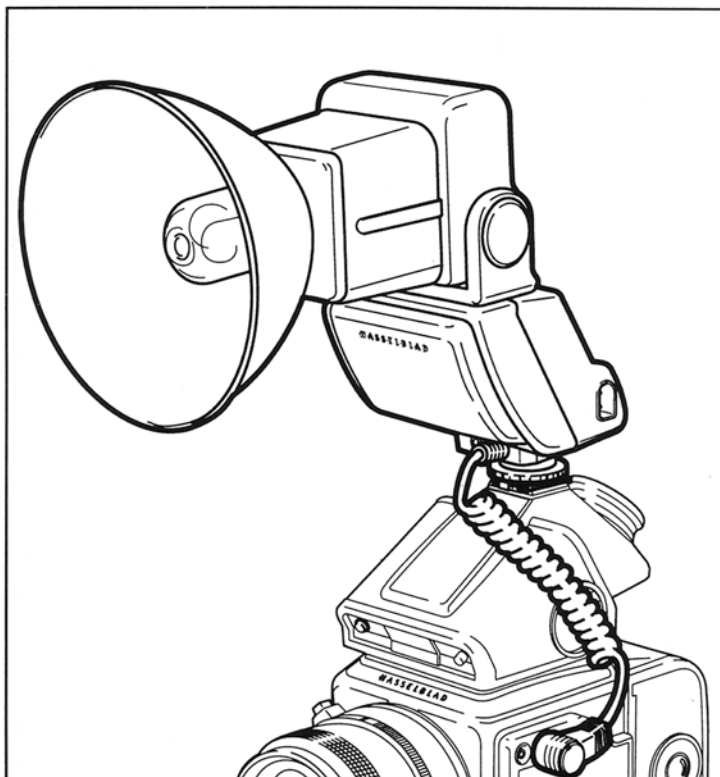


H A S S E L B L A D



D-FLASH 40

User's Manual Bedienungsanleitung
Mode d'emploi Manual de instrucciones
Manuale d'istruzioni Gebruiksaanwijzing
Bruksanvisning

GB Hasselblad D-FLASH 40 (55105)

The Hasselblad D-FLASH 40 is a dedicated flash for Hasselblad cameras with automatic TTL/OTF flash control. The flash is connected directly to the TTL-connector on the camera body without any need for an adapter. It is designed for the utmost simplicity in use as well as versatility and flexibility for various lighting conditions, specially suited for on-site news coverage and portraits. The circular all metal reflector is ideal for the 6x6 square format, providing symmetric illumination of the image without any additional means.

The reflector can easily be adjusted for use with normal or wide-angle lenses or removed entirely for "Bare Bulb" use, i.e. extreme wide-angle applications. The flash head can be tilted and swivelled for indirect lighting, and also tilted down for close-up work.

There are three different power supply alternatives available: 6 pcs 1.5v AA Alkaline batteries, corresponding rechargeable NiCd batteries or a rechargeable external power pack, available as accessory. The external power pack is mainly intended for demanding professional use, providing a large number of flashes and requiring a very short recharging interval between flashes.

What's in the package?

