MultiLine Pro 125S/49S



This manual is for daily users of the equipment. Always read the **Safety Instruction Manual part No 21741** before starting up the equipment and keep the manuals with the machine for reference at all times.

Edition B, November 2000

GENERAL INFORMATION

This manual is published by:

Glunz & Jensen A/S

13 - 15 Haslevvej, DK - 4100 Ringsted, Denmark Phone: 45 5768-8181 Fax: 45 5768-8340

Glunz & Jensen Inc.

21405 Airpark Drive, P.O. Box 97, Elkwood, Virginia 22718, USA Phone: 1 540-825-7300 Fax: 1 540-825-7525

Copyright © 2000 by Glunz & Jensen A/S

The manual was written and illustrated using the best possible information available at the time of publication.

Any differences between the manual and the equipment reflect improvements introduced after the publication of the manual.

Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

As a part of our policy of continuous improvement, we reserve the right to alter design and specifications without further notice.

IMPORTANT!

- **Approvals:** The equipment is manufactured according to legal demands. For compliance with the requirements the equipment is tested by Underwriters Laboratories or other accredited authority. Approvals will appear from the labels attached to the name plate or the frame part of the equipment.
- Intended use of the equipment: Development of photographic materials as specified in chapter 1 "PROCESSING MATERIALS" in the Film Processor Service Manual.
- Installation: It is the responsibility of the owner and operator/s of the equipment , that the installation is made in accordance with local regulations, and by engineers authorized to carry out plumbing and electrical installations. Installation, service and repair must be performed only by service technicians who are trained in servicing the equipment. The installation procedure is described in chapter 4 "INSTALLATION" in the Film Processor Service Manual. The manufacturer cannot be held responsible for

any damage caused by incorrect installation of the equipment. Technical data: Observe technical data from

• **Technical data:** Observe technical data from the name plate located as specified on page 0.2 in the Film Processor Service Manual.

WARNINGS, CAUTIONS AND NOTES!

Throughout the manual warnings, cautions, and notes are written in italics on a grey background like the example below:

CAUTION! Make sure that

EXPLANATION

NOTE!

The operator should observe and/or act according to the information in order to obtain the best possible function of the equipment.

CAUTION!

The operator must observe and/or act according to the information in order to avoid any mechanical or electrical damage to the equipment.

WARNING!

The operator must observe/and or act according to the information in order to avoid any personnel injury.

TABLE OF CONTENTS

| | | | PAGE |
|--|------|------|------|
| | | | |

GENERAL INFORMATION0.2IMPORTANT!0.3WARNINGS, CAUTIONS AND NOTES!0.3

| 1. FUNCTIONS AND FEATURES | 1.1 |
|---------------------------|------|
| GENERAL | 1.1 |
| MAIN COMPONENTS OVERVIEW | 1.3 |
| FUNCTIONAL DESCRIPTION | 1.9 |
| DEVELOPER SECTION | 1.9 |
| FIXER SECTION | 1.11 |
| THE REPLENISHMENT SYSTEM | 1.11 |
| WASH SECTION | 1.12 |
| DRYER SECTION | 1.13 |
| TRANSPORT SYSTEM | 1.14 |
| ECOLOGICAL UNITS | 1.14 |

2. OPERATING PROCEDURES2.1GENERAL2.1DAILY START-UP2.3MANUAL START-UP2.3AUTOMATIC START-UP2.3PROCESSING FROM THE FEED TABLE2.5PROCESSING FROM THE DAYLIGHT CASSETTE2.7PROCESSING FROM THE DAYLIGHT SLOT2.9USING THE REWASH SLOT2.9SHUT-DOWN PROCEDURE2.11MANUAL SHUT-DOWN2.11AUTOMATIC SHUT-DOWN2.11"GFCI" Ground Fault Circuit Interrupter2.13

