

Section 6.6

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1 Adjusting the solution temperatures

1.1 Access to the control boards in CURIX 60

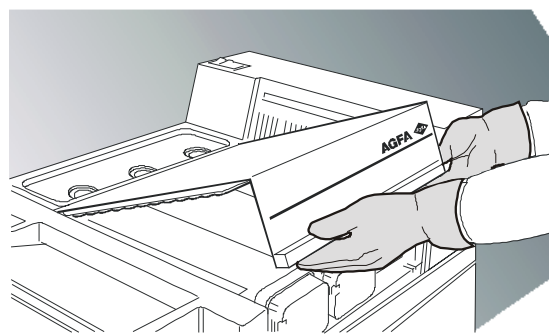


Always wear protective gloves, apron and goggles when handling chemicals!

Remove the machine cover.



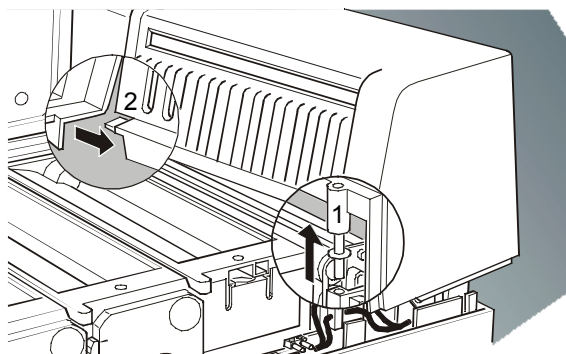
In doing so, the interlock switch on the right of the machine cover triggers and switches off the power supply to the machine.



946212em.cdr

Figure 6.6 - 1

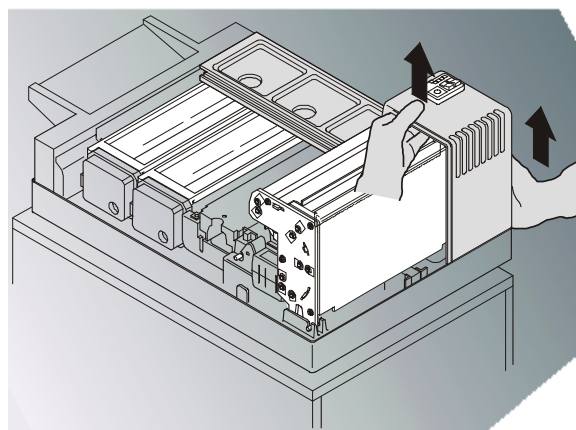
Carefully lift the dryer housing up to pull the interlock switch ① out of its guide..
Pull the dryer housing to the right ② out of its holding groove



946203bb.cdr

Figure 6.6 - 2

Remove the cover of the gear box after loosening two screws.



946203sm.cdr

Figure 6.6 - 3

Lift the panel at the rear tie rod and remove.
Now the crossover section can be removed.

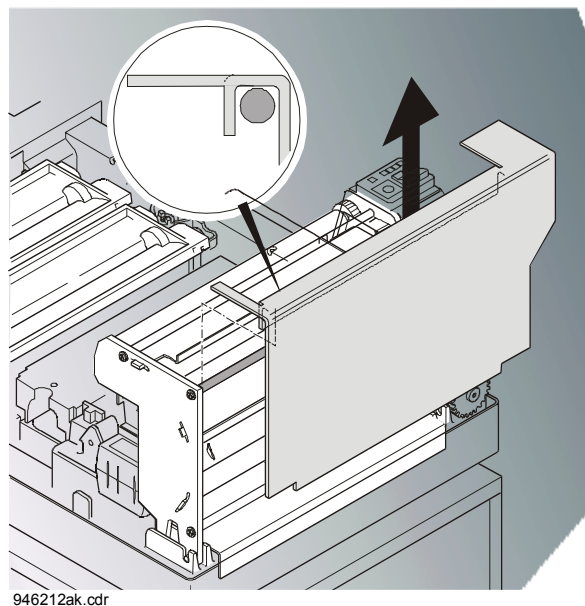


Figure 6.6 - 4

Remove the cover after loosening two screws.

