

The “Grandina” LF lenses from Carl Zeiss Jena – a tale of technical excellence and economic absurdity

© 2005-2025 Arne Cröll – All Rights Reserved. This version is from January 10, 2025; the first version of this article appeared in “View Camera” Sept./Oct. 2005, pp. 34-38.

Two previous articles [1, 2] summarized the development of the large format (LF) lens lines of the VEB¹ Carl Zeiss Jena in the German Democratic Republic (GDR) and its short-lived successor Docter Optic in reunified Germany. In the tables of the first article [1] a few lenses were mentioned as prototypes, such as the 65 mm Lamegon or the 210 mm Biometar. A visit to the Zeiss archives in Jena uncovered some new information about a specific LF lens line which accounts for most of those prototypes, but never made it into production. After having read the internal Zeiss documents [3, 4] on these lenses I think this was definitely a loss for the large format world. The story of these lenses is interesting enough to warrant an addendum to the previous articles; interesting not only from the historical point of view, but also as an example of the problems of a high-tech company behind the iron curtain. Additional information was revealed in a much later article (in German) by M. Herrmann [5] from 2022, some of which is included in this version.

The “Grandina” history

In 1961, VEB Carl Zeiss Jena (CZJ) was approached by the Czechoslovakian company Meopta in Prešov to develop a line of 5 lenses for a large format camera. Meopta was well known for their enlargers, but also made cameras, from 35mm to large format. The Meopta camera in question, named “Grandina”, was a monorail model in the mold of the Linhof Kardan for the 9x12 cm (or 4x5”) format [5, 6], with the option of expanding it to the 13x18cm (5x7”) format later. The head designer was Ladislav Dubný and the planned production date was 1965, later moved to 1967 [5]. Several related patents were applied for in different countries. Three prototypes were manufactured, including accessories such as a wide angle bellows, 13x18 cm back, 120 roll film cassette, and an extension rail, but in the end no production beyond the prototypes happened [5].

Meopta asked CZJ to develop five different focal lengths, which should all cover 4x5” with movements, and some capable of covering 13x18 cm. The focal lengths were 65 mm, 90 mm, 135 mm - as the “normal” focal length to be sold with the camera, 210 mm, and 270 mm. In addition, all lenses had to fit into a modified size 1 “Prestor” shutter to be built by VEB Pentacon in Dresden. Initially, Meopta contacted Pentacon and CZJ independently, but later wanted to interact only with one partner, CZJ, so Pentacon was appointed to be the shutter supplier for CZJ. Note that at this time VEB Pentacon was *not* part of CZJ – this merger happened much later, in 1985.

Meopta was not only a camera and enlarger manufacturer, but also an optics house. They had developed their own LF lenses in the early 1950’s, for their 13x18 cm “Magnola” technical camera. These were

¹ VEB stands for “Volkseigener Betrieb“, Publicly Owned Enterprise, i.e. a nationalized company in the GDR.

the 210 mm f/4.5 Belar (a Tessar type) and the 135 mm f/6.8 “Largor” (a double Gauss wide angle). They also made a wide variety of enlarging lenses based on the Tessar and Heliar designs. Fig. 10c in ref. [5] actually shows a lens on the 3rd Grandina prototype, it appears to be a 135mm f/4.5 lens. Why they chose to approach CZJ instead of doing the development themselves is not known. Possible explanations are:

- Better expected sales in Western countries having optics with the Zeiss name
- A lack of expertise or manpower to tackle the complex development and manufacturing tasks needed to achieve the design goals
- An agreement in the Eastern Bloc countries to concentrate specific tasks at only one location.