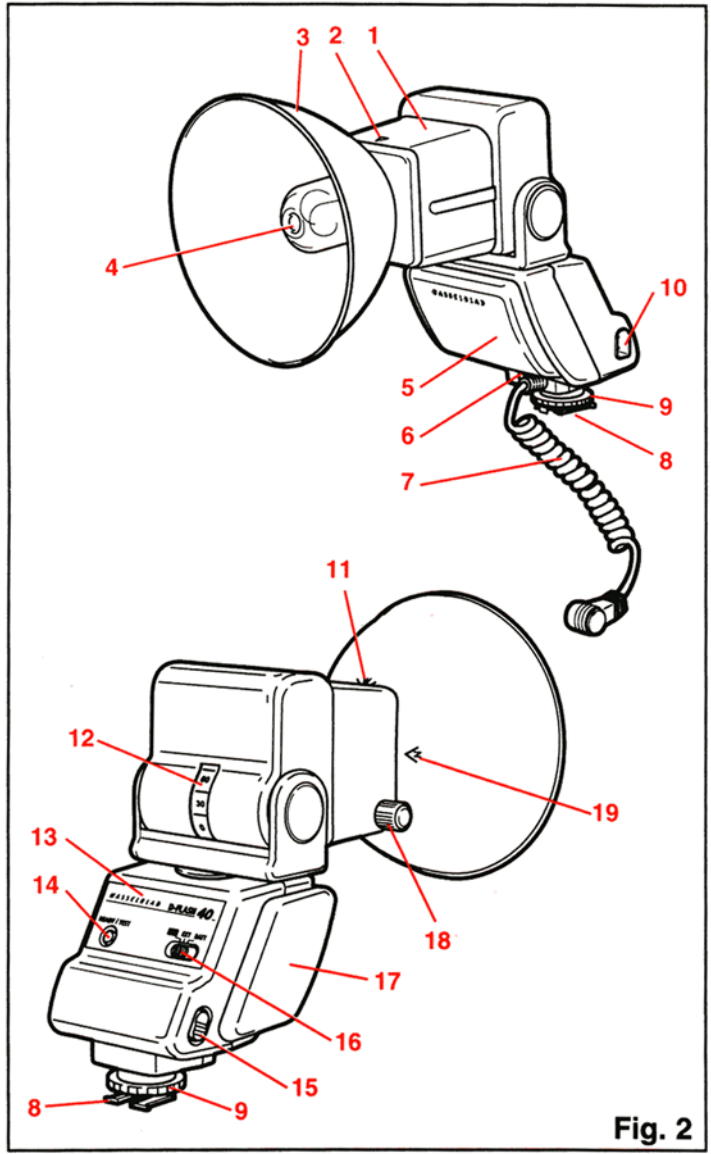
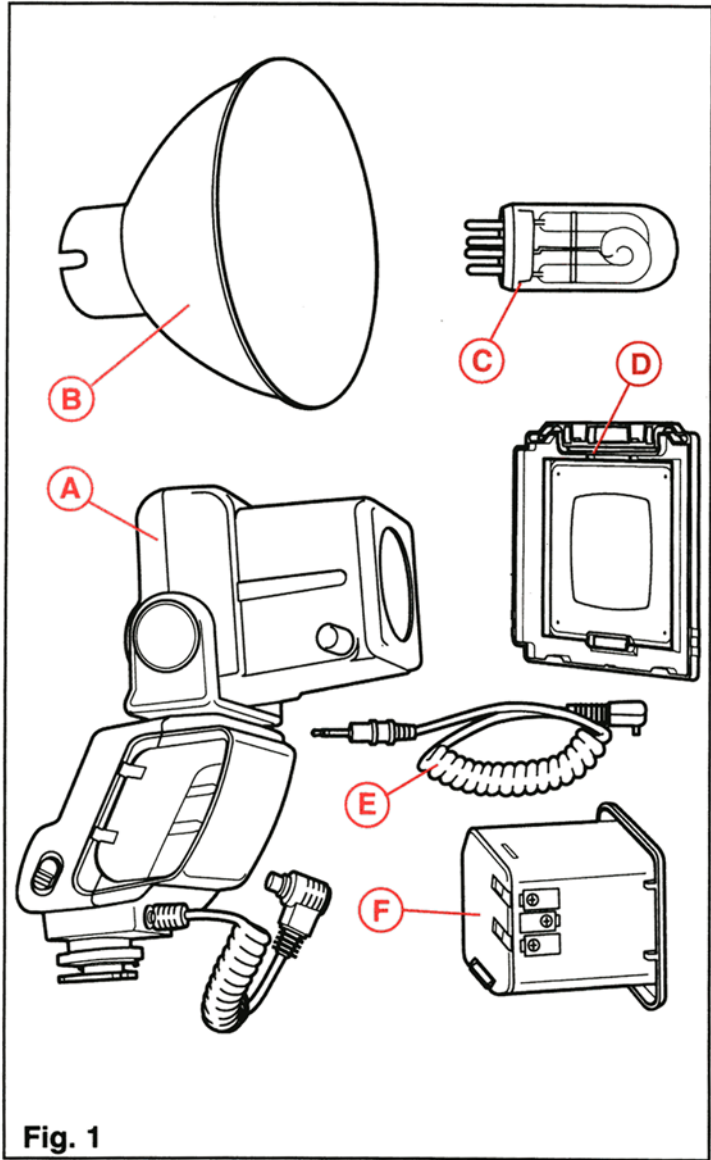
The following accessories are included (fig. 1):

