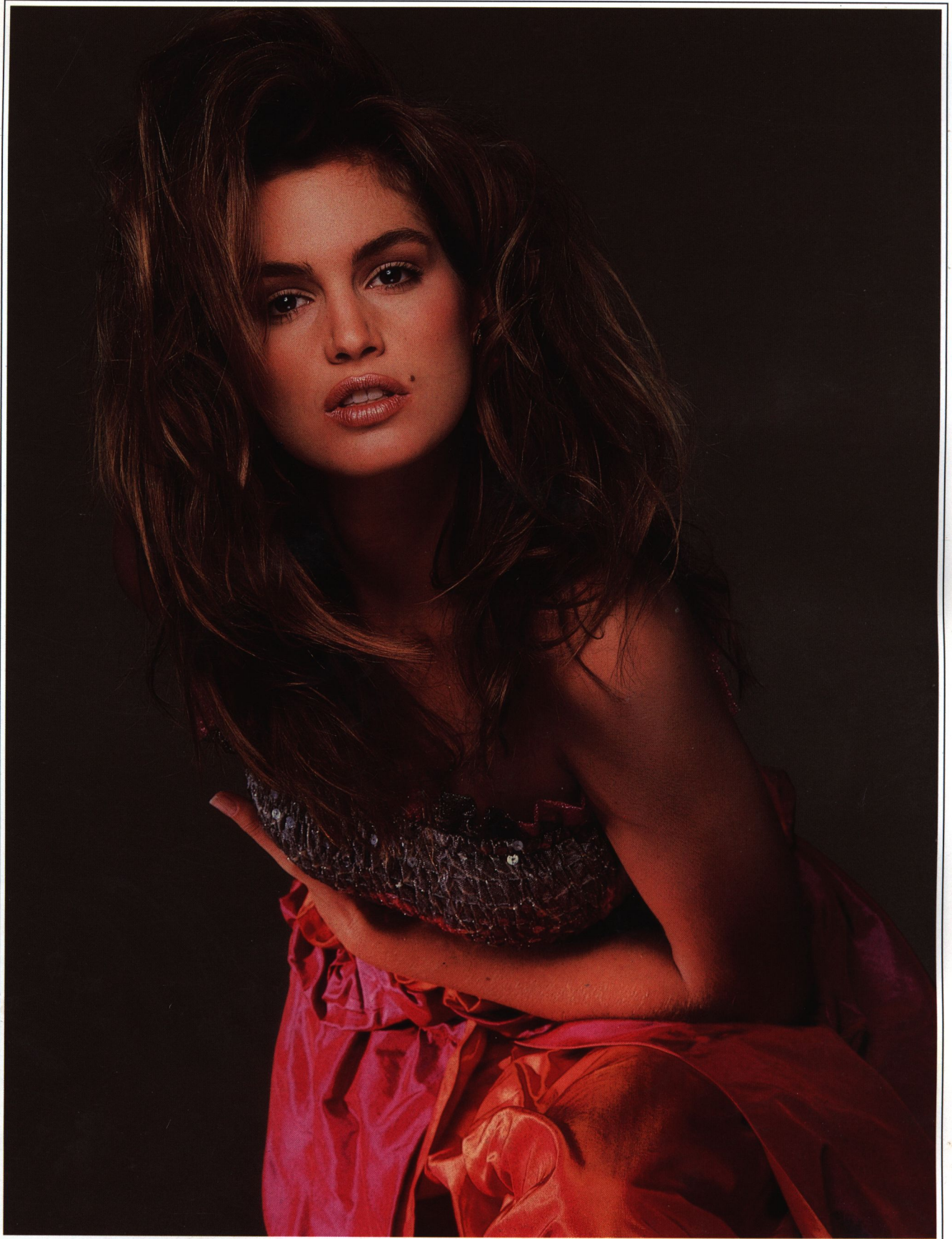


H A S S E L B L A D[®]



THE SYSTEM

When you choose a camera system you make a choice between different approaches to photography. In our opinion, you create the image – not the camera. Your ideas, your skills, your ways of thinking and working ultimately determine the success of the result. But – your equipment must help you to achieve these successful results, without restricting your creativity. At Hasselblad this is a way of thinking we call “conscious photography.”

This philosophy was behind the conception of the first Hasselblad camera over 40 years ago, and it is still the decisive factor in the development of every single element in today’s Hasselblad system. The various cameras, lenses and accessories all share the same high quality and precision. They can be combined in an almost infinite number of ways to meet every photographic application. Whatever Hasselblad you choose to own – no matter whether it is a 500C from 1957 or the new 205TCC, our latest and most advanced camera – it is your entry to the entire Hasselblad system. New technology can be added to tried and tested construction, enabling you to expand the scope of your equipment as your skill increases. The basic principle will always remain the same: a Hasselblad is a precision-made instrument, yet rugged enough to work reliably in any situation. The cameras and lenses render the best conceivable image quality, in the ideal format that offers unlimited freedom for composition and cropping. In addition, a policy of non-obsolescence guarantees that the equipment retains its value and usefulness for successful photography for years to come.

The concept of “conscious photography” has made Hasselblad the premier system on the market for medium format photography. Hasselblad’s precision, reliability, flexibility and image quality is appreciated by prominent photographers the world over. This brochure tells you why so many successful photographers have chosen Hasselblad and how they use our cameras in their work.



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*Photo: Fernando Flores Huecas, Spain.
Specialist in lighting and darkroom techniques.
The picture was taken with a Hasselblad 500C/M and a Distagon 50mm lens.*

205TCC

For the ultimate tone and contrast control

The Hasselblad 205TCC is the flagship of the current Hasselblad models. It is the first Hasselblad camera with built in exposure automation for existing light and electronic flash. The camera is a true Hasselblad design which means it is compact, lightweight and compatible with the rest of the system. You can therefore add a 205TCC to your existing outfit and use with most or all your other Hasselblad system components.

But the 205TCC is also part of a new system of TCC lenses, TCC magazines, TCC extension tubes, and TCC viewfinders. These are designed to fully utilize all the electronic advantages of the 205TCC camera. All TCC components are characterized by a double blue line.

The 205TCC has the most precise metering system ever built into a camera or an exposure meter. In the Zone mode the Hasselblad 205TCC is also the first camera to incorporate Zone system metering. It provides photographers with a precise and simple method for using the zone system, as pioneered by Ansel Adams. The TCC film magazine even has a film contrast dial where the black and white zone photographer can dial the exposure corrections necessary for changing the contrast range on the negative directly into the 205TCC's microprocessor, another Hasselblad exclusive.

The Zone mode is but one out of four different exposure modes. The others are the Auto mode, the Differential mode and the Manual mode – allowing the photographer to match the built-in metering system to his or her personal approach. There is also a Programming mode to program additional functions into the camera. Automatic, dedicated flash can be used together with any of the exposure modes.

The Auto mode, Differential mode and Zone mode are all essentially aperture priority/shutter automation modes. The latter two modes give the possibility of carefully evaluating a subject or scene, giving the photographer full control over the tonal content and values of the image. Thus, the designation TCC in the camera's name. TCC stands for Tone and Contrast Control.

Well proven medium format

The Hasselblad 205TCC is a medium format camera with a choice of photographing in the 6x6cm (2¹/₄ square) or 6x4.5cm format. Film magazines are available for 120 or 220 roll film and 70mm long rolls. A magazine for Polaroid film is also available.

The design of the camera is, of course, modular, but all the TCC components are electronically interlinked with reliable databus contacts. These contacts transmit digital data between the lens, the camera and the magazines making them into a unit totally controlled by the camera's Central Processing Unit.

Reliable digital control

The Hasselblad 205TCC is the only medium format camera with a digital electronic system. This control system makes the 205TCC a completely reliable camera. The camera can take rough treatment and will function under harsh conditions with the same precision that one expects from any Hasselblad camera. The digital signal processing and databus design will allow you to add more specialized system components in the future. The 205TCC camera system can grow without the technical limitations often encountered in less sophisticated electronic and mechanical designs.

Human engineering at its best

Using the camera is easy due to the human engineering and use of an easy-to-see liquid crystal display (LCD) readout in the viewfinder. There is also a comprehensive set of warning signals that appears in the viewfinder making photography with the 205TCC practically foolproof. You are always in control, even when working in the automatic mode. You can overrule the automation anytime and make your own adjustments to fine tune the exposure.

There are many advantages offered by this new camera. It is possible to work in a fully automated way. Everything is powered from a single 6V lithium battery which lasts for many exposures. In cold climates it can be used in an external battery pack. You can even work without a battery using the built-in shutters in CF lenses.

A system for creating the ultimate image

The built-in focal plane shutter gives accurately timed speeds from 16 sec to 1/2000 sec plus B. There are six lenses which transfer all the necessary electronic connections to the camera body and the viewfinder display with only four gold plated contacts. They are the Distagon F 2.8/50 TCC, Planar F 2.8/80 TCC, Planar F 2.0/110 TCC, Sonnar F 2.8/150 TCC, Tele-Tessar F 4/250 TCC and Tele-Tessar F 4-350 TCC. In addition, all C and CF and F lenses from 30mm to 500mm, the Variogon Zoom, the Mutar, and the PC Mutar can also be used. There are also special TCC extension tubes from 16mm to 56mm, but most existing tubes and the bellows are also usable.

Automatic dedicated flash with center-weighted OTF metering is possible with various flash units based on the SCA 300 or 500 systems, or the 4504 unit which has all the necessary electronics for dedicated operation built in so it can be connected directly to the camera.

The Hasselblad 205TCC is beautifully designed. As a working photographer you will appreciate its simplicity of operation utilizing a limited number of control buttons which make use of all the sophisticated functions in the camera. All controls can be operated with one hand and without removing the eye from the finder. All the information that you need to know appears on the viewfinder display. Whether you work with existing light or dedicated flash, the display will warn you if anything in the camera is not set properly to produce the ultimate image. You do not have to worry about technicalities, but can concentrate your efforts on what is important, i.e. making photographs of lasting value.





The four electronic contacts between lens and camera body.



The meter mode selector dial.



The film contrast and film speed dials.

A PERFECT FORMAT WITH

Hasselblad's world renowned image quality is the result of the precision in the metal body and its image-forming components, the incomparable sharpness of the lenses, the unmatched film flatness and of course, the large image format.

All Hasselblad cameras can produce images in the 6x4.5cm or the 6x6cm – the 2 1/4 square format. In combination with today's high resolution films, incredible details can be recorded on this large format. The large Hasselblad images can



6x4.5 cm



6x6 cm

24x36 mm

The 2 1/4 (6x6) square is more than 3x larger

be blown up to billboard size, evaluated with the naked eye, can be projected on gigantic screens with the beautiful square images providing the most effective and dramatic visual presentation on one or multiple screens.

The square format has become recognized as the most ideal and most versatile format. The world's leading professionals agree that the "idealness" of a format is determined by its versatility, camera design and performance. The 6x6 square maximizes the advantages of medium format photography by offering the widest possible choice of composing and cropping options. With Hasselblad it also produces the sharpest medium format image, even when compared to the larger 6x7 format. This most efficient Hasselblad square also makes our cameras and components light and compact for superb balance and lightning-fast handling.

A CHOICE OF CAMERAS

Or, the significance of sound

When the first Hasselblad was shown in New York in 1948 it was a revolutionary innovation. Today it is a classic, and one of the most widely used cameras in the world. Of all of today's Hasselblad cameras that leave the factory in Gothenburg every year, hardly two sound the same. Of course, since a camera is built to register images not sounds, you may think that this fact is of marginal importance. But it does tell you something worth remembering. Every Hasselblad camera is unique. The mechanism and the advanced electronics in, for instance, the 205TCC, are manufactured and assembled with craftsman's precision. All 800 to 900 components in a Hasselblad are finely tuned to work in perfect harmony. The demands made on precision and quality are equally rigorous at every stage of the production process, from research, design, and material specifications to manufacturing, surface treatment and assembly. The result is a camera built to survive years of unrelenting hard usage, a camera which gives you every opportunity to produce work of a consistently high quality – a camera you can rely on. To say it in a different way, the result is not an ordinary camera, but a Hasselblad. It's a solid investment, backed up by a global network of dealers and service centers.