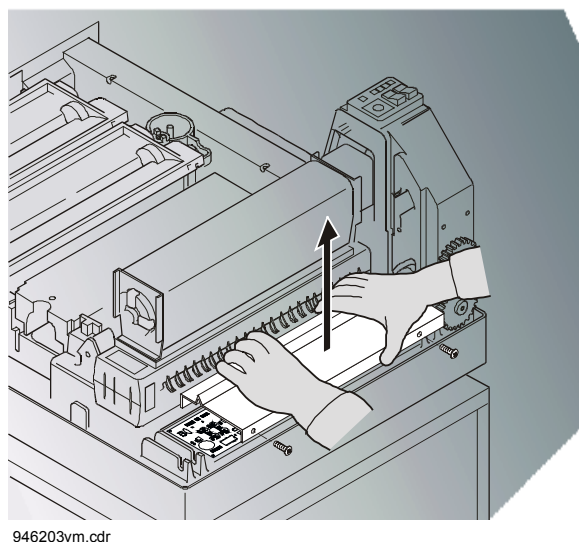


Figure 6.6 - 5

Replace gear box cover.

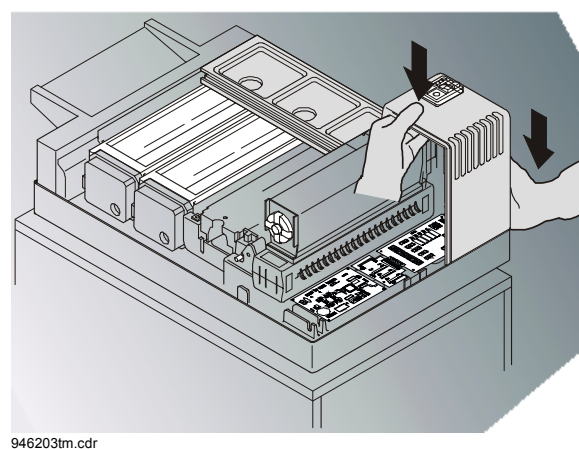


Figure 6.6 - 6

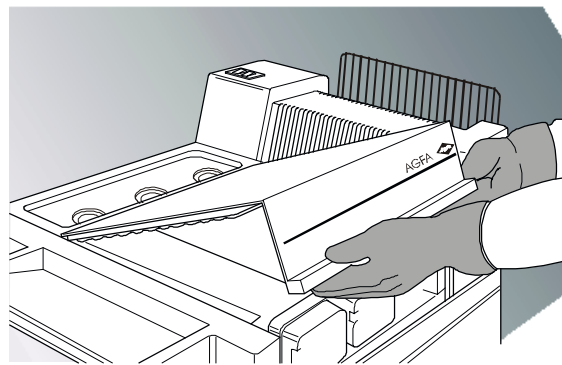
1.2 Access to the control boards in CP 1000



Always wear protective gloves, apron and goggles when handling chemicals!

Remove the machine cover

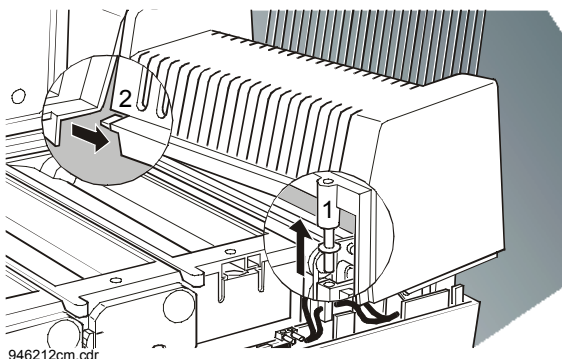
i In doing so, the interlock switch on the right of the machine cover triggers and switches off the power supply to the machine.



946203ym.cdr

Figure 6.6 - 7

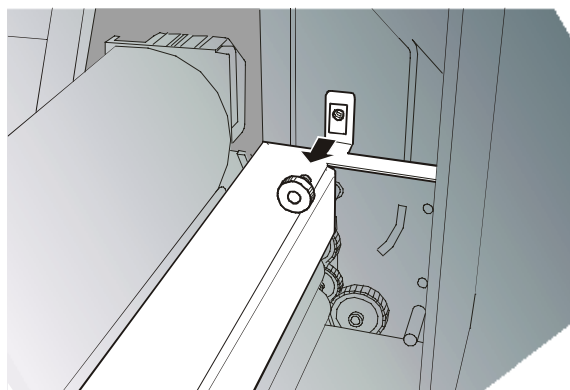
Carefully lift the dryer housing up to pull the interlock switch ① out of its guide..
Pull the dryer housing to the right ② out of its holding groove



