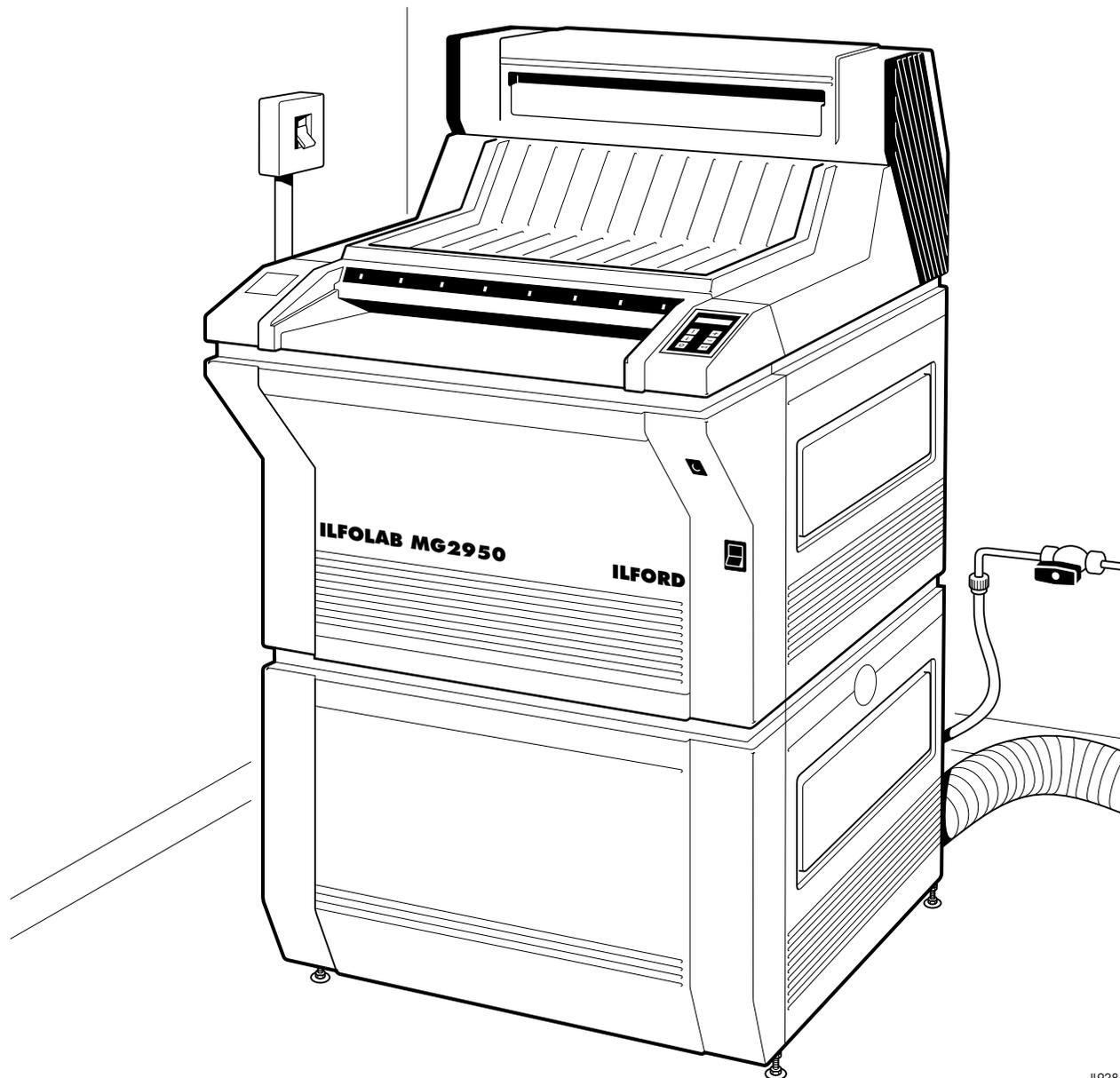


50/60Hz

**ILFORD**  
**INSTALLATION MANUAL**

**ILFOLAB**  
**MG2950**

FLOOR STANDING PROCESSOR  
FOR BLACK AND WHITE PRINT MAKING



IL928



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### **SAFETY PRECAUTIONS**

Your photographic equipment is powered by mains electricity, and is designed to comply with international electrical safety standards. However, basic safety precautions must always be followed when operating electrical equipment, including the following, where applicable:

- 1 Read and understand all instructions.
- 2 Observe labels on the equipment, particularly those advising of possible hazards.
- 3 Close supervision is necessary when the equipment is being used by inexperienced personnel.
- 4 Take care to avoid burns. Some internal parts of the equipment can become very hot with continuous use.
- 5 Do not operate equipment that has been dropped or damaged, or has damaged electrical leads. Have the equipment examined by qualified personnel.
- 6 Do not allow any electrical lead to touch hot surfaces.
- 7 Ensure the leads are arranged such that they cannot be pulled or tripped over.
- 8 Ensure the air flow through the vents is not obstructed when operating the equipment. An obstructed air vent can lead to overheating.
- 9 Do not dismantle the equipment unless you are qualified to do so. Incorrect assembly can cause hazards both to yourself and to the equipment.
- 10 Always obey local codes of practice, particularly for installation requirements.

**Do not destroy these instructions**

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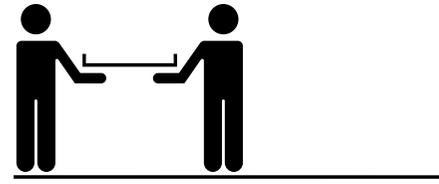
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# PICTOGRAMS

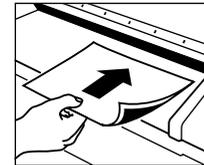
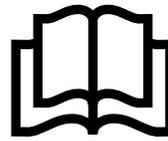
The following pictograms are used on labels fixed to the ILFOLAB MG2950 processor. Please ensure you understand their meaning.

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Lift using two people

---



Hazard (refer to manual)

Feed emulsion side down

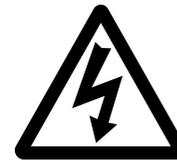
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Caution hot surfaces

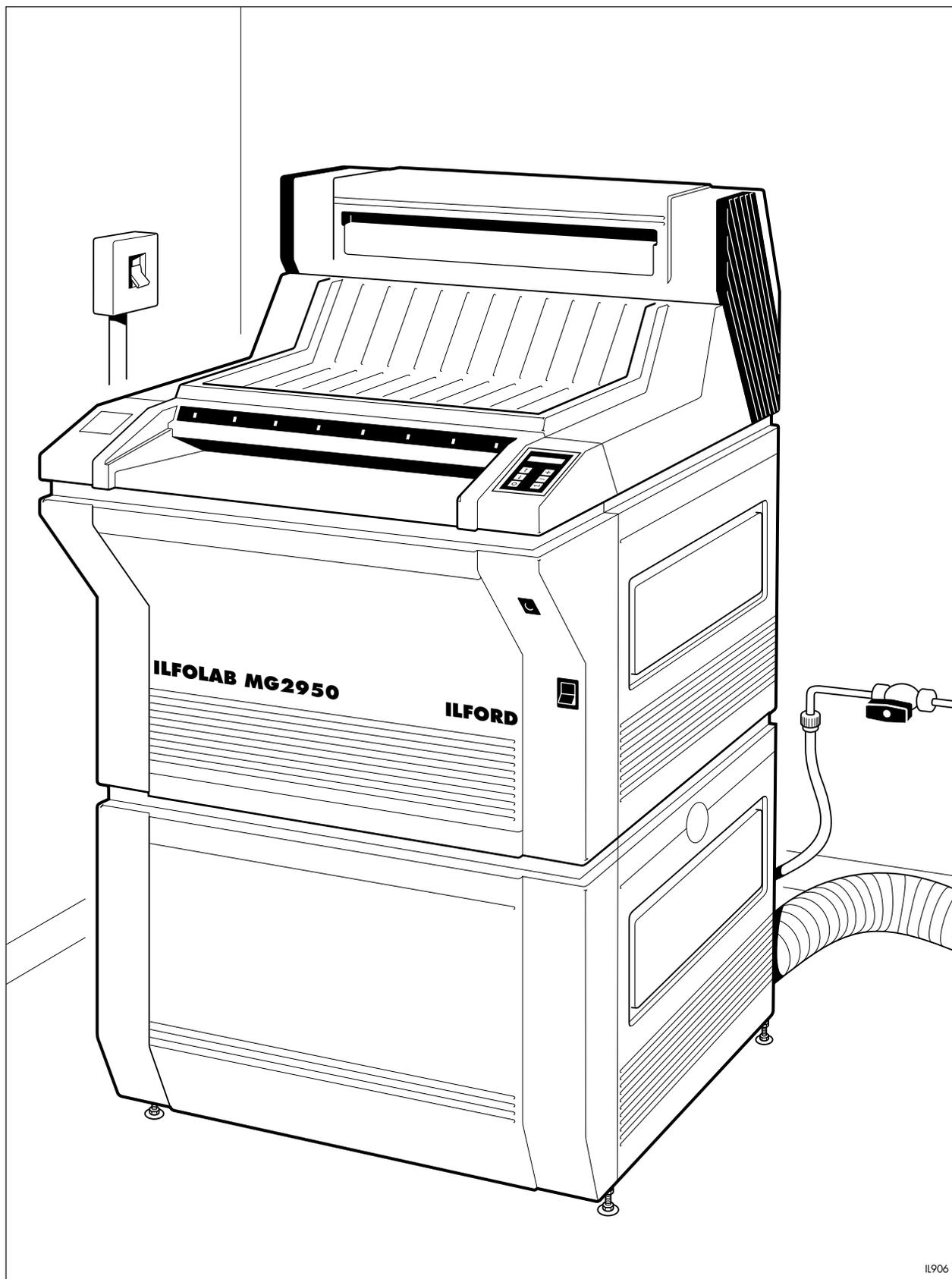


General hazard



Electrical hazard

IL905



IL906

**Figure 1.1**

Typical installation

---

# 1

## INTRODUCTION

See figure 1.1.

The ILFOLAB MG2950 floor standing processor is designed for high speed processing of sheets and rolls up to a maximum width of 50·8cm (20 inches). Typically, a 20·3x25·4cm (8x10 inch) sheet will be returned fully processed and dry in just 70 seconds. The processor uses latest technology electronics to make operating very easy - just switch the processor on and feed sheets after the warm up sequence is complete - the processor does the rest.

The processor has a number of features to make it more ecologically friendly. These include low consumption of wash water and low replenishment rates.

This manual gives full instructions for installing the processor. For ease of description, it is assumed the left and right hand sides of the processor are determined when facing the processor at the paper feed (front) end unless otherwise stated.

### 1.1 IMPORTANT INFORMATION

#### **Chemicals**

Chemicals are supplied in 5 litre bottles. Two bottles of each of developer and fixer are stored in the base of the processor for replenishment. When one bottle of developer (or fixer) is empty, the processor automatically takes solution from the other bottle.

