

Bolex H16 EBM Electric

the ideal 16 mm professional camera
for all reporting work
... for 8 main reasons

1

Its built-in electric motor transports the film at electronically stabilized speeds.

2

It is designed for sync sound recording; choice of two systems: crystal synchronization or sync pulse synchronization with automatic slating.

3

It can be fitted with the Vario-Switar 100 POE lens with built-in light meter for automatic set-

ting of the aperture during filming, as well as with a diaphragm presetting device for viewing with the diaphragm fully open between two takes.

4

Designed for 100 ft spools of film, it can also take accessory magazines for 200 ft spools or rolls on cores up to 400 ft.

5

Its ultra-resistant, foolproof bayonet lens-mount makes lens changing extremely rapid.

6

Its luminous reflex viewfinder with a high power of magnification (14 x) allows perfect viewing under ideal conditions.

7

It threads automatically and in a matter of seconds.

8

Although light, compact and extremely handy, it is a very sturdy and reliable camera designed specifically for professional use.

1

An electronically controlled built-in electric motor

Film transport

The built-in electric motor transports the film at electronically stabilized speeds of 10, 18, 24, 25 and 50 frames per second: the speed remains constant whatever the type of film used or the external conditions. At speeds of 24 and 25 frames per second the precision of adjustment and degree of stability – unaffected by temperature changes – are sufficient to enable sound to be recorded in perfect synchronization with the picture according to the sync sound process.

Operation is commanded by a single switch.

It is possible to rewind the film either partially or fully: rewinding is used for superimposing; it also allows you to take out a partially exposed film.

Power

Power can be supplied in two ways:

1) by Varta-Deac 10 x 1000 DKZ battery housed in the power-grip container; it provides sufficient power for filming about 2400 ft of film at +20°C; the time taken for a complete recharge is about 14 hours; the mechanism is started by means of a two-step switch located on the power-grip and comprising a safety locking device.

2) by 12 V/1.2 Ah power-pack carried slung over the shoulder or in a pocket; it provides sufficient power for about 2000 ft of film at +20°C; it is equipped with the necessary temperature probes and thermostat for rapid recharging, which takes about 80 minutes (time required for a normal recharge: about 12 hours); the mechanism is switched on by means of a power and remote control cable plugged into a special base.

2

Sync sound

Sync pulse synchronization: requires a connecting cable between camera and tape-recorder

A frequency generator is incorporated in the camera motor: it transmits a signal which is converted by a frequency divider (sync pulse accessory) into a standardized alternating pilot signal of 50 cycles at 25 frames per second or 60 cycles at 24 frames per second, before being introduced into the tape-recorder. The process is completed by an automatic slating system which operates as follows: when the camera motor starts up the miniature lamp housed in the lens-mount fogs some of the first frames of the sequence; simultaneously, direct current flows into the "beep" generator on the tape-recorder. A connecting cable between camera and tape-recorder makes it possible to transmit the starting signal (automatic slating) and the pilot frequency.

Crystal-controlled synchronization: there is no connecting cable between camera and tape-recorder

At 24 or 25 frames per second, the speed of the camera motor is governed by the frequency supplied by a quartz crystal accessory. The maximum deviation of the speed is one frame per 400 ft of film (nearly 16,000 frames). With this degree of precision, it is possible to work without a connecting cable between the camera and the tape-recorder, provided the latter too is equipped with a quartz sync pulse generator. In this case, the automatic clapsticks do not work and you will have to use a manual clapstick.

This method leaves the cameraman completely free in his choice of positions for the camera and tape-recorder. He is no longer restricted in his movements by the length of the cable between the two instruments. He can move the camera or move with it while filming without having to carry the tape-recorder too. In addition, it is possible to synchronize two, three or even more cameras with a single tape-recorder: in this case, of course, both the tape-recorder and all cameras must be controlled by quartz crystal.



3

To work with automatic setting of the aperture

The Bolex H16 EBM Electric motion picture camera can be equipped with the Kern Vario-Switar 100 POE 16-100 mm f/1.9 lens, with automatic diaphragm, aperture presetting system and power-zoom.

