



HOW TO TAKE CARE OF THE CAMERA

Never touch the lens, the most valuable part of the camera, with your fingers. Spots should be carefully removed with a very soft piece of linen and dust with a brush with soft hair. The interior of the camera should from time to time be cleaned with a soft brush, especially the picture frame and the film guide, because dust particles in these places are likely to cause scratches on the film.

SERIAL NUMBERS

Each camera has its serial number on the back. It is advisable to keep a record of this number in order to be able to identify the camera in case it is lost or exchanged.



Small alterations in the camera not in conformity with this description are possible due to further technical development.

ZEISS IKON A.G. STUTTGART

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INSTRUCTION BOOK



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ZEISS IKON

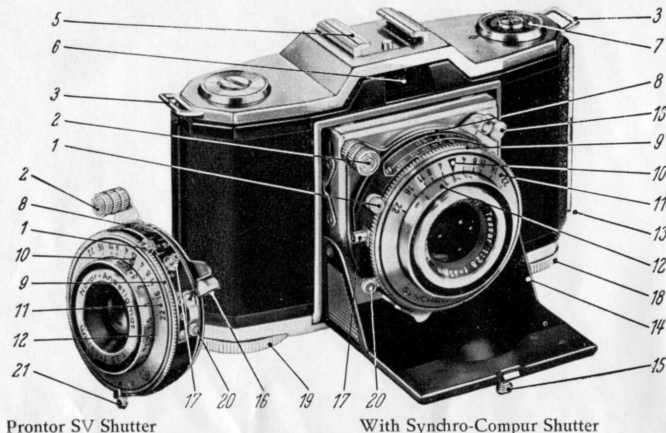
IKONTA

24 x 36 mm

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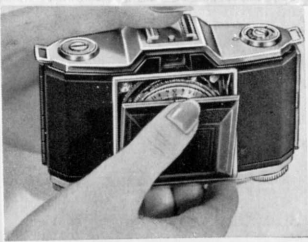
The IKONTA 35 is an attractive and handy ZEISS IKON miniature camera using perforated 35 mm film. It is provided with a lock to prevent double exposures and blank frames and uses standard cartridges with black and white or colour film for 36 or 18 1½ x 1" pictures.

The IKONTA 35 is supplied with Novar or Tessar lenses, which are coated to eliminate reflexes and are equally suited for black and white as well as for colour photographs thanks to their high speed, excellent definition, and colour correction.

THE PARTS OF THE IKONTA 24 x 36 mm

- | | |
|---|---|
| 1 Shutter winding lever | 13 Bolt for locking camera back |
| 2 Shutter release lever | 14 Struts |
| 3 Eyelets for carrying strap | 15 Closing knob |
| 4 Tripod thread (see page 13) | 16 Thread for cable release |
| 5 Shoe for slip-on accessories | 17 Flash synchronisation contact |
| 6 Viewfinder opening | 18 Film transport disc |
| 7 Film-type indicator disc | 19 Rewind disc |
| 8 Diaphragm setting ring | 20 Synchro-switch |
| 9 Shutter speed setting ring | 21 Winding lever for built-in self-timer as well as for pre-ignition setting "M" for flash bulbs (only applicable to Prontor SV shutter). |
| 10 Distance setting mark | |
| 11 Depth-of-field scale | |
| 12 Rotating focusing ring with distance scale | |

The fully synchronised Prontor-SV and Synchro-Compur shutters can be connected to any flash unit and enable the user to make time exposures of any duration and instantaneous exposures with shutter speeds from 1 sec. to 1/300 sec. and, in the case of the Synchro-Compur shutter, even up to 1/500 sec. We recommend you to read these Instructions carefully to learn the necessary operations and thus to obtain good results from the very first exposures. Remember that the shutter lock is released and the shutter release lever can be operated only when the camera is loaded with film.