946212cm.cdr

Figure 6.6 - 8

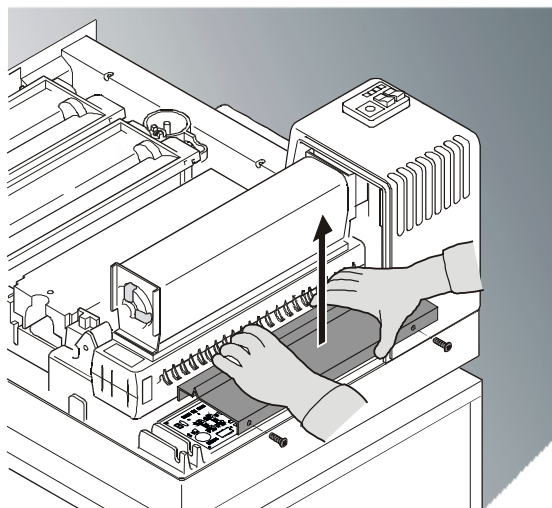
Loosen the knurled screw at the exit section and remove the exit section.



946212yym.cdr

Figure 6.6 - 9

Remove the cover after loosening two screws.



946203pa.cdr

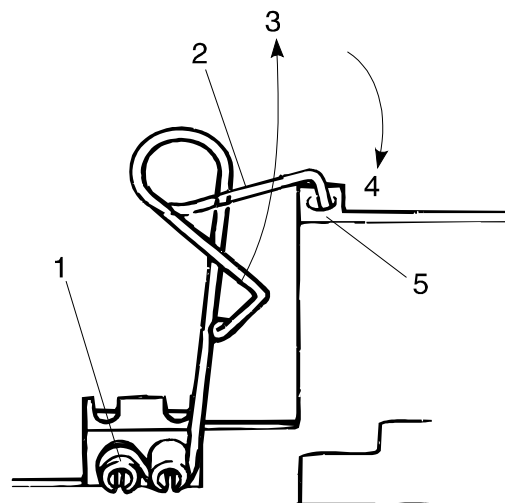
Figure 6.6 - 10

1.3 Developer: electronic adjustment

Position the service key CM+7.9820.0134.1 at cover switch ⑤.

The lower leg of the service key must engage at the cover bracket ①.

Lift the other leg in the direction of the arrow ③ and engage in interlock switch ⑤, see arrow ④.



946262AM.CDR
Figure 6.6 - 11



Caution! As soon as the service key is in position, all live parts are supplied with voltage again! The machine starts up!

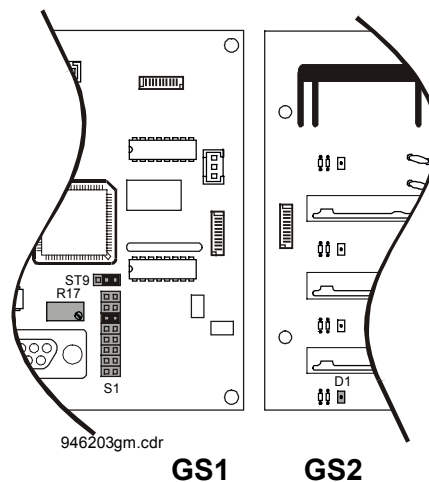
Other temperatures are adjusted using the following components:

on control board GS1

- switch S1
- switch ST9 and
- potentiometer R17

on control board GS2

- diode D1.



946203gm.cdr
GS1 GS2
Figure 6.6 - 12

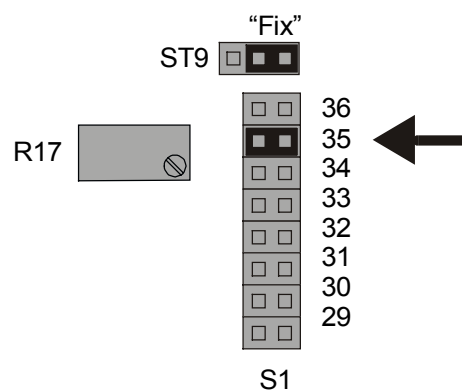
In addition, you need

- a suitable screwdriver
- to adjust potentiometer R17.

