

## HORIZON-205pc panoramic camera



This text is identical to the one in the Instruction manual, English version, 2003 year.

### Attention!

Before using the Horizon-205pc panoramic camera one should study the rules of handling and the order of operation according to the present instruction manual.

When having durable pauses in photographing don't let the camera stay with the cocked shutter as this may cause the operation deterioration.

Protect the viewfinder against shocks and mechanical damages.

The camera bought by you may differ a little from the one represented in the instruction manual due to the fact that during manufacture of cameras their external appearance and operation qualities are constantly improving.

Taking into account that the camera is a complicated device any repair and adjustment must be done only at specialized workshop.

The present instruction manual shouldn't be considered as a photography handbook.

## 1. General Information

### 1.1. Camera Purpose and its Advantages

The Horizon-205pc is the professional middle-sized photographic camera with a rotating non-interchangeable built-in lens. The camera is intended for different panoramic shooting: landscapes, reports, interiors, architecture, etc.

It may be used successfully during the advertising and decorating practice, in scientific, technical photography and other kinds of photographing by means of the roll film (of the 120-type).

The Horizon-205pc camera has the next advantages:

- metallic focal shutter with the shutter speeds of 1, 1/2, 1/4, 1/8, 1/30 and 1/60 sec; the shutter permits to take pictures within premises or in streets under the conditions of weak illumination;
- the lens which rotates during operation provides the necessary quality of the image across the whole field of the frame at the expense of elimination of the inevitable optical distortion which takes place when shooting by other types of cameras and using wide angle lenses;
- the optical viewfinder gives the possibility to define exactly the limits of the taken subject. The right position of the camera, that is, "strictly along the horizon", is controlled with the help of the level which is visible in the viewfinder field of view;
- THE ESSENTIAL ADVANTAGE OF THE HORIZON-205PC CAMERA IS ITS "SHIFT-MECHANISM" WHICH PERMITS MOVEMENT OF THE LENS UP AND DOWN ALONG THE VERTICAL AT THE DISTANCE OF 7mm RELATIVELY THE CENTRAL ZERO POINT; SUCH MOVEMENT CONSIDERABLY EXTENDS TECHNICAL POSSIBILITIES OF PHOTOGRAPHING;
- high quality prints of the large size may be made from the negatives which were produced by the camera during taking pictures.

### 1.2. Instructions for Camera Handling

The camera is a precise optical and mechanical device.

Handle your camera with care, keep it clean, prevent from shocks, dust, moisture and sharp temperature drop.

It is banned to touch optical details as this may cause damage of the coated surfaces. Wipe them with a clean soft cloth or cotton wetted slightly by a rectified alcohol or ether.

If the camera was brought by you from cold outside into a warm room don't take it up quickly from the case. Otherwise its parts, especially optical ones, will bedew.

Keep the camera in a closed case.

Loading and unloading the camera is desirable to be done within the room or in the shadow so as to prevent falling the direct sun rays or intensive artificial light. Cock the shutter against the stop.

When taking pictures in frosty weather don't let the camera stay outward, take it out from the case only during photographing.

## 2. Technical data

Frame format — 50x110 mm

Film used — 60-mm, rolled film

Number of frames — 6

Shutter speeds — 1, 1/2, 1/4, 1/8, 1/30 and 1/60 sec

Eyepiece magnification — 0,4<sup>x</sup>

Viewfinder field of view — 120°x70°

Lens — MC 3,5/50

— focal length — 50 mm

— max. aperture — f/3.5

Tripod bush thread — 3/8"