Direct contact with the subject

Looking into the focusing hood of a Hasselblad gives an unparalleled sensation of intimacy and contact with your subject. The viewfinder image is large and clear, giving you plenty of opportunity to photograph from practically any angle. You don't even need to hold the camera to your eye. The camera body is lightweight, compact, easy to handle and fast to operate.

The **500 Classic** is the most popular 500C/M model – fully equipped and ready for use with a Planar CF 2.8/80mm lens, A12 magazine and focusing screen with microprism and grids.

The 500 Classic is the ideal choice for making the first contact with the comprehensive Hasselblad system. The camera has all the necessary features for any type of photography, can be expanded with a wide range of lenses

and accessories, and updated to meet your future requirements. The 500 Classic is mechanically operated, and ruggedly built for reliable use without batteries. All this, coupled with the high image quality, explains why the camera has retained its popularity for over 30 years.

The **503CX** is the perfect choice for location flash photography. It has TTL/OTF metering for automatic exposure with dedicated flash units. A sensor in the camera meters the output of the flash on the filmplane. Flash sync is up to 1/500 sec, regardless of the type of film and accessories you are using. The metering is done through the lens and therefore works beautifully and automatically even with close-up accessories. The sensor is completely protected from direct sunlight.

The 503CX is easy to handle and fully mechanical so there is no need to worry about batteries, even when using dedicated flash. The power comes from the batteries in the flash unit. The 503CX is ideal for a wide range of applications: portraits, weddings, close-ups and nature shots, indoors or out, with or without flash. The 503CX is equally at home in the hands of the professionals or the amateur.

The **553ELX** is a most popular Hasselblad camera for studio work, in fashion, advertising and portrait photography.

The built-in – not attached – motor advances the film at 1.2 frames/sec, for shooting sequences at a brisk rate with undivided concentration and without ever taking your eye from the finder.

Connected to a remote release cable, you can work with even greater freedom. You can move props, direct and watch models from a close distance – shooting at exactly the right moment without having to return to the camera.

Both the 553ELX and the 503CX come with the automatic dedicated flash metering system and the bright Acute-Matte focusing screen with its incredibly sharp image for fast and precise focusing.

The **903SWC** has been specially developed to do full justice to the unsurpassed image quality of the

Biogon CF 4.5/38mm lens. This lens has virtually no distortion, and maintains its exceptional definition, into the corners of the image, from infinity down to the one foot minimum focusing distance. Its compact size makes the 903SWC a popular all-around camera. Its great depth of field allows a photo-journalistic approach. Its ability to cover large areas or work well even in cramped conditions makes it ideal for architectural photography. The superb picture quality is perfect for reproduction and documentation.

The 903SWC differs in construction from other Hasselblad cameras in order to accommodate all these features in one and the same camera. The lens is permanently attached with the rear element close to the camera's film plane. The optical viewfinder gives a full image of your subject and incorporates a spirit level which can be seen and closely watched while composing the image. Handheld photography with a perfectly level camera producing undistorted verticals is possible. The setting of the distance scale on the lens can also be seen through the finder by means of a special magnifying lens. When working with a tripod the image can also be composed and focused on a groundglass screen accessory which is attached to the rear of the camera in place of the film magazine. The 903SWC thus becomes a 2/4 view camera producing "architectural" quality on the medium format. All magazines in the system including the Polaroid type fit the 903SWC.



CHANGING FILM AND FORMAT

From black/white to Polaroid – from color negative to transparency film. From exposed to unexposed film. From camera to another camera. All this is possible simply and instantly thanks to Hasselblad interchangeable film magazines.

Speed and ease of operation are equally important considerations for all types of photography indoors, and especially when you move outside the studio. You can always work with the film that's best for a situation, and switch instantly to another when the situation changes, and do so midroll. Instead of carrying around a battery of different cameras, all you need is a few extra magazines. Hasselblad gives you more freedom and more flexibility. Hasselblad lets you concentrate on your photography.

Choice of film and format

There are Hasselblad magazines with film capacities from 12 frames to 70. And you can choose between 120 or 220 rollfilm, or 70 mm long rolls in daylight cartridges. Sheet film adaptors for single frames and a Polaroid magazine are also included in the system. Hasselblad all-metal magazines have the rugged construction characteristic of the entire Hasselblad system. Each film insert is individually adjusted and matched to its specific magazine shell for precise compatibility with sensitive lasers and then they are both given identical serial numbers. The result is a perfect, lightproof fit and superb film flatness that stays that way, even after thousands of film changes.

Film flatness is of utmost importance for obtaining corner-to-corner sharpness, particularly with today's high resolution films.

Magazine 70

The 70 mm magazine lets you shoot up to 70 frames on 70 mm perforated film, considerably reducing the risk of missing a priceless picture while changing film. This magazine is especially valuable when working with motorized cameras.

Magazine for Polaroid film

The Polaroid film magazine allows you or your client to see on film exactly how the image will be rendered on film



without having to make time-consuming test exposures. You can check lighting, exposure and things like the amount of blur when using slow shutter speeds that cannot be seen in the finder of any camera.

205TCC Magazines

You can use the 205TCC with Hasselblad TCC magazines or all the other magazines in the system. With the TCC magazines the film sensitivity set on the magazine is automatically transferred to the camera. With the others it is programmed into the computer. In the TCC Zone mode, the TCC magazine also lets you set the compensation values for the contrast range when developing black and white film.

The perfect format

The advantages of the large Hasselblad negative size become obvious when enlargements are made. You can make large "billboard" size enlargements without an obvious loss of sharpness or

without any objectionable grain; even if you use only 30% of the negative. The remaining size is still larger than a 35 mm negative.

The square images need not be enlarged to squares. They can easily be changed into horizontals or verticals without any loss of quality because the degree of enlargement is the same. You only change the shape.

Operating features

With the magazine slide removed, the magazine remains locked in position on the camera. Each magazine has a signal indicating whether it contains film and whether the film is advanced or not.

Our images are identified

Negatives and transparencies taken with a Hasselblad are easy to identify. Two V-shaped notches in the edge of the frame (outside the image area) are the discreet, yet distinctive sign that the image was made on the world's best medium format camera.

ULTIMATE IMAGE QUALITY

There is only one true measure of lens performance – a technically perfect image. There are no shortcuts to achieving this goal, and it remains the benchmark by which every Hasselblad lens is ultimately judged.

The breathtaking definition of lenses made for the Hasselblad system is based on a process in which even the tiniest detail is of crucial importance to the final result. A fundamental condition is that the choice and combination of glass qualities is determined separately for each lens. Polishing and multicoating must be carried out with utmost care and precision. And it is essential, too, that the distances and angles between the various lens groups are perfectly calculated and adjusted in relation to one another and to the camera and film magazine. When a perfect image is required, there is not the slightest room for error, so each individual lens is tested and checked during and after production to ensure that it meets the specified rigorous standards.

Designed to last

The importance of the mechanical quality of interchangeable lenses in a professional camera system cannot be overstated. A lens must withstand years of demanding, professional use without any deterioration in function, performance or image quality. The construction must ensure that the user enjoys working with the lens. Grip rings and controls should be comfortable to work with, and the scales clearly and conveniently marked. It is easier to take good photographs with equipment that is simple to use.

The lenses in the Hasselblad system are, with the exception of the Schneider Variogon zoom, manufactured in Germany by Carl Zeiss, one of the leading lens producers in the world, and a long-time business partner of Hasselblad.

The right lens for your camera

The Hasselblad system includes 23 lenses with focal lengths from 30mm wide-angle to 500mm telephoto – a comprehensive range of lenses to cover every conceivable requirement.

Two series of lenses are produced. The CF lenses have built-in leaf shutters with flash sync up to 1/500 sec and are primarily intended for use with the 500 Classic, the 503CX and the 553ELX. You can also combine them with the 205TCC's focal plane shutter

and still have flash sync up to 1/500 sec, while only slightly reducing the potential for using the camera's automatic exposure functions.

The extremely fast, shutterless lenses in the F/TCC series have been specially designed for the 205TCC and are available with 50, 80, 110, 150, 250 and 350mm focal lengths. The TCC lenses have four system contacts on the bayonet plate, which transfer electronic data between the lens and the camera.

For portrait work, you have a choice of three lenses – the Sonnar 150mm; the Makro Planar 120mm that focuses down to 3 feet and the Sonnar 180mm



f/4 which allows tight head shots of unmatched quality at the 5 foot minimum focusing distance.

For the best in image quality, especially when your work includes architectural, consider the 100mm Planar as your standard lens. It is only 1/2 f-stop slower than the Planar 80mm but produces a superb corner-to-corner image quality even wide open. For speed and quality, have a close look at the f/2 Planar 110mm, a lens without shutter that justifies serious consideration for the 205TCC camera.

All these sharp Carl Zeiss lenses can be converted into beautiful soft focus objectives by simply attaching a Softar diffusion filter.

Double your options

All the lenses up to the 500mm Tele-Apotessar can be combined with a Mutar Teleconverter which doubles the focal length of each lens – making a 1000mm telephoto out of the Tele-Apotessar without any objectionable, or visible loss of quality. The compact Mutar is especially a good choice for traveling, reducing the need for

carrying the long telephotos – providing that the loss of two f-stops, which happens with all 2x extenders, does not present any serious problems.

The PC-Mutar 1.4x, in addition to extending the focal length 1.4x with a one f-stop loss, offers perspective control capability for all your lenses between 40 and 100mm. You can shift the lenses up or down 16mm and photograph tall subjects without having to tilt the camera. Vertical lines remain perfectly vertical and parallel. The PC-Mutar gives you focal lengths of between 56 and 140mm. The focal length of the CF 4/40 lens is increased, for example, to 56mm.

A new lens can be a real eye-opener

Your equipment must give you every opportunity to turn your ideas into photographic reality. A good choice of lenses may not only satisfy your original intentions but may well inspire new ideas.

Why not experiment with the freedom a 140-280mm zoom lens gives you? Discover the new world opened up by the wide-angle effect of the Distagon 40mm f/4. Or turn conventional subjects into something unreal with a Tele-Tessar CF 5.6/350mm extended to 700mm with a Mutar 2x. Experiment working with an open focusing hood – it sometimes makes composing a picture easier, especially since the Acute-Matte focusing screen gives such a clear, brilliant viewfinder image.