1.3.1 Adjusting a temperature (full degrees)

Example: you want to adjust a temperature of 35 °C.

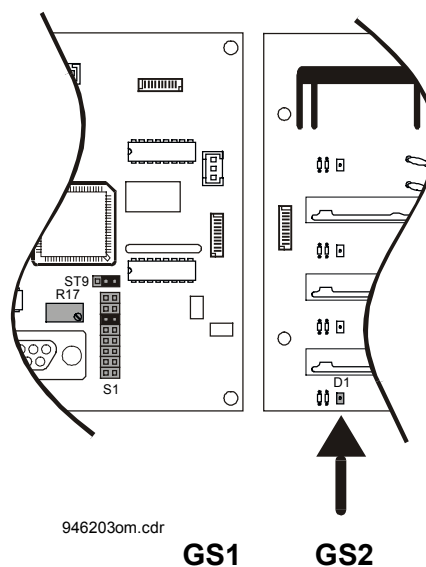
Ensure that plug ST9 is set to "Fix". Move the jumper of switch S1 to a full-value temperature setting, i.e. "35".



946203nm.cdr

Figure 6.6 - 13

Diode D1 on GS2 lights up as long as the solution is being heated. Once diode D1 switches off, the solution has reached the temperature of 35°C.



946203om.cdr

GS1 GS2

Figure 6.6 - 14

1.3.2 Adjusting a temperature (1/10 degrees)

Example: you want to adjust a temperature of 35.5°C.

Adjust the value of the full-value temperature setting as described above.

Now move the jumper in plug ST9 to the position "Var".



Figure 6.6 - 15

If LED D1 on GS2 is off:

turn potentiometer R17 clockwise until the diode lights up again...

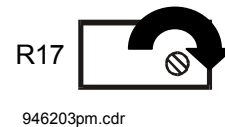


Figure 6.6 - 16

...and then turn it counter-clockwise until the diode switches off. The working point of potentiometer R17 has now been adjusted.

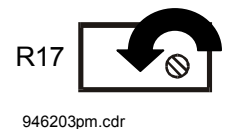


Figure 6.6 - 17

If the LED is on:

turn potentiometer R17 counter-clockwise until the diode switches off...

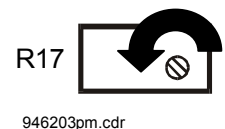


Figure 6.6 - 18

...and then turn it clockwise until the diode lights up again. The working point of potentiometer R17 has now been adjusted.

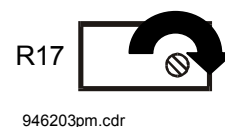


Figure 6.6 - 19

Now adjust the fraction of the value "35.5" For every full clockwise rotation, potentiometer R17 increases the temperature by one degree.

Therefore, turn potentiometer R17 in this case by half a rotation (through 180 °).

The value of "35.5" has now been adjusted.

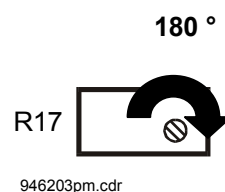


Figure 6.6 - 20

1.4 Fixer: electromechanical adjustment



The fixer process is used to stop the chemical reaction of the film to the developer solution. This process is hardly influenced by the temperature of the fixer, it works throughout a wide range of temperatures. The fixer temperature has been preset to approximately 34 °C.

It is therefore rarely necessary to adjust the fixer temperature. For reasons of completeness however, adjustment of the fixer temperature is explained below..

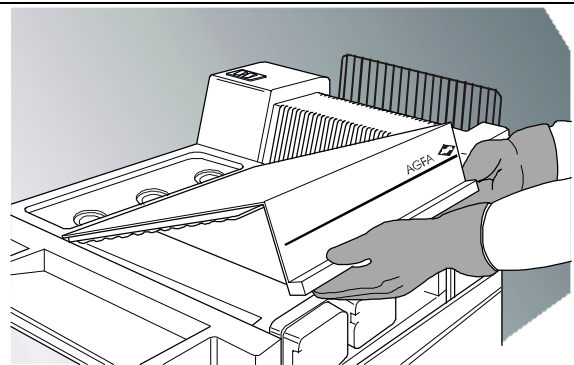


Always wear protective gloves, apron and goggles when handling chemicals!