Accuracy of level — 5°

Dimensions — 230x226x114 mm

Weight — 3,7 kg

## 3. Complete delivery set

3.1 Horizon-205pc panoramic camera — 1 pc

3.2 Film spool — 1 pc

3.3 R-8<sup>x</sup> red light filter — 1 pc

3.4 YG-2<sup>x</sup> yellow-green light filter — 1 pc

3.5 UV-1<sup>x</sup> ultra-violet light filter — 1 pc

3.6 ND-2<sup>x</sup> neutral density light filter — 1 pc

3.7 Neck strap — 1 pc

3.8 Case/bag — 1 pc

3.9 Packaging box — 1 pc

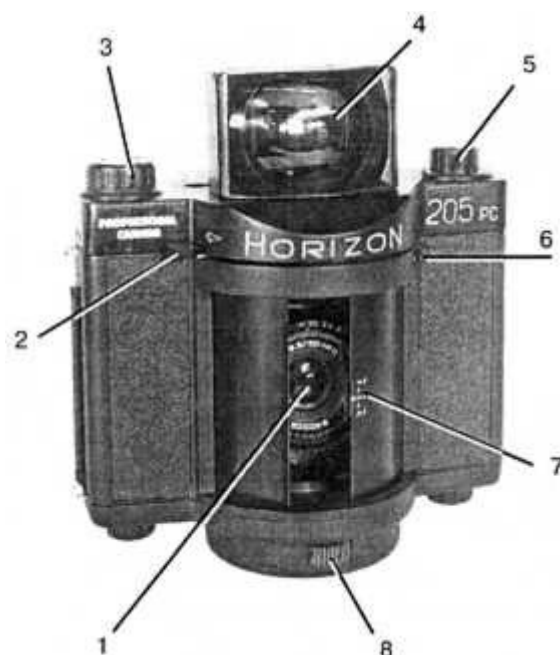
3.10 Instruction manual — 1 copy

3.11 Certificate — 1 copy

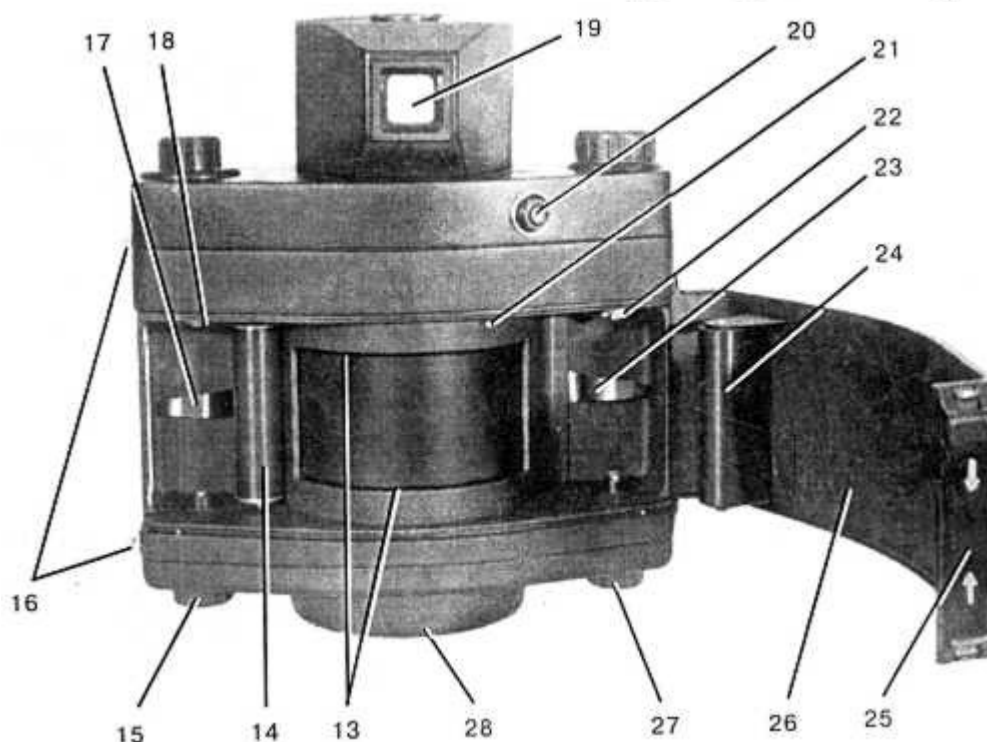
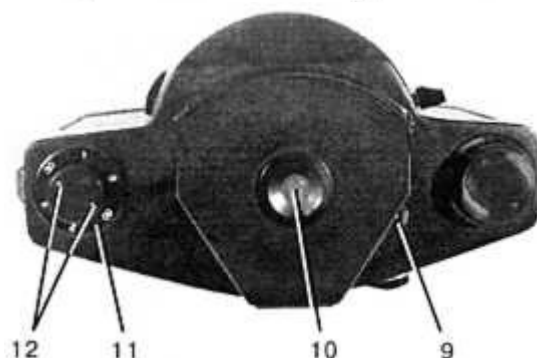


## 4. Camera Arrangement

- 1 — lens
- 2 — lever for shutter cocking
- 3 — knob for film transport
- 4 — viewfinder
- 5 — knob for changing-over the shutter speeds
- 6 — lever for setting the shutter slit
- 7 — scale of movement of “shift-lens” along the vertical
- 8 — knob for movement of “shift-lens”



- 9 — window of frames counter
- 10 — level device
- 11 — scale of shutter speed range
- 12 — pointers of shutter speed range