TABLE OF CONTENTS

| | ACE |
|---------------------------------------|-----|
| · · · · · · · · · · · · · · · · · · · | AGE |

| 3. CLEANING AND MAINTENANCE | 3.1 |
|----------------------------------|------|
| GENERAL | 3.1 |
| DISASSEMBLING FOR CLEANING | 3.2 |
| DRIP TRAY | 3.2 |
| TOP COVER AND DRYER COVER | 3.3 |
| HANDLING A WET RACK | 3.3 |
| REMOVING THE DRYER RACK | 3.4 |
| SMALL ANTI-OXIDATION LIDS | 3.5 |
| RACK OXIDATION LIDS | 3.5 |
| ROLLER BEARINGS | 3.5 |
| RACKS AND ROLLERS | 3.7 |
| CROSSOVER GUIDES | 3.7 |
| CLEANING | 3.8 |
| GENERAL | 3.8 |
| DAILY CLEANING | 3.8 |
| WEEKLY CLEANING | 3.9 |
| MONTHLY CLEANING | 3.9 |
| MAINTENANCE | 3.10 |
| REMOVING FILTERS | 3.10 |
| REPLENISHMENT | 3.11 |
| CHECK OF DEVELOPER REPLENISHMENT | 3.11 |
| CHECK OF FIXER REPLENISHMENT | 3.11 |
| CHECK OF OXIDATION REPLENISHMENT | 3.11 |

1. FUNCTIONS AND FEATURES

GENERAL

The processor contains 4 major sections (see figure below): Developer (A), fixer (B), wash (C), and dryer section (D). Each section performs a basic function to change the exposed film into a fully developed and dry film, ready for handling.

The operation of the processor is handled by the control panel (E).

The film material (F) is fed into the processor from the feed-table (G).

If the processor is equipped with a daylight cassette (H) both film sheets and film rolls from PTS/Imagesetting-cassettes (I) can be processed. At the processor entrance the transport roller system takes over and leads the film safely through each of the four sections at a uniform speed and special guides make sure that it passes smoothly from one section to another.

When the film leaves the processor, it lands in the film basket (L).





MAIN COMPONENTS OVERVIEW

(See illustration opposite)

MAIN SWITCH (1)

Switches the power to the processor ON/OFF. The main switch is also a lock, and cannot be turned on without the key delivered with the processor.

ELECTRONICS CABINET (2)

The electronics cabinet holds the main control electronics and the fuses for all functions. The cabinet is fitted with a cover inside to protect the electronics.

CONTROL PANEL (3)

The processor is operated from the control panel. See description in the "FMA Control Panel" manual.

FEED TABLE (4)

As standard the processor is equipped with a feed table.

Some models only: Alternatively the processor is equipped with a daylight cassette (A) (see figure opposite). The cassette is equipped with a specially designed shelf (B) that makes it easy to handle both small and big PTS/Imagesetting cassettes. The shelf can also be used as a feed table.

INPUT SENSORS (5)

The processor is equipped with 7 input sensors placed at the processor entrance. When film is inserted, the input sensors automatically start the processor provided that the processor is switched on by the main switch (1) and the ON-button on the control panel (3).



DEVELOPER SECTION (6)

See detailed description in "DEVELOPER SECTION" later in this chapter.

FIXER SECTION (7)

See detailed description in "FIXER SECTION" later in this chapter.

WASH SECTION 1 AND 2 (8)

See detailed description in "WASH SECTION" later in this chapter.



DRYER SECTION (9)

See detailed description in "DRYER SECTION" later in this chapter.

RACKS (10)

The racks are a combination of rollers and guides that smoothly transport the film through the wet sections and the dryer section of the film processor. Roller configuration is shown in chapter 3 "RACKS, ROLLERS AND GUIDES".

ANTI-OXIDATION LIDS (11)

The developer and fixer racks are equipped with anti-oxidation lids. The anti-oxidation lids reduce the oxidation from the chemical baths as well as it minimizes build-up of condensate underneath the condensation lids (12) and (13) and the top cover (21).

DEV/FIX CONDENSATION LID (12)

The developer and fixer sections are equipped with a condensation lid to prevent condensation underneath the top cover and that fixer condensation drips into the developer section and opposite.

WASH CONDENSATION LID (13)

The wash sections are also equipped with a condensation lid to prevent condensation underneath the top cover.

DRIP TRAY (14)

With the processor is delivered a drip tray on which a rack can be placed and carried away for cleaning without spilling of chemicals.

DEVELOPER FILTER (15)

The developer tank is equipped with a filter that removes mechanical impurities and floating particles from the developer solution. The filter unit has its own circulation pump.