Before handling ILFORD chemicals, please ensure you are familiar with the information detailed in the ILFORD Photochemical Safety Data Sheets supplied as part of the chemical information pack.

#### **Colour coding**

Roller racks are colour coded red for developer, green for fixer and white for wash water. Do not interchange the roller racks for any reason. The same colour coding is used throughout the processor to identify items such as pipes, drains and components of the replenishment system.

#### **Safety features**

Solution and dryer temperatures are protected by thermal cut-outs to prevent overheating.

Removing the processor top cover, dryer cover or left hand upper side panel, while the processor is operating, or obstructing the air flow, will shut down some or all of the processor functions.

---

A smoke detector is fitted in the air extract system. This will sound an alarm and shut down the dryer section if an undetected paper jam occurs in the dryer section.

#### **Manufacturing standards**

The processor conforms to all the latest applicable legislation.

#### **Key switch**

A key switch is located at the front of the processor above the on/off switch, and is used for adjusting some of the processor operating parameters, eg solution temperature. Two keys are supplied with the key operators instructions. Do not make any adjustments without first referring to the key operators instructions, publication number 94071.4

#### **Note**

On some early models, the key switch is located inside the electrical compartment.

### **1.2 OPTIONAL EXTRAS**

The following optional extras are available. Please quote the part number when ordering. Each kit is supplied with its own set of instructions.

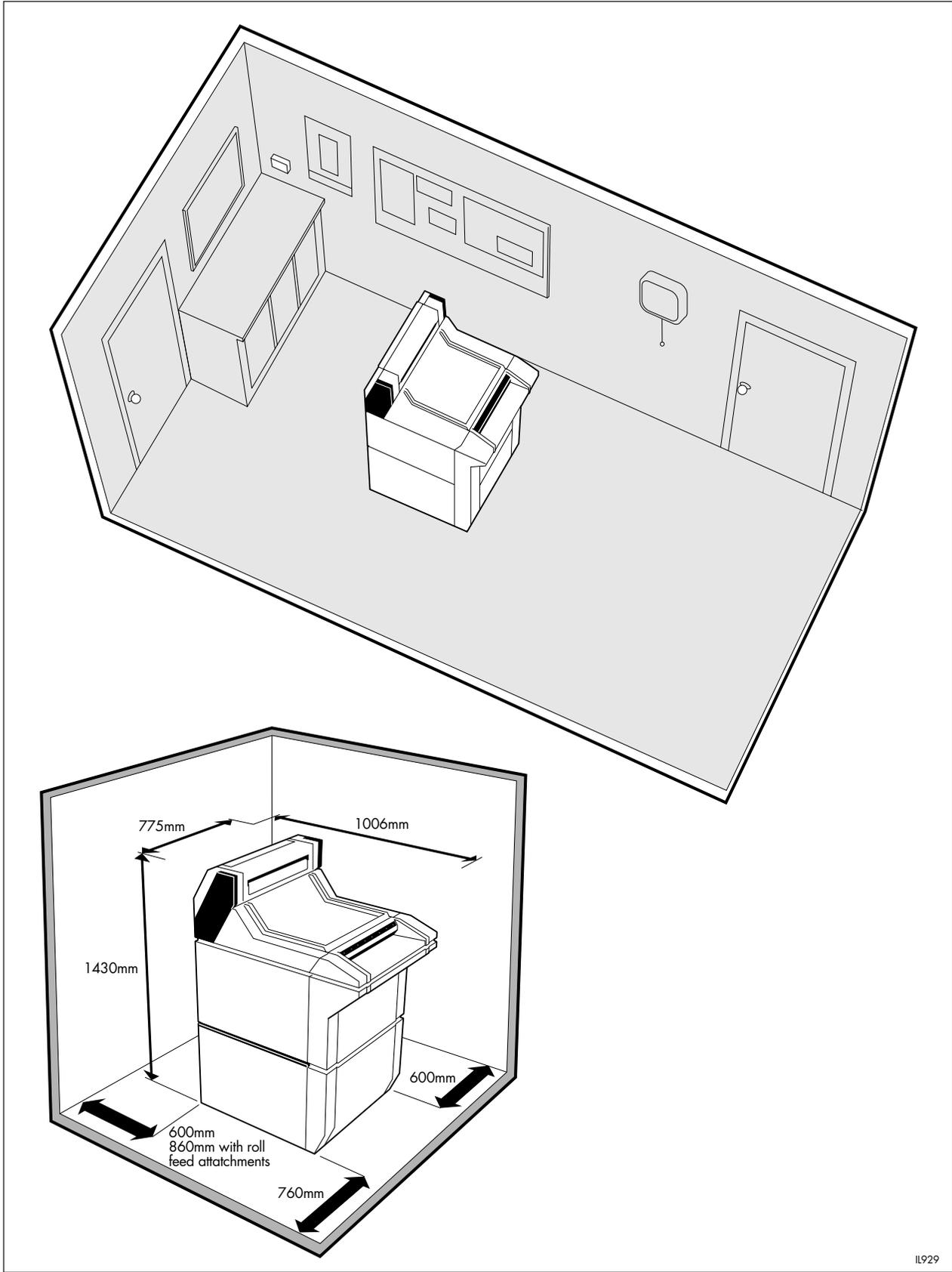
- 1 Roll feed attachments. Part number 6194-P-049
- 2 White light covers for roll feed attachments.  
Part number 6194-P-091
- 3 Through the wall installation kit. Part number 6194-P-090.

### **1.3 ASSOCIATED PUBLICATIONS**

The following publications are required in addition to this one. Please check that you have all publications before operating the processor.

- 1 ILFOLAB MG2950 operating manual. Publication number 94071.
- 2 ILFOLAB MG2950 chemical information pack.
- 3 ILFOLAB MG2950 quick reference guide. Publication number 94071.3.
- 4 ILFOLAB MG2950 key operators instructions. Publication number 94071.4.

---



**Figure 2.1**

Siting the processor

---

## 2

# PRE-INSTALLATION



### CAUTION

Do not attempt to carry out any of the following procedures unless you are qualified to do so. This applies particularly to the installation of electrical and water supplies. Ensure local regulations are observed at all times.

### 2.1 SITING THE PROCESSOR

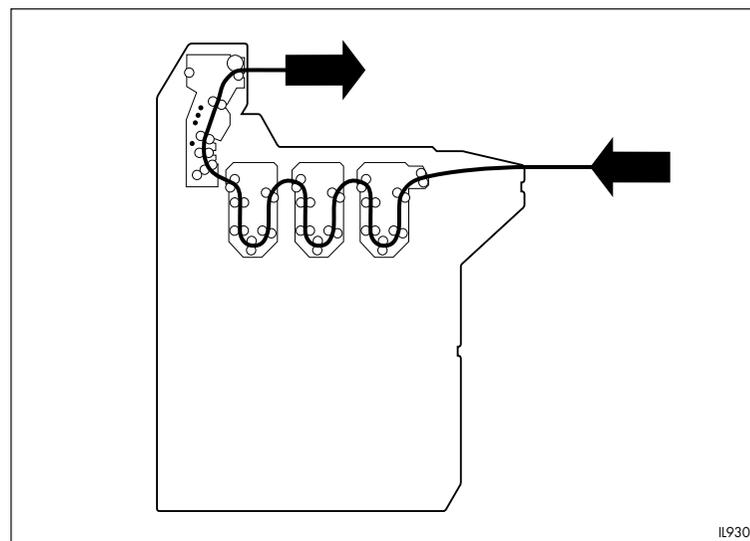
See figure 2.1.

- a Access to the replenishment bottles is from the left hand side of the processor. The adjacent floor space on this side of the processor must be a minimum of 76cm (30 inches) to allow for access to, and removal and replacement of, the replenishment bottles.
- b The adjacent floor space on the other side of the processor must be a minimum of 60cm (24 inches) to enable the processor to be serviced.
- c The adjacent floor space to the rear of the processor must be a minimum of 60cm (24 inches) without roll feed attachments or 86cm (34 inches) with roll feed attachments to gain access to the dryer, and dryer and rewinder unit, respectively.
- d The dimensions of the transit packing are 80cm (31.5 inches) wide, 120cm (47 inches) deep and 144cm (56.7 inches) high. Ensure the entrance to your darkroom is wide enough, or that you have an area available outside the darkroom to unpack the processor. The processor is 77.5cm (30.5 inches) wide with covers or 72.4cm (28.5 inches) wide without covers.
- e The shipping weight of the processor is 212kg (467 pounds). The weight of the empty processor is 176kg (388 pounds) with all packaging removed. Ensure you have sufficient people to lift the processor into position.
- f The maximum weight of the processor is 261kg (575 pounds) with solutions and roll feed attachments fitted. Ensure the darkroom floor can withstand this weight.

#### 2.1a Print delivery

See figure 2.2.

When processing sheets, finished prints are delivered image upwards towards the operator, using the processor top cover as a collection tray.



**Figure 2.2**

Paper path

### **2.1b Roll feed attachments (optional)**

Roll feed attachments consist of an unwinder unit (fitted to the front of the processor) and a rewinder unit (fitted to the rear of the processor), and enable rolls up to a maximum of 152m (500 feet) to be processed. The kit is supplied as an optional extra with full fitting and operating instructions. To order the kit, please contact your nearest ILFORD Selling Company, and quote part number 6194-P-049.

The standard kit is supplied with the unwinder unit suitable for operating in complete dark or safelight conditions only. It is not suitable for operating in white light conditions. An additional kit is available for operating roll feed attachments in white light conditions. The white light cover kit, is supplied as an optional extra with full fitting and operating instructions. To order the kit, please contact your nearest ILFORD Selling Company, and quote part number 6194-P-091.

### **2.1c Through the wall installation kit (optional)**

The ILFOLAB MG2950 can be installed through a darkroom wall to minimise the floor space taken up by the processor in the darkroom. The kit to do this is supplied as an optional extra with full fitting instructions. To order the kit, please contact your nearest ILFORD Selling Company, and quote part number 6194-P-090.

## **2.2 ELECTRICAL SUPPLY**

Depending on the model, the processor can be connected to a single phase, 3 wire supply or a 3 phase, 5 wire supply. Refer to the specification (see section 5) and the rating label on your processor.

---

The processor must be hard wired to a mains isolator with the following specification:

For a single phase supply - 30A fused (minimum).

For a 3 phase supply - 16A fused (minimum).

For additional protection, it is recommended the mains isolator incorporates an RCD (residual current device) complying with BS4293 (July 1983), DIN VDE 0664 part 1 or with CEE27. The location of the isolator must comply with local regulations. Run the cable through rigid conduit if cable is routed across the floor.

### **2.3 WATER SUPPLY**



#### **CAUTION**

The processor is designed to be fed from the mains water supply. However, to comply with the water supply regulations in some countries, water must be fed from an isolated header tank. Please check.