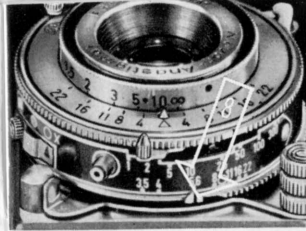


OPENING AND CLOSING THE CAMERA

The IKONTA 24x36 mm is opened by tilting the closing knob (15). After pressing down the baseboard until it has caught, the camera is ready for picture-making.

For closing the camera, press the sides (14) of the baseboard inward and raise the baseboard until it catches.

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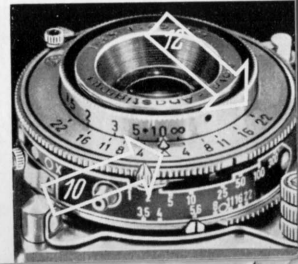
SETTING OF THE DIAPHRAGM

For setting the diaphragm to the aperture desired turn the mark of the diaphragm setting lever (8) to the required figure of the diaphragm scale.

FOCUSING

On the rotating front lens mount (12) are engraved the distances from infinity to 3 ft. When focusing the lens the desired distance figure is set on setting mark (10).

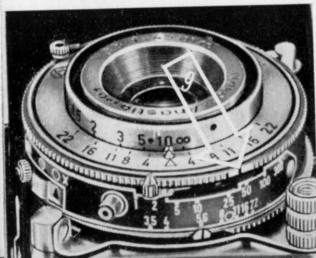
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SETTING OF THE EXPOSURE TIME

Rotate the milled setting ring (9) in such a way that the red mark is opposite the required exposure time on the exposure time setting scale. These figures indicate fractions of a second, for instance, "25" means $\frac{1}{25}$ second etc. When set to "B" the shutter remains open as long as the shutter release knob (2) is pressed. The shutter must be cocked

by means of the cocking lever (1) prior to every exposure. It does not matter whether the exposure time is set before or after cocking the shutter. Only when using the $\frac{1}{500}$ sec. setting of the Synchro-Compur shutter must the shutter speed be set before the shutter is wound. In this case a slight resistance has to be overcome.



DIAPHRAGM, DEPTH OF FIELD AND EXPOSURE TIME

If the lighting conditions permit, you can obtain a larger depth of focus by stopping down the lens. The larger the lens aperture value on which mark (8) is set the smaller will be the lens aperture, and the smaller the lens aperture the longer has to be the exposure time. The exact depth of focus for each distance setting and lens aperture can be read off on depth-of-focus scale (11). The distances facing the lens aperture figures at the left and right of setting mark (10) indicate the front and rear limits of the depth of focus. When focusing e. g. on 10' and stopping down to 8 you will see that the two stops 8 at the left and right of the setting mark correspond to 6' and 23' respectively on the lens mount, which means that with a distance setting of 10' and lens stop 8 the depth of focus reaches from 6' to 23'. Exact values can be ascertained in the depth-of-focus table on page 9.

THE ZEISS IKON RED DOT SETTING

The ZEISS IKON red-dot setting enables you to be instantly ready for action. When the lighting conditions are good you simply set mark (8) and mark (10) on the red dots. No further setting is necessary, since everything from 8' 3" to infinity will be reproduced sharply. The exposure time will have to be from $\frac{1}{25}$ to $\frac{1}{100}$ sec., according to the prevailing lighting conditions.

As the IKONTA can be closed no matter on what distance the lens is focused you can set the diaphragm and the distance on the red dots already beforehand. Thus you will be instantly ready for action on opening the camera.