FIXER FILTER (16)

Some models only.

Like the developer tank, the fixer tank also is equipped with a filter that removes mechanical impurities and floating particles from the developer solution. The filter unit has its own circulation pump.

COVER FOR FILTERS (17)

Some models only.

The filters (15) and (16) are covered with a small cover which is easily tipped.

SCAVENGER FAN (18)

In the right tank side is mounted a fan for removal of chemical vapours from inside of the wet sections.

SAFETY SWITCHES (19)

The processor is equipped with 4 safety switches. If either the top cover (22) (two switches), the dryer cover (23), or the filters cover (17) (some models only) are removed from the processor, the related switch(es) will switch the processor to a safe mode. In the safe mode pumps and moving parts cannot be activated.

WARNING! Never activate any of the safety switches without the covers mounted as this will make the processor start in jog mode and activate pumps and moving parts.



OVERFLOW/DRAIN TUBE (20)

Each bath is equipped with a combined overflow and drain tube in the right-hand side of the tank section. In the developer section and in the fixer section the tubes are placed underneath the top cover. The tubes for the wash water is placed through the top cover.

To empty the baths the tubes must be turned 90° counterclockwise.

As shown on the figure below it is easily observed if drain tubes for wash tanks are opened or closed.



TOP COVER (21)

The top cover is fitted with two handles for easy handling.

DRYER COVER (22)

The dryer cover covers the dryer section only and has a cutout for film exit and holes for mounting of film basket.

FILM BASKET (23)

When leaving the processor the film material is collected in the film basket.

STAND (24)

The processor is delivered with a closed stand. The side panels of the stand are very easy to remove. Inside the stand there is room for a large drip tray (25) and trolleys (26) with containers for replenishment and/or waste chemicals (optional).

LARGE DRIP TRAY (25)

Some models only.

The large drip tray fits inside the stand and is designed specially for easy handling of the trolleys (26).

TROLLEYS WITH CONTAINERS (26)

Some models only.

A pair of trolleys fit inside the stand and make it easy to handle both replenishment containers and containers for waste chemicals when changing, emptying, refilling etc.



FUNCTIONAL DESCRIPTION

DEVELOPER SECTION

(See illustration opposite). In the developer (DEV) section the latent image created during exposure is developed.

- The developer section consists of a processing tank with a heater (1) and a thermostat (2) to keep the temperature constant.
- A level detector (3) prevents operation of the processor with insufficient amount of chemicals.
- A pump (4) recirculates the solution to maintain a uniform temperature of the chemicals.
- The waste chemicals leave the tank through a combined overflow and drain tube (5) and is led to a waste chemicals container..
 Some models only! The waste chemicals container is equipped with a max. level sensor.
- The developer tank is equipped with a filter (6) that removes mechanical impurities and floating particles from the chemicals.
- The bellows pump (7) connected to an external replenishment container automatically add developer to the tank to compensate for chemicals used during actual film processing.
 Some models only: A level detector in the replenishment container gives an alarm when the container needs refilling.
- The rack is equipped with an anti-oxidation lid
 (8) preventing condensation underneath the top cover and minimizing oxidation of chemicals.

The roller configuration is described in chapter 3, "RACKS AND ROLLERS".



FIXER SECTION

(See illustration opposite).

In the fixer (FIX) section the developing process is stopped and unexposed silver halide is dissolved.

- The fixer section consist of a processing tank with a heater (1) and a thermostat (2) to keep the temperature constant.
- A level detector (3) prevents operation of the processor with insufficient amount of chemicals.
- A pump (4) recirculates the solution to maintain a uniform temperature of the chemicals.
- The waste chemicals leaves the tank through a combined overflow and drain tube (5) and is led to a waste chemicals container.
 Some models only! The waste chemicals container is equipped with a max. level sensor.
- **Some models only!** The fixer tank is equipped with a filter (6) that removes mechanical impurities and floating particles from the chemicals.
- The bellows pump (7) connected to an external replenishment container automatically add fixer to the tank to compensate for chemicals used during actual film processing.
 Some models only: A level detector in the replenishment container gives an alarm when the container needs refilling.
- The rack is equipped with an anti-oxidation lid
 (8) preventing condensation underneath the top cover and minimizing oxidation of chemicals.

