

Optical and mechanical dimensions																
Lens name	Rel. aperture / focal length [mm]	Optical design [lens elements/groups]	Effective focal length ±1% [mm]	Nodal point separation [mm]	Front-side screw-in thread for filters and other accessories	Max. diameter of the front mount [mm]	Max. diameter of the rear mount [mm]	Total overall height [mm]	Shutter diameter [mm] without cable	Flange surface to rear edge of mount [mm]	Thread of the shutter for assembling on the lens plate	Flange focal distance [mm] for the given distance or scale	Smallest diaphragm aperture	Shutter type and shutter size (different shutters on request)	Weight with shutter indicated [grams]	Order number of the lens including shutter
STANDARD LENSES				HH'	Thread <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	h <sub>1</sub>	d <sub>3</sub>	h <sub>2</sub>	Thread <sub>2</sub>	s' <sub>A∞</sub>				
<b>Apo-Digitar</b>	<b>5.6/24 XL</b>	8/4	24.9	12.7	<sup>1)</sup> M 52 x 0.75 M 52 x 0.75	<sup>2)</sup> 54.0 54.0	43.0 43.0	<sup>2)</sup> 37.8 37.8	<sup>2)</sup> 80.0 97.0	<sup>2)</sup> 14.4 12.2	<sup>2)</sup> M 32.5 x 0.5 M 39 x 0.75	<sup>2)</sup> 26.4 24.2	16 16 16	Schneider Electr. 0 <sup>2)</sup> Schneider Electr. 0 Rollei Electronic 0	<sup>2)</sup> 255 380	<sup>3)</sup> 10427 10439
<b>Digitar</b>	<b>2.8/28 L</b>	12/10	29.3	58.0	M 77 x 0.75	85.0	30.0	81.1	80.0 97.0	20.6 18.4	M 32.5 x 0.5 M 39 x 0.75	69.9 67.7	22 22	Schneider Electr. 0 Rollei Electronic 0	535 660	17529 27631
<b>Apo-Digitar</b>	<b>5.6/35 XL</b>	8/4	36.4	15.4	<sup>1)</sup> M 52 x 0.75 M 52 x 0.75	<sup>2)</sup> 54.0 54.0	43.0 43.0	<sup>2)</sup> 44.0 44.0	<sup>2)</sup> 80.0 97.0	<sup>2)</sup> 17.4 15.2	<sup>2)</sup> M 32.5 x 0.5 M 39 x 0.75	<sup>2)</sup> 39.4 37.2	22 22 22	Schneider Electr. 0 <sup>2)</sup> Schneider Electr. 0 Rollei Electronic 0	<sup>2)</sup> 240 405	<sup>3)</sup> 10647 10649
<b>Apo-Digitar</b>	<b>5.6/47 XL</b>	8/4	47.6	20.8	M 52 x 0.75	54.0	43.0	54.7	80.0 97.0	22.0 19.8	M 32.5 x 0.5 M 39 x 0.75	52.3 50.1	32 32	Schneider Electr. 0 Rollei Electronic 0	300 425	17691 27632
<b>Apo-Digitar</b>	<b>4.0/60 N</b>	6/4	59.9	-1.9	M 40.5 x 0.5	42.0	31.0	42.5	80.0 97.0	15.0 12.8	M 32.5 x 0.5 M 39 x 0.75	55.1 52.9	22 22	Schneider Electr. 0 Rollei Electronic 0	250 375	17721 27637