DEPTH-OF-FIELD TABLE

DIAPHRAGM

Distance	2.8	3.5/4.0	5.6	8	11	16	22
∞	48'- ∞	33'6''- ∞	24'- ∞	16'9''- ∞	12'3''- ∞	8'6''- ∞	6'3''- ∞
30'	19'9''-104''	16'9''-1540'	13'9''- ∞	11'3''- ∞	8'10''- ∞	6'10''- ∞	5'3''- ∞
20'	14'1''-33'2''	12'5''-47'3''	10'10''-107	9'2''- ∞	7'6''- ∞	6'1''- ∞	4'9''- ∞
15'	12'3''-25'	11'2''-32'	9'9''-51'	8'6''-540'	7'3''- ∞	5'9''- ∞	4'7''- ∞
10'	8'2''-12'1''	7'5''-13'9''	7'2''-18'4''	6'3''-22'11''	5'7''-46'3''	4'8''- ∞	4'- ∞
6'	5'9''-7'6''	5'7''-8'	4'7''-8'2''	4'1''-9'10''	3'8''-12'9''	3'1''-25'7''	3'2''- ∞
5'	4'6''-5'5''	4'4''-5'9''	4'1 $\frac{1}{2}$ ''-6'1''	3'10 $\frac{1}{2}$ ''-6'11''	3'7''-7'10''	3'3''-10'10''	2'10''-20'8''
4'	3'8''-4'4''	3'7''-4'1''	3'6''-4'8''	3'3''-4'11''	3'1''-5'7''	2'9''-6'11''	2'4''-9'1''
3'	2'10''-3'2''	2'8''-3'3''	2'7''-3'6''	2'6''-3'8''	2'4''-4'	2'2''-4'9''	1'11''-6'1''

HOW TO HOLD THE CAMERA

Thanks to its handy shape the IKONTA 24x36 mm can be held safely in the hand when taking a picture. It should be held steadily and firmly during the exposure but should not be gripped too tightly. The film may be advanced and the shutter may be wound in the taking position.

TAKING HORIZONTAL PICTURES

The lower edges of the IKONTA 24x36 mm rest safely in the palms while the fingers grip the camera house. The right middle finger winds the shutter and the right index finger releases it by smoothly, not jerkily, pressing the shutter release lever (2). The elbows should be slightly pressed on the body during the exposure. When using shutter speeds of $\frac{1}{10}$, $\frac{1}{5}$ sec. or even longer ones,



it is advisable to seek a solid support for the elbows, otherwise the picture might be blurred due to camera shake.

TAKING VERTICAL PICTURES

For taking vertical pictures the camera is swung from the horizontal taking position around the left hand. Right middle and index fingers remain on the shutter winding lever (1) and the release lever (2). The left hand supports the camera from below.

RELEASING THE SHUTTER

The shutter may be released only if the shutter has been wound and the film has been advanced. Consequently, no double exposures will be made with the IKONTA.



As the film can be advanced only after the shutter has been released no frame will remain unexposed. For setting the shutter, setting lever (1) must be pushed upward until it catches. The shutter is released by pressing release lever (2) slowly and evenly, not jerkily, in the direction of the baseboard. It must be pressed down completely, since the shutter is apt to be locked also when the release lever (2) is not fully pressed home and released again before the exposure is made. If the release lever can not be operated, either the shutter has not been set or the film has not been advanced.

After each exposure, turn film winding knob (18) as far as possible, thus advancing the film by one frame.

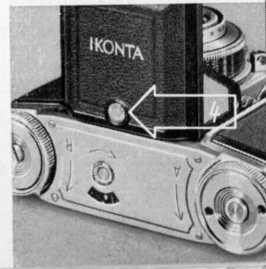
HOW TO USE THE BUILT-IN SELF-TIMER

The Prontor SV shutter has a built-in self-timer. For taking pictures with the self-timer the winding lever (21) has to be pressed down after

the usual shutter winding (1). The shutter release lever will then first release the clockwork of the self-timer, which will release the shutter after about 8 seconds. The self-timer can, however, not be used for time exposures. In addition, it should be noted that the self-timer can only be used with the synchro-switch (20) in position "X". Flash photographs may also be made with the aid of the built-in self-timing device.

USING THE IKONTA FROM THE TRIPOD

Exposures with the delayed action release, the longer instantaneous, and all time exposures have always to be made from a solid support or a tripod. For this purpose, turn out the screw which covers tripod bushing (4).