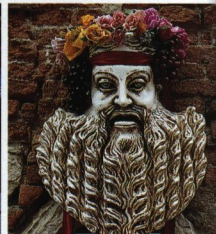
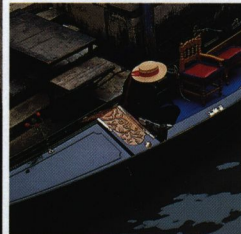
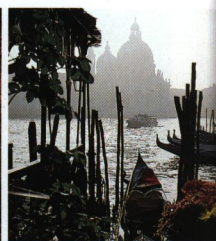
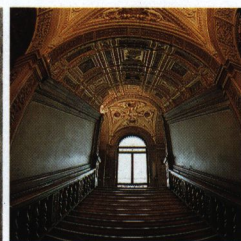
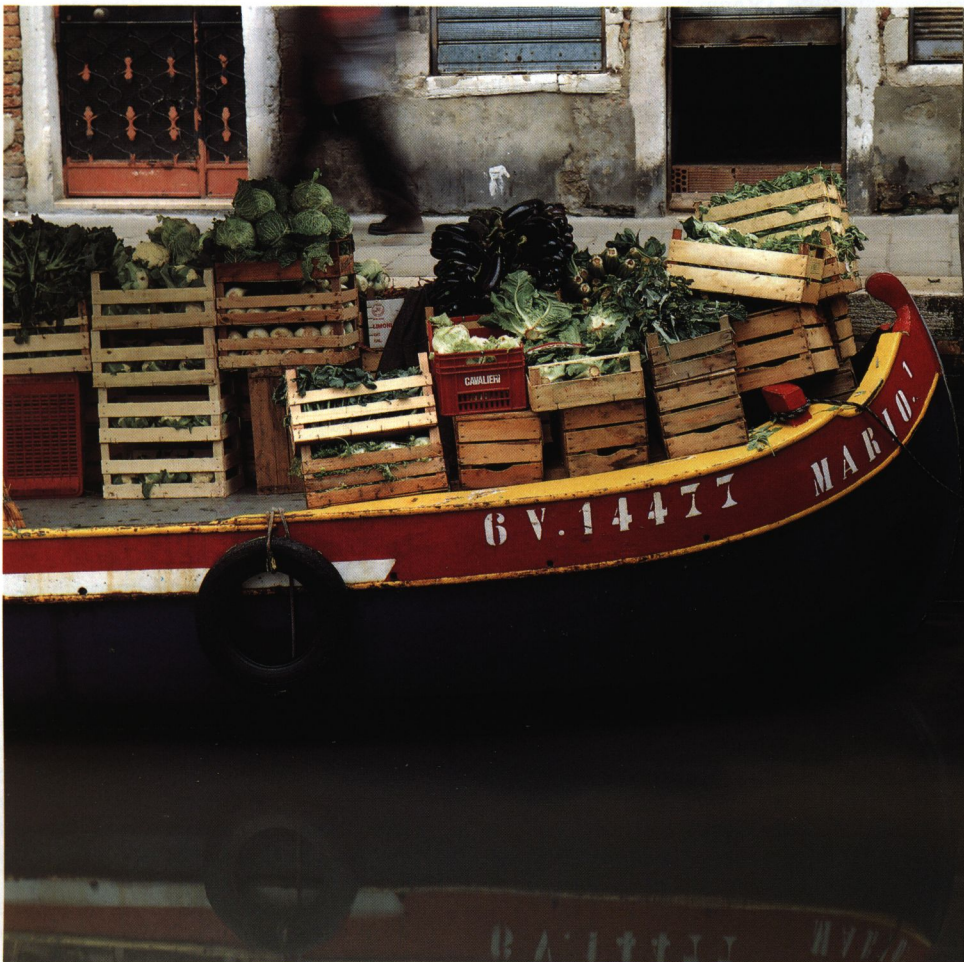
Special lenses

Some lenses are designed to serve a specific purpose. The lens elements in the UV-Sonnar CF 4.3/105mm allow ultraviolet light to pass, a feature which makes it ideally suited to scientific applications monitoring the absorption and reflection of ultraviolet light. While all lenses permit the passage of infrared light, the Sonnar CF Superachromat 5.6/250mm is designed for the ultimate chromatic correction of both visible and infrared light without the need of a focusing adjustment.

There are two lenses designed to produce the very best image quality in close-up photography. The Makro-Planar CF 4/120mm focuses down to 2 1/2 feet with a reproduction ratio of 1:4.5. The Makro-Planar CF 5.6/135mm has been developed especially and solely for use with bellows or variable extension tube. With the



Three pictures taken from the same distance using a Distagon CF 3.5/30mm fish-eye lens (far left), a Makro-Planar CF 4/120mm (center), and a Tele-Tessar CF 8/500mm, its focal length extended to 1000mm using a Mutar 2x Teleconverter (left).



bellows fully extended this lens gives a 1:1 reproduction ratio; in the shortest extension you can photograph at infinity. You can photograph anything from infinity to life-size magnification by simply changing the bellows length. With variable extension tube you can focus down to 4 feet.

Don't forget a lens shade

A lens shade should be used on all lenses whether you are working indoors or out. A shade will enhance the contrast by eliminating the stray light from surrounding areas, white backgrounds for example. The Hasselblad system includes a variety of lens shades. The Proshade 6093 is the best

choice in backlight or when working with bright backgrounds. The shade can be adjusted in length for the various focal length lenses. One Proshade can be used with all lenses (except 30mm) and also gives the possibility of using gelatin filters.

Even a Stradivarius sometimes needs tuning

There may be times when you or your client prefers an image with the soft touch – the highlights “bleeding” into shaded areas without giving the impression of an out of focus picture. The Softars are superb to achieve a

really professional soft touch effect. The Softars are another Hasselblad tool to give you full freedom and control over the final result.



1.	2.	3.	7.		12.
	4.	5.			
	6.		8.	9.	
			10.	11.	

1. Sonnar CF 4/150mm.
2. Distagon CF 3.5/30mm.
3. Planar CF 2.8/80mm.
4. Makro-Planar CF 4/120mm.
5. Sonnar CF 4/150mm.
6. Variogon CF 5.6/140-280mm.
7. Tele-Tessar CF 5.6/350mm.
8. Sonnar CF 5.6/250mm.
9. Sonnar CF 4/150mm and extension tube 56.
10. Distagon CF 3.5/60mm and flash
11. Tele-Tessar CF 5.6/350mm.
12. Distagon CF 3.5/30mm.

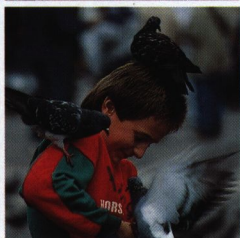
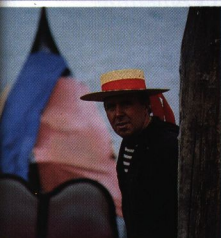
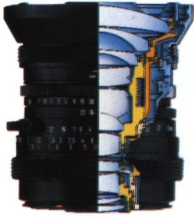


Photo: Jens Karlsson and Björn Röhsmann.

WE GIVE YOU THE FACTS



High optical lens quality is essential for first-class photographs. Optical quality results from the ability of a lens to render details

clearly and sharply from corner to corner and with the aperture wide open, to illuminate the entire image evenly, and to reproduce color and form faithfully and without distortion. The demands on optical quality are so numerous, often competing with and contradicting one another, that evaluation has traditionally been the province of the experts, leaving photographers merely to confirm or question the laboratory results in their day-to-day work with the lenses.

It is not easy for a photographer to understand the significance of lens quality data. Nevertheless, we believe in presenting all the facts to let you digest and verify them for yourself, or have them verified by an optical expert. The high quality performance of our lenses is guaranteed. But, with good reason, different lenses have different individual characteristics and these are defined explicitly in our technical specifications for each lens. Every lens supplied is individually checked to ensure it meets these criteria.

The facts that we supply

The facts we give you cover:

- MTF curves at full aperture and stopped down.
- Relative illuminance over the full image area.
- Distortion over the image area.

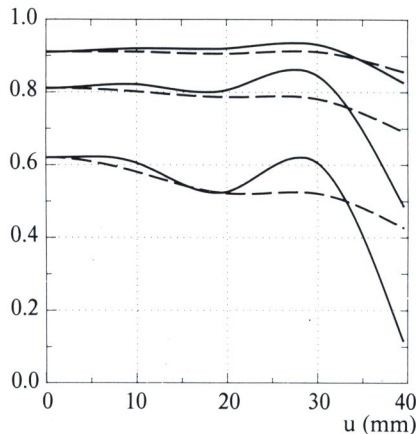
Since other important values, such as flare and color rendition, vary only marginally between the different lenses in the system, these are not shown. But we can assure that we demand the same high quality of every Hasselblad lens. Consistently correct color rendition regardless of the type of lens is especially important in such a comprehensive lens system.

MTF curves

The ability of a lens to reproduce the contrast in a subject can be expressed as a series of Modulation Transfer Function (MTF) curves. The modulation transfer T (the standardized

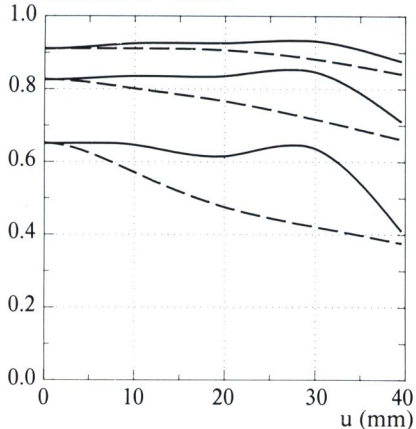
variation in the quantity of light in light and dark areas of the frame) is measured as a function of the image height. Pairs of lines (i.e. dark line plus light line) are used as the light source. The number of line pairs per mm is varied so that the lens reproduces 10, 20, and 40 lp/mm on the film plane. This means that the thinnest light line in a perfectly reproduced image is only 12.5 micrometers wide.

T f-number $k = 4$ at ∞



Sonnar CF 4/180mm at f/4

T f-number $k = 8$ at ∞



Sonnar CF 4/180mm at f/8

Modulation transfer (T) also depends on the attitude of the line pairs in relation to the radius from the point measured to the image center. If the line pairs run in the same direction as the radius, they are said to have a "sagittal" orientation; if they cross the radius at right angles, the orientation is "tangential." The difference in the T values for these two orientations is often considerable.

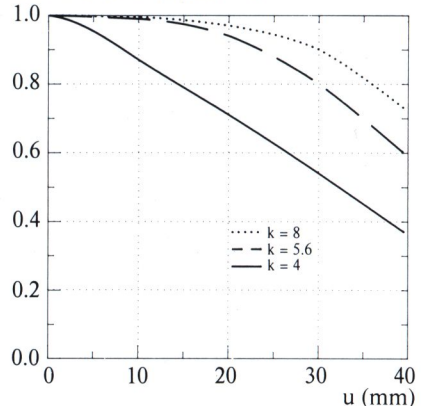
MTF measurements are made using a light source with a standardized spectral distribution resembling that of natural daylight. Unless otherwise specified, the figures refer to focusing on distant objects.

The MTF curves are presented with the image height (the distance to the image center) entered on the horizontal axis, and the corresponding T value on the vertical axis. Both sagittal and tangential curves are presented, for both full aperture and a stopped-down lens, and as mentioned above, for 10, 20, and 40 lp/mm.

Illuminance

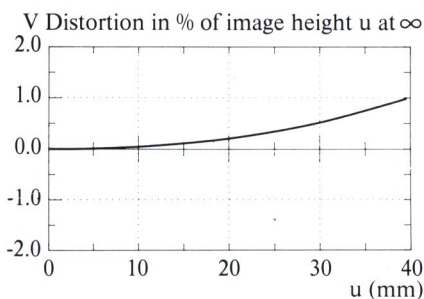
The amount of light falling on the film varies with the image height, in part due to geometrical relationships which have nothing to do with the construction of the lens, in part due to the vignetting of the lens itself. (Vignetting is the name given to the decrease in natural light due to limitations in, for

E Relative Illuminance at ∞



Sonnar CF 4/180mm

example, lens mounting.) The curves show the actual illuminance on the film plane relative to the illuminance at the image center. The horizontal axis indicates image height, the vertical axis the relative illuminance. Curves show the values for a full aperture and for a stopped-down lens. The construction of a lens is always a question of balance between the amount of glass used (and consequently, the weight and volume of the lens) and the vignetting. Vignetting is generally considerably reduced when the lens is stopped down.



Sonnar CF 4/180 mm

Distortion

Distortion in an image is most clearly illustrated by the way a square is reproduced. Distortion is termed positive if the corners of the square become elongated to give it a pin-cushion shape. If, on the other hand, the corners are pulled inwards to give the square a barrel-like shape, the distortion is described as negative.

Distortion is expressed as a percentage of the corresponding image height. Distortion is not affected by the aperture.

