

ASA500

500MM TELESCOPE WITH CARBON OPEN TRUSS TUBE

PRODUCT FEATURES:

- Optic design by Dipl.Phys. Philipp Keller
- Can be ordered with Cassegrain- or RC optics
- Zero expansion AstroSitall optics from LOMO
- Optional available are field flattener and focal reducer optimized for the given telescope
- Suitable for remote observing
- Manufactured with the latest in CNC technology in conjunction with high strength carbon fibre



Cassegrain and Ritchey–Chrétien (RC) telescopes are used by professional observatories, research institutions and universities. Our telescopes are designed by Philipp Keller, a German physicist and optical engineer. The telescopes are made in open truss construction style with CFK-tubes and precision optics from LOMO Optics. Customers can choose to opt for the optical sets or the complete telescope system which can be set up in an equatorial or alt-az design. In combination with a focal reducer or field flattener designed by Philipp Keller, these instruments can also be used for large CCD sensors with diameters of 150mm and more and still display pin point stars all the way to the corners.

Best configuration possible: LOMO Optics inside!

LOMO Optics has established itself as a very reliable manufacturer of precision optics. LOMO's mirrors are of the highest grade in the industry: If your aim is perfect imaging quality and you do not want to spend the few clear nights with inferior optics, then LOMO should be your choice. In order for the optics to provide optimal corrections also during volatile thermal conditions, we only offer our optical sets in either AstroSitall or Zerodur ceramics. LOMO offers perfect quality parabolic mirrors, flat optics as well as Cassegrain- and RC-Systems. Contrary to other optic vendors we deliver every optical set with test certificate and interferogram. Philipp Keller has

designed and implemented over 400 telescopes globally and all the optics delivered always more than have fulfilled their specifications.

- System-wave front accuracy minimum L/8 Peak to Valley at 632 nm in focus
- System-wave front accuracy minimum L/35 RMS at 632 nm in focus
- Surface Quality 80/50 scratch/dig
- Coating Aluminium and Quartz, other coatings like silver and gold upon request!

Optical performance that will always perform on the seeing limit

Both the Ritchey–Chrétien and Cassegrain telescope will need a corrector when used with large format CCD cameras. When comparing the performance of both systems, the Cassegrain will perform very similar to the RC but at a lower price. The benefit of the RC-design lies in the fact that the field correction without field flattener is slightly better compared to the Cassegrain.

In building these systems, ASA – unlike other manufactures in the field - focuses not on uncompromising lightweight construction, but on computer aided construction and company owned CNC-production. The result will be a more rigid system that will increase the precision of the telescope. Since professional telescopes are used in fixed locations, the slight gain of weight will be more than offset by the prevailing benefits such as higher pointing and tracking accuracy as well as improved focusing precision.