<b>Apo-Digitar</b>	<b>5.6/72 L</b>	6/4	74.8	-1.7	M 40.5 x 0.5	43.0	35.0	36.4	80.0 97.0	9.8 7.7	M 32.5 x 0.5 M 39 x 0.75	68.4 66.2	45 45	Schneider Electr. 0 Rollei Electronic 0	221 346	1009064 1009061
<b>Apo-Digitar</b>	<b>4.0/80 L</b>	6/4	80.3	-1.8	M 40.5 x 0.5	42.0	31.0	42.6	80.0 97.0	14.6 12.4	M 32.5 x 0.5 M 39 x 0.75	78.8 76.6	32 32	Schneider Electr. 0 Rollei Electronic 0	255 380	17731 27638
<b>Apo-Digitar</b>	<b>4.5/90 N</b>	6/4	90.7	-3.5	M 40.5 x 0.5	42.0	34.0	48.7	80.0 97.0	20.7 18.5	M 32.5 x 0.5 M 39 x 0.75	86.8 84.6	32 32	Schneider Electr. 0 Rollei Electronic 0	280 405	17780 27728
<b>Apo-Digitar</b>	<b>5.6/100 N</b>	6/4	101.0	-2.1	M 40.5 x 0.5	42.0	36.0	42.3	80.0 97.0	15.7 13.5	M 32.5 x 0.5 M 39 x 0.75	97.0 94.8	45 45	Schneider Electr. 0 Rollei Electronic 0	250 375	17890 27729
<b>Apo-Digitar</b>	<b>5.6/120 N</b>	6/4	124.9	-2.4	M 40.5 x 0.5	42.0	42.0	41.8	80.0 97.0	17.3 15.1	M 32.5 x 0.5 M 39 x 0.75	120.1 117.9	64 64	Schneider Electr. 0 Rollei Electronic 0	255 380	17900 27731
<b>Apo-Digitar</b>	<b>5.6/150 N</b>	6/4	151.3	-4.6	M 40.5 x 0.5	42.0	45.0	71.2	80.0 97.0	37.8 35.6	M 32.5 x 0.5 M 39 x 0.75	151.4 149.2	64 64	Schneider Electr. 0 Rollei Electronic 0	395 520	17941 27792
<b>Apo-Digitar</b>	<b>5.6/180 T</b>	6/4	180.1	-3.6	M 55 x 0.75	58.0	42.0	65.0	80.0 97.0	24.5 22.3	M 32.5 x 0.5 M 39 x 0.75	173.2 171.0	64 64	Schneider Electr. 0 Rollei Electronic 0	343 508	1003283 1003284
<b>Apo-Digitar</b>	<b>6.8/210 T</b> <b>5.6/210 T</b>	6/4 6/4	210.1 210.1	-4.2 -4.2	M 72 x 0.75 M 72 x 0.75	75.0 75.0	52.0 52.0	74.3 74.3	80.0 97.0	29.0 27.4	M 32.5 x 0.5 M 39 x 0.75	202.6 201.0	64 64	Schneider Electr. 0 Rollei Electronic 1	420 590	1005762 1005761
MACRO LENSES				HH'	Thread <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	h <sub>1</sub>	d <sub>3</sub>	h <sub>2</sub>	Thread <sub>2</sub>	s' <sub>A 1:1</sub>				
<b>Apo-Digitar</b>	<b>5.6/80 M</b>	6/4	81.5	-1.0	M 40.5 x 0.5	42.0	31.0	47.9	80.0 97.0	19.9 17.7	M 32.5 x 0.5 M 39 x 0.75	159.7 157.5	32 32	Schneider Electr. 0 Rollei Electronic 0	275 400	17942 27639
<b>Apo-Digitar</b>	<b>5.6/120 M</b>	8/4	120.2	-1.2	M 40.5 x 0.5	42.0	37.5	55.1	80.0 97.0	23.2 21.0	M 32.5 x 0.5 M 39 x 0.75	236.1 233.9	45 45	Schneider Electr. 0 Rollei Electronic 0	300 425	17964 27732

