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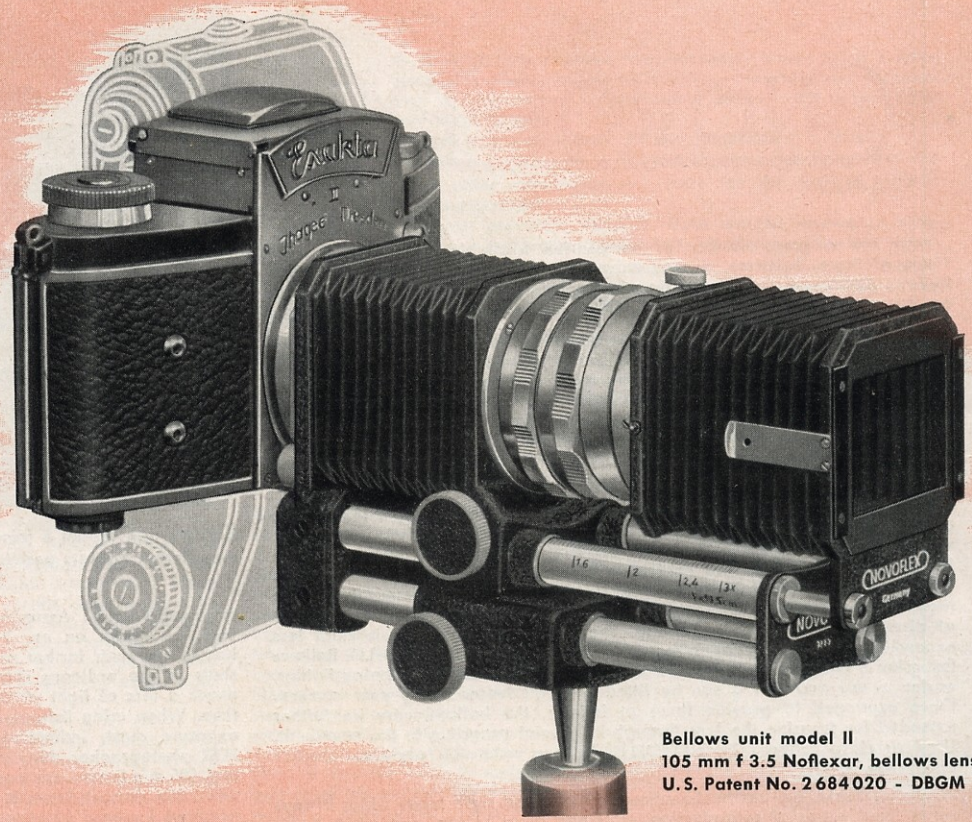


Bellows unit model II
105 mm f 3.5 Noflexar, bellows lens hood.
U. S. Patent No. 2 684 020 - DBGM

THE MODERN BELLOWS ATTACHMENTS

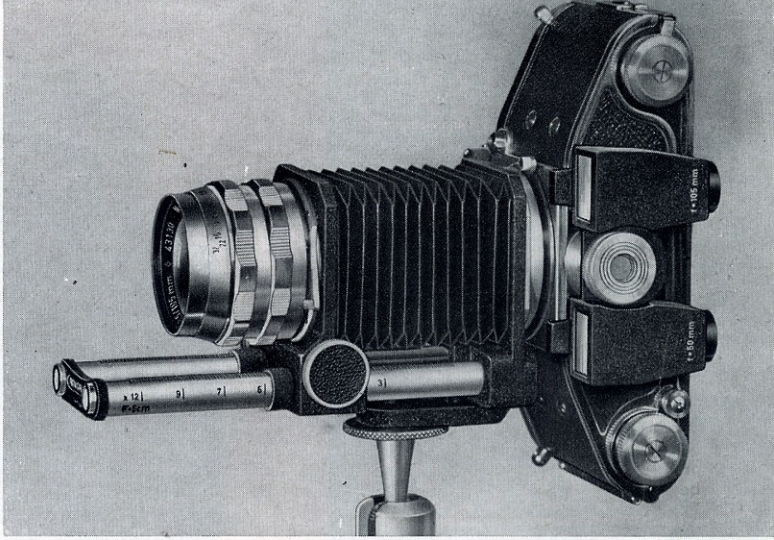
NOVOFLEX

There are a great number of accessories available for your camera*. None of these, however, are as universally applicable as the NOVOFLEX Bellows Attachment, but please do not confuse it with any of he other makes on the market today, because NOVOFLEX is much more than that.

