HASSELBLAD®

PRODUCT CATALOG

1983/84

PCP80

22, 23

PME RM
PM NC-2/100

12

16 **15** **16**

50 80
110 150
250
140–280

9 F-lenses

Ø 50
Ø 70
Ø 93

18 **17**

Step up Ø 60–Ø 70

A12
A16
A16S
A24
70
70/100-200

11

SWC/M 2000FC/M

500C/M

500EL/M

8
16
32
56

14

6,7,8 CF-lenses

30 40
50 60
80 100 105
120 135
150 250
350
500

Ø 26
Ø 60

18 **17**

Ø 93

Step up Ø 50–Ø 60

19

13

20, 21 **24**

15,16

30 40
50 60
80 100 105
120 135
150 250
350
500
140–280
250 Sa

10 C-lenses

Ø 26
Ø 104
Ø 63
Ø 50

18 **17**

Ø 86

Ø 93
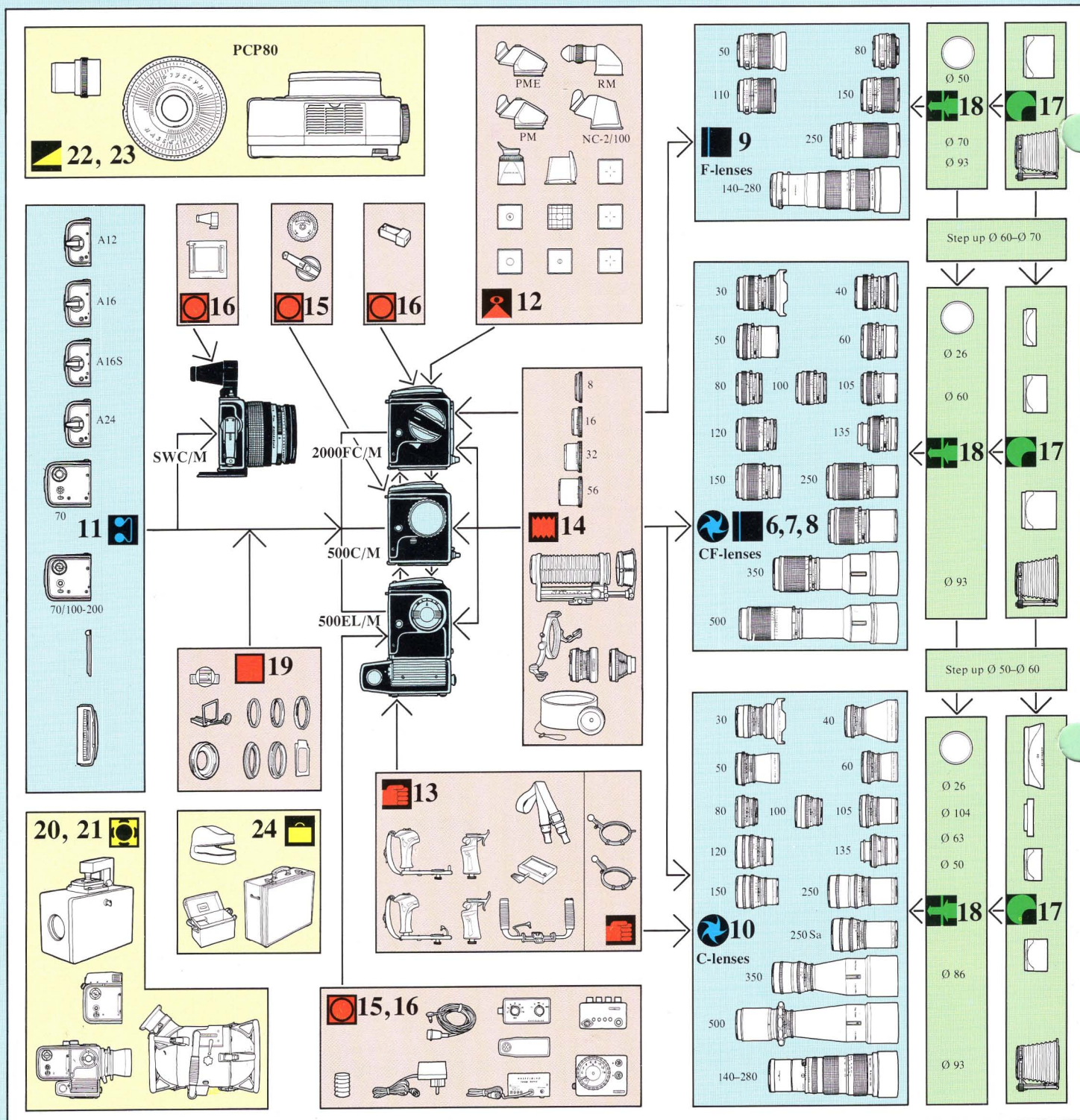
The catalog's table of contents follows the grouping of Hasselblad cameras, projector, and accessories. The products are arrayed in groups with symbols, and relationships are designated with arrows. The main groups are color-coded, both in the overview above and inside the catalog. Blue is for the components which jointly form a complete camera, green is for lens accessories, red is for other interchangeable accessories, and yellow is for special-purpose products.

The Hasselblad System

The Hasselblad system comprises equipment for superlative photography. It's a camera and projector system representing the ultimate in precision and dependability. With more than three hundred components, the system offers the photographer options for tackling every conceivable photographic situation. That is why the Hasselblad is the choice of professional photographers and advanced amateurs all over the world, in space, on land, and beneath the sea. A system with maximum interchangeability is the concept behind the Hasselblad system. This means that the various camera models, no matter when they were made, accept the system's accessories almost without exception. That is why a Hasselblad retains its value over the years and represents an investment that really pays off in the long run. Photographers who trade up through various camera systems and become familiar with their pros and cons usually end up picking a Hasselblad.

The latest addition to the ever-expanding Hasselblad system of cameras, lenses, and accessories is an important new item; a slide projector and accessories for the $2^1/_4 \times 2^1/_4$ format. The Hasselblad PCP80—a professional projector with truly unique features! It will enable photographers to project their Hasselblad transparencies with Hasselblad quality for the first time.

A new lens series, the CF series, will gradually supersede the older C series lenses. Thanks to uniform functional design, the new lenses are easier to work with. They can also be used with leaf shutter (C) or focal plane shutter (F) operation. There are 21 Hasselblad lenses in focal lengths from 38 mm to 500 mm. Lens shades, filters, Softars, and Proxars are being introduced for the new lenses. A number of new step-up rings make it possible to use accessories on lens accessory mounts of varying sizes. So a new Professional lens shade and a macro flash holder also fit CF, F, and C lenses.

The catalog layout has been completely revised. The idea is to make it easier for photographers to quickly find the various components in the Hasselblad system. The catalog starts with the camera bodies—the heart of the system—and continues with the various combination options, clarified with the aid of symbols and colors. We hope this new catalog will provide a better picture of the comprehensive Hasselblad system.

10170
10022
30074
10022
20029
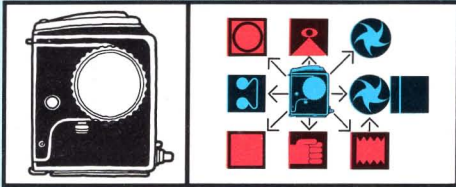
Hasselblad 500C/M

The Hasselblad 500C/M is the cornerstone of the system. It is a 2¼×2¼ single-lens mirror reflex camera with a unique mechanical design. An all-round camera renown for its rugged, workhorse reliability, even under demanding conditions. The camera body, an interchangeable lens, and a film magazine jointly form a complete camera. These main components are now only sold separately.

The Hasselblad 500C/M camera body accepts interchangeable viewfinders and focusing screens, interchangeable devices for film winding and shutter cocking, and it incorporates a system to prevent unintentional double exposure. It also has a pre-release mode and an accessory rail for e.g. a sports viewfinder or a spirit level. A tripod plate with a ³/₈″ tripod thread facilitates attachment of the camera to a tripod.

HASSELBLAD 500C/M CAMERA BODY
The camera body is available with chrome or black trim and supplied without a lens or film magazine. Weight: 1 lb 5 oz (580 g).

10022 500C/M camera body, chrome, is supplied with the following equipment:
44024 Standard winding knob
42021 Standard focusing hood, chrome trim
42161 Standard focusing screen
49018 Neck strap
51438 Front protective cover
51063 Rear protective cover

10170 500C/M camera body, black, is supplied with the same equipment as the 10022 above, but with a black-trim version of the standard focusing hood 42277.

Compose a Hasselblad 500C/M to suit your photographic needs. The camera accepts the following lenses, film magazines, and other accessories. These items are described in greater detail elsewhere in this catalog under their respective headings and symbols.

CF LENSES
20177 30mm Distagon CF f/3.5
20037 40mm Distagon CF f/4
20045 50mm Distagon CF f/4
20207 60mm Distagon CF f/3.5
20029 80mm Planar CF f/2.8
20126 100mm Planar CF f/3.5
20134 105mm UV-Sonnar CF f/4.3
20053 120mm Makro-Planar CF f/4
20118 135mm Makro-Planar CF f/5.6
20061 150mm Sonnar CF f/4
20080 250mm Sonnar CF f/5.6
20193 250mm Sonnar CF Superachromat f/5.6
20185 350mm Tele-Tessar CF f/5.6
20088 500mm Tele-Apotessar CF f/8

C LENSES
20176 30mm F-Distagon C f/3.5
20036 40mm Distagon C f/4
20044 50mm Distagon C f/4
20206 60mm Distagon C f/3.5
20028 80mm Planar C f/2.8
20125 100mm Planar C f/3.5
20133 105mm UV-Sonnar C f/4.3
20052 120mm S-Planar C f/5.6
20117 135mm S-Planar C f/5.6
20060 150mm Sonnar C f/4
20079 250mm Sonnar C f/5.6
20192 250mm Sonnar C Superachromat f/5.6
20184 350mm Tele-Tessar C f/5.6
20087 500mm Tele-Tessar C f/8
20214 140–280mm Variogon C f/5.6
(C lenses will ultimately be phased out)

FILM MAGAZINES
30074 Film magazine A12 (chrome)
30147 Film magazine A12 (black)
30082 Film magazine A16 (chrome)
30155 Film magazine A16 (black)
30090 Film magazine A16S (chrome)
30163 Film magazine A16S (black)
30104 Film magazine A24 (chrome)
30171 Film magazine A24 (black)
30066 Film magazine 70 (chrome)
30139 Film magazine 70 (black)
30201 Film magazine 70/100–200 (chrome)
30228 Film magazine 70/100–200 (black)
30198 Magazine 100 for Polaroid film
41017 Sheet film adapter

VIEWFINDERS AND FOCUSING SCREENS
42293 Meter prism finder PME
42307 Prism viewfinder PM
52028 Prism viewfinder NC-2/100
52086 Reflex viewfinder RM
52094 Magnifying hood

42188 Focusing screen with split-image rangefinder
42234 Focusing screen with central grid
42218 Focusing screen with central grid and split-image rangefinder
42250 Checked focusing screen with central grid
42285 Fine-line focusing screen
42200 Plain glass screen

GRIPS, HOLDERS, AND STRAPS
45071 Flashgun bracket for 500C/M and 2000FC
45047 Pistol grip for 500C/M and 2000FC
45128 Tripod quick-coupling
46140 Carrying strap
59080 Wide camera strap

CLOSE-UP AND COPYING ACCESSORIES
40517 Automatic bellows extension
40649 Extension tube 8
40541 Extension tube 16
40568 Extension tube 32
40657 Extension tube 56
51657 Macro flash bracket, Ø 50–Ø 70
40185 Linear mirror unit
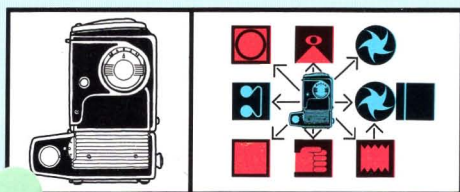40045 Microscope adapter

SPECIAL ACCESSORIES FOR THE 500C/M
54011 Knob with exposure meter
44040 Rapid-winding crank

MISCELLANEOUS ACCESSORIES
43028 Sports viewfinder
43125 Adjustable flash-shoe
43117 Spirit level

10219
10065
30074
10065
20029

⚡ ✿ Hasselblad 500EL/M

The Hasselblad 500EL/M is the motorized camera in the system. It is a single-lens mirror reflex camera with a built-in motor. The film is automatically advanced, the shutter cocked, the mirror flipped down, and the mirror image restored after each exposure. This expands the photographer's creative freedom, since the 500EL/M enables him to devote all his attention to his subject. An efficient camera capable of sequential exposures at the rate of about 70 frames a minute and designed for convenient remote control operation. The obvious choice for portrait, fashion, advertising, sports, and wildlife photography. An obvious choice even for industrial, scientific, and security applications. The camera body, an interchangeable lens, and a film magazine jointly form a complete camera. These main components are now only sold separately.

The Hasselblad 500EL/M camera body accepts interchangeable viewfinders and focusing screens and has a built-in system to prevent unintentional double exposure. There is an accessory rail and release sockets for attachment of special accessories on the camera body. The motor is powered by one or two rechargeable batteries, each of which good for about 1,000 exposures. A battery and recharger are included. A tripod plate with a 3/8″ tripod thread facilitates attachment of the camera to a tripod.

HASSELBLAD 500EL/M CAMERA BODY
The camera body is available with chrome or black trim and is supplied without a lens or film magazine. Weight: 2 lb 8 oz (1140 g) incl. one battery.

10065 500EL/M camera body, chrome, is supplied with the following equipment:

42021 Standard focusing hood, chrome
42161 Standard focusing screen
56022 Recharge unit

56081 Battery (1)
51438 Front protective cover
51063 Rear protective cover
46140 Carrying strap
56111 Fuses (2)
46159 Key disc
46175 Socket cap
46116 Release button
46043 Release cord FK 30

10219 500EL/M camera body, black, is supplied with the same equipment as the 10065 above but with a black-trim version of the standard focusing hood 42277.

Compose a Hasselblad 500EL/M to fit your photographic needs. The camera accepts the following items, which are described in greater detail under their respective headings and symbols.

✿ ■ CF LENSES
20177 30mm Distagon CF f/3.5
20037 40mm Distagon CF f/4
20045 50mm Distagon CF f/4
20207 60mm Distagon CF f/3.5
20029 80mm Planar CF f/2.8
20126 100mm Planar CF f/3.5
20134 105mm UV-Sonnar CF f/4.3
20053 120mm Makro-Planar CF f/4
20118 135mm Makro-Planar CF f/5.6
20061 150mm Sonnar CF f/4
20080 250mm Sonnar CF f/5.6
20193 250mm Sonnar CF Superachromat f/5.6
20185 350mm Tele-Tessar CF f/5.6
20088 500mm Tele-Apotessar CF f/8

✿ C LENSES
All Hasselblad C lenses fit the 500EL/M (see p. 10). (C lenses will ultimately be phased out.)