Centerfilters for Digitar lenses						
Lens name	Rel. aperture / focal length [mm]	Centerfilter identification	Exposure correction as filter factor / in f-stops	Centerfilter thread (to be mounted at lens)	Front-side screw-in thread (for an additional filter)	Order number of the centerfilter
<b>Apo-Digitar</b>	<b>5.6/24 XL</b>	IIId	4x / 2	M 52 x 0.75	M 72 x 0.75	19786
For thread in lens plate *		IIb	4x / 2	M 67 x 0.75	M 72 x 0.75	24061
<b>Apo-Digitar</b>	<b>5.6/35 XL</b>	IIIf	4x / 2	M 52 x 0.75	M 72 x 0.75	1003286
For thread in lens plate *		IIg	4x / 2	M 67 x 0.75	M 72 x 0.75	1003287
<b>Apo-Digitar</b>	<b>5.6/47 XL</b>	II	3x / 1.5	M 52 x 0.75	M 67 x 0.75	16190

- Footnotes:**
- <sup>1)</sup> M 67 x 0.75 in the lens plate and M 52 x 0.75 in the lens
  - <sup>2)</sup> These measurements do not apply for versions where the Schneider Electronic Shutters are part of a special lens plate and both come as a unit (see illustration on page 10, top left).
  - <sup>3)</sup> Order number for this version:  

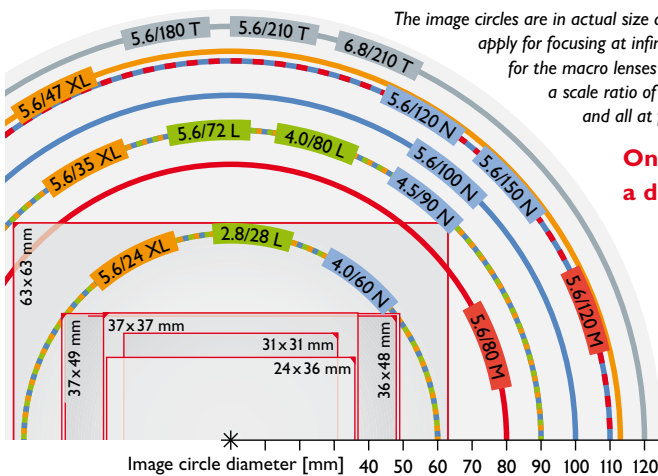
<b>5.6/24 XL</b>	<b>5.6/35 XL</b>	for camera system
10920	1003311	Arca Swiss 110x110 mm
11419	1003313	Cambo
11394	1003312	Horseman
10470	1003309	Linhof M 679 / M 679 cc / M 679 cs
10453	1003308	Plaubel PL69D
10602	1003310	Sinar P2
1015767	1015768	Sinar P3

**NOTE:** With the **Gaussoptic** program for Windows 3.xx/NT, versatile optical imaging calculations are possible. It contains all necessary Gauss lens data of the complete series of lenses for analog and digital photography that we supply.

The program **Gaussoptic** can be purchased directly from us under Order No. 43590 (our address can be found on the last page).

\* For application acc. footnotes <sup>2)</sup> and <sup>3)</sup> on the right and illustration on page 10, top left

