Operating Manual

SI piccolo

02-2024

Staude Imaging GmbH
Digital for the Moment - Analog for Eternity

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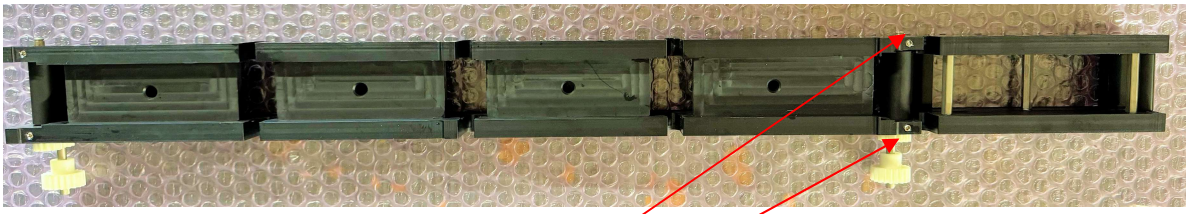


Important:

For new processors or replacement racks the springs are screwed loosely. The thread plugs necessarily must set flush with the bottom of the rack before operation.

Staude Imaging GmbH
Digital für den Moment - Analog für die Ewigkeit

Table of Contents

Basic accessories supplied

Film tracking unit (Rack)

Power cord

Film cassette (including insert) or special adapter

Film take-up unit

Transport dishes (1 piece)

1. Overview

The SI Piccolo facilitates the simple and speedy processing of 16 and/or 35 mm microfilms (depending on the equipment of the device) in an ordinary office environment. The unit does not require additional connections to mains water in or a waste water discharge.

All functions of the SI Piccolo are electronically controlled and monitored. The electronic control, chemical circulation system and the carefully formulated SI Piccolo Chemistry are the foundation for:

- continuous high processing quality standards
- archival quality films according to DIN 19070
- simple and quick change of chemistry
- 'in-office' processing
- processing without running water connection
- simple, convenient operation

2. Technical Data

Films

All 16 mm or 35 mm microfilms wound on a daylight spool (for example Tali R 186).

Processing

Film width	16 and/or 35 mm (depending on the equipment of the device)
Film length	up to 66 m
Film thickness	0.06 to 0.14 mm
Film loading	in daylight
Film transport	by film tracking unit (rack)
Chemicals	Staude Piccolo Chemistry Set
Chemistry temperature	37 °C
Processing speed	1 m/min
Warm-up time	approx. 12 min (from 20 °C ambient temperature) takes a little longer with the 110 version

Electrical specifications

Power Source 220 - 240 V +/- 10%, 50 Hz, 1 kW

Physical specifications

Dimensions	Height 400 mm, Width 880 mm, Depth 280 mm (Please allow 300 mm clearance when installing)
Weight	22 kg
Heat output	1440 kj/h
Operating temperature	18° to 30°C
Relative humidity	20 to 80%
Noise level	46 dB (A)

Subject to change without notice!

3. Yield of chemical baths (Life expectancy of chemistry)

The expected yield of one set of chemistry (1 bottle each developer, fixer, 1st rinse and 2nd rinse) is 10 m²

Change of chemicals after:

16 mm films	**35 mm films**
Up to 20 rolls of 30,5 m each	up to 9-10 rolls of 30.5 m each
Up to 10 rolls of 65 m each	up to 4-5 rolls of 65 m each;
or 2 weeks which ever comes first	

4. Supplies (consumables)

Piccolo Chemistry Set (1 litre)

packed as follows:
3 x 1 litre Developer
3 x 1 litre Fixer
3 x 1 litre Rinse 1
3 x 1 litre Rinse 2

