The (VP) Exakta, its History and Advantages second half.

Figure l7: partial assembly.
For better understanding, this figure shows one of the mentioned sub-assemblies. It is the mechanism of the Exakta plane shutter mechanism, as it is stored in the parts warehouse until later, when it will be installed in the camera by the hands of the technician.

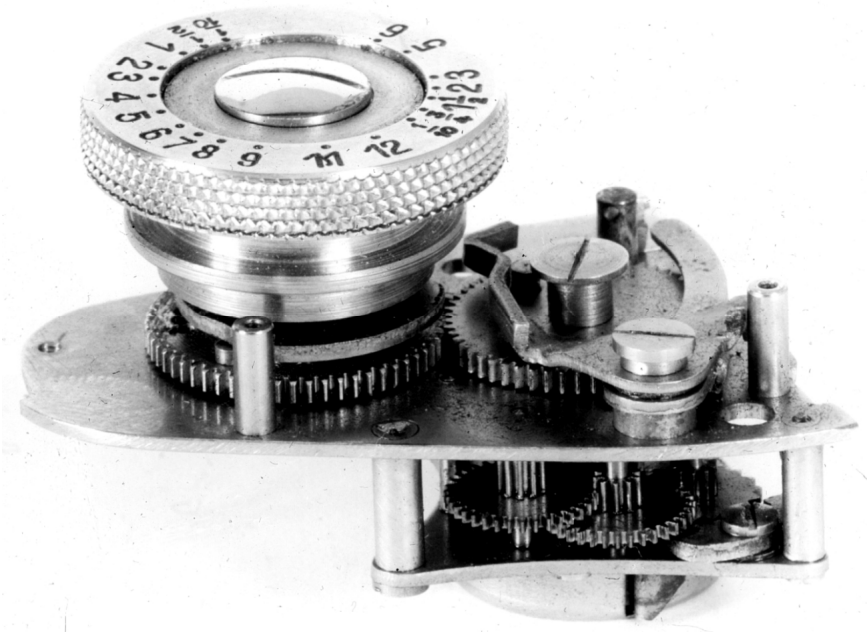


Figure 18: Covering.
To give the Exakta bodies the final perfection, they are furnished with a durable leather in the department "covering". The leather is prior to its use subjected to precise checks to guarantee special durability to every Exakta owner. Punching machines give the leather the appropriate form, and the company brand name "Ihagee" and the sun-and-moon trademark are embossed into the leather with a hot stamping press. After the cover has been glued, the Exakta cameras migrate to the assembly department.

Figure 19: Final assembly.
Although at each step that has been discussed so far, efficient proven professionals gave shape and appearance to the body of the Exakta and the Exakta parts, however it must be confessed that in the hall, we see in this picture, the most experienced and proven photo mechanics are together. Here we meet now all the sub-assemblies of the work of the technicians again, and also the body, ready for installation of the internal mechanism. In the check room, belonging to the final assembly department, again all parts and, above all, the sub-assemblies are checked carefully before they are fed to the assembler.
The skilled workers, active in the department "Assembly", can be divided into three groups: Group I is concerned only with the assembly of the focal plane shutter plates, i.e. the simple work. Group II has the task to install the self-timer equipment and the short shutter time setting mechanism in the camera, and finally the third group should mount the mirror

equipment and the waist level viewfinder. Following this work, we can welcome the finished Exakta which, however, is still missing an important part: the lens.
Before the glass eye of the Exakta will be installed, the camera must stand the most complex testing and monitoring equipment. Earlier, a precise adjustment of the focal plane shutter is already done by the mechanic who mounts the focal plane shutter blinds.

Figure 20: focal-plane shutter installation.
This image shows the installation of the focal plane shutter. After both curtains have been installed under repeated control, and connected with the shutter equipment, the Exakta is clamped into a shutter testing machine.

Figure 21 Shutter tester.
Mechanically, the shutter is cocked and released far over a thousand times. The mechanic using this facility can immediately determine if anything isn't working the way the subsequent owner of the Exakta will want it. After the camera has withstood this control, she goes to the Adjustment Department for mounting the lens.