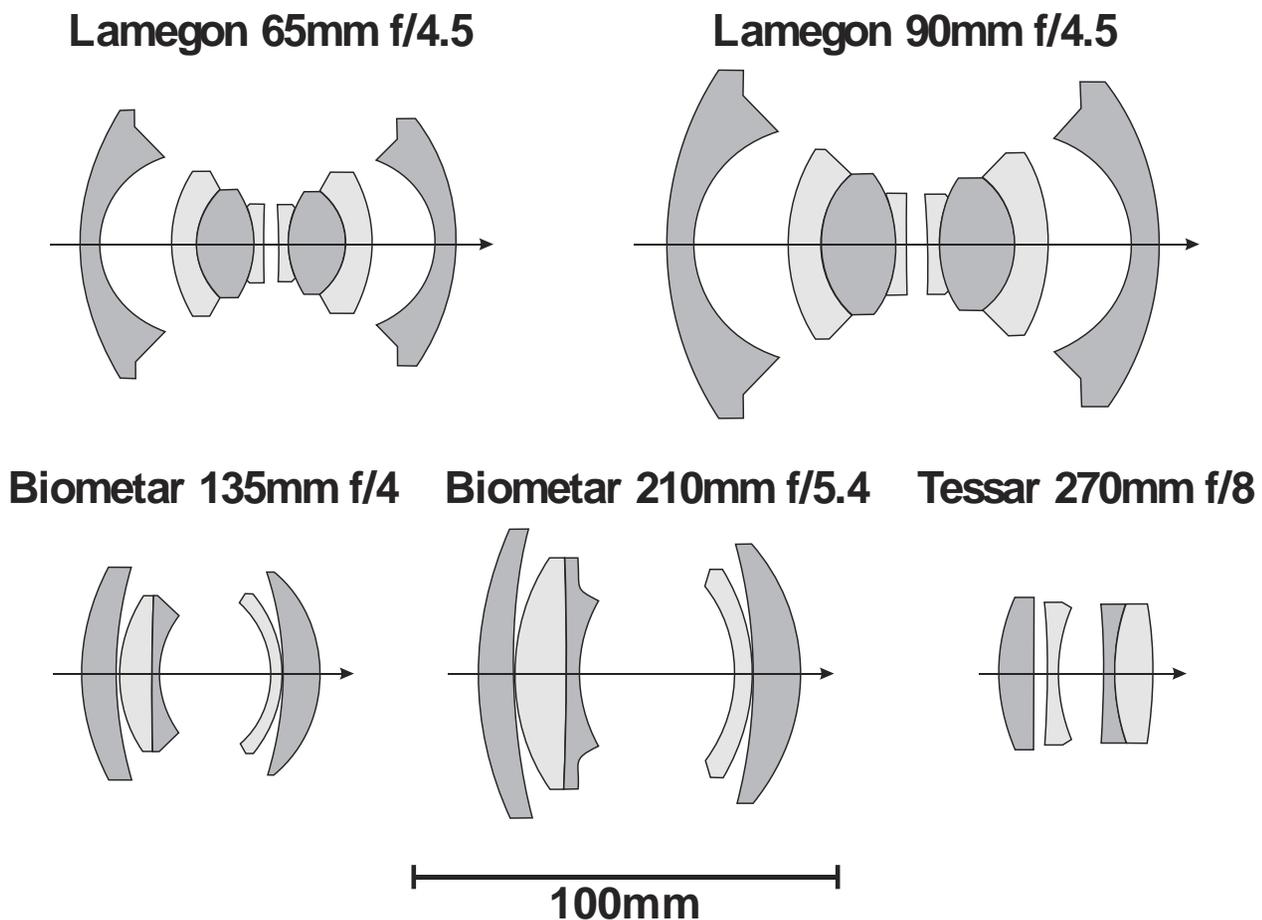


Fig. 1: Lens section drawings (to scale) of the 5 lenses for the “Grandina” camera, based on the original CZJ drawings [3,4].

Lens development at Carl Zeiss Jena

The people at CZJ went to work, and by 1963 five new lenses had been developed that fulfilled or surpassed all of Meopta’s specifications. These lenses were the f/4.5 65 mm Lamegon, the f/4.5 90 mm Lamegon, the f/4 135 mm Biometar, the f/5.4 210 mm Biometar, and the f/8 270 mm Tessar – of these, the 90, 210, and

270 mm lenses also covered 13x18 cm/5x7". Note that the Lamegon lenses were originally named "Panco-lar" in the first development documents. Table 1 lists the known specifications and fig. 1 shows sketches of the optical designs based on the CZJ drawings. Samples of each lens were made for tests. Judging from the internal CZJ test reports (compare tables 2-6), and my own experience with some of the examples, these lenses were often better than their international competition at the time.

*Table 1: Technical data of the VEB Carl Zeiss Jena LF lenses for the Meopta "Grandina" 4x5 camera. Judging from CZJ's internal tests, the image circle numbers are based on a resolution criterion of 100 μm or less (i.e. 10 lp/mm or more). *Note that the later Copal versions of the 65 mm and the 90 mm Lamegon and the 135 mm Biometar close down to f/45, and the Copal version of the 210 mm Biometar closes down to f/64.*

