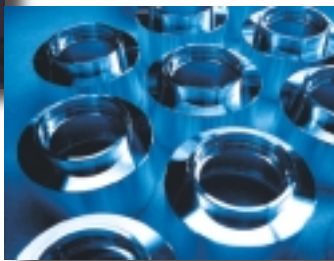


Enlarging lenses





Modern technology guarantees a high quality level



Each lens undergoes strict tests

In Partnership with Professionals

High-quality photographic and reproduction systems are among the most complex products to manufacture. SCHNEIDER-KREUZNACH is one of the few remaining manufacturers dedicated to the professional market. For over 85 years, SCHNEIDER-KREUZNACH has been synonymous with high-performance lenses of the highest quality. The confidence that professionals worldwide have placed in lenses from SCHNEIDER-KREUZNACH is based on Schneider's dedication to excellence. Legendary names such as APO-SYMMAR, XENAR, SUPER-ANGULON, and COMPONON have earned Schneider their reputation.

Extensive experience in lens design, combined with SCHNEIDER-KREUZNACH's modern methods of production utilizing computerized optical grinding and polishing machines, CNCs and Schneider's stringent testing methods which assure a high level of quality which professionals have come to expect.

Quality begins during the design stage: Here the engineers have to choose from hundreds of different glass types! Using Schneider's proprietary program to calculate very complex optical design calculations, and incorporating the glass data, the design process begins. After the lens design is complete, a powerful computer-assisted design program (CAD) is used to design the lens barrel. Then countless test samples are subjected to rigid tests and

trials to demonstrate that the optical design (the completed lens assembly) meets or exceeds the level of quality Schneider has been known to achieve time after time. In order to maintain the highest level of quality during production, all of the different phases of the manufacturing process, such as grinding, polishing, centering, and coating, are subject to additional strict and constant controls before they can become part of the complete lens. The purpose of all these measures is to be able to assure the photographer, both the professional as well as the amateur, "photographic and projection lenses of the highest quality." Because the production cycles in the area of electronics are getting shorter and shorter – and longer-term investment decisions are becoming more and more difficult – the choice of a lens is also becoming more and more a question of trust and confidence. Over the past decades, SCHNEIDER-KREUZNACH has earned this confidence world-wide: by maintaining the highest quality standards, by continually making new advances in technology, by its creative innovation, and its response to the market. And, with the introduction of the Digital lens designs for digital imaging systems, SCHNEIDER-KREUZNACH will continue to be an important and reliable partner.



Photographic Lenses

Photographic and enlarging lenses of the highest quality for professional photographers, from 35 mm to large format photography, for both film and digital photography.



Cinema projection

High-performance cinema projection lenses for 16mm, 35mm, and 70mm film, anamorphic projection lenses for 8 and 10 perf 70mm film, test films for 35mm projection. Lenses for the new digital cinema projectors were recently completed at SCHNEIDER-KREUZNACH.



Servo-hydraulic Valves

Electro-hydraulic and electro-pneumatic servo valves with high-grade electronic control units for precise position, speed, power, and pressure adjustments in machine construction.



CCTV/OEM

C-Mount lenses, corrected from the visible region through the near IR (400 - 1000nm) high-resolution lenses, macro-systems for image processing and non-contact measurement and custom-designed development and manufacture of optical and mechanical optical systems. These lens systems are widely used in the military, aerospace and for industrial applications such as postal sorting systems.