Hasselblad lenses	Max aperture	Aperture range	Focusing range	Hasselblad 6x6		Small format	
				Focal length	Diagonal angle	Focal length	Diagonal angle
CF Normal lenses							
Planar CF 80 mm	2.8	2.8-22	3'- ∞	80 mm	52°	50 mm	47°
Planar CF 100 mm	3.5	3.5-22	3'- ∞	100 mm	42°	55 mm	43°
CF Wide-angle lenses							
Distagon CF 30 mm	3.5	3.5-22	1'- ∞	30 mm	180°	8-16 mm	180°
Distagon CF 40 mm (FLE)	4	4-22	19"- ∞	40 mm	87°	24 mm	84°
Distagon CF 50 mm (FLE)	4	4-32	19"- ∞	50 mm	74°	28 mm	74°
Distagon CF 60 mm	3.5	3.5-22	2'- ∞	60 mm	66°	35 mm	62°
Biogon CF 38 mm	4.5	4.5-22	11.75"- ∞	38 mm	90°	20 mm	94°
CF Telephoto lenses							
Sonnar CF 150 mm	4	4-32	4.5'- ∞	150 mm	29°	85 mm	29°
Sonnar CF 180 mm	4	4-32	5'- ∞	180 mm	24°	105 mm	23°
Sonnar CF 250 mm	5.6	5.6-45	8.5'- ∞	250 mm	18°	135 mm	18°
Tele-Tessar 350 mm	5.6	5.6-45	15'- ∞	350 mm	13°	180 mm	13°
Tele Apotessar 500 mm	8	8-64	16'- ∞	500 mm	9°	250 mm	10°
CF Special-purpose lenses							
UV-Sonnar CF 105 mm	4.3	4.3-32	6'- ∞	105 mm	40°	58 mm	41°
Makro-Planar 120 mm	4	4-32	2.6'- ∞	120 mm	36°	70 mm	35°
Makro-Planar 135 mm	5.6	5.6-45	bellows	135 mm	32°	80 mm	30°
Sonnar CF Superachromat 250 mm	5.6	5.6-45	10'- ∞	250 mm	18°	85 mm	29°
F/TCC lenses							
Distagon F/TCC 50 mm	2.8	2.8-22	12.5'- ∞	50 mm	74°	28 mm	74°
Planar F/TCC 80 mm	2.8	2.8-22	2'- ∞	80 mm	52°	50 mm	47°
Planar F/TCC 110 mm	2	2-16	2.5'- ∞	110 mm	39°	58 mm	41°
Sonnar F/TCC 150 mm	2.8	2.8-22	4.5'- ∞	150 mm	29°	85 mm	29°
Tele-Tessar F/TCC 250 mm	4	4-32	8.25'- ∞	250 mm	18°	135 mm	18°
Tele-Tessar F/TCC 350 mm	4	4-32	6.2'- ∞	350 mm	13°	180 mm	13°
Zoom Lens							
Variogon CF 140-280 mm	5.6	5.6-45	8.2'- ∞	140-280 mm	16°-30°	80-135 mm	18°-30°

This chart is a comparative presentation of area coverage of Hasselblad lenses (6x6) to 35mm format lenses. It also presents basic facts about the entire range of Hasselblad lenses.

Standardized filter mount

12 of the 16 CF lenses have \varnothing 60mm filter mount.

F setting

Disengages the leaf shutter to give an instant-return viewfinder image when using the focal plane shutter on the 205TCC or cameras from the 2000 series.

Depth-of-field preview button

Allows you to see how the image is recorded on the film at a closed-down aperture.

Protected flash connector

The flash terminal is held securely in place by a friction ring.



Convenient settings

The shutter speed and aperture rings are operated independently or can be locked together.

Interlock button

When the button is held down shutter speed and aperture can be altered without changing the EV value.

Meters and feet

Twin calibrated distance scale. And, in addition, a focusing index for IR photography.

ACCESSORIES

The Hasselblad system includes more than 200 accessories, some virtually indispensable for certain types of photography, others designed for highly specialized applications. Most of them can be used with any Hasselblad

camera. To derive full benefit from the advanced automatic exposure features of the 205TCC, the special TCC accessories must be used. TCC accessories work with other cameras. They are identified by their double blue lines.



Extension tubes. One or more extension tubes are essential for exciting close-up photography. There are 4 fixed extension tubes, 8 to 56mm, and one with a variable 64-85mm extension. The tubes can be combined and used with the automatic bellows. Special extension tubes with lengths from 16 to 56mm are available for the 205TCC.

The **Automatic bellows** is a particularly useful, versatile accessory for close-up work. Since the bellows is coupled to the camera, cocking and releasing the shutter and diaphragm is controlled directly from the camera. Close-up photography is simplified with two adjusting knobs for subject or image distance.

Proxar close-up lenses attach to the front of the lens. They can be used individually or combined. The focal lengths are 0.5, 1

and 2m. There is no need for increasing exposure.

Lens mount adapter can be machined for use of other types of lenses. It has microscope threads for use of Luminars.

Transparency copyholder. You can use your Hasselblad for reproduction and duplication of transparencies and negatives. The copyholder holds the slide or negative in front of the bellows shade.

The **Mutar 2x Teleconverter.** This effectively doubles your range of lenses. The Mutar 2x, doubles the focal length, and can be used with any Hasselblad lens.

PC-Mutar 1.4x is a unique accessory which adds perspective control to your lenses between 40 and 100mm focal lengths. You can shift the lens ± 16 mm, and

photograph tall subjects without tilting the camera, which would distort the image. The PC-Mutar 1.4x opens up new horizons, especially in architectural photography. It extends focal lengths by a factor of 1.4. Used with the CF 40 lens, the total focal length is 56mm, or 70mm with the CF 50, 84mm with the CF 60, 112mm with the 80 and 140mm with the CF 100.

Filters. Genuine Hasselblad filters – available for black and white and color photography – provide your work with a distinctive, personal quality, balancing natural light and creating the precise effect you are seeking. A light balance filter for color film enables you to eliminate the risk of color cast. Polarizing filters are suitable for both color and black and white photography, providing a deeper color saturation and higher contrast. And a grey filter enables you to work with long

exposure times or large apertures in bright sunlight.

Lens shades provide an effective shield against stray light and unwanted reflections, and also protect the surface of a lens. You can choose between eight fixed shades and the Proshade 6093, an adjustable, professional alternative which extends up to 90mm and takes both glass, gelatin and plastic filters. Proshade 6093 can be used with all lenses, except the Distagon 30mm.

Softars bleed highlights beautifully into shaded areas and give an exquisite and

that allows you TTL metering on all Hasselblad cameras. The PME5 viewfinder can be equipped with corrective eyepiece lenses to suit your vision. A 45° prism viewfinder without a light metering function, the PM5 is also available. Both the PM5 and the PME5 may be used with the 205TCC.

The RM2 reflex viewfinder is particularly suitable with film magazine 70 for aerial photography or when the camera is fitted with a flashgun bracket. The viewing angle is parallel to the axis of the lens and the image on the focusing screen is enlarged 3 times. The eyepiece is adjustable.

also has horizontal and vertical grid lines. It is especially useful for architectural and reproduction work. The 6mm split-image matches the 205TCC spotmetering area. The reference lines also define the 6x4.5cm format when the A16 film magazine is used or just show the area when rectangular prints are made from the square negatives. Acute-Matte screens have been developed in collaboration with Minolta.

Focusing screen adaptor. With a focusing screen adaptor in place of the film magazine you can check the composition and focus from behind the camera. The adaptor is



professional soft touch to portraits, fashion, boudoir and beauty shots. They have many advantages over other soft focus lenses. They can be used with different focal length lenses and thus give an entire range of "Carl Zeiss Soft Focus Objectives." The degree of diffusion is the same at all apertures so you can select the aperture that produces the desired depth of field. There are three Softars giving different degrees of soft focus effects. They can be combined for even more variety or a stronger degree of diffusion.

Viewfinders can give you a choice of viewing possibilities that can help you achieve the desired results in a most convenient way. The PME5 finder yields an unreversed image three times larger than that on the focusing screen. The viewing angle is a convenient 45°. It also incorporates a center weighted metering system

The **Magnifying hood** magnifies the viewfinder image 3.5 times and can be focused to the user's own eyesight. It has a comfortable rubber eyepiece for convenient viewing and focusing from the top.

Focusing screens are available in a number of different versions for a range of applications. The large, clear viewfinder image they produce makes composing easy and focusing accurate. Here is just a selection of the focusing screens available.

The Split-Image focusing screen makes focusing easier especially in low light.

Acute-Matte is the most brilliant of the focusing screens, approximately 4 times brighter than traditional screens. It comes as standard with the 503CX, 553ELX and 205TCC cameras.

The new Acute-Matte screen with grid and split-image rangefinder shares the brilliance of the standard Acute-Matte, but

particularly useful when working with the 903SWC. The image can be viewed through any viewfinder. They slide on the focusing screen adaptor.

Cases. A good camera case should weigh as little as possible, hold as much as possible and take up as little room as possible – all at the same time! Hasselblad has a range of practical cases to protect your equipment.



Flash units. The Proflash 4504 is a powerful, easily operated dedicated flash specially developed for Hasselblad by Metz, one of the world's leading flashgun manufacturers. With the 503CX, 553ELX or 205TCC it can be used in automatic, dedicated fashion providing through the lens (TTL) and off the filmplane (OTF) metering.

Just set the film speed, choose your aperture and shutter speed and leave the rest to the flash and the camera. The flash unit has all the electronics built in to communicate with the camera. In the TTL mode the Proflash 4504 can also be used with other cameras via an SCA or similar adaptor. The Proflash also boasts 6 automatic positions, plus three for manual operation and one for the winder, so it may also be used with other types of cameras. The swivelling main reflector is complemented by a built-in additional reflector providing fill-in light.

The system's other flash equipment – a Macro-flash unit – has two separate light heads which make it particularly suitable for close-up work. Used with the 503CX, 553ELX or 205TCC, the Macro-flash can also be controlled automatically (TTL/OTF) when combined with SCA 390 adaptor.

Flash accessories. You will need an SCA 390 adaptor when you want automatic TTL/OTF flash control with SCA 300 compatible flashes other than the Proflash. By the same token, an SCA 590 adaptor is required with SCA 500 compatible flashes.

Release cables are necessary whenever you need to operate the camera from a distance or to avoid camera motion.

Release cables come in lengths from 1 to 15 feet for the motorized 553ELX. The release button and a release cable can be used simultaneously in the 553ELX.

Battery compartment. If you have a 500ELX or an older EL model, an external battery compartment can be used in cold weather or to recharge batteries. The compartment charges two NC batteries simultaneously when connected to the recharger. The unit can also be connected directly to the camera.

External battery cassette. Perfect whenever you need extra power for your 205TCC, such as when working in below-zero temperatures etc. The cassette, which is used instead of the camera's ordinary battery compartment, is charged with four 1.4V AA batteries.



Flashgun bracket. If you often work with a hand-held camera, a flashgun bracket provides steady holding and convenient carrying of the camera. The release mechanism for both shutter and flash is built into the handle.

Straps. Hand straps, neck straps, camera straps, profile straps – the choice is yours.

Winder TCC. The winder is to the 205TCC, what the built-in motorized film advance is to the 553ELX. It enables you to work at a faster, more even pace without having to interrupt your concentration to advance the film. For portraiture, fashion photography, advertising, sports photojournalism, or wildlife photos – the winder helps to capture motion and unexpected actions, but it does not provide remote camera operation.

Quick-focusing handle. Focusing is faster and more convenient with a quick-focusing handle – a practical accessory when shooting moving subjects, or when wearing gloves.

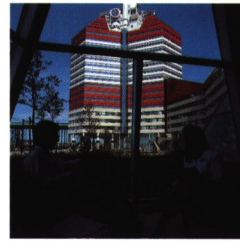
Knob with exposure meter. If you own a 500 Classic or a 503CX it may be advantageous to replace the winding crank with a knob with exposure meter. It incorporates a selenium cell meter and is not battery operated. It can also be used independently for metering both incident and reflected light.

Tripod quick-coupling. A quick-coupling permanently attached to your tripod ensures rapid, convenient attachment and removal of the camera.

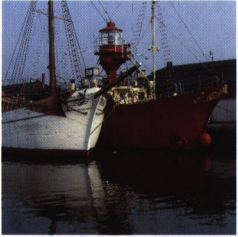
The **Spirit level** helps you keep the camera horizontal and thus avoid keystone distortion when photographing buildings or interiors. It is particularly useful in combination with wide-angle lenses.



*Planar CF 2.8/80mm, close range limit 2.6 feet (left).
The lens with the bellows at maximum extension (right).*



Without and with fill-in flash.