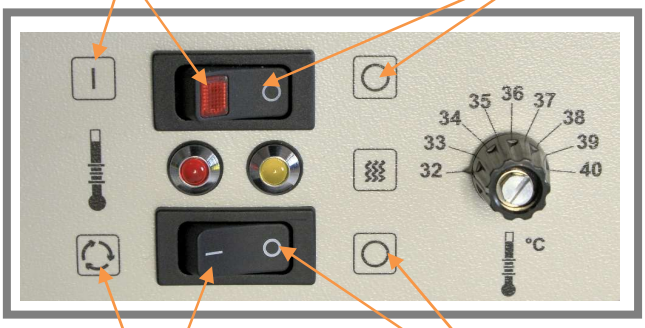
5. Appliance details

Operating controls

Power switch

Device switched on

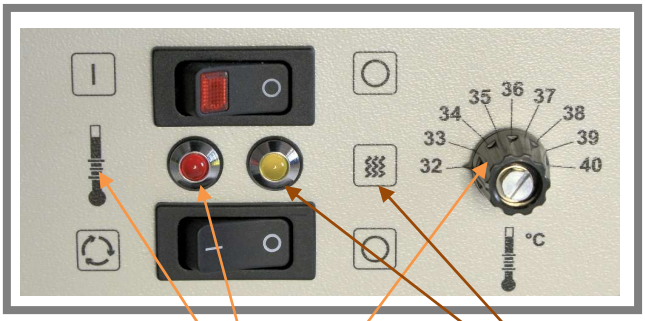
device switched off



Operating switch

Transport is running

Device ready (no film transport)



Temperature control

Temperature chemicals
adjustable on the potientiometer knob

temperature air
adjustable on the potientiometer (on the back)

Control light (air and chemicals)

always lights up
Temperature too low

flashes
Temperature has been reached

- the development can be started

does not light up
temperature too high

Attention:
Wait 30 minutes after switching on for the first time, as the system initially regulates + 2 degrees C and only then reaches a constant temperature!

Film cassette

Film cassette complete

Back of cassette with fastening screws

Film cassette open,
mandrel pulled out for insertion of the film

film cassette inserted, mandrel inserted

Take-up unit

Film winding incl.
Idler roller,
winding mandrel

Film winding
closed

Film winding open
incl. o-rings

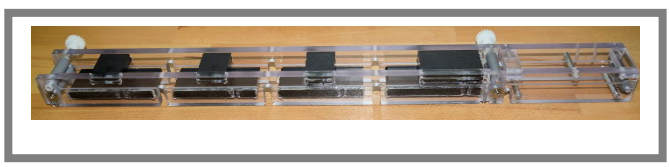
Chemicals compartment

When you pull the front cover towards you and lift it upwards, you will gain access to the four chemistry bottles and the vent bottle.

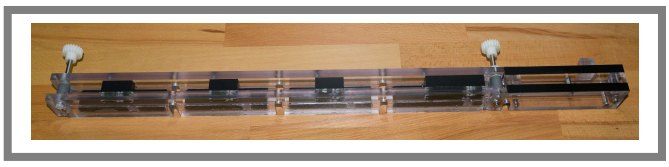
From left:
1. bottle – Developer
2. bottle – Fixer
3. bottle – 1st Rinse
4. bottle – 2nd Rinse

Film path

Lifting the cover upwards provides complete access to the film transport rack

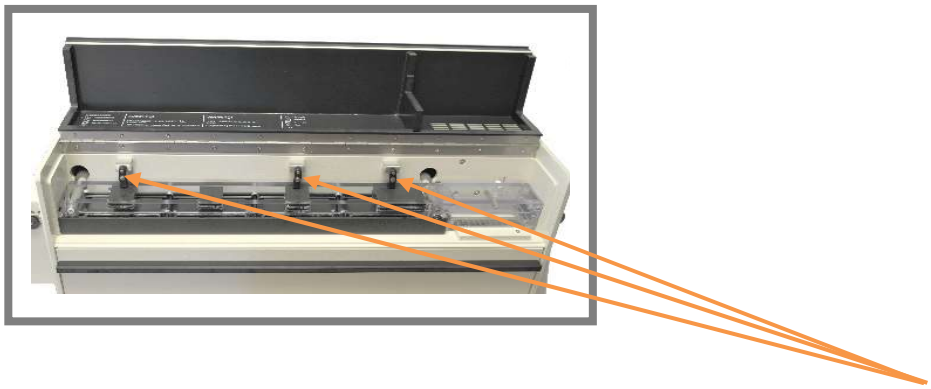


35 mm rack



16 mm rack

Locking mechanism



The film transport unit (rack) is secured into its correct position by 3 latches. Turn them down after inserting or replacing the rack.

6. Preparation for use

Insert chemicals

Please observe the Safety Caution on the Chemistry Bottles and the Safety data sheets!

