



MORE LIGHT

JENOPTIK GRYPHAX® BETRIA

Explore your micro universe – cost efficient monochrome.

Camera properties

Sensor Size	●	○	○	○
Sensitivity	●	●	○	○
Frame Rate	●	●	○	○
Resolution	●	●	○	○



mono



uncooled



inactive

Recommended: Applications

Life & Medical Science	○	○	○	○
Education Life & Medical Science	●	●	○	○
Material & Manufacturing	○	○	○	○
Education Material & Manufacturing	●	●	○	○
Fluorescence	○	○	○	○
Education Fluorescence	●	●	●	●

Contrast techniques

BF	●	●	●	●
DF	●	●	●	○
DIC	●	○	○	○
Ph	●	●	●	○
Pol	●	●	●	○

JENOPTIK GRYPHAX® BETRIA - technical data

Superior solution for education fluorescence applications

IMAGE SENSOR

Type Square Utilised sensor diagonal	SONY back-illuminated CMOS 1/1.75" 9,3 mm
Pixel dimensions	3.7 x 3.7 μm
Color or monochrome	Monochrome
Transfer method shutter mode	All pixel scan rolling shutter

CAMERA

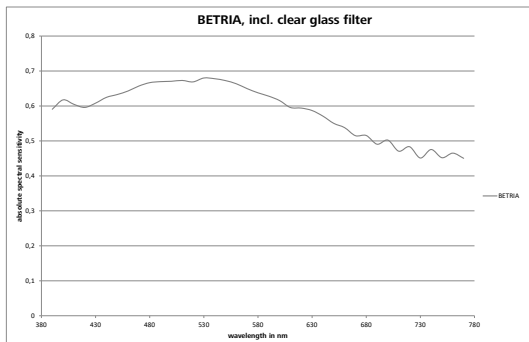
Camera resolution & speed in LIVE mode	1000 x 750 pixel 20 fps 2000 x 1500 pixel 20 fps
Camera resolution in RECORD mode	1000 x 750 pixel 2000 x 1500 pixel
Camera resolution & speed in VIDEO mode	1000 x 750 pixel up to 20 fps
Exposure time LIVE min. - max.	52 μs - 1 s
Exposure time RECORD min. - max.	52 μs - 15 s
Gain	Max. 15
Cooling	NO
A/D conversion digital output	10 bit (1024 grey values) 16 bit
Absolute sensitivity threshold*	ca. 5.7 e-
Quantum Efficiency @ 532 nm (green)*	ca. 0.68 QE (λ)
Dark Noise [DN / e-]*	ca. 0.5 DN / 4 e-
Saturation capacity*	ca. 10.200 e-
Dynamic range*	ca. 65 dB
Filter	Clear-glass optional IR cut
Power consumption	Appr. 4.5 W
Hardware Trigger	NO
Weight	Appr. 400 g
Power switch	Yes
Optical interface	C-mount
Dimensions	85 mm x 75 mm x 50 mm
Storage options	-20°C up to 70°C
Operating temperature	+10°C up to + 35°C non condensing
Warranty	24 months
Conformity to CE / WEEE / RoHS / China RoHS	Yes

RECOMMENDED SYSTEM REQUIREMENTS

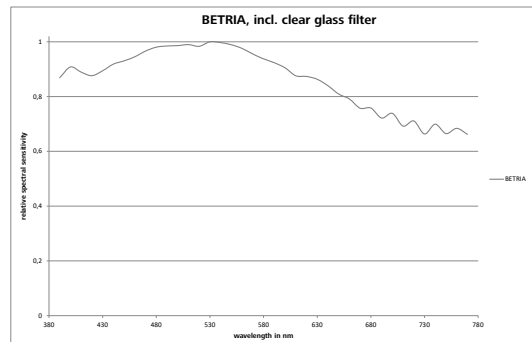
Personal computer	Intel i7 Quad-Core (min. 3.0 GHz) processor 8 GB RAM
Operating system -64 Bit	Win 7 SP1 / Win 8.1 / Win 10 MacOS High Sierra / Mojave Linux Ubuntu 16.04 LTS
Data interface	USB 3.0 integrated, no extra power supply needed
Monitor resolution	3840 x 2160 pixel or higher
Software (included in the package)	Microscope software - GRYPHAX APP / Twain APP / DirectX APP / Software development kit

Measured spectral sensitivity*:

Absolute



Relative



*based on EMVA 1288 standard compliance guidelines