*Sonnar CF 4/250mm (left).
The focal length doubled with Mutar 2x (right).*



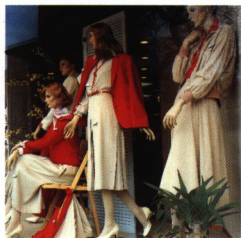
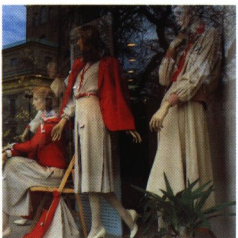
A lens shade screens stray light to enhance contrast in the image.



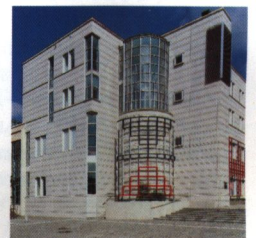
From left to right, Sonnar CF 4/150mm alone, then with a Proxar 2.0, 1.0 and 0.5m.



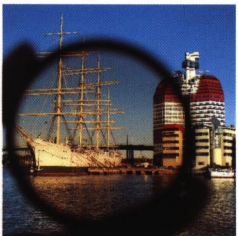
The picture on the left is taken with a Sonnar CF 4/150mm with extension tube 16. The others in the series are taken with the same equipment plus Softar I, II and III respectively.



A polarizing filter reduces or eliminates reflections on water, ice or glass.



The left-hand picture is taken with a Distagon CF 3.5/60mm. The right-hand one with a Distagon CF 4/40mm offset to 16mm with a PC-Mutar 1.4x to avoid distorting the geometry. The focal length is increased by a factor of 1.4.



For warmer tones, use a red light-balance filter like the CR3 or 1.5.

ULTIMATE SLIDE PROJECTION

Prepare yourself for a wonderful surprise the first time you see your 6x6 transparencies projected by the Hasselblad PCP80 projector. With these large square images filling the screen, it is easy to appreciate the difference between 35mm and the 2 1/4 square which is 3.5 times larger. Resolution, definition and color saturation are enhanced dramatically, and the intensity and even light distribution from corner to corner give the transparencies an outstanding brilliance. Colors become more intense. Whites are whiter than ever.

For the very best slide presentation nothing comes even close to the PCP80. That's why more and more successful photographers select projection rather than light tables and magnifiers to review their material, or sell an idea to a client. Just think what an impression a fashion illustration can make when projected across a big screen. Imagine being able to show suggestions for posters and billboards in their final size.

A professional projector

The PCP80 is a professional projection system, developed with the same high demands on image quality and technical reliability as all the other elements of the Hasselblad system. The PCP80 projects your pictures without deterioration in quality, and with complete reliability and safety to your valuable originals.

The PCP80 is professional too, in that it can handle everything from projection of single-image to the most complex multi-image shows with any number of projectors. The PCP80 can be controlled with the same well known makes of programming equipment that are used for 35mm multi-image shows.

Reliable performance

Whether you are using one projector or stacks of them, you have to be able to rely on your equipment. A breakdown that is irritating in a private showing becomes a disaster in front of a large audience. A common problem is a blown bulb, that's why the PCP80 doesn't have just one bulb, but two! If the first one fails, an automatic reserve unit slips smoothly and instantly into place. The interruption is imperceptible. The bulbs are in a separate housing which can easily be

removed for replacement or adjustment.

Unique perspective control

Showing slides on a large screen usually involves tilting the projector. The result is a keystone image, wider at the top than at the bottom. Not only is this disturbing to the eye, it also makes it practically impossible to bring the entire picture into sharp focus. With the PCP80, however, you can say farewell to keystone. Simply turn the projector's perspective control knob to move the image up or down on the



screen without keystone and maintain perfect sharpness from top to bottom.

This unique control can move the image upwards by half its size and downward by one third.

The perspective control is achieved by moving the lens up or down while the other parts of the optical system are inclined to an optimum angle to the lens and the slide itself to maintain perfectly even screen illumination. Perspective control is especially important in multi-image presentations where the images from stacked projectors need to retain their original shape for a perfect overlap.

Uncompromising image quality

The lenses for the PCP80 are manufactured by Zeiss to the same high quality that Hasselblad insists on for its camera lenses. To compensate for perspective control without causing any vignetting, the lenses are designed to cover a much larger image field of about 4x4 inches.

The lens is just one part in an integrated optical system, which begins

with the lamp and its reflector, continues via the condenser system through the transparency and the lens, and onto the screen. The system is optimally calculated for each lens. When you change a lens, you also change the condenser lens to one matched to the focal length and supplied with the lens.

Safety for your slides

An advanced safety system protects your slides and your projector. Slide transport is gentle: the slide is never forced, but sinks into place under its own weight. If an incorrectly mounted transparency causes a jam, the motor is disengaged and switches off automatically, while a separate motor continues to drive the fan.

If there is a current overload on the main transformer, the fuse will blow. A second fuse monitors the temperature near the transparency and turns off the bulb long before the critical temperature limit is reached. As a further measure for protecting both the projector and your slides, the highly effective fan works with filtered air at positive pressure. This prevents dust and grit from penetrating the projector and causing mechanical malfunctions or damage to your transparencies.

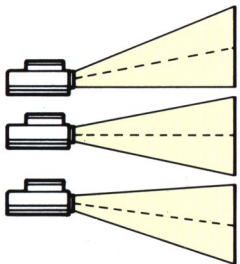
Give yourself the treat of your life. See your best transparencies projected on a large screen with the PCP80.



Hasselblad cameras are known to produce the sharpest medium format images. It is only natural to project these images with a projector that matches the quality and performance of the camera – the PCP80.



The unique "perspective control" feature lets you move the entire image up or down on the screen without keystoneing of the image. Slides projected from several projectors can be projected and dissolved into each other with a perfect edge-to-edge match.



ARCHITECTURE

Two Italian masters

Giancarlo Gardin and Gabriele Basilico



Giancarlo Gardin and Gabriele Basilico are two of Europe's foremost architectural photographers. Both come from Italy and both use Hasselblad.

Giancarlo Gardin

"It doesn't matter whether I'm working on façades, interiors, decorative details or gardens, I nearly always use a Hasselblad." So says Giancarlo Gardin, who makes full use of the unique qualities of his three Hasselblad cameras when working with the wide range of assignments that he faces as a professional photographer. "My fully

mechanical 500C/M is light and easy to work with. I use the Hasselblad electronic focal plane shutter when I need accurate long exposure times – invaluable when taking photographs at night, or shooting in poor light indoors.

"The automatic film advance and shutter cocking on my motor-driven Hasselblad makes work easier both indoors and out. And it's ideal for precision work such as double exposures – a technique I often use to express the salient features of a building, as they appear by night and day, in one and the same picture."

1.	2.	4.	5.
	3.		6.

1. Pavilion with palms, Cap Martin, French Riviera. Distagon CF 3.5/60mm.
2. Interior with balustrade and central court, Institute of Finance, Milan. Distagon CF 4/40mm.
3. Interior with spotlight, Tirolinfo, Innsbruck. Distagon CF 4/40mm.
4. Bank, Alzate Brianza, Como. Architect: Adolfo Natalini (1984)
5. Housing estate, Isola Guidecca, Venice. Architect: Gino Valle (1986)
6. Museum of Contemporary Art, Mönchengladbach, Düsseldorf. Architect: Hans Hollein.



Gabriele Basilio

“Ever since I started working in photography the name Hasselblad has conjured up a vision in my mind: a vision of quality, precision, reliability and last, but not least, design.” After studying architecture Gabriele Basilio turned to photography and now has a number of international exhibitions to his name. He has worked in landscape and architectural photography and, in 1984-85 was actively involved in “Mission Photographique de la DATAR” a project conceived to provide in-depth documentation of the French countryside.

“Hasselblad has been the natural

choice for me for many years now, a faithful friend both for studio work and on my travelling assignments. I have often felt the need of a Hasselblad lens with perspective control, but with the new PC-Mutar 1.4x, all my wide-angle lenses now have this flexibility. In many instances, I no longer need a large format camera for architectural photography.

“I use a color temperature meter when working with transparencies and correct any deviation in the light from the film’s color sensitivity with a Kodak CC filter. I filter black and white film with yellow and yellow-green filters.”

The right lens

The cramped conditions under which architectural photographers often work frequently necessitate the use of lenses with short focal lengths, but this is not always the case. There is, however, one item that the architectural photographer is seldom without: the Hasselblad 903SWC with its Biogon 38mm lens.



FASHION

"To me the Hasselblad is a well designed and well made camera."

James Moore



"I have a thirty-year continuing love affair with photography. As a teenager, I stayed up till all hours of the night, fascinated with images appearing on photographic paper. It was magical to me. I feel most fortunate to be working in photography, a profession that offers me a way of expressing myself, and continues to fascinate me. After working for Richard Avedon and several other photographers, I ventured out on my own and at that time began working with Hasselblad.

It feels great in my hands

"To me the Hasselblad is a well designed and well made camera. It feels great in my hands... I like a solid

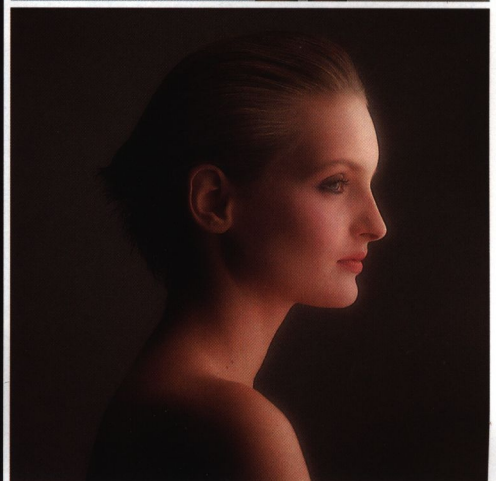
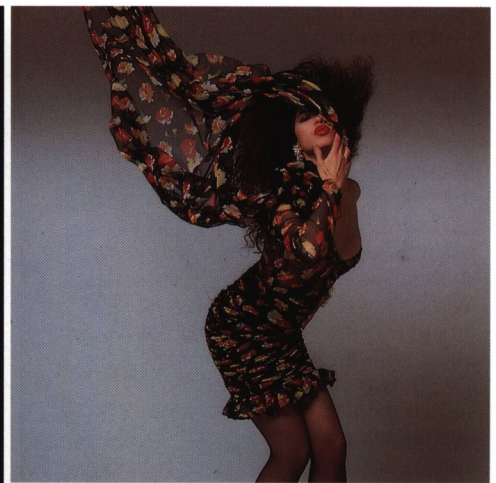
camera. The Hasselblad system gives me endless ways to shoot any kind of subject matter. I work mainly with the Makro Planar 120mm lens. It gives me the perspective that I like for photographing beauty and a great deal of my work is in beauty photography. Using telephoto lenses is not a problem because my studio is large enough, so I can back up eighty or ninety feet if I have to. When working in Paris or Rome, where the studios are usually smaller, I find myself very often against a wall, so it is necessary to use a shorter Planar 100 or 80mm lens.

Efficient work with interchangeable magazines

"The interchangeable film magazines are most important to me because they allow me to shoot without interruption. With my assistant changing film in the spare magazines I get my job done faster and more effectively.

"The Polaroid back is a most important piece of equipment. I use it on every shoot to keep a record of work in progress, to check lighting ratios, framing, and the overall effectiveness of the image.

"Another vital advantage of the Polaroid back is that it allows the art director and client to see what the camera is recording. This eliminates a



great amount of guesswork and reduces some of the pressure of the shoot. The art director can effectively convey to me what may have to be changed and I can determine what is necessary to accomplish the desired results.

“Communicating and working closely with the art director is just good business practice. He or she is a vital connection to a successful job.

The symmetry of the square format

“I like the square format. It gives me and the model more space to move around, but mainly I love the symmetry of the square shape. It has the hint of a circle and this imaginary circle

appears to me to have a fundamental energy that is lacking in rectangular formats. The energy can move in any and all directions. Even if you turn the square on it’s side, or upside down, the basic energy of the image remains intact. Rectangles seem to be more positional and more restrictive. There is a left and a right, a head and a tail, but with the square, the positional consideration is reduced because of the uniformity of all the dimensions.