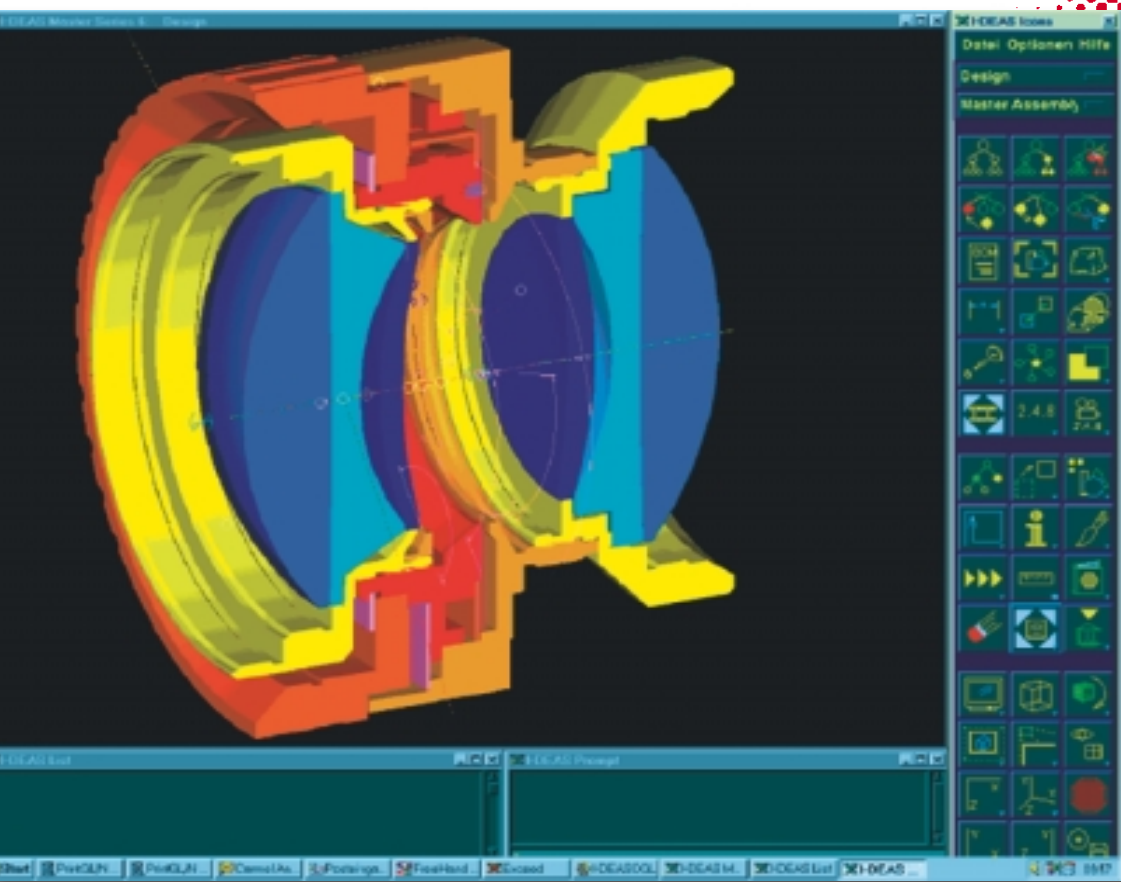
B+W Filters

The leading brand for professionals and discriminating amateur photographers. B+W Filters for optimal image quality and creative photography: color correction filters, filters for black & white photography, Kaesemann polarization filters, close-up lenses, filters for special effects, SLIM filters for wide-angle lenses to avoid mechanical vignetting.



Ophthalmic Lenses

Eyeglass lenses made of glass and plastic; single-focus, bi-focal and continuous (vari-focal) lenses of high-refractive materials with special glass configuration for better appearance and comfort.



Design of an enlarging lens in the CAD-System





SCHNEIDER-KREUZNACH

Anyone who places great importance on the imaging ability of the lens when taking a picture should be no less demanding with the final image. In the final analysis, the lens used for enlarging plays an equally important role in the processing chain, because the goal is to produce a print which is just as sharp, brilliant, and detailed as the original image. Particularly in light of the fact that films and papers are constantly being improved upon, the photographer should make an effort to bring all the details in the negative or chrome on to the print by using a high-quality enlarging lens. The quality of the enlarging lens is just as important as that of the camera lens.

