

Schneider - KREUZNACH



The
complete
spectrum
of taking
lenses



Germany



Photo: Tom Wolf, Frankfurt

Large Format Photography Striving for Perfection

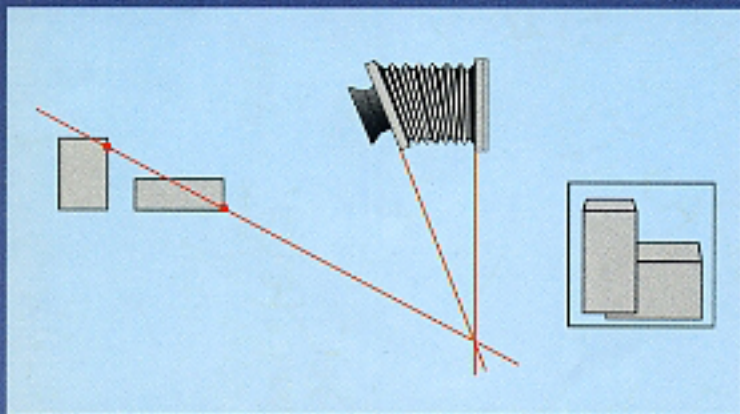
Excellent image quality

The high quality of large format image is shown on the opposite page. Such a brilliant picture, full of detail, precise and sharp, which cannot be achieved by any other taking medium. The most important consideration is a top quality lens to meet all the demands of the photographic industry.

The lens range offered by SCHNEIDER, assures that all the advantages of using large format, are retained.

The universal shift possibilities of the large format camera

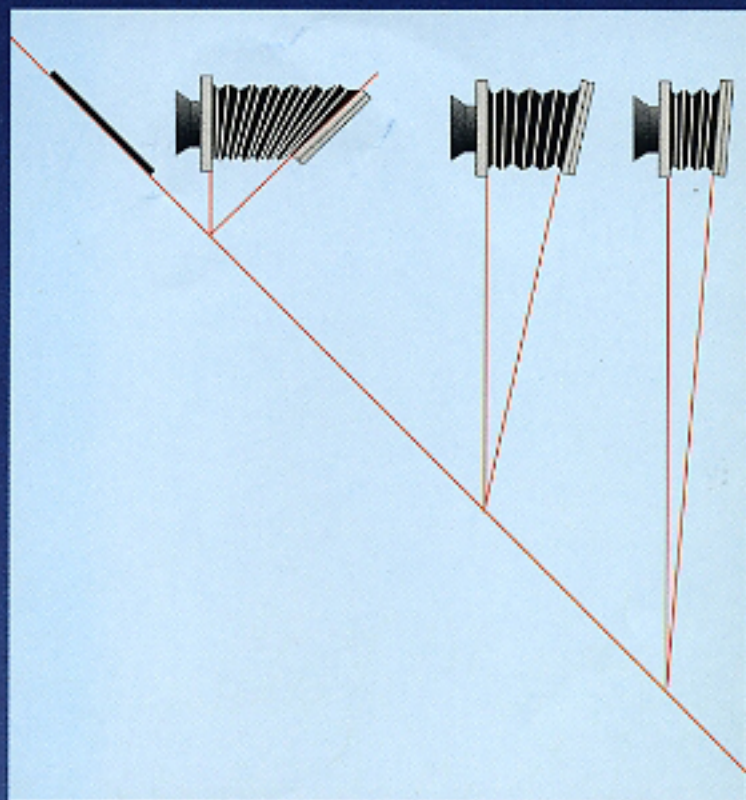
In large format camera photography there is no rigid connection, compared to small and medium formats. The free movement of lens and film standards enables much better correction of converging verticals etc. even Scheimpflug which is not possible with PC lenses.



These movements are only possible when the diameter of the image circle at working aperture, is greater than the format diagonal, due to the decentering of the optical axis.

In the following the usual image formats of large format photography are listed with the recommended lenses. Almost all the lenses can be used for several formats (see the colour coding or the graphic "image circle diameter").