THE CORRECT EXPOSURE TIME

To obtain good pictures the exposure time must be correct. The correct exposure time can easily be ascertained from exposure tables or with the photo-electric exposure meter ZEISS IKON IKOPHOT, which is especially reliable when extremely difficult lighting conditions make photography a hazardous business. Both accessories give the correct exposure times under different lighting conditions and for every diaphragm in use.

IT IS CONVENIENT TO ADHERE TO A BASIC RULE LIKE THIS:

Outdoor pictures in
bright sunshine:

Film speed: 32 ASA

Stop: 8

Exposure time: $\frac{1}{100}$ sec.

Outdoor pictures
under overcast sky:

Film speed: 32 ASA

Stop: 5.6

Exposure time: $\frac{1}{50}$ sec.

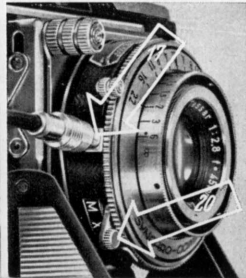
THE FLASH SYNCHRONISATION

The fully synchronised shutters of the IKONTA permit using the camera with any flash equipment. Synchro-switch (20) admits two positions:

With position X the flash is fired at the moment when the shutter is wide open, so that the $\frac{1}{25}$ sec. setting can be used for flashbulbs and capsular flashes. Electronic flashes can be used in conjunction with even the shortest shutter speeds.

Position M effects a pre-ignition that corresponds to the ignition delay of most flashbulbs. Thus position M permits using flashbulbs with the shortest shutter speeds.

Our table on page 18 indicates the exposure times to be used for the various types of flashbulbs in conjunction with positions X and M. Further data regarding lens apertures and distances are contained in the instructions supplied with the flashbulbs.



Synchro-switch (20) is set on the desired position (X or M). The distance, lens aperture, exposure time, and the shutter setting lever are set as

usual. In the case of the Prontor-SV shutter, setting lever (21) must furthermore be pushed until M. The winding of this lever of the Prontor-SV shutter has to be done for each exposure. Then the flash cable of the flashgun is fitted to contact nipple (17) and the flashbulb is introduced. On pressing down release (2) the flashbulb is fired in accordance with the synchronisation position of the shutter.



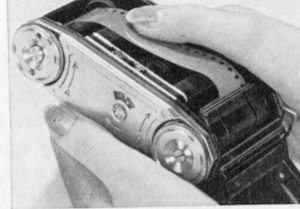
TABLE OF EXPOSURE TIMES WITH FLASHBULBS
and fully synchronised shutters

Type of flashbulb :	Setting		Type of flashbulb :	Setting	
	X	M		X	M
Gen Electric			Osram Vacublitz		
Westinghouse			XP, X0	1 - 1/50	—
SM	1 - 1/50	—	F 1, F 2	1 - 1/25	—
No. 5, 6, 11 } 22, 31 }	1 - 1/25	1/50 - 1/500	S 0, S 1, S 2	1 - 1/25	1/50 - 1/500
No. 50	1 - 1/10	1/25 - 1/50	Philips Photoflux		
Sylvania Superflash, Wabash			Pf 3	1 - 1/25	1/50 - 1/100
SF	1 - 1/50	—	Pf 14, Pf 24 } Pf 25, Pf 45 } Pf 56 }	1 - 1/25	1/50 - 1/500
No. 0,2 } Press 25 }	1 - 1/25	1/50 - 1/500	Pf 110	1 - 1/10	1/25 - 1/50
Press 40 }			Electronic flash		
No. 3	1 - 1/10	1/25 - 1/50	equipment	1 - 1/500	—

LOADING OF THE CAMERA

The camera back can be removed when the bolt (13) is pulled out. For loading the camera pull out the rewind disc (19), insert the film cartridge into the open chamber, the beginning of the film pointing toward the picture frame. Then push the rewind disc back so that its prong engages with the respective hole in the cartridge.