High-performance is a challenge that must be met on a continuing basis. This requirement is met by selecting lens elements made of high-grade glass, adding proprietary multilayer coatings to the finished lenses, and assembling them in a high-quality lens mount. The ability to manufacture high-quality lenses year after year have established Schneider as a dependable supplier of professional enlarging lenses world wide. SCHNEIDER-KREUZNACH offers four different types of enlarging lenses, each with unique characteristics to suit everyone's needs. Whether you are making your very first print or you are an established professional photographer, Schneider makes the right lens for every situation.

The COMONAR, a series intended to appeal primarily to students and photographers who are making their first prints and who, despite a low budget, do not want to forego SCHNEIDER-KREUZNACH's well-known dedication to high quality.

World famous and designed to meet the most demanding requirements is the series of six-element COMONON lenses: the COMONON, especially for smaller negative sizes; the COMONON-S, which has proven itself in many difficult situations and is in use in countless professional photo labs worldwide; and the APO-COMONON HM, a high-end, apochromatically corrected lens, which has set new standards in resolving capability. The last in the series, which perhaps should be considered first, is the MACRO-SYMMAR HM, a very special reproduction lens which excels in the magnification range of 1:1.

The one thing that all Schneider lenses have in common is their high quality. For over eight decades, the name SCHNEIDER-KREUZNACH has stood for outstanding optical achievements – the basic prerequisite for getting all of the details from your chromes or negatives on to your print.





COMPONAR-S

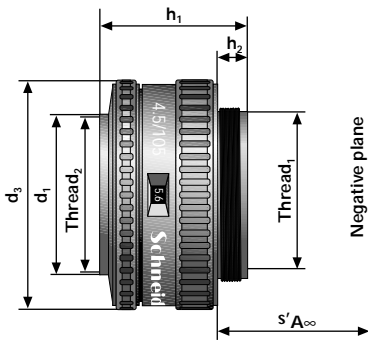
Quality, right from the start

The lenses in the COMPONAR-S series are efficient enlarging lenses, reasonable in price, for the discriminating amateur. Enlargements with the four-element COMPONAR-S produce high-contrast and brilliant prints, from either color or black-and-white negatives. This lens type is suited for practically all magnifications of enlargement. Its optimal performance is in the area of 6:1 to 10:1.

The COMPONAR-S has a useful mount with an easily grasped aperture adjustment ring which makes the lens easy to use. An illuminated aperture makes it easier to use in the darkroom. The aperture adjustment ring with a linear scale has a click-stop at each full f/stop. By simply pulling down the aperture ring, the click-stop feature can be disengaged to permit fine adjustment of the aperture. Further information about specific lens barrels can be found at the end of the brochure.



COMPONAR-S 4.5/105
iris mount BL-L



Relative aperture	Focal length in mm	Recommended negative size	Screw on thread	Mounting thread	Front mount diameter	Rear mount diameter	Iris mount diameter	Diameter light guide	Overall length	Seating face to edge of rear mount	Seating face to light guide	Smallest aperture	Flange focal distance	Irismount	Weight in grams	Order number
			Thread ₁	Thread ₂	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃		s'A _∞			
1:2.8	50	24x36	LEICA	M30x0,5	32.0	-	47.0	-	31.8	5.5	-	16	45.0	BL-L	79	15818
1:4.5	80	60x60	LEICA	M30x0,5	32.0	-	47.0	-	31.0	5.5	-	22	72.3	BL-L	68	15819
1:4.5	105	65x90	LEICA	M35x0,5	38.0	-	54.0	-	35.5	7.0	-	22	96.0	BL-L	90	16278



COMPONON

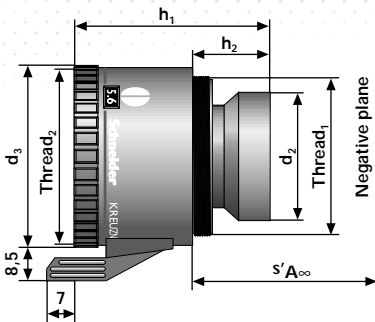
Enlarging lens for small formats

With the six-element, four-lens COMPONON, high contrasts and excellent reproduction of even the finest details of the negative can be achieved. The lenses designed for small formats have their greatest performance potential in a magnification range between 2 and 20 times. Designed for the 110 format, for half-frame 35mm, and for the 126 instamatic format, these short focal length lenses can also be used for sectional enlargements of 35 mm negatives.