“The image is confined, but because it is a square and already contains the boundlessness of the circle, you see what there is to see with a focus on the essential characteristics of the image. When using another format, I always

feel that I am cropping something off that might be important.

Directing the model

“In fashion and beauty photography, directing the model is of the utmost importance. I always tell the models what I am looking for. I give them specifics about the objectives of the shoot, so that they can contribute their talents. It stands to reason that every time you work with a different model, you are using their particular personality.”



ADVERTISING

"As soon as I get an idea I start looking around for a way to use it."

Chris Callis

A great number of the pictures I take have been planned in minute detail by a host of minds before I, as photographer, am assigned the task of working on them. If everything runs smoothly, it can be enormous fun working in that way, but I'd rather be given jobs where I can use my own ideas," says Chris Callis. Chris Callis is a large chap, about 5'9" tall and weighing in at 220 lbs. He works in the Manhattan area sometimes known as the "Photo District." This is where he has his studio - roomy, attractive and packed full of surprises, but maybe not so much so that it takes the advertising agency's well-groomed accountant's breath away. A rowing boat that he made with his own hands leans against a wall, two cats, Lena and Spotty, stretch themselves out on a bar counter outside the tiny kitchen. All of this creates a feeling of unity which seems to have come about as the result of a fortunate accident. But just like his photographs, it is a result of a conscious and creative process.

Successful and innovative

He was born in northern California and opened his studio in New York in 1974. He has made a name for himself as a successful, innovative photographer in the world of advertising and fashion. His extensive technical repertoire attracts leading art directors who value his dynamic way of working and who happily seek and allow themselves to be surprised by his visual mode of expression. He is constantly developing, feeling his way forward and finding new angles of approach almost every time he takes on a new assignment.

"I hunt out a problem and derive pleasure from solving it," he says. But it's not always just with his camera. A perfume manufacturer asked for a shot of a model, lying relaxed on a sofa. "A sofa?" Callis didn't feel that a sofa was right, so he made a freestanding bench which even a professional designer would have been proud of.

"Chris is particularly insightful," comments one of his clients. "When I'm not one hundred percent certain about how I want to illustrate something, he'll bend a willing ear, pick out the important bits and then make everything fall into place. His real



strength is not his ability to make pictures, but his ability to create a visual story."

New lighting philosophy

A few years ago Chris Callis came upon an idea which he called "a new lighting philosophy." The expression is not intended as a boast, but as something more than simply "lighting technique," and the unexpected lighting of his pictures is characteristic of his work. By conjuring up a pattern of light which seems to be living its own aesthetic life, he creates a field of force in the theme. The light forms an antithesis, and doesn't just work pure and simply as illumination. He has developed a robotized light system with a flash projector which follows a model's movements, while he stays put behind the camera.

Reliable 500C/M

Chris Callis has worked with Hasselblad for many years. It is the Hassel-

blad reliability he values most, a belief confirmed by the fact that so much of his work is still being done with the 500C/M. He often uses Sonnar 150 and 250mm lenses and evaluates the results of his ideas on Polaroid film. Among those clients who appreciate his abilities are Smirnoff, Honda, IBM, Vogue, Christian Dior, Du Pont and Warner Brothers.



Parts of the above article are taken from the American Photographer magazine.

An advertising photograph for a fiber manufacturer. The feeling of motion and the fiber pattern were created with the camera panning in a circular motion and the subject on the bicycle also revolving on a stage.



Extremely careful planning of every detail to create the feeling of magic produced this effective, attention-creating image of two magicians. Used in Rolling Stone Magazine, photographed from the top with the floor forming the background.

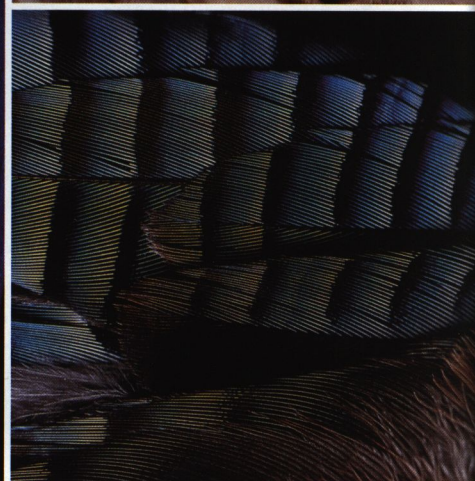


A single image at slow shutter speed, not a double exposure, used editorially to illustrate an article on telefax machines. Electronic flash was used to light the foreground, tungsten light for the background, a lighting approach frequently used by Chris Callis.

CLOSE-UPS

“By showing how complex, beautiful and perfectly adapted nature’s designs often are, I hope to help increase our understanding and respect for its vulnerability.”

Håkan Berg



With a whole world of inspiration as his workplace Håkan Berg fell for the fascination of the ornithological collection at Gothenburg’s Museum of Natural History. The result – an exhibition of 16 unique photographs – was first shown a couple of years ago.

Berg’s work attracted a great deal of attention and was the start of a new phase in his career. All the motifs were Scandinavian birds, many of them drab, dun-colored and anonymous. Through the lens of Håkan Berg’s Hasselblad, however, their plumage and the feathers of their wings assumed a hitherto unimaginable splendor. Thirty birds were transformed from museum pieces into works of art.

Quality and simplicity

For the first pictures Håkan used a large format camera for optimum quality. After a few shots, however, he tired of the complex, time-consuming calculations and the unwieldy equipment, and turned instead to his motor driven Hasselblad.

“Suddenly everything became so much simpler. I could work more freely, and change angles and lighting without constantly having to creep in under the hood. There was no risk of disappointment, either. The fact that the viewfinder showed me exactly what the finished picture would look like gave me a feeling of security. I was soon getting things done in a

fraction of the time it used to take.”

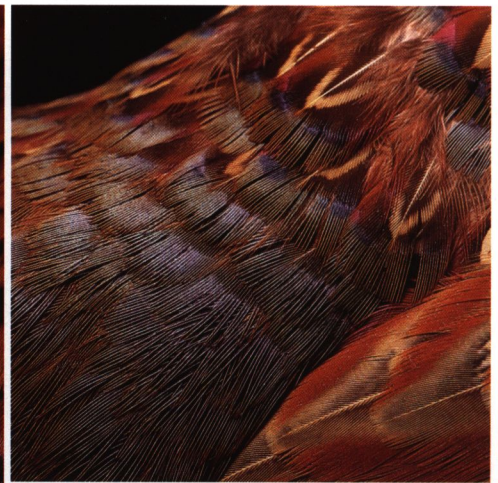
But what about the quality? “If you ask me, there’s no need to use a large format camera. Enlargements from 6x6 Hasselblad transparencies are every bit as good.”

Two cameras and accessories

With just two Hasselblads (an 18-year old 500EL and a new focal plane shutter model) Håkan’s work could not be simpler. The lens is more often than not a 120mm Makro-Planar, with the added bellows that has become an indispensable tool for Håkan. A tripod, cable release and winder make life even easier. Håkan’s equipment also includes an Acute-Matte focusing

1.	2.	4.	5.
	3.		6.

1. Planar CF 2.8/80mm and bellows. Magpie. *Pica pica*.
2. Makro-Planar CF 4/120mm and bellows. Goshawk. *Accipiter gentilis*.
3. Planar CF 2.8/80mm and bellows. Jay. *Garrulus glandarius*.
4. Distagon F 2.8/50mm and extension tube 16. Pheasant. *Phasianus colchicus*.
5. Makro-Planar CF 4/120mm and bellows. Stockdove. *Columba oenas*.
6. Makro-Planar CF 4/120mm and bellows. Bullfinch. *Pyrrhula pyrrhula*.



screen and a PME viewfinder.

The beautiful shading of the feathers naturally arouses curiosity about the lighting. Håkan assures us that a single 500W light source is all that is needed to bring out this unique sheen.

Håkan's exhibition gave birth to the idea of a book about feathers. If it becomes a reality – as everything suggests it will – then what you see now is just the beginning of a comprehensive series of exquisite feather motifs from Håkan Berg. Håkan himself is unable to conceal his enthusiasm for the project: "By showing how complicated, beautiful and perfectly adapted nature's designs

often are, I hope to help increase our understanding and respect for its vulnerability."



CLOSE-UP ACCESSORIES

The Hasselblad system offers a number of excellent accessories to simplify close-up work. The easiest to use are the Proxar lenses, three close-up lenses which attach to the front of the lens. They are available with focal lengths of 0.5, 1 and 2 meters: the shorter the focal length, the greater the magnification, or the closer you can photograph. Proxar lenses can be used separately or combined without requiring an increase in exposure.

Extension tubes

For greater magnification, use one or more extension tubes, a simple way to get closer to the subject without compromising image sharpness. The longer the extension tube, the greater the magnification with the same lens. There are four fixed extension tubes (8.16, 32, and 56mm) and one variable tube (64-85mm). Used in conjunction with a Makro-Planar CF 5.6/135mm lens, the variable tube also serves as a focusing ring with a focusing range from 4 feet to infinity. Extension tubes can be combined in many ways and also be used with the automatic bellows.

Bellows

The bellows fulfills the same function as the extension tubes but has a wider range and is even more versatile. You

can increase the film-to-lens distance from 63.5 to 202mm. Used with the Planar CF 80mm and at maximum extension this yields an image magnified 2.5 times. The bellows has a connecting shaft so releasing and shutter cocking can be done from the camera. There is a special lens shade with a mount for a copyholder for reproduction work or when duplicating transparencies and negatives.

Lenses

Two lenses are specifically designed for close-ups. The Makro-Planar CF 135, used together with the variable extension tube or with the bellows for continuously variable focusing from infinity to a 1:1 image, offers greatest versatility.

The Makro-Planar CF 120 may be attached directly to the camera body, to extension tubes or the bellows. The resolution is excellent, especially in image scales between 1:10 and 1:2.

Additional useful accessories

The lens shade is essential for close-up work indoors and out. It not only eliminates stray light and reflections but also protects the surface of your lens. The most versatile model is the Proshade 6093, which can be adjusted to whatever focal length you are working with from 38mm to 500mm.

The system also includes regular fixed shades.

Many close-up pictures, even outdoors in daylight can be improved with flash, either as a fill, or a main, or accent light. The Macro-flash serves this purpose beautifully. Two movable flash heads allow you to vary the lighting in countless ways. You can work with one or two lights, regulate the quantities of light from full power down to 1/16th. If you want to further increase the potential for subtle differences in lighting you can work with the diffusion screens and other attachments supplied with this equipment. The Macro-flash has automatic TTL/OTF flash control when used with the 503CX, the 553ELX and the 205TCC.

The type of finder can help you in your close-up work. The PME5 is a superb choice for all cameras except the 205TCC. The light meter in the meter prism viewfinder automatically accounts for the necessary extension factors.

For the most precise meter reading in close-up photography, nothing can beat a spotmeter, especially when it measures the light through the lens as in the 205TCC.

Close-up Nomograms		CF	Lens	+	Proxars	Extension tubes	Variable extension tube	Autom. bellows extension					
Maximum size of subject	mm		600		300	200	150	125	100	80			
	in		20	15	10	7	5	4	3				
Extension	mm	0	10	20	30	40	50	60	70	80	90	100	
	in	0			1			2		3			
Close-up accessories													
	Depth of field at f/11	mm		100	50	25		10	7	5	4		
		in		4	2	1	0.5					0.15	
	Exposure value reduction in stops					0.5			1			1.5	
										0.5			
Degree of magnification		0											
												0.5	

Hasselblad nomograms show clearly how the close-up accessories work with a range of lenses. The working ranges of the accessories are marked with colored horizontal lines. The extension of the lens is shown by a black line. Scales show the subject's maximum size, lens extension, depth-of-field at aperture f/11, increase in exposure in EV values and magnification. There are nomograms for lenses with focal lengths of 80-250mm.

PORTRAITS & WEDDINGS

“Whatever kind of photography you do, you work with the same system and method, so that you can completely devote yourself to the subject.”

Fernande Kuypers



The young girl took this easy relaxed position that created a wonderful diagonal in the image. The feeling of safety gave her an expression that becomes very strong through the simplicity of color.

