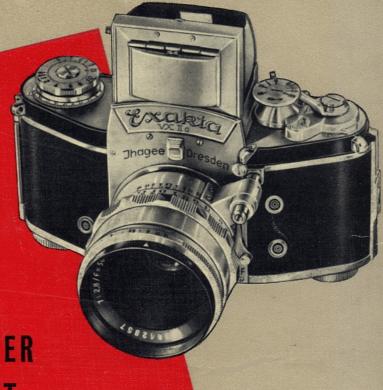
# EXAKTAmanual



WERNER Wurst

A FOUNTAIN PHOTOBOOK



#### CONTENTS

#### CHAPTER I

#### MINIATURE PHOTOGRAPHY

Convenient exposure material (2) Rapid film transport (3) Great depth of field (3) Fastest lenses (4) Miniature film for all tasks (4).

#### CHAPTER II

# THE CAMERA .. .. .. .. .. .. .. ..

Kine-Exakta I (5) Kine-Exakta II (5) Exakta V (6) Exakta model VX (6) The essential parts of the camera (8).

# THE BASIC PRINCIPLE OF THE EXAKTA (11)

Good pictures are easily chosen (14) No parallax (15) The instructive groundglass screen image (16) Reliability, economy, versatility (17).

# THE EXAKTA IS A DUAL-SYSTEM CAMERA (18)

The finder hood and its use (20) Horizontal pictures (21) Vertical pictures (22) When is the finder hood attachment used? (23) Overcoming obstacles and 'shooting round the corner' (25) The frame finder (25) Change of the finder hood (26) A frank appraisal of the side-reversed reflex image (26) The prism viewfinder and its use (27) The effect of the penta prism built into the prism attachment (28) The correct use of the penta prism (29) When is the penta prism used? (29) Another small advantage of the dual-system camera (31) The distance meter, or split-image rangefinder glass (32) The prism attachment of the early Kine-Exakta models (36) The Exakta and the spectacle wearer (37).

# HOW TO USE THE CAMERA (37)

The shutter (37) Distortions (38) The use of the shutter (40) The delayed action mechanism (42) A minor peculiarity of the focal plane shutter (44) The film in the Exakta (44) Inserting the film into the Exakta (45) Two control devices of the Exakta camera (47) Double exposures — desired and undesired (48) Unloading (49) The film guide (52) The lens (54) Optical reproduction (54) The focal length (55) The lens speed (56) The diaphragm stop (58) The depth of field (59) How to use the depth of field scale correctly (62) Correct focusing (67) Devices for stop presetting and automatic stopping down (68) The optical resolving power (70) The surface coating of the

CONTENTS

ix

Exakta lenses (72) Air bubbles in the lens (73) The interchange of Exakta lenses (73) Standard lenses of the Exakta (74) Angle of view and ratio of reproduction of a lens (75) Perspective (76) Depth of field (82) Focusing with telephoto lenses (83) Special lenses recommended for the Exakta (84) The wide-angle lenses (84) The long focus special lenses and tele-lenses (85) Telephoto lenses of medium focal length (75 mm. to 150 mm.) (90) Telephoto lenses with long focal lengths (180 mm. to 500 mm.) (90) The 75 mm. f/1·5 ultra-fast night lens (92) Lens tests (94) The flash contacts of the Exakta camera (95) The electronic flash contact (96) Care of the camera and its optical equipment (98) Effects of temperature (99) Dust and sand (99) Humidity (99) External cleaning (100) The mirror (100) The lenses (101) Small accessories (101) The ever-ready case (101) The giant release knob (102) Lens hood (102) Light filters (102) Diffusion discs (103) Polarizing filters (104) The back of the Exakta camera (105) Accessories for special applications of the Exakta (106).

THE EXA  $25 \times 36$  mm. (107)

#### CHAPTER III

FILMS AND FILTERS... .. .. .. .. .. .. 11

THE GENERAL SENSITIVITY OF THE FILM (111)
THE RESOLVING POWER OF THE FILM (114)

How to achieve fine grain (117) The antihalation backing of the film

(118) The reflection halo (119) The diffusion halo (119) Contour sharpness (acutance) (121).