The roller configuration is described in chapter 3, "RACKS AND ROLLERS".

THE REPLENISHMENT SYSTEM

The system automatically adds developer and fixer to compensate for chemicals used during actual film processing.

The system also supplies additional developer to compensate for lost activity caused by normal oxidation.

It is possible to operate the replenishment pumps manually (to "top up" the tank levels) on the control panel. See also the "FMA Control Panel" manual.

Film sensors at the entrance of the processor start the replenishment control circuit when film is entered.

WASH SECTION

(See illustration below).

1250

125/49

In the wash section (WASH) any residual chemicals are washed off the film material.

 When the processor is switched on fresh water is added to the WASH 2 section from an external water supply controlled by a water solenoid valve (1), or

some models only: ... from the water supply container controlled by a bellows pump (2).

- Water from the wash-2 section overflow to the wash-1 section.
- A level detector (3) prevents operation of the processor with insufficient amount of water. The wash section will automatically be topped up if low level occurs.
- The wash water overflows into combined overflow/- drain tubes (4) which are located through the top cover (see "MAIN COMPONENTS OVERVIEW").

WASH rack configuration is described in chapter 3, "RACKS AND ROLLERS".



range.

DRYER SECTION

(See illustration below).

In the dryer section the moisture is removed from the film to allow for handling immediately after processing. The dryer section consists of two centrifugal fans (1) with integrated heaters (2) and two air distribution boxes, one underneath (3) and one above (4) the dryer rack. A thermostat (5) keeps the drying temperature in

DRYER rack configuration is described in chapter 3, "RACKS AND ROLLERS".



TRANSPORT SYSTEM

The transport system consists of a main drive-motor connected to a worm gear drive system. The drive system turns the rollers in each rack which, in conjunction with the film guides and crossovers, directs the film through the processor.

Squeegee rollers at the entrance of the dryer section remove surface moisture from the film and divert water to the wash section.

The illustration in chapter 3 "RACKS AND ROLLERS" shows positions of rollers and guides in each rack.

ECOLOGICAL UNITS

The processor is prepared for connections to ecological units for the developer, fixer, and wash sections, and chemical vapours exhaust.

Ask your local dealer for more information about the ecological units and chemical vapours exhaust kit.

2. OPERATING PROCEDURES

GENERAL

Procedures for daily operation of the processor are described on the following pages.



DAILY START-UP

(See illustration opposite)

MANUAL START-UP

- Before starting up the processor follow the procedure for daily cleaning as described in chapter 3.
- Make certain that the wash tank drain tubes (A) are closed (see fig.).
- Open external water supply valve (B).
- If the processor is turned off on the main switch (no indicators on the control panel are lit):
 - Models with GFCI relay only: Activate the reset button/switch on the GFCI relay. The indicator on the GFCI will turn red or light up depending on which model is installed. (See also "GFCI RELAY" later in this chapter).
 - Turn the main switch (C) to ON/I.
 The "power on" indicator (4) is lit and the display (2) shows "Initializing, Please wait...".
- When the processor is in off mode the power on indicator (5) is lit and the display (2) is black.
 Press the stand-by key (1) on the control panel.
 The processor turns into stand-by mode and the display (2) will show the latest employed program. See the "FMA Control Panel" manual for more information about the control panel functions and operation.
- When the processor is switched to stand-by mode the wash section is filled up automatically.
- Feed some sheets of film through the processor to clean it.
- Your processor is now ready for processing.
- Shut-down is described later in this chapter.

AUTOMATIC START-UP

The auto-start function enables automatic start-up and shut-down of the processor. The auto-start function is described in the "FMA Control Panel" manual: "STARTING THE PROCESSOR" and "AUTO MODE".



PROCESSING FROM THE FEED TABLE

(See illustration opposite).

- Select the program suitable for the processing material by means of the program key (3). The display (2) shows which program is active at any time.
- Slowly enter the film (with the emulsion side up) into the processor using the film feed guide (D) until it engages the drive system. Activating the input sensors the processor will start at the speed specified in the selected program.
- Verify that the display (2) changes between the messages "PROCESSING" and "WAIT PRC".
 When the message "WAIT PRC" disappears you can insert another film.
- When the film exits, the display returns to stand-by mode.