Then pull the beginning of the film over the picture frame and insert it into the take-up spool. Turn the take-up spool (18) until the two film transport rollers engage with the film perforation. Then close the camera and turn the milled knob of the automatic frame counter at the bottom of the camera until the frame counter pointer is opposite the rhombic mark on the frame counter disc.



Then turn the film transport disc (18) until it catches. Simultaneously, the frame counter disc advances to "1" and the first frame of the film is ready for exposure. Every time the film is wound on, the frame counter advances by one number so that the photographer knows at any time which frame he is going to expose and how many pictures are left on the film. After the 36th exposure the film can no longer be advanced and must be rewound into the feeding cartridge.

THE FILM-TYPE INDICATOR DISC

Having loaded the camera, set the type of film (black and white film, daylight colour film, or colour film for artificial light) and its sensitivity on the filmtype indicator disc (7) so that you know at any time which sort of film is in your camera.

If you should ever be in doubt whether your camera is loaded, try to

turn the rewind knob in the direction of the engraved arrow. Should it not be possible to turn it in this direction, you may rest assured that your camera is loaded.

REWINDING AND UNLOADING OF THE CAMERA

The fully exposed film must be rewound into the feeding cartridge by turning the rewind disc (19) in the direction of the engraved arrow. The rewind disc can be turned only if the button in the middle of the film transport disc (18) has been pressed down. After some rewinding you will have to overcome a slight resistance in the mechanism, which indicates that the film has disengaged from the take-up spool and that the whole exposed film has been rewound into the feeding cartridge. Then open the camera back, pull out the rewind disc (19) and remove the cartridge with the exposed film.

RE-LOADING OF A PARTLY EXPOSED FILM

The way of inserting a partly exposed film is exactly the same as it is with a new film. After the frame counter has travelled to No. 1 the shutter must be set to a short exposure time and cocked and the diaphragm set to a small stop. While the lens has to be covered – preferably with a lens cap – the shutter release must be pressed down and kept in this position. Then the film can be wound on by means of the film winding knob (18) over the required length without the transport locking device being engaged. When the frame counter has passed the number of already exposed frames by one frame, the shutter release can be returned to its normal position and the film winding knob turned again until it locks. This means that the camera is prepared for the next exposure with the exposed part of the film in safety, and with only one blank in between.

ACCESSORIES OF THE IKONTA 24 x 36 mm

THE EVEREADY CARRYING CASE

for the IKONTA 24x36 mm protects the camera against all detrimental external influences. When the camera has been slipped into the carrying case the film transport knob on the case should be turned until its pins engage with the film transport knob of the camera. The hooks of the carrying strap can be easily inserted into the eyelets by pressing slightly on the spring bows. The IKONTA is then safely accommodated in the eveready carrying case and need not be removed for taking pictures.

THE CABLE RELEASE

The cable release is screwed into the socket near the lens (16) and should be used especially for photographs taken from a tripod. The ZEISS IKON cable release is provided with a plunger catch for long time exposures (shutter setting B).

ZEISS IKON FILTERS

improve the rendering of the tonal values in black and white photography. They are screwed on the front lens (ϕ 27 mm) and need not be removed when the camera is closed. The following filters are available: yellow, yellow-green, orange, and ultra-violet. When filters are used the exposure time must be extended in accordance with the filter factor engraved on the mounts of the ZEISS IKON filters.

POLARIZATION FILTER

The polarization filter ZEISS Bernotar ϕ 32 mm, which is slipped on the lens mount, serves for eliminating reflexes on shining surfaces. Filter factor: 3.

LENS HOOD

The lens hood prevents haze and flare in against-the-light photography and protects the lens from rain and snow when the weather is bad. The ZEISS IKON lens hood can also be slipped on ZEISS IKON filters and Proxar lenses (ϕ 28.5 mm).