- A. Flash unit
 - B. Reflector
 - C. Flash discharge tube (boxed)
 - D. Exposure test plate
 - E. PC sync cord
 - F. "AA" Alkaline or NiCd battery cassette
- Instruction Manual (not shown)

NOTE: Batteries are NOT included

Parts & Components (fig. 2)

- 1. Tilt and swivel flash head
- 2. Index mark
- 3. Adjustable reflector
- 4. Flash discharge tube
- 5. Flash body
- 6. PC sync cord jack
- 7. TTL sync cord
- 8. Flash mounting plate
- 9. Mount locking nut
- 10. External power connector
- 11. "Wide-angle" position indication ("W")
- 12. Tilt scale
- 13. Flash type designation
- 14. Flash ready light & test discharge button
- 15. Battery cassette release latch key
- 16. Flash ON/OFF switch & power supply selector
- 17. Battery cassette
- 18. Reflector locking knob
- 19. "Normal" position indication ("N")



Assembling the flash (fig's 3 – 9)

Plain numbers within brackets refer to the "Parts & components list"

Installing the flash discharge tube (fig. 3)

Take out the flash unit. Take the flash tube (4) out of its protective box noting the white location dot between the contact pins (fig. 3). Align this dot with the index mark on top of the flash head (1) and insert the pins into the connector inside the flash head. The pins are arranged to prevent incorrect installation. Push the tube gently but firmly into the flash head until it stops. Check that it is positively fixed.

Fitting the reflector (fig's 4 – 6)

The reflector (3) has four position indications, two for "Wide-angle" (11) and two for "Normal" (19) positions. Positions with the same indication are equal.

Turn the locking knob (18) counter-clockwise 3 - 4 turns (fig. 4). Push the reflector over the flash tube (4) and align the required position indication with the index mark on the flash head (1). The reflector has notches in the neck to ensure correct positioning. Push the reflector into the flash head until it stops. Turn the locking knob clockwise until it stops to positively fasten the reflector. The knob may turn stiffly before it stops.

NOTE: The position of the reflector is different in the "Wide-angle" (fig. 5) and "Normal" (fig. 6) settings.

Installing the batteries (fig's 7 – 9)

Push the battery cassette latch key (15) down (fig. 7) to release the battery cassette (17). Withdraw the battery cassette. Open the cassette by pressing the cover lock key in the direction of the arrow (fig. 8) Lift the cover off the cassette. Insert 6 pcs 1.5 v size AA Alkaline or NiCd batteries (fig. 9), carefully positioning the batteries according to the labels on both sides of the cassette and fig. 9. Reattach the cover by inserting the cover's tongue (opposite the lock) into the slot in the cassette. Push the cover against the spring load until it locks. The cover can be attached in one way only. Push the cassette (17) into the flash body (fig.10) until it locks with an audible click. The flash is now ready to operate.

Getting started

The flash's uniquely simple design and functions makes it very easy to use. Just attach it to the camera setup, connect one or two cords, switch it on and shoot. No extra settings are required on the flash, just the film speed on the camera.

Attaching the flash (fig. 10)

Turn the mount locking nut (9) counter-clockwise until it stops. Insert the flash mounting plate (8) all the way into the accessory shoe on the prism viewfinder or the flashgun bracket. Turn the locking nut firmly clockwise (fig. 10) to positively fasten the flash unit.