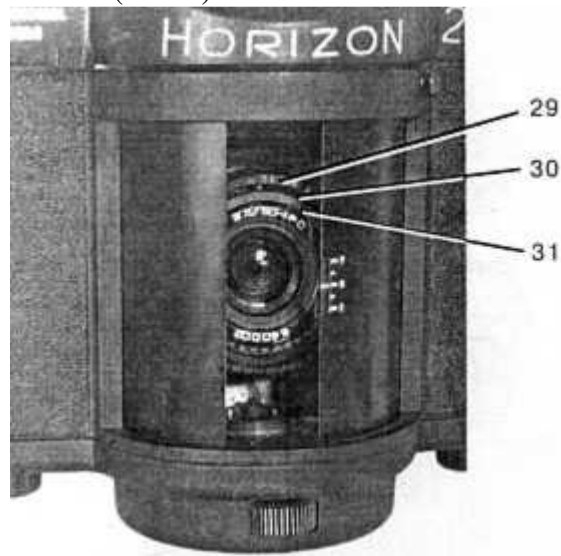


- |   |  |
|---|--|
| 13 — guides of film channel                                 | 21 — index for matching arrow of leader tape |
| 14 — guiding roller   | 22 — lever of take-up spool                  |
| 15 — knob for fixing supply spool                           | 23 — pressing spring of take-up spool        |
| 16 — lugs for attachment of strap (at both sides of camera) |  |

17 — pressing spring of supply spool  
 18 — spindle of supply spool  
 19 — eyepiece of viewfinder  
 20 — shutter release button with socket for cable

24 — pressing spindle of take-up spool  
 25 — lock of back cover  
 26 — back cover  
 27 — knob for fixing take-up spool  
 28 — socket for tripod connection  
 (below)

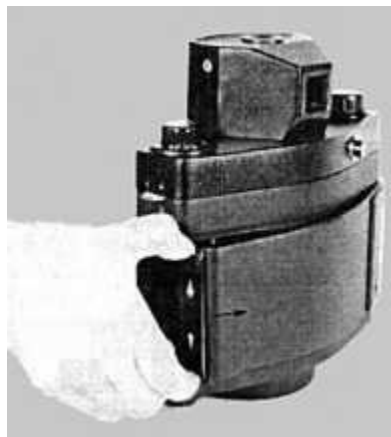
29 — distance scale  
 30 — index of distance scale and diaphragm scale  
 31 — diaphragm scale



## 5. Order of Camera Handling

### 5.1. Film Loading

The camera is loaded with the unperforated roll film of 60mm width (the type 120).



It's not recommended to load the camera under direct light rays.

Load the camera by the film in the following order:

- set the frame counter **9** in the position “S” beforehand; in order to reach it one should turn the knob for film transport “S” **3** until the symbol “S” appears in the window of the frame counter.

If during this process the knob **3** is fixed it is necessary to press the shutter release button **20** every time;

- open the back cover **26** pressing simultaneously the two keys of the lock **25** in the direction of the arrows;

- when pulling and holding

beforehand the knob **27** put the take-up spool in the right socket so that the lever **22** and the spindle of the knob **27** enter into the recess of the spool. Release the knob **27** and the take-up spool will be fixed;

- take the spool with the film (the type 120), unwrap it from the foil and tear away the paper label from the end of the leader tape;

- let free the end of the film with the leader tape approximately for 10 cm. Put it under the guiding roller **14** and when pulling and holding the knob **15** insert the supply spool with the film into the left socket so that the spindle **18** and the spindle of the knob **15** insert the recesses of the spool. Let the knob **15** free and the supply spool will be fixed;

- putting the end of the leader tape into the recess of the take-up spool, wind it, rotating the knob for film transport **3** until the arrow on the leader tape match the index **21** which is on the guides of the film channel. During this process watch the tightness of winding the leader tape so as to prevent its skewness, superimposing the leader tape on the end of the flange and jamming its ends;



— close the back cover pressing it up to latching. When the back cover is closed the knobs **15** and **27** are blocked;

— in order to transport the unexposed film towards the frame window one should transport the film (with the help of the knob **3**) until the numeral “1” appears in the counter window with the preliminary pressed knob for the shutter release.

There is the pocket for keepsakes of the film sensitivity on the back cover of the camera.

Put (into the pocket) the label of the film box with inscriptions about the film sensitivity.

### 5.2. Shutter Speed Setting

The shutter speed must be set only when the shutter has been released.

First of all one should decide for himself what range is to be operated in: “1–30–4” (1–1/30–1/4) or “2–60–8” (1/2–1/60–1/8).