The COMPONON 28mm and 35mm lenses, are mounted in a (BLV-L) barrel that features an illuminated aperture, a pre-set aperture to check focus, and a click-stop override for precise expose control. The lens mount is a standard Leica mount that is used world-wide. Additional technical specifications may be found at the end of the brochure.



COMPONON 4.0/35
iris mount B-00



Relative aperture	Focal length in mm	Recommended negative size	Screw on thread	Mounting thread	Front mount diameter	Rear mount diameter	Iris mount diameter	Diameter light guide	Overall length	Seating face to edge of rear mount	Seating face to light guide	Smallest aperture	Flange focal distance	Iris mount	Weight in grams	Order number
			Thread ₁	Thread ₂	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃		s'A _∞			
1:4.0	28	18 x 24	LEICA M25x0.5	M43.0 x 0.75 M30.5 x 0.5	-	24.0	46.0 40.0	-	35.0 25.0	5.0 6.3	-	22 16	25.2 26.9	BLV-L B-00	90 100	37275 10334
1:4.0	35	24 x 24	LEICA M25x0.5	M43.0 x 0.75 M30.5 x 0.5	-	24.0 24.0	46.0 40.0	-	37.8 28.7	7.8 9.7	-	22 16	30.6 32.4	BLV-L B-00	110 70	37277 10340
1:4.0	40	24 x 24	M25x0.5	M30.5 x 0.5	-	23.4	40.0	-	28.7	9.2	-	16	36.0	B-00	80	37814



COMPONON-S

The standard in the professional labs

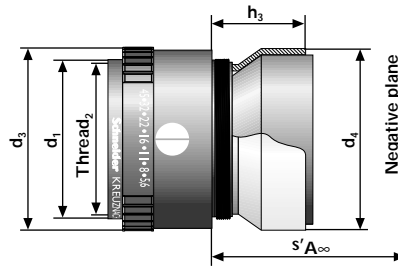
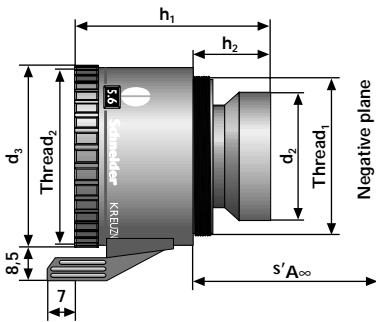
Schneider COMPONON-S enlarging lenses meet or exceed the resolving power of most camera lenses. The six-element, four group design reproduces the finest details with a fair balance of contrast and sharpness. For all intent and purpose, chromatic aberrations have been eliminated. The COMPONON-S is the first choice when image quality can not be compromised. It is a versatile design and may be used to make enlargements in the 2x to 20 magnification range. The COMPONON-S 50mm, 80mm and 100mm lenses, are mounted in a (BLV-L) Leica mount

barrel that features an illuminated aperture, a pre-set aperture to check focus, and a click-stop override for precise expose control.

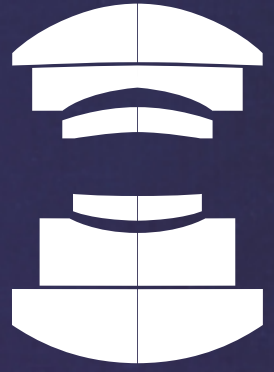
Focal lengths 135, 150, 180 and 210mm, are in a BL-1 barrel with an illuminated aperture and half-stop apertures with click-stop override control. Focal lengths 240, 300 and 360mm are in a B-3 barrel with half-step diaphragm click-stops. Additional technical specifications may be found at the end of the brochure.