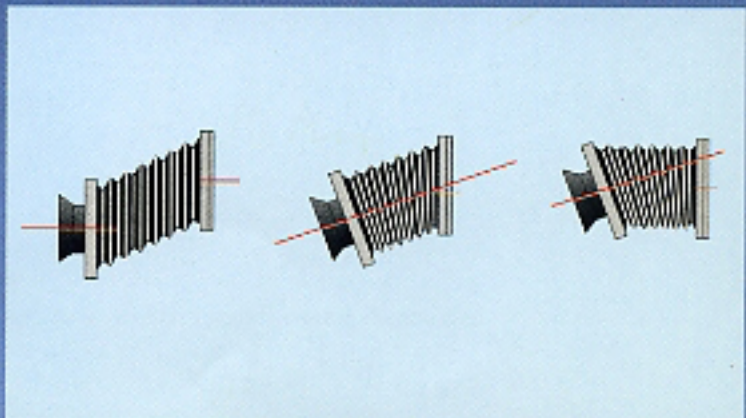
It is important to see if the image circle diameter is big enough to cover the movements. The bigger the image format, the smaller the possible movement.



An example is the Super Symmar 5.6/120 mm which offers more than 60 mm in the format 6 x 9 cm. In the next size format, 9 x 12 cm there is still 40 mm movement possible.

Without movements, even a format size 13 x 18 cm at f22 can be used.

It should be noted that with the same focal length lens, different image results are obtained with different formats. On 6 x 9 cm format the 120 mm lens is considered "standard". On 6 x 12 cm it is slightly wide angle (equivalent to 35 mm on 35 mm format) and on 13 x 18 cm it is a wide angle (equivalent to 24 mm on 35 mm format).



6x9 cm



Photo: Studio Renson, Wiesbaden

9x12 cm/4x5"



Photo: Ralph Richter, Mainz

13x18 cm/5x7"



Photo: Studio Renson, Wiesbaden

18x24 cm/8x10"



Photo: Michael Link, Budenheim

55316.00VX 8521 X.COV

Format 6 x 9 cm

6 x 9 cm, 4.5 x 6 cm and 6 x 18 cm formats are increasing in use. On one hand the photographer has all the advantages of the modern large format camera and on the other he can work with roll film which is cheaper and more handy to work and cheaper to process, than sheet film. Because of the quality of the film, provided it is used correctly, it can be utilised where large picture sizes are required.

Format 9 x 12 cm (4 x 5")

The most popular format used by professional photographers. It gives excellent image quality and is easy to use.

SCHNEIDER lenses give you the ultimate quality which provide the best possible results.

Format 13 x 18 cm (5 x 7")

Although 13 x 18 cm (5 x 7") is not so common outside Europe, it does have its advantages. It has the handiness and economy advantages of 5 x 4" with the large range of available lenses.

Format 18 x 24 cm (8 x 10")

Only by using the 18 x 24 cm (8 x 10") film can you achieve real quality in image colour and detail, and to get the ultimate results only the best lenses should be used.

A complete range of top quality lenses from SCHNEIDER are available to meet the demands of macro and close up photography, studio photography, architecture and landscape photography.

Digital Image Processing

With the development of current technology - SCHNEIDER KREUZNACH meets the demands of elec-tronic imaging. Large format cameras with digital backs require the highest resolution lenses to obtain optimum performance, as do CCD taking systems and scanners. It is the SCHNEIDER tradition to continually improve their products so that the user benefits from the very latest innovations.



APO SYMMAR



A further development of the well-proven Symmar range.

An apochromatic six element taking lens with a 72° angle of view (up to focal length 300 mm) and corresponding displacements.

Its excellent image performance ensures this lens a top position in large format photography.



SUPER-SYMMAR HM



High-quality standard lens from the SCHNEIDER HIGH MODULATION series for professional large format photography.

Thanks to the large angle of view of 80°, this eight-element lens of six groups allows successful use at extreme movements. Because of its large image circle diameter with sufficient displacements, the lens can now be used even with image formats larger than usual.

The image performance of this lens meets the highest demands in large format photography.



XENAR

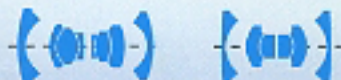


Low-priced standard lens, a favorite among professionals for portraits and advertising shots as well as feature and landscape photography.

The carefully balanced correction of this four-element lens of three groups yields exceptionally brilliant images faithful color rendering.