The incoming water supply must have a temperature within the range 5°C to 30°C (41°F to 86°F) with a minimum flow rate of 1.5l/min (0.4 US gallons/min) and a minimum pressure of 0.2 bar (3 pounds/in<sup>2</sup>). If the water supply is outside this specification, contact your nearest ILFORD Selling Company. Water flow is regulated automatically within processor.

The location of the supply must comply with local regulations. You will need a supply fed via a 15mm copper pipe terminating in a <sup>3</sup>/<sub>4</sub> inch BSP connector with a stop cock. The processor is supplied with a 1.5m (5 feet) length of reinforced PVC hose with a <sup>3</sup>/<sub>4</sub> inch BSP nut connection at each end. Protect the hose if it is routed across the floor.

### **2.4 DRAINAGE**



#### **CAUTION**

Ensure your drain arrangements comply with local regulations.

The processor has four separate drain connections and is supplied with lengths of colour coded flexible hoses and associated pipe clips as follows:

- 1 Red for connection to the developer drain. The hose is 1.5m (5 feet) long, with a 20mm inside diameter.
- 2 Green for connection to the fixer drain. The hose is 1.5m (5 feet) long, with a 20mm inside diameter.

- 
- 3 Clear for connection to the wash water overflow drain. The hose is 1.5m (5 feet) long, with an inside diameter of 20mm.
  - 4 Clear for connection to the replenishment water tank overflow drain. The hose is 1.5m (5 feet) long, with a 20mm inside diameter.

The service drain of the building must be capable of handling flow rates up to 20l/min (5.3 US gallons/min).

#### **2.4a Wash water drain**

All materials used must be non-corroding. In most countries, the wash water drain can be connected directly to the service drain. Please check your arrangements comply with local regulations.

#### **2.4b Developer drain**

Local regulations may demand the processor developer drain is connected to a separate collection facility, and must not be drained via the service drain. Please check.

#### **2.4c Fixer drain**

To comply with local regulations, the fixer must be drained to a silver recovery unit or to an external collection facility with a minimum capacity of 20 litres (5 US gallons), for subsequent silver recovery. Never drain fixer via the service drain.

#### **2.4d General**

- 1 To ensure correct draining of chemicals and wash water, the drains must not be higher than 80mm (3 inches) above floor level, and the proposed route for the drains must fall continuously.
- 2 Protect the hoses if they are routed across the floor.

#### **2.5 Air exhaust**

Air is exhausted from the processor at a rate of 2.5m<sup>3</sup> (90ft<sup>3</sup>) per minute, and at a temperature of approximately 50°C (122°F). To ensure optimum print quality (particularly print drying), the air must be vented away from the working area to the building exhaust system or directly to atmosphere.

The processor is supplied with a 3m (9.8 feet) length of 100mm (3.9 inches) diameter trunking and 2 securing clips.

---

## **2.6 ROOM VENTILATION**

During processing, some warm, moist air is expelled from the processor. To maintain operator comfort and ensure satisfactory print drying, adequate ventilation must be maintained in the darkroom. As a guide, 15 complete air changes per hour in a typical darkroom measuring 3x3x3m (10x10x10 feet) will be adequate for most installations having one processor. This arrangement will prevent a build up of fume levels.

---

# 3

## INSTALLATION

### 3.1 UNPACKING

#### Note

Care must be taken when disposing of packaging materials. Ensure local regulations are observed.

- 1 Cut and remove the two metal bands from around the packing crate.
- 2 Release the screws and remove the lid from the packing crate.
- 3 Release the six screws and remove the three wooden reinforcing pieces from inside the packing crate.
- 4 Remove the plastic bag containing the installation kit from the top of the processor. The installation kit contains:
  - a) Water supply hose (black) with end fittings
  - b) Two water drain hoses (clear) each with one end fitting and one plain end
  - c) One developer drain hose (red) with one end fitting and one plain end
  - d) One fixer drain hose (green) with one end fitting and one plain end
  - e) One air ducting with plain ends
  - f) Bag of assorted pipe fittings
- 5 Release the remaining screws and lift the packing crate away.
- 6 The developer, fixer and wash water roller racks are packed in cardboard boxes in front of the processor. Remove the boxes from the pallet and unpack the racks.
- 7 Remove the plastic bag from the processor.
- 8 Remove the processor top cover and the left and right hand upper and lower side panels.
- 9 Release the nut and remove the clamp securing each foot to the pallet.
- 10 Carefully lift the processor away from the pallet, using the processor frame as the lifting point.

### 3.2 LOCATING THE PROCESSOR

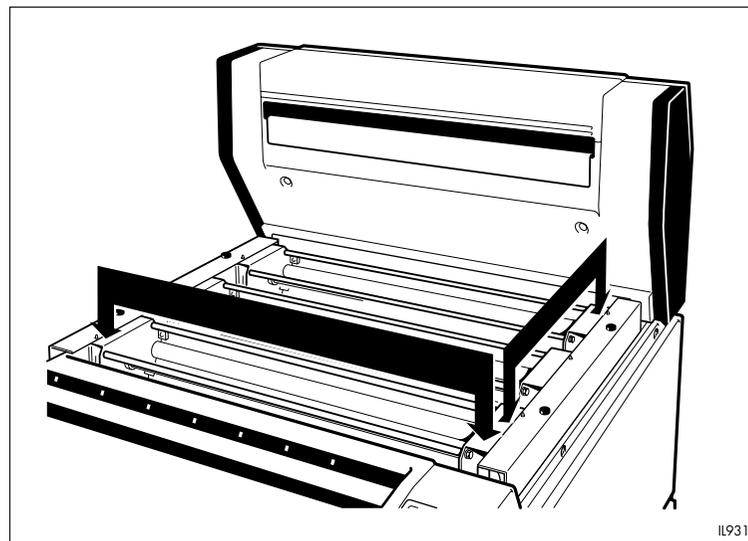
Move the processor into its final position on a firm, level floor. Ensure there is sufficient space around the processor for service access and the removal of the replenishment bottles (see section

---

2.1). Ensure the electrical and plumbing connections are not obstructed.

### 3.3 LEVELLING THE PROCESSOR

See figure 3.2.



**Figure 3.2**

Levelling

Level the processor by turning each foot clockwise to raise or anti-clockwise to lower when viewing from above. To help determine when the processor is level, position a spirit level first along the roller racks then across them, to ensure the processor is level in both directions.

#### **Note**

To ensure the rollers are level in relation to the solution, do not use the processor frame as a levelling reference.

### 3.4 CONNECTING THE ELECTRICAL SUPPLY

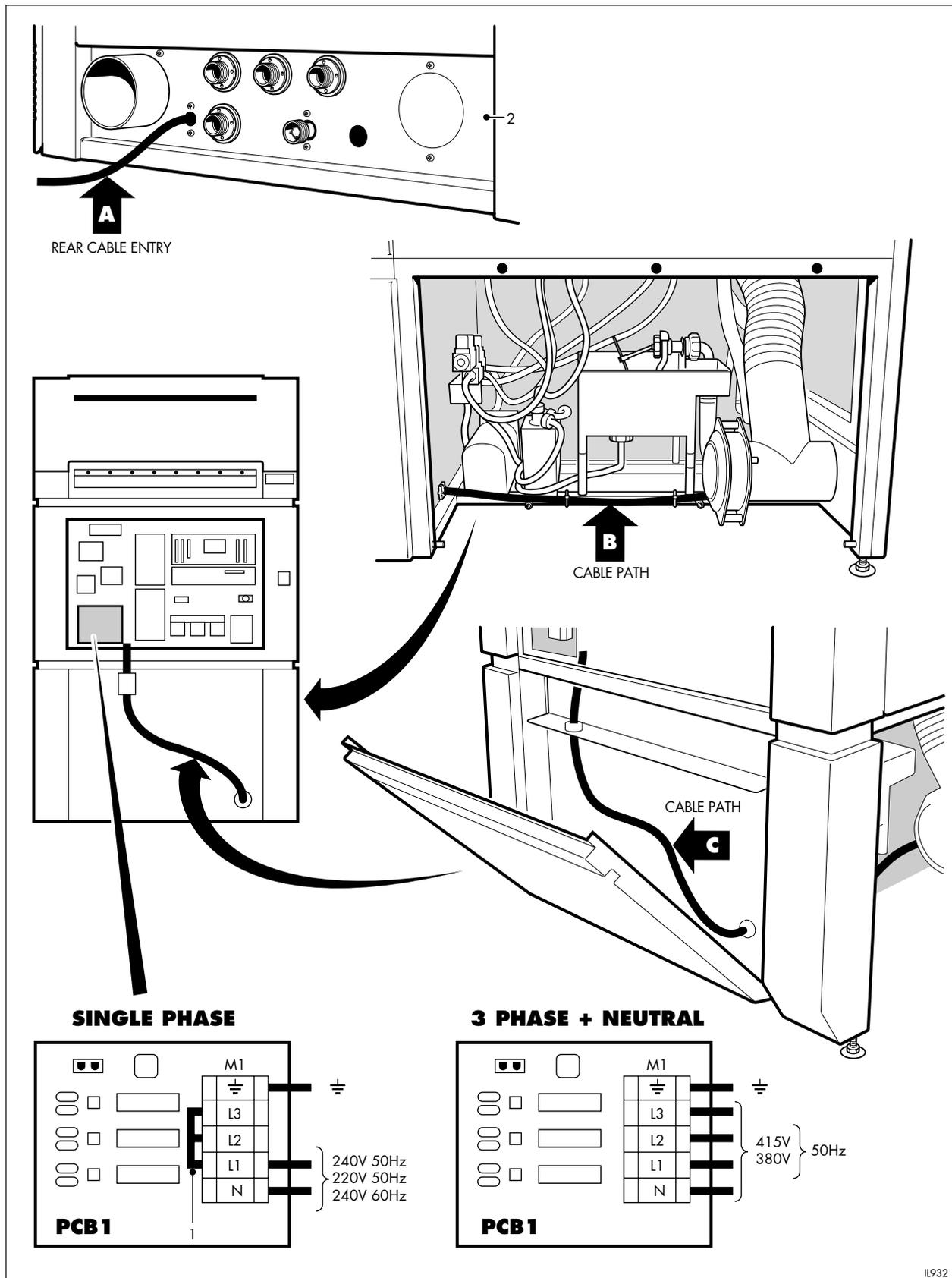
See figure 3.3.



#### **CAUTION**

Always follow the Safety Precautions at the front of this manual when installing electrical equipment. This installation must be made by a qualified engineer and must comply with National Electrical Standards.