Automatic diaphragm. The Vario-Switar 100 POE lens, designed and built by Kern specially for Bolex H16 cameras, comprises a device for the automatic setting of the aperture while filming, which is ideal for candid shots or "live" reporting. With automatic setting of the aperture, the light is measured through the lens. If necessary, this automatic system can be switched off and the setting done by hand.

Diaphragm presetting device. In addition to the exceptional optical quality for which all Switar lenses are world renowned, this particular lens also possesses an ingenious system for presetting the aperture: the diaphragm can be kept fully open between two takes, thus considerably simplifying framing and focusing; it only returns to the preset aperture when the camera is started up. This presetting is controlled from the power-grip, by means of an accessory cable.

Power-zoom. Zooming (varying the focal length from 16 to 100 mm) can be done either manually or by electric motor, which makes it possible to obtain very smooth zooming effects. (Varying the focal length has no effect either on the relative aperture or on the sharpness of the picture.)

N. B.: If you feel that automatic setting of the aperture is of no particular help to you in your work, Bolex can offer you another lens of quite exceptional quality: the Kern-Switar 12.5-100 mm f/2, without automatic diaphragm and without power-zoom, but with presetting of the diaphragm as with the 100 POE model. In addition, this lens has been given a special multi-coated bloom offering the following advantages:

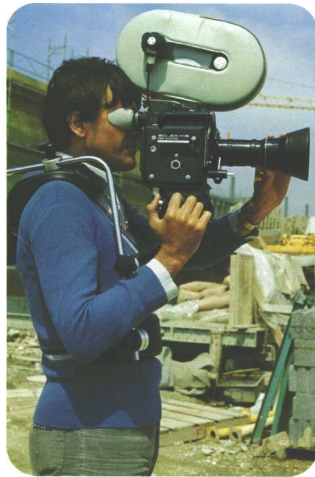
- improvement of the contrast in general, but above all for backlit shorts;
- possibility of filming directly against the light without being troubled by ghost images which ruin most sequences filmed under these conditions with a lens that has only been given ordinary treatment.

4

Capacity: up to 400 ft of film

The Bolex H16 EBM Electric camera is designed for standard 100 ft spools of film, giving - at a speed of 24 frames per second - a projection time of 2 minutes 46 seconds. This capacity can be doubled or quadrupled by using the Bolex accessory magazine which can be loaded with 200 ft spools, giving 5 minutes 33 seconds of projection at 24 frames per second, or with 400 ft spools on a standard 2" diameter core (50 mm), which is equivalent - again at 24 frames per second - to a projection time of 11 minutes 6 seconds.

Easily fitted and removed, the Bolex accessory magazine is used with a type MM take-up motor, ensuring constant film tension. A counter indicates the amount of film still left. Weight of the magazine equipped with the MM motor: 1500 g.



5

Fast, easy lens changing

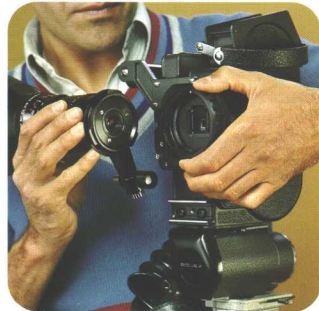
The Bolex H16 EBM Electric is designed to take most of the lenses available on the market, whether with Bolex bayonet-type mounts or "C" mounts with an adaptor ring; this increases still further the versatility of the EBM Electric and widens its scope tremendously. Being able to change lenses very quickly and easily, the cameraman enjoys much greater freedom in "composing" his pictures.

Bolex bayonet lens-mount: an ideal system

An extremely rugged camera body + a bayonet lens-mount that it is impossible to damage or distort combine to form a system whose strength, precision and simplicity of use are capable of satisfying the most exacting requirements. It is practically impossible to force the Bolex bayonet lens-mount: no mis-alignment is to be feared therefore and the distance from lens-seat to film plane always remains constant.

Built-in sliding filter-holder

A filter-holder, for gelatine filters, slides in the lens-mount and makes it possible to insert any filter you like in front of the filming aperture merely by moving a lever. It is a very practical system, making it possible to insert or remove a filter extremely simply and quickly, without touching the lens: the time saved can be invaluable.