Connecting the flash (fig. 11)

Insert the plug of the TTL sync cord (7) into the TTL connector in the camera body by positioning it with the cord towards the back of the camera. Press on the top of the plug until it locks in place. To detach the plug, pull outwards by the metal sleeve.

With a C or CF lens the PC sync cord should also be connected. Insert the cord plug in the PC jack (6) on the flash and the PC connector in the PC terminal on the lens.

Setting the film speed

Set the film speed with the film speed selector on the various 503 camera models and on the 553ELX and 201F models. For the 203FE and 205 models, set the film speed on the E-type film magazine or in the Pr mode on the camera. See the instruction manual for the respective camera model!

NOTE: The flash control circuit metres the light reflected off the film surface (OTF). Different film types and brands have different reflecting properties. These differences are most easily corrected for by adjusting the film speed setting. See the chart on page 43 for the adjusted settings for the most common film types and brands.

Operating the flash (fig. 12)

Turn on the flash by sliding the power switch (16) to the "BATT" position. When the red "READY" light (14) comes on the flash is ready for use. For the ready signals in the various camera models, see the instruction manuals for the cameras.

You can now press the READY/TEST lamp-button (14) to release a test flash.

Settings for fill-in flash

Fill-in flash usually means that the flash is used with reduced power output, e.g. to lighten up shadow areas etc. With the 201, 503 and 553 camera models the easiest way to reduce the power output is to adjust the film speed setting to reach the required power level.

The 203FE and 205FCC models can be pre-set in the Pr mode for the fill-in flash level.

Example: The adjusted film speed setting is ISO 100. The required lightening of the shadow areas is estimated to 1 2/3 stops below the normal exposure. The appropriate setting is then ISO 320 (each full stop doubles the film speed).

See the camera's instruction manual for further information!

Further D-FLASH 40 features (fig's 13–16)

Indirect flash (fig's 13, 14)

To avoid harsh shadows and soften the flash illumination of the subject area it may be feasible to "bounce" the light off the ceiling or walls. For this purpose the flash head (1) with the reflector (3) can be tilted to a vertical position with click stops at 15° intervals (fig.13) and swivelled 180° to the right and 150° to the left with click stops at 30° intervals (fig. 14).

NOTE: Remember that when the flash is bounced the light reaching the subject is reduced, partially by the increased distance and partially due to the lower reflectance of these surfaces. Replace the magazine with the exposure test plate (fig. 15) and make test exposures to check that the illumination is sufficient.

Close-up setting (fig. 16)

To obtain an even illumination of the subject area at close distances the flash head can be tilted 10° down from horizontal, corresponding to an object-to-film distance of approx. 1.3m (51 in.) with the flash mounted on top of the viewfinder.

NOTE: Avoid using large apertures when photographing at close distances due to the risk for overexposure.

Reflector adjustment (fig's 5, 6)

The reflector (3) has two different positions, "Wide-angle" **W** (11) and "Normal" **N** (19). The **W** position should be used for lenses with focal lengths up to 60mm and the **N** position from 80mm and up.

To adjust the reflector, start by loosening the reflector locking knob (18) several turns. Pull the reflector (3) straight out to free it from the mount in the flash head (1).

Turn it to align the required indication **W** or **N** with the positioning mark (2) on top of the flash head and push it back all the way into the mount. Check that it is fixed and cannot move. Tighten the locking knob again.

Flash illumination range

The chart on page 6 shows the approximate flash range in metres for the reflector positions **W** and **N** with different apertures at a film speed of ISO100.

Test exposure

Check if the flash power is sufficient for a correct exposure without losing film by simply replacing the film magazine with the exposure test plate (fig. 15). The central area of the test plate has similar reflectance as a normal film. Make any required number of exposures and observe the signals in the camera's viewfinder, adjusting aperture and/or distance until the signals confirm a correct exposure.

Bare-Bulb

Under certain conditions, e. g. when working with extreme wide-angle lenses, a much larger illumination angle is required than could be obtained with the reflector. By removing the reflector and using the flash tube unobscured, the illumination of the subject area is adequate even for a "fish-eye" lens.