Remove the machine cover.



In doing so, the interlock switch on the right of the machine cover triggers and switches off the power supply to the machine.



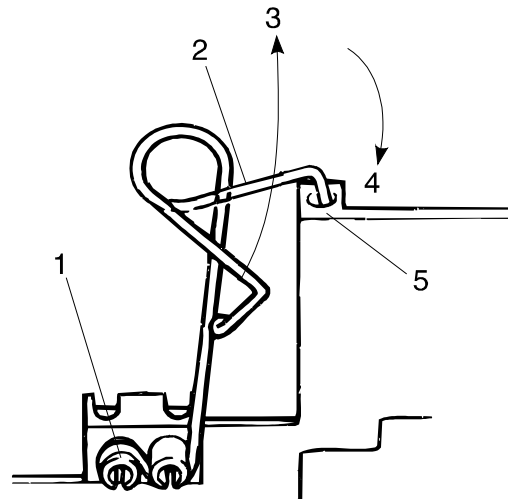
946203ym.cdr

Figure 6.6 - 21

Position the service key CM+7.9820.0134.1 at cover switch ⑤.

The lower leg of the service key must engage at the cover bracket ①.

Lift the other leg in the direction of the arrow ③ and engage in interlock switch ⑤, see arrow ④.



946262AM.CDR

Figure 6.6 - 22



Caution! As soon as the service key is in position, all live parts are supplied with voltage again! The machine starts up!

Insert a thermometer ② in the valve opening of the fixer tank and secure it with adhesive tape ①.



The thermometer (accuracy at least 0.5 K) should not be immersed in the liquid by more than 10 mm so that the circulation flow is not affected.

Wait for 7 minutes until there are no more temperature changes.

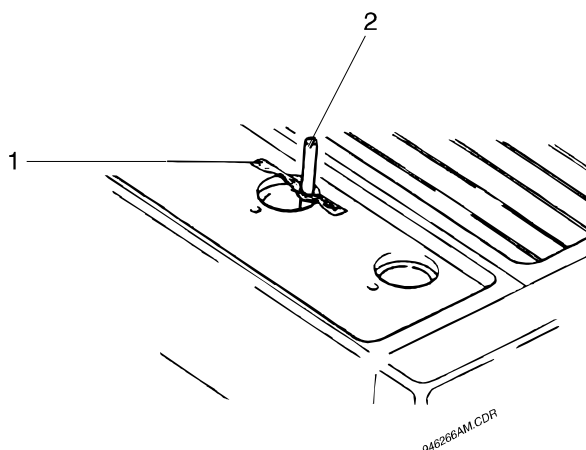


Figure 6.6 - 23

Remove adhesive foil ① at the fixer heater. Use a screwdriver to turn the cap ② through 90° and pull it together with the sealing ring ③ out of the heater case ④ in the respective heater for developer or fixer.

Turn the shaft ⑤ slightly with flat nose pliers or tweezers

clockwise = increases the temperature
counter-clockwise = decreases the temperature.

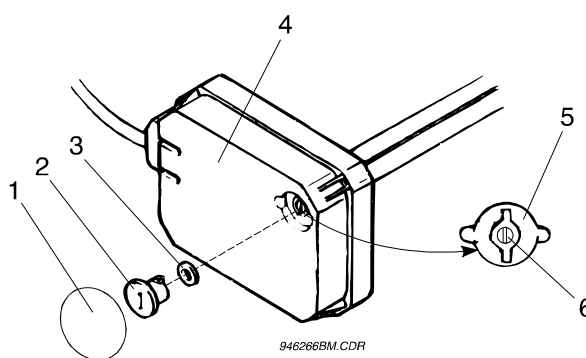


Figure 6.6 - 24



The shaft ⑤ has an integrated adjusting screw ⑥. This screw must not be turned, since this would change the control characteristics. If this screw is turned, it is no longer possible to make any adjustments on the spot.

Check the temperature reading on the thermometer and repeat the procedure if necessary.

Mount sealing ring ③ and cap ② again and cover the opening with the adhesive foil.

Close the machine!

1.5 Adjusting the replenishment rate

1.5.1 Check the replenishment rates

Switch the machine on and wait for a few minutes until all tanks are filled.

