JOBO Expert Drums: 3004, 3005, 3006 and 3010

Introduction

[Expert 3010, Expert 3006, Expert 3005, Expert 3004]

JOBO Expert Drums permit the processing of film and prints in the following sizes:

Drum #3004

- 4 pieces of 5 x 7" to 8 1/2 x 12" film or paper
- Solution required
    - Minimum 270 ml
    - Maximum 1500 ml

Drum #3005

- 5 pieces of 5 x 7" to 8 x 10" film or paper
- Solution required
    - Minimum 270 ml
    - Maximum 1500 ml

Drum #3006

- 6 pieces of 4 x 5" to 5 x 7" film or paper
- Solution required
    - Minimum 210 ml
    - Maximum 1000 ml

Drum #3010

- 10 pieces of 4 x 5" film or paper
- Solution required
    - Minimum 210 ml

- Maximum 1000 ml

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The Drums

[Drying Rod, Cog Lid with Light Trap, Drum Body, Film]

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Opening the Drum

[Foot Pump #3360]

The lid is most easily removed with foot pump #3360. Firmly grasp the lid while pumping up the pressure inside the Drum. Do not place any portion of your body over the lid.

If you are removing the lid by hand, grip the lid around its edges *not* through the center fill opening.

Danger: Never blow in the lid to remove!

Loading the Drum

[Inserting Film Into the Expert Drum #3010]

Films must be inserted straight and not turned at an angle.

While loading the Drum, leave about 1/2 inch (12 mm) of film protruding up out of the cylinder as a "flag" to identify the cylinders which already have film loaded in them. Before closing the lid, push the film down to its final position.

When loading 4 x 5 inch film, push the material into the cylinder *only until it is flush with the top of the cylinder.* When loading the Drum with films of sizes 8 1/2 x12", 8x10" or 5x7", push the material to the bottom of the Drum cylinder.

Caution: The inside of the Drum and lid must be dry!

Closing the Drum

Put on the cog lid and press firmly all around its edges to assure an even fit. This is necessary for proper rotation.

Processing With the Drums

1. Set the lift arm coupling to "System 3000". (Upper connection)
2. Adjust water level in upper trough to approximately 1/4" (6 mm) above the bottom edge of the Drum.
3. Preheat or pre-rinse the Drum in the trough for five (5) minutes.
4. Set rotation speed for 50 rpm on ATL-2 or 3. (Approximately speed 4 on ATL-1, CPP-2 or CPA-2.)

Caution: Do *not* use the intermittent lift (rocking motion or lateral agitation) on any of the older ATL processors, which offer this function.

Caution: The Expert Series of Drums will fit on JOBO CPA-2 and CPP-2 manual processors. *Care must be taken!* A loaded Expert Drum can be very heavy and strain both the rotation motor and lift of manual processors. Use both hands to help the lift when raising it, and observe the motor speed. You may need to increase the rotation speed control setting to obtain desired speed. (Measure speed with reversing switch set for one direction of rotation for testing only. Reset to reversing directions before processing.)

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Filling Quantity

The actual amount of chemicals needed will depend on three factors; the amount of film surface being processed, the chemicals being used and the minimum solution level required by the Drum for proper solution coverage. The tables below provide a concise way to select the minimum chemical requirements for most processes. But some processes (particularly dilute black and white developers) may require higher solution levels in order to have sufficient active chemicals for the surface area to be processed. Use these tables as a starting point. If the initial test results indicate chemical exhaustion, increase the solution levels.

Note: For intermediate filling quantities on ATL processors, select the next higher quantity on the ml dial.

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Film Processing

For each film size we recommend the following quantities of chemistry as a basic guideline for practical use.

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Basic Film Table

Film Size	E-6 / C-41	B & W
4 x 5"	33 ml	50 ml
5 x 7"	57 ml	85 ml
8 x 10"	126 ml	200 ml
8 1/2 x 12"	162 ml	240 ml

Caution: Never use a quantity of chemicals less than the Expert Drum minimum quantity. It must have at least the minimum quantity to properly cover the films or prints in the drum.

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Paper Processing

The #3004, #3005 and #3006 Expert Drums are easily used for paper processing. Papers should be loaded, the same as film with the emulsion to the inside of the tube and away from the tube wall.

Minimum Chemical quantities as listed on the table should be maintained. Apply the following quantities of solution per 8x10" print, and use either the minimum chemical quantity listed for the specific Drum you are using, or the quantity computed from this list, *whichever is higher*.

For each print size we recommend the following quantities of chemistry as a basic guideline for practical use.

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Basic Prints Table

Process	Chemical Volume
RA-4	61 ml / 8x10"
R-3000	50 ml / 8x10"
Ilfochrome	75 ml / 8x10"
Black and White	50 ml / 8x10"

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Detailed Tables

As long as you are using only a single size of sheet film in the Expert Drum at one time, these tables will show you the solution quantity needed. Remember, these numbers are intended as a starting point, conditions are different in every darkroom. Don't be afraid to experiment with larger

volumes of chemicals if you think it might improve your results. For the most consistent results, load the drum with at least half of its film capacity (5+ sheets with the 3010 for example).

The table for black and white films recommends higher levels of chemistry than the E-6/C-41 table. This is due primarily to the higher dilutions found in black and white developers. The main consideration here is not the volume of solution in use but the amount of actual developer in the solution. There is no easy way other than testing to determine the precise quantity best suited for each developer. However the table below is an excellent starting point.

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Expert Drum Chemistry Usage for E-6, C-41

Drum	Format	1	2	3	4	5	6	7	8	9	10
3004	5 X 7"	270	270	270	270						
3004	8 X 10"	270	270	378	504						
3004	8 1/2 X 12"	270	324	486	648						
3005	5 X 7"	270	270	270	270	285					
3005	8 X 10"	270	270	378	504	630					
3006	4 X 5"	210	210	210	210	210	210				
3006	5 X 7"	210	210	210	228	285	342				
3010	4 X 5"	210	210	210	210	210	210	231	264	297	330

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Expert Drum Chemistry Usage for Most B/W Film Developers

Drum	Format	1	2	3	4	5	6	7	8	9	10
3004	5 X 7"	270	270	270	340						
3004	8 X 10"	270	400	600	800						
3004	8 1/2 X 12"	270	480	720	960						
3005	5 X 7"	270	270	270	340	425					
3005	8 X 10"	270	400	600	800	1000					
3006	4 X 5"	210	210	210	210	250	300				
3006	5 X 7"	210	210	255	340	425	510				

3010	4 X 5"	210	210	210	210	250	300	350	400	450	500

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Post Processing

1. Uncouple the Drum from the lift arm and drain the water jacket from the Drum bottom into the processor trough.
2. Remove the lid from the Drum.
3. Fill the individual cylinders with water to remove the film safely.

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Cleaning the Drum

Important! - After each process thoroughly clean the Drum and the lid with warm water (not over 122 F or 50 C).

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Drying the Drum

For drying the Drum use the drying rod #3007 for Drum #3006, or #3008 for Drums #3004, 3005 or 3010. The sponge on the end of the rod must be moistened first. Do not exceed 122 F (50 C). The Drum lid should be thoroughly rinsed with water. The light trap is permanently attached to the lid. The bottom of the lid should be rapped sharply against a towel laid on a flat surface. This will dislodge water droplets from behind the light trap. The lid should then be toweled dry.

Water droplets "hiding" in the lid can cause spots or drip marks on your film.