COMPONON-S 5,6/210
iris mount B-3



Relative aperture	Focal length in mm	Recommended negative size	Screw on thread	Mounting thread	Front mount diameter	Rear mount diameter	Iris mount diameter	Diameter light guide	Overall length	Seating face to edge of rear mount	Seating face to light guide	Smallest aperture	Flange focal distance	Iris mount	Weight in grams	Order number
			Thread ₁	Thread ₂	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃		s'A _∞			
1:2.8	50	24 x 36	LEICA M25x0.5	M43.0 x 0.75 M28.5 x 0.5	-	24.7	46.0 40.0	-	40.8 34.9	10.8 12.5	-	16	42.0 43.8	BLV-L B-00	105 70	16828 18827
1:4.0	80	60 x 60	LEICA M25x0.5	M43.0 x 0.75 -	-	27	46.0 40.0	-	43.3 38.0	13.3 15.0	-	22	77.5 79.2	BLV-L B-00	130 90	14850 37185
1:5.6	100	65 x 90	LEICA M32.5x0.5	M43.0 x 0.75 M40.5 x 0.5	42.0	29.0 31.5	46.0 52.0	-	41.5 38.8	11.5 13.3	-	32 45	95.8 97.1	BLV-L B-0	130 125	14022 12720
1:5.6	135	90 x 120	M50.0x0.75	M49.0 x 0.75	51.0	40.5	59.0	-	50.5	19.9	-	45	129.6	BL-0a	150	39569
1:5.6	150	90 x 120	M50.0x0.75	M52.0 x 0.75	54.0	40.5	59.0	-	52.8	19.6	-	45	144.3	BL-0a	140	39570
1:5.6	180	130 x 180	M55.0 x 0.75	M62.0 x 0.75	65.0	48.0	61.0	64.4	63.6	23.2	23.0	45	172.0	BL-1a	310	39571
1:5.6	210	130 x 180	M55.0 x 0.75	M72.0 x 0.75	75.0	54.0	61.0	64.4	73.6	27.6	23.0	45	201.8	BL-1a	380	39572
1:5.6	240	180 x 240	M66.0 x 0.75	M82.0 x 0.75	85.0	65.0	78.0	-	84.8	10.0	-	45	209.7	B-3	735	12728
1:5.6	300	240 x 300	M77.0 x 0.75	M100.0 x 1.0	105.0	75.0	78.0	-	102.5	10.8	-	45	254.6	B-3	990	12730
1:6.8	360	240 x 300	M90.0 x 1.0	M110.0 x 1.0	115.0	86.0	78.0	-	113.3	15.0	-	45	307.2	B-3	1310	12732



APO-COMPONON HM

Top of the line

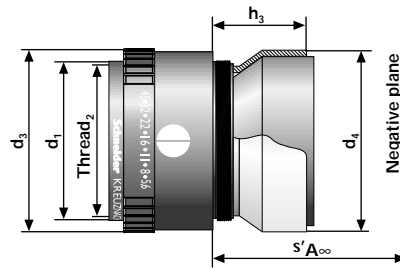
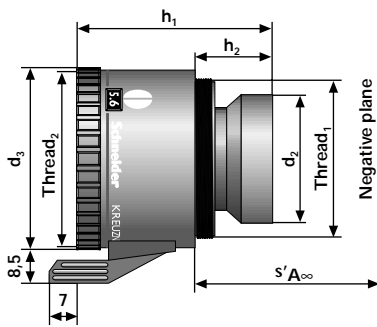
The APO-COMPONON HM is an apochromatic design that assures the highest resolution across the entire image.

Designed with custom labs and the fine art photographer in mind, these six-element, four-lens designs produce the highest quality images at a wide range of magnifications including 1:1.