The processor is available in three models; 220/380V 50Hz, 240/415V 50Hz and 220V 60Hz. The voltage is shown on the rating and serial number label located on the right hand side panel. Please ensure you have the correct model of processor for your electrical supply before proceeding with the electrical



**Figure 3.3** Connecting the electrical supply

---

**Figure 3.3**

- 1 Link
- 2 Services panel

**Detail A**

Rear cable entry

**Detail B**

Cable path, rear to front

**Detail C**

Cable path, front

connection. For all other electrical data, see section 5.

Before starting either of the following procedures, ensure the electrical supply to the mains isolator is switched off.

**3.4a Single phase supply**

For a single phase supply, connect the processor to a mains isolator, with a minimum rating of 30A (see section 2.2).

- 1 Connect one end of the 3 wire cable to the mains isolator as follows:  
Live wire to the live terminal (marked L or L1).  
Neutral wire to the neutral terminal (marked N or L2).  
Earth wire to the earth terminal (marked E or  $\text{≡}$  ).
- 2 Secure the cable at the mains isolator with the cable clamp.
- 3 Release the two screws and remove the processor front upper panel, to gain access to the electrical compartment.
- 4 Release the three screws and remove the internal electrical panel.
- 5 Release the two nuts securing the processor front lower panel to the processor frame. Open the panel until it stops.
- 6 Feed the cable through the cable clamp located in the services panel at the rear of the processor as shown in detail **A**.
- 7 Continue feeding the cable until it exits through the cable clamp located in the front bulkhead as shown in details **B** and **C**.
- 8 Feed the cable up through the grommet in the electrical panel as shown in detail **C**. Connect the cable to the mains terminal block M1 as shown in the detail for single phase.
- 9 Secure the cable at the front bulkhead and services panel by tightening the cable clamps.
- 10 Close the processor front lower panel. Secure the panel with the two nuts.
- 11 Refit the internal electrical panel. Secure the panel with the three screws.
- 12 Refit the processor front upper panel. Secure the panel with the two screws.

- 
- 13 Ensure the cable is protected in rigid conduit if it is routed across the floor, particularly if the cable can be tripped over.

### **3.4b Three phase supply**

For a three phase supply, connect the processor to a mains isolator, with a minimum rating of 16A (see section 2.2).

- 1 Connect one end of the 5 wire cable to the mains isolator as follows:

One line wire to the line terminal L1 (R).

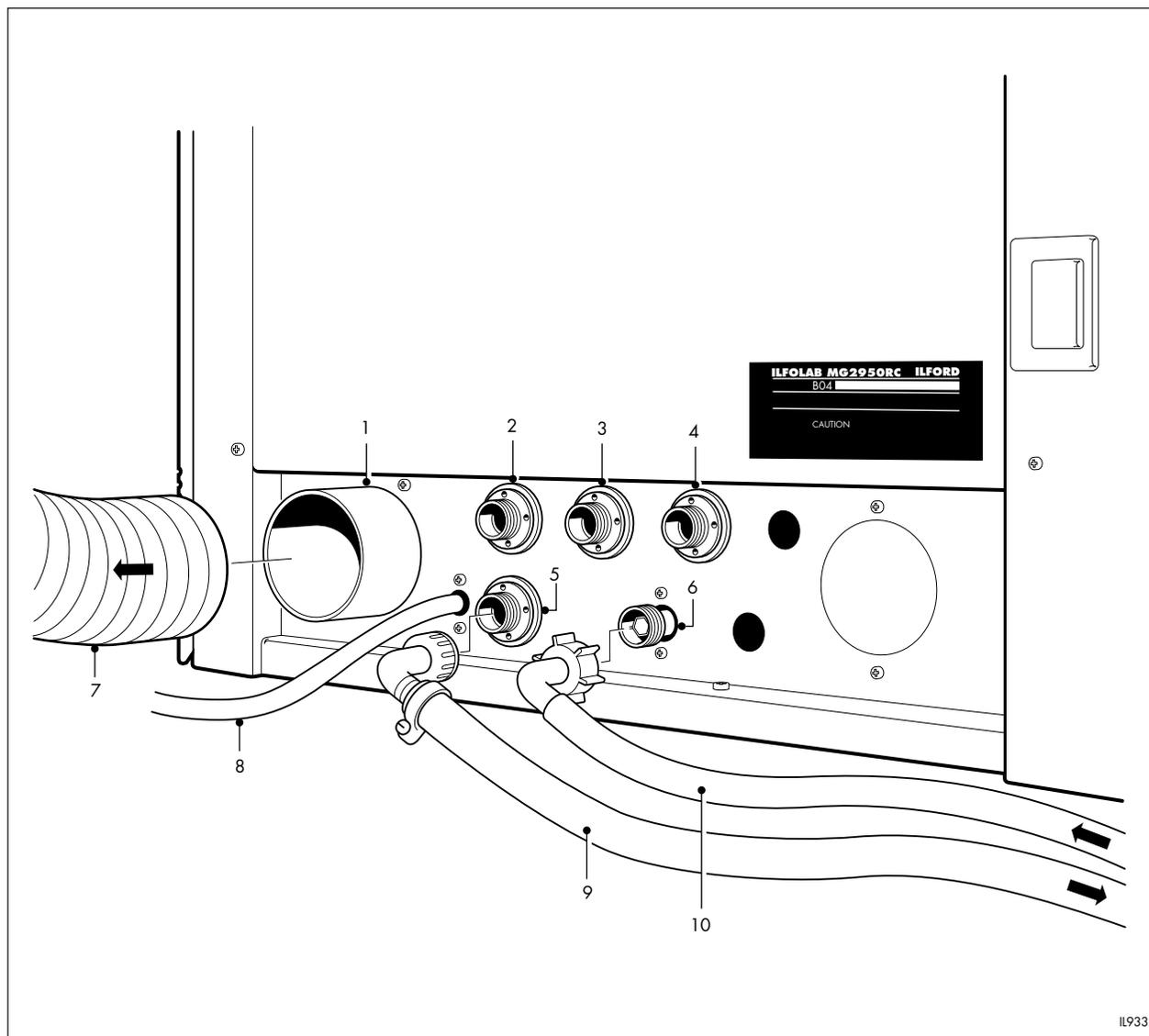
One line wire to the line terminal L2 (S).

One line wire to the line terminal L3 (T).

Neutral wire to the neutral terminal (marked N).

Earth wire to the earth terminal (marked E or  $\equiv$ ).

- 2 Secure the cable at the mains isolator with the cable clamp.
  - 3 Release the two screws and remove the processor front upper panel, to gain access to the electrical compartment.
  - 4 Release the three screws and remove the internal electrical panel.
  - 5 Release the two nuts securing the processor front lower panel to the processor frame. Open the panel until it stops.
  - 6 Feed the cable through the cable clamp located in the services panel at the rear of the processor as shown in detail **A**.
  - 7 Continue feeding the cable until it exits through the cable clamp located in the front bulkhead as shown in details **B** and **C**.
  - 8 Feed the cable up through the grommet in the electrical panel as shown in detail **C**. Connect the cable to the mains terminal block M1 as shown in the detail for 3 phase and neutral.
  - 9 Release the three screws and remove the link from terminals L1, L2 and L3. Re-tighten the screws.
  - 10 Secure the cable at the front bulkhead and services panel by tightening the cable clamps.
  - 11 Close the processor front lower panel. Secure the panel with the two nuts.
  - 12 Refit the internal electrical panel. Secure the panel with the three screws.
-



**Figure 3.4** Connecting water supply/drains/air exhaust

- Figure 3.4**
- 1 Air exhaust port
  - 2 Wash water tank overflow drain connector
  - 3 Fixer drain connector
  - 4 Developer drain connector
  - 5 Replenishment water tank overflow drain connector
  - 6 Wash water supply connector
  - 7 Air exhaust ducting
  - 8 Electrical cable
  - 9 Drain hose (typical)
  - 10 Water supply hose

- 13 Refit the processor front upper panel. Secure the panel with the two screws.
- 14 Ensure the cable is protected in rigid conduit if it is routed across the floor, particularly if the cable can be tripped over.

### 3.5 CONNECTING THE WATER SUPPLY

See figure 3.4.

A reinforced PVC flexible hose with end connections is supplied with the processor (see section 2.3).

- 1 Secure one end of the hose to the processor water supply connector by tightening the outer ring.

- 
- 2 Secure the other end of the hose to the water mains supply connector in the same way.
  - 3 Protect the hose if the hose is routed across the floor, particularly if the hose can be tripped over.

### **3.6 CONNECTING THE DEVELOPER DRAIN**

See figure 3.4.

A red flexible hose with one end fitting and one plain end is supplied with the processor (see section 2.4).

- 1 Secure the end fitting to the processor developer drain connector by tightening the outer ring.
- 2 Connect the other end of the hose in accordance with local regulations. Protect the hose if the hose is routed across the floor, particularly if the hose can be tripped over.

### **3.7 CONNECTING THE FIXER DRAIN**

See figure 3.4.

A green flexible hose with one end fitting and one plain end is supplied with the processor (see section 2.4).

- 1 Secure the end fitting to the processor fixer drain connector by tightening the outer ring.
- 2 Connect the other end of the hose to a separate container (20 litres (5 US gallons) minimum capacity) or directly to a silver recovery unit. Protect the hose if the hose is routed across the floor, particularly if the hose can be tripped over.

### **3.8 CONNECTING THE WATER DRAINS**

See figure 3.4.

There are two water drains at the rear of the processor; wash water tank overflow drain (upper port) and the replenishment water tank overflow (lower port). Two lengths of clear flexible hose each with one end fitting and one plain end are supplied with the processor (see section 2.4).

- 1 For the wash tank overflow/drain, secure the end fitting on one of the hoses to the upper water drain connector by tightening the outer ring.

- 2 For the replenishment water tank overflow, secure the end fitting on the other hose to the lower water drain connector by tightening the outer ring.
- 3 Connect the free ends of both hoses in accordance with local regulations. Protect the hoses if they are routed across the floor, particularly if the hoses can be tripped over.

### 3.9 CONNECTING THE AIR EXHAUST DUCTING

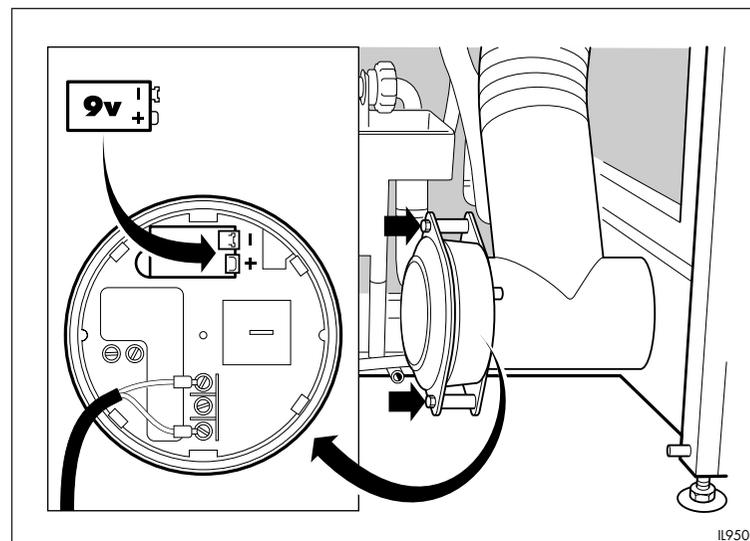
See figure 3.4.