Open the lid at the front of the unit. Undo the screw top cap on the bottle. Insert the connector hoses into the bottle and simultaneously place the bottle in its correct place in the unit. Fasten the screw top, securing the hoses in the bottle.

Repeat this process for the other three bottles. (Refer also to page 8 Chemicals Compartment)

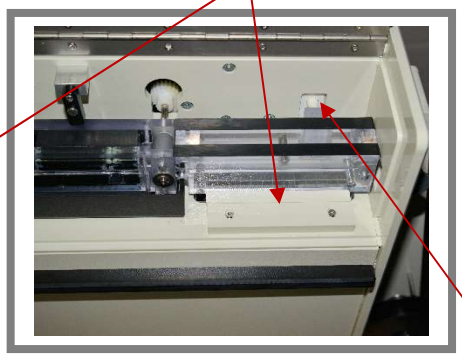
Handy Hint:
Retain caps for sealing bottles after use!

Insert film rack

Grip the rack with both hands on the left and right hand side. Hold the rack about 100 mm lower on the left hand side than on the right hand side.

Then guide the gears into the hole on the left. Lower the rack on the right side and insert the gears on this side into the hole as well.

Important: When inserting a 16 mm rack, the spacer block must be inserted!



Apply slight downwards pressure onto the rack and lock it into place using the three locking latches.

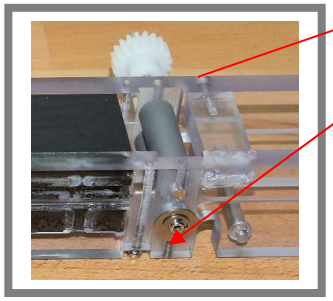
The processor will only be able to be operated when the inbuilt safety switch is activated by the rack being installed properly.

Caution:
The unit must only be switched on after the chemistry bottles have been connected! Failing to do so will cause the pumps to run dry and the heating element will overheat

Prolonged storage of rack

To prevent flat spots on the silicon rollers during prolonged none use of the rack, the pressure springs must be slackened off. This should be done whenever the rack is not being used for two weeks or longer.

To slacken off the pressure springs, the two Allen screws at the bottom of the rack should be turned at least three turns anticlockwise (use a 2.5 mm Allen key).



New processors (or replacement racks) are shipped with the pressure springs released (not tightened). The Allen screws should be adjusted so that they are flush with the underside of the rack.

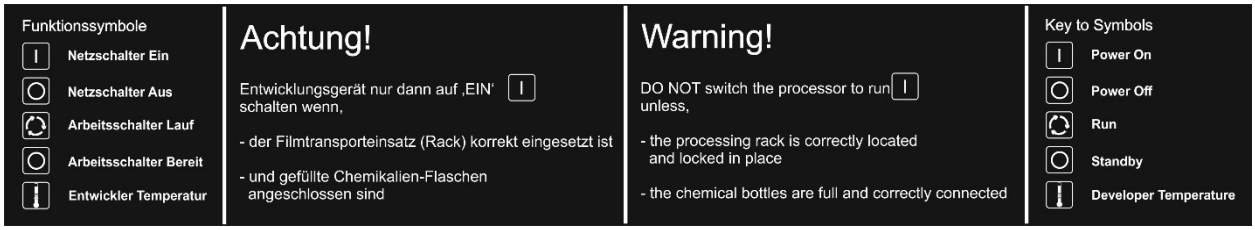
Replacement of Racks

If a replacement rack is to be used, it must first be adjusted to the correct height setting by adjusting the levelling screw (4 each Allen screws 2.5 mm). Correct height is achieved when the rack sits level and all cogs have a good grip into the worm gears.

To check proper adjustment, open the rear cover!

Power ‚ON' process

Please observe the **Caution Note** on the inside of the top lid before switching the unit on:



Turn the main switch to `ON'. The green control lamp (Developer Temperature) will be illuminated immediately. After approximately 12 minutes the correct processing temperature will be reached.