The APO-COMPONON 40, 45, 60 and 90mm lenses are mounted in a (BLV-L) Leica mount barrel that features an illuminated

aperture, a pre-set aperture to check focus, and a click-stop override for precise expose control.

The 120 model is equipped with diaphragm body BL-0; the 150 with BL-1. Both diaphragm bodies are with field diaphragm and half-step click-stops. Additional technical specifications may be found at the end of the brochure.



APO-COMPONON HM 4.0/60
iris mount BLV-L



APO-COMPONON HM 4.0/150
iris mount BL-1a

Relative aperture	Focal length in mm	Recommended negative size	Screw on thread	Mounting thread	Front mount diameter	Rear mount diameter	Iris mount diameter	Diameter light guide	Overall length	Seating face to edge of rear mount	Seating face to light guide	Smallest aperture	Flange focal distance	Iris mount	Weight in grams	Order number
			Thread ₁	Thread ₂	d_1	d_2	d_3	d_4	h_1	h_2	h_3		$s'A_\infty$			
1:2.8	40	24 x 36	LEICA	M43.0 x 0,75	-	24.0	46.0	-	40.5	7.9	-	16	38.1	BLV-L	90	19746
1:4.0	45	24 x 36	LEICA	M43.0 x 0,75	-	24.0	46.0	-	37.9	7.9	-	22	42.4	BLV-L	81	39256
1:4.0	60	45 x 60	LEICA	M43.0 x 0,75	-	27.5	46.0	-	43.2	13.2	-	22	53.3	BLV-L	90	18928
1:4.5	90	60 x 70	LEICA	M43.0 x 0,75	-	32.5	46.0	-	49.4	19.4	-	64	85.5	BLV-L	81	37834
1:5.6	120	90 x 120	M50.0 x 0.75	M40.5 x 0,5	-	42.0	59.0	-	44.0	17.6	-	45	120.4	B-0	210	23457
1:4.0	150	90 x 120	M55.0 x 0.75	M55.0 x 0.75	57.0	57.0	61.2	64.4	68.9	33.7	30.7	32	149.2	BL-1a	350	14679



MAKRO-SYMMAR HM

Razor-sharp at 1:1

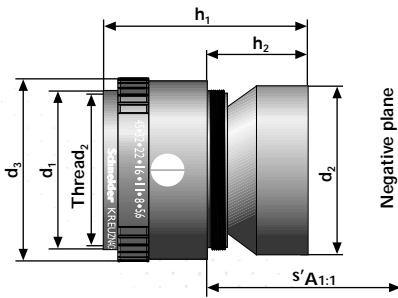
The MACRO-SYMMAR HM, a symmetric eight-element four-lens design that is free of lateral chromatic aberration and distortion; the resolution is only limited to diffraction which is caused by using too small an aperture. The MACRO-SYMMAR HM is a very special lens which excels in the magnification range from 4:1 to 1:4. Within this magnification range there isn't another lens that can solve your problem as well as the MACRO-SYMMAR HM. This lens is suitable for the duplication of slides or negatives, as well as for macro-photography in the magnification range referred to above. It can be supplied

shutter mounted (additional technical data is available in the „MACRO-SYMMAR HM“ brochure) or in a standard mechanical barrel. Due to the unique characteristics of this lens design, the MACRO-SYMMAR HM may be used on 35mm cameras and medium format cameras with the appropriate bellows system.

This lens has proven itself under some of the most difficult and demanding circumstances. A prime example would be when photographing jewelry and, more specifically, diamonds. Additional technical specifications may be found at the end of the brochure.