NOVOFLEX actually is the name for a whole System of photographic accessories, which has been developed over many years of continued experiments, and new items are constantly being added. This ever widening system enables the user to choose one component part after another according to his requirements, at a moderate outlay at a time. The NOVOFLEX Bellows Attachment is not simply a substitute for Extension Tubes. As a result of the advantages it offers, and owing to its sturdiness, modern photographers use it also in other ways.

As a **Focusing Mount** for long and extremely long focal length lenses such as the 400 mm NOVOFLEX long range lens (see special leaflet), it will save you money, bulk and weight. Let us explain this by means of an example: Let us assume that you are contemplating the purchase of a 105 mm lens. Such a lens consists (a) of the lens system (glass lenses) and (b) of the focusing mount. This focusing mount belongs to **one** lens only and permits of distances from 4ft6ins to infinity. The same lens, however, is much less expensive without the focusing mount, and, used with the NOVOFLEX Bellows Extension it covers a range from 8 3/4 **ins.** to infinity; apart from being lighter, easier to use and that it can be fitted with **all** lenses fitting your camera. Once expanded to provide focus at infinity, the bellows may be further extended for focusing the lens through its normal range up to the near-limit. Used at close ranges, the NOVOFLEX Bellows extension performs another function, viz. that of

Extension Tubes. But not in the same way as these rigid tubes which always mean fixed ratios of reproduction, trial and error in use, and which bring with them the danger of interior reflexes. With the NOVOFLEX Bellows Extension every ratio of reproduction from infinity to a magnification of 2.3:1 can be obtained. Part of this range is covered by the 105 mm lens, and part by the 50 mm (or 58 mm) as indicated by the diagram on the opposite page.



Bellows unit model S (camera position "upright"), 105 mm. f 3.5 Noflexar, double viewfinder. Patents pending.

Exposure Factors. Assuming that you had photographed the beetle on a leaf, as shown on our film strip, you will have observed that the lens has to be much farther away from the film plane than when taking snapshots in the ordinary focusing range. This extreme extension logically induces a loss of light which has to be corrected by increasing the exposure time. When using Extension Tubes, the amateur is usually furnished with an exposure chart, indicating the appropriate exposure factors. The NOVOFLEX photographer does not require such aids. Exposure factors for 50 mm and 105 mm lenses are engraved on the racks of the Bellows Extension, and when the correct focus is set, a direct reading is obtained indicating the required increase of normal exposure time.

Tripod Rack. The experienced macro photographer knows how close-ups can become complicated for not only the depth of field is constantly decreasing when you are drawing close to the subject, but also in picture framing the smallest fraction of an inch becomes increasingly important. A tiny movement of the tripod, and the subject slides out of the picture area

*) for Exakta, Edixa Reflex, Wrayflex, Praktica, Praktiflex, Pentacon, Rectaflex, Periflex, Master Reflex, Primarflex etc., for reflex housings for all Contax and Leica cameras, and for movie camera Arriflex.

or does not fill the frame as desired. To cope with this difficulty, the NOVOFLEX Tripod Rack has been designed. On the same rack-and-pinion principle that makes focusing with the bellows apparatus so easy, you will be able to adjust the correct distance for frame-filling pictures with the Tripod Rack which runs beneath it. But this is not all; the Tripod Rack can also be used in taking 3-D photographs with any ordinary camera, and, with the Bellows Extension, particularly for close-up stereos. To do this, the focusing rack is mounted on a tripod parallel with the field of vision, and the camera is moved from left to right, taking a photograph from each end of the rack. Shorter separating distances are required whenever a scene contains more than one subject at different ranges from the camera (close-up stereos). For stereo photography, a separate Tripod Rack is required, because in units combining both Tripod Rack and Bellows Extension (model II), the trails are moving in the same direction, not permitting of a movement sideways. The models II and S, however, offer another interesting advantage:

Instantaneous Change from Horizontal to Vertical Image or vice versa. As mentioned before, framing is a critical process in close-up photography; the decision to change from a horizontal to a vertical frame would involve new sighting and focusing. But not so with the models II and S. The pivoting mechanism incorporated in them permits of an immediate change from horizontal to vertical and vice versa, so that the best-suited frame may be chosen after the most minute focusing has taken place. The camera itself will not deviate from the optical axis.