PROCESSING FROM THE DAYLIGHT CASSETTE

(See also figure to the right).

- Verify that the processor is not busy (display (2) messages change between "PROCESSING" and "WAIT PRC" when busy). When the message "WAIT PRC" disappears you can insert another film.
- Open the cassette cover (5).
- Adjust the shelf (6) to fit the cassette size or remove it, whatever is necessary.
- Select processing program by means of the program key (3). The display (2) shows which program is active at any time.
- Place the cassette (7) on the shelf and enter the film/paper (8) into the processor until it engages the drive system. The input roller ensures that the material enters the processor without scratches. When the input sensors are activated, the processor starts and the display (2) shows "PROCESSING".
- Close the cassette cover (5) and do not open until the message "WAIT PRC" in the display disappears.
- When the message "WAIT PRC" disappears the processor is ready to process another cassette.

The shelf can also be used as feed table. In that case adjust the shelf to upper position and follow the procedure described in "PROCESSING FROM THE FEED TABLE". Feed paper between the white marks on the shelf.





PROCESSING FROM THE DAYLIGHT SLOT

(See illustration opposite).

NOTE! Some models only.

- Verify that the processor is not busy.
- Open the daylight slot (F). The messages in the display (2) change between "PROCESSING" and "WAIT PRC".
- Feed paper into the processor and close the daylight slot.
- When the message "WAIT PRC" disappears from the display, the processor is ready to receive another film through the daylight slot.

USING THE REWASH SLOT

(See illustration opposite).

NOTE! Some models only.

- Verify that the processor is not busy.
- Open the rewash slot (G). The messages in the display (2) change between "PROCESSING" and "WAIT PRC".
- Feed paper into the processor and close the rewash slot.
- When the message "WAIT PRC" disappears from the display, the processor is ready to receive another film through the rewash slot.



SHUT-DOWN PROCEDURE

(See illustration opposite).

MANUAL SHUT-DOWN

- Push the stand-by key (1). The processor turns into off mode: The power on indicator (4) is lit and the display (2) is black. The exhaust fan and the time-replenishment circuits will still work.
- Close the external water supply valve (B).
- Open the wash tank drain tubes (A) by turning them 90° counterclockwise.

NOTE! It is recommended to drain the wash tank at least once every 24 hours to prevent growth of algae and thereby consequent reduction in processing quality.

NOTE! The wash tank will be filled again automatically when the processor is switched to stand-by mode.

- Do *not* turn the main switch off ("0") during the night, if:
 - Time-replenishment is wanted.
 - Removal of exhaust is wanted
 - Automatic start-up is wanted.

AUTOMATIC SHUT-DOWN

The auto-start function enables automatic start-up and shut-down of the processor. The auto-start function is described in the "FMA Control Panel" manual: "STARTING THE PROCESSOR" and "AUTO MODE".



"GFCI" Ground Fault Circuit Interrupter

Some models only!

USING THE GFCI RELAY

The processor should be started as described in "DAILY START-UP" earlier in this chapter. In "power off" situations the GFCI must be operated as follows (see also figure below):



POWER SUPPLY DISCONNECTED AT WALL SOCKET

- Switch main power supply on (E).
- Make sure that main switch (C) is off (= 0).
- Press the reset button (X). The red indicator (Z) will light up.
- Turn the main switch (C) on (= I).

CAUTION! Always activate the RESET button (X) each time the main power supply is switched on.

CAUTION! Never use the TEST button (Y) on the GFCI relay as power-off switch.

CURRENT LEAKAGE

- GFCI relay will switch power off and the red indicator (Z) will turn off.
- Turn main switch (C) off (= 0).
- Press the reset button (X). GFCI relay will reconnect power to the processor.
- Turn the main switch (C) on (= I).

CAUTION! If GFCI relay do not reconnect power to the processor call service technician.

TEST BUTTON (Y)

The test button (Y) is for testing reliability of the GFCI relay. Make a test approx. once a year:

• Press the test button (Y). The GFCI relay must cut power off (red indicator (Z) turns off).

CAUTION! If GFCI relay do not cut power off (red indicator (Z) turns off) the GFCI relay must be changed. Call service technician.