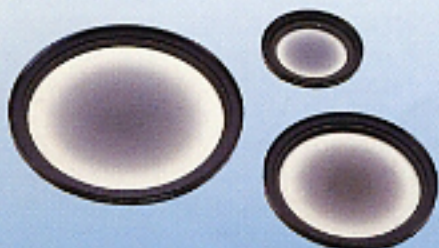


SUPER-ANGULON



Wide-angle lens of extreme field angle up to 120° for medium and large format view cameras. Three ranges of different maximum apertures and field angles for all the usual image formats cope with the most difficult assignments.

The proved design with eight respectively six elements in four groups ensures exceptional definition.



CENTER FILTER

Concentrically graduated filters, specially designed for the extreme wide-angle Super-Angulon lenses.

Compensation of the natural brightness diminution from the image center to the edges.

These Center Filters have a transmission which increases gradually from the center to the edges where it reaches full transparency.



APO-TELE-XENAR HM TELE-ARTON



These view camera tele lenses are equally suitable for distant subjects, as well as for portraiture, advertising and industrial photography. These consist of five lenses in five groups and yield good contrast transfer with high resolution.



G-CLARON



A symmetrical, six-element large format taking lens particularly corrected for 1 : 1 linear magnification.

The lens can be used for angles of view up to 64° within the scale of 1 : 5 to 5 : 1, and greater.



MAKRO-SYMMAR HM



An eight-element high performance repro lens for an approximate 1 : 1 scale.

This lens with its high resolution provides the best results when copying large format slides and other material.

Can be used for general photography within the range of 1 : 4 to 4 : 1.



M-COMPONON



Macro lens for large format cameras, specially designed for large-scale images of small close-up objects such as jewellery, postage stamps, minerals etc.

The lens in iris mount is also available with central shutter behind the lens.



B+W FILTER and ACCESSORIES

The use of special filter types is absolutely necessary for professional photography.

B+W Filter products meet all photographers' requests: a various range of multicoated filters for b/w and coloured photography, trick and special effects and accessories.