Supplementary Lenses. For most amateur requirements, the NOVOFLEX system can offer another possibility of "play with the focal lengths" that mainly finds its practical usefulness by another economy in price and weight:

In spite of little expense, supplementary lenses bring a good possibility of widening the scale of focal lengths at your disposal. Two lenses with two supplementary lenses result in four different focal lengths:

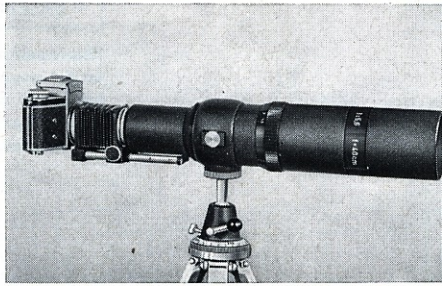
50 mm + suppl. lens = **85** mm (focusing to infinity)
105 mm + suppl. lens = **165** mm (hence a true telephoto lens)

What other advantages are there for the user of NOVOFLEX equipment?
They are **precision, stability, light weight, saving in bulk, ingenious construction, handiness, excellent value.**

This accounts for their extensive use by explorers, scientists, professional photographers, as well as by a legion of enthusiastic amateurs.

Bellows Lens Hood. Our bellows unit is now provided for use with a universal extendible bellows lens hood (patent pending) which fits all lenses of 42 mm. diameter lens mounting. Adapter rings can be supplied for lenses of different diameter. The bellows lens shade offers the best protection against reflected light. Backlighted scenes can be taken efficiently. The bellows lens hood may be greatly extended. Attachments, e. g. for intentional vignetting, for copying transparencies etc. may be fitted to its front frame.

Double Viewfinder. (U. S. patent pending, DBGM) This device adds the features of viewfinder cameras to your reflex:
Bright viewfinder image even under adverse light conditions, or with the lens stopped down. Upright and laterally correct viewfinder image even when the camera is held vertically; no prism needed. Double viewfinder for both standard and longer focal length lenses. Accurate, almost parallax-free framing of the image, due to close proximity of viewfinder to the optical axis of the taking lens. Simple and secure screw fastening to the tripod socket of camera, permitting use of tripod or flash equipment at same time, if desired. Instant recognition of the moment of "Peak Action" particularly suitable for sport and flash photography and snap shots. Immediate change from vertical to horizontal and vice versa. — For the time being available only for Exakta.



Bellows unit model I, with Telescopic Distance Lens F. 5.6/400 mm

TECHNICAL DATA

Extension

Bellows at maximum retraction: 3 ins.
Bellows at maximum extension: 6½ ins. } (Distance: Focal Plane – Lens Panel)

Focusing Range

Using lens of focal length	Distance Focal Plane–Object Bellows at Maximum: Retraction	Extension	Ratio of Reproduction Bellows at Maximum: Retraction	Extension	Distance Front Lens Element–Object Bellows at Maximum: Retraction	Extension
F = 50 mm	8½ ins.	9½ ins.	0.7 : 1	2.3 : 1	4¾ ins.	2½ ins.
F = 105 mm	inf.	17½ ins.	—	0.8 : 1	—	9¾ ins.
F = 135 mm	inf.	24¾ ins.	—	0.5 : 1	—	17½ ins.
F = 400 mm	inf.	11 ft. 6 in.	—	1 : 7	—	10 ft.

Supplementary Lenses

	Combined Focal Length	Multiplying Factor of Ratio of Reproduction	Exposure Time Multiplying Factor	Distance Suppl. Lens–Object Bellows at Maximum: Retraction	Extension
F = 50 mm + TELENS	85 mm	1.7 times	2.9 times	inf.	6½ ins.
F = 105 mm + EXLENS or XINLENS	165 mm	1.55 times	2.4 times	inf.	7 ft. 9 in.

(**Explanation:** A ratio of 1 : 3 means that the negative image measures one unit and the object measures three, or that the image on the negative is exactly one third the size of the object. This is therefore a ratio of reduction. – The expression 3 : 1 means that the image is three times the size of the object, which is a ratio of magnification. From which it follows that the expression 1 : 1 indicates equality of image–object size, or natural size reproduction. – An easy way to remember this system is to think of the letters I : O (the last two letters of the word "Ratio" in their correct order) as meaning "Image: Object".)