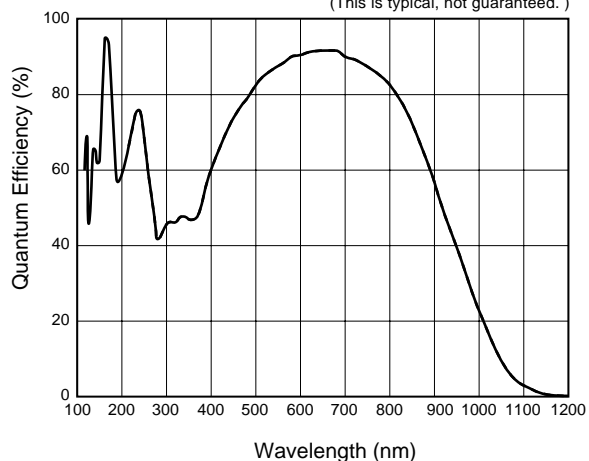


## BT(Back-thinned)-CCD Video Camera C8000-20



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

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

(This is typical, not guaranteed.)

\*\*Calculated value

### APPLICATIONS

- Beam Diagnostics of Stepper Excimer Lasers: F<sub>2</sub>(157 nm), ArF (193 nm), KrF (248 nm)
- Development of UV optics

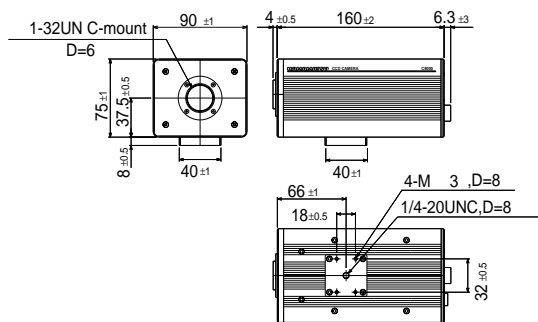
# SPECIFICATIONS

Typ number	<b>C8000-20</b>
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	<ul style="list-style-type: none"> <li>• Contrast enhancement</li> </ul> (Note: The following functions are not effective with RS-644 digital output) <ul style="list-style-type: none"> <li>• Real time background subtraction</li> <li>• Recursive filter (2, 4, 8, 16, 32, 64 frame selectable)</li> </ul>
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)

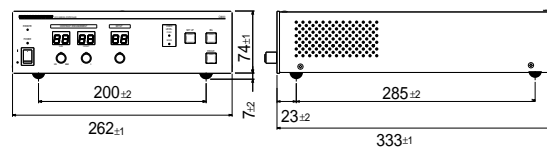
\*Calculated from the ratio of the full well capacity and the readout noise.

# DIMENSIONAL OUTLINES (UNIT: mm)

- Camera head (approx. 1.3 kg)



- Camera controller (approx. 5.0 kg)



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Cat. No. SICS1069E06  
JUL/2003 HPK  
Created in Japan (PDF)