SUPPLEMENTARY LENSES FOR CLOSE-UPS (ZEISS PROXAR)

The IKONTA can be focused on distances down to 3 ft. When photographing at shorter distances, supplementary lenses ZEISS PROXAR (28.5 mm) have to be fitted on the lens. Proxar lens $f = 1$ m is used for photographs at distances down to $1' 4\frac{1}{2}''$ and Proxar lens $f = 0.5$ m, at distances down to $11' \frac{3}{4}''$. The required lens setting and the distance of the subject can be ascertained in the table on page 26.

Focusing Ring Setting	Distance of Object	Reduction 1 :	Size of Field embraced by Camera	Distance of Object	Reduction 1 :	Size of Field embraced by Camera
∞	3' 3 $\frac{1}{4}$ "	22.2	1'9 $\frac{1}{2}$ " x 2' 8"	1'7 $\frac{1}{2}$ "	11.1	10 $\frac{3}{4}$ " x 1'4"
30'	3' 2 $\frac{3}{4}$ "	20.0	1'7 $\frac{1}{4}$ " x 2' 4 $\frac{3}{4}$ "	1'6 $\frac{1}{2}$ "	10.6	10 $\frac{1}{4}$ " x 1'3 $\frac{1}{4}$ "
20'	2' 9 $\frac{3}{4}$ "	19.0	1'6 $\frac{1}{4}$ " x 2' 3 $\frac{1}{4}$ "	1'6"	10.3	10" x 1'2 $\frac{3}{4}$ "
15'	2' 8 $\frac{1}{4}$ "	18.1	1'5 $\frac{1}{2}$ " x 2' 2"	1'5 $\frac{1}{2}$ "	10.1	9 $\frac{3}{4}$ " x 1'2 $\frac{1}{2}$ "
10'	2' 5 $\frac{1}{2}$ "	16.7	1'4" x 2'	1'4 $\frac{3}{4}$ "	9.6	9 $\frac{1}{4}$ " x 1'1 $\frac{3}{4}$ "
9'	2' 4 $\frac{1}{2}$ "	16.2	1'3 $\frac{3}{4}$ " x 1'11 $\frac{1}{4}$ "	1'4 $\frac{1}{2}$ "	9.4	9" x 1'1 $\frac{1}{2}$ "
6'	2' 1"	14.2	1'1 $\frac{3}{4}$ " x 1' 8 $\frac{1}{2}$ "	1'3 $\frac{1}{4}$ "	8.7	8 $\frac{1}{2}$ " x 1' 1 $\frac{1}{2}$ "
5'	1'11 $\frac{1}{4}$ "	13.1	1' 3 $\frac{3}{4}$ " x 1' 6 $\frac{3}{4}$ "	1'2 $\frac{1}{2}$ "	8.3	8" x 1'
4'	1' 9"	11.8	1' 1 $\frac{1}{2}$ " x 1' 5"	1'1 $\frac{1}{2}$ "	7.7	7 $\frac{1}{2}$ " x 11"
3'	1' 6"	11.1	10' 3 $\frac{3}{4}$ " x 1' 4"	1' 1 $\frac{1}{4}$ "	7.0	6 $\frac{3}{4}$ " x 10"
	Proxar A 28.5 f=1m			Proxar A 28.5 f=0.5 m		

The distances are to be measured from the front edge of the supplementary lens mount. Diaphragm stop "8" will ensure a sufficiently great depth of field. Due to parallex the viewfinder shows in this case on the upper side a little more and on the lower side a little less than the field actually embraced by the lens.

COLOUR PHOTOGRAPHS

The excellent colour correction of the Novar and Tessar lenses ensure good results in colour photography. As colour films have only a limited latitude, the exposure time must in this case be very exact. The ZEISS IKON exposure meter will here be very helpful to you.

FLASH PHOTOGRAPHS

The ZEISS IKON flashguns IKOBLITZ I and IKOBLITZ II and the ZEISS IKON electronic flash unit IKOTRON can be especially recommended for this type of photographs.