The air exhaust port is located on the rear, right hand side of the processor. Ducting is supplied with the processor (see section 2.5).

- 1 Push the ducting onto the exhaust port. Secure the ducting with one of the clips.
- 2 Connect the other end of the ducting to the building exhaust system or directly to atmosphere.

### 3.10 CONNECTING THE SMOKE DETECTOR

See figure 3.5.



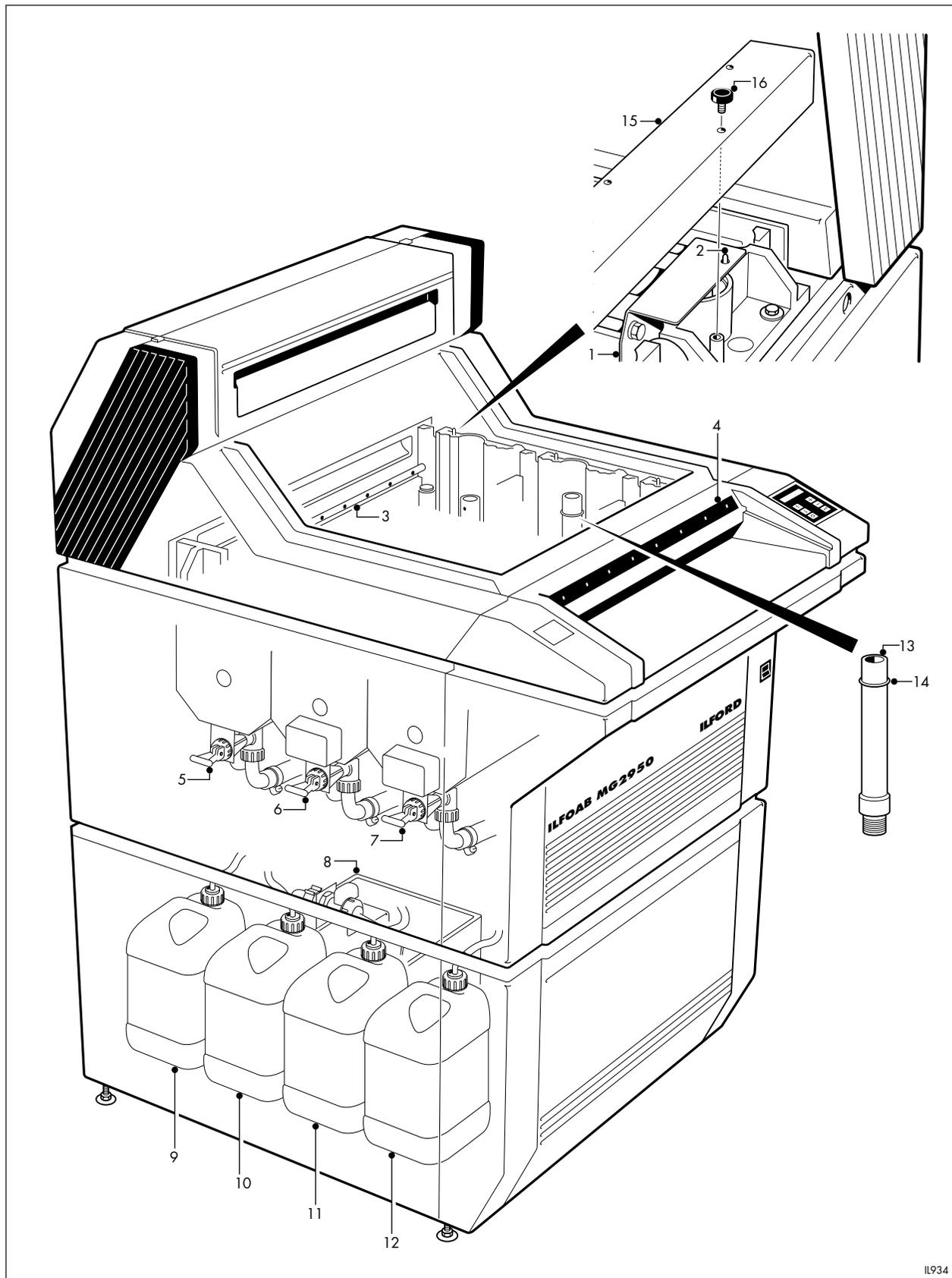
**Figure 3.5** Connecting the smoke detector

The processor is supplied with the smoke detector disconnected to preserve the battery. To reconnect the battery, proceed as follows:

- 1 Lift the locking catch and open the right hand lower side panel.

- 
- 2 Release the two screws and remove the clamping plate from the smoke detector.
  - 3 Remove the battery and reconnect it as shown. Observe the correct polarity.
  - 4 Refit the battery.
  - 5 Refit the clamping plate. Secure the plate with the two screws.
  - 6 Test the smoke detector by pressing the test button. The alarm should sound within 10 seconds.
  - 7 Close the right hand lower side panel.





**Figure 4.1**

Internal components

---

# 4

## COMMISSIONING

### Figure 4.1

- 1 Roller rack (typical)
- 2 Locating pin
- 3 Spray bar wash water tank
- 4 Path indicators
- 5 Drain tap, wash water tank
- 6 Drain tap, fixer tank
- 7 Drain tap, developer tank
- 8 Replenishment water reservoir tank
- 9 Developer replenishment bottle A
- 10 Developer replenishment bottle B
- 11 Fixer replenishment bottle A
- 12 Fixer replenishment bottle B
- 13 Standpipe (typical)
- 14 Level mark
- 15 Retaining plate (typical)
- 16 Knurled screw

Before the processor is used for the first time, it is important to ensure all packaging and manufacturing residues are flushed out of the processing tanks and pipework, and that all systems operate correctly. The following procedure uses clean, fresh water and very small quantities of developer and fixer concentrate. It is also an opportunity to become familiar with the processor and its controls. Do not attempt to carry out any of the following operations out of sequence.

### 4.1 PRE-COMMISSIONING CHECKS

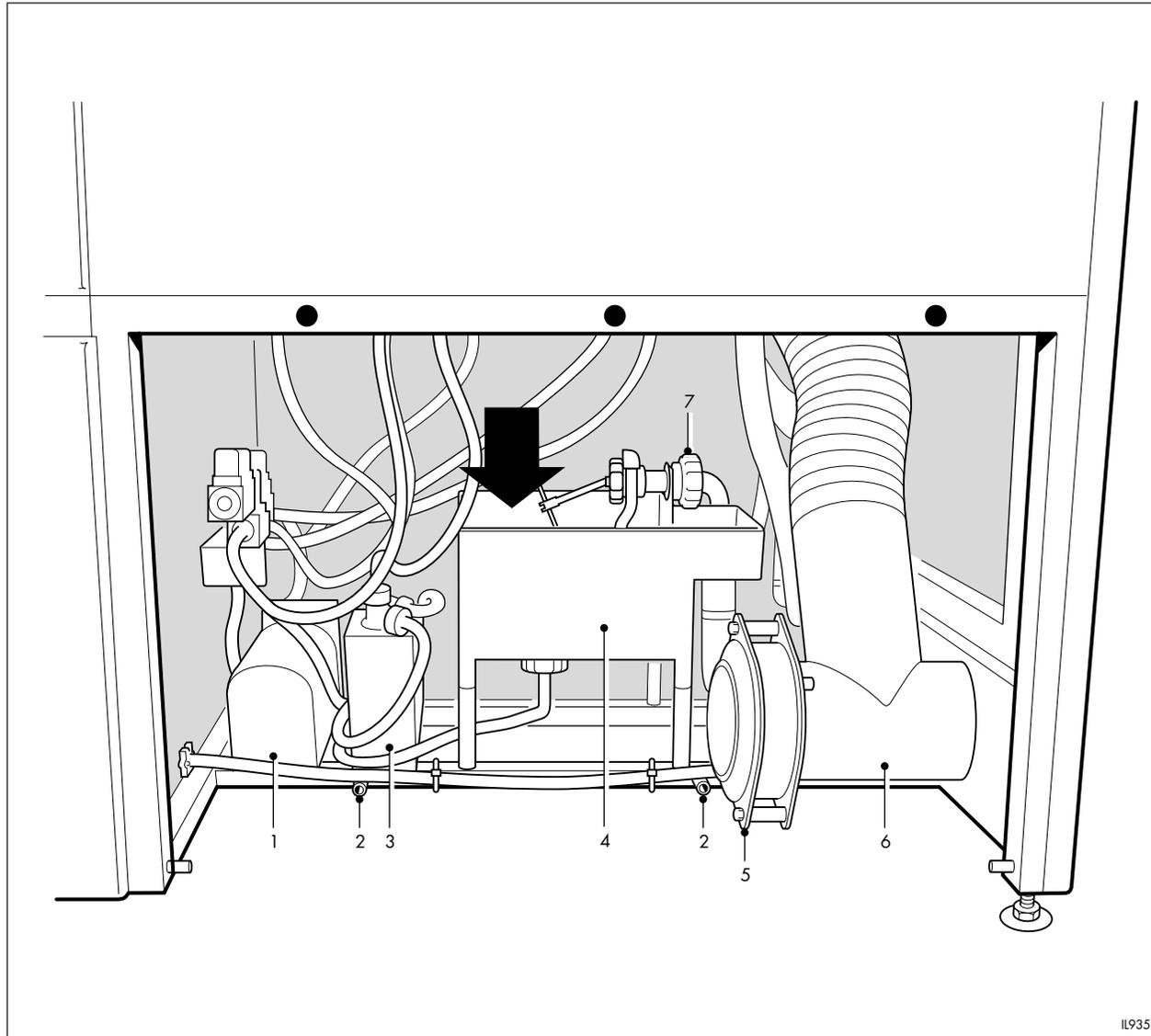
Before commissioning is started, ensure the following:

- 1a The developer, fixer and wash water drain taps are in the closed (centre) position.
- 1b If the processing racks have been fitted, remove them. To avoid back strain or other injury, lift the rack using two people, one positioned at each end. Always handle the rack by the single tie rod located in the centre of the rack.
- 1c Electrical connections to the processor are checked to be correct and are secure.
- 1d All plumbing connections to and from the processor are checked to be correct and are secure.
- 1e You have two fresh 5 litre bottles each of ILFORD 2000RT developer and fixer concentrates.
- 1f All panels are fixed in position on the processor.

### 4.2 FILL THE PROCESSING TANKS

See figure 4.1.