THE GRADATION OF THE FILM (122)

The exposure latitude of the film (126) The gamma (127)

THE COLOUR SENSITIVITY OF THE FILM (131)

Colourblind material (131) The orthochromatic film (131) The panchromatic film (132) The ortho- (recte-) panchromatic film (132)

FURTHER PROPERTIES OF THE FILM (134)

Scratch proofing (134) Storage properties (134)

CORRECT FILM CHOICE (136)

(a) Miniature films from approximately 6 ASA-12 ASA (136) (b) Miniature films of approximately 50 ASA-64 ASA (137) (c) Miniature films of approximately 80 ASA and higher speeds (137) (d) The special film for special tasks (138) Positive film (138) Reversal films (black-and-white) (138) Micro copying film (139) X-ray film (139) Infra-red film (139) Colour film (139) How is the miniature film sold? (139) Darkroom refills (140) Bulk film (140) Loading of miniature films by the user (140) Shaping the film end (141)

THE CORRECT FILTER (142)

Yellow filter (146) Yellow-green filter (pale) (147) Green filter (147) Orange filter and red filter (148) Infra-red filter (149) Blue filter (150) U-V filter for high-altitude pictures (150) Sky filter (yellow or green) (151) Polarizing filters (151).

#### CHAPTER IV

# EXPOSURE TECHNIQUE .. .. .. .. .. .. .. .. 153

# FOCUSING AND STOPPING DOWN (153)

(a) Point focusing (153) (b) Point focusing with increased zone of sharpness (154) (c) Focusing on the hyperfocal distance (156) (d) Focusing on infinity (156) (e) Snapshot focusing (158) Further focusing tips (160)

# THE EXPOSURE (161)

The lighting conditions (162) Film speed (162) The stop (163) Remember exposure factors! (163) Aids to determining the correct exposure time (163) Exposure tables (164) Exposure meters (164) Types of movement affecting picture sharpness and exposure time (165) Camera shake (165) Movement (166)

# PICTORIAL COMPOSITION (167)

The light image (169) Front lighting (171) Side lighting (171) Top lighting (171) Back lighting (contre jour) (172) Perspective in composition (172) Linear perspective (172) Aerial perspective (172) The correct camera viewpoint (173) The background is essential (174) The typical miniature picture (176)

# FIELDS OF ACTIVITY (178)

Photography in town and country (179) Landscapes and town views (179) People in pictures of landscape or town (179) The lighting (180) Contre jour — not to be missed (180) The change of seasons (181) Architectural subjects (184) Landscapes (186) Pictorial composition (187) The human element in the picture (188) Outdoors (188) 'Direction' is everything (190) Single persons and groups (190) Portraits (191) Pictures of 'doubles' (193) Nudes (194) Children's pictures (195) The snapshot (196) The picture sequence (199) Sports (202) Animal portraits (204) Photography in artificial light (208) Match, lighter, candle (208) Household lamps as light sources (210) Use of existing light sources (211) Photoflood lamps (214) Regarding the subject of artificial light portraits (222) Children's portraits (223) Supplementary artificial light with interior architecture (225)

# FLASH TECHNIQUE (225)

Flashbulbs (227) The Exakta flashgun and its accessories (228) The design of the Exakta B.C. flashgun (229) Additional flashbulbs (230) Electronic strobe light, speedlight and electronic flash (232) Focal plane shutter and flashlight (234) The Exakta IIa synchronization for flash photography (235) The real exposure time during flash exposures (236) The guide number (237) Unlimited application (240) Some flash tips for the 35 mm. Exa (240) Still life and inanimate objects (243)

## LITTLE THINGS — HUGE (246)

Close-up (macro-) photographs (246) How to use the following tables (249) Optical hints for close-up pictures (256) Depth of field in close-ups (257) The multi-purpose unit for the Exakta — the Versal Assembly (259) Close-up and macro-photography with the multi-purpose unit 'Versal Assembly' (260) The