▣ FILM MAGAZINES
30074 Film magazine A12 (chrome)
30147 Film magazine A12 (black)
30082 Film magazine A16 (chrome)
30155 Film magazine A16 (black)
30090 Film magazine A16S (chrome)
30163 Film magazine A16S (black)
30104 Film magazine A24 (chrome)
30171 Film magazine A24 (black)
30066 Film magazine 70 (chrome)
30139 Film magazine 70 (black)

30201 Film magazine 70/100–200 (chrome)
30228 Film magazine 70/100–200 (black)
30198 Magazine 100 for Polaroid film
41017 Sheet film adapter

▣ VIEWFINDERS AND FOCUSING SCREENS
42293 Meter prism finder PME
42307 Prism viewfinder PM
52028 Prism viewfinder NC-2/100
52086 Reflex viewfinder RM
52094 Magnifying hood
42188 Focusing screen with split-image rangefinder
42234 Focusing screen with central grid
42218 Focusing screen with central grid and split-image rangefinder
42250 Checked focusing screen with central grid
42285 Fine-line focusing screen
42200 Plain glass screen

▤ GRIPS, HOLDERS, AND STRAPS
46329 Flashgun bracket for 500EL/M
46221 Pistol grip for 500EL/M
46132 Double handgrip for 500EL/M
45128 Tripod quick-coupling
59080 Wide camera strap

▥ CLOSE-UP AND COPYING ACCESSORIES
40517 Automatic bellows extension
40649 Extension tube 8
40541 Extension tube 16
40568 Extension tube 32
40657 Extension tube 56
51657 Macro flash bracket, Ø 50–Ø 70
40185 Linear mirror unit
40045 Microscope adapter

▢ SPECIAL ACCESSORIES FOR THE 500EL/M
56103 Recharge unit III
46337 Battery compartment 3
46302/46310 Power supply unit
46272 Intervalometer III
56138 Command unit
      Connecting cords
      Release cords

▢ MISCELLANEOUS ACCESSORIES
43028 Sports viewfinder
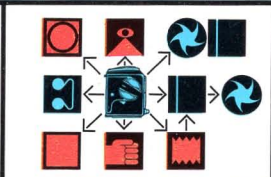43125 Adjustable flash-shoe
43117 Spirit level

10332
10316
30074
10316
20400

Hasselblad 2000FC/M

The Hasselblad 2000FC/M complements the other cameras in the system but it also represents a major step forward. It is a 2¹/₄×2¹/₄ single-lens mirror reflex camera with an electronically controlled focal plane shutter with speeds from 1 to 1/2000 s. Its top speed makes it the fastest medium-format camera in the world. The shutter is synchronized for flash at 1/90 s. It has an easily reset safety device which keeps the shutter retracted during magazine changes.

The camera delivers a non-vignetting viewfinder image with all the Hasselblad lenses, and its mirror operates in a number of switchable mirror modes; instant return, return when the shutter is cocked or the mirror locked in the raised position.

The camera body, an interchangeable lens, and a film magazine jointly form a complete camera. These main components are now only sold separately.

The Hasselblad 2000FC/M has interchangeable viewfinders and focusing screens. A system to prevent unintentional double exposure, a pre-release latch, and an accessory rail for e.g. a sports viewfinder or a spirit level are other features. A tripod plate with a ³/₈″ tripod thread facilitates attachment of the camera to a tripod. Battery type: PX28.

HASSELBLAD 2000FC/M CAMERA BODY

2000FC/M camera body without a lens or film magazine. Available with chrome trim or black trim. Weight: 1 lb 8 oz (680 g).

10316 2000FC/M camera body, chrome, is supplied with the following equipment:

42021 Standard focusing hood, chrome
42161 Standard focusing screen
49018 Neck strap
51438 Front protective cover
51063 Rear protective cover

10332 2000FC/M camera body, black, is supplied with the same equipment as the 10316 above, but with the black-trim version of the standard focusing hood 42277.

Compose a Hasselblad 2000FC/M to fit your photographic needs. The camera accepts the following lenses, film magazines, and other accessories. These items are described in greater detail elsewhere in this catalog under their respective headings and symbols.

F LENSES

20427 50mm Distagon F f/2.8
20400 80mm Planar F f/2.8
20419 110mm Planar F f/2
20435 150mm Sonnar F f/2.8
20478 250mm Tele-Tessar F f/4
20443 140–280mm Variogon F f/5.6

CF LENSES

20177 30mm Distagon CF f/3.5
20037 40mm Distagon CF f/4
20045 50mm Distagon CF f/4
20207 60mm Distagon CF f/3.5
20029 80mm Planar CF f/2.8
20126 100mm Planar CF f/3.5
20134 105mm UV-Sonnar CF f/4.3
20053 120mm Makro-Planar CF f/4
20118 135mm Makro-Planar CF f/5.6
20061 150mm Sonnar CF f/4
20080 250mm Sonnar CF f/5.6
20193 250mm Sonnar CF Superachromat f/5.6
20185 350mm Tele-Tessar CF f/5.6
20088 500mm Tele-Apotessar CF f/8

C LENSES

All Hasselblad C lenses fit the 2000FC/M (see p. 10). (C lenses will ultimately be phased out.)

FILM MAGAZINES

30074 Film magazine A12 (chrome)
30147 Film magazine A12 (black)
30082 Film magazine A16 (chrome)
30155 Film magazine A16 (black)
30090 Film magazine A16S (chrome)
30163 Film magazine A16S (black)
30104 Film magazine A24 (chrome)
30171 Film magazine A24 (black)
30066 Film magazine 70 (chrome)

30139 Film magazine 70 (black)
30201 Film magazine 70/100–200 (chrome)
30228 Film magazine 70/100–200 (black)
30198 Magazine 100 for Polaroid film
41017 Sheet film adapter

VIEWFINDERS AND FOCUSING SCREENS

42293 Meter prism finder PME
42307 Prism viewfinder PM
52028 Prism viewfinder NC-2/100
52086 Reflex viewfinder RM
52094 Magnifying hood

42188 Focusing screen with split-image rangefinder
42234 Focusing screen with central grid
42218 Focusing screen with central grid and split-image rangefinder
42250 Checked focusing screen with central grid
42285 Fine-line focusing screen
42200 Plain glass screen

GRIPS, HOLDERS, AND STRAPS

45071 Flashgun bracket for 500C/M and 2000FC
45047 Pistol grip for 500C/M and 2000FC
45128 Tripod quick-coupling
46140 Carrying strap
59080 Wide camera strap

CLOSE-UP AND COPYING ACCESSORIES

40517 Automatic bellows extension
40541 Extension tube 16
40568 Extension tube 32
40657 Extension tube 56
51657 Macro flash bracket, Ø 50–Ø 70
40185 Linear mirror unit
40045 Microscope adapter

SPECIAL ACCESSORY FOR THE 2000FC/M

43176 Shutter speed multiplier

MISCELLANEOUS ACCESSORIES

43028 Sports viewfinder
43125 Adjustable flash-shoe
43117 Spirit level

10198

10050

HASSELBLAD

10050 (chrome)
Camera body
SWC/M

30074

10050
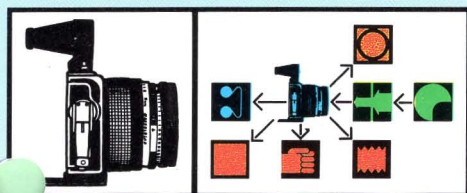
Hasselblad SWC/M

The Hasselblad SWC/M is a wide-angle camera which differs from the other cameras in the Hasselblad system by having a permanently attached lens and an optical viewfinder with a built-in spirit level.

The 38mm f/4.5 Zeiss Biogon CF is an uncompromising design yielding a diagonal angle of view of 90° and displaying exceptional correction of distortion. The lens has now been revamped and equipped with comfortable grip rings, a focusing scale in feet and meters, and independently operating shutter and diaphragm rings that can be cross-coupled with a button. The lens has the same Ø 60 accessory mount as most of the other CF lenses.

The camera body with a permanently attached lens plus a film magazine jointly form a complete camera. These two main components are now sold separately.

The Hasselblad SWC/M camera body with its lens has an optical viewfinder with a spirit level, a shutter release on top of the camera body, and a crank for film advance and shutter cocking. A tripod plate with a ³/₈″ and a ¹/₄″ tripod thread facilitates attachment of the camera to a tripod.

Zeiss 38mm Biogon CF f/4.5 T*

Max. aperture	f/4.5
Focal length	38 mm
Diaphragm	f/4.5–22
Angle of view, diagonal	90°
horizontal	72°
of elements	8
using range	11³/₄ in (0.3 m)–∞

HASSELBLAD SWC/M CAMERA BODY

SWC/M camera body with a fixed lens and a viewfinder, but without a film magazine. Available with chrome trim or black trim. Weight: 2 lb 2 oz (960 g).

10050 SWC/M camera body, chrome, is supplied with the following equipment:

52035 Viewfinder
49018 Neck strap
51643 Front lens cap, Ø 60
51063 Rear protective cover

10198 SWC/M camera body, black, is supplied with the same equipment as the 10050 above.

Compose a Hasselblad SWC/M to fit your photographic needs. The camera accepts the following lenses, film magazines, and other accessories. These items are described in greater detail elsewhere in this catalog under their respective headings and symbols.

FILM MAGAZINES

30074 Film magazine A12 (chrome)
30147 Film magazine A12 (black)
30082 Film magazine A16 (chrome)
30155 Film magazine A16 (black)
30090 Film magazine A16S (chrome)
30163 Film magazine A16S (black)
30104 Film magazine A24 (chrome)
30171 Film magazine A24 (black)
30066 Film magazine 70 (chrome)
30139 Film magazine 70 (black)
30201 Film magazine 70/100–200 (chrome)
30228 Film magazine 70/100–200 (black)
30198 Magazine 100 for Polaroid film
41017 Sheet film adapter

GRIPS, HOLDERS, AND STRAPS

45128 Tripod quick-coupling
46140 Carrying strap
59080 Wide camera strap

CLOSE-UP AND COPYING ACCESSORY

51657 Macro flash bracket, Ø 50–Ø 70

SPECIAL ACCESSORY FOR THE SWC/M

41025 Focusing screen adapter

LENS SHADES

40668 Lens shade Ø 60/38–60
40676 Professional lens shade, Ø 50–Ø 70

FILTERS

Ø 60

MISCELLANEOUS ACCESSORIES

40681 Lens mounting ring, Ø 60
40690 Holder for gelatin filters, Ø 50–Ø 70
40714 Step-up ring, Ø 60–Ø 70
51638 Filter adapter ring, Ø 60–Ø 63

20177
20037
20045
20207

Lenses

CF Wide-Angle Lenses

Lenses are the second main component in the Hasselblad system. The normal 80mm focal length, i.e. the f/2.8 Planar, is the lens usually selected for a basic camera. But the Hasselblad photographer has a choice of 15 different focal lengths from 30 mm to 500 mm. All the Hasselblad lenses, except two, are made by Carl Zeiss, West Germany.

There are three series of Hasselblad lenses. The new CF lenses for the 500C/M, 500EL/M, and 2000FC/M constitute the main series. They represent a refinement of the C lenses. The F series lenses are for use in conjunction with the 2000FC/M's focal plane shutter. The C series lenses will gradually be phased out. Accessories such as filters, lens shades, close-up lenses, adapter rings, and lens caps are available for the lenses. The lens tables show which accessories fit which lenses. These accessories are described in greater detail elsewhere in this catalog under their respective headings and symbols.

Hasselblad CF lenses *for the 500C/M, 500EL/M, and 2000FC/M have comfortable, ergonomically designed grip rings and controls. The elements have six-layer T* multicoating. The built-in leaf shutter (the Prontor) in this series is synchronized for electronic flash at all shutter speeds, 1–1/500 s. The lens also features a manual and automatic diaphragm, a distance scale in feet and meters, and an exposure value scale. The shutter speed and diaphragm rings operate independently but can be cross-coupled with a button.*

CF 30–60mm wide-angle lenses

These short focal length Distagon lenses have angular fields from an extreme 180° ("fish-eye") to 66°, close to the field covered by the normal lens.

20177 Zeiss Distagon CF f/3.5 30 mm T*

This Hasselblad "fish-eye" lens covers the entire $2^1/_4 \times 2^1/_4$ format with corner-to-corner sharpness, even with the lens wide open. Supplied in a leather case with three filters, a yellow 50636, an orange 50644, a 50652 conversion filter for using daylight-type film in artificial light, and a neutral glass 50660.

20037 Zeiss Distagon CF f/4 40 mm T*

This optic has a powerful wide-angle effect with an 88° diagonal angle of view. It is much lighter and shorter than its predecessor, the 40mm Distagon C, and features floating element design. It is supplied with a Ø 93 lens shade, which also serves as a filter holder, and front and rear lens caps which can be used with or without an attached lens shade.

20045 Zeiss Distagon CF f/4 50 mm T*

This moderate wide-angle lens has a 75° diagonal angle of view. The design is extremely compact and the lens displays superlative resolution, contrast, and field illumination.

20207 Zeiss Distagon CF f/3.5 60 mm T*

This optic has the advantages of the wide-angle lens, i.e. the short lens-to-subject distance and the wide depth of field, without its 66° diagonal angle of view yielding a marked wide-angle effect.

CF Wide-angle lenses	30mm Distagon CF	40mm Distagon CF	50mm Distagon CF	60mm Distagon CF
Max. aperture	f/3.5	f/4	f/4	f/3.5
Focal length	30 mm	40 mm	50 mm	60 mm
Diaphragm	f/3.5–f/22	f/4–22	f/4–22	f/3.5–22
Angle of view, diagonal/horizontal	180°/112°	86°/67°	75°/57°	67°/50°
No. of elements	9 T*	11 T*	7 T*	7 T*
Focusing range	12 in (0.3 m)–∞	19 in (0.5 m)–∞	19 in (0.5 m)–∞	24 in (0.6 m)–∞
Weight	3 lb 14 oz (1365 g)	2 lb $^1/_4$ oz (915 g)	1 lb 12 oz (795 g)	1 lb 8 oz (680 g)
Length	$4^5/_8$ in (117.5 mm)	4 in (102 mm)	$3^7/_8$ in (98 mm)	$3^1/_4$ in (83 mm)
Accessories included	[1])	[2])		
Front lens cap	51659	51651/51654	51643	51643
Rear lens cap	50377	50377	50377	50377
Filters	Ø 26	Ø 93	Ø 60	Ø 60
Close-up lenses (Proxars)			Ø 60	Ø 60
Lens shades		40693[2])	40668	40668
Professional lens shade			40676	40676
Miscellaneous accessories				
Lens mounting ring			40681	40681
Holder for gelatin filters			40690	40690
Step-up ring			40714	40714

[1]) Delivered in case 58157 and with all Ø 26 filters   [2]) Supplied with lens shade Ø 93/40 40693

20029   20126   20134   20053   20118

CF Normal and Special-Purpose Lenses
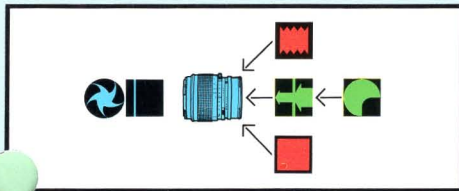
CF 80–135mm normal and special-purpose lenses

Normal focal length Planar lenses, the special-purpose Makro-Planar for close-up photography, and the UV-Sonnar for photography in the ultraviolet part of the spectrum.

20029 Zeiss Planar CF f/2.8 80 mm T*

The normal Hasselblad lens. A classic lens design yielding outstanding performance. The relatively fast maximum aperture of f/2.8 facilitates photography in poor lighting and results in a bright viewfinder image.

20126 Zeiss Planar CF f/3.5 100 mm T*

This lens was especially developed for the Hasselblad and designed to provide an optimum relationship between lens speed and focal length in a top-performance lens.

20134 Zeiss UV-Sonnar CF f/4.3 105 mm

A special-purpose lens for photography within the ultraviolet part of the spectrum. It is sensitive to radiation from 215 nm to 700 nm (2150–7000 Å), i.e. from short-wave ultraviolet via visible light to the initial part of the infrared range. The lens can be focused for ultraviolet in visible light without any loss of sharpness.