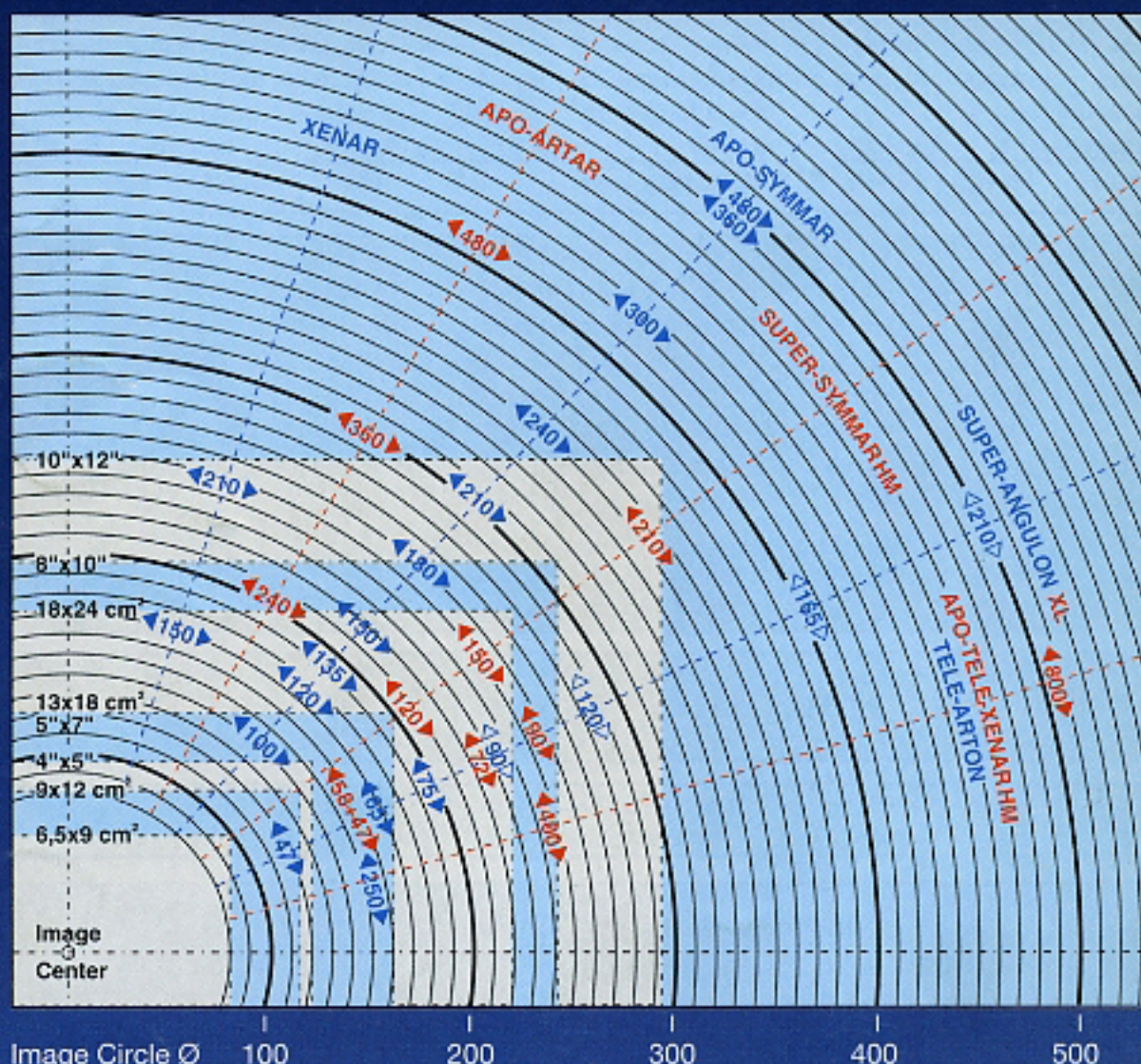
negative size	rel. aperture/ focal length k / f'	lens type	front mount diameter	min. aperture (Copal)	mounting thread for accessories	shutter size E = ∞	flange focal distance (Copal)	rear mount diameter
[-]	[-] / [mm]	[-]	[mm]		[mm x mm]	[-]	[mm]	[mm]
	5,6 / 100	APO-SYMMAR	42	64	M 40,5 x 0,5	0	95,5	34
	5,6 / 120		51	64	M 49 x 0,75	0	117,9	38
	5,6 / 135		51	64	M 49 x 0,75	0	128,2	43
	5,6 / 150		60	64	M 58 x 0,75	0	144,2	46
	5,6 / 180		60	64	M 58 x 0,75	1	177,2	57
	5,6 / 210		75	64	M 72 x 0,75	1	203,1	70
	5,6 / 240		80	64	M 77 x 0,75	3	238,5	75
	5,6 / 300		110	64	M 105 x 1	3	281,4	80
	6,8 / 360		115	64	M 112 x 1,5	3	339,9	90
	8,4 / 480		110	64	M 105 x 1	3	455,2	92
	9,4 / 480		110	64	M 105 x 1	3	455,2	92
	5,6 / 120	SUPER-SYMMAR HM	70	64	M 67 x 0,75	0	135,3	54
	5,6 / 150		80	64	M 77 x 0,75	1	168,3	70
	5,6 / 210		105	64	M 100 x 1	3	227,2	80
	5,6 / 150	XENAR	36	45	M 34 x 0,5	0	142,6	31
	6,1 / 210		48	45	M 46 x 0,75	1	206,0	42
	5,6 / 47 XL	SUPER-ANGULON XL	70	32	M 67 x 0,75	0	59,1	63,5
	5,6 / 47		54	32	M 52 x 0,75	0	52,2	43
	5,6 / 58 XL		70	32	M 67 x 0,75	0	69,3	60
	5,6 / 65		70	45	M 67 x 0,75	0	72,5	57
	5,6 / 72 XL		100	45	M 95 x 1	0	82,2	75
	5,6 / 75		70	45	M 67 x 0,75	0	84,8	65
	5,6 / 90 XL		100	45	M 95 x 1	0	102,8	86
	5,6 / 90		85	45	M 82 x 0,75	0	102,7	77
	8 / 90		70	45	M 67 x 0,75	0	98,8	57
	8 / 120		85	64	M 82 x 0,75	0	133,1	75
	8 / 165		115	64	M 110 x 1	3	179,2	100
	8 / 210		140	90	M 135 x 1	3	229,4	125
	5,6 / 400		APO-TELE-XENAR HM	105	64	M 100 x 1	3	306,0
	12 / 800	140		64	M 135 x 1	3	584,9	105
	5,6 / 250	TELE-ARTON	70	64	M 67 x 0,75	1	206,5	70
	9 / 150	G-CLARON	37	64	M 35,5 x 0,5	0	148,3	32
	9 / 210		51	90	M 49 x 0,75	1	205,0	45
	9 / 240		54	90	M 52 x 0,75	1	234,6	51
	9 / 270		60	90	M 58 x 0,75	1	264,6	57
	9 / 305		70	90	M 67 x 0,75	1	301,7	65
	9 / 355		80	90	M 77 x 0,75	3	350,0	75
	5,6 / 80	MAKRO-SYMMAR HM	42	32	M 40 x 0,5	0	78,2	34
	5,6 / 120		42	45	M 40,5 x 0,5	0	116,1	39
	5,6 / 180		60	64	M 58 x 0,75	1	174,4	57
	4 / 28	M-COMPONON	40	16	-	0	17,4	-
	4 / 50		40	22	-	0	32,5	-
	4 / 80		40	22	-	0	55,1	-

