



LEICA **VARIO-ELMARIT-SL** 24-90 mm f/2.8-4 ASPH.

Technical Data.



Illustration 1:2

Lens	Leica Vario-Elmarit-SL 24-90 mm f/2.8-4 ASPH.
Order no.	11 176
Field angle (diagonal, horizontal, vertical)	Focal length 24 mm: 82.4°/72.1°/51.8°; focal length 90 mm: 27.8°/23.3°/15.7°
Optical design	
Number of lenses/groups	18/15
Number of aspherical lenses	4
Entrance pupil position	Focal length 24 mm: 103.9 mm; focal length 90 mm: 92.6 mm
Working range	Focal length 24 mm: 0.3 m to infinity; focal length 90 mm: 0.45 m to infinity
Distance setting	
Smallest object field	Focal length 24 mm: 173 x 260 mm; focal length 90 mm: 92 x 137 mm
Largest reproduction ratio	Focal length 24 mm: 1:7.2; focal length 90 mm: 1:3.8
Aperture	
Setting/function	Electronically controlled aperture, set using turn/push wheel on camera, including half values
Aperture setting range	Focal length 24 mm: 2.8-22; focal length 90 mm: 4-22
Lowest value	22
O.I.S. Performance as per CIPA	3.5 stops (at focal length f=90 mm with Leica SL (Typ 601) camera)
Bayonet/sensor format	Leica L bayonet, full-frame 35 mm format
Filter mount	E82
Dimensions and weight	
Length to bayonet mount	Focal length 24 mm: 138 mm (without lens hood)
Largest diameter	88 mm
Weight	1.140 g



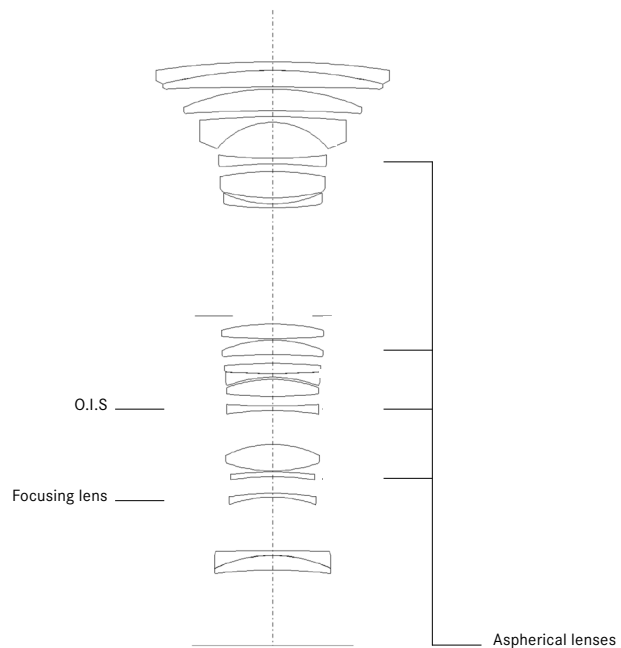
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ENGINEERING DRAWING



Illustrations 1:2

LENS SHAPE



With its wide range of focal lengths and high speed, the Leica Vario-Elmarit-SL 24-90 mm f/2.8-4 ASPH. is the ideal standard zoom lens in the Leica SL-System portfolio. This completely new design with internal focusing and integrated optical image stabilisation is impressive with its excellent imaging performance at distances from 30 cm to infinity, both at maximum aperture and stopped down.

A total of 18 elements in six moving groups are employed to achieve the outstanding optical performance of this lens. In addition to four aspherical elements, the design of this lens also features eleven elements made from glasses with anomalous partial dispersion for the correction of chromatic aberrations. The universal capabilities of this lens are underlined by homogeneous imaging performance at all focal lengths and distance settings.