20053 Zeiss Makro-Planar CF f/4 120 mm T*

A special-purpose lens especially suitable for close-up photography. Its maximum aperture is f/4, a full stop faster than its predecessor, the 120mm S-Planar C. This is important when the lens is used with long extension, and light fall-off may make it difficult to focus the lens.

20118 Zeiss Makro-Planar CF f/5.6 135 mm T*

A special-purpose lens which must be used in conjunction with a Hasselblad automatic bellows extension. It cannot be directly attached to the camera body. It is primarily a close-up lens, but is excellent for all applications. A 1:1 scale of reproduction is obtained at the longest bellows draw of 8 in (202 mm). Distances out to infinity are accessible at the shortest bellows draw of 2.5 in. (63.5 mm).

CF Normal and special-purpose lenses	80mm Planar CF	100mm Planar CF	105mm UV-Sonnar CF	120mm Makro-Planar CF	135mm Makro-Planar CF
Max. aperture	f/2.8	f/3.5	f/4.3	f/4	f/5.6
Focal length	80 mm	100 mm	105 mm	120 mm	135 mm
Diaphragm	f/2.8–f/22	f/3.5–22	f/4.3–32	f/4–32	f/5.6–45
Angle of view, diagonal/horizontal	52°/38°	42°/30°	40°/29°	37°/25°	32°/23°
No. of elements	7 T*	5 T*	7	6 T*	7 T*
Focusing range	3 ft (0.9 m)–∞	3 ft (0.9 m)–∞	6 ft (1.8 m)–∞	2.6 ft (0.8 m)–∞	—
Weight	1 lb 2 oz (510 g)	1 lb 5¼ oz (605 g)	1 lb 10½ oz (750 g)	1 lb 8½ oz (695 g)	1 lb 6 oz (625 g)
Length	2⁹/₁₆ in (65 mm)	2¹⁵/₁₆ in (75 mm)	3⁹/₁₆ in (91 mm)	3⁷/₈ in (99 mm)	3⁷/₁₆ in (87 mm)
Accessories included					
Front lens cap	51643	51643	51643	51643	51643
Rear lens cap	50377	50377	50377	50377	50571
Filters	Ø 60	Ø 60	Ø 60	Ø 60	Ø 60
Close-up lenses (Proxars)	Ø 60	Ø 60	Ø 60	Ø 60	Ø 60
Lens shades	40670	40673	40673	40673	40673
Professional lens shade	40676	40676	40676	40676	40676
Miscellaneous accessories					
Lens mounting ring	40681	40681	40681	40681	40681
Holder for gelatin filters	40690	40690	40690	40690	40690
Step-up ring	40714	40714	40714	40714	40714

20080 · 20193 · 20061 · 20185 · 20088

CF Telephoto Lenses

CF 150–500 mm Telephoto lenses

The Sonnar and Tessar lenses combine long focal lengths with a compact design. These nicely balanced optics are light enough to be used hand-held at fast shutter speeds.

20061 Zeiss Sonnar CF f/4 150 mm T*

This lens yields a moderate but still unmistakable telephoto effect, i.e. shallow depth of field and compressed perspective. A popular lens for portraits and many other applications.

20080 Zeiss Sonnar CF f/5.6 250 mm T*

This lens has a pronounced telephoto effect but remains compact and easy to work with. Excellent for tightly framed shots without crowding the subject. The optic's shallow depth of field can be used to throw an extraneous background out of focus.

20193 Zeiss Sonnar CF Superachromat (Sa) f/5.6 250 mm

This special-purpose lens was designed to yield perfect color rendition. This was achieved without sacrificing any correction of distortion or other aberrations. An ideal lens for scientific applications, especially multispectral photography. But it is also useful in many other fields, thanks to its extraordinary correction of lens defects. It works within a spectral range of 400 nm to 1000 nm.

20185 Zeiss Tele-Tessar CF f/5.6 350 mm T*

A telephoto lens of modest dimensions and weight for its focal length. A handy favorite of nature photographers who often use it without a tripod. Supplied in a leather case with a shoulder strap.

20088 Zeiss Tele-Apotessar CF f/8 500 mm T*

This optic has a very pronounced telephoto effect. The Tele-Apotessar is a refinement of the 500mm Tele-Tessar C. It has superior correction for chromatic aberrations, better resolution, and—for the first time in a Hasselblad lens—internal focusing. This means that the length of the lens and its center of gravity do not change when the lens is focused. It features a rail for tripod connection and an attachment for viewfinders. It is supplied in a leather case with a shoulder strap.

CF Telephoto lenses	150mm Sonnar CF	250mm Sonnar CF	250mm Sonnar CF Sa	350mm Tele-Tessar CF	500mm Tele-Apotessar CF
Max. aperture	f/4	f/5.6	f/5.6	f/5.6	f/8
Focal length	150 mm	250 mm	250 mm	350 mm	500 mm
Diaphragm	f/4–32	f/5.6–45	f/5.6–45	f/5.6–45	f/8–64
Angle of view, diagonal/horizontal	28°/20°	17°/12°	17°/12°	12.8°/9.0°	9.0°/6.4°
No. of elements	5 T*	4 T*	6	4 T*	5 T*
Focusing range	4.5 ft (1.4 m)–∞	8.5 ft (2.5 m)–∞	10 ft (3 m)–∞	15 ft (4.5 m)–∞	28 ft (8.5 m)–∞
Weight	1 lb 11³/₄ oz (785 g)	2 lb 3¹/₄ oz (1000 g)	2 lb 2³/₄ oz (985 g)	2 lb 15¹/₂ oz (1350 g)	3 lb 15³/₄ oz (1810 g)
Length	4 in (101 mm)	6³/₁₆ in (164 mm)	6¹/₄ in (158 mm)	8¹⁵/₁₆ in (227 mm)	12¹⁵/₁₆ in (329 mm)
Accessories included				[1]	[2]
Front lens cap	51643	51643	51643	51654	51654
Rear lens cap	50377	50377	50377	50377	50377
Filters	Ø 60	Ø 60	Ø 60	Ø 93	Ø 93
Close-up lenses (Proxars)	Ø 60	Ø 60	Ø 60		
Lens shades	40673	40673	40673	40703[1]	40703[2]
Professional lens shade	40676	40676	40676		
Miscellaneous accessories					
Lens mounting ring	40681	40681	40681		
Holder for gelatin filters	40690	40690	40690		
Step-up ring	40714	40714	40714		

[1] Delivered in case 58378 and with lens shade Ø 93/350–500 40703   [2] Delivered in case 58351 and with lens shade Ø 93/350–500 40703

F Lenses for the 2000FC/M
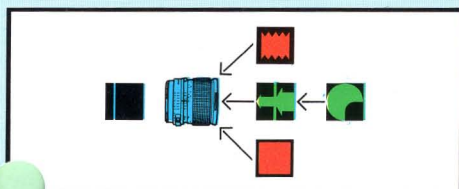
Wide-angle, normal, and telephoto lenses

Hasselblad F lenses *are designed for the Hasselblad 2000FC/M. In contrast to C lenses, the F lenses have no built-in leaf shutters. The F lenses have many external features in common with the CF lenses, features such as ergonomically designed grip rings and controls. High speed and long extension are distinctive features of the F lenses.*

20427 Zeiss Distagon F f/2.8 50 mm T*
Wide-angle lens with floating element design providing outstanding performance across the optic's entire focusing range. This Distagon creates images with exciting perspective at short lens-to-subject distances. Its fast speed makes the viewfinder image bright.

20400 Zeiss Planar F f/2.8 80 mm T*
Normal lens for the Hasselblad 2000FC/M. With no need to incorporate any built-in shutter, the designers were able to reduce the closest focusing point to only 2 ft (0.6 m).

20419 Zeiss Planar F f/2 110 mm T*
A great alternative to the normal lens. Its maximum aperture of f/2 makes it the fastest Hasselblad lens and delivers a viewfinder image twice as bright as f/2.8 of the 80mm Planar F.

20435 Zeiss Sonnar F f/2.8 150 mm T*
A short telephoto lens with a faster speed than its CF counterpart. A popular lens with portrait photographers who appreciate its excellent focusing and the non-vignetting image it delivers.

20478 Zeiss Tele-Tessar F f/4 250 mm T*
A telephoto lens with an unusually high speed for its focal length. An advantage in hand-held shots since it enables you to work with faster shutter speeds. An ideal lens for sports, nature, and portrait photography.

20443 Schneider Variogon F f/5.6 140–280 mm
A genuine Zoom lens covering the range from 140 to 280 mm. Subjects in focus remain in focus even when the focal length is changed. A macro capability yielding a 1:5.5 scale increases the optic's versatility.

F Lenses	50mm Distagon F	80mm Planar F	110mm Planar F	150mm Planar F	250mm Tele-Tessar F	140–280mm Variogon F
Max. aperture	f/2.8	f/2.8	f/2	f/2.8	f/4	f/5.6
Focal length	50 mm	80 mm	110 mm	150 mm	250 mm	140–280 mm
Diaphragm	f/2.8–22	f/2.8–22	f/2–16	f/2.8–22	f/4–32	f/5.6–32
Angle of view, diagonal/horizontal	74°/56°	51°/37°	39°/28°	30°/21°	18°/13°	16–30°/11–22°
No. of elements	9, 1 floating T*	7 T*	7 T*	5 T*	5 T*	17 (multicoating)
Focusing range	12 1/2 in (0.32 m)–∞	2 ft (0.6 m)–∞	2 1/2 ft (0.8 m)–∞	4 1/2 ft (1.4 m)–∞	8 1/4 ft (2.5 m)–∞	8 1/4 (2.5 m)–∞
Weight	2 lb 11 3/4 oz (1240 g)	15 oz (425 g)	1 lb 10 3/4 oz (760 g)	1 lb 9 oz (710 g)	2 lb 1/2 oz (920 g)	4 lb 1 1/4 oz (1850 g)
Length	4 7/16 in (112 mm)	2 3/8 in (60 mm)	3 7/16 in (87 mm)	3 7/16 in (87 mm)	6 3/16 in (157 mm)	9 7/16 in (240 mm)
Accessories included Front lens cap	[1] 51651/51654	51640	51648	51648	51648	[2] 51462
Rear lens cap	50377	50377	50377	50377	50377	50377
Filters	Ø 93	Ø 50	Ø 70	Ø 70	Ø 70	Ø 93
Close-up lenses (Proxars)		Ø 50				
Lens shades		40118	40576	40576	40576	51470[2]
Professional lens shade		40676	40676	40676	40676	
Miscellaneous accessories Lens mounting ring		40679	40687	40687	40687	
Holder for gelatin filters		40690	40690	40690	40690	
Step-up ring		40711				

[1]) Supplied with lens shade Ø 93/50 40706   [2]) Delivered in case 58181 and with lens shade 51470

C Lenses for the 500C/M, 500EL/M, and 2000FC/M

20176 Zeiss F-Distagon C f/3.5 30 mm T* (''fish-eye''), wide-angle lens
20036 Zeiss Distagon C f/4 40 mm T*, wide-angle lens
20044 Zeiss Distagon C f/4 50 mm T*, wide-angle lens
20206 Zeiss Distagon C f/3.5 60 mm T*, wide-angle lens
20028 Zeiss Planar C f/2.8 80 mm T*, normal lens
20125 Zeiss Planar C f/3.5 100 mm T* normal lens
20133 Zeiss UV-Sonnar C f/4.3 105 mm, special-purpose lens
20052 Zeiss S-Planar C f/5.6 120 mm T* special-purpose lens

20117 Zeiss S-Planar C f/5.6 135 mm T*, special-purpose lens
20060 Zeiss Sonnar C f/4 150 mm T* telephoto lens
20079 Zeiss Sonnar C f/5.6 250 mm T*, telephoto lens
20192 Zeiss Sonnar Superachromat (Sa) f/5.6 250 mm, special-purpose lens
20184 Zeiss Tele-Tessar C f/5.6 350 mm T*, telephoto lens
20087 Zeiss Tele-Tessar C f/8 500 mm T*, telephoto lens
20214 Schneider Variogon C f/5.6 140–280 mm, Zoom lens
(C lenses will ultimately be phased out.)

C lenses	30mm F-Distagon	40mm Distagon	50mm Distagon	60mm Distagon	80mm Planar	100mm Planar	105mm UV-Sonnar	120mm S-Planar
Max. aperture	f/3.5	f/4	f/4	f/3.5	f/2.8	f/3.5	f/4.3	f/5.6
Angle of view, d/h	180°/112°	88°/69°	75°/58°	66°/50°	52°/38°	43°/32°	41°/30°	36°/26°
No. of elements	9 T*	10 T*	7 T*	7 T*	7 T*	5 T*	7	6 T*
Focusing range, ft (m)	1 (0.3)–∞	20 in (0.5)–∞	20 in (0.5)–∞	2 (0.6)–∞	3 (0.9)–∞	3 (0.9)–∞	6 (1.8)–∞	3 (0.95)–∞
Weight, lb (g)	3 (1370)	3 (1375)	2 (920)	1.7 (780)	1 (430)	1.3 (575)	1.5 (640)	1.4 (640)
Length, in (mm)	4$^9/_{16}$ (115.5)	4$^7/_8$ (124.5)	3$^{15}/_{16}$ (100)	3$^3/_8$ (85)	2 (51.7)	2$^7/_{16}$ (62)	3$^7/_{16}$ (87)	3$^3/_8$ (86.5)
Accessories included	[1]		[2]	[2]				
Front lens cap	50709	50563	50385	50385	51640	51640	51640	51640
Rear lens cap	50377	50377	50377	50377	50377	50377	50377	50377
Lens case	58157	58114						
Filters	Ø 26	Ø 104	Ø 63	Ø 63	Ø 50	Ø 50	Ø 50	Ø 50
Close-up lenses (Proxars)					Ø 50	Ø 50	Ø 50	Ø 50
Lens shades		40290	40274	40274	40118	40126	40126	40126
Professional lens shade			40676	40676	40676	40676	40676	40676
Lens mounting ring			40684	40684	40679	40679	40679	40679
Holder for gelatin filters			40690	40690	40690	40690	40690	40690
Step-up ring					40711	40711	40711	40711

C lenses	135mm S-Planar	150mm Sonnar	250mm Sonnar	250mm Sonnar Sa	350mm Tele-Tessar	500mm Tele-Tessar	140–280mm Variogon
Max. aperture	f/5.6	f/4	f/5.6	f/5.6	f/5.6	f/8	f/5.6
Angle of view, d/h	32°/23°	30°/21°	18°/13°	18°/13°	13°/9°	9°/6.5°	16°/30°–11°/22°
No. of elements	7 T*	5 T*	4 T*	6	4 T*	5 T*	17 (multicoating)
Focusing range, ft (m)	1$^3/_4$ (0.54)–∞	4$^1/_2$ (1.4)–∞	8$^1/_4$ (2.5)–∞	9$^1/_4$ (2.8)–∞	16$^1/_2$ (5)–∞	28 (8.5)–∞	8$^1/_4$ (2.5)–∞
Weight, lb (g)	1.2 (545)	1.6 (710)	2 (925)	1.8 (810)	3.3 (1505)	4.7 (2130)	4.1 (1850)
Length, in (mm)	3$^3/_8$ (85)	3$^3/_4$ (96)	6$^1/_8$ (156)	6$^1/_8$ (155)	10$^1/_{16}$ (225)	12$^7/_{16}$ (316)	9$^7/_{16}$ (240)
Accessories included					[3]	[4]	[5]
Front lens cap	51640	51640	51640	51640	50393	50393	51462
Rear lens cap	50571	50377	50377	50377	50377	50377	50377
Lens case					58165	58084	58181
Filters	Ø 50	Ø 50	Ø 50	Ø 50	Ø 86	Ø 86	Ø 93
Close-up lenses (Proxars)	Ø 50	Ø 50	Ø 50	Ø 50			
Lens shades	40126	40126	40126	40126	50407[3]	50407[4]	51470[5]
Professional lens shade	40676	40676	40676	40676			
Lens mounting ring	40679	40679	40679	40679			
Holder for gelatin filters	40690	40690	40690	40690			
Step-up ring	40711	40711	40711	40711			

[1]) Supplied with all Ø 26 filters [2]) Supplied with filter mount Ø 63 50350 [3]) Supplied with lens shade 50407
[4]) Supplied with lens shade 50407 and focusing ring 40150 [5]) Supplied with lens shade 51470

Film Magazines

The interchangeable film magazines represent the third main component in the Hasselblad system. Magazines can be switched in seconds and provide a wide freedom of choice with regard to film formats, film loads, and film types. There are roll film magazines for 120, 220, and 70mm perforated film and Polaroid film, as well as sheet film holders.

