MODEL NAME	**VisiCam PRO 20C**
ECN#	**630-2992**
SHORT DESCRIPTION	**High resolution camera with cooling system, for Fluorescence applications**



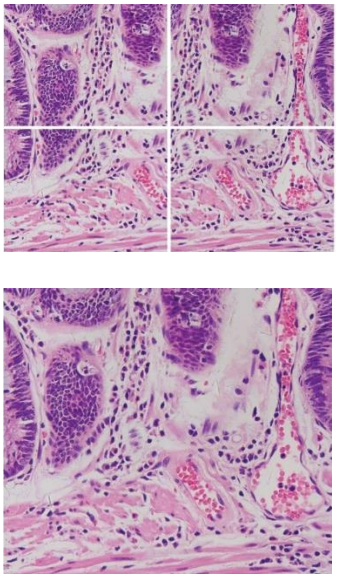


LONG DESCRIPTION

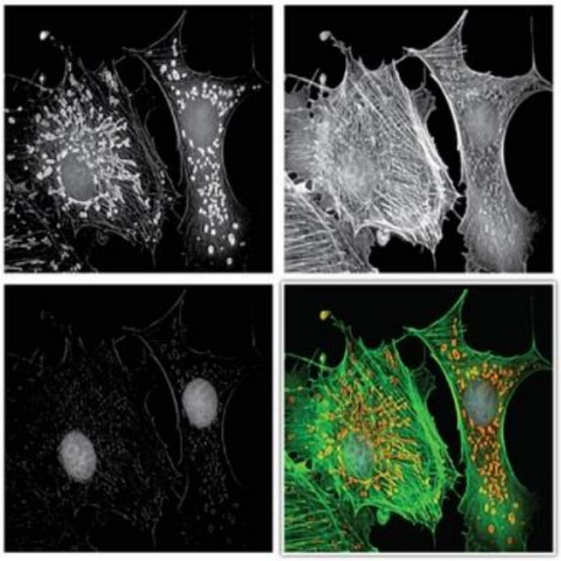
Camera equipped with 20.0 Megapixel color CMOS 1'' sensor. The large sensor and the cooling system make the camera ideal for low light applications like fluorescence. The two-stage Peltier cooling system reaches -42°C below ambient temperature; this greatly increases the signal to noise ratio and decreases the image noise. Heat radiation is efficiently disposed through electric fans, to avoid the moisture problem.
The professional software "WaveImage" is included, to preview and capture images for later image analysis and processing

Camera Specifications	
Resolution	20 Megapixel (13.056 x 8.755)
Sensor Type	CMOS Sony Exmor IMX183
Sensor Size	1"
Max frames/sec **Binning**	5fps @5440x3648 Binning 1x1 15fps @2736x1824 Binning 2x2 30fps @1824x1216 Binning 3x3
Pixel Size	2.4µm×2.4µm
Color depht	8/12bit switchable
Max signal/noise ratio	41,74 dB
Dynamic range	66,3 dB
Dark signal	0.21mV at 1/30sec
Sensitivity	462mV with 1/30sec
Data inferface	USB3.0 5Gbit/second (ensuring high speed data transmission)
Exposure Time	0.1 msec. – 3600 sec (1 hour).
Exposure control	Automatic / Manual
White Balance	ROI White Balance/ Manual
Spectral range	380-650nm (with IR-cut Filter)
Cooling system	Internal two-stage TE-cooling System -45 °C
Consumption	1.155 W (standby mode. 5V 231mA); 6.72W (Fan & TEC both on. 12V 560mA).
Operating Temperature	-10°C up to + 50°C
Operating humidity	30% to 80% RH not consending
Power supply	DC 5V over PC USB Port External Power Adapter for Cooling System: DC 12V/3A
Capture / Control API	Native C/C++, C#/VB.NET,DirectShow, Twain and Labview
Dimensions/Weight	103mm x Ø80mm / 2,6 Kg
Lens Mount	Standard C-mount

***WaveImage* Image Analysis Software for PC. Main functions:**	
Exposure & gain	Auto and manual exposure; up to 5 times gain
White balance	Advanced single-click intelligent white balance setting, temperature and tint can be adjusted
Color adjustment	Hue, saturation, brightness, contrast, gamma adjustment
Frame rate control	Adjustment of frame rate
Power frequency	Natural light/DC, AC 50Hz, AC 60 Hz switch function to eliminate video flickering
Flip	Horizontal or vertical flip to correct sample direction
Skip and bin sampling	Bin mode can obtain low noise video stream; Skip mode obtains sharper and smoother video stream. Support video stream histogram extension, Negative and positive switching, Gray calibration, Clarity factor for focusing etc.
Parameters	Load, save, import, export self-defined parameters of camera control panel (including calibration information, exposure and color setting information)
	Image analysis functions
Video functions	Video broadcast; Time-lapse capture; Video record; Video watermark; Move watermark; Rotate watermark; Video stream grid; Video measurement; Video calibration, Gray calibration; Video EDF; Image stitch; Video scalebar, date and etc.
Image proecssing and enhancement	Control and adjust image by contrast, denoise, all kinds of filtering algorithm and mathematical morphology algorithm; image rotate, image scale, image print
2D Measurement	Easy video or image calibration. Various video and image measurement methods like area, perimeter, angle etc. Measurementre sults can be hierarchical controlled according to characteristics or preferences;
Image Stitching	Image stitching can automatically combine a sequence of relevant images into a perfect larger one. No requirement on the image order;
Extended depht of focus (EDF)	Aimed at generating a clearer image by combining a sequence of previously captured multi-focus images; Support video window, image window, browse window EDF operation. Provided with maximum contrast, weighted average, FFDSSD algorithms to meet with most applications. Consider image shift, rotation and scale in the EDF process
Segementation and count	Integrate the advanced 6 image segmentation and particle counting algorithm (Watershed(W), OTSUDark, OTSU Bright, RGB Histogram, HSV Histogram and ColorCube). Manual segmentation function (Split objects) ensures the success of a complete segmentation. The count result can be exported to Microsoft Excel for further analysis
Image stacking	Image stacking adopts advanced image matching technology. Regardless of shifting, rotation, scaling, the high fidelity image can be stacked to decrease image noise.
Color composite	Color composite adds appropriate pseudo color to monochrome fluorescence images. Fluorescence probe and color can be chosen from the pre-defined database. Dye database can also be easily created for special fluorescence probe.



Images Stitching



Fluorescence Image Color Composite

	Compatibility
Video interface	Support Twain, DirectShow, Labview, SDKPackage（Native C++、C#)
Operating system	Compatible with Microsoft® Windows® XP / Vista /7 / 8 /10 (32 & 64 bit), Mac OSX, Linux
Language support	Unlimited language support, currently available in English, Catalan, French, German, Indonesian, Italian, Japanese, Korean, Polish, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, and Turkish
	System Requirements
CPU	Intel Core 2 2.8GHz or Higher
RAM	2GB or more
USB port	USB2.0 or USB3.0
Monitor	17”or Larger
Reader	CD-ROM reader

Package includes:	
	Camera, calibration slide, 2m USB cable, power supply for cooling system, robust plastic carrying case, documentation



Key features:

- SONY EXMOR sensor
- Big sensor size
- High signal to noise ratio (thanks to cooling system and sensor size)