NOTE: The illumination range of the flash when it is used without reflector will be reduced. Use the test plate for test exposures (see above).

NOTE: When firing flashes in a rapid sequence with high power output the batteries become very warm. If you fire 20 flashes with full power you must allow the flash to cool off for at least 20 minutes or replace the battery cassette.

Flash use on cameras without a flash control system

When used on Hasselblad or other cameras without a flash control system only the PC cord should be connected. The flash then delivers full power flashes only and should be used in conjunction with normal guide number calculations. The guide numbers at ISO100 film speed are for metres and (feet):

- Reflector in **N** position: 40 (132)
- Reflector in **W** position: 33 (110)

Power supply

The D-FLASH 40 can be used with three different power supply sources:

- Battery cassette (delivery item) for Alkaline batteries or Rechargeable NiCd-batteries
- External battery pack SUNPAK TR-Pak II (accessory)

When the included battery cassette is used, the power switch (16) should be set to the "BATT" position (fig. 12).

When the external battery pack TR-PAK II is used the power switch (16) should be set to the "EXT" position (fig. 17).

Battery cassette (fig's 7 – 9)

The battery cassette included with the flash requires 6 pcs size AA batteries. Alkaline or rechargeable NiCd batteries are recommended. Batteries are not included.

SUNPAK TR-PAK II (fig's 17, 18)

The SUNPAK TR-PAK II contains 6 pcs NiCd rechargeable batteries with a total energy capacity of 2000 mAh. A new pack or new batteries should be charged for 14 hours before being used for the first time and charged again when the recharging

time between flashes exceeds 15 s.

USE ONLY THE RECHARGE UNIT SUPPLIED WITH THE TR-PAK II!

NOTE: When using the D-FLASH 40 with external battery pack and firing full power flashes at intervals shorter than 10 seconds, the flash tube becomes very warm. You must then allow the flash unit to cool off for at least 10 minutes after every 15 flashes.

Maintenance and storage

The D-FLASH 40 operates with very high voltages. Never open or disassemble it!

Do not expose the flash unit to wet conditions. If it gets wet, wipe it dry immediately using a soft cloth.

Do not store the flash unit in a hot or humid environment.

To maintain the flash condenser in optimal condition while the flash unit is not being used frequently, it should be switched on until the "READY" light comes on and then switched off again. This procedure should be repeated every 6 months.

If the flash is not to be used for 2 – 3 weeks the batteries should be removed.

The TTL connection should only be used on Hasselblad cameras with a TTL flash control system.

Never lift or carry the camera by the flash!

