

Recommendations for the use of KODAK SM Chemicals in Low-Utilization Operations

Kodak

CURRENT INFORMATION SUMMARY

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LOW UTILIZATION

Low-utilization effects are seen in photographic processors when the amount of material processed is low compared to the processor's capacity. If your processor's utilization is low, oxidation and evaporation will affect the activity of your processing solutions. The technology of KODAK SM Chemicals reduces the effects of low utilization on processing solutions in SM minilabs. However, under extremely low-utilization conditions, evaporation and oxidation effects will occur. The information in this publication defines the point at which most labs will start to experience problems caused by low utilization and procedures for film and paper processors to adjust for this condition. Factors such as ambient temperature, relative humidity, evaporation from working-tank solutions, and processing patterns (e.g., busy and slow times during the day) will affect the point at which labs will experience problems caused by low utilization.

PROCESS C-41SM

Determining Low Utilization

Low utilization is a processor condition that exists when the amount of film processed is low compared to the processor's capacity. To determine if your processor's utilization is low, calculate the number of rolls of film that you process for several weeks. Then, divide this number by the number of days your processor was operating. If your average daily roll count is less than the value in the following table, your processor is operating at low utilization.

Processor	Rolls per Day (135-24 exp)
Noritsu QSF V30SM	20
Noritsu QSF V50SM	30
Noritsu QSF V100SM	45

Processor Setup for Low Utilization

Use the following conditions for film processors that are operating under (or will be operating under) low-utilization conditions for several weeks or longer. For changes that require the service disk, contact your Noritsu service representative.

1. Make sure that "Auto Refilling 2" mode is ON. To check or change this function, the service disk must be installed.
 - Main Menu > Floppy Disk > Standard Setting 3 > Auto Refilling 2 (item 19 on this menu)
2. Change the "Water Refilling Amount 2" to 50 mL for *all* tanks. To check or change this function, the service disk must be installed.
 - Main Menu > Replenish/Refil. Water > Refilling Water Amount 2
3. Change the Fix-W replenishment setting to 10 mL/m (from 7.55 mL/m).
 - Main Menu > Replenish/Refil. Water > Replenishment > Basic Repl. Amount
4. If the processor is on, but you do not process film for two hours or more, rinse off the rollers and tops of the processing tanks with warm water to remove dried chemicals before you process film.
5. Check the tank-level sensor floats located in the filter housings **daily**, and rinse them with warm water to remove any dried chemicals. These floats control the automatic water top-off function, and will not operate properly if dried chemicals accumulate on them. Pay particular attention to the fixer and bleach sensor floats; they are the most likely to experience crystallization.

Converting Back to Standard Processing Conditions

If your business increases to normal utilization levels, and you expect the processor to remain at this higher production for at least several weeks, complete the following—

- Change the “Water Refilling Amount 2” to 25 mL for *all* tanks (see the procedure described in step 2 above).
- Change the Fix-W replenishment rate to 7.55 mL/m (see the procedure described in step 3 of Processor Setup for Low Utilization).
- Check the tank-level sensor float located in the filter housings *weekly*, and rinse them with warm water to remove any dried chemicals.

PROCESS RA-2SM

Determining Low Utilization

Low utilization is a condition that exists when the number of prints processed is equal to or less than the values in the following table during a 10-hour work day for a period of several weeks.

Processor	4 x 6-inch Prints (Orders per Day ¹)	3.5 x 5-inch Prints (Orders per Day ¹)
22 SM Series	300 (13)	400 (17)
23 SM Series	500 (21)	650 (27)

¹Single-print orders from 24-exposure rolls.

Processor Setup for Low Utilization

Use the following recommendations for Noritsu QSS-2301/2302SM and Noritsu QSS-2211/2201SM Paper Processors that you expect to continually operate under low-utilization conditions. This includes new processor installations and processors that were previously set up for medium to high utilization, but are now operating at low utilization.

Note: Do not follow these recommendations for Noritsu QSS-2101/2102SM Series Paper Processors.