until 6 x 9 cm
 until 9 x 12 cm/4 x 5"
 until 13 x 18 cm/5 x 7"
 until 18 x 24 cm/8 x 10"
 > 8 x 10"

weight in grams (with Copal shutter) [Gram]	focal length f' [mm]	angle of view k = 22 [Grad]	image circle diameter E = ∞, k = 22 [mm]	lens displacements in mm vertical/horizontal at f/22, with lens focused at infinity					
				image size					
				6 x 9	9 x 12	13 x 18	18 x 24	4 x 5	8 x 10
				[cm] / [cm]		[inch] / [Inch]			
165	100	72	145	31 / 26	3 / 3	-	-	-	-
200	120	72	179	51 / 44	28 / 23	-	-	19 / 16	-
205	135	72	195	60 / 53	38 / 31	-	-	29 / 25	-
250	150	72	220	73 / 66	53 / 45	8 / 6	-	44 / 39	-
385	180	72	263	96 / 88	77 / 68	39 / 31	-	69 / 62	-
590	210	72	305	118 / 109	100 / 90	65 / 54	14 / 11	92 / 85	-
820	240	72	352	-	125 / 114	93 / 80	47 / 38	117 / 109	29 / 24
1155	300	72	425	-	-	134 / 118	93 / 79	-	77 / 67
1410	360	70	491	-	-	169 / 152	131 / 115	-	116 / 103
1680	480	56	500	-	-	-	136 / 119	-	121 / 108
1700	480	56	500	-	-	-	136 / 119	-	121 / 108
370	120	82	211	68 / 61	47 / 40	-	-	39 / 34	-
740	150	80	254	91 / 83	72 / 63	33 / 26	-	64 / 58	-
1510	210	80	356	-	127 / 116	95 / 82	50 / 41	120 / 111	32 / 27
170	150	60	173	47 / 41	24 / 19	-	-	14 / 12	-
375	210	60	249	89 / 81	69 / 60	29 / 23	-	61 / 55	-
310	47 XL	120	166	43 / 37	19 / 15	-	-	9 / 8	-
235	47	105	123	17 / 13	-	-	-	-	-
320	58 XL	110	166	43 / 37	19 / 15	-	-	9 / 8	-
340	65	105	170	45 / 39	21 / 17	-	-	12 / 10	-
557	72 XL	115	226	76 / 69	56 / 48	13 / 10	-	48 / 42	-
380	75	105	198	61 / 54	39 / 32	-	-	30 / 26	-
665	90 XL	110	259	-	75 / 66	36 / 29	-	67 / 60	-
570	90	105	235	-	61 / 52	19 / 14	-	53 / 47	-
390	90	100	216	70 / 63	49 / 42	4 / 3	-	41 / 36	-
700	120	100	288	-	91 / 81	55 / 45	-	83 / 76	-
1605	165	100	395	-	-	116 / 101	73 / 61	-	56 / 48
3065	210	100	500	-	-	-	136 / 120	-	121 / 108
1270	400	35	249	89 / 81	70 / 61	30 / 24	-	62 / 55	-
2500	800	35	496	218 / 208	202 / 190	174 / 157	135 / 119	195 / 185	121 / 108
810	250	35	158	39 / 33	13 / 10	-	-	3 / 3	-
230	150	64	189	56 / 49	34 / 28	-	-	25 / 21	-
285	210	64	260	95 / 86	75 / 66	37 / 28	-	67 / 61	-
330	240	64	298	-	96 / 86	61 / 50	8 / 6	88 / 81	-
375	270	64	335	-	-	83 / 70	36 / 28	108 / 100	17 / 14
460	305	64	381	-	-	109 / 95	66 / 55	-	49 / 42
855	355	64	444	-	-	144 / 128	104 / 89	-	88 / 77
214	80	47	141 (1 : 1)	-	29 / 24	-	-	-	-
230	120	55	250 (1 : 1)	-	69 / 60	30 / 23	-	61 / 55	-
500	180	55	375 (1 : 1)	-	136 / 125	105 / 91	61 / 51	129 / 121	44 / 37
95	28	-	-	The macro lenses are useable for enlargements 2:1 to 12:1.					
140	50	-	-	For further information, please ask for leaflet.					
175	80	-	-						