Adjusted film speed setting

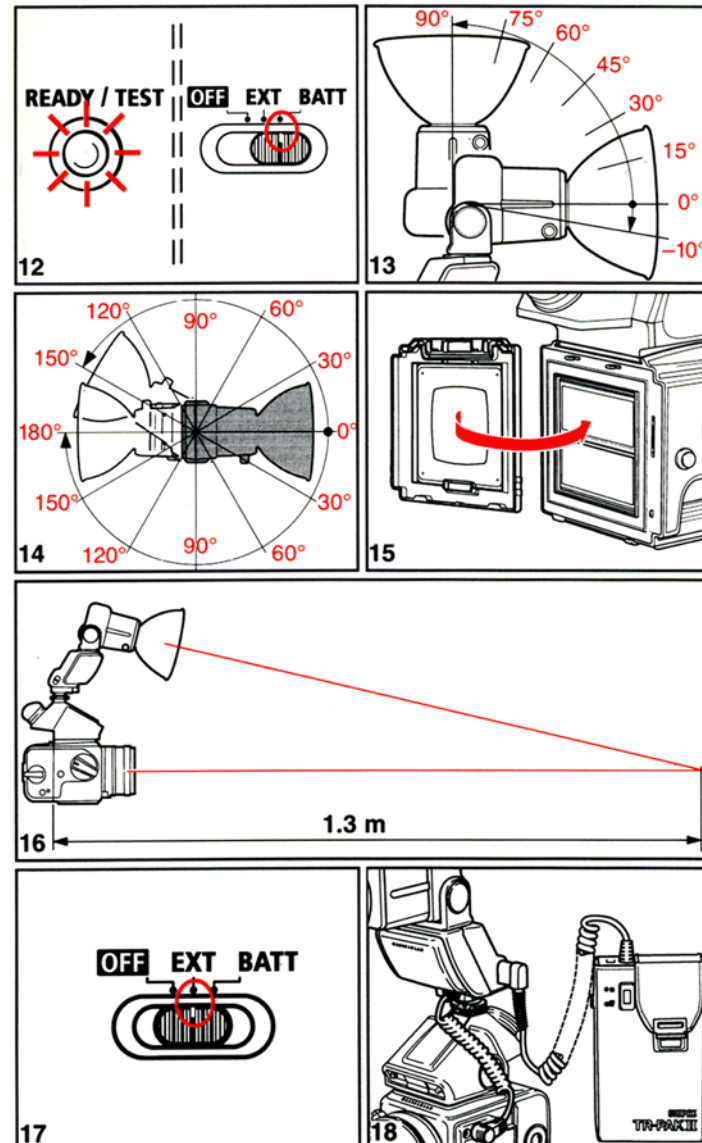
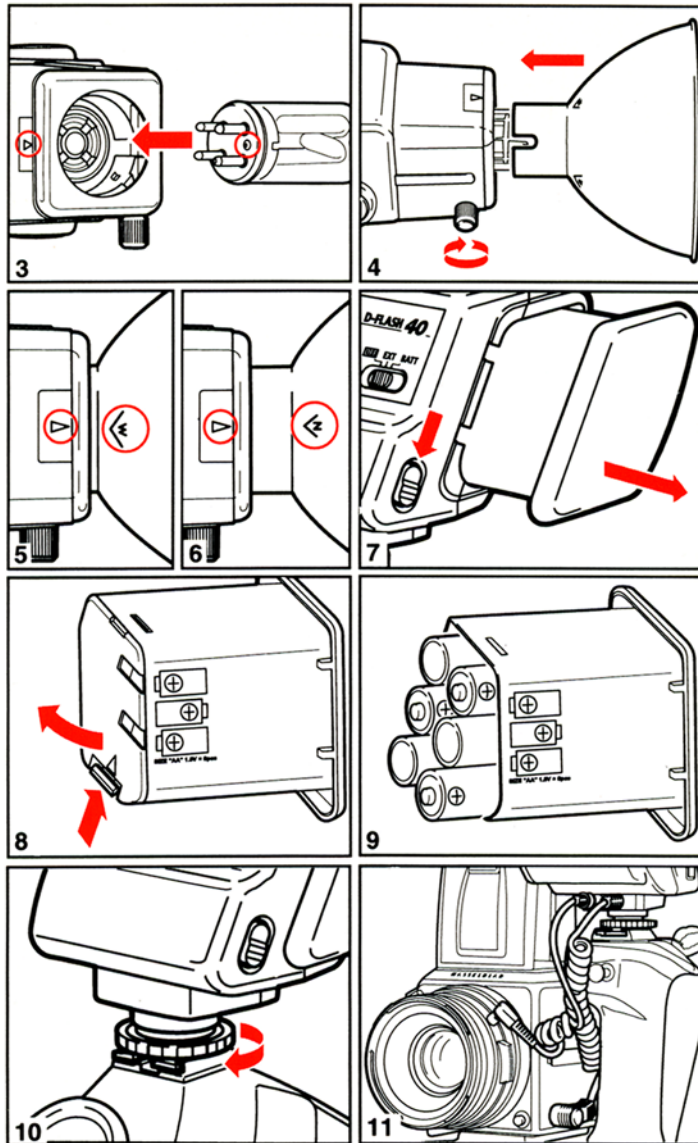
The TTL flash control system metres the light reflected off the film surface (OTF). It is calibrated for the reflectance characteristics of a standard surface, such as the Hasselblad Test Plate. Different film types and brands have different reflecting properties, that may cause incorrect exposures. These differences are most easily corrected for by adjusting the film speed setting. To obtain a correct exposure with a TTL flash control system it is therefore vital to make these adjustments. The table on page 43 shows the film speed, marked on the film package, and the adjusted film speed to be used as setting for the TTL flash system.