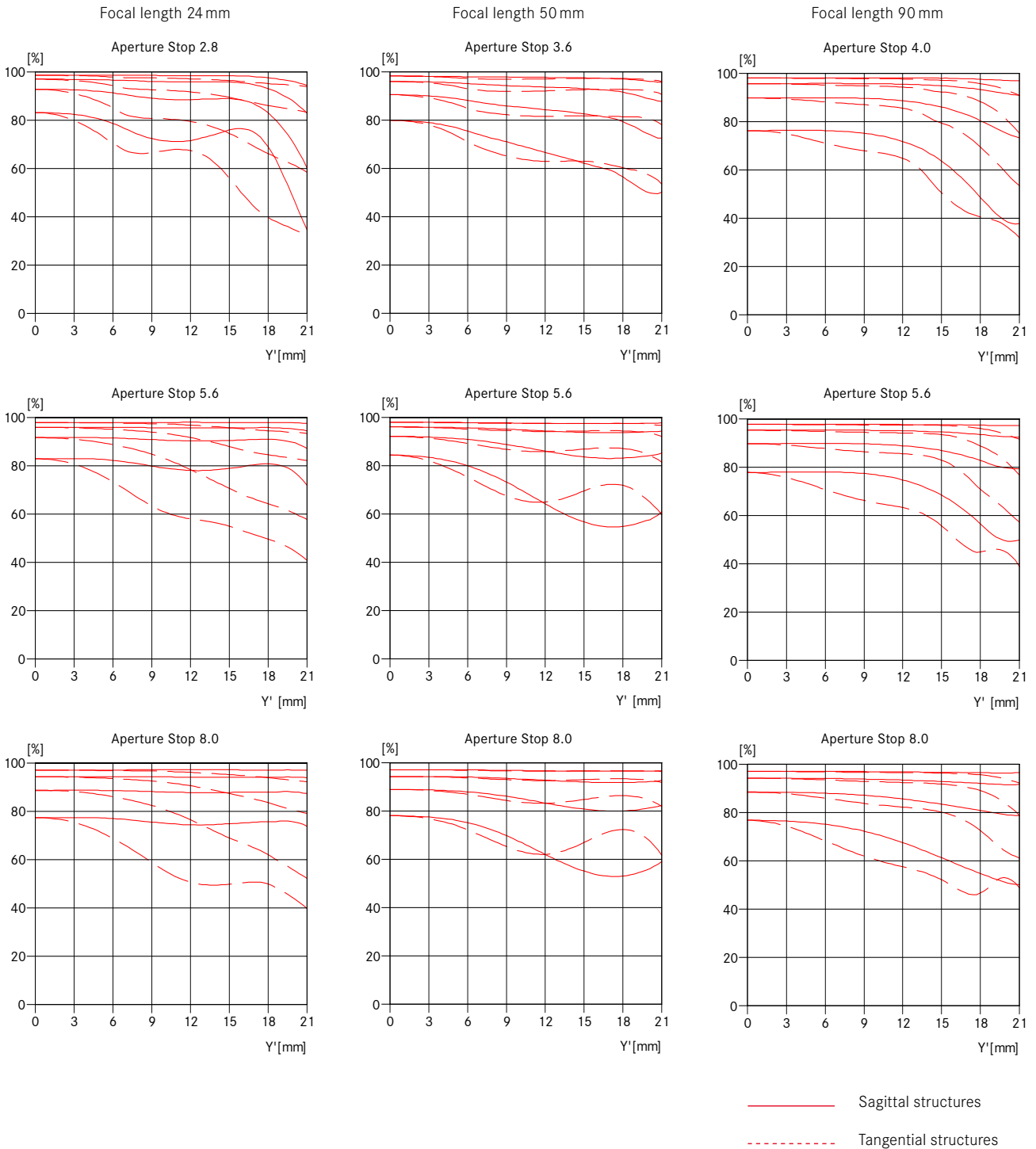
Only one very light element is moved for focusing. A drive concept comprising a stepping motor and linear positioning developed especially for this lens enables very fast, almost-silent and extremely precise focusing. The length of the lens remains unchanged during focusing. The rectangular form of the lens hood supplied with the lens very effectively suppresses undesirable reflections and stray light. Robust and resilient construction, impermeable seals and AquaDura® coating of exposed glass surfaces make the lens ideal for use in even the toughest working conditions.