SPECIFICATIONS

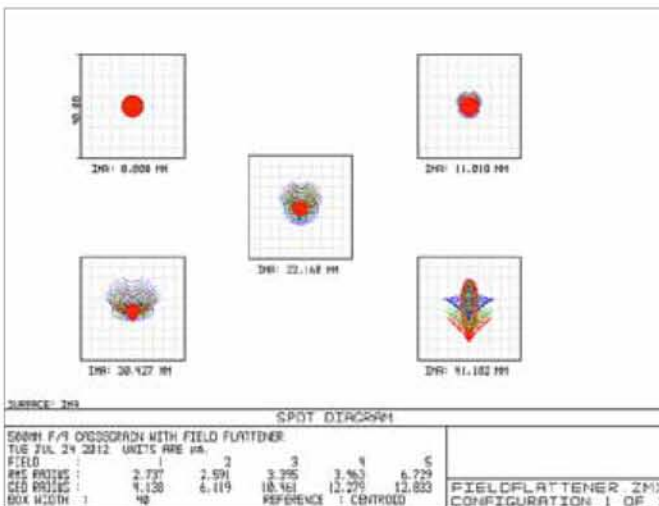
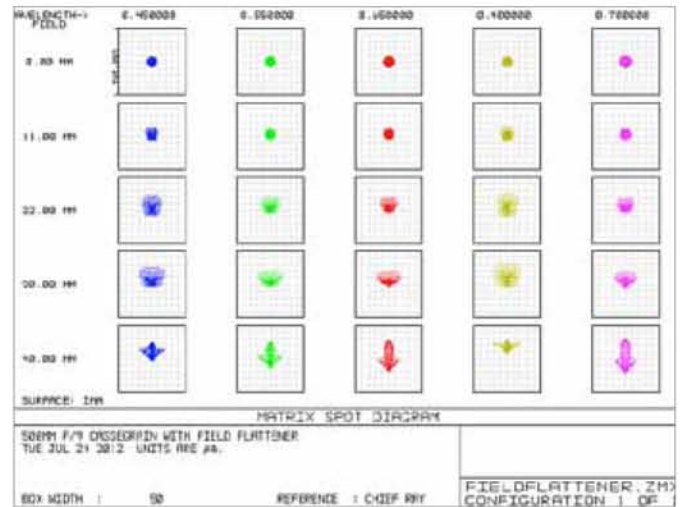
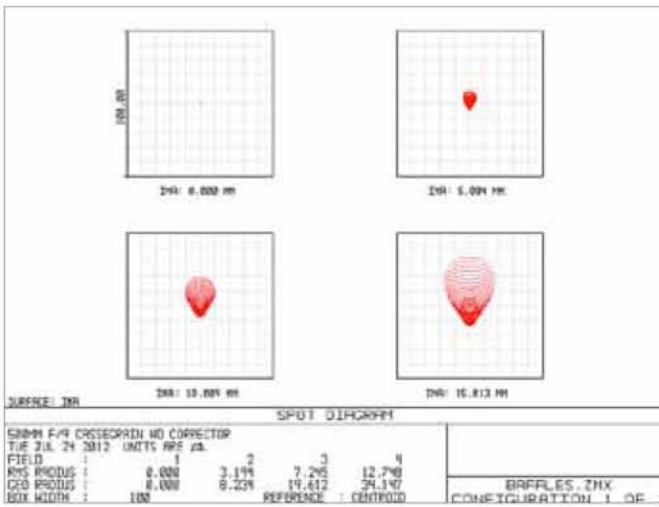
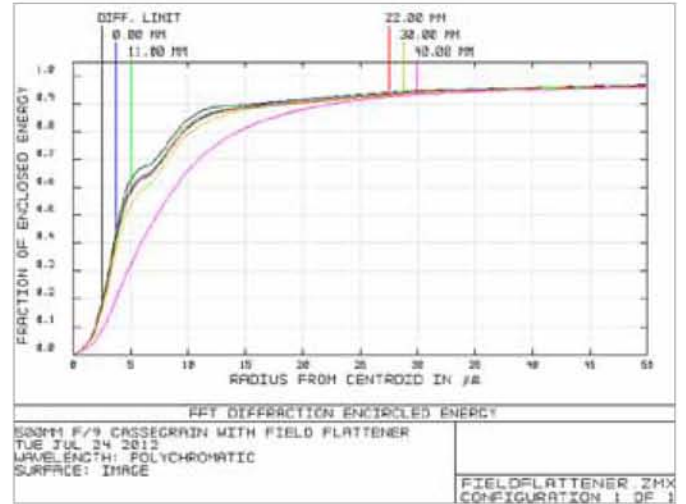
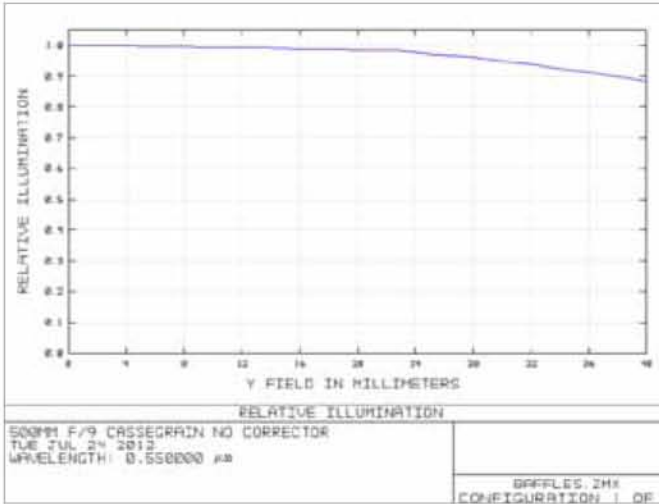
Optical System	Cassegrain	Ritchey–Chrétien (RC)
Optical Design	Dipl. Phys. Philipp Keller	
Aperture	500mm	
Focal length	4500mm	4000mm
Focal ration	f9	f8
Back focus	365mm*	
Field of View FOV	61 arc mins	69 arc mins
Fully baffled field	See vignetting plot	
Cooling	Computer controlled cooling	
Precision focuser	Motorized secondary mirror focuser, controlled with ACC software	
Baffle	Conical secondary light baffle	
Primary Mirror Blank	Cassegrain	Ritchey–Chrétien (RC)
Optical diameter	500mm	
Outer diameter	510mm	
Mirror Material	AstroSitall	
Mirror coating	Al+SiO ₂ coating with 91% reflectivity	
Mirror surface	λ/8 PtV wavefront accuracy >95 strehl	
Edge thickness	60mm	
Cell	9 point floating	
Secondary Mirror Blank	Cassegrain	Ritchey–Chrétien (RC)
Optical diameter	175mm	181mm
Outer diameter	180mm	186mm
Mirror material	AstroSitall	
Mirror coating	Al+SiO ₂ coating with 91% reflectivity	
Thickness	35mm	
Mechanical Structure	Cassegrain	Ritchey–Chrétien (RC)
Material	High grade aluminium components	
Processing	CNC machined	
Weight	75kg	75kg
Price and optional features are on the website www.astrosysteme.at		

*) This is the maximum back focus available. With the standard ASA flange attached this value is reduced by 92mm. The back focus can be increased and decreased by secondary focusing. The allowed diffraction limited focusing range is +/- 40mm. The pure mechanical range is higher.

Comments on Spot diagrams and vignetting data:

The shown field data is for field radius always. Field diameter is 2x this size. Please note that the vignetting is calculated for our standard baffle design which is a good compromise between central obscuration and vignetting. If you need a larger field with 100% illumination it is possible with the drawback of a larger central obscuration (throughput).

DIAGRAMS CASSEGRAIN



DIAGRAMS RC