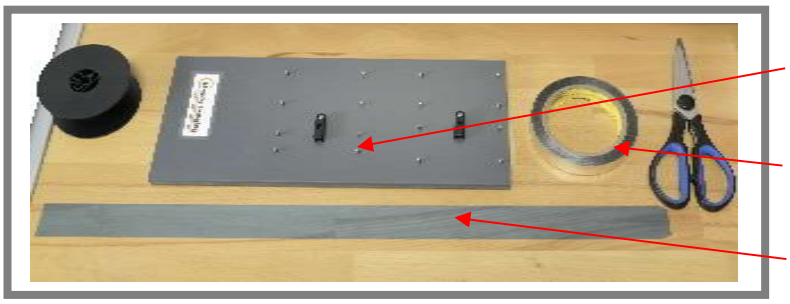
Attention:
After first switching on, wait 30 minutes, as the system first regulates + 2 degrees C and only then reaches a constant temperature!

The green control lamp will flicker when the correct temperature has been reached.

The control lamp is turned off when the temperature exceeds the correct level.

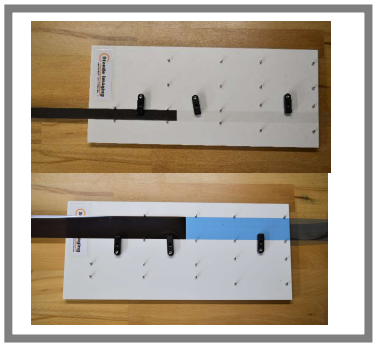
Preparation of film for processing

You will need the following materials for optimal film guidance:



Prior to inserting the film for processing, ensure that the leading edge of the film is cut at right angles.

Place film and leader flush in the adhesive template and secure both with the latches. Cut a piece of tape - it should be twice the width of the film - and tape it over the seam. Detach everything from the template and stick the adhesive tape around the film so that the film is completely covered on both sides.



<u>Handy Hint</u>:
Leader tapes can be reused as often as you like if they are undamaged (not kinked, rolled, shortened).

It is best to hang it on the wall.

Prepare winding

Place the slave cassette on the mandrel of the take-up unit.

Pay attention to the correct positioning of the cassette:

35 mm

16 mm

7. Processor use

Switch ‚ON‘

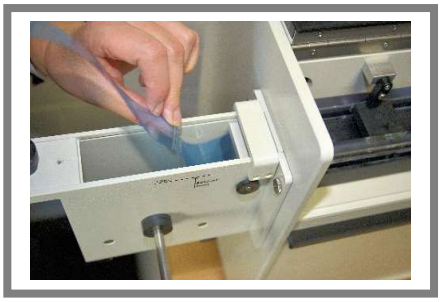
The unit must only be turned on after the rack and the chemistry bottles have been inserted, otherwise the chemical pumps will run dry and the heater will overheat.

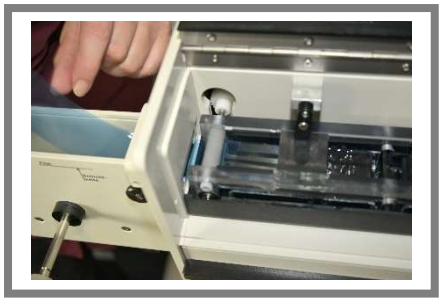
Turn on the unit.

Insert the film

Open the cassette by sliding the cover out. Pull out the mandrel and insert the film into it.

Thread the leader, slide in the mandrel, and close the cassette.





The film transport can now be started.

Activate the film transport

After the correct processing temperature has been reached (the green control lamp flickers), turn the operating switch to `Run'. This will activate the film transport together with the heater dryer. You are now ready to process films.

<u>Handy Hint</u>:
Only switch on the unit if you are certain that you are going to process within the next 15 minutes. The operating switch should only be set to 'Run' when the proper operating temperature has been reached. This procedure ensures the conservation of energy and protects the developer from unnecessary oxidisation.

Make sure the button on the back of the piccolo is set to match the film:
Pressed = 35 mm film - not pressed = 16 mm film

Take-up of film

As soon as the film or leader emerges from the dryer (right hand side of the unit), which is about 1 min after inserting it, it must be wound onto the take-up spool.

Cut the film just behind the leader and thread it into the take-up slot on the take-up reel.

Remove the tape from the leader and save it for the next film.

8. Care and maintenance

The piccolo is very simple to clean. Please carry out regular maintenance to ensure that the unit is always ready for use and in top condition.