74 Film magazine A12 (chrome)
30147 Film magazine A12 (black)

The normal Hasselblad magazine holds 12 $2^1/_4 \times 2^1/_4$ frames on 120 roll film. After loading, the film is conveniently wound to the first frame with a film winding crank. A signal system indicates when an exposure has been made and whether or not the film has been advanced to the next frame. A film counter shows how many frames have been exposed and is automatically reset to zero when the magazine is reloaded. The film speed can be set on the film indicator. Available in versions with chrome trim or black trim. Supplied with a magazine slide 41068. Weight: 14 oz (400 g).

30104 Film magazine A24 (chrome)
30171 Film magazine A24 (black)

This magazine has the same functions as the magazine A12 but holds twice as many $2^1/_4 \times 2^1/_4$ frames (24) on 220 roll film. Supplied with magazine slide 41068. Weight: 14 oz (400 g).

30082 Film magazine A16 (chrome)
30155 Film magazine A16 (black)

This magazine has the same functions as the preceding magazines but delivers 16 $1^5/_8 \times 2^1/_4$ in frames on 120 roll film. Supplied with focusing screen mask 42145 which delineates this format and magazine slide 41068. Weight: 14 oz (400 g).

30090 Film magazine A16S (chrome)
30163 Film magazine A16S (black)

This magazine has the same functions as the preceding magazines, but delivers 16 $1^5/_8 \times 1^5/_8$ in nes on 120 roll film, suitable for projection in ordinary 35mm projector. Supplied with focusing screen mask 42145 which delineates this format and magazine slide 41068. Weight: 14 oz (400 g).

30066 Film magazine 70 (chrome)
30139 Film magazine 70 (black)

This is a large-capacity magazine, intended for 70mm film loaded in cassettes and holding 70 $2^1/_4 \times 2^1/_4$ exposures. Magazine cassettes can be loaded with up to 15 ft (4.7 m) of 70mm film sold in 30m and 100m bulk loads. The magazine is available in versions with chrome or black trim and supplied with a 51039 empty cassette and magazine slide 41068. Weight: 1 lb 3 oz (530 g).

30201 Film magazine 70/100–200 (chrome)
30228 Film magazine 70/100–200 (black)

This magazine has a very large capacity. It is a special version of the magazine 70 and must be loaded in the darkroom. The film is loaded directly onto the magazine spool. The loaded spool is reinserted into the magazine without any cassette. This results in greater capacity per load. Standard 70mm film gives approx. 100 frames per load. Special extra-thin base (0.12–0.07 mm) 70mm film will give up to 200 frames per load. The magazine is available in versions with chrome trim or black trim and supplied with two 51055 spools and magazine slide 41068. Weight: 1 lb 2 oz (500 g). *Available only on special order.*

51039 Film cassette for magazine 70

The cassette is loaded with perforated 70mm film in lengths up to 15 ft (4.7 m).

51055 Spool for magazine 70/100–200

This spool is loaded with perforated 70mm film; either standard film in lengths up to 21 ft (6.5 m) or extra thin-base film in lengths up to 42 ft (13 m).

41076 Quick-winding crank for film magazines

For the old 12, 16, 16S, and 24 Hasselblad magazine models, and for the 70 and 70/100–200 magazines.

Masks for format delineation

For viewfinders with focusing screens:
42145 Transparent focusing screen mask
Field markings for the $1^5/_8 \times 2^1/_4$ and $1^5/_8 \times 1^5/_8$ formats.

42153 Black focusing screen mask

This mask effectively masks the focusing screen down to the $1^5/_8 \times 1^5/_8$ format.

Masks for the sports viewfinder 43028 (see p. 19):
Masks for film magazines A12 and A24.

43141/100mm lens   43168/350mm lens
43044/150mm lens   43060/500mm lens
43052/250mm lens

Masks for film magazine A16.

43079/80mm lens   43095/250mm lens
43087/150mm lens

Masks for film magazine A16S.

43109 with fields marked for the 60, 80, and 150mm lenses.

30198 Hasselblad magazine 100 for Polaroid film

For immediate information on exposure, lighting, and composition. Any errors are easily detected. For Polaroid film type 107, 108, 665, 667, and 668. The image format is $2^1/_4 \times 2^1/_4$. Supplied with magazine slide 41122.

41017 Sheet film adapter

For photographers interested in utilizing the wide range of sheet film on the market. The film is loaded in the 51012 interchangeable sheet film holder.

51012 Sheet film holder

For $2^1/_2 \times 3^1/_2$ (6.5×9 cm), trimmed down to $2^1/_2 \times 2^1/_2$ (6.5×6.5 cm).

41092 Film cutter

For trimming sheet film down to $2^1/_2 \times 2^1/_2$ (6.5×6.5 cm).

Viewfinders and Focusing Screens

The Hasselblad system's range of viewfinders and focusing screens was developed to cover the individual needs of photographers working under widely varying conditions. Viewfinders and focusing screens can be quickly and easily changed. The viewfinders allow for photography in every conceivable situation and deliver a magnified focusing screen image. The large focusing screens provide bright, clear images to aid composition and checks on depth of field at different f/stops.

VIEWFINDERS

42021 Standard focusing hood (chrome)
42277 Standard focusing hood (black)

The hood provides efficient screening of the focusing screen image. A folding fine-focus magnifier enlarges the image 2½ times. The collapsed hood takes up virtually no space. Comes with the 500C/M, 500EL/M, and 2000FC/M camera bodies.

52094 Magnifying hood

Effectively blocks extraneous light and enlarges the focusing screen image 2½ times. Adjustable from +3.5 to –2.5 diopters to suit individual eyesight requirements.

42293 Meter prism finder PME (VFC-6)

Features center-weighted metering by means of a silicon cell with a fast response even at low light levels. Values are read on an exposure value scale (EV 2–19) and indicated by red diodes. The meter automatically shuts off after 15–20 s. Battery check. Battery type PX28. The sighting angle is 45° and the screen image is magnified three times. Can be fitted with correction lenses for compensation of faulty vision. Supplied with protective cover 42064.

42307 Prism viewfinder PM

Yields an unreversed image three times larger than the focusing screen image. The sighting angle is 45°. Can be fitted with correction lenses for compensation of faulty vision. Delivered with protective cover 42064.

52028 Prism viewfinder NC-2/100

Yields an unreversed image three times larger than the focusing screen image. The sighting angle is 45°. Can be fitted with correction lenses for compensation of faulty vision. The prism viewfinder NC-2/100 can also be used with the magazine 100 for Polaroid film. Delivered with protective cover 42064.

52086 Reflex viewfinder RM (HC-4)

Yields an unreversed image three times larger than the focusing screen image. The sighting angle is 90°. The ocular is focusable ±5 diopters. Delivered with protective cover 42064.

The prism viewfinders, reflex viewfinder, and magnifying hood above can be used with the Hasselblad 500C/M, 500EL/M, 2000FC/M, and, with the focusing screen adapter 41025 (see p. 16), the SWC/M.

Correction lenses for prism viewfinders 42293, 42307, and 52028

The correction lenses have anti-reflection coating and are available in diopter strengths from –4 to +3.
Delivered in sets but can also be ordered separately. Supplied with instructions for attachment.
52108 Set of seven lenses (as specified below).

52116 –4 diopters	52159 +1 diopter
52124 –3 diopters	52167 +2 diopters
52132 –2 diopters	52175 +3 diopters
52140 –1 diopter	

FOCUSING SCREENS

42161 Standard focusing screen

Interchangeable focusing screen with a reference cross. Comes with the 500C/M, 500EL/M, and 2000FC/M camera bodies.

42188 Interchangeable focusing screen with split-image rangefinder

Bright focusing screen with a split-image rangefinder, 7.5 mm in diameter, for fast focusing. For lenses in focal lengths from 30–150 mm.

42234 Interchangeable focusing screen with central grid

A central grid, 15 mm in diameter, provides a sharp image of part of the subject for focusing.

42218 Interchangeable focusing screen with central grid and split-image rangefinder

A diagonal split-image rangefinder, 5 mm in diameter, combined with a 14mm central grid.

42250 Interchangeable checked focusing screen with central grid

A checked focusing screen, combined with a central grid, 15 mm in diameter. For checks on horizontal and vertical alignment, e.g. in architectural photography and copying work.

42285 Interchangeable fine-line focusing screen

A focusing screen with more closely spaced Fresnel lines (13.3/mm) than the standard focusing screen (8/mm).

42200 Interchangeable plain glass screen

A bright focusing screen facilitating photomicrography and macro work. Consists of a plain glass screen with a reference cross and a Fresnel lens.

Sets for permanent installation of focusing screens in the old 500C and 500EL camera models. Detailed installation instructions included

42196 Replacement focusing screen with split-image rangefinder (Type 42188)
42242 Replacement focusing screen with central grid (Type 42234)
42269 Replacement checked focusing screen with central grid (Type 42250)

Grips, Holders, and Straps

The Hasselblad photographer has a choice of carefully balanced, anatomically designed grips providing solid support for hand-held shots, quick-couplings for fast tripod attachment, and camera holding straps.

45071 Flashgun bracket for the 500C/M and 2000FC/M
...9 Flashgun bracket for the 500EL/M

These flashgun brackets are attached and locked onto the camera's tripod plate. They are anatomically molded to fit the left hand. An adjustable leather strap makes for a much steadier grip. The camera is triggered via the flashgun bracket which is also supplied with an accessory shoe for a flash unit, an extension arm 45098, or an adjustable flash holder 45039.

46132 Double handgrip for the 500EL/M

The handgrip is attached and locked onto the camera's tripod plate. Gives a steady and comfortable grip. A release button is built into the right-hand grip. The grips and the camera attachment are adjustable to provide good balance when working with combinations of different centers of gravity.

45098 Extension arm

The extension arm is attached to the flashgun brackets 45071 and 46329 or the double handgrip 46132. It can be swiveled so that light can be aimed in the desired direction.

45039 Adjustable flash holder

For the flashgun brackets 45071 and 46329. The flash holder is fitted with an accessory shoe and a flash holder clamp. It can be swiveled so that light can be aimed in the desired direction.

45047 Pistol grip for the 500C/M and 2000FC/M
46221 Pistol grip for the 500EL/M

The pistol grips are attached and locked onto the camera's tripod plate. They are anatomically molded to fit the left hand. Exposure is made by pressing the trigger in the grip.

45128 Tripod quick-coupling

Used on a tripod to facilitate quick attachment and removal of the camera. The quick-coupling is attached to the tripod with both a $^3/_8''$ and a $^1/_4''$ thread.

50962 Tripod attachment for the Variogon

Attached to the lens with a ring fastener. Tripod plate with a $^3/_8''$ tripod tap.

46140 Carrying strap

A short, black leather strap with a rubber insert to be attached to the camera's strap buttons. Comes with the 500EL/M camera body.

49018 Neck strap

A long, adjustable black leather strap to be attached to the camera's strap buttons. Comes with the 500C/M, 2000FC/M, and SWC/M camera bodies.

59080 Wide camera strap

A long, adjustable $1^1/_2$ in wide strap made of black polyester. The strap's underside has woven-in rubber fibers to prevent it from slipping off.

40061 Quick-focusing handle 1/C

This handle makes focusing especially fast and simple. It is pressed onto the focusing ring on C lenses. Ideal for sports and press photography. For the 50mm and 60mm Distagon C and the 80mm and 100mm Planar C lenses.

40088 Quick-focusing handle 2/C

For the 120mm S-Planar C and the 150mm and 250mm Sonnar C lenses.

Proxar Ø 60   Proxar Ø 50   40657   40649   40568   40541   51657   40045   40037   40185   40630   40517   40533   40525   40622   40169

Close-Up and Copying Accessories

The Hasselblad system includes close-up accessories, such as close-up lenses, extension tubes and a bellows extension, and accessories for copying and photomicroscopy.

51662	Proxar 0.5 Ø 60 T*	50296	Proxar 0.5 Ø 50
51665	Proxar 1.0 Ø 60 T*	50318	Proxar 1.0 Ø 50
51667	Proxar 2.0 Ø 60 T*	50326	Proxar 2.0 Ø 50

Close-up lenses are available in three focal lengths and can be combined. The Ø 60 size is multicoated and fits CF lenses with Ø 60 (60mm) accessory mounts. The Ø 50 close-up lenses are for C and F lenses with Ø 50 (50mm) accessory mounts.

40649 Extension tube 8*
40541 Extension tube 16
40568 Extension tube 32
40657 Extension tube 56

A complete series of extension tubes, covering the range up to the shortest bellows draw. The tubes connect the lens and camera mechanisms so that all automatic functions of the camera can be fully utilized. The extension tubes can be connected in different combinations.

* Extension tube 8 can not be directly connected to the 2000FC/M or 2000FC camera bodies.

40517 Automatic bellows extension

The bellows extension interconnects camera body and lens mechanisms. This means that you can work in the same way with CF, F, and C lenses as you do when the lens is directly connected to the camera. The bellows draw is easily altered with knobs. Extension range from $2^{1}/_{2}$–8 in (63.5 mm–202 mm). The bellows extension, combined with a 135mm special-purpose lens, enables you to work from infinity down to 1:1.

40525 Lens shade for automatic bellows extension

This lens shade has adjustable extension and is fitted with flanges for the Hasselblad transparency copyholder. Adapted to the lens front mount with separate lens mounting rings which also have a slot for a gelatin filter holder. *Rings are not supplied with the lens shade. See the figure above right, and "Miscellaneous accessories," p. 19.*

51657 Macro flash bracket Ø 50–Ø 70

The bracket has mounting shoes for up to three flash units. Both arms are articulated at three points. All rotatable 360°. The bracket is attached to the lens accessory mount with separate lens mounting rings which also have a slot for a gelatin filter holder. *Rings are not included with the lens shade. See the figure to the right and "Miscellaneous accessories" on p. 19.*

40533 Transparency copyholder II

Attached to flanges on the lens shade for the automatic bellows extension and used in the copying and reproduction of transparencies and negatives. Electronic flash is recommended as the light source. Also fits bellows extension 40223.

40630 Extension ring

When the lens shade extension is insufficient in the copying of transparencies, the ring can increase the extension by $3^{1}/_{4}$ in (82 mm).

40622 Lens support rod 296

This longer support rod is used when the standard lens shade support rod 216 is insufficient.