- 2a Remove the top cover and fill the developer, fixer and wash water tanks with 5 litres (1.3 US gallons) of clean, fresh water.
  - 2b In each tank, carefully lower the correct roller rack into position. Ensure the rack is secured correctly on the locating pins. Follow the colour coding red for developer, green for fixer and white for wash water.
  - 2c Fit the retaining plates. Secure each plate with the two knurled screws tightened to finger tight.
  - 2d Add clean, fresh water to each of the developer, fixer and wash water tanks until the water is level with the level mark on the standpipe in each tank. This will take the water to the correct working levels.
-



**Figure 4.2**

Replenishment water reservoir tank

- 2e Fit the anti-condensation lids to the racks following the same colour coding.
- 2f Refit the top cover.

#### **4.3 FILL THE REPLENISHMENT WATER RESERVOIR TANK**

See figure 4.2.

- 3a Lift the locking catch and open the right hand lower side panel. This panel is held in position with a magnet.
- 3b Release the screws and remove the inner panel to reveal the replenishment water reservoir tank.

- Figure 4.2**
- 1 Replenishment pump, developer
  - 2 Support post
  - 3 Replenishment pump, fix
  - 4 Replenishment tank, water reservoir
  - 5 Smoke detector
  - 6 Air exhaust
  - 7 Water reservoir level stop valve

- 3c Remove the tank lid and fill the tank half full with clean, fresh water. This will need about 2 litres (0.5 US gallons) of water.

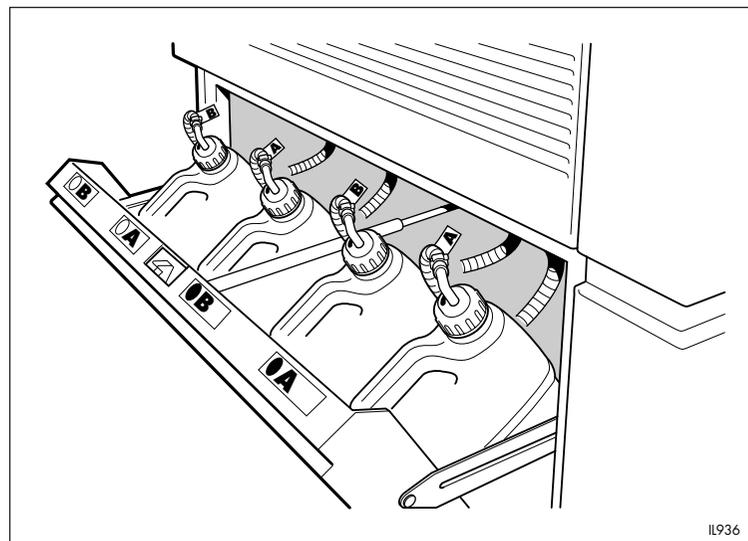
**Note**

Under normal operating conditions, this is the only time the replenishment water reservoir tank will need filling manually.

- 3d Refit the tank lid, inner panel and close the right hand lower side panel.

**4.4 INSTALL THE CHEMICAL REPLENISHMENT BOTTLES**

See figure 4.3.



**Figure 4.3** Install replenishment bottles



**CAUTION**

Before handling ILFORD chemicals, please ensure you are familiar with the information detailed in the ILFORD Photochemical Safety Data Sheets supplied as part of the chemical information pack.

- 4a Lift the locking catch and open the left hand lower side panel.
- 4b Locate the four bottles of chemical concentrate into the bottle carrier inside the panel. Ensure the bottles are orientated with the caps towards the inside of the processor to prevent chemical spillages and provide easier handling of the bottles. Follow the colour coding; red for developer, green for fixer.
- 4c Unscrew and remove the anti-tamper cap on each bottle.
- 4d Fit the replacement cap and pipe assembly supplied with the

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processor to each bottle. Follow the colour coding on the pipes; red for developer and green for fixer. In addition, ensure the developer and fixer A and B bottle locations receive the correctly designated A or B cap and pipe assembly.

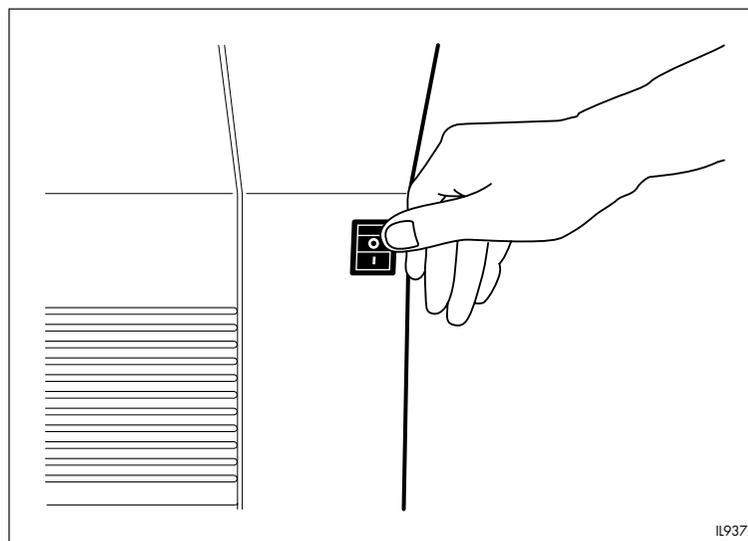
- 4e When all four bottles of chemistry are installed, carefully close the left hand lower side panel.

#### 4.5 SWITCH ON/WARM UP

- 5a Turn the water supply to the processor on at the stop cock.
- 5b Switch the electrical supply to the processor on at the mains isolator.
- 5c Switch the processor on at the on/off switch (see figure 4.4). Ensure the display reads

W A R M U P  
D R Y E R S E T P 1

and the ready LED flashes. This indicates the processor is warming up and is not ready for use. During this period the solutions are heated. The dryer fans operate for the first 90 seconds and the developer and fixer replenishment pumps for the first 15 seconds. The developer and fixer circulation pumps, air exhaust fans and feed fans are switched on.



**Figure 4.4**

Processor on/off switch

- 5d During the warm up period, press the ↓ button once to obtain the alarms status page. Ensure the display reads

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WARM UP  
NO ALARMS FOUND

Press the ↑ button. Ensure the display returns to the status described in 5c above.

**Notes**

During operation 5d, if the display does not read 'NO ALARMS FOUND' see the ILFOLAB MG2950 Operating manual, section 9.

The display will return automatically to the

WARM UP  
DRYER SET P1

status after 10 seconds if no further buttons are pressed.

- 5e When the processor has reached operating temperature (this will take approximately 20 minutes from an ambient temperature of 20°C (68°F)) ensure the display changes to

FIRST CYCLE  
DRYER SET P1

and the ready LED flashes. During this period the dryer is pre-heated rapidly, and the following additional services are switched on:

- wash water supply to the spray bar.
- wash water circulation pump
- main drive
- dryer heaters and fans

**Note**

If a sheet is fed during this period, the audible signal sounds and the main drive is switched off. The sheet is not accepted.

#### 4.6 AUTOMATIC STANDBY

- 6a When the first cycle is complete, ie after 4 minutes, ensure the display changes to

STANDBY OFF  
DRYER SET P1

and the ready LED switches to steady on. This indicates the processor is on standby and is ready for use. For more details,

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see the ILFOLAB MG2950 Operating manual, section 2.5.

- 6b Do not feed sheets yet. After 7 minutes, ensure the display changes to

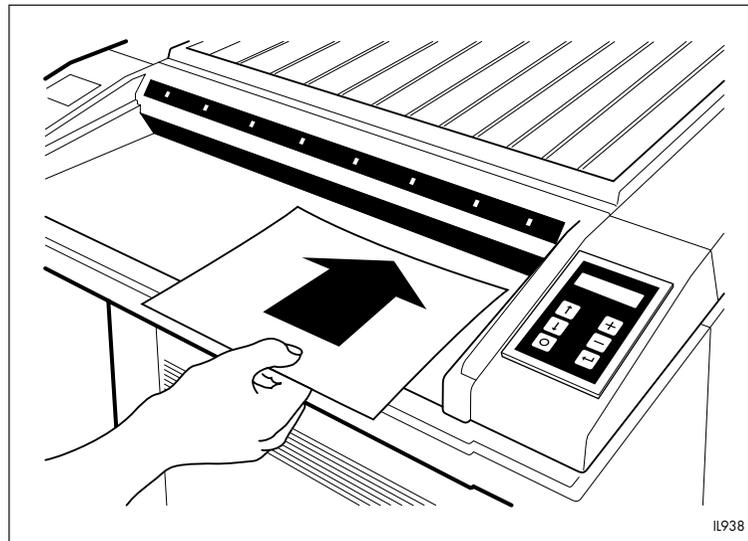
STANDBY ON  
DRYER SET P1

and the ready LED remains steady on. This indicates the processor is on standby and is ready for use. For more details, see the ILFOLAB MG2950 Operating manual, section 2.5.

- 6c After 1 minute, ensure the processor returns to the status described in 6a above.

#### 4.7 PROCESSING

See figure 4.5.



**Figure 4.5**

Feeding sheets

- 7a Feed a sheet of paper emulsion side down. Ensure the display changes to

PAPER FEEDING  
DRYER SET P1

and the ready LED switches off. Ensure the path indicators above the width of the sheet are illuminated.

- 7b When the trailing edge of the sheet has passed into the processor, ensure the display changes to

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PROCESSING  
DRYER SET P1

and the path indicators are switched off. After 1½ seconds ensure the audible alarm sounds once and the ready LED switches to steady on, indicating the processor is ready to accept the next sheet.

- 7c Ensure the sheet exits the processor after 63 seconds. Examine the processed sheet. Ensure the sheet is dry, and does not have any marks or scratches.

#### **4.8 CHECK SOLUTION TEMPERATURES**

The following sequence is the same for both developer and fixer solutions.

- 8a Press ↓ : twice to obtain the developer solution temperature page or three times to obtain the fixer solution temperature page.
- 8b Ensure the display reads

SET T DEV = 40.0  
REAL T DEV = 40.0

or

SET T FIX = 40.0  
REAL T FIX = 40.0

indicating the actual solution temperature is the same, or very close to, the preset temperature. Ensure the display returns automatically to standby off.