Mark the level on all three replenisher bottles.

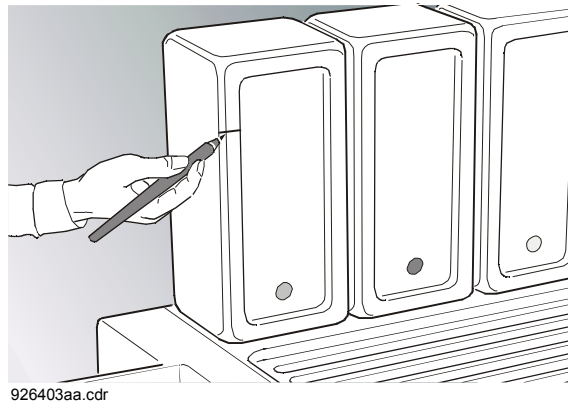


Figure 6.6 - 25

Press the replenishment button. A three-minute replenishment cycle starts.

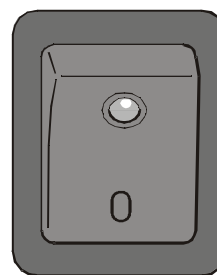


Figure 6.6 - 26

After three minutes, mark the level again and note the current value.

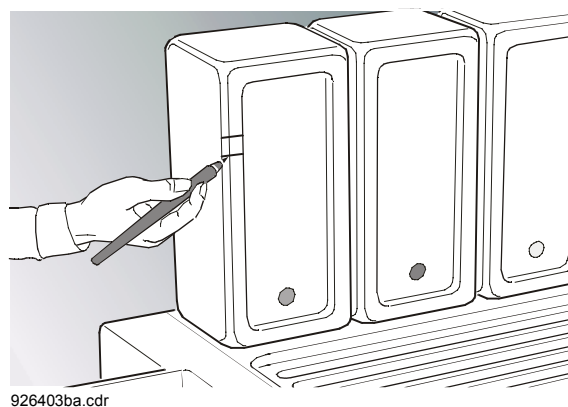


Figure 6.6 - 27

Compare the noted value for developer, fixer and wash water with the table below. Choose the column which corresponds to the format of film mainly being used.

Level change in the replenisher bottle

	Standard sizes 24 x 30 cm	Sizes > 24 x 30 cm	Sizes < 24 x 30 cm	Small sizes < 10 x 10 cm
Developer	8.5 mm \pm 1 0.33 inches \pm 0.04	10 mm \pm 1.5 0.39 inches \pm 0.06	6.5 mm \pm 1 0.15 inches \pm 0.04	3.5 mm \pm 0.5 0.14 inches \pm 0.02
Fixer	10.5 mm \pm 1.5 0.41 inches \pm 0.06	13 mm \pm 2 0.51 inches \pm 0.08	8.5 mm \pm 1 0.33 inches \pm 0.04	4.5 mm \pm 0.5 0.18 inches \pm 0.02
Water	13 mm \pm 2 0.21 inches \pm 0.08	15 mm \pm 2.5 0.59 inches \pm 0.1	9.5 mm \pm 1.5 0.37 inches \pm 0.06	5.5 mm \pm 1 0.22 inches \pm 0.04

If the noted values do not correspond to the values in the table, the replenishment pump has to be adjusted.

1.5.2 Adjusting the replenishment pump

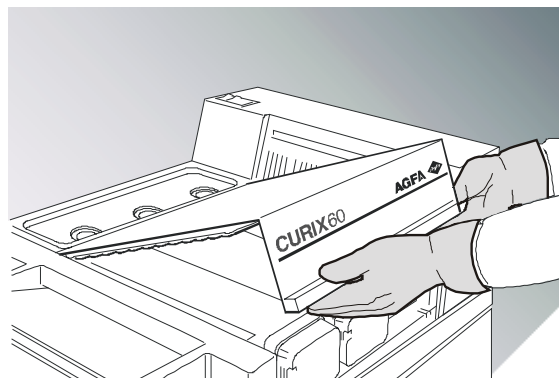


Always wear protective gloves, apron and goggles when handling chemicals!

Remove the machine cover.