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MTF DIAGRAMS

Infinity (∞)



MTF GRAPHS

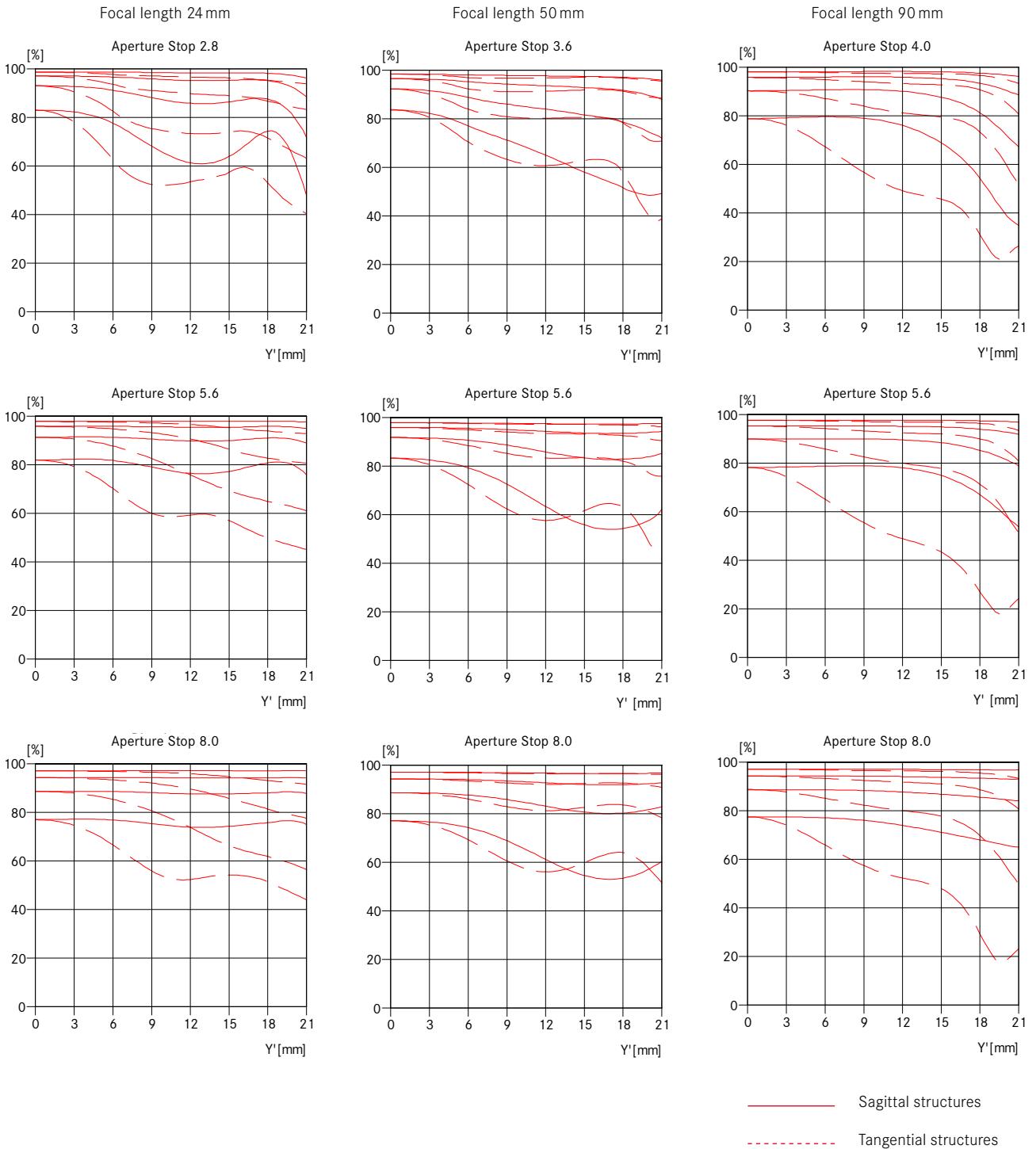
The MTF is shown in each case for the maximum aperture and the aperture values 5.6 and 8.0 for long focusing distances (infinity). The contrast is plotted for 5, 10, 20, 40 lines/mm for the height of the format for tangential (dashed line) and sagittal structures (continuous line) for white light. The plots for 5 and 10 lines/mm provide an impression of the contrast performance for coarser object structures and the 20 and 40 lines/mm plots document the resolving power for fine and finest object structures.



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MTF DIAGRAMS

Close distance (1 m)



MTF GRAPHS

The MTF is shown in each case for the maximum aperture and the aperture values 5.6 and 8.0 for the close distance setting. The contrast is plotted for 5, 10, 20, 40 lines/mm for the height of the format for tangential (dashed line) and sagittal structures (continuous line) for white light. The plots for 5 and 10 lines/mm provide an impression of the contrast performance for coarser object structures and the 20 and 40 lines/mm plots document the resolving power for fine and finest object structures.