“How do I work to create special feelings in my portraits? I manage to obtain these special feelings by making the people feel at home. How do I do that?”

“By communicating on the same level, by being one of them and making them forget that they’re in front of a camera. If communication is impossible or the situation becomes awkward, try having them tell you more about themselves. You can’t make good portraits if you pay too much attention to the technique and lighting. It’s part of the job to be able

to do this, to know what you are doing. Nevertheless, this should happen automatically so that the contact with the person comes first.

“That is why I use a Hasselblad camera. Hasselblad is an all-around system: you can do everything with it. Whatever kind of photography you do, like portraits, close-ups, publicity, fashion, creative or experimental work, or reproductions, you work with the same system and method, so that you can completely devote yourself to the subject. But you have to know which lenses, which extension tubes or what light to use. Up to now I prefer the

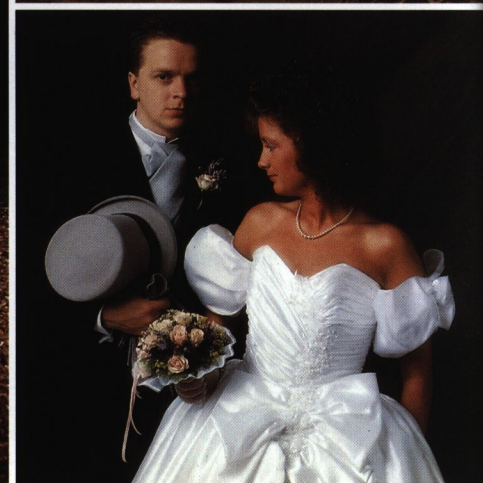
EL/M (now ELX) and the 70mm magazine. You don’t lose time loading and you will not run out of film when ‘the moment’ arrives. If I don’t work with 70mm, I always preload about 2 or 3 magazines.

“For industrial photography, I use the 903SWC. It is small and light, so you can take it anywhere. It provides very high quality work for printing.

Wedding pictures. This picture proves that you must always be ready and able to change the lens quickly. The couple received a bicycle as a wedding present and their reaction was: out for a ride! Quickly, by 40mm Distagon, my flash at half power. My assistant runs in front of the couple at full speed, a strong backlight. I can bridge the distance of the dark night through the use of the 40mm. Through this the saturation in the colors is obtained.

Wedding picture in a corn field. An old picture, almost 15 years old, and still up to date. Planar 100mm and Softar 1. The bride asked me to take pictures in this cornfield. Why? I don't ask, I just do it.

Wedding picture in the studio. One light source with big umbrella and a reflection panel. Sonnar 150mm. Wedding pictures that become more and more common even in black and white. The return to the studio.

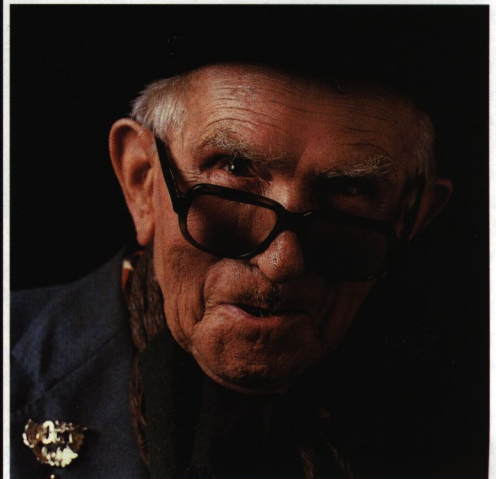


“There are only women in our studio: this is not a problem, on the contrary. We have been educated together, we have the same lifestyles and the same mentality. We communicate a lot during the sessions. I even think we have an advantage over men. Contact with an older woman is a lot easier for family photographs, children's photographs or portraits. We move more freely during nude photography, Girls or women feel more at ease. They know they're coming to a

studio run by women. During my whole career there was only one client who asked for a male photographer.”



Three young people. We photograph many young people, brothers and sisters, who give these pictures as a present to their parents or grandparents. The simple clothes and the daring composition called for the striking lighted faces that laugh spontaneously.



Two old people. You can very well distinguish the difference of origin and social status. The technique is the same. The only difference is a Softar 1, which I used with the 100 year old woman. Both pictures were taken with a Sonnar 150mm and an extension tube 21. The lighting on the lady is closer and more even and therefore softer.

FLASH

Ernst Wildi

The Hasselblad dedicated flash system in the 503CX, 553ELX and 205TCC cameras provides exposures that are extremely accurate and consistent. In Hasselblad, you can create these "professional exposures" automatically without the need for matching apertures to subject distances. It speeds up location flash photography and reduces or eliminates mistakes.

Automatic, dedicated flash allows the photojournalist or wedding photographer to work at previously unattainable speed and allows the photographer to capture those instant reaction photographs that have a certain unmistakable believability in the subject's expressions.

Built-in signal

One important reason for this speed of shooting is the position of the ready light indicating when the flash is fully charged. It is visible in the camera's viewfinder. You can keep your eye on the finder; you never lose visual contact with the subject. After the exposure is made there are indications in the viewfinder that tells you if the exposure was right or wrong.

Choose any flash you like

On the Hasselblad Proflash 4504, all the necessary electronics are in the flash unit. It can therefore be connected to the camera and the shutter sync contact. While the Proflash 4504 is dedicated to Hasselblad, it is also usable with other cameras in the manual or automatic mode, or even in dedicated fashion using adapters.

Other flash units, based on the SCA 300 or 500 system, can be used with adapters. On the 205TCC, turning on a connected dedicated flash unit automatically changes the camera to flash mode and sets the shutter speed to 1/90 sec. if it should be set at a higher non-sync speed.

TTL/OTF for accurate exposures

Dedicated automatic exposures are accurate because they are based on the amount of light falling on the film plane (OTF-metering). The light is measured where the image is recorded. What can possibly be more accurate, especially since the sensor in the Hasselblad cameras measures a large center portion of the recorded area?



Photo: Denis Reggie.

Since the light is measured through the lens, exposures are also based on the area covered by the lens that is used for that particular picture. When lenses are changed, the measuring area also changes. This is especially beneficial when working with the longer lenses. When extension tubes or bellows are used in close-up photography, extension factors are automatically accounted for, and so are filter factors when filters are used.

Full control

With Hasselblad, furthermore, good flash exposures are obtained automatically, not only with the flash aimed directly at the subject, but also with bounced or reflected flash or even with the flash shining through a translucent subject as in slide duplicating. While the flash exposure is automatic, lens aperture and shutter speed are selected and set by the photographer who, therefore maintains complete control over the image-creating elements: the depth of field, the

exposure for the ambient light indoors or out, the lighting ratio between the ambient and the flash light. With the focal plane shutter, speeds can be selected up to 1/90 sec. When using the shutter in the lenses on any camera you have full flash sync up to 1/500 sec.

It's so easy

With Hasselblad you need not change your photographic approach, you need not learn anything new, you no longer have to worry about your flash exposure, you no longer need to consult charts or make calculations.



LANDSCAPES

“Providing the subject does not fill the frame, the square format allows much more flexibility...”

Heather Angel



“Striking landscapes, more than any other photographic subject, have instant worldwide appeal irrespective of whether the location is familiar to the viewer or not. The most evocative landscape pictures are invariably simple images with dramatic lighting; often taken early or late in the day. With harsh direct tropical sunlight it is more difficult to achieve subtle images.

“Landscape pictures are accessible to everyone; but they may turn out to be disappointing, if the time of the day is not chosen with care. When we view a landscape with our own eyes, we appreciate the 3-dimensional qualities, which are lost in a 2-dimensional image – unless light and shadow are used to convey depth and form.

“On days when the light constantly changes, decisions on the best camera angle and composition have to be instinctive; any hesitation will result in a lost picture. A camera system therefore needs to be adaptable, yet also quick to use.

That's why I use Hasselblad

“I find the Hasselblad system ideal for landscape work for many reasons. First and most important, the picture quality is superb. Second, the large viewfinder with the extremely clear Acute-Matte screen allows quick and precise framing and focusing. Third, I can rapidly interchange different focal length lenses, thereby allowing me to precisely frame the picture. Finally, I have the additional flexibility of interchanging the film magazines, thereby allowing me to quickly select or change the speed or type of film. Occasionally, if the light is not suitable, I may use a Polaroid back to provide an instant print as an aide-mémoire to the features on which I can sketch the path of the sun at different times of day. I always use a prism viewfinder, which provides an

unreversed magnified image, an essential factor when panning the camera across a landscape.

The benefit of the square format

“Another important factor in my choice of the Hasselblad system for landscapes is the benefit gained by using a square format. Some people, who are unfamiliar with this system, say it is impossible to compose a square photograph. I disagree, as proven by my pictures which are all reproduced here as the entire square. Even if the subject does not fill the frame, the square format allows designers much more flexibility than with a rectangular frame, in the way they crop and use the picture. For example, a tree offset to one side of a square frame with sky above and water or grass below can be reproduced as the entire frame; it can be cropped into a horizontal format and used as a wrap-around book jacket or it can be cropped at the sides into a vertical format picture for a magazine or a book cover.

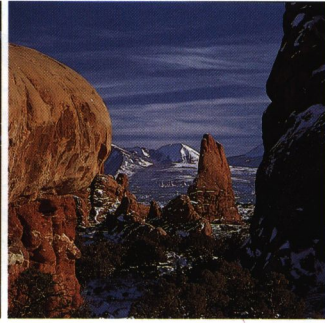
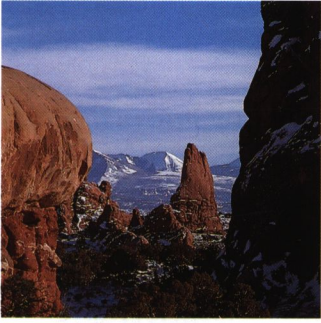
A complete range of lenses

“It is difficult to convey the immensity of landscapes on a vast scale, such as the Grand Canyon in Arizona, in a single still picture; however a Hasselblad can be used to portray a series of images. I therefore use a complete range of Hasselblad lenses from the superwide (38mm) up to the 350mm lens for taking my landscapes, but without doubt my favorite lens is the 150mm. I find this works well in almost any kind of location, but especially in forests and up mountains

as well as in gardens and along the coast. I prefer to use wide-angle lenses in confined spaces. In expansive landscapes, the increased angle of view simply tends to increase the ratio of the sky to land or sea in the picture, which is not always to be recommended.

“Whatever lens I choose, I always use a tripod, since this not only eliminates camera shake and enables a longer exposure to be used in poor light conditions, but also allows for precise framing of a shot. Because the quality of light is paramount to the success of a landscape photograph, it is often necessary to set up a camera on a tripod and wait for the optimum moment for making the best possible exposure.

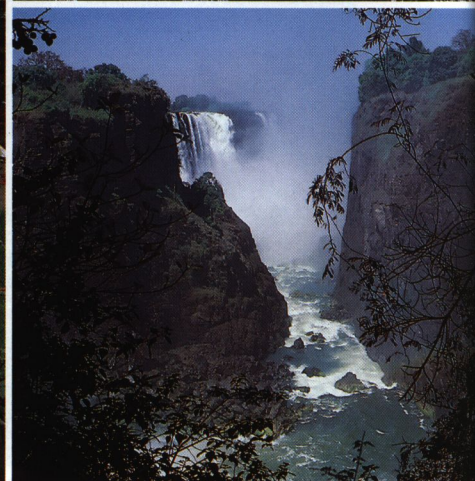
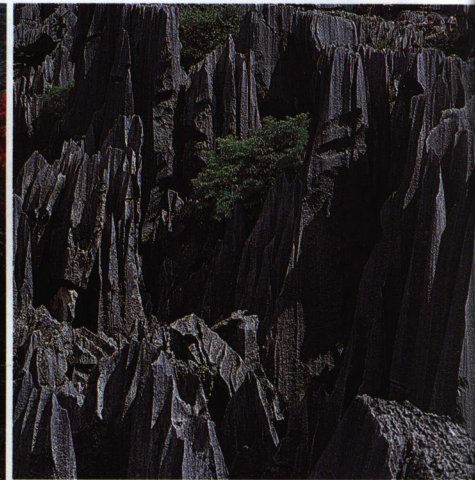
“I especially enjoy using Hasselblad cameras when recording garden vistas, for these are landscapes that have been tamed by the hand of man. Natural landscapes, on the other hand, are not always so accessible, but I carry at least one Hasselblad camera and three or four lenses in a padded rucksack into all wilderness areas.”