Upon each change of chemistry the maintenance routine should be carried out.

Maintenance of the rack

Unfasten the locking latches and remove rack from unit. To guard against chemical drips, place the rack on one of the transport dishes.

Rinse the rack and transport dish thoroughly using warm, running water.

The silicon rollers are best cleaned using methylated spirits.

Maintenance of the pumping system

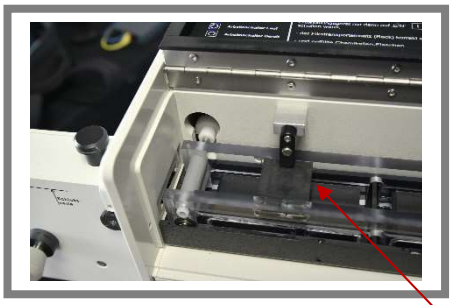
Use four used rinse bottles and fill them with distilled water. Connect these bottles as you would usually connect the chemistry bottles and run the processor for about 5 minutes. After switching off, wait about 5 minutes to let the water run back into the bottles, remove them and dispose of the waste water.

If necessary, repeat the process.

9. Adjusting the developer temperature

To accurately check the temperature, or when resetting the temperature setting, an accurate thermometer (one which has a display with 1/10°C graduation) is to be used.

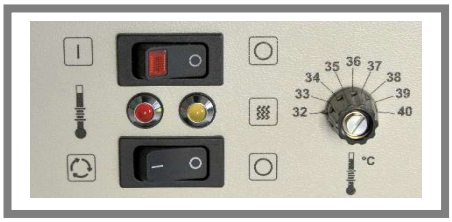
Developer temperature



<u>Handy Hint</u>: The temperature of the chemistry is best measured in the developer bath. The thermometer is inserted under the spacer.

The developer temperature should be 37° C.

The temperature can be adjusted using the knob to the left of the ON/OFF switch.



Air temperature

The air temperature is preset.

If the temperature has to be changed, it must be set on the back with a screwdriver.

10. Disposal of chemicals

The developer and fixer are chemicals which, despite their low pollution danger, should not be disposed of by simply pouring them into a waste water drain.

Cap used chemical bottles and store them. Locate an appropriate Waste Collection company which will collect the chemistry and dispose of it according to local regulations (see Yellow Pages or similar company directory). These companies usually are able to advise you how much you need to store before collection will be effected.

The contents of the two Rinses can be disposed of directly into any waste water drain. Please clarify this with the responsible water management office. To do this, present the safety data sheets.

