

EAGLE AIR CAMERAS²

The Williamson Manufacturing Company has produced a special camera to take the new Ross Survey lens which satisfactorily covers a 7×7 inch picture with a 5 inch focal length.

In addition to the above the latest models of Eagle cameras, the Series III and Series IV camera are of interest. These are single lens film cameras equipped for either hand or automatic operation.

The Series III camera takes a picture size 5×5 inches and has a magazine capacity of 115 exposures. Two sizes of lens cones are available for this camera, a short cone for lenses of 5 to 6 inch focus, and a long cone for lenses up to 10 $\frac{1}{4}$ inch focus. In addition to the regular vertical mounting a hand mounting can be furnished for taking oblique pictures.

The Series IV camera takes a 6 $\frac{1}{2}$ ×9 $\frac{1}{2}$ inch picture and has a magazine capacity of 200 exposures. Two sizes of lens cones are available for lens up to 30 inch focus.

The cameras are made up of three main units, the camera body, the lens cone, and the film magazine. Camera units are interchangeable and can be attached or removed without tools.

The camera body carries the glass plate through which the exposure is made and the top surfaces of the castings surrounding this glass plate form the plane of the focal register.

The cameras are fitted with Williamson Louvre shutters. These shutters consist of a number of thin steel strips fitting together like a Venetian blind. These strips fit into steel pivots and are directly operated by a circular rack. All the metal strips on one side of the center are made to rotate clockwise and the remainder in a counterclockwise direction until they lie in a plane parallel to the optical axis of the lens. The actual movement of opening and closing the strips or louvres takes place in an infinitely short space of time and the duration of exposure is obtained by arranging for the louvres to remain open for the required interval. The shutter is mounted behind the lens.

The main features of this shutter are summarized by the manufacturers as: (1) all metal construction with a minimum of moving parts, (2) great efficiency and high speed for use with large aperture lenses, (3) even illumination over the entire negative, (4) no distortion of image, (5) unaffected by climatic conditions.

The instrument box on these cameras is a separate, optional, and independent accessory and does not affect the operation of the camera. The instruments are photographed in the margin between the successive exposures.

² Manufactured by the Williamson Manufacturing Company, Ltd., London.

Hungary

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CAMERAS

In Hungary the Nistri single lens camera of 21 cm. (8 inch) focal length, plate size 13×18 cm. (5×7 inches), with focal plane shutter is used for general purpose photography. This camera is equipped with a Zeiss Tessar lens of 1/4.5 speed. The camera is hand operated, using film with magazine capacity for 50 exposures. The Aeskulin filters are used with this camera.

The following cameras are used for stereophotogrammetry:

1. Zeiss H.M.K. 21. This is a small hand operated camera with Zeiss Tessar lens of 1/4.5 aperture and between the lens shutter. The camera uses plate negatives with a magazine capacity of six plates. The camera is used for vertical or oblique photography.

2. Zeiss R.M.K. c/3 camera and the Zeiss R.M.K.P. 21. Both of these are fully automatic cameras, using film negatives 13×18 cm. (5×7 inches) with magazine capacities of 300 exposures. Both cameras have between the lens shutters, and use the Zeiss filters B.D.E. The R.M.K. c/3 camera is equipped with a Zeiss lens with 1/4.5 aperture and the R.M.K.P. 21 with Zeiss orthometer lens of 1/4.5 aperture.

PLATES, FILM, AND PAPER

Agfa aeropon and aerochrom, and Perutz plates and film are used. The processing of the aerochrom has been found to be much simpler than the processing of the aeropon material.

The E.G.C. II arrangement for developing films has been very satisfactory.

The shrinkage of paper prints while drying is controlled by mounting the wet prints with a moist paste and stretching the paper to correct size during the drying.

AIRCRAFT AND ACCESSORY EQUIPMENT

Hungary has no aircraft designed especially for air photography. The Hungarian Cartographic Institute owns a Väisälä statoscope.

OPERATION OF PHOTOGRAPHIC PROJECTS

Single lens photography for general mapping is usually done at 1:15,000 scale with 60% overlap fore and aft, and 30% side lap. In some cases the side lap is increased to 40%. Flight lines are generally laid out on a 1:75,000 scale map.

The flight lines for stereophotogrammetry are laid out on 1/25,000 scale maps. The photographs for stereophotogrammetry are taken in pairs with the camera tilted 32° from the vertical for one picture forward and for one picture aft along the line of flight.

Only the compass and map are used for navigation. No special instruments are used for this purpose.

Italy

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AIR CAMERAS

Single Lens Air Cameras for General Planimetric Use

Italy has endeavored to adopt her photographic equipment for general use, particularly for rapid surveying and military purposes. Due to the high speed and lack of space in military aircraft it is necessary that this equipment be small in bulk and weight, and simple to operate. A standardization of equipment, as existing in other countries, has been avoided in order to have available several cameras suitable for various types of work. Thus, for example, the advantages and disadvantages of lens shutters and focal plane shutters have