Lens name	Focal length [mm]	Max/Min. Aperture	Elements/groups	Coverage [°] @f/22	Image circle [mm]	Filter size	Weight [g] with Prestor 1 shutter	Remarks
Lamegon	65	4.5/32*	8/4	105	156@f/4.5 170@f/22	M95x1	683	
	90				200@f/4.5 224@f/11	M118x1	1020	Copal Electric 1 version: 1180g
Biometar	135	4/32*	5/4	67	156@f/4 180@f/11	M67x0.75	395	Copal 1 version: 395g
	210	5.4/45*		66	240@f/5.4 270@f/16	M86x1	684	
Tessar	270	8/64	4/3	53	250@f/8 270@f/16	M49x0.75	278	

Originally the lenses were slated to go into production in 1964. Meopta planned to sell 750 units of the 135 mm standard lens and 750 units of all the other lenses combined. CZJ planned to produce another 200-300 units for use in the GDR and for export. However, the unexpected bottleneck turned out to be the shutter production. Because of the low production numbers, the shutters were planned to be sourced from the existing "Prestor" shutter line (sizes 1, 3, and 5) from Pentacon in Dresden, which appeared on the East-German market in 1964². Meopta asked for some changes of the Prestor 1, including a preview lever that was never realized. Due to production problems at Pentacon, the delivery of the prototype series of the lenses had to be postponed for more than a year to 1965/1966, and then with a reduced number of 5 units per lens, instead of 25 [4]. Then, in the 2nd quarter of 1966, VEB Pentacon suddenly decided to stop the production of leaf shutters completely – "surprising" for CZJ, as it was stated in the internal Zeiss report [4]. The same report said that any future production depended on the possibility of obtaining Western-made shutters. One would think that this was not be too difficult, since CZJ had done this before, fitting Tessars into West-German Compurs and Compounds in the 1950's [1]. The use of Western shutters would have

² Note that the GDR-made "Mentor" and "Globica" LF cameras all used behind the lens shutters, so there was not a big home market for leaf shutters.

needed some amount of mechanical redesign, as the Prestor shutter sizes are not compatible with the standardized Western ones: The Prestor 1 uses the same front thread as a Copal or Compur 1 (M40x0.75), but instead of the standard M36x0.75 back cell thread of a size 1 shutter it used M40x0.75, the same thread as on the front. In addition, the cell spacing of the Prestor 1 is 23.5 mm, 3.5 mm more than the standard 20 mm of a Compur or Copal 1. Still, it is not a major difference and a redesign of the mount would have been easy. I am convinced that they would have been able to sell the lenses on the Western markets at a premium price, and would have regained any initial investment in Western-made shutters. But apparently it was not possible to obtain enough hard currency within the GDR system to buy a substantial number of Compur or Prontor shutters at the time. The fact that this was at the height of the cold war, a few years after the Berlin wall was built, probably didn't help. This lack of shutters led to the premature end of the "Grandina" lenses in 1966, with several years of design and prototyping efforts wasted.

A last interesting episode is mentioned in the CZJ files: In 1966, they exhibited the prototype lenses at the international spring fair in Leipzig, and even had some advertising data sheets printed [5, 8], hoping to attract other customers. As a consequence, they were approached by a US company about the possibility of a license production. Obviously, this never happened, but one can wonder which company that was. Kodak had just left the lens production field at that time, so they are unlikely. Calumet and/or Ilex are quite likely, but Wollensak or Goerz are also possibilities.

Coincidentally, in the same year CZJ's West-German counterpart, Carl Zeiss in Oberkochen, announced a series of new LF lenses for 13x18 cm/5x7", at the 1966 photokina [7]. These lenses - a 110 mm f/8 Hologon with 90° coverage, a 210 mm f/5.6 Planar, and a 500 mm f/8 Tele-Tessar [18] - also never made it into production, in this case due to economic reasons. The crisis of Zeiss-Ikon already loomed on the horizon, and 6 years later Carl Zeiss Oberkochen and Zeiss Ikon completely stopped the Zeiss and Voigtlander LF lens lines. It is interesting to note that the 210 mm Planar was pretty much the exact counterpart of the 210 mm Biometar from the Grandina line.

The prototype lenses showed up occasionally on the used market (ebay, Westlicht Auctions, etc.) after the Berlin Wall came down. Based on auction descriptions, it appears that some lenses were distributed/sold to professional GDR photographers after the end of the cooperation with Meopta. Most of those are in the original Prestor shutters, but some were converted to Compur shutters later (fig. 8).