Angle of view, image circles, range of lens displacements								Maximum lens displacements at f/11 and landscape format (for portrait format swap the data) focusing at infinity (standard lenses) or at scale 1:1 (macro lenses)											
Lens name	Rel. aperture / focal length [mm]	Recommended centerfilter type	Recommended aperture range	Angle of view at full aperture [degrees]	Image circle diameter [mm] at full aperture	Angle of view at f/11 [degrees]	Image circle diameter [mm] at f/11	24 x 36 mm		31 x 31 mm		37 x 37 mm		36 x 48 mm		37 x 49 mm		63 x 63 mm	
								vertical [mm]	horizontal [mm]	vertical [mm]	horizontal [mm]	vertical [mm]	horizontal [mm]	vertical [mm]	horizontal [mm]	vertical [mm]	horizontal [mm]	vertical [mm]	horizontal [mm]
<b>STANDARD LENSES</b>								24 x 36 mm		31 x 31 mm		37 x 37 mm		36 x 48 mm		37 x 49 mm		63 x 63 mm	
Apo-Digitar	5.6/24 XL	Ild	5.6-11	100°	60	100°	60	↑ 12 → 9.5	↑ 10 → 10	↑ 5.1 → 5.1	↑ 0 → 0								
Digitar	2.8/28 L		2.8-11	92°	60	92°	60	↑ 12 → 9.5	↑ 10 → 10	↑ 5.1 → 5.1	↑ 0 → 0								
Apo-Digitar	5.6/35 XL	Ilf	5.6-11	88°	70	102°	90	↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
Apo-Digitar	5.6/47 XL	II	8-11	92°	98	100°	113	↑ 42 → 37	↑ 39 → 39	↑ 35 → 35	↑ 33 → 30	↑ 32 → 29	↑ 15 → 15						
Apo-Digitar	4.0/60 N		4-11	53°	60	53°	60	↑ 12 → 9.5	↑ 10 → 10	↑ 5.1 → 5.1	↑ 0 → 0								
Apo-Digitar	5.6/72 L		5.6-11	62°	90	62°	90	↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
Apo-Digitar	4.0/80 L		5.6-11	53°	80	59°	90	↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
Apo-Digitar	4.5/90 N		4.5-11	53°	90	53°	90	↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
Apo-Digitar	5.6/100 N		5.6-11	53°	100	53°	100	↑ 35 → 31	↑ 32 → 32	↑ 28 → 28	↑ 26 → 23	↑ 25 → 22	↑ 7.3 → 7.3						
Apo-Digitar	5.6/120 N		5.6-11	48°	110	48°	110	↑ 40 → 36	↑ 37 → 37	↑ 33 → 33	↑ 31 → 28	↑ 31 → 27	↑ 14 → 14						
Apo-Digitar	5.6/150 N		5.6-11	40°	110	40°	110	↑ 40 → 36	↑ 37 → 37	↑ 33 → 33	↑ 31 → 28	↑ 31 → 27	↑ 14 → 14						
Apo-Digitar	5.6/180 T		5.6-11	37°	120	37°	120	↑ 45 → 41	↑ 42 → 42	↑ 39 → 39	↑ 37 → 33	↑ 36 → 33	↑ 20 → 20						
Apo-Digitar	6.8/210 T 5.6/210 T		5.6-11	32°	120	32°	120	↑ 45 → 41	↑ 42 → 42	↑ 39 → 39	↑ 37 → 33	↑ 36 → 33	↑ 20 → 20						
<b>MACRO LENSES</b>								24 x 36 mm		31 x 31 mm		37 x 37 mm		36 x 48 mm		37 x 49 mm		63 x 63 mm	
Apo-Digitar	5.6/80 M	1:4	5.6-11			40°	75	↑ 21 → 18	↑ 19 → 19	↑ 14 → 14	↑ 11 → 8.9	↑ 9.9 → 8.1							
		1:2	5.6-11			36°	80	↑ 24 → 20	↑ 22 → 22	↑ 17 → 17	↑ 14 → 12	↑ 13 → 11							
		1:1	5.6-8	28°	80	28°	80	↑ 24 → 20	↑ 22 → 22	↑ 17 → 17	↑ 14 → 12	↑ 13 → 11							
		2:1	5.6	18.6°	80			↑ 24 → 20	↑ 22 → 22	↑ 17 → 17	↑ 14 → 12	↑ 13 → 11							
		4:1	5.6	12.6°	90			↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
Apo-Digitar	5.6/120 M	1:4	5.6-11			30°	80	↑ 24 → 20	↑ 22 → 22	↑ 17 → 17	↑ 14 → 12	↑ 13 → 11							
		1:2	5.6-11			28°	90	↑ 29 → 25	↑ 27 → 27	↑ 23 → 23	↑ 20 → 17	↑ 19 → 17	↑ 0.6 → 0.6						
		1:1	5.6-8	26°	110	26°	110	↑ 40 → 36	↑ 37 → 37	↑ 33 → 33	↑ 31 → 28	↑ 31 → 27	↑ 14 → 14						
		2:1	5.6	17.4°	110			↑ 40 → 36	↑ 37 → 37	↑ 33 → 33	↑ 31 → 28	↑ 31 → 27	↑ 14 → 14						
		4:1	5.6	10.5°	110			↑ 40 → 36	↑ 37 → 37	↑ 33 → 33	↑ 31 → 28	↑ 31 → 27	↑ 14 → 14						



# IMAGE CIRCLES

Only sufficient reserve displacement guarantees a digital image with a correct perspective

The comparison of the chip formats with the image circles of the Digitar series shows that these leave a lot of scope within the focal lengths typical for this format for parallel displacement in order to correct perspective (elimination of converging lines) and for lens tilt/swing for a better control of depth of field.