In the table the first column shows the manufacturers film designation, the second column the film speed as it is marked on the film or the film package. The following columns show the adjusted film speed to be set with the film speed selector on the 201F, 503 and 553 model cameras or on the E-type film magazine alt. in Pr mode on the 203 and 205 model cameras.

Flash illumination range

The chart below shows the approximate flash range in metres and (feet) for the reflector positions **W** and **N** with different apertures at a film speed of ISO100.

	2	2.8	4	5.6	8	11	16	22	32
N	20 (66)	14 (46)	10 (33)	7 (23)	5 (17)	3.5 (12)	2.5 (8)	2 (6.5)	1.5 (5)
W	16.5 (54)	12 (39)	8.5 (28)	6 (20)	4 (13)	3 (10)	2 (6.5)	1.5 (5)	1 (3.3)



Technical specifications D-FLASH 40

Guide number for metres and (feet):

Reflector in Normal "N" position	40	(137)
Reflector in Wide-angle "W" position	33	(110)

Illumination angle:

"N" position	45°
"W" position	63°
"Bare-Bulb" condition	360°

Flash duration: 1/600 - 1/8000 sec.

Number of flashes and recharge time between flashes:

Fully charged batteries

	Number	Time
6 pcs AA Alkaline batteries	1200 - 120	0.3 - 13 sec.
6 pcs AA NiCd batteries	450 - 45	-0.3 - 8 sec.
SUNPAK TR-PAK II	2250 - 270	0.3 - 2 sec.

Colour temperature: Adjusted to daylight film

Dimensions:

w/o reflector & tube	L 140 x W 76 x H 160 mm (5 1/2 x 3 x 6 5/16 in.)
w. reflector & tube	L 210 x W 120 x H 180 mm (8 1/4 x 4 3/4 x 7 1/16 in.)

Weight (w/o batteries): 610 g (22 oz.)

ISO (ASA)				
	Nom.	503/553	205FCC/203FE	201F
Kodak				
Tri-X 400	400	400	250	250
TRi-X prof. 320	320	320	200	200
TMAX 400	400	500	500	400
TMAX 100	100	100	80	80
Plus-X Pan 125	125	160	100	125
Vericolor 160 VPS	160	125	125	125
Vericolor 100 VHC	100	100	100	80
Ektacolor Gold II 160 GPF	160	160	125	100
Gold GB 200	200	200	160	160
Ektachrome EPL 400X	400	500	500	400
Ektachrome EPP 100	100	100	64	80
Ektachrome EPN 100	100	100	80	80
Ektachrome EPR 64	64	80	64	64
Panther 400X	400	500	500	400
Panther 100	100	64	80	64
Ilford				
HP5 plus 400	400	400	320	320
FP4 plus 125	125	125	80	80
XP2 400	400	400	400	320
Fuji				
Fujicolor Super G 400	400	400	320	250
Fujicolor Super G 100	100	100	64	64
Fujicolor NPS 160	160	160	100	100
Fujicolor NHG 400	400	400	320	200
Fujicolor Reala 100	100	100	64	64
Fujichrome 400D RHP	400	500	400	320
Fujichrome Provia 400 RHP	400	500	500	320
Fujichrome Provia 100 RDP II	100	100	80	80
Fujichrome Velvia 50 RVP	50	50	50	40
Agfa				
Portrait 160	160	125	100	80
Optima 125	125	100	64	64
Agfachrome RS 200	200	250	200	160
Agfachrome RS 100 plus	100	100	80	80
Agfachrome RS 50 plus	50	80	80	64