working.

If not, then Peltier element CAT = 21 916 00 (52,50 USD) must be replaced. The procedure is extremely complicated and should be done only by TECO. It included nearly the complete disassembling of instruments. A detailed description of service procedure would fill pages. These are just the main steps

- a. Remove all casing parts. You must lift instrument main frame out of button case.
- b. Remove complete optic and reagent block unit
- c. Pull the label foil from reagent block
- d. Now disassemble the reagent block unit and remove the defect peltier element.
- e. Insert new peltier element. Use heat sink paste to ensure good thermo-contact.
- f. Assemble reagent block completely
- g. Before continue of further assembling it is recommend to test the cool function. For this power the peltier element with external volt generator with 15V 3A.

(2) Check air fan

The two air fans of power supply are used the blow heat out of instrument. It is essential for good and stable cooling power. Check of both fans are working and remove any dust

The air fan is produced by EPM PAPST TYPE 412. TECO doesn't support the air fans as spare parts, but just with the complete power supply. But maybe you can organize yourself the air fan.

(3) Clean air fan regular

It is recommend to remove all dust from air fan every 6month especially in dusty environments.

(4) Install and operate instrument in laboratory with conditioned air (20-24°C).



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Remove all casing part and then the cuvette tower



1) Remove the reagent block unit completely



2) Now disassemble the reagent block and replace the cooling elements

It is important to apply

- heat sink paste around peltier element
- avoid pressure at the peltier elements. Means tight the screws very carefully.