Until recently, it seemed that CZJ had never produced any lenses of this series for a Western shutter, but then one model of the 90 mm f/4.5 Lamegon surfaced on the US ebay web site in 2003, mounted in a Copal Electric size 1 (fig. 4, serial no. 10018500), followed by a 135 mm Biometar in an old-style Copal 1 in 2011 (fig. 8, serial no. 10018503), and then a 65 mm Lamegon in an old style Copal 1 was shown on a Russian web site [19], serial no. 10018515 . The serial nos. of these lenses are only 15 units apart and point to a production date in the 1970's, about 7-10 years after the development of the lenses and the production of the prototypes for Meopta. The labeling on the mounts does not use the Carl Zeiss name but says instead "aus Jena" (from Jena), so they were intended to be sold in one of the Western countries (i.e. the USA and most Western European states, except for the British Commonwealth), where Zeiss Oberkochen held the right to the name Zeiss according to the "London agreement" between CZJ and Zeiss Oberkochen. The back lens mount was changed compared to the original designs, not just the thread to fit the Copal shutter.

STILL CAMERA LENSES (Normal) Continued

Manufacturers Name, Model Catalog Number	Focal Length in Inches	Focal Length in Millimeters	Largest & Smallest Apertures	Film Size Covered, Maximum Aperture at Infinity	Diameter of Lensboard Mounting Hole	Outside Diameter of Front of Lens in Millimeters	Type of Mounting	Price
aus JENA (ERCONA)								
Biometar	5¼	135	4.0-	—	—	—	Copal 1	\$325.00
Biometar	5¼	135	4.0-	—	—	—	Copal 1 Electric	375.00
Biometar	8¼	210	5.4-	—	—	—	Copal 1	475.00
Biometar	8¼	210	5.4-	—	—	—	Copal 1 Electric	525.00
Lamegon	2½	65	4.5-	—	—	—	Copal 1	795.00
Lamegon	2½	65	4.5-	—	—	—	Copal 1 Electric	845.00
Lamegon	3½	90	4.5-	—	—	—	Copal 1	975.00
Lamegon	3½	90	4.5-	—	—	—	Copal 1 Electric	1,025.00
Tessar	2	50	4.5-	1¼x1½"	—	—	Barrel	80.00
Tessar	3	75	4.5-	2¾x2¾"	—	—	Barrel	85.00
Tessar	4¼	105	4.5-	2½x3½"	—	—	Barrel	100.00
Tessar	5¼	135	4.5-	3½x4½"	—	—	Barrel	125.00
Tessar	7	180	4.5-	4¾x6½"	—	—	Barrel	170.00
Tessar	8¼	210	4.5-	5x7"	—	—	Barrel	215.00
Tessar	10	250	4.5-	6x8"	—	—	Barrel	350.00
Tessar	10½	270	8.0-	—	—	—	Copal 1	295.00
Tessar	10½	270	8.0-	—	—	—	Copal 1 Electric	345.00
Tessar	12	300	4.5-	6½x8½"	—	—	Barrel	425.00
Tessar	14	360	4.5-	7x9"	—	—	Barrel	700.00

Fig. 2: 1971 catalog page from Alpha Photo Products in Oakland, CA, listing the 65 and 90 mm Lamegons, the 135 and 210 mm Biometars, and the 270 mm Tessar, together with other CZJ-made Tessars in barrel. For comparison, a 210 mm f/5.6 Rodenstock Sironar was listed at a price of \$595 in the same catalog. Scan courtesy of David Lindquist.

³ "Ercona" was originally the name for a line of 6x9cm folder cameras made in the GDR in the 1950's, direct successors of the pre-WWII Ikonta cameras from Zeiss Ikon. The Ercona name was registered as a trademark by the company in the US in 1971 (application was 1968) and expired in 1994.

In the following, I'll comment on the individual lens types, based on the internal CZJ reports and personal experiences with some of them. The CZJ reports contain optical bench tests and sometimes comparisons with Western competitors, summarized in tables 2-6. Note that the resolution numbers are only useful for comparing lenses tested by Zeiss Jena to the same standards – other test setups will certainly result in different numbers.