#### **4.9 CHECK REPLENISHMENT RATES**

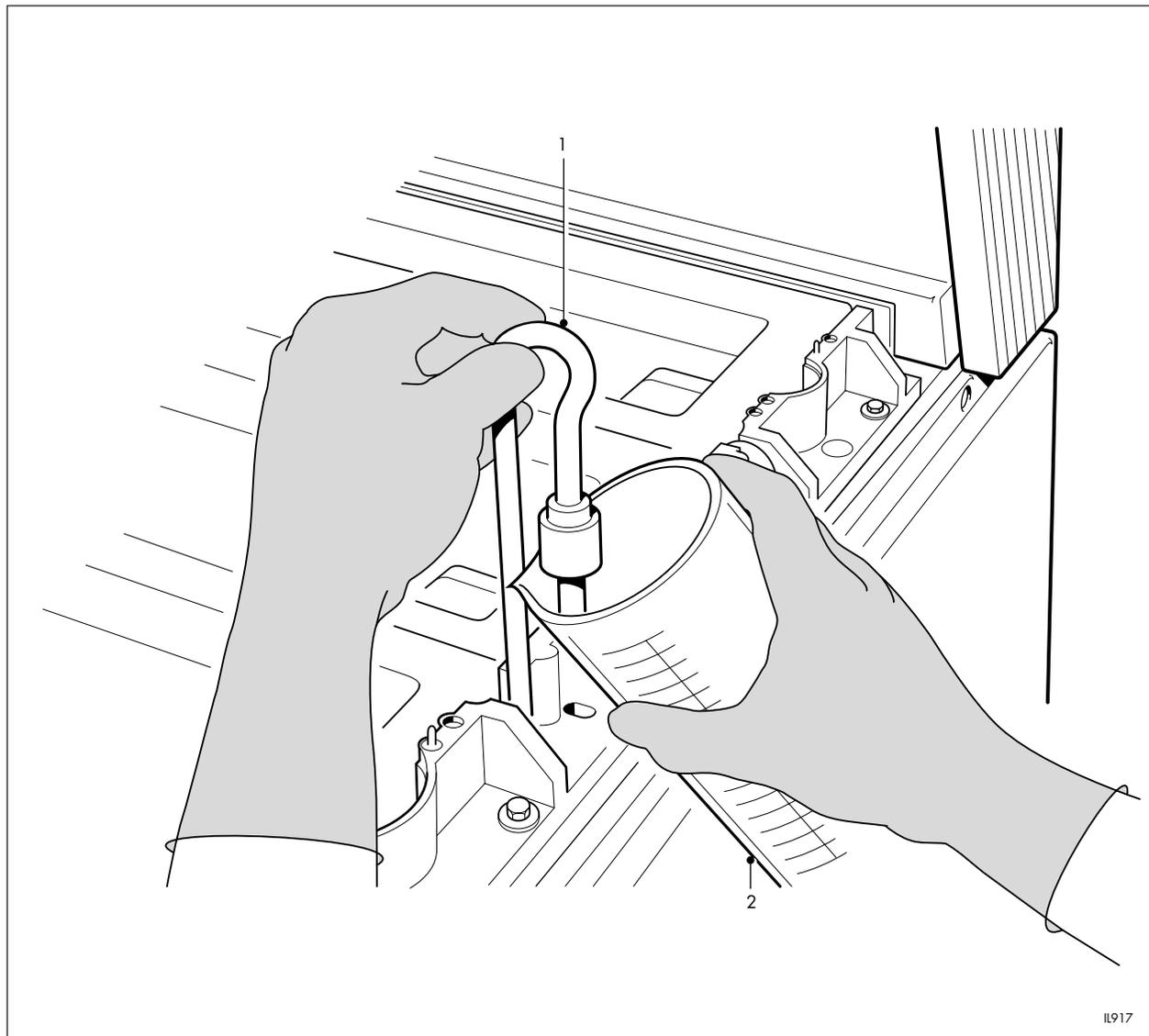
See figure 4.6.

With the processor in the standby off mode, lift and remove the processor top cover. Note that the ready LED flashes and the display reads

TOP COVER OPEN

The following sequence is the same for both developer and fixer solutions.

- 9a Release the two knurled screws and remove the retaining plate from each side of the processor



**Figure 4.6**

Checking replenishment rates

9b

Lift and remove the developer (fixer) anti-condensation lid from the processing rack.

9c

Carefully lift and turn the developer (fixer) hooked replenishment pipe through 180° until the open end is positioned over the side of the processor. The hooked replenishment pipe is located on the right hand side of the tank.

9d

Position a 500ml (17 US fl oz) plastic measuring cylinder below the open end of the hooked replenishment pipe.

9e

Press ↓ 4 times (5 times for fixer) to obtain the developer (fixer) replenishment rate page. Ensure the display reads

DEV REP RATE = 1 4 4

- Figure 4.6**
- 1 Hooked replenishment pipe
  - 2 Measuring cylinder (plastic)

PUMP TIME = 0 0 0

or

FIX REP RATE = 2 4 0

PUMP TIME = 0 0 0

9f

Press the enter button (↵) and ensure solution flows from the hooked replenishment pipe into the measuring cylinder. At the same time ensure the pump time counts down to zero.

9g

When the pump stops, return the hooked replenishment pipe to its original position with the open end located in the socket. Check the volume of solution in the measuring cylinder. The volume should be  $245\text{ml} \pm 5\text{ml}$  ( $8.3\text{ US fl oz} \pm 0.2\text{ US fl oz}$ ).

9h

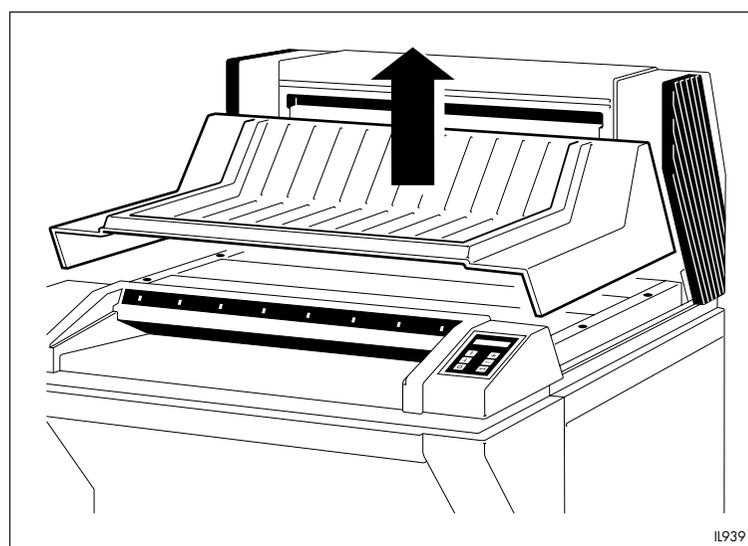
Refit the anti-condensation lid to the processing rack and the processor top cover. Press the enter button (↵) to reset the alarms status page and allow the display to return automatically to standby off.

9i

Refit the retaining plates. Secure each plate with the two knurled screws tightened to finger tight.

#### 4.10

##### CHECK TOP COVER SAFETY CIRCUIT



**Figure 4.7**

Removing top cover

See figure 4.7.

10a

With the processor at the correct operating temperature, remove the top cover and ensure the following safety circuit operates.

- The main drive and dryer heaters are switched off.
  - The ready LED flashes.
- Ensure the display reads

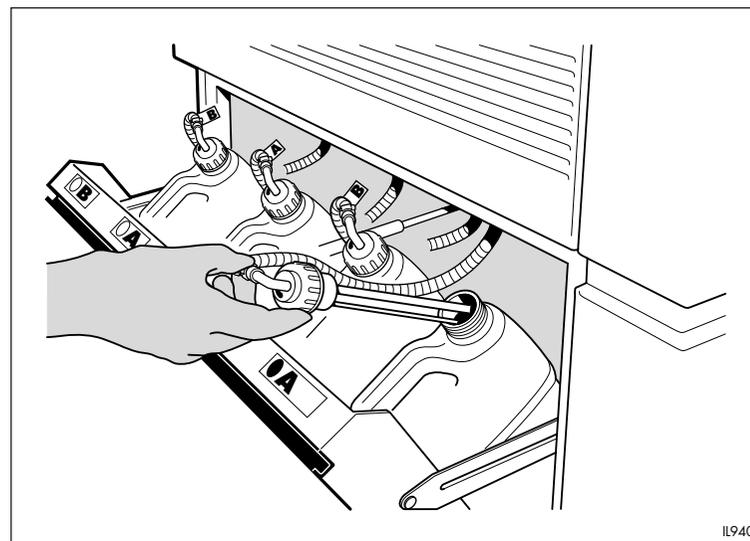
10b PROCESSOR CYCLE (see sections 4.5 to 4.7)  
TOP COVER OPEN

Refit the top cover and press the enter button (↵). Ensure the display reads

NO ALARMS FOUND

then returns automatically to the processor cycle page.

#### 4.11



**Figure 4.8** Replenishment bottle level circuits

#### **CHECK REPLENISHMENT BOTTLE LEVEL CIRCUITS**

11a See figure 4.8.

11b With the processor at the correct operating temperature, check the replenishment level circuit as follows.

11c Lift the locking catch and open the left hand lower side panel.

Carefully remove the cap on developer bottle A. Ensure the ready LED flashes. Ensure the display reads

PROCESSOR CYCLE (see sections 4.5 to 4.7)  
MIN DEV A REP

#### **Note**

11d If 'MIN DEV B REP' is displayed, the caps have been connected to the wrong bottles.

---

Carefully remove the cap on developer bottle B. Ensure the ready LED flashes, the audible signal sounds and the display changes to

PROCESSOR CYCLE (see sections 4.5 to 4.7)

11e NO DEV REP

Refit the cap on developer bottle A. Ensure the ready LED continues to flash, the audible signal is switched off and the display changes to

PROCESSOR CYCLE (see sections 4.5 to 4.7)

MIN DEV B REP

**Note**

11f If 'MIN DEV A REP' is displayed, the cap has been connected to the wrong bottle.

11g Replace the cap on developer bottle B.

Press the enter button (↵). Ensure the display reads

NO ALARMS FOUND

11h then returns automatically to the processor cycle page.

Repeat the above sequence with the fixer replenishment bottles.

**4.12**

12a **SWITCH OFF**

12b Switch the processor off at the on/off switch.

12c Switch the electrical supply to the processor off at the mains isolator.

Turn the water supply to the processor off at the stop cock.

**4.13**

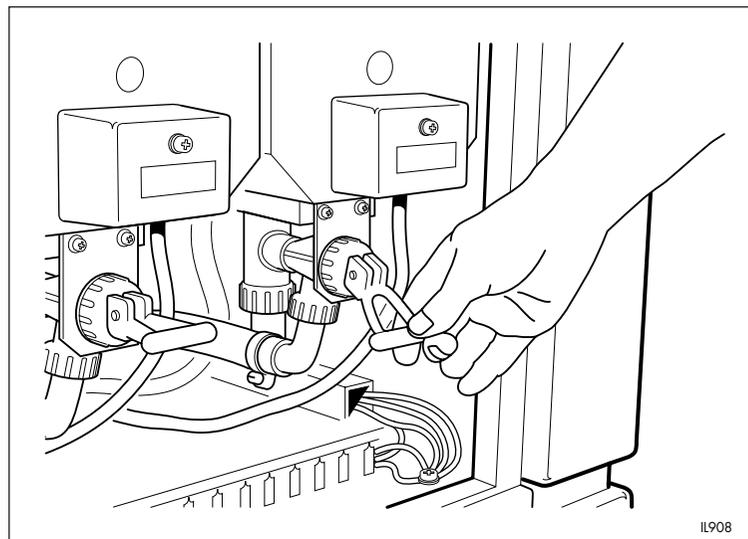
**DRAIN THE PROCESSOR**

13a See figure 4.9.