40185 Linear mirror unit

Used in photocopying to obtain a parallel alignment between film plane and subject less than two minutes of arc ($=2/60°$). The unit consists of a lens flange mirror 40193 which is attached to the camera in place of the lens, and a reflecting mirror 40207 placed at the object plane.

40045 Microscope adapter

Provides a light-tight and rock-steady connection between the camera and the microscope ocular. For oculars 25 mm in diameter.

40169 Microscope shutter

Attached to the camera, extension tube, or bellows. Cocked and tripped in the same way as a lens. The shutter is fully synchronized for B and 1–1/500 s. Front mount for microscope adapter 40045.

Lens	Lens mounting ring	Lens shade for bellows extension 40525
Ø 50	40679	
Ø 60	40681	
Ø 63	40684	51657
Ø 70	40687	Macro flash bracket
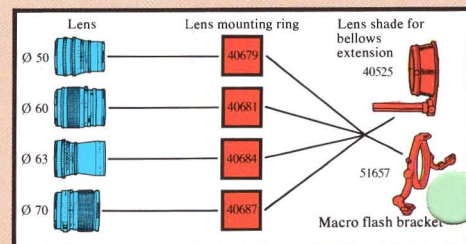
40037 Lens mount adapter

Intended for attaching special-purpose lenses, such as lenses for photomicrography, to the camera. The auxiliary shutter in the camera body, the microscope shutter, or the focal plane shutter in the 2000FC/M then serves as the main shutter.
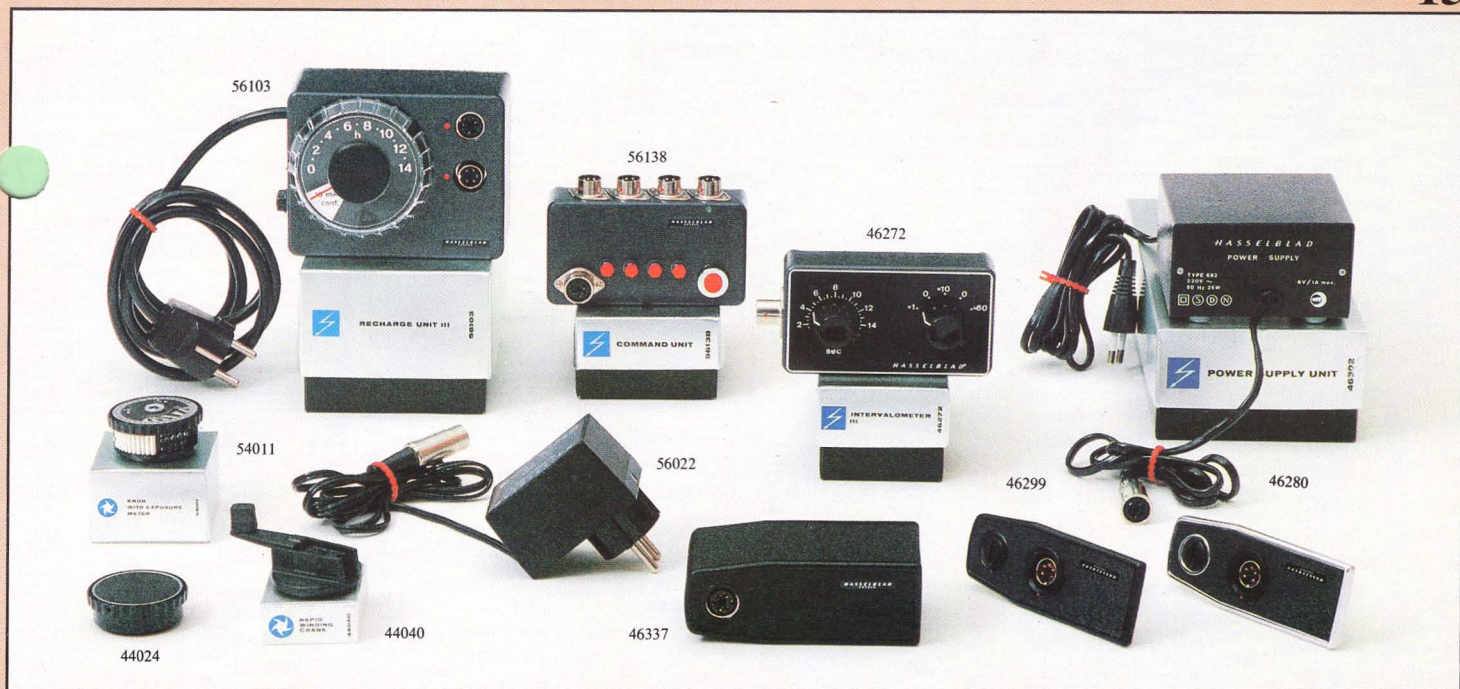
Special Accessories for the 500C/M and 500EL/M

SPECIAL ACCESSORIES FOR THE 500C/M

44024 Standard winding knob
Interchangeable winding knob for shutter cocking and film advance. Supplied with the 500C/M camera body.

0 Rapid-winding crank
The standard 44024 film winding knob on the 500C/M can easily be replaced by this convenient crank which increases the camera's working speed.

54011 Knob with exposure meter
The standard winding knob on the 500C/M can easily be replaced by this knob with a built-in exposure meter with a selenium cell. No battery is needed. The metering knob can easily be removed from the camera for taking measurements close to the subject. It is graduated from 6–1600 ASA (9–33 DIN) and the readings are indicated as exposure values (EV). The knob has a diffuser for incident light readings. Can also be used on the 500C/M, 500EL/M, and the 2000FC/M when fitted to the attachment for exposure meter 40266, (see p. 17) on the lens shade.

SPECIAL ACCESSORIES FOR THE 500EL/M

56022 Recharge unit I
For recharging of batteries in the 500EL/M or in battery compartments 46337 and 43133. Connected to the side socket of the camera. The unit has a fixed plug for 110 volts AC (American plug) or 110–240 volts AC (European plug), and 220 volts AC (according to Scandinavian security standards). Comes with the 500EL/M camera body.

56103 Recharge unit III
For recharging of batteries in the 500EL/M or in battery compartments 46337 or 43133. The unit can be preset for up to 14 hours; the charging time required for a completely discharged battery. If two batteries are charged simultaneously, the charging time is 28 hours. Used with a type LK connecting cord. By using this recharge unit, the camera can be continuously recharged when it is set up for stationary use. The camera is then triggered from the recharge unit. With release cord SK 150 46086. Comes in two versions, one for 110 volts AC (American plug) and one for 220 volts AC (European plug).

46337 Battery compartment 3
For recharging of 56081 nickel-cadmium batteries in recharge unit I or III outside of the 500EL/M camera body. The compartment has room for two batteries which can be charged simultaneously. The 500EL/M can also be powered from battery compartment 3 if the camera's motor housing panel is replaced by motor housing panel 46280 or 46299 which is included in the power supply unit. Attachment is made with the 46019 LK 50 connecting cord.

46302 Power supply unit (incl. chrome trim panel 46280)

46310 Power supply unit (incl. black trim panel 46299)
Makes the 500EL/M independent of batteries when it is set up for stationary use. Consists of an adapter and a motor housing panel in black or chrome trim which replaces the standard battery cover on the camera. The fixed cord to the camera can be extended with a type LK connecting cord. Available in models for 110 volts AC (American plug) or 220 volts AC (European plug). The motor housing panels can be ordered separately.

46272 Intervalometer III
Provides the 500EL/M with exposure impulses at intervals from 2 s to 14 min. Powered by the camera's battery. Use a type LK connecting cord.

56138 Command unit
For simultaneous triggering of two to four 500EL/M cameras, all released by the same trigger placed directly on the command unit, by a cord, or an intervalometer. Warning lights indicate exposure failure in one or more of the connected cameras, e.g. due to the film running out. Simultaneous exposure of more than four cameras can be obtained by interconnecting several command units.
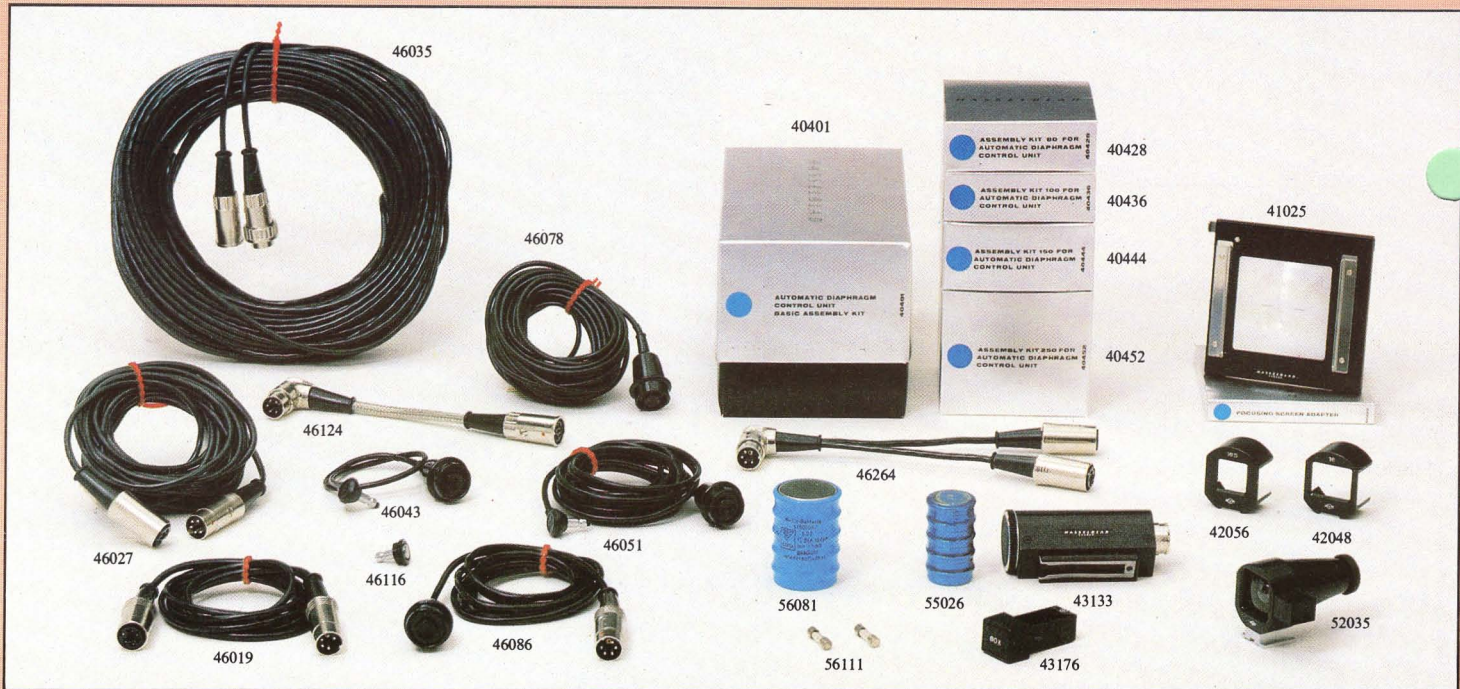
Special Accessories for 500EL/M, 2000FC/M, SWC/M

46043		0,3 m	
46051		3 m	
46078		6 m	
46086		1,5 m	
46019		1,5 m	
46027		5 m	
46035		30 m	

For the 500EL/M side socket

46019 Connecting cord LK 150
46027 Connecting cord LK 500
46035 Connecting cord DK 3000
46086 Release cord SK 150

For the 500EL/M front socket

46043 Release cord FK 30*
46051 Release cord FK 300
46078 Release cord FK 600
46116 Release button*
* Supplied with the 500EL/M camera body.

46124 Amplifier
For cable release from a distance longer than 100 ft (30 m).

56081 Battery 1
For the 500EL/M. Type Varta 5/600 DKZ or an equivalent type battery (nickel-cadmium battery, $1^3/_8 \times 2$ in). Comes with the 500EL/M camera body.

56111 Fuse
A 1.6 amps ($^3/_{16} \times ^3/_4$ in) slow blow fuse is used in the 500EL/M. Comes with the 500EL/M camera body.

Automatic diaphragm control unit
This unit can be used when it is impossible to make manual adjustments in lens settings, e.g. in cases of remote control release. The unit is available as an assembly kit for four different C lenses.

40401 Basic kit
This assembly kit must be supplemented with one of the sets below for the respective lens. Supplied with front lens cap 40509.
40428 Assembly kit 80 for the   80mm Planar C
40436 Assembly kit 100 for the 100mm Planar C
40444 Assembly kit 150 for the 150mm Sonnar C
40452 Assembly kit 250 for the 250mm Sonnar C

46264 Multiple connector
This connector is used to permit two simultaneous connections when the side socket on the 500EL/M is used for the diaphragm control unit.

43133 Battery compartment 2
For battery 55026 powering the diaphragm control unit when this is used with the 500C/M or the 2000FC/M. This battery can also be charged in the battery compartment using a Hasselblad recharge unit.

55026 Battery 2
For battery compartment 2. Type Varta 5/225 DKZ or an equivalent type battery ($1 \times 1^3/_4$ in).

SPECIAL ACCESSORY FOR THE 2000FC/M

43176 Shutter speed multiplier
Multiplies the shutter speeds on the 2000FC/M by a factor of 60, i.e. a setting of for example 1/30 s yields an exposure time of 2 s and a setting of 1 s becomes 60 s. The multiplier is inserted in the battery compartment receptacle instead of battery cassette.

SPECIAL ACCESSORIES FOR THE SWC/M

53035 Viewfinder for the SWC/M
An optical viewfinder showing the image area while simultaneously giving the possibility of checking the camera's spirit level through a built-in prism. Comes with the SWC/M camera body.

Masks for viewfinder 52035
42048 Image area for an A16 film magazine.
42056 Image area for an A16S film magazine.