Lamegon 65 mm f/4.5 and 90 mm f/4.5

Other than for these two “Grandina” lenses, the Lamegon name was used for CZJ’s wide angle aerial and photogrammetry lenses, like the 100 mm f/8, the 150 mm f/4, or the 55 mm f/5.6 Lamegon. They also had an ultra-wide angle (120°) “Superlamegon” aerial lens. “Lamegon” designates CZJ’s designs based on the wide angle developments pioneered first by Rusinov in Russia (the “Russar” lenses), and developed further by Ludwig Bertele for his Wild Aviogon and the Zeiss Oberkochen Biogon [10]. The Biogon f/4.5 (90° coverage) and the Super-Angulon f/8 series from Schneider-Kreuznach (100° coverage) were the prime examples of this type at the time. CZJ went beyond those examples by combining a coverage angle of 105° with a maximum opening of f/4.5, a combination not available before. As can be seen in fig. 1, they used 8 lenses in 4 groups. The outer menisci are rather thick compared to similar (later) designs by Schneider, Rodenstock, Nikon, or Fuji. A GDR patent was applied for in 1964 and issued on August 20, 1966 [11]. At the Photokina 1966, Schneider introduced a line of similar 8/4 construction and also for 105° coverage, but still with a lower maximum aperture, the well-known f/5.6 Super-Angulon series [12]. It took Western companies another ten years to reach the same nominal design values with the Rodenstock f/4.5 Grandagon series in the mid 1970’s [13]. Fig. 3 shows the 65 mm Lamegon together with a much later successor, the Doctar WA 65 mm, introduced as a new design by Docter Optic in 1992 [2], and with the later Rodenstock Grandagon-N. The Doctar WA is likely based on the 65mm Lamegon, as the lens drawings are very similar, sharing the characteristic feature of rather thick and large outer menisci. It is not an exact copy though, as the lens radii of at least the accessible outer lens elements differ slightly between the two lenses. Note the much larger front lenses and mounts of the Lamegon and Doctar compared to the 65 mm Rodenstock Grandagon-N in fig. 3, also an 8/4 design with a maximum opening of f/4.5.

Table 2: Resolving power in lp/mm for the Lamegon 65 mm f/4, calculated from CZJ’s resolution number test values (in μm) [3, 4].

Lens	aperture	Image height [mm]					
		0	22	42	65	78	89
Lamegon 65 mm f/4.5	4.5	50	40	31	21	14	-
	5.6	53	45	31	26	18	-
	8	53	50	36	28	20	-
	11	56	50	36	28	21	13
	16	56	50	36	29	22	16



5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Fig. 3: Back left: Lamegon 65 mm f/4.5 in original Prestor 1 shutter. Back right: The short-lived modern successor of the 65mm Lamegon, the Doctar WA 65 mm f/4.5 in Copal 1 [2]. Front: a Rodenstock Grandagon-N MC 65 mm f/4.5 for comparison. Scale is in cm.



2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Fig. 4: Original prototype Lamegon 90 mm f/4.5 in Prestor 1 shutter (left) from 1966 and later Lamegon 90 mm f/4.5 in Copal electric 1 shutter (right) produced for export (“aus Jena” designation) in the early 1970’s. Scale is in cm.