Figure 22: Adjustment.
After a set of special adjustment equipment and special test plates, the distance scale is set exactly and the infinity stop indicated. Only now could the Exakta be described as ready for sale, but the photo-mechanics of Ihagee are not content that the Exakta is completed externally; the General Inspection actually starts now.

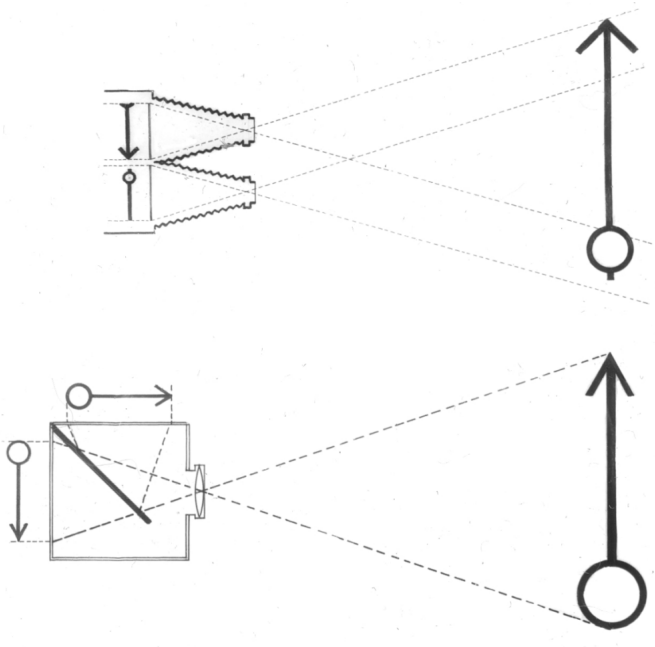
The elite of experts receive the completed model, and by a special device the accuracy of the velocities of the shutter is first checked again. And after finishing the use of this checking device, there is absolute certainty that the shutter speeds indicated on the knob are correct. Previously, - and this is mentioned with emphasis - the lens was tested, so it has all the optical qualities the Exakta amateur wants and the focal length is correct.
After the Exakta has passed its speed

test, then a trial recording is made at high speed, and checked if the negative shows that the Exakta has worked satisfactorily. This photo must be uniformly sharp and unshaken, and if it satisfies the judgment of the foreman, the Exakta is registered based on its serial number, so the evidence is available for all times that the Exakta with this serial number has passed all checks. As a final test, a film without protective paper is then inserted into the camera. The camera is left a few days standing in bright light, thereby proving that the Exakta is light-tight under all circumstances, so one has never to fear incident light. Now the Exakta can be described as perfect. They wait as sales-ready on the call of the shipping depot.

Figure 23: shipping depot.

Sorted on the various models and lenses, the Exaktas cameras await shipping to customers. Orders for the popular model really never leave waiting for, and the cameras are shipped every day to all parts of the world. A staff of experienced mechanics checks every camera for the last time completely before it leaves the factory. Is now everything alright, then the Exakta is again carefully cleaned and now takes its place in a box. Shutter release, lens cap and a detailed instruction manual join it, and good quality of the outer packaging ensures that the precision instrument safely arrives into the hands of its future owner.

Figure 24: Parallax.



Right now you are wondering: "What is really special about this Exakta camera, and what advantages to other small screen devices does it have"?
It is not difficult to answer this question, once you realize just which small format cameras gained popularity in recent years and what disadvantages adhere to these models: Most devices have this in common: Either the viewfinder is mounted on top, or it's installed. But always a second lens is necessary for the viewfinder, and between the axes of the viewfinder lens and the shooting lens, there is a distance difference, the so-called parallax.

Our picture shows us how this parallax makes its appearance. Especially in close-ups, it is bothersome that one can't determine the image with absolute accuracy. It often happened that just a piece of the head was missing in a portrait, which appeared correctly in the viewfinder. This result of the parallax is completely eliminated by the Exakta, as one works only with one lens on this camera. This lens projects the viewfinder image and serves for recording. The name "Exakta" was created because you can already determine the exact image before recording. Attempts have been made to compensate for the parallax in other small-screen cameras by tilting the viewfinder lens. If this is done, converging lines appear in the viewfinder image, and one is easily tempted to compensate by tilting the camera. But then the converging lines appear in the final image, because the point of view of both lenses still remains different.

