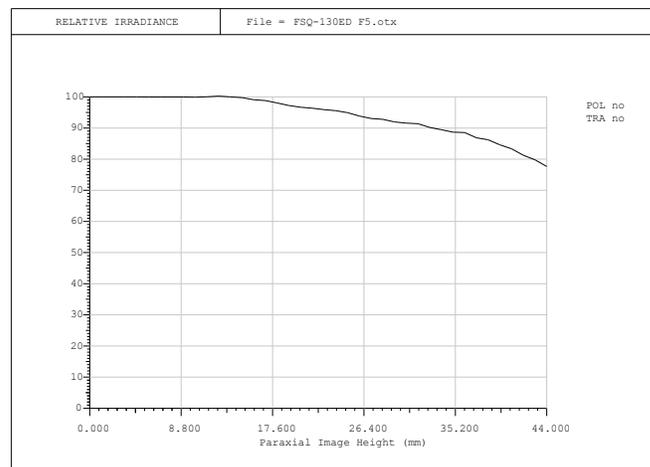


TAKAHASHI FSQ-130ED



The new Takahashi FSQ-130ED incorporates optics that use an exceptionally advanced design that produces a flat-field astrograph with a large highly illuminated field that is further enhanced with the new dedicated 645 reducer that produces a $\varnothing 70\text{mm}$ image circle at $f/3.5$.

The scope incorporates a five-element design that includes 3 premium ED elements to produce a high order of color correction. At prime focus, the 130 produces an incredible $\varnothing 110\text{mm}$ image circle. The stars in the center of the field are $2.0\mu\text{m}$ and only $4.5\mu\text{m}$ at the edge of an $\varnothing 64$ circle. The high contrast images produced are extremely sharp and are 92% illuminated.



Relative Illumination

The FSQ-130ED has been designed to be a flat field super low dispersion quintuplet apochromat with broadband multi-layer anti reflection coatings to transmit the maximum amount of light.

At 22" long the FSQ-130ED is a highly portable powerful flat-field astrograph and does not require a large mount to carry it, so it can be easily used at remote sites and with 175mm of back focus has enough room to attach long imaging packages.



Optical performance:

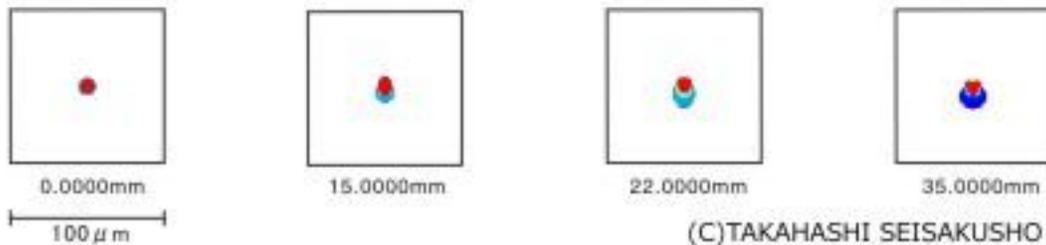
Off-axis distance [mm]	0	15	22	32
RMS-spot diameter [micron]	2.0 μ m	3.0 μ m	4.0 μ m	4.5 μ m
Relative illumination [%]	100	99	97	92

Takahashi has designed a new dedicated 645 format reducer for the FSQ-130ED produces a \varnothing 70mm diameter image circle with very small stars 5.0 μ m at the edge of an \varnothing 64mm circle.

The 130 uses a very heavy duty 5" focuser to allow the scope to carry large heavy imaging packages. The design includes a camera angle adjuster camera rotator that allows the image to be rotated in the field without loss of focus.



FSQ-130ED + 645レデューサー0.7X FL=455mm (f/3.5) SPOT



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645 Reducer 0.7x

Focal length: 455mm

Focal ratio: f/3.5

Image circle \varnothing 70mm

Optical performance

Off-axis distance [mm]	0	15	22	32
RMS-spot diameter	2.5μm	3.0μm	4.0μm	5.0μm
Relative illumination [%]	100	96	90	60

The Takahashi RD-QR .73x can be used with the FSQ-130 and will produce color rich images across a flat field and a \varnothing 44mm image circle.

RD-QE 0.73x

Focal length: 474mm

Focal ratio f/3.6

Image circle Ø44mm

Optical performance:

Off-axis distance [mm]	0	15	22
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RMS-spot diameter	3.0µm	5.0µm	14µm
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Relative illumination [%]	100	90	65
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EX-ED 1.5x

The Extender-ED when used with the 130 offers larger image scale for smaller objects at 980mm.

Extender-ED

Focal length 980mm

Focal ratio f/7.5

Image circle Ø44mm

Optical performance

Off-axis distance [mm]	0	15	22
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RMS-spot diameter	2.0µm	15µm	30µm
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Relative illumination [%]	100	80	65
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EX Q 1.6x

The EXQ-1.6x is well suited to be used with the FSQ-130 for greater image scale. stars produced by the EXQ are small.

Extender-Q 1.6x

Focal length 1040mm

Focal ratio f/8

Image circle \varnothing 44mm

Optical performance

Off-axis distance [mm]	0	15	22
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RMS-spot diameter	4.0 μ m	8.0 μ m	10.0 μ m
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Relative illumination [%]	100	75	58
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The FSQ-130ED was designed to produce a large highly illuminated flat field that is perfect for larger chip cameras that require larger illuminated fields. This design is the next step in the evolution of the Takahashi FSQ Series astrographs. The outstanding performance of the FSQ-130, its portability, high quality construction and outstanding images makes this instrument an a formidable imaging platform.



FSQ-130ED Specifications

Design	Five elements [3 ED] in five groups flat field super apochromat
Effective aperture	130mm
Focal length	650mm
Focal ratio	f/5
Image circle	Ø110mm
Tube diameter	156mm
Tube length collapsed	540mm
Weight	12.2kg
Tube holders	Clam shell or double ring tube holder w/bridge