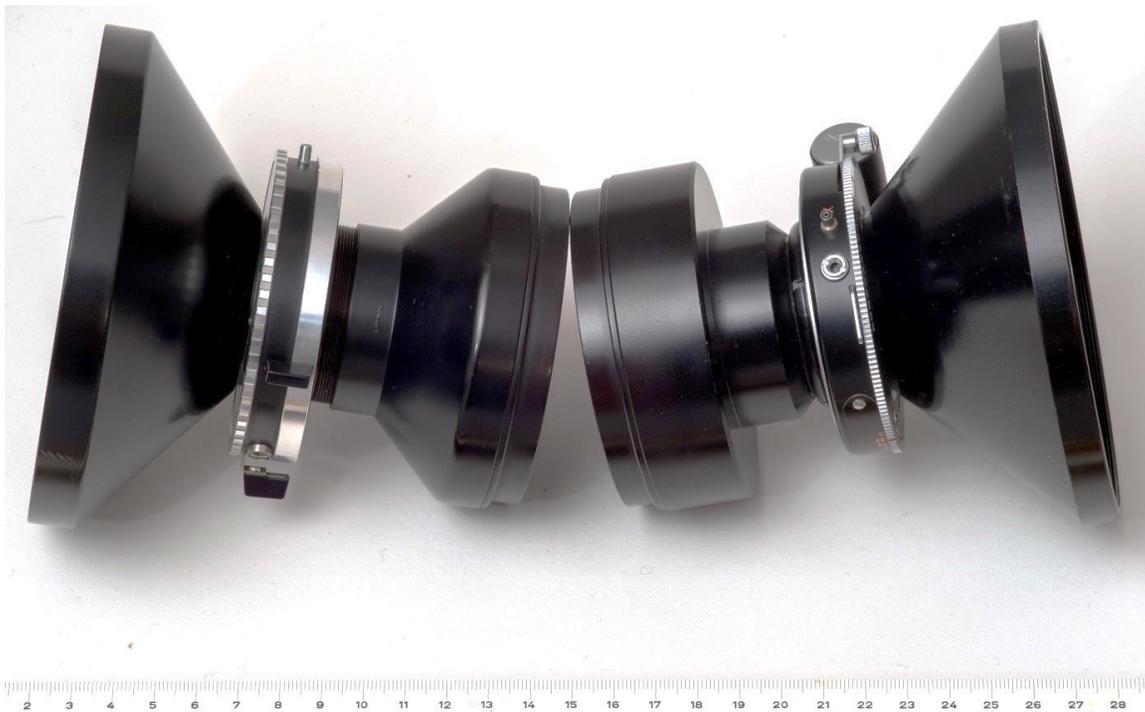


Fig. 5: Side view of the original prototype Lamegon 90 mm f/4.5 in Prestor 1 shutter (left) from 1966 and later Lamegon 90 mm f/4.5 in Copal electric 1 shutter (right). Note the different design of the back cell for the Copal shutter. Scale is in cm



Fig. 6: Lamegon 90 mm f/4.5 in Copal 1 electric (left) compared to the Schneider Super-Angulon XL 90 mm f/5.6 in Copal 0 (right). Scale is in cm.

Table 3: Resolving power in lp/mm for the Lamegon 90 mm f/4.5 and the Schneider-Kreuznach Super-Angulon 90 mm f/8, calculated from CZJ's resolution number test values (in μm) [3, 4].

Lens	aperture	Image height [mm]					
		0	20	47	74	92	112
Lamegon	4.5	45	40	31	20	18	-
Super-Angulon		-	-	-	-	-	-
Lamegon	8	63	40	33	22	20	11
Super-Angulon		45	31	23	15	10	-
Lamegon	11	63	50	37	22	22	11
Super-Angulon		50	31	29	16	10	-
Lamegon	16	50	40	33	25	22	13
Super-Angulon		50	33	25	17	14	-

Figs. 4-7 show the 90mm version of the Lamegon. In figs. 4 and 5 the original prototype in Prestor shutter is shown on the left and the later version made for export in a Copal 1 electric on the right. Note the differently designed back cell for each version. One can see that the lens is quite large; with a filter size of 118 mm,

it dwarfs even a Super-Angulon XL 90 mm f/5.6 (fig. 6). CZJ evaluated the 90 mm f/4.5 Lamegon in comparison with the contemporary Schneider Super-Angulon f/8 (a 6/4 construction) and found a much better performance for their lens, especially in the corners (table 3). The test report of the 65 mm (table 2) did not include comparison numbers, but the general text stated that compared to Zeiss Oberkochen's 53mm f/4.5 Biogon (which only covers the 6x9cm format), taking into account the different formats and focal lengths, the Lamegon had the same performance in the center and was slightly better in the corners.



Fig. 7: Lamegon 90 mm f/4.5 with the ring on the back lens cell removed. This ring, which protects the back lens element from mechanical damage, limits the coverage to about 92° by mechanical vignetting, instead of the 105° the lens is capable of. Scale is in cm.

Note that full coverage can only be realized with the 90mm Lamegon (both the Prestor and the Copal version), when the metal ring that protects the outer lens in the back cell is unscrewed, otherwise the image circle is limited to 187mm or 92° by mechanical vignetting (fig. 7). In addition, the back cell, with a maximum diameter of 85mm, does not fit through the mount hole of the Linhof Technika and cameras with similarly designed front standards.

Biometar 135 mm f/4 and Biometar 210 mm f/5.4

The Biometar, with 5 lenses in 4 groups (fig. 1) is derived from the common Planar design. Its design is very similar to the Schneider Xenotar 135 mm f/3.5 and also closely related to the 135 mm f/3.5 Planar that Zeiss Oberkochen made for 4x5 [18] (the Planar reversed the Biometar and Xenotar setup, with the cemented lens group facing the film). The Biometar line was originally designed by Harry Zöllner [14], the head of CZJ's photographic optics department from 1946-1963 (from 1963 to 1977 he was the head of research for all of CZJ). It has a good reputation and has been manufactured extensively in the 80 mm and 120 mm focal lengths for medium format. The design has a little less coverage compared to a Plasmat type like the contemporary Schneider Symmar, but is known to perform better at wide apertures. The 135 mm f/4 version is shown in fig. 8. Carl Zeiss Jena compared their 135mm Biometar to the similar Schneider 135 mm f/3.5 Xenotar in an internal test (table 4) and found a significantly better performance of the Biometar especially in the corners. Interestingly, the report never mentions the 135 mm f/3.5 Planar from Zeiss Oberkochen, which was certainly available at the time (fig. 9). The image circle of 180 mm (stopped down to f/11) is 10mm larger than the image circles of both the Xenotar and Planar rivals with 170 mm. Only the 1969 redesign of the Zeiss Oberkochen Planar reached 180 mm [18].



