

Recommended Replenishment Rates for the *Kodak X-Omat* M43, M43A, and Clinic 1 Processors

Below are the current processing recommendations for Kodak medical radiographic films with *Kodak RP X-Omat* Developer Replenisher and *Kodak LO X-Omat* Fixer and Replenisher. When using external replenishment tanks with floating lids, mix only the volume of developer solution needed for 2 weeks.

Recommended Replenishment Volumes for Developer and Fixer

Processor Model	Use Condition	Average Amount of Film/8 Hours of Processor Operation	Developer Volume	Fixer Volume	Ratio Fixer/Developer
Clinic 1 Length Replenishment (35 cm x 43 cm only)	High	75 sheets or more	60 mL	85 mL ¹	1.42
	Medium	50 sheets	80 mL	100 mL	1.25
	Low	25 sheets or less	100 mL	120 mL	1.20
Clinic 1 Length Replenishment Average Intermix	High ¹	115 sheets or more	50 mL	70 mL ¹	1.40
	Medium	80 sheets	65 mL	85 mL ¹	1.31
	Low	40 sheets or less	80 mL	100 mL	1.25
M43, M43A Area Replenishment	High	75 sheets or more	60 mL	85 mL ¹	1.42
	Medium	50 sheets	80 mL	100 mL	1.25
	Low	25 sheets or less	100 mL	120 mL	1.20

Note 1: For high film volumes, the developer head of the replenishment pump must be mechanically adjusted to provide the correct volume of developer replenishment. Set the replenishment rate for the fixer by following the calibration routine that uses the Film Sensors to adjust the volume of replenishment. **Only a qualified service person should make this necessary mechanical adjustment.**

Note

The replenishment volumes outlined in the table are recommendations. The actual volume of replenishment may vary ± 5 mL. To ensure the optimum replenishment rates and stable processing conditions, you should monitor the process sensitometry.

Using Developer Starter

When filling the processor with fresh developer replenisher, do the following steps to provide thorough mixing of the starter with the replenisher.

1. Fill the developer tank half full with developer replenisher.
2. Add 267 mL (9 fl oz) of *Kodak RP X-Omat* Developer Starter.
3. Add the remaining replenisher.

Using the Flooded Replenishment Option

The “Flooded Replenishment” option is designed for low-film volume (less than 20 sheets of 35 cm x 43 cm film per 8 hours) applications. **This option should only be configured by a qualified service person.** *Kodak RP X-Omat* Developer Starter is added to the replenisher tank at the rate of 89 mL (3 fl oz) per 3.8 litres (1 gallon) of developer replenisher. This ensures stable processing solutions. Fill the processor tanks with this solution from the replenisher tanks; however, do **not** add extra starter to the processor developer tank.

(Flooded Replenishment Continued on Other Side)

The Clinic 1 Processor is factory set in flooded replenishment mode. Flooded solution replenishment rates are **100 mL for developer** and **120 mL for fixer**. The M43, M43A, and Clinic 1 Processors will deliver these volumes every 24 minutes to maintain optimum processing conditions.

Processing Temperatures

The developer default temperature is 33.9°C (93.0°F). The allowable temperature range for the incoming water supply is 4 - 29°C (40 - 85°F).

Processor Status - Blink Patterns and Wait Conditions

Condition	Ready	Wait	Service
Processor ready	On	Off	Off
No error, film being fed	On	On	Off
Developer is over the set temperature	Off	Blinks 1 time	Off
Developer is under the set temperature	Off	Blinks 2 times	Off
Dryer is under the set temperature	On	Blinks 3 times	Off
Top cover is not seated properly	Off	Off	Off
Diagnostic switch error	Off	Off	On

Service Error Conditions - Blink Patterns

Error Condition	Ready	Wait	Service
Circuit board error	Off	Off	Blinks 1 time
Loss of air flow	Off	Off	Blinks 2 times
Invalid air flow condition	Off	Off	Blinks 3 times
Unable to determine the developer temperature	Off	Off	Blinks 4 times
Dryer is over temperature	Off	Off	Blinks 5 times
Unable to determine the dryer temperature	Off	Off	Blinks 6 times
Film detector LED error	Off	Off	Blinks 7 times
Developer over set temperature range	Off	Off	Blinks 8 times
Developer under set temperature range	Off	Off	Blinks 9 times
Dryer under set temperature range	Off	Off	Blinks 10 times

Setup Options

Setup Option	Factory Setting	JUMPER	Factory-Set JUMPER Position
Replenishment (Normal or Flooded)	Normal	E1	N • • o F

Publication History

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March 1996	1C0578	2622-190	All	3229cm_b_190.doc	Clinic 1 factory set to flooded replenishment mode

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SERVICE BULLETIN

KODAK X-OMAT Processor

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KODAK X-OMAT Clinic 1 Processor

Replenishment Cycle

Any *KODAK X-OMAT Clinic 1 Processor* having a Serial Number of 725 or higher, will be factory set in flooded replenishment mode. *KODAK X-OMAT Clinic 1 Processors* running less than 20 sheets per day should remain in flooded replenishment mode. If the incorrect replenishment mode is selected, poor image quality will result. The Installation Instructions, Part Number 981088, will be updated to reflect this change.

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Please be prepared to give your Customer Number and your equipment serial number.

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