41025 Focusing screen adapter
For checks on picture composition and depth of field. Attached to the camera in the same way as film magazines. Extraneous light is effectively blocked out by using the magnifying hood 52094, the standard focusing hood 42021/42277, a prism viewfinder, or the reflex viewfinder. Can also be used on the 500C/M, 500EL/M, and the 2000FC/M.
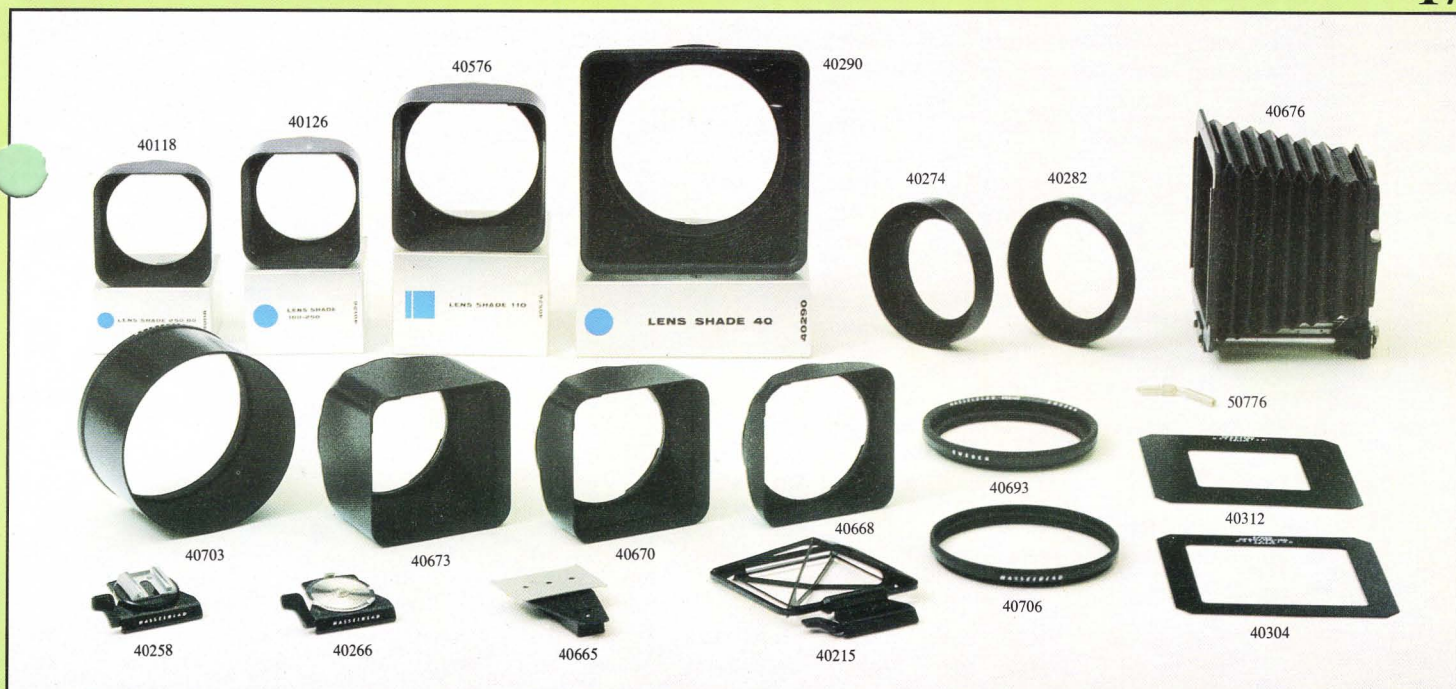
Lens Shades and Accessories

Lens shades shield the lens from extraneous light but they also provide practical protection of the front lens element. The system includes lens shades designed for a fixed focal length range and the Professional lens shade, adaptable to CF, F, and C lenses, which features an adjustable compendium to suit a wide range of lens focal [leng]ths.

LENS SHADES FOR CF LENSES

40668 Lens shade Ø 60/38–60
For wide-angle lenses from 38 to 60 mm. Bayonet mount.

40670 Lens shade Ø 60/80
For the normal 80mm CF lens. Bayonet mount.

40673 Lens shade Ø 60/100–250
For lenses with focal lengths from 100 to 250 mm. Bayonet mount.

40693 Lens shade Ø 93/40
For the 40mm Distagon CF. Supplied with the lens. Also used as a holder for Ø 93 filters.

40703 Lens shade Ø 93/350–500
For the 350mm Tele-Tessar CF and 500mm Tele-Apotessar CF. Supplied with these lenses. Also used as a holder for Ø 93 filters. Screw mount. It also fits the 350mm and 500mm Tele-Tessar C lenses and makes it possible to use Ø 93 filters with these lenses instead of Ø 86 which are being withdrawn.

LENS SHADES FOR F LENSES

40706 Lens shade Ø 93/50
For the 50mm Distagon F. Screw mount. Now supplied with the lens. Can be ordered for previously bought lenses, thus making it possible to use Ø 93 filters with these lenses instead of Ø 86 which are being withdrawn.

40118 Lens shade Ø 50/80
For the 80mm Planar F. Bayonet mount.

40576 Lens shade Ø 70/110–250
For lenses in focal lengths from 110 mm to 250 mm. Bayonet mount.

LENS SHADES FOR C LENSES

40282 Lens shade Ø 63/38
For the 38mm Biogon C. (For the old SWC/M camera models 10049/10197.) Screw mount.

40290 Lens shade Ø 104/40
For the 40mm Distagon C. Bayonet mount.

40274 Lens shade Ø 63/50–60
For the 50mm and 60mm Distagon C. Screw mount.

40118 Lens shade Ø 50/80
For the 80mm Planar C. Bayonet mount.

**40126 Lens shade Ø 50/100–250**
For lenses in focal lengths from 100 to 250 mm. Bayonet mount.

40215 Frame viewfinder
Outlines the image field for 150mm, 250mm, 350mm, and 500mm focal length lenses and film magazines for the 2¹⁄₄×2¹⁄₄ format. Placed on the lens shade for the 150mm and 250mm lenses and on the frame viewfinder attachment below for the 350mm and 500mm lenses.

40665 Frame viewfinder attachment
Makes it possible to use the frame viewfinder 40215 on CF and F lenses with 350mm and 500mm lens focal lengths.
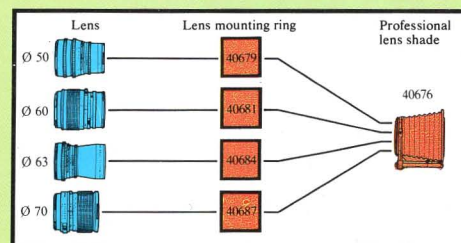
40266 Attachment for knob with exposure meter
Attached to lens shades to hold the knob with exposure meter. Fits lens shades Ø 50, Ø 60, and Ø 70.

40258 Attachment for flash
Attached to lens shades to hold small flash bulbs and electronic flash units in a swivel-type accessory shoe. Fits lens shades Ø 50, Ø 60, and Ø 70.

40676 Professional lens shade Ø 50–Ø 70
The compendium design of this lens shade provides highly efficient protection against extraneous light. It has an extension of about 3¹⁄₈ in (80 mm) with markings for the various focal length settings and interchangeable masks for the longer focal length lenses. When collapsed, it takes up very little space in an equipment case. Supplied with masks 40304 for 120, 135, and 150mm lenses and 40312 for 250mm lenses and L connector 50776 (used with the included cable release). It is attached to the lens front accessory mount with separate lens step-up rings which also have a slot for a gelatin filter holder. *The rings are not supplied with the lens shade. See the figure above and "Miscellaneous accessories" on p. 19.*

Top product labels: 50199 · Softar Ø 50 · Softar Ø 60 · Softar Ø 70 · 50687 · 50695 · 50482 · 50598 · 51635 · 51551 · 51586 · 50148 · 50628 · 50784 · 51306 · 50601 · 50555 · 51403 · 50768 · 50172 · 50784 · 50083 · 50938 · Filter Ø 26 · 50903 · 51330 · 51373 · 50547

Hasselblad Original Filters

The Hasselblad line includes filters for both black & white and color photography.

Filters for color photography are used to balance color temperature and are referred to as "light balance" filters. These filters can be employed to eliminate unsightly color casts. Moreover, tungsten-type film can be used in daylight and vice versa.

Polarization filters can be used with black & white or color film to eliminate reflections in different objects, thereby creating greater color saturation in e.g. sky and water.
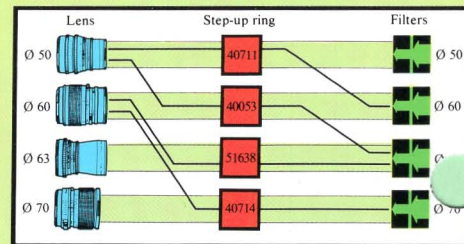
Softars can be used with both black & white and color and are available in three strengths. They provide controlled softening of the otherwise razor-sharp images. The three strenghts can be combined.

Neutral density filters can be used to create special effects with black & white or color film, e.g. when there is a need to make extremely long exposures without over-exposing the film. They are available in three densities.

A range of colored filters which block out various parts of the spectrum are available for black & white photography. Glassless filter mounts are available in different diameters for rimless filters. A multi-prism lens with six facets can create truly different imagery. Hasselblad original filters are supplied in different diameters to fit the different lens accessory mounts. Step-up rings make it possible to use Ø 60–Ø 70 filters with lenses with smaller lens accessory mounts as well. See the figure to the right and "Miscellaneous Accessories," p. 19.

The filters have engraved designations indicating diameter, filter factor, color, and exposure value reduction in that order. See the table below. For example: "50 1,5×Y–0,5" means that the filter has a 50mm diameter, requires a filter factor of 1.5, is yellow, and requires an exposure value reduction of 0.5. The Ø 60 filters feature multicoating and the "Kodak Wratten" designation.

Figure: Lens — Step-up ring — Filters; Ø 50 → 40711 → Ø 50; Ø 60 → 40053 → Ø 60; Ø 63 → 51638 → Ø 63; Ø 70 → 40714 → Ø 70

Filters Ø 26

These filters are intended for the 30mm Distagon CF and C lenses. They have designations indicating filter factor, color, wavelength limit, and exposure value reduction.
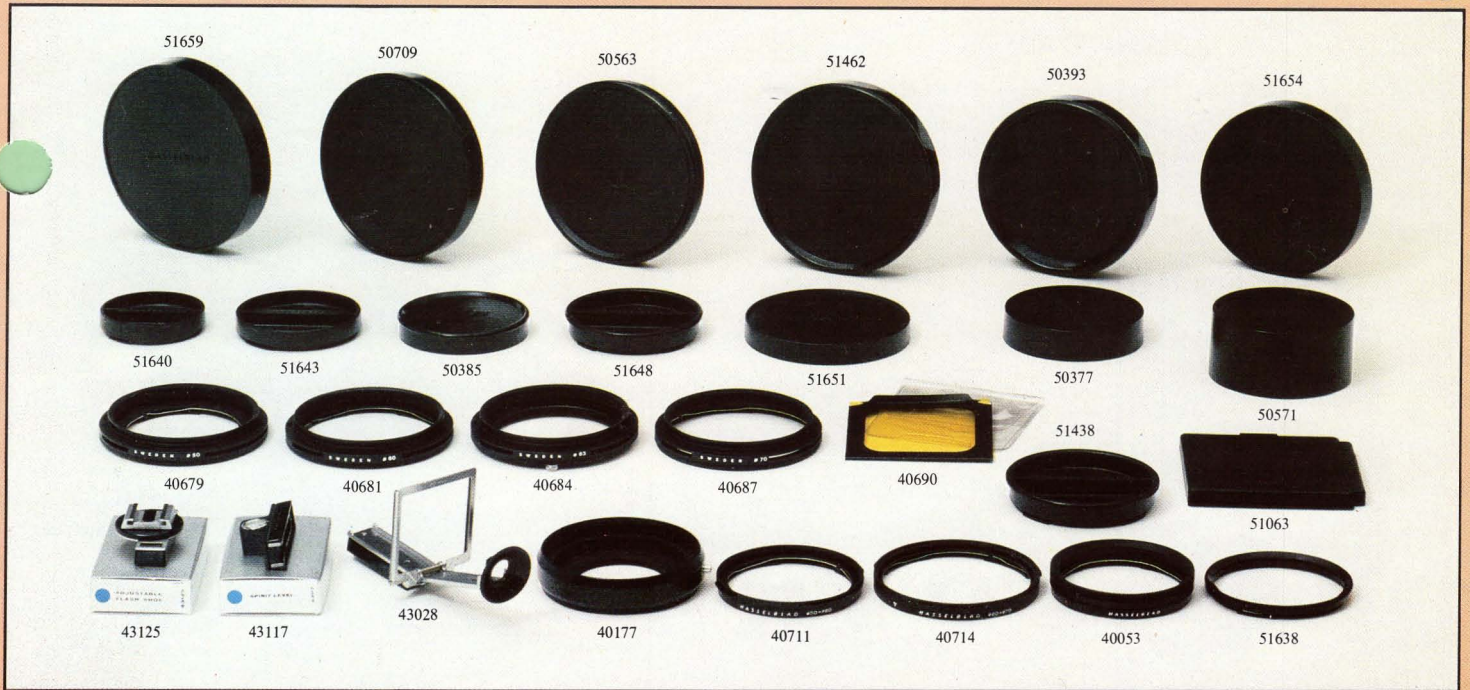
50636	Yellow	1.5×Y50–0.5
50644	Orange	3 ×Or57–1.5
50652	Conversion filter*	2 ×B11–1
50660	Neutral glass	

* For using daylight-type film in artificial light.

Ø	Colored filters					Special-purpose filters					Multi-prism lenses	Glassless filter mounts
	1.5×Y–0.5	2×YG–1	3×G–1.5	4×O–2	6×R–2.5	1×HZ–0	4×Gr–2	8×Gr–3	64×Gr–6	2×Pola–1		
	Yellow	Yellow-green	Green	Orange	Red	Haze	Gray	Gray	Gray	Polarizing	Six prisms	
50	50016	50024	50032	50040	50059	50067	50083	50784	50717	50075¹)	50687	50598
60	51586		51592	51594	51597	51608²)		51606		51603		51635
63	50105	50806	50113	50121	50148	50156		50792	50768	50482³)	50695	
70	51306		51314	51322	51330	51349				51578³)		51551
86	50741		50911	50172		50180						50601
93	51365		51373	51381	51403	51411						
104	50547	50555		50725		50733						50628

Ø	Light balance filters									Soft-focus Softars		
	Set of 6 filters⁴)	1×CR1.5–0	1×CR3–0	1.4×CR6–0.5	1×CB1.5–0	1.4×CB3–0.5	2×CB6–1	2×CR12–1	3.5×CB12–1.5	I	II	III
		CR1,5	CR3	CR6	CB1,5	CB3	CB6	CR	CB	I	II	III
50	50199	50202	50210	50229	50237	50245	50253	50261	50288	50512	50520	50539
60		51614								51670	51673	51675
63	50814	50822	50830	50849	50857	50865	50873	50881	50903			
70		51357								51527	51535	51543
86		50938										
93		51420										
104												

¹) Delivered in pouch 58122   ²) Filter designation UV-SKY   ³) Delivered in pouch 58130   ⁴) The six light balance filters (CR1.5-CB6)

51659 50709 50563 51462 50393 51654

51640 51643 50385 51648 51651 50377 50571

40679 40681 40684 40687 40690 51438 51063

43125 43117 43028 40177 40711 40714 40053 51638

Miscellaneous Accessories

43028 Sports viewfinder

Features parallax compensation. The frame outlines the image field for 80mm focal length lenses and film magazines for the $2^1/_4 \times 2^1/_4$ format, or a 50mm lens and a $1^5/_8 \times 1^5/_8$ film magazine. Interchangeable masks are available for the sports viewfinder. (For masks, see "Film magazines,")

43125 Adjustable flash-shoe

The flash-shoe should be slid onto the accessory shoe on the left side of the camera. Small flash bulbs and electronic flash units are placed in a swivel-type accessory shoe.

43117 Spirit level

Attached to the accessory shoe on the left side of the camera. The spirit level is particularly useful in wide-angle photography.

40177 Lens flange

Designed for attaching Hasselblad lenses to enlargers. The flange is a semi-finished product which can be easily adapted to fit most enlargers.

LENS MOUNTING RINGS

For the Professional lens shade, lens shades for the automatic bellows extension, and the macro flash bracket when connecting CF, F, and C lenses with different accessory mounts. The rings have slots for gelatin filters.

40679 Lens mounting ring Ø 50

For C and F lenses with a Ø 50 lens accessory mount.

40681 Lens mounting ring Ø 60

For CF lenses with a Ø 60 lens accessory mount.

40684 Lens mounting ring Ø 63

For C lenses with a Ø 63 lens accessory mount.

40687 Lens mounting ring Ø 70

For F lenses with a Ø 70 lens accessory mount.

40690 Gelatin filter holder Ø 50–Ø 70

For use with 3×3in (75×75mm) gelatin filters. It is inserted into a slot in the lens mounting ring. Comes in a transparent pocket used to store gelatin filters.

STEP-UP RINGS

Filters and lens shades for lenses with Ø 60–Ø 70 accessory mounts can also be used on lenses with a smaller accessory mount with the aid of step-up rings.

