

# MINOX EC

## Instruction Manual

**MINOX**

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West Germany

Modifications reserved.  
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### Introduction

The Minox EC, the smallest Minox ever, is supremely easy to use. To become familiar with the camera, you should however take the trouble to read this instruction manual thoroughly.

The instruction manual is arranged so that the left hand pages always indicate the required operating steps. On the right hand pages you will find useful hints and additional information.

Most operating steps can be carried out even when no film is loaded. You can therefore get to know the camera before you actually start shooting.

Some functions of the Minox EC such as the automatic exposure control are controlled electronically. The camera therefore only works with a battery.

### Technical data

**Type:** Minox EC ultra miniature camera.

**Minox model code:** 10.500

**Film transport:** Push-pull rapid transport – only operates after releasing the shutter.

**Film pressure plate:** Pressure lifts during film transport and film changing.

**Shutter:** Electronically controlled leaf shutter 1/500 to 8 seconds (at 25 ASA).

**Meter cell:** CdS cell.

**Film speeds:** Stepless adjustment from 25 ASA to 400 ASA (15 to 27 DIN).

**Light signals:** Red LED for slow-speed warning (longer than 1/30 second) and battery check.

**Lens:** 15 mm Minox 4-element fixed-focus f/5.6 lens. Depth of field from 1 m (3½ ft) to infinity.

**Lens hood:** Built in.

**Finder:** Bright-line finder.

**Frame counter:** Counts back from 36 to 0 or from 15 to 0.

Set by milled button.  
**Flash:** Special connection for Minox FE 4 flash cube adapter.

**Length closed:** 8.0 cm (3.15 inches)

**Length extended:** 9.6 cm (3.8 inches)

**Width:** 3.0 cm (1.2 inches)

**Height:** 1.8 cm (0.7 inch)

**Weight:** 45 grams without battery or film,  
56 grams with battery, no film,  
58 grams with battery and film.

**Maker:** Minox GmbH, 6300 Giessen 1  
West Germany

## Accessories

### 60 cm safety chain (supplied with camera)

To avoid losing the camera, you can attach it firmly to your clothing or handbag. Clip the snap fastener of the chain into the camera eyelet and attach the ring to a buttonhole, belt loop etc.

### The FE 4 flash cube adapter

The FE 4 flash cube adapter is part of the MINOX EC SET but is also available as optional accessory. See pages 21 to 27 on using the flash cube adapter.

### Push-in case (optional accessory)

A black soft leather push-in case protects the Minox EC against scratches and soiling.

### 90 cm neck cord (optional accessory)

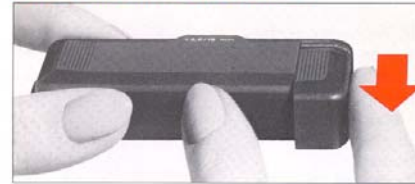
The neck cord keeps the camera always at hand. You don't have to take it off the cord for shooting. Pull the cord over your head and attach the snap hook to the camera's eyelet.

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## Inserting the battery

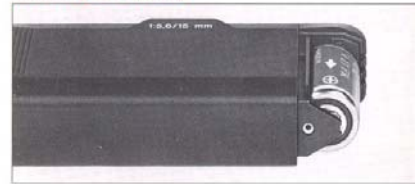
### Opening the battery compartment



Press one fingertip against the oval ribbed spot at the right-hand camera side and pull off the battery compartment cover in the direction of the arrow.

This advances the last exposure into the film cartridge to project the film against fogging when you remove the cartridge.

### Inserting the battery



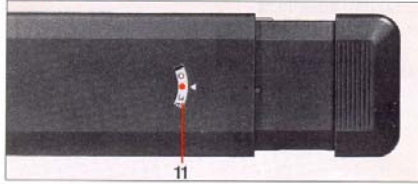
Insert the battery in such a way that the end with the + sign faces the battery compartment side also marked with a + sign. Push the battery compartment cover back over the camera body to engage audibly.

Usually the film cartridge easily drops out. But you can also lift it out by picking up the cartridge connector with your fingernail.

Preferably get the film processed as soon as possible.