13b Remove the processor top cover.

13c Release the two knurled screws and remove the retaining plate from each side of the processor

13d Remove the anti-condensation lids from the developer, fixer and wash water roller racks.



**Figure 4.9**

Draining

13e Release the two securing screws and remove the left hand upper side panel.

13f Drain the developer, fixer and wash water tanks by moving the three drain taps to the open (down) position.

13g Remove the developer, fixer and wash water roller racks in turn and allow excess water from the racks to drain back into the tank.

13h When the tanks are empty, close the three drain taps (centre position).

Refit the left hand upper side panel. Secure the panel with the two screws.

#### 4.14

##### **ADD CHEMISTRY**

See figure 4.10.



##### **CAUTION**

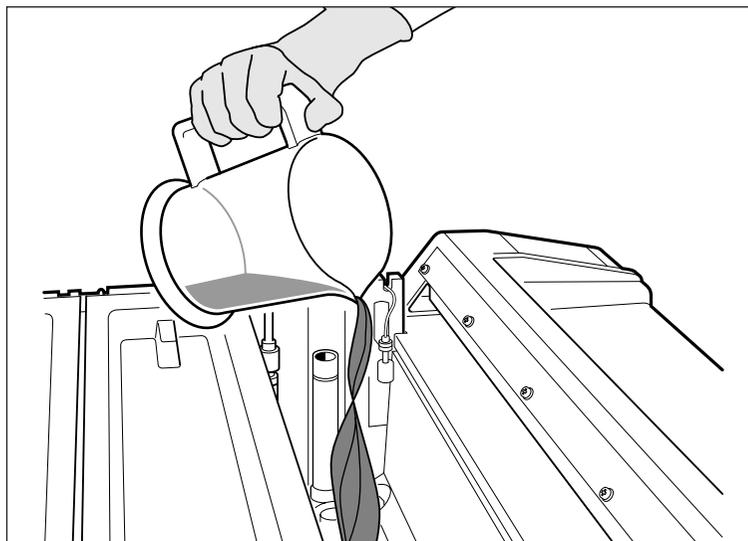
Before handling ILFORD chemicals, please ensure you are familiar with the information detailed in the ILFORD Photochemical Safety Data Sheets supplied as part of the chemical information pack.

14a

14b Ensure all drain taps are closed.

14c Measure and add 5 litres (1.3 US gallons) of clean, fresh water to each of the developer, fixer and wash water processing tanks.

Measure and add 3.15 litres (0.83 US gallons) of fresh ILFORD



**Figure 4.10** Add chemistry

14d 2000RT developer concentrate to the developer tank. Pour carefully and avoid splashing.

14e Measure and add 3.15 litres (0.83 US gallons) of fresh ILFORD 2000RT fixer concentrate to the fixer tank. Pour carefully and avoid splashing.

14f Measure and add 12ml (0.4 US fl oz) of ILFORD BIOCLEAN to the wash water tank.

14g Carefully lower the correct roller rack into each tank by observing the colour coding. Ensure each rack is secured correctly on the locating pins.

14h Add clean, fresh water to each tank until the solution/water is level with the level mark on the standpipe in each tank. This will take the processing solutions and wash water to the correct working levels.

14i Refit the anti-condensation lids to the roller racks. Follow the colour coding.

14j Refit the retaining plates. Secure each plate with the two knurled screws tightened to finger tight.

**4.15** Refit the processor top cover.

15a **SWITCH ON/WARM UP**

15b Repeat the sequence detailed in section 4.5. During the warm up sequence, the water and concentrate in the developer and fixer tanks will be thoroughly mixed by the circulation pumps.

# 5

## SPECIFICATION

When the processor has reached operating temperature and has assumed an automatic standby configuration, it is ready for use.

### PERFORMANCE

<b>Processor speed</b>	150cm/min (59 inches/min)
<b>Dry to dry cycle time</b>	63 seconds (see table below)
<b>Access time</b>	70 seconds
<b>Feed in time</b>	7 seconds
<b>Feed in delay (from one print to the next)</b>	1.5 seconds
<b>Maximum output (sheets)</b>	720 prints per hour
<b>Maximum output (roll)</b>	*800 prints per hour
<b>Warm up time from 20°C</b>	20 minutes
<b>Processing temperature</b>	40°C ± ½°C (104°F ± 1°F) factory set
<b>Dryer temperature</b>	50 to 80°C (122 to 176°F)

### Note

The above data is typical when processing 20.3x25.4cm (8x10inch) sheets, fed with the long edge leading

\*With roll feed attachments fitted

Dry to dry cycle time

Process	Time (seconds)
Paper detector	2.4
Developer	12.2
Transfer to fixer	4.6
Fixer	12.2
Transfer to wash	6.3
Wash	11.8
Transfer to dryer	1.9
Dryer	11.6
Total	63.0

	<b>PAPER ACCEPTED</b>
<b>Weight</b>	180g/m <sup>2</sup> (medium weight)
<b>Surfaces</b>	ILFORD .1M Glossy ILFORD .44M Pearl ILFORD .5M Matt ILFORD .24M Semi-matt ILFORD .25M Satin
<b>Type</b>	General purpose, monochrome, resin coated papers such as ILFORD MULTIGRADE IV RC DeLuxe or ILFORD MULTIGRADE Xpress or ILFOSPEED RC DeLuxe  Equivalent papers from other manufacturers can be processed in the ILFOLAB MG2950 processor, but performance cannot be guaranteed.
<b>Feed</b>	Emulsion side down
<b>Maximum width</b>	50.8cm (20 inches)
<b>Minimum width</b>	8.9cm (3.5 inches)
<b>Minimum length</b>	12.5cm (5 inches)
<b>Paper roll handling</b>	*Various configurations up to a maximum of 50.8cm (20 inches) wide
<b>Maximum roll length</b>	*152m (500 feet)
<b>Paper configuration</b>	Multiple sheets or *Single roll or multiple rolls *With roll feed attachments fitted
	<b>PRINT COLLECTION</b>
<b>Sheets</b>	Prints are delivered image upwards towards the operator
<b>*Rolls</b>	Prints are reeled image outwards away from the operator *With roll feed attachments fitted
	<b>RECOMMENDED CHEMICALS</b>
<b>Developer</b>	ILFORD 2000RT
<b>Fixer</b>	ILFORD 2000RT

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<b>Dilution</b>	1+4 (tank solution)
	1+5 (automatic replenishment solution)

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**TANK CAPACITIES**

<b>Developer processing tank</b>	15.75 litres (4.2 US gallons)
<b>Fixer processing tank</b>	15.75 litres (4.2 US gallons)
<b>Wash water tank</b>	12.75 litres (3.4 US gallons)

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**DIMENSIONS**

<b>Maximum height</b>	1430mm (56 inches)
<b>Height to feed tray</b>	1000mm (39 inches)
<b>Width (with side covers fitted)</b>	775mm (30.5 inches)
<b>Width (no side covers fitted)</b>	724mm (28.5 inches)
<b>Maximum length (no roll feed)</b>	1006mm (40 inches)
<b>Maximum length (with roll feed)</b>	1450mm (57 inches)

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**WEIGHTS**

<b>Shipping</b>	212kg (467 pounds)
<b>Empty (net)</b>	176kg (388 pounds)
<b>With solutions</b>	247kg (544 pounds)
<b>Replenishment bottle</b>	6.5kg (14 pounds)
<b>Maximum (with solutions and roll feed attachments)</b>	261kg (575 pounds)

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**COLOUR CODING**

The following colour coding is used throughout the processor

<b>Red</b>	Developer
<b>Green</b>	Fixer
<b>Clear or white</b>	Wash water

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**REPLENISHMENT**

<b>Capacity</b>	2x5 litres (1.3 US gallons) of developer and fixer. Equivalent
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	to 60 litres (15.8 US gallons) working strength solution
<b>Number of bottles</b>	4 in total. 2 each for developer and fixer
<b>Replenishment rate - developer</b>	144ml/m <sup>2</sup> (4.9 US fl oz/yard <sup>2</sup> ) factory set
<b>Replenishment rate - fixer</b>	240ml/m <sup>2</sup> (8.1 US fl oz/yard <sup>2</sup> ) factory set
<b>No developer replenishment</b>	<b>ANTIOX REPLENISHMENT CYCLE</b> If 200 or more 20.3x25.4cm (8x10 inches) sheets are processed in the previous 16 hour period. This is equivalent to 10.3m <sup>2</sup> (111ft <sup>2</sup> ) area of paper
<b>Maximum 1500ml (51 US fl oz) of developer</b>	If 0 sheets are processed in the previous 16 hour period

	<b>WATER SUPPLY</b>
<b>Source</b>	<b>Note</b> To comply with water supply regulations in some countries, water must be supplied via an isolated header tank.
<b>Flow rate</b>	1.5 litres/min (0.4 US gallons/min). Controlled by an integral wash water solenoid valve
<b>Recommended temperature of water supply</b>	Between 5 and 30°C (41 and 86°F)
<b>Pressure (minimum)</b>	0.2 bar (3 pounds/in <sup>2</sup> )

<b>Maximum capacity</b>	<b>DRAINAGE</b> 20 litres/min (5.3 US gallons/min) when all tanks are drained
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	<b>GAS EMISSIONS</b>
<b>Ammonia</b>	1 ppm (part per million)
<b>Sulphur dioxide</b>	0.5ppm

	<b>ELECTRICAL (3 MODELS)</b>		
<b>Voltage (V)</b>	220/380	240/415	220
<b>Frequency</b>	50	50	60
<b>Phase</b>	Single/3	Single/3	Single
<b>Maximum current (A) - single phase</b>	30	28	30

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<b>Power consumption (kW)</b>	6.6	6.7	6.6
<b>Solution heaters</b>	1000W each for developer and fixer		
<b>Dryer heaters</b>	Three 1300W on emulsion side in dryer chamber One 600W pre-heater on emulsion side		
<b>Battery (smoke detector)</b>	9v IEF type 6LR61A, eg MN1604, 522		
<b>SAFETY FEATURES</b>			
<b>Thermal cut-out - solutions</b>	Operates at 60°C (140°F)		
<b>Thermal cut-out - dryer</b>	Operates at 130°C (266°F)		
<b>Solution level switches</b>	Monitors levels in the developer, fixer and wash water tanks to ensure optimum processing quality		
<b>Mechanical protection</b>	Interlocks operate if the top cover, dryer cover or left hand upper side panel is removed, to stop the processor		
<b>Air flow</b>	Switches operate if a reduction in air flow through the dryer is detected, to stop the processor		
<b>Smoke detector</b>	Switches off the dryer if an undetected paper jam occurs.		

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