40711 Step-up ring Ø 50–Ø 60

For the attachment of Ø 60 filters and lens shades on C and F lenses with a Ø 50 lens accessory mount.

40714 Step-up ring Ø 60–Ø 70

For the attachment of Ø 70 filters and lens shades on CF lenses with a Ø 60 lens accessory mount.

40053 Filter adapter ring Ø 50–Ø 63

For the attachment of Ø 63 filters on C and F lenses with a Ø 50 accessory mount.

51638 Filter adapter ring Ø 60–Ø 63

For the attachment of Ø 63 filters on CF lenses with a Ø 60 lens accessory mount.

PROTECTIVE COVERS

51438 Front protective cover

Attached to the camera's lens bayonet mount.

51063 Rear protective cover

Protects the rear of the camera when no film magazine is attached.

51640 Front lens cap Ø 50

Attached to the inner lens bayonet mount. Fits C and F lenses with a Ø 50 front mount.

51643 Front lens cap Ø 60

Attached to the inner lens bayonet mount. Fits CF lenses with a Ø 60 front mount.

50385 Front lens cap Ø 63

Friction-fit attachment. Fits C lenses with a Ø 63 front mount.

51648 Front lens cap Ø 70

Bayonet mount. Fits F lenses with a Ø 70 front mount.

50393 Front lens cap Ø 86

Friction-fit attachment. Fits the 350 and 500mm Tele-Tessar C lenses.

51462 Front lens cap for the Variogon

Friction-fit attachment. Fits the 140–280mm Variogon C and F lenses.

51651 Front lens cap Ø 93

Friction-fit attachment. Fits CF and F lenses with a Ø 93 front mount.

51654 Front lens cap Ø 93–100

Friction-fit attachment. Fits CF and F lenses with a Ø 93 front mount when a *lens shade* is attached.

51659 Front lens cap for the 30mm Distagon CF
50709 Front lens cap for the 30mm Distagon C

Friction-fit attachment. Different lens caps to be used on the 30mm Distagon CF and the 30mm Distagon C.

50563 Front lens cap Ø 104

Bayonet mount. Fits the 40mm distagon C.

50377 Rear lens cap

Bayonet mount. Fits all Hasselblad lenses, except the 135mm Planar.

50571 Rear lens cap 135

Bayonet mount. Fits the 135mm Makro-Planar CF and the 135mm S-Planar C.

59064 File 120/220/70

For storage of 120 and 220 roll film and 70mm film. The file can hold 12 film frames and is delivered in 50-sheet cartons.
Sheet size: $10^1/_2 \times 10^3/_4$ in (265×275 mm).

63002
64041
67008
61026
63029
61018
62022 62014 65021 65048 64033 64068 64017 67091 67105 67113

Special Applications

In addition to our wide range of standard products capable of dealing with virtually any photographic situation, Hasselblad also offers a number of products for what we refer to as "Special Applications." We also undertake custom work covering things like special accessories for the Hasselblad camera or special camera installations.

These two pages show some examples of special-purpose products and of the custom equipment we have made. Since these items are all special, we cannot expect photo dealers to be familiar with them. So if you desire further information, we suggest you get in touch with Victor Hasselblad AB or our distributor in your country.

Photogrammetry

The Hasselblad MK70 and MKW photogrammetric cameras were designed for close-range photogrammetry. But the MK70 has also proved to be very useful for low altitude aerial photogrammetry. The external shape of these cameras and their mechanical components have much in common with the standard 500EL/M and SWC/M respectively. However, the internal designs of the camera bodies differ considerably. One major difference is the presence in the photogrammetric camera of a Reseau plate located immediately in front of the focal plane. The surface of this glass plate, whose optical quality is equal to that of lens elements, has a pattern of hairline crosses which are reproduced on the film as reference points. Each photogrammetric camera and special lens is supplied with a calibration report containing an exact definition of the camera's internal geometry, the location of the crosses on the plate, and the lens distortion. Special film magazines and a number of other accessories are available for the photogrammetric camera.

61018 MK70 camera body

Motorized in the same way as the Hasselblad 500EL/M. It is used with the 60mm Biogon or 100mm Planar MK lenses. (See below.)

62014 Zeiss Planar f/3.5 100 mm MK

In principle, this is the same lens as the regular Zeiss Planar C 100 mm f/3.5 with its exceptionally low distortion, but corrected for use in conjunction with a Reseau plate.

62022 Zeiss Biogon f/5.6 60 mm MK

A symmetrical lens of exceptionally high performance. Especially designed for the MK70.

61026 MKW wide-angle photogrammetric camera

The permanently attached lens is the highly corrected 38mm f/4.5 Zeiss Biogon lens with a 90° angle of view. This makes the camera ideal for architectural and archeological applications, etc.

63002 Film magazine MK70/70

In principle, this is the same magazine as the regular magazine 70 (see p. 11), but modified for the photogrammetric camera's stronger magazine locking mechanism.

63029 Film magazine MK70/200

In principle, this is the same magazine as the regular 70/100–200 magazine (see p. 11), but modified in the same way as the MK70/70 magazine.

65021 Viewfinder MK70

An optical viewfinder for the MK70 with the same angular field as the 60mm Biogon. This viewfinder or the focusing screen adapter 64017 are required since the MK70 camera body does not have a mirror reflex viewing system.

65048 Viewfinder mask 100 for MK70 viewfinder

Used in conjunction with the optical viewfinder 65021 to show a field equivalent to that of the 100mm Planar.

64017 Focusing screen adapter MK

For the MK and MKW. It replaces the magazine when exact focusing is desired.

64033 Spirit level MK

Attached with the aid of a built-in magnet on the photogrammetric camera's accurately adjusted accessory plate.

64068 Quick-coupling MK

For fast and solid camera attachment with good position repeatability.

64041 Case MK

An aluminum case with special fittings to accommodate a complete MK70 rig.

UNDERWATER PHOTOGRAPHY

The Hasselblad underwater housing for the motorized Hasselblad 500EL/M was designed to permit complete control over camera operation and the best possible pictures in underwater photography. The rugged design with protective grip rings in front of the large domes makes the equipment suitable for use in demanding conditions, such as the inspection of submarine structures in the offshore industry. The housing can be used down to a depth of 650 ft (200 m). The middle section of the housing, like the protective rings and other external metal parts, are made of acid-resistant steel. The controls for focusing, setting the diaphragm, and setting the shutter are made of vulcanized rubber. The values set can be read on illuminated scales through the rear dome. Thanks to a special viewfinder attachment installed on top of the camera, the camera's focusing screen can also be seen through the rear dome. A large rubber eyepiece eliminates extraneous light and reflections.

The lens must be supplemented with a special correction lens, available for the three Hasselblad lenses listed below.

67008 Underwater housing for the 500EL/M

Supplied with viewfinder attachment, toothed rings to be attached to the lens, special grease, various tools, spare parts, and a case.
Corrections lenses are not included and must be ordered separately.

67091 Correction lens for the 80mm f/2.8 Planar C
67105 Correction lens for the 50mm f/4 Distagon C
67113 Correction lens for the 60mm f/3.5 Distagon C

Surveillance

A surveillance camera is often employed in positive identification of people recorded by the camera in some security situation. The surveillance camera is also used to record processes or the state of automatically controlled equipment. The Hasselblad camera's format and optical quality yield superior results for such applications. A surveillance system could comprise one or two Hasselblad 500EL/M cameras in protective, sound-proofed enclosures, a central electronic unit, and a slave unit for camera two. The central unit is connected to the alarm system used to protect the object, such as a robbery or

burglar alarm in a bank. Two different alarm levels could initiate different exposure programs; a three-shot sequence on each occasion or continuous exposures as long as the film lasts.
If the cable to the camera body is cut, the camera starts automatically and continues taking pictures until no film is left.
Magazines holding up to 200 exposures can be attached.

65056 Sound-proof enclosure

Includes a mounting rack and ball-and-socket joint for rotation in any desired direction. The left side of the enclosure can be opened fully for maximum accessibility. The lid is locked with a key.

65064 Central unit

The cameras are triggered with this unit which is connected to the alarm system. Two inputs for the two different exposure programs. A warning signal lights when there is a camera malfunction or whenever the alarm is triggered.

65072 Slave unit

Accessory electronics required when a second camera is connected to the central unit.

PATIENT DOCUMENTATION

The $2^1/4 \times 2^1/4$ format is ideal for pictorial documentation in medical records. The picture is big enough for direct observation but does not take up too much storage space. The Hasselblad Padoc system is intended for this application. Hasselblad's Padoc sheets have six pre-punched windows that are opened with light finger pressure. The opening in the front side of the sheet measures $2^1/8 \times 2^1/8$ in (54×54 mm). The opening in the back of the sheet (the protective cover) is $2^7/16 \times 2^7/16$ in (62×62 mm). This exposes an adhesive frame, 4 mm wide, on the back onto which the picture can be attached.
The sheet has a pre-printed text facilitating the entry of patient data, phototechnical information, and data on the lighting used.
Each sheet measures $7^7/8 \times 11^1/2$ in (201×292 mm), i.e. somewhat less than the standard European A4 format ($8^1/4 \times 11^3/4$ in = 210×297 mm). Each sheet can easily be put into an A4 plastic file.

68004 Padoc sheet as above
Supplied in 250-sheet packages.

68012 Padoc sheet, blank
Format and use as above, but without any pre-printed text.

SPECIAL ORDERS

A few examples of the products developed as the result of direct contacts between customer and factory are listed below, just to give you some idea of the range of special services Victor Hasselblad AB can offer.

Building the MK70 into the wall of a vacuum chamber

A large vacuum chamber was built at ESTEC (European Space Research and Technology Center) in the Netherlands. The way the dimensions of items destined for use in space change in a near vacuum is being studied in the chamber. Measurements are being made with photogrammetric methods. To this end, ESTEC and Victor Hasselblad AB designed special seats for two MK70 cameras, including windows made of special glass, and built it all into the vacuum chamber's walls. A specially designed device to permit the making of test exposures on Polaroid film was also included in the equipment.

* Data recording

Thanks to a development project conducted in collaboration with the U.S. Air Force and NASA, it is now possible to record data onto the film at the time of exposure, a very desirable feature in many applications. The system permits recording of data, comprising up to 30 characters, with exceptional sharpness onto the edge of the film just outside the image frame. Seventeen positions are reserved for time information (date, hour, minute, and second), and a three-digit exposure number. The remaining thirteen positions can be programmed by the user.
The system's hardware consists of two parts; a modified magazine 70/100–200 and an external programming unit. The modified magazine incorporates optics for data recording and electronics which keep track of the time, frame counting, character generation, and synchronization of character exposure with film advance.
The external programming unit is connected when the text in the optional area is to be changed, the clock set, or the frame counter reset.

** The motorized MKW

The motorized Hasselblad 500EL/M and MK70 cameras are obvious choices in many scientific and industrial contexts. In cramped spaces, a wide-angle but highly corrected lens, as on the manually operated SWC/M or MKW, may be more desirable. For one customer, however, the only possible solution was two remote-controlled MKW cameras to be used in the photogrammetric inspection of the interior of nuclear reactors.
The result was a motorized version of the MKW in which the motor housing of a 500EL/M was combined with a modified MKW.
Camera release and film advance was remote-controlled in the same way as with a 500EL/M. The Hasselblad SWC/M can be modified in the corresponding manner.

Half-frame magazine

The cost of film can be considerable for certain industrial applications entailing continuous exposures. When the subject is long and narrow, considerable savings can be made by adapting the format to the subject shape. That is why we converted a magazine 70 for one customer into the $1^1/16 \times 2^1/16$ in (27.5×55 mm) format. In this case, an ordinary film cassette for the magazine 70 then yielded 140 exposures instead of 70.
A magazine 70/100–200 was also modified in the same manner and now delivers up to 400 exposures.
In the same way, the two magazines can be converted into the $1^5/8 \times 2^3/16$ in (41×55 mm) format delivering about 90 and 265 frames respectively.

Automatic camera in space

The "MAUS" Project, conducted by the West German space research organization DFVLR and the space technology company ERNO, involves research into automatic processing of materials in sealed containers aboard NASA's Space Shuttle. We supplied ERNO with modified Hasselblad 500EL/M camera bodies and 70/100–200 magazines for photographic documentation of one of the experiments; crystallization of molten salts. The mirror, focusing screen, focusing hood, and leather covering were removed from the camera bodies. The tripod plate was replaced with an even sturdier seat capable of withstanding the strain of launchings and landings.
The magazines were 70/100–200's, modified for half-frame operation.

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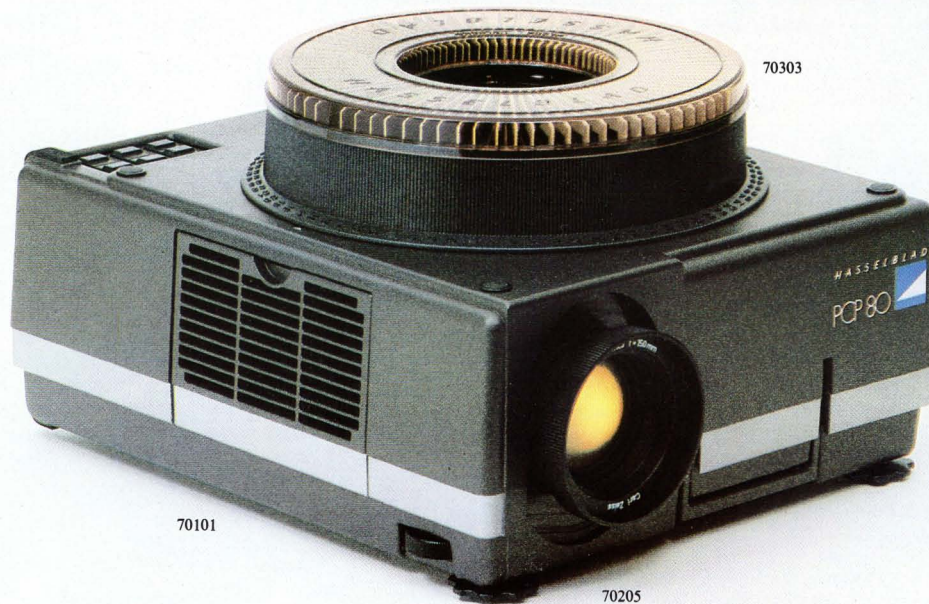
The Hasselblad PCP80 Projector

The Hasselblad PCP80 is a slide projector for the 2¹/₄×2¹/₄ format. Built-in perspective control, first-class lenses from Zeiss, a rotary slide magazine, and a number of other features put the PCP80 in a class by itself, compared with other advanced projectors. This professional projector is designed for both large and small slide shows. Its innovative electronics tailor it to the demands of today and prepare it for future developments in the field of control equipment.

The designation ''PCP80'' stands for Hasselblad Perspective Control Projector for 80-slide trays.

Perspective control

Images projected by a projector that is tilted backward are wedge-shaped on the screen, i.e. they taper off towards the bottom. The opposite occurs when the projector is tilted forward. The screen and slide must be parallel to one another for rectilinear projection. The slightest tilting of the projector results in a wedge-shaped image.

The Hasselblad PCP80 is capable of raising or lowering the screen image without altering image geometry. This is accomplished by parallel displacement of the lens in exact relationship to the condenser and lamp. The result is that a square slide image is square on the screen.

Lens and condenser

Pictures taken with Zeiss lenses can now be projected with Zeiss lenses. Lenses for the PCP80 projector have been designed and manufactured in the same exacting way as the camera lenses and also feature anti-reflection coating.