## Unloading the film

### Resetting the frame counter



After the last exposure (counter at 0) advance the film, press the release and advance once more. The white arrowhead in the camera base now points at the red dot in the frame counter window (11).

Use a 5.6 volt mercuric oxide battery in the Minox EC.

For instance one of the following:

Duracell PX 27 (5.6 volts)

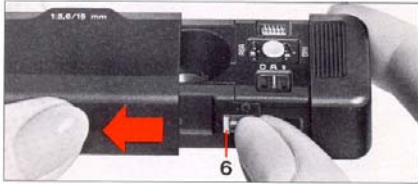
Ucar E PX 27 (5.6 volts)

Varta V 27 PX (5.6 volts)

### Note especially

The battery used in the Minox EC contains mercury compounds that could pose a health risk. So never throw used batteries in the fire and keep them out of reach of small children.

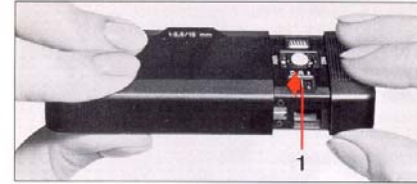
### Removing the film cartridge



Depress the chrome key (6) next to the finder and **fully pull off** the camera shell in direction of the arrow. Turn over the camera and shake out the cartridge into your hand. Replace the camera shell and fully close the camera.

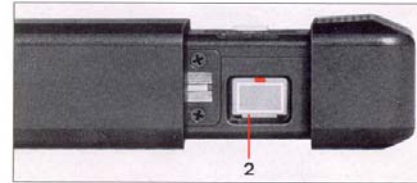
## Battery test

### Checking the battery



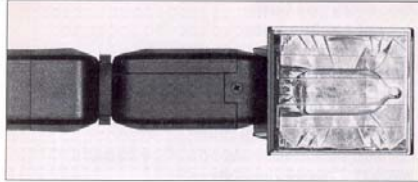
Hold the camera at both ends and fully pull apart. Push the switch (1) to the left (battery symbol) and hold it there . . .

You can equally fit a partly used flash cube to use up the remaining bulbs. But before every flash shot check that an unused flash bulb faces the subject.



. . . while looking through the finder (2). If a red signal lights up at the top of the finder the battery is correctly fitted and in good condition. The red signal may also light before or after the battery test as a slow-speed warning (see page 16).

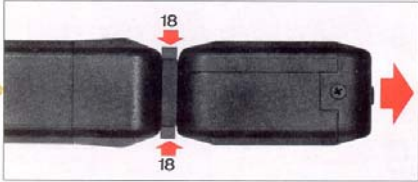
### Advancing the flash cube



Rotate the flash cube by hand to bring an **unused** flash bulb to **face the subject**. Once all four flashes are used remove the cube and fit a new one.

A battery check needs more current than any other electrical camera function. So avoid checking the battery for too long or too often. Usually it is sufficient to check the battery every time you load a new film. If the camera is not in use for prolonged periods preferably remove the battery during such times.

### Removing the flash cube adapter

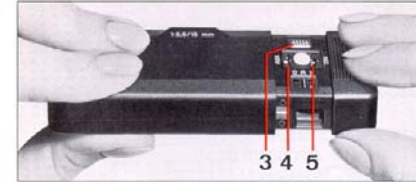


Press both keys (18) together and pull off the adapter.

Not only current exhausts a battery in normal use but generally also aging. So replace the battery about once a year – even if a battery test still shows sufficient power. If a fresh battery fails early the cause may be a deposit that inhibits current flow on the battery contacts. In that case remove the battery, clean both contacts with a cloth and replace the battery.

### Loading the film

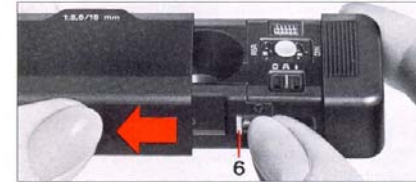
#### Setting the film speed



Hold the camera at both ends and fully pull apart. Turn the milled wheel (3) to make the correct ASA (4) or DIN (5) speed appear in the centre of the window. The film packing carries both speed values.