Fig. 8: Three versions of the Biometar 135 mm f/4. Back left: Original prototype version in Prestor 1 shutter. Back right: Original prototype version adapted in the GDR to a Western Synchrono-Compur shutter. Front: Export version (“aus Jena”) in older style Copal 1 shutter from the 1970’s. Scale is in cm.

The popular 210 mm focal length also used the Biometar design, with a maximum opening of f/5.4 (fig. 10). It could already be used with very good results wide open, and stopped down to f/11 covered 5x7” with

movements (table 5). CZJ did some comparison testing with a Schneider Xenar 210 mm f/4.5, a Tessar type, which was of course inferior, but they stated themselves that the test was not too meaningful given the different designs and design goals. Personally, I found the 210 mm Biometar to be very close to a 210 mm Rodenstock Apo-Sironar S, except for a little reduction in contrast, attributable to the single coating of the Biometar vs. the multicoating of the Apo-Sironar S. Both lenses show quite good resolution wide open.

Table 4: Resolving power in lp/mm for the Biometar 135 mm f/4 and the Schneider-Kreuznach Xenotar 135 mm f/3.5, calculated from CZJ's resolution number test values (in μm) [3, 4].

Lens	aperture	Image height [mm]					
		0	22	42	65	78	88
Biometar	4	46	39	29	31	20	-
Xenotar		38	29	16	25	13	-
Biometar	5.6	50	38	31	34	20	-
Xenotar		50	31	16	27	13	-
Biometar	8	50	38	28	43	22	-
Xenotar		50	31	17	31	13	13
Biometar	11	50	50	34	43	29	-
Xenotar		50	38	22	31	13	16



Fig. 9: The CZJ 135 mm f/4 Biometar (top right) together with the Zeiss Oberkochen 135 mm f/3.5 Planar from 1956 (top left) and the 1969 Planar redesign (top center), the Schneider 135 mm f/3.5 Xenotar (front left), and a 135 mm f/5.6 Schneider Apo-Symmar (front right). Scale is in cm.



Fig. 10: Top left: Biometar 210 mm f/5.4 in original Prestor 1 shutter. Top right: Biometar 210 mm f/5.4 adapted to a modern Copal 1 shutter. Front: Rodenstock Apo-Sironar S 210 mm f/5.6 for comparison. Scale is in cm.

Table 5: Resolving power in lp/mm for the Biometar 210 mm f/5.4, calculated from CZJ's resolution number test values (in μm) [3, 4].

Lens	aperture	Image height [mm]					
		0	18	36	75	119	134
Biometar 210mm f/5.4	5.4	45	42	33	21	13	-
	8	71	56	36	25	14	-
	11	67	56	36	33	16	-
	16	71	56	38	36	22	11

Tessar 270 mm f/8

This Tessar was the longest lens of the line. The comparatively small maximum opening resulted from the requirement to use the Prestor 1 shutter, limiting the free diameter. The development report mentions that an existing Tessar model could not be used, and that the new development tried to take advantage of the small maximum opening by pushing the aberration correction even further than before. CZJ claimed it was the best regular Tessar ever built (compare table 6 for the test results). About 20 years later, Nikon used the same approach of reducing the maximum aperture in exchange for an exceptional performance with their M series, which are also Tessar constructions - compare Kerry Thalmann's excellent article on Tessar types [15]

for more information. The 270 mm f/8 Tessar and the 300 mm f/9 Nikkor-M actually resemble each other quite closely (fig.11), except for the multicoating of the Nikkor. In my experience the performance of the 270 mm Tessar is on par with the Nikkor-M.

Table 6: Resolving power in lp/mm for the Tessar 270 mm f/8, calculated from CZJ's resolution number test values (in μm) [3, 4].

Lens	aperture	Image height [mm]					
		0	24	48	75	126	137
Tessar 270mm f/8	8	53	43	37	29	14	-
	11	62	50	48	32	19	11
	16	62	62	59	43	23	15
	22	62	62	62	50	29	21



Fig. 11: Tessar 270 mm f/8 in Prestor 1 shutter (left) together with Nikon M 300 f/9 in Copal 1 (right) for comparison. Scale is in cm.