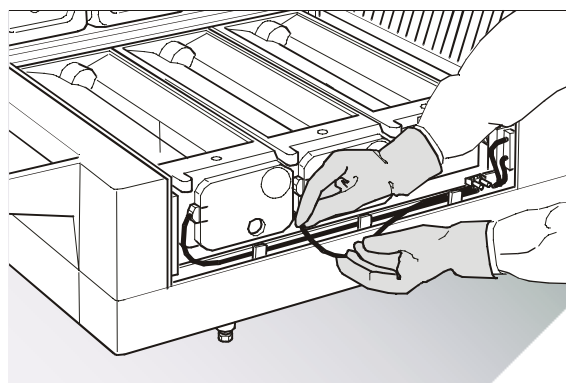
In doing so, the interlock switch on the right of the machine cover triggers and switches off the power supply to the machine.



946212em

Figure 6.6 - 28

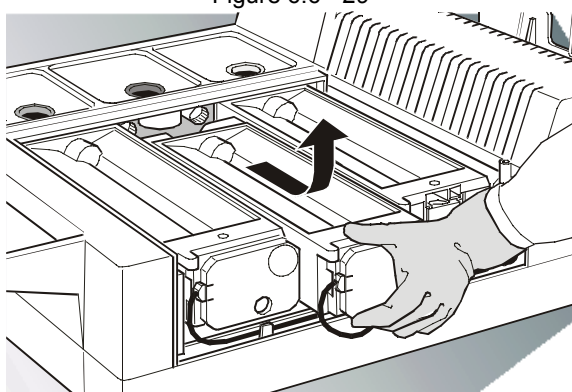
Carefully take the cables of the first tank out of the cable guides. The water tank is the only one without a heater and therefore has no cables.



946212fm.cdr

Figure 6.6 - 29

Pull the corresponding tank approximately 8 to 10 cm in the direction of the arrow.



946212gm.cdr

Figure 6.6 - 30

Remove the roller bracket.

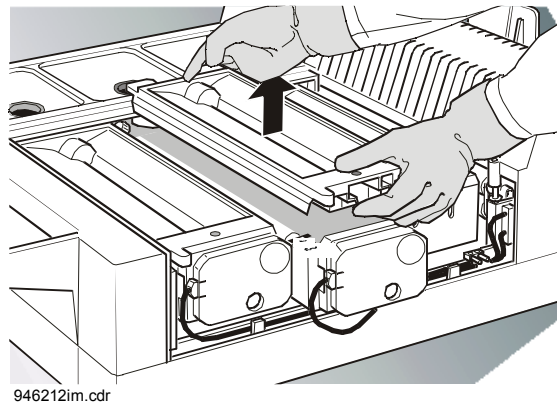


Figure 6.6 - 31

Loosen the lock nut of the pump by turning counterclockwise.

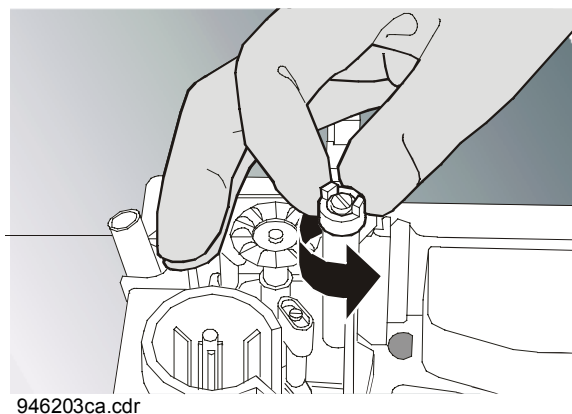


Figure 6.6 - 32

Adjust the adjusting screw with a screwdriver.

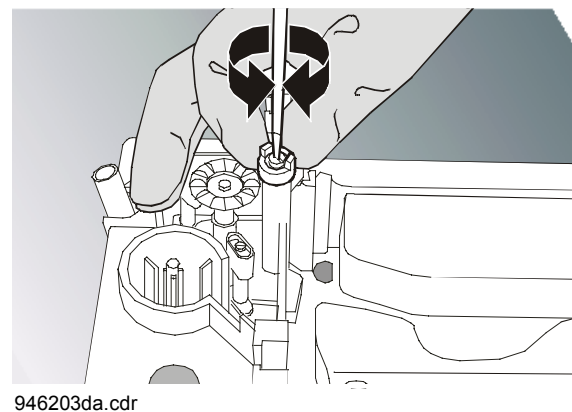


Figure 6.6 - 33

Turn clockwise to decrease the supply rate, turn counter-clockwise to increase the supply rate.