6

Very sturdy, luminous reflex viewfinder with high magnification

It is mainly in the viewfinder that your pictures get "created". We have therefore equipped the Bolex H16 EBM Electric with a viewfinder offering you the maximum convenience for the vital operation of viewing and sighting; here are some of its characteristics:

- luminous reflex viewfinder with a high magnification (14 x); exceptional strength;
- no flicker; picture always visible;
- fine grained full surface ground glass, machined on the prism itself;
- very easy cleaning;
- large eyepiece with diopter adjustment and light trap; the rubber eyecup enables you to film with either eye, with or without glasses.



Normal image area:
9.60 x 7.16 mm,
R = 0.5 mm. With
TV frame on request:
8.40 x 6.30 mm,
R = 1.7 mm.

7

Automatic loading in a matter of seconds

The time taken to load a new film into the camera is minimal. You can use standard 100 ft spools of film and, thanks among other things to the built-in loop formers, you will be able to load your camera automatically in a matter of seconds and in broad daylight. The mechanism has a loop take-up device; no risk of jamming in case of faulty threading.



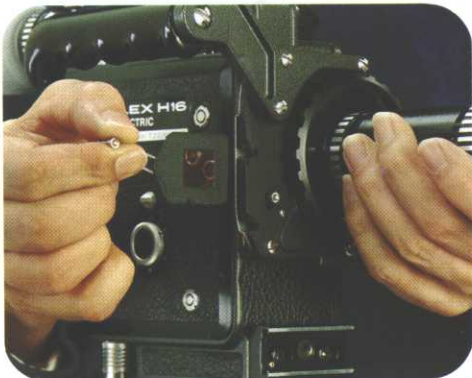
8

A convenient size, extremely sturdy and reliable camera

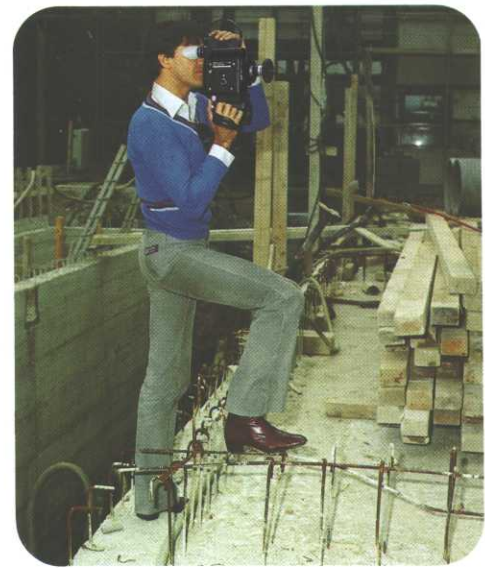
The Bolex H16 EBM Electric is quite a small camera: its case measures only 17 x 23 x 7 cm. In addition, it benefits from Bolex's outstanding experience in the 16 mm field and has given practical proof of its extreme sturdiness. It is not a delicate instrument that risks letting you down, but a very strong work tool of great precision, capable of taking mile after mile of film with sharply defined, perfectly exposed pictures. Designed to stand up to hard wear and tear with a minimum of maintenance, the Bolex H16 EBM Electric is ideal for professional use.



A light, handy camera, easy to carry everywhere.



Fitted on the Switar 10 mm lens, the Aspheron optical accessory enables a resultant focal length of 5.5 mm to be obtained



without any distortion or loss of brightness: ideal when you can't get as far away as you would like...!

Two standard versions

The Bolex H16 EBM Electric is available in two standard versions, i.e. supplied with:

- a) power-grip, Varta-Deac 10 x 1000 DKZ battery, battery charger,*
- b) 12 V/1.2 Ah power-pack for carrying slung over the shoulder, power and remote-control cable, base, battery charger.*

* + slide-in filter-holder on the camera, set of 3 separate slide-in filter-holders, 4 Kodak-Wratten 2" x 2" gelatines, crank handle, rubber eyecup, empty 100 ft spool, lens-mount cap, cover for closing aperture for 400 ft magazine.