- If test of GFCI has been successful turn main switch (C) off (= 0).
- Press the reset button (X). The GFCI relay will reconnect power to the processor. The red indicator (Z) will light up.
- Turn main switch (C) on (= I).

SEE ALSO DESCRIPTION OF GFCI RELAY ON THE NEXT PAGE.



"GFCI" Ground Fault Circuit Interrupter

Some models only!

USING THE GFCI RELAY

The processor should be started as described in "DAILY START-UP" earlier in this chapter. In "power off" situations the GFCI must be operated as follows (see also figure below):



POWER SUPPLY DISCONNECTED AT WALL SOCKET

- Switch main power supply on (H).
- Make sure that main switch (J) is off.
- Push the reset switch (X) upwards. The indicator (Z) will turn red.
- Turn the main switch (J) on.

CAUTION! Never use the TEST button (Y) on the GFCI relay as power-off switch.

CURRENT LEAKAGE

- GFCI relay will switch power off and the indicator (Z) will turn green.
- Turn main switch (J) off.
- Push the reset switch (X) upwards. The indicator will turn red and the GFCI relay reconnects power to the processor.
- Turn the main switch (J) on.

CAUTION! If GFCI relay do not reconnect power to the processor call service technician.

TEST BUTTON (Y)

The test button (Y) is for testing reliability of the GFCI relay. Make a test approx. once a year:

• Press the test button (Y). The GFCI relay must cut power off (indicator (Z) must turn green).

CAUTION! If GFCI relay do not cut power off (indicator (Z) does not turn green) the GFCI relay must be changed. Call service technician.

- If test of GFCI has been successful turn main switch (J) off.
- Push the reset switch (X) upwards. The GFCI relay will reconnect power to the processor. The indicator (Z) will turn red.
- Turn main switch (J) on.

SEE ALSO DESCRIPTION OF GFCI RELAY ON THE PREVIOUS PAGE.

3. CLEANING AND MAINTENANCE

GENERAL

Performing maintenance on a scheduled basis reduces the possibilities of equipment failure and the loss of processing quality. Only one person should be responsible for performing the preventive maintenance program. That person should be familiar with the equipment as well as its operational characteristics and maintenance requirements.

A periodic major clean-up of the equipment is important to maintain the processing quality and reliability of the processor.

This clean-up should be performed either monthly or after processing approx. $1000m^2$ (10.000 ft²) of film.

The major clean-up procedure can be performed in 2 to 4 hours depending on the condition of the processor and on the proficiency of the person cleaning it.

NOTE! Before attempting any maintenance or clean-up procedures the personnel must familiarize themselves with the safety instructions and environmental protection described in the SAFETY INSTRUCTIONS MANUAL delivered with the processor.

WARNING! BE SURE TO DISCONNECT ELECTRICAL POWER BEFORE PERFORMING ANY CLEANING OR MAINTENANCE.

DISASSEMBLING FOR CLEANING

- GB -

DRIP TRAY

(See figure below).

A drip tray is delivered with the processor. Use the drip tray when carrying away the racks for cleaning etc.

The drip tray has catches in each side in which the rack side plates fit.

Press the rack down between the catches (see figure below) and carry away for cleaning by lifting in the side plate handles.



TOP COVER AND DRYER COVER

The processor is equipped with a top cover and a dryer cover. Operation of the processor is not possible without both covers mounted.

Two persons are required for handling of the top cover and the dryer cover. The dryer cover cannot be removed unless top cover has been removed, and top cover cannot be mounted unless dryer cover is mounted.

HANDLING A WET RACK

Two persons are required when removing racks. Follow the procedure below when taking racks out for cleaning etc.

NOTE! If processor is delivered with crane see separate manual for crane when handling racks.

- Turn the main switch to "0" (= off).
- Developer and fixer racks: Remove the top cover, and the condensation lids.
 Wash rack: Remove top cover, dryer cover, and condensation lids.
- Remove the crossover guide on the neighbour rack.
- Place the drip tray across the processor as close to the bath as possible.
- Grab the rack in the handle of the rack side plates. Lift up in the left side and let chemicals drip off.
- Lift the rack out of the bath and place the rack on the drip tray as described earlier in this chapter. Be careful not to drip chemicals onto the processor.
- Carry the rack away for cleaning etc.
- Reinstall the rack in the reverse order. If the bath contains chemicals while reinstalling, lower the rack very carefully to avoid that chemicals flow over into the other baths.