The enlargement of the image scale β' increases the image circle diameter by factor $(1 + |\beta'|)$, the camera extension by $f' \cdot |\beta'|$.

The graphic illustrates the coverage of the Schneider large format lenses at F/22 and infinity and the various formats included. Further it is possible to estimate the horizontal and vertical shift – precise details are given in the individual lens brochures. The following table shows the specific formats with nominal values, true format dimensions and their respective diagonals.



6,5 x 9 cm² (58 x 81) diagonale 99,6 mm
 9 x 12 cm² (83 x 114) diagonale 141,0 mm
 13 x 18 cm² (122 x 171) diagonale 210,1 mm

18 x 24 cm² (171 x 231) diagonale 287,4 mm
 4" x 5" (96 x 120) diagonale 153,7 mm
 5" x 7" (121 x 170) diagonale 209,7 mm

8" x 10" (194 x 245) diagonale 312,5 mm
 10" x 12" (245 x 295) diagonale 383,5 mm

shutter size	size	exposure time	elec. digital shutter	cocking shutter	self-cocking shutter	mechanical time control	x-synchronization	use of aperture setting	f stops	mounting threads	lens plates drilling holes	lens plate thickness	necessary equipment
Copal 0	0	B.T. 1/500s - 1s		○		○	○	○		M 32,5 x 0,50 mm	34,8 mm	1,5 mm - 4,0 mm	
Copal 1	1	B.T. 1/400s - 1s		○		○	○	○		M 39,0 x 0,75 mm	41,8 mm	1,5 mm - 3,0 mm	
Copal 3	3	B.T. 1/125s - 1s		○		○	○	○		M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 5,0 mm	
Compur 0	0	B. 1/500s - 1s		○		○	○	○		M 32,5 x 0,50 mm	34,8 mm	1,5 mm - 4,0 mm	
Compur 1	1	B. 1/500s - 1s		○		○	○	○	○	M 39,0 x 0,75 mm	41,8 mm	1,3 mm - 3,0 mm	
Compur 3	3	B. 1/250s - 1s		○		○	○	○	○	M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 5,0 mm	
Prontor professional 01 S	0	B. 1/250s - 1s			○	○	○	○	○	M 39,0 x 0,75 mm	41,8 mm	1,5 mm - 3,0 mm	central remote control unit
Prontor professional 1 S	1	B. 1/250s - 1s			○	○	○	○	○	M 39,0 x 0,75 mm	41,8 mm	1,5 mm - 3,0 mm	(mechanical)
Prontor professional 3	3	B. 1/125s - 1s			○	○	○	○	○	M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 4,0 mm	
Horseman ISS	0	B. 1/60s - 99' 59"	○				○		by choice	M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 4,0 mm	central remote control (akku)
Horseman ISS	1	B. 1/60s - 99' 59"	○				○		1/2, 1/3	M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 4,0 mm	power supply
Horseman ISS	3	B. 1/30s - 99' 59"	○				○		1/8, 1/10	M 62,0 x 0,75 mm	65,3 mm	1,5 mm - 4,0 mm	

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