Technical specifications

Mechanical system

Electric motor, electrically regulated.
• Shutter open to 170°; not automatically closed when camera stops.

Operation: normal forward motion, continuous operation, full rewinding with hand crank. • Automatic threading; spool ejector; loop former.

Filming speeds 10, 18, 24, 25 and 50 f. p. s.

• Speeds of 24 and 25 f. p. s. stabilized according to sync pulse standards.

Power supply

a) By Varta-Deac 10 x 1000 DKZ battery housed in the compartment provided in the power grip. • Capacity 1 Ah. • Nominal voltage: 12 V.

b) By 1.2 Ah power pack hanging from the shoulder. • Nominal voltage: 12 V. Current supplied at all speeds, whether camera equipped with a 400 ft magazine or not: about 1 A. • Capacity: approx. 2400 ft of film at +20° C.

Optical system

Reflex viewfinder with light captured through exceptionally sturdy, swivelling, misadjustment proof prism, mounted in front of the shutter. • No flicker; picture always visible. • Fine ground glass on prism itself.

• Magnification 14 x. • Adjustable eyepiece: ± 5 diopters. • Rubber eyecup, directional and can be folded over. • Viewfinder light trap. • Field of view corresponding to standard 16 mm projection field; with TV frame on request.

Very sturdy **bayonet lens mount**. • Bearing on three small tongues; centering diameter: 60 mm. • Distance between bearing plane and lens focal plane: 23.22 mm (17.52 mm with adapter for "C" mount). • Most "C" mount lenses easily adapted. • Built-in, retractable, filter slot for gelatine filters.

Lenses and principal accessories

Other accessories

Tripod, monopod, shoulder brace, underwater housing, aluminium carrying case, etc.

Light meter

The H16 EBM Electric camera can be equipped with the Vario-Switar 100 POE lens with built-in light meter, which automatically sets the diaphragm during filming.

Synchronous sound recording

Possibility of synchronization by crystal control or sync pulse equipment with automatic clapper, at 24 or 25 f. p. s.

General

Capacity: single or double perforated 16 mm films on 100 ft spools; possibility of fitting accessory 400 ft magazine. • Counter in metres or feet. • Release: a) when powered by Varta-Deac 10 x 1000 DKZ battery, by two-way on-off switch on power grip; safety lock; b) when powered by 1.2 Ah power pack, by power and remote control cable plugged into an accessory base.

MM Motor
266.011



Cable
266.025



Base
263.220



Power and remote control cable
265.010 or 265.015

12 V/1.2 Ah power pack
261.770



Fast charger
261.990



"C" mount →
bayonet mount
adapter
265.662



Extension tubes
266.440

400 ft
magazine
266.001



Blimp
266.115

Set of 4
gelatine
filters
265.339



Kern Switar
10 mm f/1.6



Aspheron
f = 5.5 mm
220.113

H16 EBM Electric
210.040



Set of 4
filter holders
265.332



Kern Macro-Switar
26 mm f/1.1



Kern Macro-Switar
75 mm f/1.9

Bellows
lens hood
266.220



Kern Vario-Switar
100 POE
16-100 mm f/1.9
221.163

Power grip
261.001



Crystal/sync pulse
accessory for both
24 f.p.s. 60 cycles
and 25 f.p.s. 50 cycles
262.221

ditto but
24 f.p.s. 50 cycles only
262.331



Kern Vario-Switar
12.5-100 mm f/2
with Aspheron
6.5 mm
221.125

Battery
container
261.220



Angénieux
10 x 12 C
12-120 mm f/2.2
222.121

Battery charger
261.880

Varta-Deac
10 x 1000 DKZ
battery
261.110



Battery charger
261.330



Sopalem
Pan-Cinor 85
"Compact"
17-85 f/3.8
222.172

Quality and after-sales service

Bolex products are manufactured with the utmost care and subjected to meticulous testing and inspection. They embody the traditions of precise quality workmanship which has earned Bolex its worldwide reputation. Bolex's international network stands ready to provide faultless service throughout the world. You can entrust your camera with complete confidence to Bolex distributors, most of whom employ skilled and often Swiss-trained technicians.



Bolex International S.A.
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