Make sure that the left rack side panel fit into the notches in the left side of the tank wall (see figure opposite).

Caution! Make sure that the drive gears mesh with the worm gears.

• Reinstall crossover guides, condensation lids and cover(s).

REMOVING THE DRYER RACK

Two persons are required when removing top cover and dryer rack. Follow the procedure below when taking the dryer rack out for cleaning etc.

See figure opposite.

- Turn the main switch to "0" (= off).
- Remove top cover and dryer cover.
- Remove crossover guide between wash rack and dryer rack.
- Stand at the rear end of the processor. One person in each side.
- Fig. 1: Remove the upper dryer cassette (A) by lifting it up, out of the air flanges (B) in each side of the dryer section.
- Fig. 2: Grab in the dryer rack side plates and pull the dryer rack (C) upwards in order to release the bearings from the drive shaft, and lift it out of the processor.

CAUTION! Always lift the rack in the side plates.

- After cleaning, it is very important that the rack is reinstalled correctly. Make sure that bearings catch the drive shaft and the drive gears mesh with the worm gears.
- Reinstall upper dryer cassette (A), crossover guide, dryer cover and top cover.



SMALL ANTI-OXIDATION LIDS

In the right side of the developer and fixer bath is a small lid which is installed to prevent oxidation of chemicals. The small lid has a cut-out for the drain tube.

The small lid is easily removed by pulling upwards.

RACK OXIDATION LIDS

(See figure below)

The developer and fixer rack is equipped with anti-oxidation lids. To remove the anti-oxidation lids first remove the roller pair in the exit part of the rack (1) then lift out the anti-oxidation lid (2).



ROLLER BEARINGS

When reinstalling the roller pairs in the racks, be very careful that the bearings are locked properly in the respective slots as indicated in the figure below.





| ROLLERS | | | | | |
|-------------------------|---|---|--|--|--|
| SYMBOL | DESCRIPTION | PART NO | | | |
| 23 pcs | ROLLER, PUR, GROUND, D30, SHORT TAP | 53254 | | | |
| O 7 pcs | ROLLER, RUBBER, D30, LONG TAP | 53250 | | | |
| 13 pcs | ROLLER, PUR, GROUND, D30, LONG TAP | 53255 | | | |
| 2 pcs | ROLLER, PUR, GROUND D30, LONG TAP | 53703 | | | |
| 5 pcs | ROLLER, RUBBER D30, SHORT TAP | 53251 | | | |
| | ROLLER, PUR, GROUND D30, SHORT TAP OR BOLLEB, BUBBEB | 53254 ———————————————————————————————————— | | | |
| 3 pcs | D30, SHORT TAP | 53251 | | | |

RACKS AND ROLLERS

When racks have been disassembled for cleaning or servicing purposes it is very important that the rollers are reinstalled in their correct positions.

See illustration opposite for identification and correct position of rollers.

CROSSOVER GUIDES

Between each section are mounted crossover guides for guiding the film from one section to another.

It is important that the guides are installed in correct places and for easy identification each guide is marked with small holes in the right side of the guide. See figure below.



CLEANING

GENERAL

When using water for cleaning purposes, use warm water 35 - 40° C (95 - 104° F).

DAILY CLEANING

It is recommended to clean the processor each day before you start processing. Follow the procedure below:

MORNING:

- Remove top cover, dryer cover and condensation lids. Two persons are required for removal of the top cover.
- Clean top rollers and crossover guides with a moist cloth.
 - Do not use abrasive materials on the processor.
- Clean feed table with a moist cloth.
- Reinstall condensation lids, dryer cover, and top cover.
- Check the level in both replenishment containers and refill if needed.
- Empty the waste-chemicals tanks.

EVENING:

• Drain the wash tanks and close the drain-tubes at the end of each shift.

CAUTION! Never cover the processor with a cloth or piece of plastic to protect it from dust, as this prevents free circulation around the processor and can lead to overheating and increased condensation.

WEEKLY CLEANING

CAUTION! Never use any hard tool or abrasive materials when handling and cleaning the rollers.