MAKRO-SYMMAR HM 5.6/120
iris mount B-0



Relative aperture	Focal length in mm	Recommended negative size	Screw on thread	Mounting thread	Front mount diameter	Rear mount diameter	Iris mount diameter	Diameter light guide	Overall length	Seating face to edge of rear mount	Seating face to light guide	Smallest aperture	Flange focal distance	Iris mount	Weight in grams	Order number
			Thread ₁	Thread ₂	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃		s'A _{1:1}			
1:5.6	80	90x120	M32.5 x 0.5	M40.5 x 0.5	42.0	34.6	52.0	-	47.9	20.0	-	32	156.6	B-0*	150	25629
1:5.6	120	130x180	M32.5 x 0.5	M40.5 x 0.5	42.0	37.5	52.0	-	55.1	23.6	-	45	233.0	B-0*	190	39902
1:5.6	180	180x240	M39.0 x 0.75	M58.0 x 0.75	60.0	57.0	61.0	-	80.4	35.6	-	45	348.6	B-1*	434	39907

* also available in shutters



MAKRO-SYSTEM

A versatile System

The compact and solidly build macro-system, consisting of SCHNEIDER enlarging lenses in special diaphragm bodies, helical mounts, extension rings, and camera adapters, makes possible close-up and macro images of outstanding image quality. The system is adaptable to many kinds of cameras, and suitable, too, for industrial and scientific applications. For enlarging imaging, the lenses can be mounted in reverse without any additional accessories.



APO-COMPONON HM 2.8/40
iris mount B-V



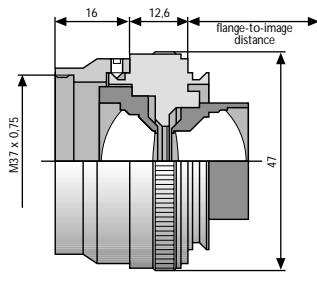
Extension



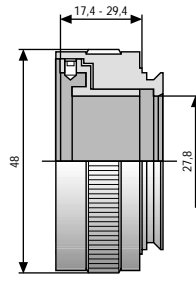
Helical mount
Makro-Unifoc 12



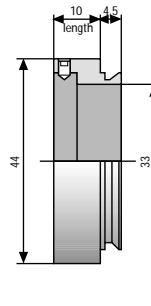
Adapter (C-Mount, etc.)



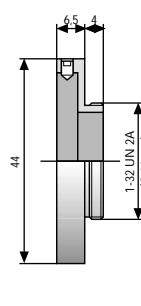
Lens with Accessories Mount



Helical Mount



Extension Tube 10 mm



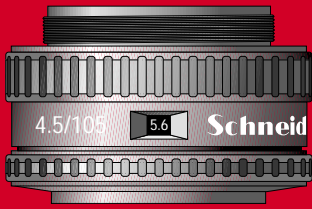
C-Mount Adapter

		Nominal image circle diameter	Length	max. Diameter	Flange-to-image distance at ∞	Order Number
Componon	2,8/28	30,0 mm	33,1 mm	47 mm	25,13 mm	14794
Componon	2,8/35	32,5 mm	36,5 mm	47 mm	30,75 mm	14792
Apo-Componon	2,8/40	43,2 mm	39,1 mm	47 mm	38,11 mm	14798
Apo-Componon	4,0/45	43,2 mm	36,5 mm	47 mm	42,35 mm	14783
Componon-S	2,8/50	43,2 mm	39,3 mm	47 mm	42,00 mm	14796
Apo-Componon	4,0/60	60,0 mm	41,8 mm	47 mm	53,29 mm	14802
Componon-S	4,0/80	80,6 mm	39,6 mm	47 mm	75,45 mm	14780
Apo-Componon	4,5/90	87,8 mm	48,0 mm	47 mm	85,51 mm	14767

	Mount	max. Diameter	Extension	Order Number
Makro-Unifoc 12	V / V	48 mm	17,4 mm – 29,4 mm	11726

For further information please see our Makro-System brochure, available on request