SLR cameras are now commonly used, but not all have the described special advantages of the Exakta. Moreover, one can say that working with a real single lens reflex camera of the type Exakta is simply a pleasure. Before taking the photo, a large, bright and upstanding reflex image of the future photo is shown with exact boundaries, in its real image and depth of field sharpness. No need for calculating with tables because you can see yourself how far the depth of field extends. Another disadvantage of the cameras with separate viewfinder and photographing lenses is represented by the inevitable need for twice the space. In contrast, the Exakta has a relatively small body for its image size.

The technicians of Ihagee were now confronted with the task to create a camera that should have all following possible advantages: small body, yet 4 x 6.5cm image format, acceptable in 1:1 prints, complete identity of the viewfinder image with the expected photo, most convenient focusing with the reflex device, instant operating readiness in conjunction with a focal plane shutter for fast snapshots interchangeable lenses with large opening and more.

Figure 25: View of the interior of the Exakta.
In the construction of the Exakta the designers returned to the proven real reflex system that we already discussed. Our image now shows the interior of the camera. In the optical path of the lens, a mirror is positioned at an angle of 450 degrees, reflecting the rays coming from the lens up to the focusing screen. The special characteristic of the reflex system is an upright laterally inverted matte image. When triggered, the mirror lifts up from its position and releases the shutter mechanism. The whole apparatus is so strongly suspended that not even the slightest vibration can be felt on high tripods. You can see the image in the light shaft until the shutter is released. Up-turning mirror protects from below the light shaft against penetrating light, the light beam is given free path, and with l00% certainty the image that you have previously seen in the viewfinder appears on the film.

Figure 26: Exakta in your hands.

The body of the Exakta has the somewhat unusual trapezoidal shape. This shape is based on the handling of the camera. Our picture shows clearly how the Exakta fits in your hands. We have already seen how carefully the body of the Exakta is further processed, and the explanation on the shape now made it self-evident, that steady shots with the Exakta are guaranteed. The solid construction of all parts also makes this camera appropriate for climatically unfavorable areas. So the Exakta is used with the best results in all tropical parts of the world, and especially in the hot and humid climate of Dutch Indië (now Indonesia).

Figure 27: Landscape or vertical image.

The Exakta Original Photo of 4 / 6.5 cm gives an extremely good image effect, and you can call it the so-called album ready format. In model 4 / 6.5 cm the small non-perforated film (type 127) 4 / 6.5 cm is used, which is also available with a subdivision for 2 / 4 cm images. The advantages of the mentioned Exakta image sizes are obvious: First, the tiny roll film reel has had a favorable influence on the body of the Exakta: It is relatively small. In addition, the roll film 4 / 6.5 cm had almost always a distinct fine grain emulsion. Do you therefore want to enlarge the Exakta photos for wall decorations or exhibitions, they provide images of enormous power, and without affecting the sharpness can achieve sizes up to formats of 50 x 70 cm and far more. Our picture here is an Exakta photo that emphasizes the aspect ratio of the format 4 / 6.5 cm. The proportions correspond to the "golden ratio", i.e. the ratio of 3: 5. Most motives require in their set-up a definite image direction, either vertical or horizontal. The landscape photo shows quietness and pressure, and the horizontal lines reflect the impression of peace. The vertical image however brings emphasize to tension, aspiration and structure. This is certainly the big aesthetic plus of the Exakta 4 / 6.5 cm images.

Figure 28: Exakta with special lenses.