11. Troubleshooting

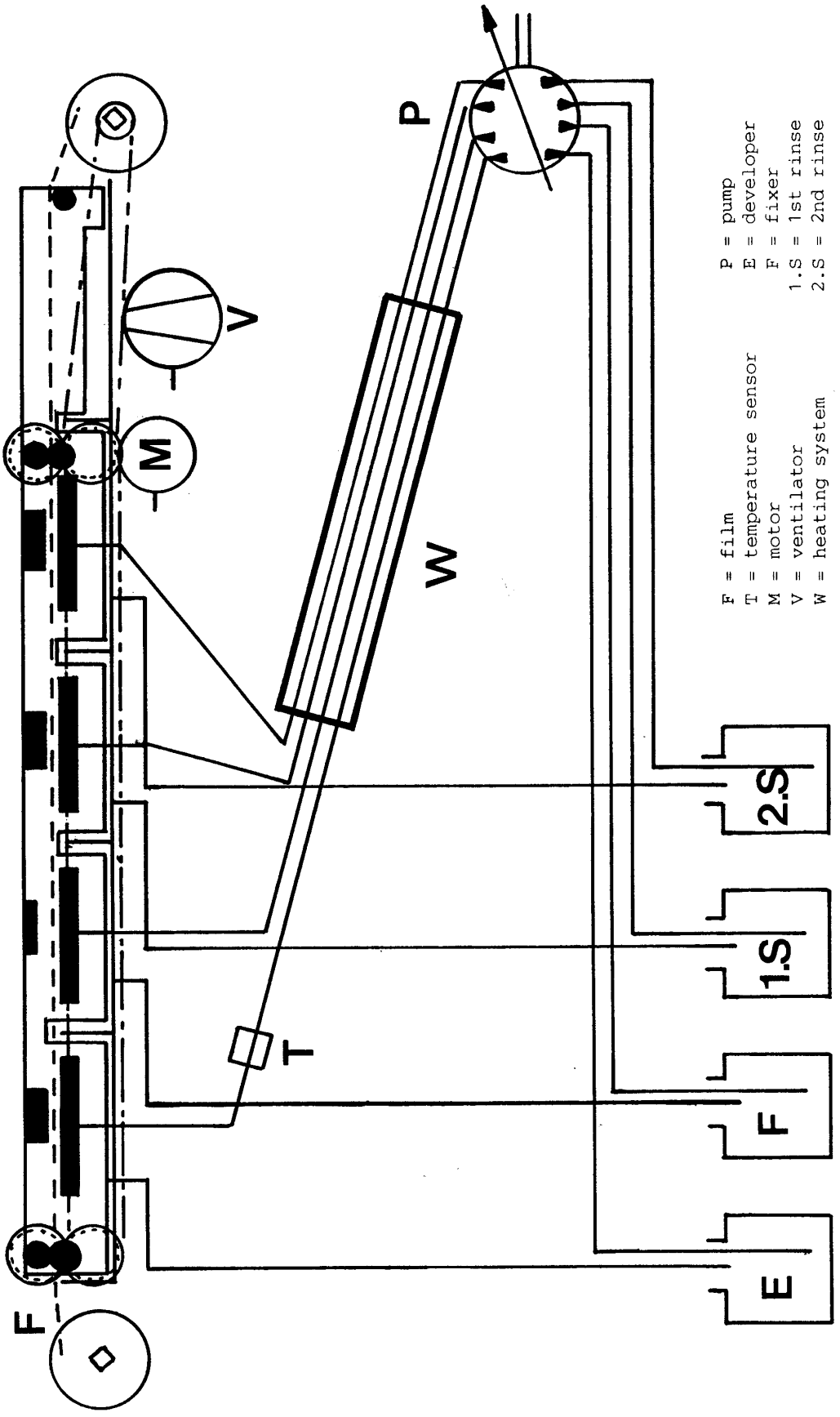
Observing the operating instructions and the following brief maintenance and troubleshooting instructions will contribute to:

- trouble free running of the unit and protection of your investment therein
- ensuring maximum quality of your processed films
- cost savings, since trouble calls or repair of damages by service technicians are chargeable items even during the warranty period or under rental or service contracts.

Fault	**Cause**	**Remedy**
No power at unit Unit is turned on but does not run	Cable not plugged in Safety cut-out activated Internal fuse blown	Plug in cable Reset safety cut- out Replace fuses (2 pieces) 6.3 A slow blowing
Developer temperature has not reached proper setting after approx 12 mins	Thermostat set incorrectly	Adjust thermostat
No film take-up	O-ring broken	Replace O-ring
D-max too low	Developer temperature too low	Adjust temperature setting
	Developer exhausted or contaminated	Replace with new developer
	Incorrect exposure	Check camera
D-max too high	Developer temperature to high	Adjust temperature setting
	Developer contaminated	Replace with new developer
	Incorrect exposure	Check camera
Film fogged	Rack cover lid open during processing	Close lid
Film jam Leading edge of film does not exist on time (ca 55 secs after insertion), strange noises	film damaged or kinked see Film Preparation Missing leader, leader incorrectly attached or parted from film see Leader Attachment Rack does not transport film, check cogs are engaged properly. No film take-up	1. Avoid unnecessary light 2. Turn switch to `Run' 3. Open film cassette 4. Cut film on reel and place in light tight container 5. Cut film just prior to take-up spool 6. Unlock rack and lift, turn rack manually and try to pull out film, ensure rollers Do not get scratched! Prepare unit for proper operation. Prior to using it again, run a short length of blank film through the unit to check for proper operation. see Take-up of Film, page 9.

If you are not able to remedy a malfunction by following these Troubleshooting Hints, please contact the SI Service Division on Telephone +49(0)6036/908-33

12. Devices


P
V
M
W
T
F
E
F
1.S
2.S
P = pump
E = developer
F = fixer
1.S = 1st rinse
2.S = 2nd rinse
F = film
T = temperature sensor
M = motor
V = ventilator
W = heating system