Iris mounts



BL-L



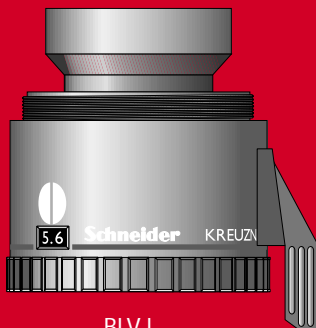
B-00 to B-3



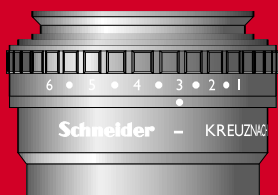
BL-0a to BL-1a



BL-0a to BL-1a



BLV-L



B-V

BL-L

The "BL-L" barrel is used exclusively with the COMPONAR-S lens series. The functional design utilizes a metal barrel, has an illuminated aperture, full aperture click-stops. If required, the click-stops may be disengaged by pulling the aperture adjustment ring down and setting the aperture between the full stops. The barrel mount has a universal Leica threaded mount M39x26Gg60°.

B-00 to B-3

The barrel type "B", with a built-in aperture, is the only unit which is offered in all four sizes (00, 0, 1, and 3). The f-stops are adjustable in half-step click stops. This durable metal barrel can be used in those situations where additional features like the illuminated aperture, click-stop override, and pre-set aperture are not required. The barrel mount diameters and thread pitches can be found on page.

BL-0a to BL-1a

The "BL" barrel is also made of metal, and has both an illuminated aperture and a half-stop aperture setting. The BL-0a has, in addition, a click-stop over-ride feature.

BLV-L

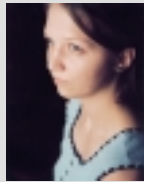
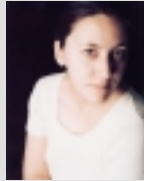
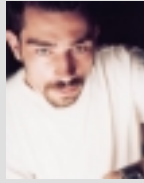
The (BLV-L) barrel features an illuminated aperture, a pre-set aperture to check focus, and a click-stop over-ride for precise expose control.

These features make your life in the darkroom easier. Select your working aperture, switch the preset lever to the (left) side and the aperture is now wide open so you may focus the image. Now flip it back and you are back to your pre-selected aperture. In situations where you require an intermediate aperture setting, switch the preset lever all the way to the right side. You have now disengaged the click stops. Set your working aperture, switch the preset lever to the left side and the aperture is now wide open so you may focus the image. Now flip it back and you are now back to your pre-selected aperture. The "BLV-L" barrel mount has a universal Leica threaded mount (M39 x 26 TPI). M39x26Gg60° The compact construction also permits mounting the lens on to a recessed lens board.

B-V

The diaphragm body B-V is also made of metal, and has a continuous diaphragm adjustment without click stops and a locking screw for securing the adjustment chosen. The B-V is a component of the SCHNEIDER Macro-System, and has the uniform V-interface, to which the various camera and thread adaptors, extension rings, and helical adjusters can be attached. For enlarging purposes, the lenses can also be used in reverse position without any additional accessories, and for that reason are well suited as camera lenses for high-grade close-up and macro photographs, e.g., in connection with bellows attachments which you may already have, or with other components of the macro-system.

The photo school



The task

Be creative...

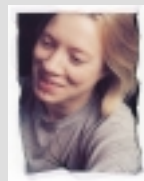
this was the apparently simple task for the photo-students of the Friedrich List School in Wiesbaden.

The task...

highly imaginative illustrations of the new brochure „Enlarging lenses“ with subjects round the darkroom.

The result...

proves again that photographers need a certain freedom for creativity.



Jos. Schneider
Optische Werke GmbH
Ringstrasse 132 · 55543 Bad Kreuznach
Germany
Phone: ++49 (0)671/601-219 Fax: ++49 (0)671/601-108
e-mail: foto@SchneiderKreuznach.com
Internet: <http://www.SchneiderKreuznach.com>

Schneider Optics
285 Oser Avenue
Hauppauge · NY 11788
U.S.A.
Phone: (001) 631.761.5000 · Fax: (001) 631.761.5090
e-mail: info@schneideroptics.com
Internet: <http://www.schneideroptics.com>