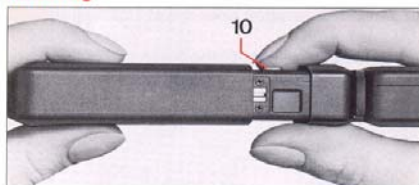
Generally use flash for not too far shots of people and other subjects that are insufficiently lit. Flash is useless for distant subjects, sunset or the like. Flash is useful out of doors for subjects reasonably near the camera. Note the maximum distances indicated on page 22.

#### Opening the film compartment



Depress the chrome key (6) next to the finder and fully pull off the camera shell in the direction of the arrow.

### Releasing



**Gently press** the yellow release button (10) while pushing your thumb up against the camera base to avoid camera shake. Releasing fires the flash bulb that faces towards the subject.

The Minox EC takes Minox 8 x 11 film cartridges (frame size 8 x 11 mm). There are black-and-white negative films of different speeds and colour negative films for 36 or 15 exposures. You can also get 36-exposure colour slide films.

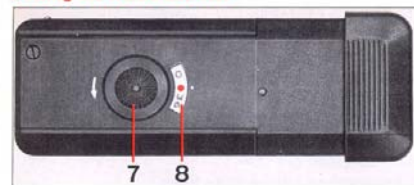
On the milled wheel you can set any film speed from 25 to 400 ASA or 15–27 DIN.

### Advancing the film



After the exposure fully push the camera closed and fully pull it apart again ready for the next exposure. For the **next flash shot** also rotate the flash cube (page 26). The last shot is exposed when the frame counter reaches 0.

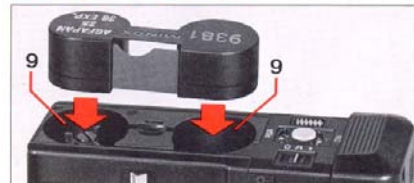
### Setting the frame counter



With your fingertip turn the ribbed button (7) in the camera base in the arrow direction to bring one of the **two** start positions to the centre of the window (8). For 36-exposure films use the red dot between 0 and 36 (above); for 15-exposure films use the red line between 20 and 15.

For flash the shutter speed is at 1/30 second. At this speed you use the full light of the bulb.

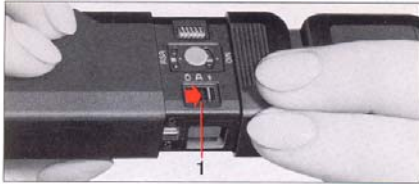
### Inserting the film cartridge



Drop the cartridge in the film chamber (9) and push back the body shell to close the camera fully.

If you shoot at closer distances than the far limit indicated, very bright subject parts may be more or less overexposed. On black-and-white or colour negative film such overexposure is harmless if the flash distance is not less than one-third of the maximum distance. But with colour slide films go no nearer than half the maximum distance.

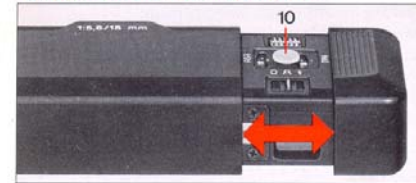
### Setting the synchronising shutter speed



Hold the camera at both ends and fully pull apart. Push the switch (1) to the right to the flash symbol.

Before inserting the film cartridge always check that the **frame counter is correctly set**. You then know exactly when the film is finished and avoid frame overlaps.

### Moving the counter to the first frame



Twice in succession, pull the camera open, press the yellow release button (10), and close camera:

### Hold the camera right

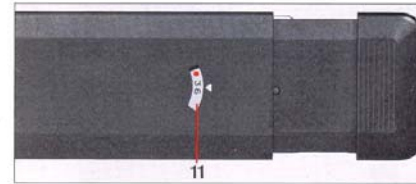


Note the maximum subject distance for the film speed used:

- Up to 4 m (13 ft) with 50 ASA (18 DIN)
- Up to 5.5 m (18 ft) with 100 ASA (21 DIN)
- Up to 11 m (36 ft) with 400 ASA (27 DIN)

Hold the camera with both hands, taking care to obstruct the lens opening or meter cell.

