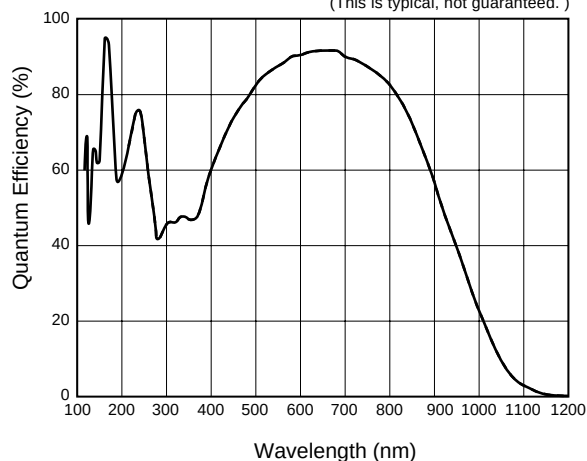


BT(Back-thinned)-CCD Video Camera C8000-20



The C8000 camera series employs an ultra high sensitive back-thinned CCD sensor made by Hamamatsu. Especially in the UV, DUV and VUV wavelength ranges, the C8000 series offers extremely high sensitivity never before realized by other scientific CCDs.

Spectral Response Characteristic of CCD chip*
(This is typical, not guaranteed.)



* Without sapphire window. The spectral response with sapphire window is decrease by the transmittance.

FEATURES

- Extremely high UV, DUV and VUV sensitivity
- Quantum Efficiency of CCD chip

(This is typical, not guaranteed.)

Excimer Laser		F ₂	ArF	KrF
Wavelength (nm)		157	193	248
Quantum Efficiency(%)	Without sapphire window	84	57	69
	With sapphire window	34 **	42 **	55 **

**Calculated value

APPLICATIONS

- Beam Diagnostics of Stepper Excimer Lasers: F₂(157 nm), ArF (193 nm), KrF (248 nm)
- Development of UV optics

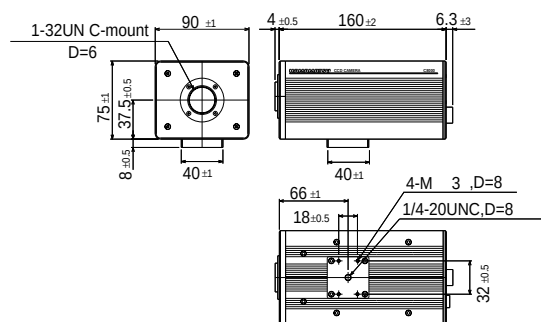
SPECIFICATIONS

Typ number	C8000-20
Imaging device	Back-thinned frame transfer CCD
Effective number of pixels	640 (H) × 480 (V)
Cell size	14 μm (H) × 14 μm (V)
Effective area	8.96 mm(H) × 6.72mm (V)
Frame rate	30 frame/s
Readout noise (r.m.s.)	100 to 150 electrons
Full well capacity typ.	65,000 electrons
Dynamic range*	430 : 1
Cooling method	Non-cooling
Cooling temperature	-
Dark current	-
Exposure time	1/30 s
A/D converter	10bit
Data output	RS-644 digital out and RS-170A out
External control	RS-232C
Functions	• Contrast enhancement (Note: The following functions are not effective with RS-644 digital output) • Real time background subtraction • Recursive filter (2, 4, 8, 16, 32, 64 frame selectable)
Lens mount	C-mount
Power consumption	70VA
Ambient storage/operating temperature	-10 to +50°C / 0 to +40°C
Ambient storage/operating humidity	70% max. (no condensation)

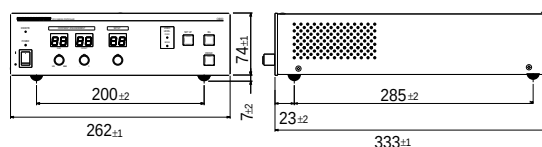
*Calculated from the ratio of the full well capacity and the readout noise.

DIMENSIONAL OUTLINES (UNIT: mm)

- Camera head (approx. 1.3 kg)



- Camera controller (approx. 5.0 kg)



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- Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

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