- Weekly cleaning procedure should be made in addition to "DAILY CLEANING".
- Remove the developer rack as described earlier in this chapter and rinse it with water. Be sure to rinse off possible crystallization on film guides.
- When needed, empty the developer tank and clean both tank and rack with tank-cleaner. Ask your dealer of chemicals for advice. Be careful not to get any of this cleaner into the fixer section. It is important to get all of the cleaner out of the developer tank after cleaning and to rinse both tank and rack in plenty of water.
- Carefully lift the wash racks out and rinse them with water.
- Empty the wash tanks and clear off algae.
- Cleaning of fixer rack is described in "MONTHLY CLEANING".
- Remove the oxidation lids from all three racks, see earlier in this chapter, and rinse the lids with water.
- When refilling the developer tank, use the level mark in the right side of the tank as guide, see figure opposite. Lower the rack very carefully into the bath, right side first in order to allow for air bobbles to flow up. Be careful not to get developer into the fixer section.

NOTE! If tanks are not filled before the processor is turned on, the auto-filling feature will fill empty tanks automatically.



MONTHLY CLEANING

- Monthly cleaning procedure should be made in addition to "WEEKLY CLEANING".
- Carefully lift the fixer rack out as described earlier in this chapter and rinse it with water. Be sure to rinse off possible crystallization on film guides.
- When needed, empty the fixer tank and clean both tank and rack with tank-cleaner. Ask your dealer of chemicals for advice. Be careful not to get any of this cleaner into the other sections. It is important to get all of the cleaner out of the fixer tank after cleaning and to rinse both tank and rack in plenty of water.
- Remove dryer rack as described earlier in this chapter and rinse rubber rollers with water.
- Clean residual chemicals off all worm gears.

MAINTENANCE

REMOVING FILTERS

The filter for developer (and fixer too on some models) is placed underneath a separate cover in the upper left side panel.

When removing a filter follow the description below.

See the figure opposite.

- Turn the main switch to "0" (= off).
- Open the cover for filters.
- If the filter is removed for exchange with a new one, unpack the replacement filter and keep a plastic bag ready for the dirty filter.
- Unscrew the filter lid (A) by turning it counterclockwise and slowly lift it off. The filter element (B) will hang on to the filter lid.
- Put the dirty filter element (B) into the plastic bag and remove the cover (A). Be careful not to drip chemicals.
- Mount the new filter element (B) underneath the cover (A) and lower it **slowly** into the filter housing to avoid splashing.
- Tighten the cover (A) (clockwise). The lid is tightened in two steps (C) as illustrated on the figure. When it feels tight, turn it a little more.

CAUTION! Make sure the lid is tightened properly, otherwise chemicals may be pressed out of the filter housing when the replenishment system starts.

- Closed the cover for the filters.
- Turn the main switch to "I" (= ON) and press the stand-by key on the control panel.
- Reset filter account by pressing "OK" on display message "REPLACE DEV FILT" (or FIX) if any. See also "ALARMS" in the "FMA Control Panel" manual.

NOTE! Disposal of dirty filter elements must be done in accordance with local authorities regulations.



REPLENISHMENT

CHECK OF DEVELOPER REPLENISHMENT

The efficiency of the developer can either be checked with a testing strip (ask your dealer of chemicals) or you can use a well exposed and well processed film as reference. If, after a week's work, the density of your film has decreased the replenishment has probably been too low and a higher setting of the replenishment rate should be selected. If, however, the density is good, the replenishment is sufficient. If desired, a lower setting can then be tried, until it is established which setting of the control is enough for satisfactory replenishment.

CHECK OF FIXER REPLENISHMENT

While the processor is working at its normal temperature and speed, feed an unexposed film into the processor. The film should be absolutely transparent and without whitish spots or areas spread at random over the film when it comes out of the processor, otherwise the efficiency of the fixer is too low and a higher setting of the replenishment rate should be selected. The efficiency of the fixer and the silver contents of the fixer can also be tested with a special testing strip. Ask your local specialist for application of testing strip.

CHECK OF OXIDATION REPLENISHMENT

If the processor is left in stand by for longer periods check the efficiency of the developer at the start of a new working period as described above, and adjust the time replenishment rate correspondingly.