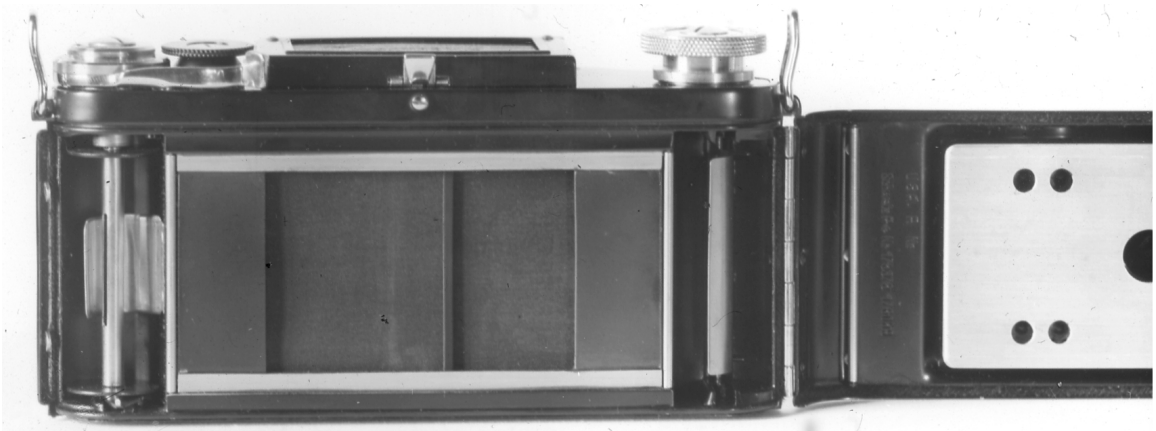
Focusing on the Exakta is done with a precision worm gear. It is possible to approach to within a meter of the object, but it will be discussed, by which accessories the distance between object and Exakta can be reduced even more. The reflex image is decisive for the setting in each case. The subject is clearly limited visible the waist level finder, so you can omit from the outset everything superfluous, to focus on the essential. The ground glass image is, depending on its brightness, an accurate indication of the exposure time. For critical focusing cases a magnifying glass is available.

The film transport of the Exakta is operated by a lever because, according to physical laws, the lever motion allows an easy and quick transport of the film. One has to check the image numbers in the film window on the back of the camera. Through the film transport, the shutter is cocked and the reflex mirror is brought in the position, which avoids double exposures. For the use of Panfilm the little film window has a light shield.

The lens of the Exakta is replaceable even when the camera is loaded with roll film. It may have a focal length of 7, 7.5 or 8 cm. This focal length gives a quite pleasant image scale, and especially for landscape shots, the perspective display is quite satisfactory. The Exakta is supplied only with branded lenses of the highest quality, impeccable sharpness and good resolution. All common light intensities of 1: 3.5 to 1: 1.9 are available. The large aperture anastigmats have the greatest importance for the utilization of high shutter speeds. Our picture

shows the Exakta in a group of some special lenses that you can screw in place of the normal lens in the screw lens mount. The second objective from the left is a Tessar wide-angle of 1:8, which has a focal length of 5.5 cm and an opening angle of 66 degrees. The other telephoto lenses result in a smaller angle of view and larger pictures from far away objects.

Image 29: Exakta focal plane shutter.



In this image the carefully designed film guide of the Exakta is shown. The spring in the right space prevents unrolling of the unexposed coil. On the back you see the film pressure plate; it always holds the film flat in the focus plane of the lens. On the left the exposed film is wound on the empty spool. Furthermore, the figure shows the ingenious position of the focal plane shutter. The blinds are made from the finest silk material, which is under constant control of a government agency. Especially in the tropics great demands are made on the material of the blinds, so the rubber material is subject to a permanent close control, the result of which always is the confirmation that the rubber material is especially suited.

The focal plane shutter runs from left to right, and its adjustability is a feature of the different Exakta models. Model A has long and short time exposures and short speeds of 1/25 to 1/1000 sec. Model B is equipped with the same shutter, but also has an automatic time setting mechanism for 1/10 to 12 sec., and a self-timer from 1/l000 to 6 sec. With the self-timer the exposure occurs after about 12 seconds.

The long exposure times and automatic setting of exposures of several seconds duration opens big opportunities for photographers. For pictures inside you don't necessarily need photo lamps or a flash; you can take exposures of a few seconds to produce harmonious shootings in the pleasant lighting by normal light bulbs.

A simpler construction is the Exakta Junior, similar to the Model A, not provided with screw mount, but only with front lens setting. In addition, its shutter has a top speed of only 1/500 sec.
To avoid unintentionally triggering, in all Exakta models the shutter is locked until the film is transported.