Never change the film in sunlight but always in the shade – the shade of your own body if necessary.



Pull **open again** and you are ready for the first exposure. The frame counter (11) in the camera base now shows the first frame (No. 15 or 36).

Do not use X cubes or Magicubes. Suitable flash cubes for the Minox EC include the Osram OFC 4 or Philips PFC 4.

## Flash shots

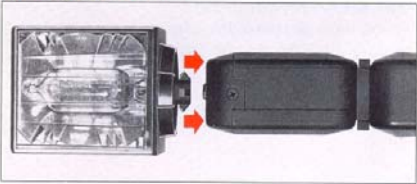
### The flash cube adapter



Push the three bright contact pins (16) of the adapter in the three openings in the right hand camera side. Then push the adapter against the camera to make the two black hooks (17) engage with a click.

These two blank frame advances move on the fogged film leader and bring the first unexposed film section into the shooting position.

### Mounting a flash cube



Push the flash cube on the adapter. An **unused** flash bulb must **face** towards the **subject**.

Use only electrically fired flash cubes.

The frame counter runs back from 36 to 0 or from 15 to 0. So it constantly tells you how many shots you have left before the film is finished.

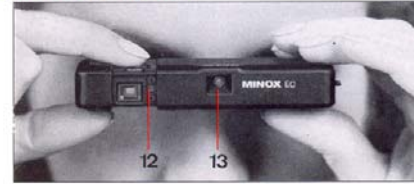
## Daylight shots

### Switching on the exposure control



Hold the camera at both ends and pull fully open. Push the switch (1) to position A for automatic exposure control.

### Hold the camera right



Stay at least 1 m or 3½ ft from the subject. Hold the camera with both hands, taking care not to obstruct the lens opening (13) or meter cell (12).

The film is only advanced if you have pressed the release before pushing the camera closed. You lose no exposure if you close the camera without having pressed the release.

### Releasing



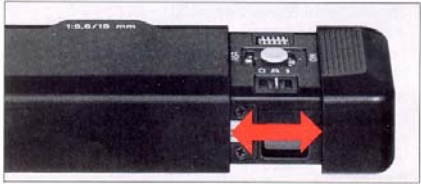
Gently press the yellow release button (10) while pushing your thumb up against the camera base to avoid camera shake.

The automatic exposure control sets exposure times from 1/500 second to several seconds. The longest times obtained for different film speeds are:

8 seconds with	25 ASA or 15 DIN
4 seconds with	50 ASA or 18 DIN
2 seconds with	100 ASA or 21 DIN
1 second with	200 ASA or 24 DIN
1/2 second with	400 ASA or 27 DIN.

The aperture stays at f/5.6 for all exposures.

### Advancing the film



After the exposure push the camera closed and fully pull it open again. It is then ready for the next shot. You make the last exposure when the frame counter shows 0.

When shooting against the light or for instance for snow scenes preferably double the exposure time set by the automatic control. To do this, switch the film speed to half the ASA value (e.g. 50 instead of 100) or 3 DIN steps lower (e.g. 18 instead of 21 DIN).

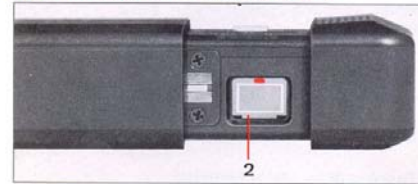
There is no need for focusing because the Minox EC has a fixed-focus 15 mm f/5.6 lens with extreme depth of field from 1 m or 3½ ft to infinity.

### Sighting the subject



Hold your eye close to the finder (2) and frame the subject in the bright-line frame (14).

### Watch the slow-speed warning signal



The red light signal at the finder top warns against **camera shake risk** when the exposure time exceeds 1/30 second in the prevailing light conditions. Use flash cubes (see page 20).

The red slow-speed warning goes out as soon as you release. To check whether you need flash for a shot the camera must be ready to expose with the film already advanced. In case of doubt push the camera closed and pull it open again. When the camera is ready to shoot it constantly uses current for the slow-speed signal. To preserve battery life open the camera only for as long as you need it for shooting.