Further by means of turning the lever **6** you must “open” the point the colour of which corresponds to the colour of the chosen shutter speed on the scale of the shutter speed range **11**.

After that by turning the knob **5** set the pointer of the corresponding colour **12** against the chosen shutter speed.

If the knob **5** isn't fixed in the necessary position one should repeat the above operation until reaching definite fixation. If necessary turn the lever **2** for a small angle.



### 5.3. Diaphragm Setting

Preliminary one should cock the shutter by the lever **2** against the centre, the lens being accessible now.

Through the viewing window of the lens turn the ring with the diaphragm scale **31** until the chosen diaphragm matches with the index **30**. Setting the diaphragm release the lever **2**. After that will return to its initial position the shutter under the action of the spring.

When defining the exposure time for obtaining the images of the higher quality we recommend you to give preference to operation with the smaller diaphragm, that is to photography with the less possible diaphragm and the more durable shutter speed.

### 5.4. Distance Setting

In dependance with the distance up to the subject being taken set through the lens viewing window (providing the preliminary access towards the lens it was said in **par. 5.3**) the chosen value of distance by turning the ring with the distance scale **29** until matching with the index **30**. After setting the distance release the lever **2** and due to this the shutter will return into its initial position under the action of the spring.

### 5.5. Photographing

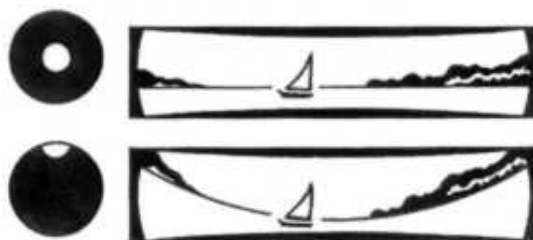
Cock the shutter by turning the shutter cocking lever **2** counterclockwise against the stop.

It is desirable to use the tripod when taking pictures.

Focus the camera at the subject being taken and looking into the eyepiece of the viewfinder define the limits of this subject.

The level **10** controls the horizontal position of the camera during photographing.

If the camera is in the right position the bubble of the level **10** must be in the center of the light circle which is seen in the viewfinder field of view.





When taking pictures in the vertical position of the camera one should use the level of the tripod.

Having done the preliminary preparatory operations press the shutter release button and take pictures.

Remember that abrupt pressing the shutter release button will cause the inevitable camera moving at the moment of exposure and blurring of the picture.

The “shift”-mechanism available in the camera permits to move the lens along the scale **7** up and down up to 7 mm relatively the center of the setting point by means of rotating the knob **8** to the left or to the right, correspondingly, this expanding considerably technical possibilities of photographing.

## 5.6. Unloading Camera

After the frame counter counts 6 frames the camera must be unloaded by means of winding the rest of the paper leader tape at the take-up spool, the shutter release button **20** being pressed preliminary. During this operation the symbol “S” must appear in the window of the frame counter **9**.

Having finished winding (the force applied the knob decreases) open the back cover **26** squeezing two keys of the lock **25**, pull the knob of the take-up spool **27** and take out the spool with the exposed film.

## 5.7. Light Filters

### 5.7.1. Operational Properties of Light Filters

The ND-2<sup>x</sup>, UV-1<sup>x</sup>, YG-2<sup>x</sup> and R-8<sup>x</sup> light filters which are included in the complete set of the camera differ from each other by their operational properties.

ND-2<sup>x</sup>: the neutral density light filter used for getting pictures of the normal density at excessive illumination.

UV-1<sup>x</sup>: the colourless ultra-violet light filter used for UV rays, for example when taking pictures high in the mountains on the black-and-white and colour films.

YG-2<sup>x</sup>: the yellow-green light filter used for correction of the tonal rendering. It is especially good for correct rendering the relations between the visual brightness of the coloured subjects; in particular red and green tones, for example when making portraiture both with day and artificial light, during art and technical photographing canvases, colour drawings.

R-8<sup>x</sup>: the red light filter used for elimination of influence of the atmospheric haze and creation of special effects, for example, during day photographing it permits to get “the night landscape”, during back lighting photographing it is possible to get “the moon light”. As for usual photographing it is not used as it distorts notably the relations of the visual brightness of the subject.

### 5.7.2. Mounting Light Filters

Turning the cocking lever **2** up to the center and holding it by a hand insert (through the viewing window of the lens) the mount of the chosen light filter into the slots on the lens mount up to its fixation.

Having attached the light filter release the lever **2** and then the shutter will return into its initial position.