The projector lens is one component in the projector's optical system, a system in which light rays emitted by the lamp and reflector pass through the slide via the condenser system and continue on through the lens to form an image on the screen. The specifications of every component in this system must be just right and manufacturing and assembly must be faultless to enable the superlative Zeiss lenses to deliver a sharp, evenly illuminated image on the screen.

The optical system in the PCP80 is uncompromising and specially tailored to each lens. So each lens has its own matched condenser lens which is replaced whenever the lens is replaced.

Automatic lamp replacement

The projector has a built-in spare lamp. Whenever the lamp burns out, the spare lamp is automatically switched on, within only a fraction of a second. The lighting of a warning lamp on the projector's control panel is about the only thing you will notice when a burned-out lamp is automatically replaced.

Outstanding light output

The high efficiency of the optical system results in outstanding output on the screen and extremely uniform corner-to-corner illumination.

The position of the lamp (and the filament) in relation to the spherical mirror usually calls for difficult and time-consuming adjustments. With the Hasselblad PCP80, this adjustment is made from *outside* the projector. And the lamp does not even have to be switched on! This also applies to the spare lamp.

A uniquely angled condenser system with dichroic mirrors make it unnecessary to use a light stealing heat absorption filter on the PCP80. Since each projector lens has its own matched condenser lens, the light can be utilized optimally without compromises.

Unparalleled reliability

The Hasselblad PCP80 has a double fuse system. One fuse is triggered if the main transformer overheats, e.g. because of excess voltage. The other fuse system monitors the temperature near the transparency and switches off the projector lamp long before there is any risk of heat damage to the slide.

Separate, quiet motors for slide advance, fan operation, and focusing result in an uncompromising drive system and unparalleled reliability. The slide changing mechanism operates gently with the aid of gravity feed. A mechanical safeguard is triggered instantly if an improperly mounted slide jams during a change. If the jam lasts more than a few seconds, the power to the motor, one task of which is to return the slide to the magazine, is cut off. The cooling fan, driven by its own separate motor, keeps operating the whole time.

The cooling system is based on the use of pressurized, filtered air. The fan operates at a remarkably low noise level. Air is drawn in through an efficient filter and then distributed at hyper-

baric pressure to all parts of the projector. If the filter is kept clean, no dust will accumulate in the projector. Dust can have a harmful effect on the projector mechanism and optical system.

Projection system

The projection system in the PCP80 utilizes a rotary slides magazine. This is the only type magazine acceptable for professional applications. It is equally efficient for conventional shows and for continuous projection using one or more timer-controlled projectors, as for advanced multivision shows.

The slide magazine can be detached at any time, irrespective of its position, and without being reset. The slides are protected by a transparent plastic lid which is locked in position with a bayonet mount.

The magazine has a patented device making it impossible for a slide to fall out of a detached magazine. The patented lock opens only when a magazine is attached to the projector and is automatically locked when the magazine is detached. The magazine cannot be detached when there is a slide in the slide gate. This safeguard makes it impossible to forget a slide in the slide gate and prevents slide collisions when a new magazine is attached.

Control systems

The Hasselblad PCP80 has three different outlets and can be operated by means of any of the ordinary control systems on the market. One outlet is the ordinary 6-pole connector found on most projectors. Functions such as forward and reverse slide changes and focusing can be operated via this outlet. The projector can also be operated via wireless or cable remote control with the aid of this outlet. The outlet also accepts a timer for continuous slide changes at pre-determined intervals. The lamp can also be controlled via the 8-pole outlet. This outlet is used in multivision shows controlled by different systems. The third outlet is for a 12-pin AV contact and is often referred to as the Kodak ''special effects'' outlet.

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MULTIVISION—MULTIPROJECTOR SLIDE SHOWS

The Hasselblad PCP80 was designed for use in advanced multiprojector set-ups.

Perspective control makes for perfect frame alignment in dissolves. Since the transparency's geometry—square or rectangular—is reproduced unchanged on the screen, there are no gaps or overlapping images.

Hasselblad registration slide mounts with guide pins make it possible to obtain extremely exact slide mounting.

The automatic lamp replacement capability now found in the Hasselblad PCP80 has for long been an understandable feature desired by multi-vision producers. One of many safeguards in the PCP80 is an indicator showing which of the two lamps is in operation. This indication can also be displayed on a central control panel.

Hasselblad projector PCP80, delivered as separate components. Projector body, lenses, and rotary slide magazine, as well as other accessories.

70101 Hasselblad PCP80 projector body

with power supply cable but without a lens and rotary slide magazine. Supplied with front protective cover PCP80 70532. Weight: 30 lb 15 oz (14 kg).

70205 150mm P-Planar f/3.5 projector lens (incl. condenser lens)

Normal lens with matched condenser lens. Supplied with a front lens cap 150 70526.

70303 Rotary slide magazine PCP80

Holds 80 slides in $2^3/_4 \times 2^3/_4$in (70×70mm) mounts. Delivered in a specially designed box in which magazines can be stored. Lables for filing purposes are enclosed.

Accessories:

70511 Hasselblad registration slide mounts

With special guide pins to simplify perfect image fits in multivision programs. Available in boxes holding 40 mounts.

70517 Projector stand

For setting up several projectors, e.g. with image dissolves.
To be delivered during 1983.

70523 AV contact, 12-pin

For connecting different control systems on the market to the Hasselblad PCP80.
To be delivered during 1983.

70526 Front lens cap, 150mm P-Planar

This cap protects the lens element on the 150mm P-Planar.

70532 Front protective cover PCP80

This cover is used on the projector when no lens is attached.

70535 Projector case PCP80

Carrying and protection case for the PCP80.
To be delivered during 1983.

A number of accessories are scheduled for introduction in 1983–84 as complements to the PCP80 projector:

250mm P-Sonnar f/4 projector lens (incl. condenser lens)

Lens with matched condenser lens for long projector-to-screen distances.

Timer

For continuous projection. It controls slide changes and can be set to display slides at intervals from 5 to 30 s per slide.

Remote control unit IR

For wireless remote control of lens focusing and forward and reverse slide changes.

Remote cable control unit

Lens focusing and forward and reverse slide change are controlled with a cable.

Film punch

For punching out pictures and holes for guide pins. It also punches all four sides of 70mm perforated film.

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Hasselblad Original Cases

The line comprises soft ever-ready cases, cases carried by hand or on your shoulder, and large trunk-type cases. All were specially designed for Hasselblad cameras, projectors, and accessories and all are carefully hand-made from materials of the highest quality.

58211 Camera case 506

A soft protective case for the Hasselblad 500C/M and 2000FC/M, made of rugged black leather and provided with a zipper.

The camera is conveniently carried by the camera strap and can quickly be prepared for shooting. The camera can be combined with different lenses and lens shades, e.g. a camera with a standard lens and lens shade, or CF and C lenses in focal lengths from 50 to 150 mm and the 110mm or 150mm F lenses without a lens shade.

Dimensions: approx. $9^3/_4 \times 4^1/_4 \times 4^1/_2$ $(250 \times 110 \times 115$ mm).

58238 Camera case 507

Of the same type as case 506, although somewhat shorter but higher (no room for lens shades on CF lenses). Can hold a camera with a prism viewfinder or a meter prism finder. Can also be used as a protective case for the Hasselblad 500EL/M.

Dimensions: approx. $8^3/_4 \times 5 \times 6^1/_2$ $(225 \times 130 \times 165$ mm).

58025 Camera case 503

Of the same type as cases 506/507. Primarily intended for the Hasselblad SWC/M but can also be used for the 500C/M and 2000FC/M with a standard lens.

Dimensions: approx. $7^1/_3 \times 4^3/_4 \times 4^1/_4$ $(185 \times 120 \times 110$ mm).

58386 Camera case 522

An elegant and practical cowhide carrying case for a medium-sized equipment array. The flexible internal arrangement with movable partitions provides space for many different combinations of cameras, lenses, film magazines, and accessories. The case has a combination lock and a plate on which the owner's name can be engraved.

Dimensions: approx. $15 \times 11^1/_4 \times 5^1/_4$ $(380 \times 285 \times 135$ mm).

58254 Case 525

A practical and convenient shoulder bag made of natural-colored cowhide. Plenty of room for a standard equipment which can be varied.

Provided with a special holder for the different Hasselblad cameras; a 500C/M or 2000FC/M with a standard lens and a meter prism finder attached or a 500EL/M or SWC/M with standard equipment. Lenses in focal lengths from 50 to 150 mm without a lens shade can be attached to the camera. There is also room for alternative lenses, extra film magazines, smaller accessories, and rolls of film.

Dimensions: approx. $10^3/_4 \times 9^1/_2 \times 6^1/_4$ $(270 \times 240 \times 160$ mm).

58076 Case 518

A durable and practical large shoulder bag made of black oxhide. For photographers with a lot of equipment, e.g. press photographers. Has three special holders for alternative Hasselblad cameras. Room for two cameras. Also provided with holders for several lenses and extra film magazines and space for viewfinders, film, etc. An easily accessible and spacious pocket is placed on the outside of the case.

Dimensions: approx. $14^1/_4 \times 10^1/_2 \times 8^3/_4$ $(360 \times 265 \times 220$ mm).

58394 Case 530

Soft shoulder bag made of leather. Holds a medium-sized Hasselblad equipment. Flexible internal arrangement with movable partitions and protection for lenses. Two spacious pockets on the outside of the case and one on the inside of the lid.

Dimensions: approx. $14^1/_2 \times 7^3/_4 \times 9^3/_4$ $(370 \times 200 \times 250$ mm).

58270 Case 712

A functional and spacious case for a very large Hasselblad equipment. The internal arrangement, both in the lid and the case itself, is flexible which makes it possible to store Hasselblad cameras and accessories in a large number of different combinations. All the lenses, except the longest telephoto lenses, can be stored in an upright position. A rubber gasket around the opening provides a weather-tight seal and protects the case contents against dust and rain. Ideal for sandy areas and tropical climates. Weight: 10 lb 13 oz (4.9 kg).

Dimensions: approx. $18 \times 15^1/_4 \times 7$ $(455 \times 390 \times 180$ mm).

Lens cases

Protect the lenses in the best possible way. Elegant leather cases specially designed for different lens sizes.
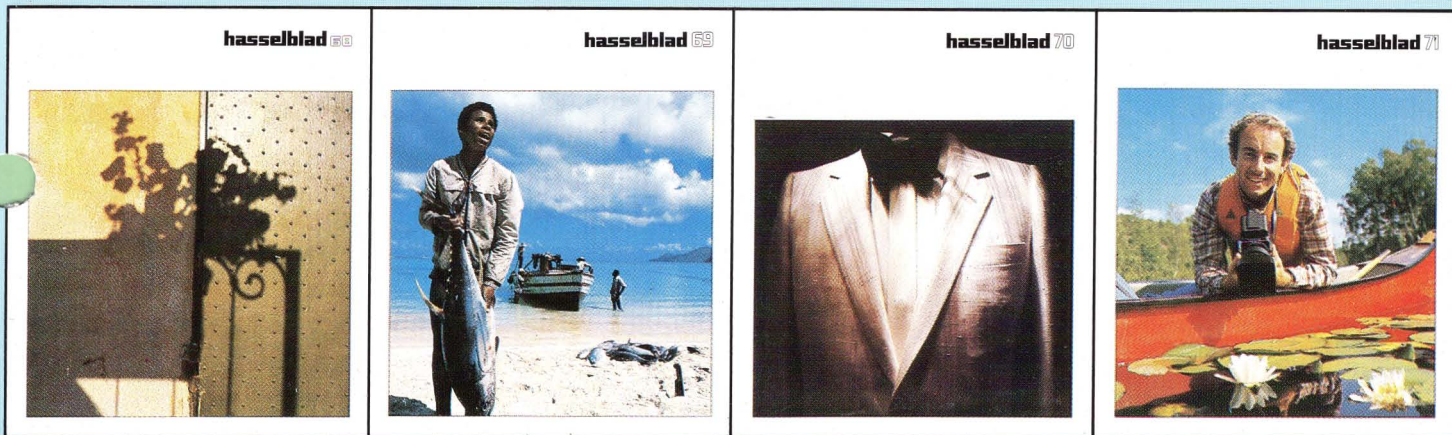
58289 Case for the 50 or 60mm Distagon CF and C lenses
58300 Case for the 80 or 100mm Planar CF and C lenses
58319 Case for S-Planar 120 or 135 C and Makro-Planar 120 or 135 CF lenses
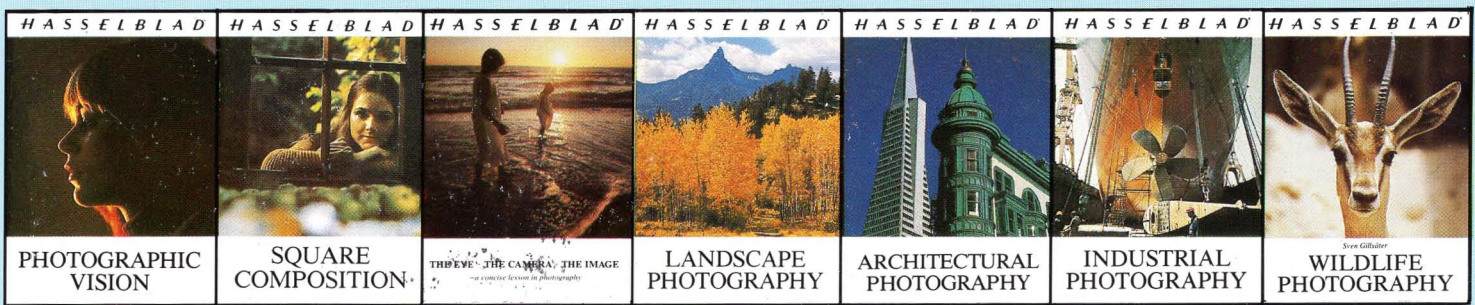58327 Case for the 150mm Sonnar CF and C lenses
58335 Case for the 250mm Sonnar CF and C lenses

hasselblad 68 · hasselblad 69 · hasselblad 70 · hasselblad 71

The Hasselblad House Magazine

The Hasselblad House Magazine is a forum for Hasselblad photographers all over the world. It is published in three languages; English, German, and Swedish. The Magazine presents the best work of leading photographers. The photos in color and black & white are often accompanied by entertaining and informative articles by and about the people who took the pictures. The Magazine also carries the latest news about the Hasselblad system, technical information, and tips from other Hasselblad owners. No less than 36 feature-packed pages four times a year—right in your mailbox!

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A series of Hasselblad booklets on a wide range of subjects.

The authors are all photographic authorities who show you in words and pictures how to use the Hasselblad system for tackling a wide range of assignments. The booklets are available in six languages; English, German, French, Italian, Spanish, and Swedish. Please indicate your first and second choice of language when ordering.

Booklets are reprinted from time to time but may sometimes be out of stock in one or more languages. So please indicate your first as well as your second language choice! Anything we do have in stock will be sent to you immediately. Price per brochure: 7 Swedish kronor.

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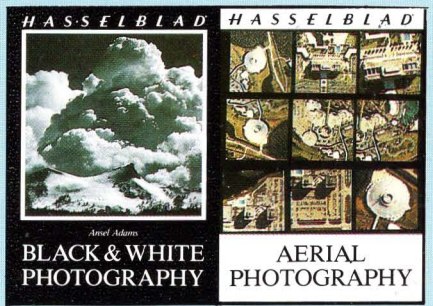
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