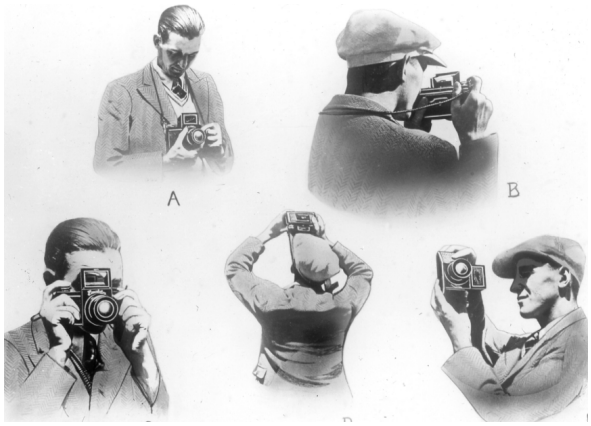


Image 30: Use of the viewfinder.
The waist level viewfinder of the Exakta provides all technical possibilities you can think of. Photo A shows the normal image when the camera is held at waist level. The automatically rising light shaft can also serve for the reflex setting at eye level, because a second metal mirror reflects the image again at an angle of 45° (photo B). This is especially important for vertical shots of great importance. If required, the light shaft can also be transformed into a frame viewfinder, because especially in press circles this type of viewfinder is appreciated very much, and photo C illustrates its use. If you want to photograph over a lot of people, just hold the Exakta over your head and check the viewfinder image from below (photo D). The camera also works at eye level for vertical shots. One photographs to the right or left, to some extent "around the corner". This way pictures have often been made unnoticed. Photo E shows this camera position.

Figure 31: Light shaft extension.
The next photos show several important items from the rich set of Exakta accessories. The "light shaft extension" keeps distracting side light from the viewfinder screen, so you can observe the image better. A special type of light shaft extension is available with a built-in magnifying glass, which enlarges the entire screen field approximately two-fold.

Figure 32: Carrying Case.
The "carrying case" encloses the Exakta indeed from all sides, the Record-Standby not being affected in the least. In no time, the flap in front of the lens can be unbuttoned, and all parts necessary for the operation of the Exakta are then accessible.

Image 33: Sun visor.
For shooting against the light and heavy light from aside the "sun visor" can be used. Light filters of all types, from blue and yellow to red are of course available. The ancillary lenses available for Exakta are divided into two groups: A close-up lens allows you to get closer to the object, and a telephoto lens extends the focal length of the lens and gives larger pictures of distant objects. Of course, using conversion lenses you have to stop down a bit, and therefore perhaps the use of a special lens would be advantageous. For the necessary extra extension, the telephoto lens is supplied with a matching extension tube.

Image 34: Extension tube.
For close-ups you can use the available "extension tubes" A and B. They are screwed between the screw mount and the Exakta lens and allow it to move closer to the record-object, but the high speed and optical qualities of the Exakta lenses are retained. You can combine these extension tubes, and also with any lens attachment. To give an example: two tubes B combined already result in natural size pictures.

Image 35: Ball joint.
"ball joint" is of particular importance for vertical shots from the tripod.

Image 36: Giant release button and adjustment pin.