1. Decrease the developer tank temperature to 36.7°C (98°F); decrease the temperature of all other solutions to 35°C (95°F).
2. Use the replenishment rates given in the following table.

Solution	Replenishment Rate	
	mL/m ²	mL/ft ²
Developer		
Part A	3.87	0.36
Part B	7.10	0.66
Part C	7.53	0.70
Water	89.09	8.28
Bleach-Fix		
Part A	16.89	1.57
Part B	24.53	2.28
Water	12.37	1.15
Stabilizer		
Concentrate	1.92	0.18
Water	246.0	22.83

Note: After you have set up your processor for the proper utilization, we recommend that you do not make any changes unless you expect a long-term change in utilization.

DEVELOPER TANK STARTUP

Noritsu 2211

1. Prepare 4 litres of developer-tank solution by using the following number of KODAK EKTACOLOR SM Tank Developer Kits:
 - 2 Part As
 - 2 Part Bs
 - 3 Part Cs (**Note:** This quantity is *less* than normal.)
2. From the printer screen, enter Menu > Extension 2 > Process Specification > pump output amount > Move Right > CD-C Pump amount > Shift 1 (repeat "Shift 1" for a total of six times). This will add more CD-C to the tank to adjust activity.

Noritsu 2301

1. Prepare 6 litres of developer-tank solution by using the following number of KODAK EKTACOLOR SM Tank Developer Kits:
 - 3 Part As
 - 3 Part Bs
 - 4.5 Part Cs (**Note:** This quantity is *less* than normal.)
2. From the printer screen, enter Menu > Extension 2 > Process Specification > pump output amount > Move Right > CD-C Pump amount > Shift 1 (repeat "Shift 1" for a total of six times). This will add more CD-C to the tank to adjust activity.

Adjusting the Automatic Top-Off Amount / Level 2

Due to the higher levels of evaporation that occur when you operate at low utilization, you must reset the automatic top-off amount / Level 2 for each processing tank. (This will add additional water to each tank solution at shutdown and startup, diluting the solutions slightly to compensate for evaporation that occurs during operating hours.)

1. **Important:** Record the current values before you make any changes. Keep these values in a safe place; you will need them when you return to standard processing conditions.
2. To change the automatic top-off level, the service disk must be installed. Change the values under "Level 2" to the values given in the table below.
 - From the printer screen, enter Menu > Service mode > Process Specification > Processing Time

Note: Use these values as a guide; you may need to adjust them based on environmental conditions (e.g., ambient humidity, etc).

Processor	Tank / Automatic Top-Off Amount (mL)					
	CD	BF	STB1	STB2	STB3	STB4
22 SM Series	62.0	36.9	24.8	26.0	41.9	100.3
23 SM Series	50.7	33.9	19.5	18.7	40.6	98.0

Converting Back to Standard Processing Conditions

When your minilab has increased business and is no longer operating at low utilization, return the processor to standard utilization by completing the following steps.

1. Drain the developer tank solution and dispose of it properly.
2. Prepare KODAK EKTACOLOR SM Tank Developer according to the instructions packaged with the product, and refill the developer tank.

Note: You do not have to replace your bleach-fix and stabilizer tank solutions.

3. Change the developer temperature to 40°C (104°F); adjust the temperature of the other solutions to 37.8°C (100°F).
4. Change the automatic top-off amount / Level 2 for each tank to the values that you recorded in step 1 from the Adjusting The Automatic Top-Off Amount / Level 2 procedure.
5. Use the replenishment rates given in the following table.

Solution	Replenishment Rate	
	mL/m ²	mL/ft ²
Developer		
Part A	3.01	0.28
Part B	5.49	0.51
Part C	5.81	0.54
Water	50.25	4.67
Bleach-Fix		
Part A	10.76	1.00
Part B	15.60	1.45
Water	0.00	0.00
Stabilizer		
Concentrate	1.48	0.138
Water	192.0	17.86

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