Summary

In conclusion, it is quite unfortunate that the “Grandina” lenses never made it to the market for real – especially taking into account that the reason was simply a lack of shutters. Some of the prototype models (called “Nullserie - series zero” by CZJ) surface on the used market occasionally and are worthwhile to get. The Prestor 1 shutter they often come in may be a drawback, as it is a little quirky to use (no preview lever, T and B are next to the high speeds) and parts for it are impossible to get, except by “cannibalizing” another

one - more Prestors were sold with Tessar and Apo-Tessar lenses. Remounting in a modern shutter is possible, but requires machining of adapter rings as well as of the new shutter itself, rendering it useless for other lenses. This does not apply to the few later versions that already come in modern shutters. I had a remounting done for one lens and personally think it was well worth it, but the additional cost of several hundred \$ for the new shutter and the machining should be considered. The few models in standard shutter sizes, sold in the 1970's in the USA, are apparently even scarcer, but quite worthwhile to get.

Acknowledgements

Many thanks go to the Zeiss archives in Jena (<http://www.zeiss.de/C1256B0500353C49/?Open>) and especially to their head, Dr. Wolfgang Wimmer, for their help. Zeiss' decision and effort to maintain such a vast archive and make it publicly available for research is certainly commendable. Many thanks to David Lindquist for sharing the information on the "Ercona" listings of the lenses and the scan shown in fig. 2. Thanks go also to the guys at S.K. Grimes for their patience and a great job of remounting. Many thanks to my wife, Shari Feth, for editing and suggesting corrections, as well as putting up with my lens obsession.

References

URL's were retrieved or checked on December 16, 2024

- [1] Arne Croell: VEB Varl Zeiss Jena and Docter Optic lenses. View Camera July/August 2003, p. 50-55; also: www.arnecroell.com/czj.pdf
- [2] Arne Croell: VEB Varl Zeiss Jena and Docter Optic lenses. View Camera Sept./Oct 2003, p. 48-53; also: <http://www.arnecroell.com/docter.pdf>
- [3] Wolf Dannberg: Abschlußbericht 1963 – Objektive für Grandina. Zeiss Archive no. VA 02747
- [4] Dipl.-Ing. Scharffenberg: Abschlußbericht 1966 – 5 Objektive für Großformat (Grandina) Zeiss Archive no. BACZ 24684
- [5] M. Herrmann: Grandina und Lamegon, Meopta und Carl Zeiss Jena – eine glücklose Liaison. Photographica Cabinet 86 (2022), pp. 19-43
- [6] G. Kadlubek and R. Hillebrand: Kadlubeks Kamerakatalog, 5th ed., R. Hillebrand, Neuss 2004
- [7] International Photo Technik 1/1967, p. 49
- [8] Carl Zeiss Jena: Neue Fotoobjektive in Verschluss für Format 4x5“. Jena 1966
- [9] Hartmut Thiele: Fabrikationsbuch Photooptik – Carl Zeiss Jena. 2nd Ed., Munich 2003
- [10] Rudolf Kingslake: A history of the photographic lens. Academic Press, San Diego 1989
- [11] GDR patent no. 49692, Wolf Dannberg and Ernst Rumpoldin: "Viergliedriges Weitwinkelobjektiv", 1966
- [12] International Photo Technik 1/1967, p. 48
- [13] K. Thalmann: Rodenstock lenses – past to present. View Camera Sept./Oct. 2002, p.33-38
- [14] Hartmuth Thiele: Deutsche Photooptik von A-Z. 2nd ed., Munich 2004
- [15] K. Thalmann: Tessar lenses: the legend and the legacy. View Camera May/June 2004, p. 36-43

- [16] D. Lindquist, on the LF. Info forum, February 2011:
<http://www.largeformatphotography.info/forum/showthread.php?71803-What-is-this-giant-yellow-beast&p=683443&viewfull=1#post683443>
- [17] <http://openjurist.org/277/f2d/94/rogers-v-ercona-camera-corporation>
- [18] Cröll, Arne: Large format lenses from Carl Zeiss in Oberkochen. <http://www.arnecroell.com/zeiss-oberkochen.pdf>
- [19] http://lens-club.ru/lenses/item/c_6955.html

Arne Cröll has been involved in large format photography since 1991. His primary photographic interests are landscape and still life, mostly in black and white. Being a materials scientist by profession, he enjoys the combination of the creative and technical aspects of large format photography. His interest in Carl Zeiss Jena and Docter Optic goes back to 1994, when he visited the Docter Optic booth at Photokina. Presently, he lives in Huntsville, AL. He can be reached at silverparticles@icloud.com, his web site is: <http://www.arnecroell.com>.