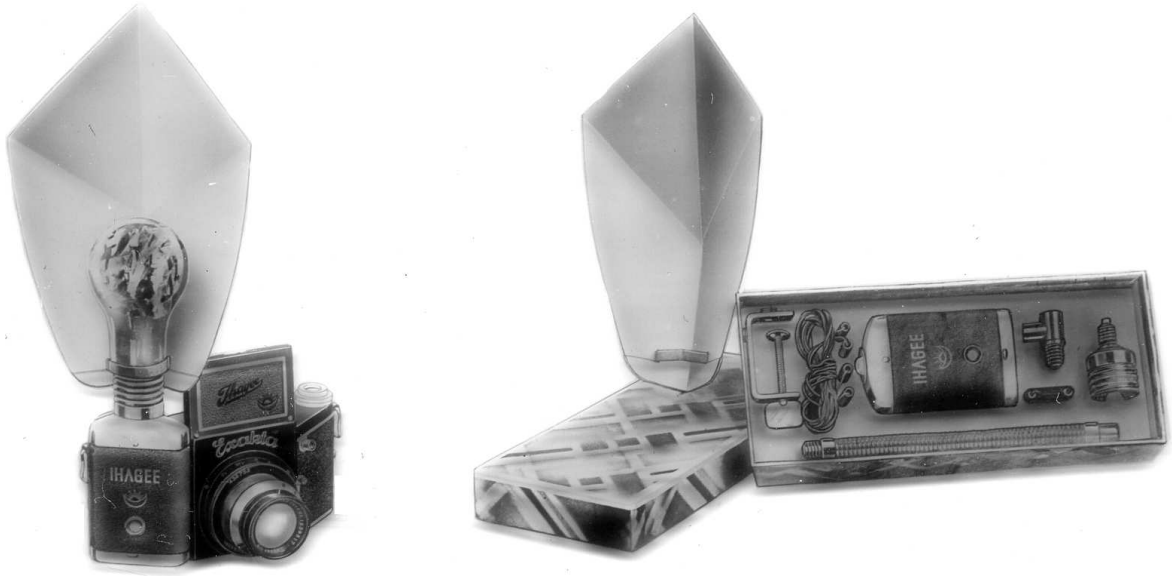
The small "giant release button" is screwed into the release button of the Exakta and enlarges it e.g. for triggering with a gloved hand. The available small adjustment pin, screwed into the screw mount ring, facilitates distance setting.

VP History Part 10
This is the last part of the lecture given by the Dutch importer Mr. Heynderickx in 1935.

Image 37: Exakta Lumimax and Exakta with microscope.

The lens of the Exakta is interchangeable and can at the same time may serve80 as a magnifying lens in Exakta Lumimax.. This apparatus can be seen on the left of our image. On the right we now for the first time meet the Exakta in practical work on. Through versatile accessory devices the Exakta has been made useful many specialty areas. In this case it is photomicrography. An available adapter makes it possible to connect the Exakta with any microscope. The lens is removed, because one works with the eyepiece and the magnifying lens of the microscope only. The micro-adapter is provided with a hinge. The lower part is connected to the microscope, and the upper part with the Exakta screw mount. When the camera is folded sideways, you may change the eyepiece of the microscope and thus the Enlarging factor as desired, without having to remove the camera. The screen also serves in became a possibility using a microscope.
For single shots on dry plates the Exakta can be supplied with a plate back. Focusing is then done on a second focusing screen on the back of the camera.
To a special area, the making of reproductions and the like, serves the Exakta reproduction frame.

Image 38: Vacublitz Equipment.



Finally, this image shows that a very practical Vakublitz facility for the Exakta was created. The Vaku Flash connector - extremely easy to use – is shown in the Exakta models before. You just connect the Exakta with the battery container and the Vakublitz, as we can see in the image. At the same moment in which the shutter opens automatically, the flash bulb goes off. Even with the shortest time exposures to 1/100 sec., it works! The valuable Exakta Vakublitz facility represents an extraordinary advance for the press photographers and even for the amateur. An extension bar is allows to trigger the flash at distance from the camera. The bar is flexible. Practical accessories make it possible to burn more flashes at the same time, and the extension cords between camera and flash allow you to install a flash sideways, so you can create Vakublitz side light this way. Especially for snapshots with artificial lighting, the Exakta Vakublitz means invaluable benefits for reporting work.

The previous explanations have hopefully left the pleasant impression that any amateur and professional photographer, who uses the Exakta, has actually made a good choice. The proof of the quality and versatility of the camera seems to have been well-furnished, and one can argue that there is no recording area, in which not even the Exakta miniature-SLR cameras have proven excellent. A large number of spontaneous recognitions, received by Ihagee, bear witness that people all over the world have started to appreciate the "real reflex system". The publicity department of Ihagee in Dresden will be happy to send you free brochures and advice on the Exakta.

In the name of the factory I finally thank you for your interest for this lecture of text with in image.

There is no lecture text for this last image. I am sure Mr Heynderickx, while showing it, has explained that, whoever wanted to make photos as beautiful as this one, now new had to go and buy an Exakta right away.