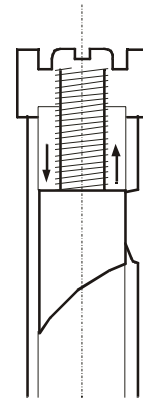
Then tighten the lock nut again turning it clockwise; the adjusting screw must be held in position with a screwdriver.

Insert the guide plate and the roller bracket again, and push the tank back into the machine. Make sure that the tanks are correctly positioned and tightly connected.

Mount the replenisher bottles again.

Then check the adjusted supply rate. To do so, start another replenishment cycle and check if the supplied rate now corresponds to the respective value in the table.

If necessary, repeat the pump adjustment procedure until the supply rates are correct.



946203ea.cdr

Figure 6.6 - 34

2 Adjusting the developer / fixer temperatures (Type 105/155/165/205/285/845)

Also see description in section 3.

Do not attempt to use a temperature other than that set ex-works ($34\text{ }^{\circ}\text{C} \pm 0.5\text{ K}$).

Adjustment is required if the temperature varies from the setpoint by $> 1\text{ K}$.

Adjustment

Remove the housing cover

Insert a thermometer (2) into the valve aperture for the developer or fixer bath and secure with a piece of adhesive tape (1).

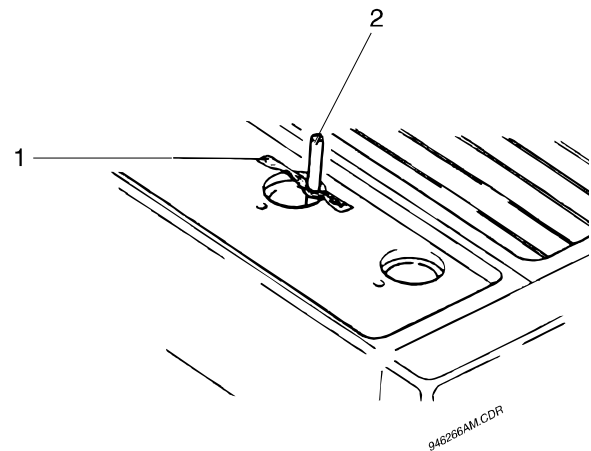


Figure 6.6 - 35



The thermometer (minimum accuracy 0.5 K) should not be immersed by more than 5 to 10 mm in the solution, because otherwise the disruptive effect on circulation would produce an incorrect measurement. Measure the temperature for at least 7 minutes (2 control cycles).

Switch on the device and wait for approx. 7 minutes.

Read the temperature of the developer or fixer solution from the thermometer.

Remove the adhesive cover (1).

Using a screwdriver, turn the cap (2) through 90° and remove together with the sealing ring (3) from the housing (4) of the heating element for the developer or fixer, as applicable.

Using flat-nosed pliers or tweezers to hold the flats, turn the shaft (5):

clockwise	=	to increase the temperature
counter-clockwise	=	to reduce the temperature

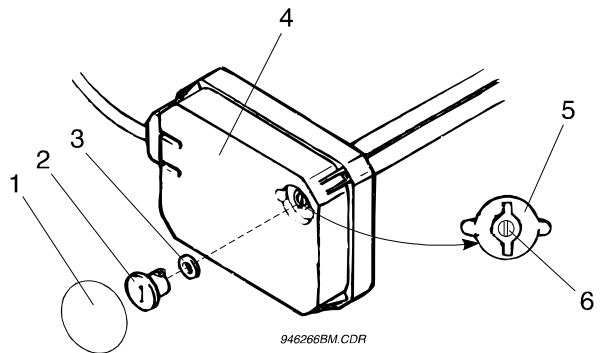


Figure 6.6 - 36



A set-screw (6) is accommodated in the shaft (5). Take care not to turn the set-screw, as this would change the control characteristic. If this happens, on-site correction is no longer possible.

Using the thermometer, check the temperature of the developer or fixer solution, as applicable.

SETPOINT temperature is 34°C.

Readjust if necessary, until measured temperature is equal to setpoint temperature.