хi

393

400

practice of close-up photography (263) Choice of focusing system (263) Focusing (265) Telephoto lenses for close-ups (265) Tilt-proofing your tripod (266) Flowers and blossoms (266) Close-up photography can be original (267) Good surface detail = suitable film and suitable lighting (268) For the exposure time (269) Reproductions (269) Larger originals (270) For smaller originals (271) The copying stand (272) Focusing (274) With the wide choice of exposure material (275) For half-tone originals (275) Line subjects (277) Black-and-white negatives from colour transparencies or black-andwhite transparencies from 35 mm. negatives (black-and-white and colour) (278) The Transparency Printer (transparency copying attachment) (278) Special fields for the serious amateur and professional photographer, scientist, technologist and artist (280) The Exakta in medical practice (283) X-ray screen photography (292) Photomicrographs (293) Hinged Micro-adapter No. 1 (294) Micro-adapter No. 2 with rapid-changing mount (295) Copying stand and bellows attachment for photomicrographs (297) Copying stand, bellows attachment and micro-adapter No. 2 for photomicrography (299) The optical equipment of the microscope (300) Magnification and reproduction ratio (303) Correct illumination of the subject is absolutely vital for successful photomicrography (304) Focusing the photomicro picture (305) The lens magnifier or Magnear (306) Special magnifiers for extreme macrophotographs and photomicrographs (307) Films, filters and exposure (309) Astronomical photography (310) Infra-red photography (311) Exposure material, filters and exposures (313) Focusing (316) Stereo-photography (317) Underwater photographs (326) Photographs in natural colours (328) The reversal film (328) The Agfacolor Negative Film in combination with Agfacolor Paper (330) Speed and exposure (333) Coloured light (338) Colour photography in artificial light (341) Colour Reversal Film (T) for daylight (341) Colour Reversal Film (K) for artificial light (341) Colour Negative Film (T) for daylight (341) Colour Negative Film (K) for artificial light (342) Flashlight colour films (344) Further tips for colour pictures (345)

#### CHAPTER V

#### DARKROOM TECHNIQUE .. .. .. 350

# THE WAY TO THE MINIATURE NEGATIVE (351)

Exposure and development (351) Which developer? (351) Rapid developers (352) Fine-grain developers (352) The old-type fine-grain developers (353) Ultra-fine grain developers (353) Agfa Isonal and Tetenal Neofin special developers (354) Tips for all developers (355) Making the developer up at home? (355) Two older-type fine-grain developers (356) Two ultra-fine grain developers (356)

# THE TECHNIQUE OF DEVELOPMENT (357)

Darkroom and equipment (357) Time and temperature (359) Control of development (363) Intermediate rinse (364) Scrupulous cleanliness (365)

# FIXING — WASHING — DRYING (365)

Fixing (365) Washing (366) Drying (366) Storage of miniature films (367) Criticism of the negative and improvements of negatives (368) Negative underexposed (370) Negative underdeveloped (371) Negative overexposed (371) Negative overdeveloped (371) Mechanical damage to the negative (372)

## PRINTING AND ENLARGING (373)

Darkroom illumination (373) Contact printing of miniature negatives (374) Enlarging miniature negatives (374) Exposure timer and exposure meter (377) Further accessories (378) The enlarging papers (378) Sizes (378) Singleweight or double-weight? (378) Paper tone (378) Paper surface (379) Gradation and negative range (379) Focusing and choice of field (380) Exposure (381) Little hints for difficult cases (382) The main problem: 'Grain' (384) Development (384) Two border cases (386) Judgment of the fully developed enlargement (386) Intermediate rinse or stop (387) Fixing (387) Washing (388) Drying (388) High-gloss (389) Improvement of the finished prints (389) Retouching (390) Trimming and mounting (391) Good photographs earn good money (392).

#### CHAPTER VI

PROJECTION	• •	• •	 • •	• •	 	

# THE LANTERN SLIDE (393)

Colour transparencies (393) Black-and-white transparencies (393) Most scrupulous cleanliness during slide processing (396) Mounting the slides (396) Projecting (398) Slide viewers (399).

#### CHAPTER VII

# PROGRESS IN DESIGN

#### EXAKTA MODEL VX IIA (400)

New accessories (403) The exposure meter viewfinder unit (403) The Ihagee flashgun (404) The Ihagee release bracket (406) Supplementary magnifier for the focusing magnifier attachment (408) The Ihagee light meter (409) Exa II (410).

# INDEX