This pair of pictures illustrates how a polarizing filter (used right) enriches the color of rock as well as enhances the contrast between snow-capped mountains with white clouds and a blue sky. Arches National Park, Utah, USA. Sonnar CF 5.6/250mm.

New green growth provides a contrast to the eroded limestone peaks in China's Stone Forest. Sonnar CF 4/150mm.

Riverside vegetation frames Victoria Falls, Zimbabwe. Sonnar CF 4/150mm.



The red bridge

“The scene with the red bridge in a Japanese garden, illustrates the dilemma I faced with such a powerful, eye-catching image. Normally, I resist placing the subject in the center of the frame; but no matter where the bridge appeared in the square format, my eye was led directly to it. I therefore decided to accentuate the bold image by deliberately placing it in the center, with the autumn foliage repeating the color of the bridge.”
Planar CF 2.8/80mm.

The photogenic Guilin of China

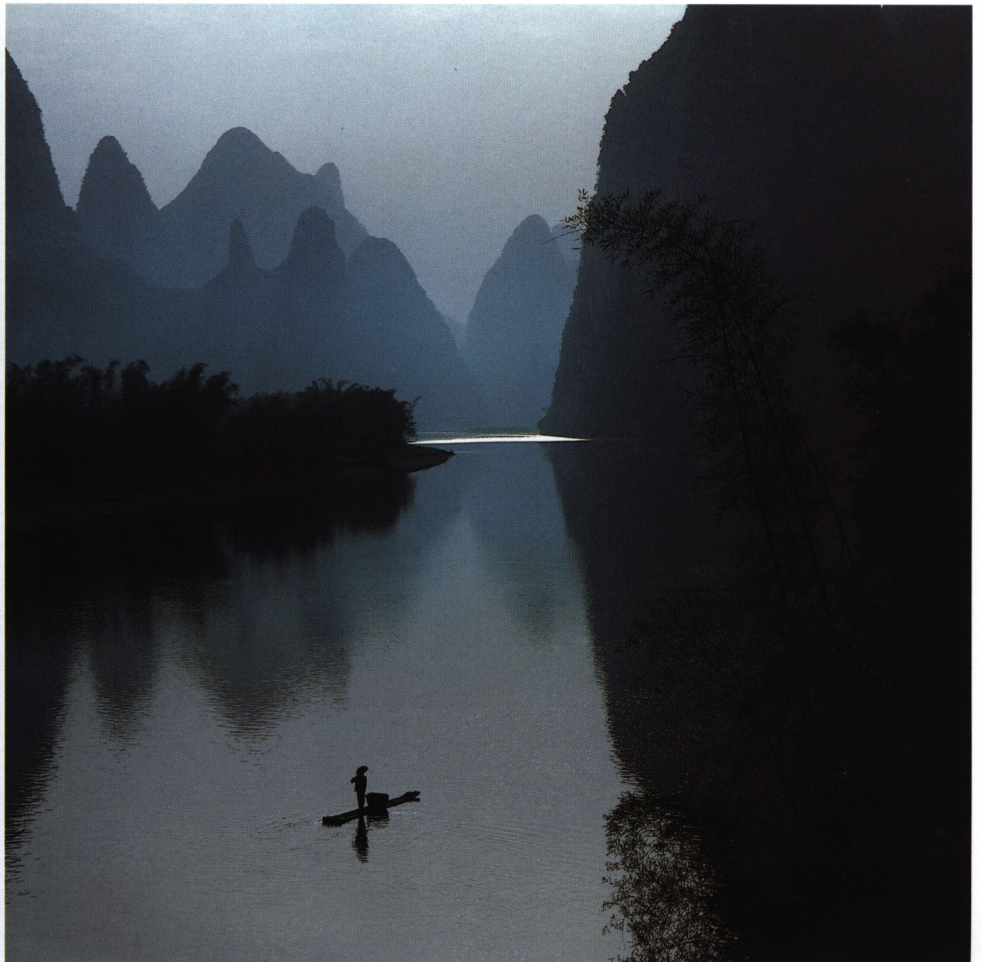
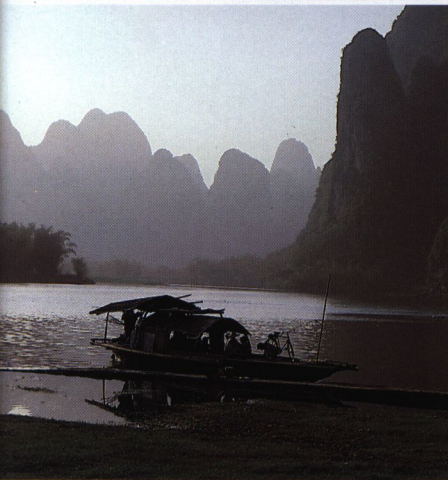
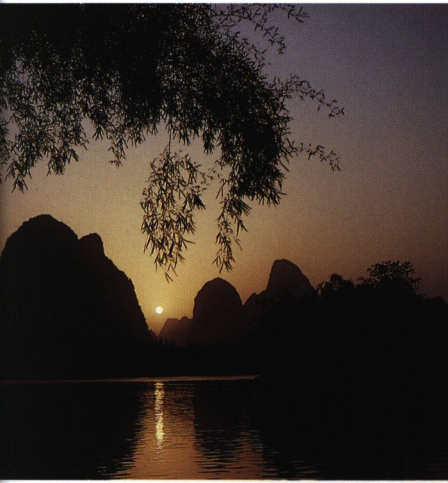
“During the last five years I have made many visits to China, a country which has such varied landscapes. One of the most photogenic areas is the Guilin region where the high angled peaks thrusting skywards tend to dominate every view. One of the most magical moments I have ever experienced was dawn over the Lijiang (Li river) near Guilin. Although the sky did not take on the attractive rosy pink hue sometimes seen during the magic hour before the sun rises above the horizon, the subtle blue tones and the obvious distant, middle and foreground zones created respectively by the mountains,

the pool of sunlight and the boatman paddling his bamboo raft, together produced a rare tranquil moment a few hours before the tourist boats passed. Without my Chinese hosts’ knowledge of the best viewpoint and the time of sunrise, I would never have achieved this timeless picture.”
Sonnar CF 4/150mm.

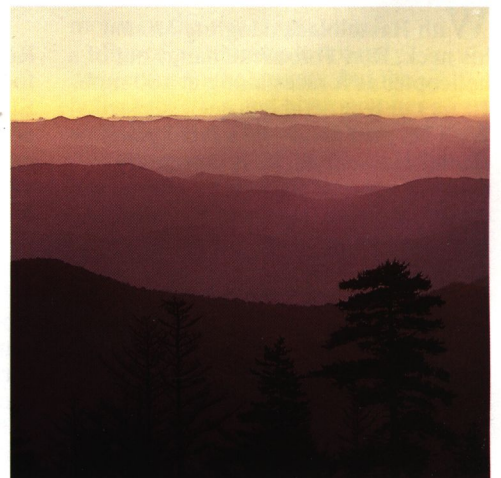


*Sun sets behind the famous
Karst skyline.
Sonnar CF 4/150mm.*

*A local ferry docks at dusk.
Sonnar CF 4/150mm.*



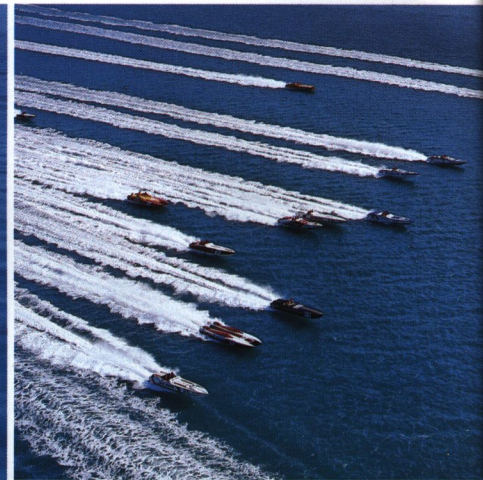
*Dawn view from Clingman's Dome,
Great Smokey National Park.
Sonnar CF 4/150mm.*



SPORTS

"No other brand could take this kind of punishment..."

Ron Thibedeau



With Hasselblads dangling around his neck, Ron Thibedeau hangs out of a helicopter as it races along at 100 mph, 10 feet or less off the water's surface. With his grip firmly on a focal plane shutter Hasselblad, he is constantly ready to squeeze the shutter release to capture the peak action of the speed boat racing over the water surface below him.

"I don't actually see the peak action," Thibedeau says, "I anticipate it. I know from experience how a boat's going to react."

Nothing else would do

Ron has been shooting with Hasselblad for 30 years; with motor-driven EL/M's for about 18 years. At some point during his career he tried other medium format cameras but as he says, "they just will not hold up to the heavy professional use that I give them. I use Hasselblad particularly because I knock the hell out of my cameras and no other brand name could take the kind of punishment to which my cameras are subject. Cold temperature performance also influenced my decision, and my selection has proven to be right numerous times. The wind chill factor can be a bad problem;

sometimes, my fingers get so cold I can hardly feel the cameras. But the cameras perform faultlessly."

High quality images

While this type of action photography could certainly be done with 35mm, the large 2 1/4 square format provides a much more saleable, professional looking photograph. "The boat owners and drivers expect high quality, and Hasselblad gives me that even if the negatives are blown up to 20x30 or 30x40 inches. Some cropping is often necessary and the large negatives give these cropping capabilities without an appreciable loss of image quality. Most

While photographing the races, Ron usually sits outside the helicopter with his feet down on the struts. Both doors in the helicopter are removed for easy access from one side to the other.



of my customers insist on large prints because of the lines and shapes of the boats racing over the water surface. 35mm just won't do justice to this exciting sport."

A thousand photographs in a race
Ron Thibedeau's Hasselblad images have appeared in many magazines in the United States and Europe and are featured in "coffee table books" like the *World of Yachting*. All photography is done on 70mm film. The large amount of exposures: about a thousand per race, 2,000 to 2,500 on a three-day championship, was another reason for selecting Hasselblad. The 70mm

magazine gives him at least twice as many exposures per roll as 35mm. By loading the magazine himself he obtains about 90 exposures per roll. The interchangeable magazines also allow him to switch film instantly. He usually takes ten 70mm magazines on the helicopter, all pre-loaded with 70mm VPS 160 ISO color negative film, together with 3 or 4 camera bodies: each equipped with a different lens from 80mm to 150mm.

"I change camera bodies because there is no time in the helicopter to change lenses. A 250mm Sonnar is kept in a case and used occasionally for cockpit shots, or close-ups of the

motor or the water spraying."

Speedboat racing is not only dangerous to the drivers, but the helicopter pilot and photographer as well. But Ron Thibedeau loves it.



ART

Two photographers who break the rules

Chip Simons and Cindy Palmano

A camera system which invites creativity gives its user unlimited potential to experiment, to realize his or her own ideas. Chip Simons and Cindy Palmano are two photogra-

phers who are not confined by custom or convention. For them "conscious photography" is a way of life.



Chip Simons has been called the "Kamikaze Kid of Photography" – and not without good reason. He is not afraid of new challenges, and experiments freely with his Hasselblad. The results speak for themselves. Creative, colorful and clearly provocative, his images transform cosmetic appeal into caricature, the expected into the truly extraordinary.



Cindy Palmano's bold, slightly absurdist fashion photography represents a clear break with established tradition. Her exquisite sense of motif is tempered with a healthy lack of respect and a refreshing sense of humor.



Photo by A. Darwis Triadi, fashion and advertising photographer from Jakarta, Indonesia, using a Hasselblad 903SWC and flash.

Cover photo: Marco Glaviano. Model: Cindy Crawford.



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